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) Left	Right	Length	Concentrated Load (kips)
1	W	1.917	235.5	235.5	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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.38	0.840	top	16.71	16.55	16.55	1.44	3.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
76.50	76.50	18.15	18.15	17300.0	17300.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
48.9	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1351.1C	-1209.6	1209.6	-1351.1C	1179.0	-1381.7	1037.5	-1523.1
OPER	2251.8C	-2016.0	2016.0	-2251.8C	1964.9	-2302.8	1729.2	-2538.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. 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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.38	999.00	1.22	999.00	HS	24.37	43.9
5C1T	2.97	999.00	2.62	999.00		0.00	209.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.0	-247.7	247.7
OPER	536.7	-412.8	412.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
48.9	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1372.7	-1143.2	1372.7	-1143.2	1085.9	-1430.0	1085.9	-1430.0
OPER	2096.6	-2096.6	2096.6	-2096.6	1809.8	-2383.4	1809.8	-2383.4

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load 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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.27	999.00	1.27	999.00	HS 25.51	45.9
5C1T	2.74	999.00	2.74	999.00	0.00	219.1

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) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
36.5	33.38	0.880	top	16.78	16.59	16.59	1.57	3.81
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
82.40	82.40	18.35	18.35	18900.0	18900.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
52.7	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1472.0C	-1307.3	1307.3	-1472.0C	1093.9	-1685.4	929.2	-1850.1
OPER	2453.4C	-2178.8	2178.8	-2453.4C	1823.2	-2809.0	1548.7	-3083.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.28	999.00	1.09	999.00	HS	21.83	39.3
5C1T	2.76	999.00	2.34	999.00		0.00	187.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	339.3	-261.0	261.0
OPER	565.4	-434.9	434.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
52.7	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1611.6	-1107.6	1611.6	-1107.6	981.5	-1737.7	981.5	-1737.7
OPER	2266.0	-2266.0	2266.0	-2266.0	1635.9	-2896.1	1635.9	-2896.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.15	999.00	1.15	999.00	HS 23.06	41.5
5C1T	2.48	999.00	2.48	999.00	0.00	198.1

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. 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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	19.9
1	P	12.417	0.0	0.0	0.000	16.4
1	P	19.417	0.0	0.0	0.000	18.1
1	P	26.417	0.0	0.0	0.000	18.1
1	P	33.420	0.0	0.0	0.000	19.9

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. B03
Check Point I. D. 1.474

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

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	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
48.9	510.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1351.1C	-1209.6	1209.6	-1351.1C	1015.3	-1545.3	873.8	-1686.8
OPER	2251.8C	-2016.0	2016.0	-2251.8C	1692.1	-2575.6	1456.3	-2811.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.11	999.00	0.96	999.00	HS 19.13	34.4
5C1T	2.42	999.00	2.09	999.00	0.00	166.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.0	-247.7	247.7
OPER	536.7	-412.8	412.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
48.9	510.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	1481.8	-1034.1	1481.8	-1034.1	922.2	-1593.7	922.2	-1593.7
OPER	2096.6	-2096.6	2096.6	-2096.6	1537.0	-2656.2	1537.0	-2656.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.01	999.00	1.01	999.00	HS 20.19	36.3
5C1T	2.20	999.00	2.20	999.00	0.00	176.1

