

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 23.91

Comments:

Member I. D. B01 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	1.917	0.2	0.2	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.9
1	P	12.417	0.0	0.0	0.000	6.5
1	P	19.417	0.0	0.0	0.000	7.2
1	P	26.417	0.0	0.0	0.000	7.2
1	P	33.420	0.0	0.0	0.000	7.9

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B01
Check Point I. D. 1.474

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	16.71	16.55	16.55	1.44	3.77
36.3	33.38	0.840	bott	16.71	16.55	16.55	1.44	3.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
76.50	76.50	18.15	18.15	17300.0	17300.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
953.0	953.0	953.0	953.0	2927.29

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B01
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.85	1.44	11.490	0.01	0.00	39.74	19.90
bott	7.85	1.44	11.490	84.00	22.26		19.90

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	543.97	543.97	39.540	999999.000	1111.760

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	2927.29	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	536.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. B01 HS20 2F1
 Check Point I. D. 1.474 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 48.9 194.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	1351.1C	-1209.6	1209.6	-1351.1C	1205.2	-1355.4	1063.8	-1496.9
OPER	2251.8C	-2016.0	2016.0	-2251.8C	2008.7	-2259.0	1772.9	-2494.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	679.55 R	522.73	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	713.59 R	548.92	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.42	999.00	1.25	999.00
2F1	4.14	999.00	3.65	999.00
3F1	2.96	999.00	2.61	999.00
4F1	2.82	999.00	2.48	999.00
5C1	3.04	999.00	2.68	999.00
HS20	2.36	999.00	2.08	999.00

Rating Value	Load Capacity (tons)
HS 24.99	45.0
0.00	54.8
0.00	60.0
0.00	67.1
0.00	107.3
HS 41.65	75.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. B01 HS20 2F1
Check Point I. D. 1.474 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

48.9 194.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 403.8	1355.2	-1160.8	1355.2	-1160.8	1112.2	-1403.8	1112.2	-1
OPER 339.6	2096.6	-2096.6	2096.6	-2096.6	1853.6	-2339.6	1853.6	-2

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	679.55 R	522.73	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	713.59 R	548.92	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.31	999.00	1.31	999.00	HS 26.13	47.0
2F1	3.82	999.00	3.82	999.00	0.00	57.3
3F1	2.73	999.00	2.73	999.00	0.00	62.7
4F1	2.60	999.00	2.60	999.00	0.00	70.1
5C1	2.81	999.00	2.81	999.00	0.00	112.2

HS20	2.18	999.00	2.18	999.00	HS	43.55	78.4
------	------	--------	------	--------	----	-------	------

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 23.91

Comments:

Member I. D. B02 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	0.1	0.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	22.6
1	P	12.417	0.0	0.0	0.000	18.6
1	P	19.417	0.0	0.0	0.000	20.6
1	P	26.417	0.0	0.0	0.000	20.6
1	P	33.420	0.0	0.0	0.000	22.6

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B02
Check Point I. D. 1.474

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	16.78	16.59	16.59	1.57	3.81
36.5	33.38	0.880	bott	16.78	16.59	16.59	1.57	3.81

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
82.40	82.40	18.35	18.35	18900.0	18900.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
1030.0	1030.0	1030.0	1030.0	3189.36

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B02
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.85	1.57	10.570	0.01	0.00	37.72	18.96
bott	7.85	1.57	10.570	84.00	22.03		18.96

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	597.93	597.93	50.526	999999.000	1141.252

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	3189.36	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.4

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. B02 HS20 2F1
 Check Point I. D. 1.474 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 52.7 555.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	1472.0C	-1307.3	1307.3	-1472.0C	1107.1	-1672.2	942.4	-1836.9
OPER	2453.4C	-2178.8	2178.8	-2453.4C	1845.1	-2787.1	1570.6	-3061.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	679.55 R	522.73	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	713.59 R	548.92	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.30	999.00	1.11	999.00
2F1	3.80	999.00	3.23	999.00
3F1	2.71	999.00	2.31	999.00
4F1	2.59	999.00	2.20	999.00
5C1	2.79	999.00	2.38	999.00
HS20	2.17	999.00	1.85	999.00

Rating Value	Load Capacity (tons)
HS 22.14	39.9
0.00	48.5
0.00	53.2
0.00	59.4
0.00	95.1
HS 36.90	66.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. B02 HS20 2F1
Check Point I. D. 1.474 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

52.7 555.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 724.5	1602.9	-1116.3	1602.9	-1116.3	994.7	-1724.5	994.7	-1
OPER 874.2	2266.0	-2266.0	2266.0	-2266.0	1657.8	-2874.2	1657.8	-2

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	679.55 R	522.73	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	713.59 R	548.92	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.17	999.00	1.17	999.00	HS 23.37	42.1
2F1	3.41	999.00	3.41	999.00	0.00	51.2
3F1	2.44	999.00	2.44	999.00	0.00	56.1
4F1	2.32	999.00	2.32	999.00	0.00	62.7
5C1	2.51	999.00	2.51	999.00	0.00	100.4

HS20	1.95	999.00	1.95	999.00	HS	38.95	70.1
------	------	--------	------	--------	----	-------	------

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction CSC
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 1

Floor Beam Spacing 23.91

Comments:

Member I. D. B03 Symmetry:

Span Length:	Span 1	Span 2	Span 3	Span 4	Span 5
	38.833	0.000	0.000	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	38.833	1	0		0.0	0.0

Range Length -- Composite:

Span No.	Range No.	Range Length	Composite Code
1	1	38.833	C

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	0.1	0.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.3
1	P	12.417	0.0	0.0	0.000	15.9
1	P	19.417	0.0	0.0	0.000	17.6
1	P	26.417	0.0	0.0	0.000	17.6
1	P	33.420	0.0	0.0	0.000	19.3

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B03
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	40000.	0.
f'c (conc.)	4500.	4500.	4500.	0.

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top					
36.3	33.38	0.840	bott	16.71	16.55	16.55	1.44	3.77
				16.71	16.55	16.55	1.44	3.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thk.	Effective Dist. to Top of Beam	Negative Moment Area	Reinf. Dy	Fy
84.00	7.00	6.56	0.0	0.0	60000.

Section Gross	Area Net	Neutral Axis Top	Axis Bott.	Moment of Inertia Positive Bending	Inertia Negative Bending
76.50	76.50	18.15	18.15	17300.0	17300.0
n= 8 150.00	150.00	6.04	30.26	40497.5	17300.0
3n= 24 101.00	101.00	12.16	24.15	28735.4	17300.0

	Section Modulus				Plastic Section Modulus - Z (Fy * Z)
	Positive Top	Bending Bott.	Negative Top	Bending Bott.	
	953.0	953.0	953.0	953.0	2927.29
n= 8	6701.8	1338.2	953.0	953.0	
3n= 24	2363.5	1189.9	953.0	953.0	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B03
 Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.85	1.44	11.490	0.01	0.00	39.74	19.90
bott	7.85	1.44	11.490	84.00	22.26		19.90

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	543.97	543.97	39.540
			0.000
			1111.760

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	2927.29	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2498.21	2249.10	0.00	786.46	124.55	0.228	4168.91

TOP			BOTTOM		
Mu (pier)	Ms (pier)	A_FAC	Mu (pier)	Ms (pier)	A_FAC
0.00	0.00	0.000	0.00	0.00	0.000

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	536.7

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. B03
 Check Point I. D. 1.474

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

79.8 474.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	2501.3C	-1572.5	2208.0	-1756.4C	1591.5	-1542.2	1365.8	-1683.6
OPER	4168.9C	-2620.8	3679.9	-2927.3C	2652.5	-2570.3	2276.4	-2806.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	3F1	717.31 R	551.77	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	4F1	795.40 R	611.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	999.00	1.50	999.00
2F1	5.46	999.00	4.69	999.00
3F1	3.70	999.00	3.17	999.00
4F1	3.34	999.00	2.86	999.00
5C1	3.80	999.00	3.26	999.00
HS20	2.90	999.00	2.49	999.00

HS 29.90 53.8
 0.00 70.3
 0.00 73.0
 0.00 77.3
 0.00 130.4
 HS 49.83 89.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. B03
 Check Point I. D. 1.474

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 79.8
 Superimposed Dead Load Moment 474.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 826.4	9915.3	-1272.1	2264.5	-1272.1	9361.0	-1826.4	1710.2	-1
OPER 044.0	16156.0	-2489.7	3404.6	-2489.7	15601.7	-3044.0	2850.3	-3

Live Load Effect

Impact Factors: +bend - .300 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Moment Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	485.59 R	373.53	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	717.31 R	551.77	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	795.40 R	611.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.24	999.00	1.87	999.00	HS 37.43	67.4
2F1	32.13	999.00	5.87	999.00	0.00	88.0
3F1	21.75	999.00	3.97	999.00	0.00	91.4
4F1	19.61	999.00	3.58	999.00	0.00	96.8
5C1	22.34	999.00	4.08	999.00	0.00	163.2

HS20	17.08	999.00	3.12	999.00	HS	62.39	112.3
------	-------	--------	------	--------	----	-------	-------

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 8

Live Load Distribution Factor 1.272

Second Live Load Dist. Factor 1.272

Comments:

Member I. D. S01 Symmetry:

Span Length:	Span 1 23.917	Span 2 23.917	Span 3 23.917	Span 4 23.917	Span 5 23.917
	Span 6 23.917	Span 7 23.917	Span 8 23.917	Span 9 0.000	Span 10 0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Distributed Load (lbs/ft) Right	Length	Concentrated Load (kips)
1	W	0.000	765.0	765.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	765.0	765.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	765.0	765.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	765.0	765.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	765.0	765.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	765.0	765.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	765.0	765.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	765.0	765.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 1.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 1.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 1.400

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 2.8
 Superimposed Dead Load Moment 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	158.1	-183.5	138.9	-202.7
OPER	300.6C	-268.7	268.7	-300.6C	263.5	-305.8	231.5	-337.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00	0.00	0.00	
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00	0.00	0.00	
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00	0.00	0.00	
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00	0.00	0.00	
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.21	7.93	1.06	8.76	HS 21.19	38.1
2F1	2.95	19.67	2.59	21.72	0.00	38.8
3F1	2.23	13.71	1.96	15.14	0.00	45.1
4F1	2.09	12.74	1.84	14.07	0.00	49.6
5C1	2.33	14.56	2.05	16.08	0.00	81.9
HS20	2.01	13.22	1.77	14.60	HS 35.32	63.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 1.400 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
2.8 34.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 189.9	182.5	-152.8	182.5	-152.8	145.3	-189.9	145.3	-
OPER 316.6	279.4	-279.4	279.4	-279.4	242.2	-316.6	242.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.11	8.21	1.11	8.21	HS 22.17	39.9
2F1	2.71	20.36	2.71	20.36	0.00	40.6
3F1	2.05	14.19	2.05	14.19	0.00	47.2
4F1	1.92	13.19	1.92	13.19	0.00	51.9
5C1	2.14	15.07	2.14	15.07	0.00	85.7

HS20	1.85	13.69	1.85	13.69	HS	36.96	66.5
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.303	115.303

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.35	390.83	105.4
bott	22.62		21.35		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 2.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -46.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00			
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00			
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00			
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00			
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	13.57	1.17	12.33	1.34	HS 23.39 42.1
2F1	33.64	4.25	30.57	4.87	0.00 63.7
3F1	23.45	2.85	21.31	3.27	0.00 65.6
4F1	21.79	2.38	19.80	2.73	0.00 64.4
5C1	26.92	2.69	24.47	3.09	0.00 107.7
HS20	22.62	1.95	20.55	2.23	HS 38.98 70.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 2.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment

-3.8 -46.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 137.8	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-
OPER 229.6	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.75	1.23	12.75	1.23	HS 24.54	44.2
2F1	31.60	4.46	31.60	4.46	0.00	66.9
3F1	22.03	2.99	22.03	2.99	0.00	68.8
4F1	20.47	2.50	20.47	2.50	0.00	67.5
5C1	25.29	2.82	25.29	2.82	0.00	113.0

HS20 21.25 2.05 21.25 2.05 HS 40.89 73.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.303	115.303

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.35	390.83	105.4
bott	22.62		21.35		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 2.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.3	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.1	252.2	-317.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00			
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00			
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00			
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00			
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.73	5.60	1.53	6.23	HS 30.67	55.2
2F1	3.95	15.12	3.50	16.81	0.00	52.5
3F1	2.97	10.57	2.64	11.75	0.00	60.7
4F1	2.86	9.86	2.54	10.97	0.00	68.6
5C1	3.04	6.98	2.70	7.76	0.00	107.8
HS20	2.88	9.34	2.56	10.39	HS 51.11	92.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 2.500 3F1
4F1
5C1
HS20

Dead Load Moment 1.2 Superimposed Dead Load Moment 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.5	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-
OPER 295.8	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	5.82	1.60	5.82	HS 31.97	57.6
2F1	3.65	15.69	3.65	15.69	0.00	54.8
3F1	2.75	10.97	2.75	10.97	0.00	63.3
4F1	2.65	10.23	2.65	10.23	0.00	71.5
5C1	2.81	7.24	2.81	7.24	0.00	112.4

HS20	2.66	9.69	2.66	9.69	HS	53.29	95.9
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.28	28.67	28.67	1.699	123.716	123.716

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.67	390.83	104.4
bott	22.62		27.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 3.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.8 -33.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40		
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00			
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00			
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00			
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00			
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	9.05	1.31	8.19	1.49	HS 26.25
2F1	24.42	5.45	22.10	6.21	0.00
3F1	17.07	3.37	15.45	3.83	0.00
4F1	15.93	2.88	14.41	3.28	0.00
5C1	18.85	3.50	17.06	3.98	0.00
HS20	15.08	2.19	13.65	2.49	HS 43.75

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 3.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

-2.8 -33.7

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.48	1.37	8.48	1.37	HS 27.46	49.4
2F1	22.88	5.71	22.88	5.71	0.00	85.6
3F1	15.99	3.52	15.99	3.52	0.00	81.1
4F1	14.92	3.02	14.92	3.02	0.00	81.4
5C1	17.66	3.66	17.66	3.66	0.00	146.3

HS20 14.13 2.29 14.13 2.29 HS 45.77 82.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.67	390.83	104.4
bott	22.62		27.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 3.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 1.6 19.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	167.6	-174.0	148.4	-193.2
OPER	300.6C	-268.7	268.7	-300.6C	279.4	-289.9	247.4	-321.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00			
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00			
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00			
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00			
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.71	7.40	1.52	8.22	HS 30.35	54.6
2F1	3.93	18.60	3.48	20.66	0.00	52.2
3F1	2.97	12.97	2.63	14.40	0.00	60.4
4F1	2.86	12.06	2.53	13.39	0.00	68.3
5C1	3.00	7.87	2.66	8.74	0.00	106.3
HS20	2.86	12.33	2.53	13.69	HS 50.58	91.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 3.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 1.6 19.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.4	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-
OPER 300.7	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	fiber -bend		
HS20	1.58	7.67	1.58	7.67	HS 31.67	57.0
2F1	3.63	19.30	3.63	19.30	0.00	54.5
3F1	2.74	13.45	2.74	13.45	0.00	63.0
4F1	2.64	12.51	2.64	12.51	0.00	71.2
5C1	2.77	8.16	2.77	8.16	0.00	110.9

HS20	2.64	12.79	2.64	12.79	HS	52.78	95.0
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.09	390.83	104.6
bott	22.62		26.09		104.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 4.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00			
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00			
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00			
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00			
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	11.90	1.30	10.78	1.48	HS 25.94 46.7
2F1	29.87	5.45	27.06	6.21	0.00 81.8
3F1	20.82	3.34	18.87	3.81	0.00 76.8
4F1	19.36	2.87	17.54	3.27	0.00 77.4
5C1	24.30	3.44	22.02	3.92	0.00 137.5
HS20	19.83	2.16	17.97	2.46	HS 43.24 77.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 4.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.6	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-
OPER 239.3	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.16	1.36	11.16	1.36	HS 27.16	48.9
2F1	28.00	5.71	28.00	5.71	0.00	85.6
3F1	19.52	3.50	19.52	3.50	0.00	80.5
4F1	18.15	3.00	18.15	3.00	0.00	81.0
5C1	22.78	3.60	22.78	3.60	0.00	143.9

HS20 18.59 2.26 18.59 2.26 HS 45.27 81.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.09	390.83	104.6
bott	22.62		26.09		104.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 4.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 18.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-173.2	149.2	-192.4
OPER	300.6C	-268.7	268.7	-300.6C	280.6	-288.7	248.6	-320.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00			
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00			
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00			
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00			
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.72	7.30	1.53	8.10	HS 30.52	54.9
2F1	3.95	18.81	3.50	20.90	0.00	52.5
3F1	2.98	13.11	2.64	14.56	0.00	60.8
4F1	2.87	12.19	2.54	13.54	0.00	68.7
5C1	3.04	7.89	2.69	8.77	0.00	107.7
HS20	2.87	12.16	2.54	13.51	HS 50.86	91.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 4.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 18.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.7	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-
OPER 299.5	279.4	-279.4	279.4	-279.4	259.3	-299.5	259.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.59	7.57	1.59	7.57	HS 31.84	57.3
2F1	3.65	19.51	3.65	19.51	0.00	54.8
3F1	2.76	13.60	2.76	13.60	0.00	63.4
4F1	2.65	12.64	2.65	12.64	0.00	71.6
5C1	2.81	8.19	2.81	8.19	0.00	112.3