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 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S01 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	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	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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.1
OPER	151.3	-124.2	108.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	5C1T	-2.10	25.07	-1.62	19.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	35.12	2.09	HS 41.75	75.1
5C1T	59.08	4.33	0.00	346.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79 L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78 R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90 R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11 R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.34	8.83	1.18	9.75	HS 23.58	42.4
5C1T	2.49	15.20	2.19	16.80	0.00	174.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	5C1T	-11.06	10.81	-8.51	8.32	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.48	204.3
5C1T	10.52	10.77	0.00	841.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.23	9.14	1.23	9.14	HS 24.68	44.4
5C1T	2.29	15.74	2.29	15.74	0.00	183.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS 26.03	46.8
5C1T	29.98	3.00	27.24	3.43	0.00	239.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-11.1	9.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-62.6	63.5
OPER	151.3	-104.4	105.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	5C1T	-27.13	26.51	-20.87	20.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.73	1.90	HS 34.61	62.3
5C1T	3.85	3.99	0.00	307.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.1
5C1T	28.16	3.14	28.16	3.14		0.00	251.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	6.24	1.71	6.94	HS 34.13	61.4
5C1T	3.34	7.57	2.96	8.41	0.00	236.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.2	69.5
OPER	151.3	-117.0	115.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	5C1T	-10.75	11.58	-8.27	8.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.15	HS 103.04	185.5
5C1T	10.88	9.99	0.00	799.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	6.47	1.78	6.47	HS 35.58	64.0
5C1T	3.09	7.85	3.09	7.85	0.00	247.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS	29.21	52.6
5C1T	20.98	3.92	18.99	4.46		0.00	313.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.7	9.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.2	64.0
OPER	151.3	-107.0	106.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	5C1T	-25.68	25.95	-19.76	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
5C1T	4.17	4.11	0.00	328.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.56	55.0
5C1T	19.66	4.10	19.66	4.10		0.00	327.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32 R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26 R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	8.23	1.69	9.14	HS 33.77	60.8
5C1T	3.16	8.46	2.80	9.40	0.00	224.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	5C1T	-11.30	11.10	-8.69	8.54	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.17	187.5
5C1T	10.29	10.50	0.00	823.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32	R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26	R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	8.54	1.76	8.54	HS 35.24	63.4
5C1T	2.92	8.78	2.92	8.78	0.00	233.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00 L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59 R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67 R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS	28.87	52.0
5C1T	27.07	3.83	24.52	4.37		0.00	306.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-9.3	9.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.3	106.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	5C1T	-26.30	26.09	-20.23	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.73	67.9
5C1T	4.04	4.08	0.00	323.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
5C1T	25.38	4.01	25.38	4.01		0.00	320.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 4.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.12	1.70	9.02	HS 33.96	61.1
5C1T	3.22	8.39	2.85	9.32	0.00	228.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	5C1T	-11.12	11.15	-8.55	8.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.28	187.7
5C1T	10.48	10.43	0.00	834.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	8.42	1.77	8.42	HS 35.43	63.8
5C1T	2.98	8.70	2.98	8.70	0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.98	1.45	11.76	1.65	HS 29.03	52.3
5C1T	26.81	3.88	24.28	4.42	0.00	310.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-9.1	9.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	63.9
OPER	151.3	-106.5	106.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	5C1T	-26.04	26.04	-20.03	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.81	68.1
5C1T	4.09	4.09	0.00	327.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.17	1.52	12.17	1.52	HS	30.39	54.7
5C1T	25.13	4.06	25.13	4.06		0.00	324.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 5.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.12	1.70	9.02	HS 33.96	61.1
5C1T	3.22	8.39	2.85	9.32	0.00	228.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	8.42	1.77	8.42	HS	35.43	63.8
5C1T	2.98	8.70	2.98	8.70		0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS 28.88	52.0
5C1T	28.17	3.83	25.53	4.37	0.00	306.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-9.2	9.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.4	106.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.73	67.9
5C1T	4.08	4.04	0.00	323.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
5C1T	26.42	4.01	26.42	4.01		0.00	320.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	8.23	1.69	9.14	HS 33.77	60.8
5C1T	3.16	8.46	2.80	9.40	0.00	224.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.11	187.4
5C1T	10.50	10.28	0.00	822.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	8.54	1.76	8.54	HS 35.24	63.4
5C1T	2.92	8.78	2.92	8.78	0.00	233.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS 29.25	52.6
5C1T	20.98	3.92	18.99	4.46	0.00	313.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-9.0	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.0	64.2
OPER	151.3	-106.6	107.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
5C1T	4.11	4.17	0.00	328.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.60	55.1
5C1T	19.66	4.10	19.66	4.10		0.00	328.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 7.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	6.24	1.71	6.94	HS 34.13	61.4
5C1T	3.34	7.57	2.96	8.41	0.00	236.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.5	70.1
OPER	151.3	-115.8	116.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.19	HS 103.10	185.6
5C1T	10.00	10.87	0.00	800.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	6.47	1.78	6.47	HS	35.58	64.0
5C1T	3.09	7.85	3.09	7.85		0.00	247.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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	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	45.04	390.83	101.4
bott	22.62		45.04		101.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS 26.04	46.9
5C1T	29.98	3.00	27.24	3.43	0.00	239.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-9.7	11.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.5	62.6
OPER	151.3	-105.9	104.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.73	HS 34.61	62.3
5C1T	3.97	3.85	0.00	307.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.2
5C1T	28.16	3.14	28.16	3.14		0.00	251.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 8.600

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.34	8.83	1.18	9.75	HS 23.58	42.4
5C1T	2.49	15.20	2.19	16.80	0.00	174.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.48	204.3
5C1T	10.53	10.76	0.00	842.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.23	9.14	1.23	9.14	HS 24.68	44.4
5C1T	2.29	15.74	2.29	15.74	0.00	183.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.1	70.2
OPER	151.3	-108.5	117.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.09	33.07	HS 41.75	75.1
5C1T	4.33	999.00	0.00	346.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	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 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S02 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	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	Right	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	109.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	5C1T	-2.10	25.07	-1.62	19.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	34.73	2.11	HS 42.29	76.1
5C1T	58.42	4.39	0.00	350.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	8.64	1.21	9.56	HS 24.24	43.6
5C1T	2.55	14.88	2.25	16.47	0.00	179.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	5C1T	-11.06	10.81	-8.51	8.32	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.27	8.95	1.27	8.95	HS	25.34	45.6
5C1T	2.35	15.42	2.35	15.42		0.00	187.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS	27.07	48.7
5C1T	29.23	3.12	26.49	3.55		0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-9.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	64.6
OPER	151.3	-106.5	107.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	5C1T	-27.13	26.51	-20.87	20.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.77	1.93	HS 35.31	63.6
5C1T	3.92	4.07	0.00	314.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.34	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 2.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	6.18	1.73	6.88	HS 34.50	62.1
5C1T	3.37	7.49	2.99	8.34	0.00	239.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.1	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	5C1T	-10.75	11.58	-8.27	8.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.16	HS 103.10	185.6
5C1T	10.87	10.00	0.00	800.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	6.41	1.80	6.41	HS 35.96	64.7
5C1T	3.12	7.78	3.12	7.78	0.00	249.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS 30.01	54.0
5C1T	20.58	4.03	18.59	4.57	0.00	322.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	65.0
OPER	151.3	-108.7	108.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	5C1T	-25.68	25.95	-19.76	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.23	4.18	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS	31.37	56.5
5C1T	19.26	4.21	19.26	4.21		0.00	336.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32 R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26 R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.13	1.71	9.04	HS 34.27	61.7
5C1T	3.20	8.36	2.84	9.29	0.00	227.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	5C1T	-11.30	11.10	-8.69	8.54	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.22	187.6
5C1T	10.29	10.49	0.00	823.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32	R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26	R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	8.44	1.79	8.44	HS	35.74	64.3
5C1T	2.96	8.67	2.96	8.67		0.00	237.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00 L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59 R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67 R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS 29.76	53.6
5C1T	26.51	3.95	23.97	4.49	0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	64.9
OPER	151.3	-108.1	108.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	5C1T	-26.30	26.09	-20.23	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.11	4.15	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS	31.12	56.0
5C1T	24.82	4.13	24.82	4.13		0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 4.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	8.02	1.72	8.92	HS 34.43	62.0
5C1T	3.26	8.29	2.89	9.22	0.00	231.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	5C1T	-11.12	11.15	-8.55	8.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.25	187.7
5C1T	10.48	10.43	0.00	834.4

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	4.500				

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50	L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09	L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42	L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	8.32	1.79	8.32	HS	35.90	64.6
5C1T	3.02	8.60	3.02	8.60		0.00	241.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 5.000