HS20 2.65 12.61 2.65 12.61 HS 53.06 95.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.09	390.83	104.6
bott	22.62		26.09		104.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 5.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.9 -35.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	203.7	-137.9	184.5	-157.1
OPER	300.6C	-268.7	268.7	-300.6C	339.5	-229.8	307.5	-261.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00			
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00			
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00			
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00			
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	11.66	1.30	10.57	1.49	HS 26.09	47.0
2F1	30.22	5.49	27.37	6.25	0.00	82.3
3F1	21.06	3.36	19.08	3.83	0.00	77.3
4F1	19.57	2.88	17.73	3.28	0.00	77.8
5C1	24.09	3.45	21.82	3.94	0.00	138.2
HS20	19.44	2.17	17.61	2.48	HS 43.48	78.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 5.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.9 -35.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 144.3	152.1	-183.2	152.1	-183.2	191.0	-144.3	191.0	-
OPER 240.5	279.4	-279.4	279.4	-279.4	318.3	-240.5	318.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.94	1.37	10.94	1.37	HS 27.31	49.2
2F1	28.33	5.74	28.33	5.74	0.00	86.1
3F1	19.75	3.52	19.75	3.52	0.00	80.9
4F1	18.35	3.02	18.35	3.02	0.00	81.5
5C1	22.58	3.62	22.58	3.62	0.00	144.7

HS20	18.23	2.28	18.23	2.28	HS	45.52	81.9
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	26.09	390.83	104.6
bott	22.62		26.09		104.6

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 5.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 18.6

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-173.2	149.2	-192.4
OPER	300.6C	-268.7	268.7	-300.6C	280.6	-288.7	248.6	-320.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00			
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00			
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00			
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00			
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.72	7.30	1.53	8.10	HS 30.52	54.9
2F1	3.95	18.81	3.50	20.90	0.00	52.5
3F1	2.98	13.11	2.64	14.56	0.00	60.8
4F1	2.87	12.19	2.54	13.54	0.00	68.7
5C1	3.04	7.89	2.69	8.77	0.00	107.7
HS20	2.87	12.16	2.54	13.51	HS 50.86	91.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 5.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 18.6

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.7	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-
OPER 299.5	279.4	-279.4	279.4	-279.4	259.3	-299.5	259.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.59	7.57	1.59	7.57	HS 31.84	57.3
2F1	3.65	19.51	3.65	19.51	0.00	54.8
3F1	2.76	13.60	2.76	13.60	0.00	63.4
4F1	2.65	12.64	2.65	12.64	0.00	71.6
5C1	2.81	8.19	2.81	8.19	0.00	112.3

HS20 2.65 12.61 2.65 12.61 HS 53.06 95.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.67	390.83	104.4
bott	22.62		27.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 6.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -37.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00			
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00			
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00			
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00			
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	11.90	1.30	10.78	1.48	HS 25.95 46.7
2F1	29.87	5.45	27.06	6.21	0.00 81.8
3F1	20.82	3.34	18.87	3.81	0.00 76.9
4F1	19.36	2.87	17.54	3.27	0.00 77.4
5C1	25.32	3.44	22.94	3.92	0.00 137.5
HS20	19.83	2.16	17.97	2.46	HS 43.24 77.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 6.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 -3.0 -37.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.6	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-
OPER 239.3	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	11.16	1.36	11.16	1.36	HS 27.17	48.9
2F1	28.00	5.71	28.00	5.71	0.00	85.6
3F1	19.52	3.50	19.52	3.50	0.00	80.5
4F1	18.15	3.00	18.15	3.00	0.00	81.0
5C1	23.74	3.60	23.74	3.60	0.00	144.0

HS20	18.59	2.26	18.59	2.26	HS	45.28	81.5
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	27.67	390.83	104.4
bott	22.62		27.67		104.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 6.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 1.6 19.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	167.6	-174.0	148.4	-193.2
OPER	300.6C	-268.7	268.7	-300.6C	279.4	-289.9	247.4	-321.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00			
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00			
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00			
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00			
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.71	7.40	1.52	8.22	HS 30.35	54.6
2F1	3.93	18.61	3.48	20.66	0.00	52.2
3F1	2.97	12.97	2.63	14.40	0.00	60.4
4F1	2.86	12.06	2.53	13.39	0.00	68.3
5C1	3.00	7.87	2.66	8.74	0.00	106.3
HS20	2.86	12.33	2.53	13.69	HS 50.58	91.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 6.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.6 19.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 180.4	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-
OPER 300.7	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.58	7.67	1.58	7.67	HS 31.67	57.0
2F1	3.63	19.30	3.63	19.30	0.00	54.5
3F1	2.74	13.45	2.74	13.45	0.00	63.0
4F1	2.64	12.51	2.64	12.51	0.00	71.2
5C1	2.77	8.16	2.77	8.16	0.00	110.9

HS20 2.64 12.79 2.64 12.79 HS 52.78 95.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.28	28.67	28.67	1.699	123.716	123.716

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.35	390.83	105.4
bott	22.62		21.35		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 7.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.8 -33.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00			
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00			
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00			
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00			
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	9.05	1.31	8.19	HS 26.28	47.3
2F1	24.42	5.45	22.10	0.00	81.8
3F1	17.07	3.37	15.45	0.00	77.5
4F1	15.93	2.88	14.41	0.00	77.8
5C1	18.85	3.50	17.06	0.00	139.9
HS20	15.08	2.19	13.65	HS 43.80	78.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01

Check Point I. D. 7.000

HS20 2F1
3F1
4F1
5C1
HS20

Dead Load Moment -2.8

Superimposed Dead Load Moment -33.7

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 145.8	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-
OPER 243.0	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.48	1.38	8.48	1.38	HS 27.50	49.5
2F1	22.88	5.71	22.88	5.71	0.00	85.6
3F1	15.99	3.53	15.99	3.53	0.00	81.1
4F1	14.92	3.02	14.92	3.02	0.00	81.4
5C1	17.66	3.66	17.66	3.66	0.00	146.4

HS20	14.13	2.29	14.13	2.29	HS	45.83	82.5
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.28	28.67	28.67	1.699	123.716	123.716

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.35	390.83	105.4
bott	22.62		21.35		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 7.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.3	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.1	252.2	-317.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00			
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00			
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00			
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00			
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.73	5.60	1.53	6.23	HS 30.67	55.2
2F1	3.95	15.12	3.50	16.81	0.00	52.5
3F1	2.97	10.57	2.64	11.75	0.00	60.7
4F1	2.86	9.86	2.54	10.97	0.00	68.6
5C1	3.04	6.98	2.70	7.76	0.00	107.8
HS20	2.88	9.34	2.56	10.39	HS 51.11	92.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 7.500 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
1.2 15.2

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 177.5	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-
OPER 295.8	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	5.82	1.60	5.82	HS 31.97	57.6
2F1	3.65	15.69	3.65	15.69	0.00	54.8
3F1	2.75	10.97	2.75	10.97	0.00	63.3
4F1	2.65	10.23	2.65	10.23	0.00	71.5
5C1	2.81	7.24	2.81	7.24	0.00	112.4

HS20	2.66	9.69	2.66	9.69	HS	53.29	95.9
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott		top
2.13	28.67	28.67	1.699
			115.303

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	45.04	390.83	101.4
bott	22.62		45.04		101.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 8.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -46.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00			
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00			
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00			
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00			
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	13.57	1.17	12.33	1.34	HS 23.40 42.1
2F1	33.64	4.25	30.57	4.87	0.00 63.7
3F1	23.45	2.85	21.31	3.27	0.00 65.6
4F1	21.79	2.39	19.80	2.74	0.00 64.5
5C1	26.92	2.69	24.46	3.09	0.00 107.7
HS20	22.62	1.95	20.55	2.23	HS 38.99 70.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01
 Check Point I. D. 8.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-3.8 -46.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 137.8	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-
OPER 229.6	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.75	1.23	12.75	1.23	HS 24.54	44.2
2F1	31.60	4.46	31.60	4.46	0.00	66.9
3F1	22.03	2.99	22.03	2.99	0.00	68.8
4F1	20.47	2.51	20.47	2.51	0.00	67.7
5C1	25.29	2.82	25.29	2.82	0.00	113.0

HS20	21.25	2.05	21.25	2.05	HS	40.91	73.6
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 8.600 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 2.8 34.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	158.1	-183.5	138.9	-202.7
OPER	300.6C	-268.7	268.7	-300.6C	263.5	-305.8	231.5	-337.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00			
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00			
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00			
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00			
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.21	7.93	1.06	8.76	HS 21.19	38.1
2F1	2.95	19.67	2.59	21.72	0.00	38.8
3F1	2.23	13.71	1.96	15.14	0.00	45.1
4F1	2.09	12.74	1.84	14.07	0.00	49.6
5C1	2.33	14.56	2.05	16.08	0.00	81.9
HS20	2.01	13.22	1.77	14.60	HS 35.32	63.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 8.600 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
2.8 34.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 189.9	182.5	-152.8	182.5	-152.8	145.3	-189.9	145.3	-
OPER 316.6	279.4	-279.4	279.4	-279.4	242.2	-316.6	242.2	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.11	8.21	1.11	8.21	HS 22.17	39.9
2F1	2.71	20.36	2.71	20.36	0.00	40.6
3F1	2.05	14.19	2.05	14.19	0.00	47.2
4F1	1.92	13.19	1.92	13.19	0.00	51.9
5C1	2.14	15.07	2.14	15.07	0.00	85.7

HS20	1.85	13.69	1.85	13.69	HS	36.96	66.5
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S01 HS20 2F1
 Check Point I. D. 9.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S01 HS20 2F1
Check Point I. D. 9.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 8

Live Load Distribution Factor 1.272

Second Live Load Dist. Factor 1.272

Comments:

Member I. D. S02 Symmetry:

Span Length:	Span 1 23.917	Span 2 23.917	Span 3 23.917	Span 4 23.917	Span 5 23.917
	Span 6 23.917	Span 7 23.917	Span 8 23.917	Span 9 0.000	Span 10 0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Distributed Load (lbs/ft) Right	Distributed Load (lbs/ft) Length	Concentrated Load (kips)
1	W	0.000	615.0	615.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 1.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02

Check Point I. D. 1.000

Dead Load Moment 0.0

Superimposed Dead Load Moment 0.0

HS20 2F1
3F1
4F1
5C1
HS20

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott		top
			bott
1.75	28.67	28.67	1.699
			94.775
			94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 1.400 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 2.8 27.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00			
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00			
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00			
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00			
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.24	7.76	1.09	8.60	HS 21.78	39.2
2F1	3.02	19.25	2.66	21.31	0.00	39.9
3F1	2.29	13.42	2.02	14.85	0.00	46.3
4F1	2.14	12.47	1.89	13.80	0.00	51.0
5C1	2.39	14.25	2.11	15.78	0.00	84.2
HS20	2.06	12.94	1.82	14.32	HS 36.31	65.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 1.400 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
2.8 27.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 186.1	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-
OPER 310.1	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.14	8.04	1.14	8.04	HS 22.77	41.0
2F1	2.78	19.94	2.78	19.94	0.00	41.7
3F1	2.11	13.90	2.11	13.90	0.00	48.4
4F1	1.97	12.92	1.97	12.92	0.00	53.3
5C1	2.20	14.77	2.20	14.77	0.00	88.0

HS20	1.90	13.41	1.90	13.41	HS	37.95	68.3
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.471	115.471

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	17.74	390.83	106.1
bott	22.62		17.74		106.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 2.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -37.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00			
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00			
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00			
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00			
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	13.23	1.22	11.99	HS 24.32	43.8
2F1	32.80	4.42	29.73	0.00	66.3
3F1	22.86	2.96	20.73	0.00	68.2
4F1	21.25	2.48	19.26	0.00	66.9
5C1	26.25	2.80	23.79	0.00	112.0
HS20	22.05	2.03	19.99	HS 40.53	73.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 2.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

-3.8 -37.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.0	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-
OPER 238.3	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.41	1.27	12.41	1.27	HS 25.47	45.8
2F1	30.76	4.63	30.76	4.63	0.00	69.4
3F1	21.44	3.11	21.44	3.11	0.00	71.4
4F1	19.93	2.60	19.93	2.60	0.00	70.1
5C1	24.62	2.93	24.62	2.93	0.00	117.3

HS20 20.68 2.12 20.68 2.12 HS 42.45 76.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.471	115.471

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	17.74	390.83	106.1
bott	22.62		17.74		106.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 2.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 12.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00	0.00		
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00	0.00		
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00	0.00		
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00	0.00		
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.75	5.55	1.55	6.18	HS 31.00	55.8
2F1	3.99	14.97	3.54	16.67	0.00	53.1
3F1	3.00	10.47	2.67	11.65	0.00	61.4
4F1	2.89	9.76	2.57	10.87	0.00	69.4
5C1	3.07	6.91	2.73	7.70	0.00	109.0
HS20	2.91	9.25	2.58	10.30	HS 51.67	93.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 2.500 3F1
4F1
5C1
HS20

Dead Load Moment 1.2 Superimposed Dead Load Moment 12.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 175.8	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-
OPER 293.0	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	5.76	1.62	5.76	HS 32.31	58.2
2F1	3.69	15.54	3.69	15.54	0.00	55.4
3F1	2.78	10.86	2.78	10.86	0.00	63.9
4F1	2.68	10.14	2.68	10.14	0.00	72.3
5C1	2.84	7.18	2.84	7.18	0.00	113.6

HS20	2.69	9.60	2.69	9.60	HS	53.85	96.9
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.959	123.959

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	22.95	390.83	105.2
bott	22.62		22.95		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 3.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.8 -27.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27		57.40	
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00			
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00			
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00			
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00			
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27		57.40	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS 26.97 48.5
2F1	23.95	5.60	21.64	6.36	0.00 84.1
3F1	16.75	3.46	15.12	3.92	0.00 79.6
4F1	15.62	2.96	14.11	3.36	0.00 80.0
5C1	18.49	3.59	16.70	4.07	0.00 143.7
HS20	14.80	2.25	13.37	2.55	HS 44.95 80.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 3.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.8 -27.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 149.6	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-
OPER 249.4	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	8.31	1.41	8.31	1.41	HS 28.19	50.7
2F1	22.42	5.86	22.42	5.86	0.00	87.9
3F1	15.67	3.62	15.67	3.62	0.00	83.2
4F1	14.62	3.10	14.62	3.10	0.00	83.6
5C1	17.31	3.75	17.31	3.75	0.00	150.2

HS20	13.85	2.35	13.85	2.35	HS	46.98	84.6
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	22.95	390.83	105.2
bott	22.62		22.95		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 3.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.6
 Superimposed Dead Load Moment 16.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00			
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00			
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00			
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00			
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	7.31	1.54	8.12	HS 30.79	55.4
2F1	3.98	18.37	3.53	20.42	0.00	53.0
3F1	3.01	12.81	2.66	14.24	0.00	61.3
4F1	2.89	11.91	2.57	13.24	0.00	69.3
5C1	3.04	7.77	2.70	8.64	0.00	107.9
HS20	2.89	12.18	2.57	13.54	HS 51.32	92.4

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 3.500 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
1.6 16.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.2	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-
OPER 297.1	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	7.58	1.61	7.58	HS 32.11	57.8
2F1	3.68	19.06	3.68	19.06	0.00	55.2
3F1	2.78	13.29	2.78	13.29	0.00	63.9
4F1	2.68	12.35	2.68	12.35	0.00	72.2
5C1	2.81	8.06	2.81	8.06	0.00	112.5

HS20	2.68	12.64	2.68	12.64	HS	53.52	96.3
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.65	390.83	105.4
bott	22.62		21.65		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 4.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00			
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00			
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00			
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00			
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	11.65	1.34	10.54	1.52	HS 26.74 48.1
2F1	29.25	5.62	26.45	6.38	0.00 84.3
3F1	20.39	3.44	18.44	3.91	0.00 79.2
4F1	18.96	2.95	17.14	3.35	0.00 79.7
5C1	23.80	3.54	21.51	4.02	0.00 141.7
HS20	19.42	2.23	17.56	2.53	HS 44.57 80.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 4.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.8	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-
OPER 246.3	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	10.91	1.40	10.91	1.40	HS 27.96	50.3
2F1	27.39	5.88	27.39	5.88	0.00	88.1
3F1	19.10	3.60	19.10	3.60	0.00	82.8
4F1	17.75	3.09	17.75	3.09	0.00	83.4
5C1	22.28	3.70	22.28	3.70	0.00	148.1

HS20 18.19 2.33 18.19 2.33 HS 46.60 83.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.65	390.83	105.4
bott	22.62		21.65		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 4.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 1.5 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00			
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00			
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00			
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00			
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	7.21	1.55	8.02	HS 30.94	55.7
2F1	4.00	18.59	3.55	20.67	0.00	53.2
3F1	3.02	12.96	2.68	14.41	0.00	61.6
4F1	2.91	12.04	2.58	13.39	0.00	69.6
5C1	3.08	7.80	2.73	8.68	0.00	109.1
HS20	2.90	12.02	2.58	13.36	HS 51.56	92.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 4.500 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
1.5 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	7.48	1.61	7.48	HS 32.26	58.1
2F1	3.70	19.29	3.70	19.29	0.00	55.5
3F1	2.79	13.44	2.79	13.44	0.00	64.2
4F1	2.69	12.49	2.69	12.49	0.00	72.6
5C1	2.85	8.09	2.85	8.09	0.00	113.8

HS20	2.69	12.47	2.69	12.47	HS	53.76	96.8
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.65	390.83	105.4
bott	22.62		21.65		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 5.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -2.9 -29.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	199.6	-142.0	180.4	-161.2
OPER	300.6C	-268.7	268.7	-300.6C	332.7	-236.6	300.7	-268.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00			
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00			
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00			
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00			
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	11.43	1.34	10.33	1.52	HS 26.86	48.4
2F1	29.61	5.65	26.76	6.41	0.00	84.7
3F1	20.64	3.46	18.66	3.93	0.00	79.6
4F1	19.18	2.97	17.34	3.37	0.00	80.1
5C1	23.61	3.56	21.34	4.04	0.00	142.3
HS20	19.05	2.24	17.22	2.54	HS 44.77	80.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 5.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

-2.9 -29.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 148.4	154.8	-180.5	154.8	-180.5	186.9	-148.4	186.9	-
OPER 247.4	279.4	-279.4	279.4	-279.4	311.4	-247.4	311.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.70	1.40	10.70	1.40	HS 28.08	50.6
2F1	27.72	5.91	27.72	5.91	0.00	88.6
3F1	19.32	3.62	19.32	3.62	0.00	83.2
4F1	17.96	3.10	17.96	3.10	0.00	83.8
5C1	22.10	3.72	22.10	3.72	0.00	148.7