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.72	1.50	11.50	1.70	HS 29.90	53.8
5C1T	26.27	3.99	23.75	4.53	0.00	319.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.4	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.9
OPER	151.3	-108.2	108.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	5C1T	-26.04	26.04	-20.03	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.44	69.2
5C1T	4.16	4.16	0.00	332.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.91	1.56	11.91	1.56	HS	31.25	56.3
5C1T	24.59	4.17	24.59	4.17		0.00	333.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	8.02	1.72	8.92	HS 34.43	62.0
5C1T	3.26	8.29	2.89	9.22	0.00	231.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	8.32	1.79	8.32	HS	35.90	64.6
5C1T	3.02	8.60	3.02	8.60		0.00	241.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS	29.76	53.6
5C1T	27.59	3.95	24.95	4.49		0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.8
OPER	151.3	-108.2	108.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.15	4.11	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS 31.12	56.0
5C1T	25.84	4.13	25.84	4.13	0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 6.500

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.13	1.71	9.04	HS 34.27	61.7
5C1T	3.20	8.36	2.84	9.29	0.00	227.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.10	187.4
5C1T	10.50	10.28	0.00	822.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	8.44	1.79	8.44	HS 35.74	64.3
5C1T	2.96	8.67	2.96	8.67	0.00	237.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS 30.05	54.1
5C1T	20.58	4.03	18.59	4.57	0.00	322.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.3	7.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	65.2
OPER	151.3	-108.3	108.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.18	4.23	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS	31.40	56.5
5C1T	19.26	4.21	19.26	4.21		0.00	336.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	6.18	1.73	6.88	HS 34.50	62.1
5C1T	3.37	7.49	2.99	8.34	0.00	239.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.4	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.6	70.1
OPER	151.3	-116.0	116.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.18	HS 103.22	185.8
5C1T	10.01	10.86	0.00	801.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.80	6.41	1.80	6.41	HS	35.96	64.7
5C1T	3.12	7.78	3.12	7.78		0.00	249.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS 27.07	48.7
5C1T	29.23	3.12	26.49	3.55	0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-7.8	9.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.6	63.9
OPER	151.3	-107.7	106.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.77	HS 35.31	63.6
5C1T	4.04	3.92	0.00	314.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.35	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 8.600

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	8.64	1.21	9.56	HS 24.24	43.6
5C1T	2.55	14.88	2.25	16.47	0.00	179.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.27	8.95	1.27	8.95	HS 25.34	45.6
5C1T	2.35	15.42	2.35	15.42	0.00	187.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.0	70.2
OPER	151.3	-109.9	117.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.11	33.07	HS 42.29	76.1
5C1T	4.39	999.00	0.00	350.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	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 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S03 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	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	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	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	1.000				

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-74.1	65.5
OPER	151.3	-123.5	109.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	5C1T	-2.10	25.07	-1.62	19.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	34.92	2.10	HS 42.02	75.6
5C1T	58.74	4.36	0.00	348.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	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) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79 L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78 R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90 R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11 R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.36	8.74	1.20	9.66	HS 23.91	43.0
5C1T	2.52	15.05	2.22	16.64	0.00	177.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	5C1T	-11.06	10.81	-8.51	8.32	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.25	9.05	1.25	9.05	HS	25.01	45.0
5C1T	2.32	15.58	2.32	15.58		0.00	185.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 2.000

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-10.0	8.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.3	64.1
OPER	151.3	-105.4	106.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	5C1T	-27.13	26.51	-20.87	20.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.75	1.91	HS 34.96	62.9
5C1T	3.89	4.03	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS 27.82	50.1
5C1T	27.79	3.20	27.79	3.20	0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	6.21	1.72	6.91	HS 34.31	61.8
5C1T	3.35	7.53	2.98	8.38	0.00	238.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.2	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	5C1T	-10.75	11.58	-8.27	8.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.15	HS 103.06	185.5
5C1T	10.88	10.00	0.00	799.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	6.44	1.79	6.44	HS 35.76	64.4
5C1T	3.10	7.81	3.10	7.81	0.00	248.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS	29.61	53.3
5C1T	20.78	3.97	18.79	4.51		0.00	317.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.8	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.5
OPER	151.3	-107.8	107.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	5C1T	-25.68	25.95	-19.76	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.91	HS 38.10	68.6
5C1T	4.20	4.14	0.00	331.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	30.96	55.7
5C1T	19.46	4.15	19.46	4.15		0.00	332.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32 R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26 R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.18	1.70	9.09	HS 34.02	61.2
5C1T	3.18	8.41	2.82	9.35	0.00	225.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	5C1T	-11.30	11.10	-8.69	8.54	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.21	187.6
5C1T	10.29	10.49	0.00	823.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32	R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26	R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	8.49	1.77	8.49	HS	35.48	63.9
5C1T	2.94	8.73	2.94	8.73		0.00	235.4