HS20	17.83	2.34	17.83	2.34	HS	46.81	84.3
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	21.65	390.83	105.4
bott	22.62		21.65		105.4

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 5.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.5 15.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00			
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00			
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00			
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00			
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	7.21	1.55	8.02	HS 30.94	55.7
2F1	4.00	18.59	3.55	20.67	0.00	53.2
3F1	3.02	12.96	2.68	14.41	0.00	61.6
4F1	2.91	12.04	2.58	13.39	0.00	69.6
5C1	3.08	7.80	2.73	8.68	0.00	109.1
HS20	2.90	12.02	2.58	13.36	HS 51.56	92.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 5.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 15.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 177.6	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-
OPER 296.1	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	7.48	1.61	7.48	HS 32.26	58.1
2F1	3.70	19.29	3.70	19.29	0.00	55.5
3F1	2.79	13.44	2.79	13.44	0.00	64.2
4F1	2.69	12.49	2.69	12.49	0.00	72.6
5C1	2.85	8.09	2.85	8.09	0.00	113.8

HS20	2.69	12.47	2.69	12.47	HS	53.76	96.8
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	22.95	390.83	105.2
bott	22.62		22.95		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 6.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -30.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00			
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00			
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00			
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00			
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	11.65	1.34	10.54	1.52	HS 26.74	48.1
2F1	29.25	5.62	26.45	6.38	0.00	84.3
3F1	20.39	3.45	18.44	3.91	0.00	79.3
4F1	18.96	2.95	17.14	3.35	0.00	79.7
5C1	24.80	3.54	22.42	4.02	0.00	141.7
HS20	19.42	2.23	17.56	2.53	HS 44.57	80.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 6.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.0 -30.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.8	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-
OPER 246.3	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.91	1.40	10.91	1.40	HS 27.96	50.3
2F1	27.39	5.88	27.39	5.88	0.00	88.1
3F1	19.10	3.60	19.10	3.60	0.00	82.9
4F1	17.75	3.09	17.75	3.09	0.00	83.4
5C1	23.22	3.70	23.22	3.70	0.00	148.2

HS20 18.19 2.33 18.19 2.33 HS 46.61 83.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	22.95	390.83	105.2
bott	22.62		22.95		105.2

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 6.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.6 16.1

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00			
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00			
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00			
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00			
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.74	7.31	1.54	8.12	HS 30.79	55.4
2F1	3.98	18.37	3.53	20.42	0.00	53.0
3F1	3.01	12.81	2.66	14.24	0.00	61.3
4F1	2.89	11.91	2.57	13.24	0.00	69.3
5C1	3.04	7.77	2.70	8.64	0.00	107.9
HS20	2.89	12.18	2.57	13.54	HS 51.32	92.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 6.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.6
 Superimposed Dead Load Moment 16.1

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.2	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-
OPER 297.1	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.61	7.58	1.61	7.58	HS 32.11	57.8
2F1	3.68	19.06	3.68	19.06	0.00	55.2
3F1	2.78	13.29	2.78	13.29	0.00	63.9
4F1	2.68	12.35	2.68	12.35	0.00	72.2
5C1	2.81	8.06	2.81	8.06	0.00	112.5

HS20	2.68	12.64	2.68	12.64	HS	53.52	96.3
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.959	123.959

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	17.74	390.83	106.1
bott	22.62		17.74		106.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 7.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 -2.8 -27.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00			
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00			
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00			
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00			
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.88	1.35	8.02	1.53	HS 27.00	48.6
2F1	23.95	5.60	21.64	6.36	0.00	84.1
3F1	16.75	3.46	15.12	3.93	0.00	79.7
4F1	15.62	2.96	14.11	3.36	0.00	80.0
5C1	18.49	3.59	16.70	4.07	0.00	143.7
HS20	14.80	2.25	13.37	2.55	HS 45.01	81.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 7.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

-2.8 -27.3

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 149.6	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-
OPER 249.4	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.31	1.41	8.31	1.41	HS 28.22	50.8
2F1	22.42	5.86	22.42	5.86	0.00	87.9
3F1	15.67	3.62	15.67	3.62	0.00	83.3
4F1	14.62	3.10	14.62	3.10	0.00	83.6
5C1	17.31	3.76	17.31	3.76	0.00	150.2

HS20	13.85	2.35	13.85	2.35	HS	47.03	84.7
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.959	123.959

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	17.74	390.83	106.1
bott	22.62		17.74		106.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02
 Check Point I. D. 7.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 12.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00			
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00			
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00			
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00			
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.75	5.55	1.55	6.18	HS 31.00	55.8
2F1	3.99	14.97	3.54	16.67	0.00	53.1
3F1	3.00	10.47	2.67	11.65	0.00	61.4
4F1	2.89	9.76	2.57	10.87	0.00	69.4
5C1	3.07	6.91	2.73	7.70	0.00	109.0
HS20	2.91	9.25	2.58	10.30	HS 51.67	93.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S02 HS20 2F1
Check Point I. D. 7.500 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment
1.2 12.5

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	top fiber	-bend	+bend	bottom fi
INV. 175.8	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-
OPER 293.0	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	5.76	1.62	5.76	HS 32.31	58.2
2F1	3.69	15.54	3.69	15.54	0.00	55.4
3F1	2.78	10.86	2.78	10.86	0.00	63.9
4F1	2.68	10.14	2.68	10.14	0.00	72.3
5C1	2.84	7.18	2.84	7.18	0.00	113.6

HS20	2.69	9.60	2.69	9.60	HS	53.85	96.9
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.471	115.471

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	37.27	390.83	102.7
bott	22.62		37.27		102.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 8.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -37.3

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00			
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00			
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00			
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00			
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	13.23	1.22	11.99	1.39	HS 24.33	43.8
2F1	32.80	4.42	29.73	5.04	0.00	66.3
3F1	22.86	2.96	20.73	3.38	0.00	68.2
4F1	21.25	2.48	19.26	2.83	0.00	67.1
5C1	26.25	2.80	23.79	3.19	0.00	112.0
HS20	22.05	2.03	19.99	2.31	HS 40.55	73.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 8.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -37.3

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 143.0	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-
OPER 238.3	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	fiber -bend		
HS20	12.41	1.27	12.41	1.27	HS 25.48	45.9
2F1	30.76	4.63	30.76	4.63	0.00	69.4
3F1	21.44	3.11	21.44	3.11	0.00	71.4
4F1	19.93	2.60	19.93	2.60	0.00	70.3
5C1	24.62	2.93	24.62	2.93	0.00	117.3

HS20	20.68	2.12	20.68	2.12	HS	42.46	76.4
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 8.600 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 2.8 27.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00			
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00			
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00			
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00			
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.24	7.76	1.09	8.60	HS 21.78	39.2
2F1	3.02	19.25	2.66	21.31	0.00	39.9
3F1	2.29	13.42	2.02	14.85	0.00	46.3
4F1	2.14	12.47	1.89	13.80	0.00	51.0
5C1	2.39	14.25	2.11	15.78	0.00	84.2
HS20	2.06	12.94	1.82	14.32	HS 36.31	65.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 8.600 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 2.8 27.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 186.1	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-
OPER 310.1	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.14	8.04	1.14	8.04	HS 22.77	41.0
2F1	2.78	19.94	2.78	19.94	0.00	41.7
3F1	2.11	13.90	2.11	13.90	0.00	48.4
4F1	1.97	12.92	1.97	12.92	0.00	53.3
5C1	2.20	14.77	2.20	14.77	0.00	88.0

HS20	1.90	13.41	1.90	13.41	HS	37.95	68.3
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 9.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S02 HS20 2F1
 Check Point I. D. 9.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
 Year of Construction 1959
 Roadway Width 32.000
 Number of Spans 8

Live Load Distribution Factor 1.272

Second Live Load Dist. Factor 1.272

Comments:

Member I. D. S03 Symmetry:

Span Length:	Span 1 23.917	Span 2 23.917	Span 3 23.917	Span 4 23.917	Span 5 23.917
	Span 6 23.917	Span 7 23.917	Span 8 23.917	Span 9 0.000	Span 10 0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Distributed Load (lbs/ft) Right	Length	Concentrated Load (kips)
1	W	0.000	688.0	688.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	688.0	688.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	688.0	688.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	688.0	688.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	688.0	688.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	688.0	688.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	688.0	688.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	688.0	688.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 1.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 1.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
1.75	28.67	28.67	1.699
			94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 1.400

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 2.8
 Superimposed Dead Load Moment 31.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00			
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00			
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00			
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00			
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57			
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.22	7.85	1.07	8.68	HS 21.49	38.7
2F1	2.98	19.46	2.62	21.52	0.00	39.4
3F1	2.26	13.56	1.99	15.00	0.00	45.7
4F1	2.12	12.61	1.86	13.94	0.00	50.3
5C1	2.36	14.41	2.08	15.93	0.00	83.1
HS20	2.03	13.08	1.79	14.47	HS 35.81	64.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 1.400

Dead Load Moment 2.8

Superimposed Dead Load Moment 31.2

HS20 2F1
3F1
4F1
5C1
HS20

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 188.0	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-
OPER 313.3	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00
OPER	2F1	89.41 R	68.77	19.57	0.0	0.00	0.00	0.00	
		-15.55 R	-11.96	41.09	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 R	90.86	19.57	0.0	0.00	0.00	0.00	
		-22.31 R	-17.16	43.48	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 R	96.94	23.57	0.0	0.00	0.00	0.00	
		-24.01 R	-18.47	46.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 L	86.95	-37.43	0.0	0.00	0.00	0.00	
		-21.00 R	-16.16	45.48	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 L	100.84	-4.43	0.0	102.53	78.87	9.57	
		-23.13 R	-17.79	56.70	0.0	-17.61	-13.55	33.48	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.12	8.13	1.12	8.13	HS 22.47	40.4
2F1	2.74	20.15	2.74	20.15	0.00	41.2
3F1	2.08	14.05	2.08	14.05	0.00	47.8
4F1	1.95	13.05	1.95	13.05	0.00	52.6
5C1	2.17	14.92	2.17	14.92	0.00	86.9

HS20	1.87	13.55	1.87	13.55	HS	37.45	67.4
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03 HS20 2F1
 Check Point I. D. 2.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -41.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00			
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00			
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00			
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00			
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40			
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35		33.48	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS 23.85	42.9
2F1	33.22	4.33	30.15	4.95	0.00	65.0
3F1	23.16	2.91	21.02	3.33	0.00	66.9
4F1	21.52	2.43	19.53	2.78	0.00	65.6
5C1	26.59	2.75	24.13	3.14	0.00	109.8
HS20	22.34	1.99	20.27	2.27	HS 39.76	71.6

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 2.000

Dead Load Moment -3.8

Superimposed Dead Load Moment -41.7

HS20 2F1
3F1
4F1
5C1
HS20

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.4	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-
OPER 234.0	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48
OPER	2F1	10.42 R	8.01	65.01	0.0	0.00	0.00	0.00	
		-51.52 L	-39.63	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 R	11.50	67.40	0.0	0.00	0.00	0.00	
		-76.75 R	-59.04	28.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 R	12.37	70.62	0.0	0.00	0.00	0.00	
		-91.82 R	-70.63	28.70	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 R	10.01	106.79	0.0	0.00	0.00	0.00	
		-81.29 R	-62.53	28.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 R	11.92	80.62	0.0	11.80	9.07	57.40	
		-112.30 L	-86.38	3.09	0.0	-100.93	-77.64	14.35	33.48

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS 25.00	45.0
2F1	31.18	4.54	31.18	4.54	0.00	68.1
3F1	21.74	3.05	21.74	3.05	0.00	70.1
4F1	20.20	2.55	20.20	2.55	0.00	68.8
5C1	24.95	2.88	24.95	2.88	0.00	115.1

HS20	20.97	2.08	20.97	2.08	HS	41.67	75.0
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03 HS20 2F1
 Check Point I. D. 2.500 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00			
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00			
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00			
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00			
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88			
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.74	5.58	1.54	6.21	HS 30.83	55.5
2F1	3.97	15.05	3.52	16.74	0.00	52.8
3F1	2.99	10.52	2.65	11.70	0.00	61.0
4F1	2.88	9.81	2.56	10.92	0.00	69.0
5C1	3.05	6.95	2.71	7.73	0.00	108.4
HS20	2.89	9.30	2.57	10.34	HS 51.38	92.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 2.500

HS20 2F1
3F1
4F1
5C1
HS20

Dead Load Moment 1.2

Superimposed Dead Load Moment 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.5	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00
OPER	2F1	72.01 L	55.39	25.88	0.0	0.00	0.00	0.00	
		-18.86 L	-14.51	6.74	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 R	73.53	45.88	0.0	0.00	0.00	0.00	
		-26.98 L	-20.75	4.35	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 R	76.34	49.88	0.0	0.00	0.00	0.00	
		-28.91 L	-22.24	1.13	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 R	71.96	86.88	0.0	0.00	0.00	0.00	
		-40.83 L	-31.41	4.74	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 L	75.92	21.88	0.0	86.01	66.16	35.88	
		-30.52 L	-23.48	-8.87	0.0	-27.25	-20.96	14.35	0.00

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	5.79	1.61	5.79	HS 32.14	57.8
2F1	3.67	15.62	3.67	15.62	0.00	55.1
3F1	2.77	10.92	2.77	10.92	0.00	63.6
4F1	2.66	10.19	2.66	10.19	0.00	71.9
5C1	2.83	7.21	2.83	7.21	0.00	113.0

HS20	2.68	9.65	2.68	9.65	HS	53.56	96.4
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 3.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-2.8 -30.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40		
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00			
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00			
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00			
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00			
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35			
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS 26.61 47.9
2F1	24.19	5.53	21.87	6.28	0.00 82.9
3F1	16.91	3.41	15.29	3.88	0.00 78.5
4F1	15.77	2.92	14.26	3.32	0.00 78.9
5C1	18.67	3.54	16.88	4.03	0.00 141.8
HS20	14.94	2.22	13.51	2.52	HS 44.35 79.8

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 3.000

Dead Load Moment -2.8

Superimposed Dead Load Moment -30.5

HS20 2F1
3F1
4F1
5C1
HS20

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 147.7	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-
OPER 246.2	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40
OPER	2F1	13.80 L	10.62	6.74	0.0	0.00	0.00	0.00	
		-42.58 L	-32.75	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 L	15.19	4.35	0.0	0.00	0.00	0.00	
		-68.95 R	-53.04	52.62	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 L	16.28	1.13	0.0	0.00	0.00	0.00	
		-80.57 R	-61.98	53.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 L	13.75	-35.04	0.0	0.00	0.00	0.00	
		-66.42 L	-51.09	43.01	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 L	17.19	-8.87	0.0	19.84	15.26	14.35	
		-106.16 L	-81.66	27.01	0.0	-94.15	-72.42	38.27	57.40

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS 27.82	50.1
2F1	22.65	5.78	22.65	5.78	0.00	86.7
3F1	15.83	3.57	15.83	3.57	0.00	82.1
4F1	14.77	3.06	14.77	3.06	0.00	82.5
5C1	17.49	3.71	17.49	3.71	0.00	148.2

HS20	13.99	2.32	13.99	2.32	HS	46.37	83.5
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 3.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00			
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00			
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00			
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00			
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79			
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.72	7.35	1.53	8.17	HS 30.57	55.0
2F1	3.95	18.49	3.51	20.55	0.00	52.6
3F1	2.98	12.89	2.64	14.32	0.00	60.8
4F1	2.87	11.99	2.55	13.32	0.00	68.8
5C1	3.02	7.82	2.68	8.69	0.00	107.1
HS20	2.87	12.26	2.55	13.62	HS 50.94	91.7

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 3.500

HS20 2F1
3F1
4F1
5C1
HS20

Dead Load Moment 1.6

Superimposed Dead Load Moment 18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.4	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-
OPER 298.9	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00
OPER	2F1	71.08 L	54.68	49.79	0.0	0.00	0.00	0.00	
		-15.58 L	-11.99	30.66	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 R	72.45	69.79	0.0	0.00	0.00	0.00	
		-22.35 L	-17.19	28.27	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 R	75.25	73.79	0.0	0.00	0.00	0.00	
		-24.04 L	-18.49	25.05	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 L	71.60	8.79	0.0	0.00	0.00	0.00	
		-36.84 L	-28.34	28.66	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 L	75.24	45.79	0.0	86.88	66.83	59.79	
		-23.00 L	-17.69	15.05	0.0	-23.51	-18.09	38.27	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	7.63	1.59	7.63	HS 31.88	57.4
2F1	3.66	19.18	3.66	19.18	0.00	54.8
3F1	2.76	13.37	2.76	13.37	0.00	63.5
4F1	2.66	12.43	2.66	12.43	0.00	71.7
5C1	2.79	8.11	2.79	8.11	0.00	111.7

HS20 2.66 12.71 2.66 12.71 HS 53.14 95.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 4.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-3.0 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00			
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00			
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00			
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00			
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27			
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS	26.34	47.4
2F1	29.56	5.53	26.75	6.30		0.00	83.0
3F1	20.61	3.39	18.65	3.86		0.00	78.0
4F1	19.16	2.91	17.34	3.31		0.00	78.5
5C1	24.05	3.49	21.76	3.97		0.00	139.6
HS20	19.63	2.19	17.76	2.50	HS	43.90	79.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 4.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 -3.0 -33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
bend								
INV. 145.7	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-
OPER 242.8	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32
OPER	2F1	11.41 L	8.78	30.66	0.0	0.00	0.00	0.00	
		-41.93 L	-32.26	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 L	12.59	28.27	0.0	0.00	0.00	0.00	
		-68.42 R	-52.63	76.53	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 L	13.54	25.05	0.0	0.00	0.00	0.00	
		-79.78 R	-61.37	76.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.02 R	10.79	154.63	0.0	0.00	0.00	0.00	
		-66.52 L	-51.17	66.93	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 L	12.95	15.05	0.0	17.18	13.22	38.27	
		-105.72 L	-81.33	50.93	0.0	-95.14	-73.18	62.18	81.32