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS	29.32	52.8
5C1T	26.79	3.89	24.25	4.43		0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-8.4	8.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	64.4
OPER	151.3	-107.2	107.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	5C1T	-26.30	26.09	-20.23	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.08	4.11	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.67	55.2
5C1T	25.10	4.07	25.10	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.07	1.71	8.97	HS 34.19	61.5
5C1T	3.24	8.34	2.87	9.27	0.00	229.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	5C1T	-11.12	11.15	-8.55	8.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.25	187.7
5C1T	10.48	10.43	0.00	834.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	8.38	1.78	8.38	HS 35.66	64.2
5C1T	3.00	8.65	3.00	8.65	0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 5.000

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.85	1.47	11.63	1.67	HS 29.46	53.0
5C1T	26.54	3.93	24.01	4.47	0.00	314.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.2	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.4
OPER	151.3	-107.4	107.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	5C1T	-26.04	26.04	-20.03	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.91	HS 38.13	68.6
5C1T	4.12	4.12	0.00	329.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-146.4
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-243.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.04	1.54	12.04	1.54	HS	30.82	55.5
5C1T	24.86	4.12	24.86	4.12		0.00	329.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.07	1.71	8.97	HS 34.19	61.5
5C1T	3.24	8.34	2.87	9.27	0.00	229.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	8.38	1.78	8.38	HS 35.66	64.2
5C1T	3.00	8.65	3.00	8.65	0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS 29.32	52.8
5C1T	27.88	3.89	25.24	4.43	0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-8.3	8.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.3
OPER	151.3	-107.3	107.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.11	4.08	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.68	55.2
5C1T	26.13	4.07	26.13	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.18	1.70	9.09	HS 34.02	61.2
5C1T	3.18	8.41	2.82	9.35	0.00	225.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.09	187.4
5C1T	10.51	10.28	0.00	822.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	8.49	1.77	8.49	HS 35.48	63.9
5C1T	2.94	8.73	2.94	8.73	0.00	235.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS 29.65	53.4
5C1T	20.78	3.97	18.79	4.51	0.00	317.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.2	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.7
OPER	151.3	-107.5	107.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.90	HS 38.10	68.6
5C1T	4.14	4.20	0.00	331.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	31.00	55.8
5C1T	19.46	4.15	19.46	4.15		0.00	332.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.93	6.21	1.72	6.91	HS	34.31	61.8
5C1T	3.35	7.53	2.98	8.38		0.00	238.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.5	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.6	70.1
OPER	151.3	-115.9	116.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.18	HS 103.17	185.7
5C1T	10.01	10.87	0.00	800.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	6.44	1.79	6.44	HS 35.76	64.4
5C1T	3.10	7.81	3.10	7.81	0.00	248.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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. 8.000

	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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-8.8	10.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	63.3
OPER	151.3	-106.8	105.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.75	HS 34.96	62.9
5C1T	4.01	3.89	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS	27.83	50.1
5C1T	27.79	3.20	27.79	3.20		0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

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

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			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 Area		Neutral Axis		Moment of Inertia	
Gross	Net	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		Negative Bending		
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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.36	8.74	1.20	9.66	HS 23.91	43.0
5C1T	2.52	15.04	2.22	16.64	0.00	177.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.25	9.05	1.25	9.05	HS 25.01	45.0
5C1T	2.32	15.58	2.32	15.58	0.00	185.4

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section 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. 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 / sqrt Fy	36500/ Fy	20,000,000 Af/ 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

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom 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 Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	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	5C1T	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

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.5	70.2
OPER	151.3	-109.2	117.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.10	33.07	HS 42.02	75.6
5C1T	4.36	999.00	0.00	348.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -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 Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	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	5C1T	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

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0