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	fiber -bend		
HS20	11.03	1.38	11.03	1.38	HS 27.56	49.6
2F1	27.70	5.79	27.70	5.79	0.00	86.9
3F1	19.31	3.55	19.31	3.55	0.00	81.6
4F1	17.95	3.04	17.95	3.04	0.00	82.2
5C1	22.53	3.65	22.53	3.65	0.00	146.0

HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03 HS20 2F1
 Check Point I. D. 4.500 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 1.5 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00			
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00			
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00			
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00			
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71			
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.73	7.25	1.54	8.06	HS 30.72	55.3
2F1	3.97	18.70	3.52	20.79	0.00	52.9
3F1	3.00	13.04	2.66	14.49	0.00	61.2
4F1	2.89	12.12	2.56	13.47	0.00	69.1
5C1	3.06	7.85	2.71	8.72	0.00	108.4
HS20	2.89	12.09	2.56	13.44	HS 51.20	92.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 4.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.5
 Superimposed Dead Load Moment 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00
OPER	2F1	71.01 L	54.63	73.71	0.0	0.00	0.00	0.00	
		-15.35 L	-11.81	54.58	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 R	72.37	93.71	0.0	0.00	0.00	0.00	
		-22.02 L	-16.94	52.18	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 R	75.17	97.71	0.0	0.00	0.00	0.00	
		-23.69 L	-18.23	48.97	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 L	71.05	32.71	0.0	0.00	0.00	0.00	
		-36.58 L	-28.14	53.45	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 L	75.19	69.71	0.0	86.44	66.50	83.71	
		-22.82 L	-17.55	38.97	0.0	-23.74	-18.27	62.18	0.00

Serviceability

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	1.60	7.53	1.60	7.53	HS 32.04	57.7
2F1	3.67	19.40	3.67	19.40	0.00	55.1
3F1	2.77	13.52	2.77	13.52	0.00	63.8
4F1	2.67	12.57	2.67	12.57	0.00	72.1
5C1	2.83	8.14	2.83	8.14	0.00	113.0

HS20	2.67	12.54	2.67	12.54	HS	53.40	96.1
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 5.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment

-2.9 -32.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00			
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00			
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00			
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00			
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18			
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	11.55	1.32	10.45	1.50	26.48
2F1	29.91	5.57	27.07	6.33	0.00
3F1	20.85	3.41	18.87	3.88	0.00
4F1	19.38	2.92	17.53	3.33	0.00
5C1	23.85	3.51	21.58	3.99	0.00
HS20	19.25	2.21	17.41	2.51	44.13

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 5.000

HS20 2F1
3F1
4F1
5C1
HS20

Dead Load Moment -2.9

Superimposed Dead Load Moment -32.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 146.4	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-
OPER 243.9	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23
OPER	2F1	11.24 L	8.64	54.58	0.0	0.00	0.00	0.00	
		-41.89 L	-32.22	78.49	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.12 L	12.40	52.18	0.0	0.00	0.00	0.00	
		-68.38 R	-52.60	100.45	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.34 L	13.34	48.97	0.0	0.00	0.00	0.00	
		-79.72 R	-61.33	100.88	0.0	0.00	0.00	0.00	0.00
OPER	5C1	14.09 L	10.84	12.79	0.0	0.00	0.00	0.00	
		-66.52 R	-51.17	100.49	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.70 L	12.85	38.97	0.0	17.46	13.43	62.18	
		-105.69 R	-81.30	116.49	0.0	-94.74	-72.88	86.10	105.23

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.82	1.38	10.82	1.38	HS 27.70	49.9
2F1	28.02	5.82	28.02	5.82	0.00	87.4
3F1	19.53	3.57	19.53	3.57	0.00	82.1
4F1	18.15	3.06	18.15	3.06	0.00	82.6
5C1	22.34	3.67	22.34	3.67	0.00	146.7

HS20 18.03 2.31 18.03 2.31 HS 46.16 83.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy	J	fb
top	bott	top	bott
2.30	28.67	28.67	1.699
			124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 5.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.5
 Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00			
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00			
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00			
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00			
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63			
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.73	7.25	1.54	8.06	HS 30.72	55.3
2F1	3.97	18.70	3.52	20.79	0.00	52.9
3F1	3.00	13.04	2.66	14.49	0.00	61.2
4F1	2.89	12.12	2.56	13.47	0.00	69.1
5C1	3.06	7.85	2.71	8.72	0.00	108.4
HS20	2.89	12.09	2.56	13.44	HS 51.20	92.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 5.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.5
 Superimposed Dead Load Moment 16.9

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00
OPER	2F1	71.01 R	54.63	117.63	0.0	0.00	0.00	0.00	
		-15.35 R	-11.81	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.09 L	72.37	97.63	0.0	0.00	0.00	0.00	
		-22.02 R	-16.94	139.15	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.73 L	75.17	93.63	0.0	0.00	0.00	0.00	
		-23.69 R	-18.23	142.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	92.36 R	71.05	158.63	0.0	0.00	0.00	0.00	
		-36.58 R	-28.14	137.88	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.75 R	75.19	121.63	0.0	86.44	66.50	107.63	
		-22.82 R	-17.55	152.37	0.0	-23.74	-18.27	129.15	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	7.53	1.60	7.53	HS 32.04	57.7
2F1	3.67	19.40	3.67	19.40	0.00	55.1
3F1	2.77	13.52	2.77	13.52	0.00	63.8
4F1	2.67	12.57	2.67	12.57	0.00	72.1
5C1	2.83	8.14	2.83	8.14	0.00	113.0

HS20	2.67	12.54	2.67	12.54	HS	53.40	96.1
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	Inventory	Operating	Posting	Special
	0.00	0.00	0.00	0.00
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 6.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-3.0 -33.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00			
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00			
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00			
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00			
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07			
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.78	1.32	10.66	1.50	HS 26.35	47.4
2F1	29.56	5.53	26.75	6.30	0.00	83.0
3F1	20.61	3.39	18.65	3.86	0.00	78.1
4F1	19.16	2.91	17.34	3.31	0.00	78.5
5C1	25.06	3.49	22.68	3.97	0.00	139.6
HS20	19.63	2.19	17.76	2.50	HS 43.91	79.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 6.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 -3.0 -33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.7	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-
OPER 242.8	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02
OPER	2F1	11.41 R	8.78	160.68	0.0	0.00	0.00	0.00	
		-41.93 R	-32.26	136.76	0.0	0.00	0.00	0.00	0.00
OPER	3F1	16.36 R	12.59	163.07	0.0	0.00	0.00	0.00	
		-68.37 R	-52.59	124.37	0.0	0.00	0.00	0.00	0.00
OPER	4F1	17.60 R	13.54	166.28	0.0	0.00	0.00	0.00	
		-79.78 L	-61.37	114.37	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.46 R	10.35	204.07	0.0	0.00	0.00	0.00	
		-66.50 R	-51.15	124.37	0.0	0.00	0.00	0.00	0.00
OPER	HS20	16.84 R	12.95	176.28	0.0	17.18	13.22	153.07	
		-105.71 L	-81.32	98.76	0.0	-95.14	-73.18	129.15	110.02

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	11.03	1.38	11.03	1.38	HS 27.57	49.6
2F1	27.70	5.79	27.70	5.79	0.00	86.9
3F1	19.31	3.55	19.31	3.55	0.00	81.7
4F1	17.95	3.04	17.95	3.04	0.00	82.2
5C1	23.48	3.65	23.48	3.65	0.00	146.1

HS20	18.39	2.30	18.39	2.30	HS	45.94	82.7
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 6.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00			
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00			
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00			
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00			
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54			
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.72	7.35	1.53	8.17	HS 30.57	55.0
2F1	3.95	18.49	3.51	20.55	0.00	52.6
3F1	2.98	12.89	2.64	14.32	0.00	60.8
4F1	2.87	11.99	2.55	13.32	0.00	68.8
5C1	3.02	7.82	2.68	8.69	0.00	107.1
HS20	2.87	12.26	2.55	13.62	HS 50.94	91.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 6.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.6
 Superimposed Dead Load Moment 18.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 179.4	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-
OPER 298.9	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00
OPER	2F1	71.08 R	54.68	141.54	0.0	0.00	0.00	0.00	
		-15.58 R	-11.99	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	94.19 L	72.45	121.54	0.0	0.00	0.00	0.00	
		-22.35 R	-17.19	163.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	97.83 L	75.25	117.54	0.0	0.00	0.00	0.00	
		-24.04 R	-18.49	166.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.08 R	71.60	182.54	0.0	0.00	0.00	0.00	
		-36.84 R	-28.34	162.68	0.0	0.00	0.00	0.00	0.00
OPER	HS20	97.81 R	75.24	145.54	0.0	86.88	66.83	131.54	
		-23.00 R	-17.69	176.28	0.0	-23.51	-18.09	153.07	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	7.63	1.59	7.63	HS 31.88	57.4
2F1	3.66	19.18	3.66	19.18	0.00	54.8
3F1	2.76	13.37	2.76	13.37	0.00	63.5
4F1	2.66	12.43	2.66	12.43	0.00	71.7
5C1	2.79	8.11	2.79	8.11	0.00	111.7

HS20 2.66 12.71 2.66 12.71 HS 53.14 95.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 7.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-2.8 -30.5

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00			
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00		0.00	
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00			
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00		0.00	
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00			
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00		0.00	
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00			
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00		0.00	
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98			
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07		133.93	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.97	1.33	8.11	1.51	HS 26.64	48.0
2F1	24.19	5.53	21.87	6.28	0.00	82.9
3F1	16.91	3.42	15.29	3.88	0.00	78.6
4F1	15.77	2.92	14.26	3.32	0.00	78.9
5C1	18.67	3.55	16.88	4.03	0.00	141.8
HS20	14.94	2.22	13.51	2.52	HS 44.40	79.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 7.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

-2.8 -30.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 147.7	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-
OPER 246.2	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93
OPER	2F1	13.80 R	10.62	184.59	0.0	0.00	0.00	0.00	
		-42.57 R	-32.75	160.68	0.0	0.00	0.00	0.00	0.00
OPER	3F1	19.75 R	15.19	186.98	0.0	0.00	0.00	0.00	
		-68.88 L	-52.98	139.07	0.0	0.00	0.00	0.00	0.00
OPER	4F1	21.17 R	16.28	190.20	0.0	0.00	0.00	0.00	
		-80.57 L	-61.98	138.28	0.0	0.00	0.00	0.00	0.00
OPER	5C1	17.88 R	13.75	226.38	0.0	0.00	0.00	0.00	
		-66.40 R	-51.07	148.28	0.0	0.00	0.00	0.00	0.00
OPER	HS20	22.35 R	17.19	200.20	0.0	19.84	15.26	176.98	
		-106.03 L	-81.56	122.68	0.0	-94.15	-72.42	153.07	133.93

Serviceability

Rating Veh.	top fiber +bend	Rating fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.40	1.39	8.40	1.39	HS 27.86	50.1
2F1	22.65	5.78	22.65	5.78	0.00	86.7
3F1	15.83	3.57	15.83	3.57	0.00	82.2
4F1	14.77	3.06	14.77	3.06	0.00	82.5
5C1	17.49	3.71	17.49	3.71	0.00	148.3

HS20	13.99	2.32	13.99	2.32	HS	46.43	83.6
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 7.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

1.2 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00			
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00			
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00			
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00			
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46			
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	1.74	5.58	1.54	6.21	HS 30.83	55.5
2F1	3.97	15.05	3.52	16.74	0.00	52.8
3F1	2.99	10.52	2.65	11.70	0.00	61.0
4F1	2.88	9.81	2.56	10.92	0.00	69.0
5C1	3.05	6.95	2.71	7.73	0.00	108.4
HS20	2.89	9.30	2.57	10.34	HS 51.38	92.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 7.500

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment 1.2
 Superimposed Dead Load Moment 13.9

Rating Veh. ber	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I			
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.5	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00
OPER	2F1	72.01 R	55.39	165.46	0.0	0.00	0.00	0.00	
		-18.86 R	-14.51	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	95.59 L	73.53	145.46	0.0	0.00	0.00	0.00	
		-26.98 R	-20.75	186.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	99.25 L	76.34	141.46	0.0	0.00	0.00	0.00	
		-28.91 R	-22.24	190.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	93.55 L	71.96	104.46	0.0	0.00	0.00	0.00	
		-40.83 R	-31.41	186.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	98.70 R	75.92	169.46	0.0	86.01	66.16	155.46	
		-30.52 R	-23.48	200.20	0.0	-27.25	-20.96	176.98	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.61	5.79	1.61	5.79	HS 32.14	57.8
2F1	3.67	15.62	3.67	15.62	0.00	55.1
3F1	2.77	10.92	2.77	10.92	0.00	63.6
4F1	2.66	10.19	2.66	10.19	0.00	71.9
5C1	2.83	7.21	2.83	7.21	0.00	113.0

HS20	2.68	9.65	2.68	9.65	HS	53.56	96.4
------	------	------	------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	41.22	390.83	102.1
bott	22.62		41.22		102.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 8.000

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment
 -3.8 -41.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00			
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00		
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00			
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00		
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00			
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00		
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00			
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00		
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93			
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85		

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	13.40	1.19	12.16	1.36	HS 23.86
2F1	33.22	4.33	30.15	4.95	0.00
3F1	23.16	2.91	21.02	3.33	0.00
4F1	21.52	2.44	19.53	2.79	0.00
5C1	26.59	2.75	24.13	3.14	0.00
HS20	22.34	1.99	20.27	2.27	HS 39.77

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03

Check Point I. D. 8.000

Dead Load Moment -3.8

Superimposed Dead Load Moment -41.7

HS20 2F1
3F1
4F1
5C1
HS20

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.4	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-
OPER 234.0	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85
OPER	2F1	10.42 L	8.01	126.33	0.0	0.00	0.00	0.00	
		-51.52 R	-39.63	184.59	0.0	0.00	0.00	0.00	0.00
OPER	3F1	14.94 L	11.50	123.93	0.0	0.00	0.00	0.00	
		-76.75 L	-59.04	162.98	0.0	0.00	0.00	0.00	0.00
OPER	4F1	16.08 L	12.37	120.72	0.0	0.00	0.00	0.00	
		-91.60 L	-70.46	162.20	0.0	0.00	0.00	0.00	0.00
OPER	5C1	13.02 L	10.01	84.54	0.0	0.00	0.00	0.00	
		-81.29 L	-62.53	162.59	0.0	0.00	0.00	0.00	0.00
OPER	HS20	15.49 L	11.92	110.72	0.0	11.80	9.07	133.93	
		-112.26 R	-86.35	188.59	0.0	-100.93	-77.64	176.98	157.85

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.58	1.25	12.58	1.25	HS 25.01	45.0
2F1	31.18	4.54	31.18	4.54	0.00	68.1
3F1	21.74	3.05	21.74	3.05	0.00	70.1
4F1	20.20	2.55	20.20	2.55	0.00	69.0
5C1	24.95	2.88	24.95	2.88	0.00	115.1

HS20	20.97	2.08	20.97	2.08	HS	41.68	75.0
------	-------	------	-------	------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03
 Check Point I. D. 8.600

HS20 2F1
 3F1
 4F1
 5C1
 HS20

Dead Load Moment Superimposed Dead Load Moment

2.8 31.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00			
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00			
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00			
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00			
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77			
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00		

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	1.22	7.85	1.07	8.68	HS 21.49	38.7
2F1	2.98	19.46	2.62	21.52	0.00	39.4
3F1	2.26	13.56	1.99	15.00	0.00	45.7
4F1	2.12	12.60	1.86	13.94	0.00	50.3
5C1	2.36	14.41	2.08	15.93	0.00	83.1
HS20	2.03	13.08	1.79	14.47	HS 35.81	64.5

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03 HS20 2F1
Check Point I. D. 8.600 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

2.8 31.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 188.0	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-
OPER 313.3	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00
OPER	2F1	89.41 L	68.77	171.77	0.0	0.00	0.00	0.00	
		-15.55 L	-11.96	150.24	0.0	0.00	0.00	0.00	0.00
OPER	3F1	118.12 L	90.86	171.77	0.0	0.00	0.00	0.00	
		-22.31 L	-17.16	147.85	0.0	0.00	0.00	0.00	0.00
OPER	4F1	126.02 L	96.94	167.77	0.0	0.00	0.00	0.00	
		-24.01 L	-18.47	144.63	0.0	0.00	0.00	0.00	0.00
OPER	5C1	113.03 R	86.95	228.77	0.0	0.00	0.00	0.00	
		-21.00 L	-16.16	145.85	0.0	0.00	0.00	0.00	0.00
OPER	HS20	131.09 R	100.84	195.77	0.0	102.53	78.87	181.77	
		-23.13 L	-17.79	134.63	0.0	-17.61	-13.55	157.85	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor top fiber +bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.12	8.13	1.12	8.13	HS 22.47	40.4
2F1	2.74	20.15	2.74	20.15	0.00	41.2
3F1	2.08	14.05	2.08	14.05	0.00	47.8
4F1	1.95	13.05	1.95	13.05	0.00	52.6
5C1	2.17	14.92	2.17	14.92	0.00	86.9

HS20	1.87	13.55	1.87	13.55	HS	37.45	67.4
------	------	-------	------	-------	----	-------	------

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

Member I. D. S03 HS20 2F1
 Check Point I. D. 9.000 3F1
 4F1
 5C1
 HS20

Dead Load Superimposed Dead Load
 Moment Moment
 0.0 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	2F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	3F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	4F1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	
OPER	HS20	0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	0.00	999.0
HS20	999.00	999.00	999.00	HS 999.00	999.0

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC

Member I. D. S03 HS20 2F1
Check Point I. D. 9.000 3F1
4F1
5C1
HS20

Dead Load Moment Superimposed Dead Load Moment

0.0 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live w/imp.	Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live w/imp.	Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	2F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	3F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	4F1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	top +bend	Rating fiber -bend	Factor bottom +bend	fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
2F1	999.00	999.00	999.00	999.00	0.00	999.0
3F1	999.00	999.00	999.00	999.00	0.00	999.0
4F1	999.00	999.00	999.00	999.00	0.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0

HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
------	--------	--------	--------	--------	-----------	-------