

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B01 Symmetry:

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

Range Length -- Non-Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	1.917	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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 48.9
Superimposed Dead Load Moment 237.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	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 w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	999.00	1.22	999.00	HS 24.37	43.9
5C1	2.97	999.00	2.62	999.00	0.00	104.7

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. B01
 Check Point I. D. 1.474
 HS20 5C1
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.0

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
48.9	237.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 430.0	1372.7	-1143.2	1372.7	-1143.2	1085.9	-1430.0	1085.9	-1
OPER 383.4	2096.6	-2096.6	2096.6	-2096.6	1809.8	-2383.4	1809.8	-2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	1.27	999.00	1.27	999.00	HS 25.51	45.9
5C1	2.74	999.00	2.74	999.00	0.00	109.6

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B02 Symmetry:

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

Range Length -- Non-Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	2.750	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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 52.7
 Superimposed Dead Load Moment 577.4

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	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 w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating top fiber -bend	Load Capacity (tons)
HS20	1.28	999.00	1.09	999.00	HS 21.83
5C1	2.76	999.00	2.34	999.00	0.00 93.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. B02
Check Point I. D. 1.474Dead Load Moment 52.7
Superimposed Dead Load Moment 577.4

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 737.7	1611.6	-1107.6	1611.6	-1107.6	981.5	-1737.7	981.5	-1
OPER 896.1	2266.0	-2266.0	2266.0	-2266.0	1635.9	-2896.1	1635.9	-2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34 R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1	660.67 R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	1.15	999.00	1.15	999.00	HS 23.06	41.5
5C1	2.48	999.00	2.48	999.00	0.00	99.0

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)			Concentrated Load (kips)
			Left	Right	Length	
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	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Bending Bott.	Negative Bending Top	Bending 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. 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 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 48.9
 Superimposed Dead Load Moment 510.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	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 w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	Rating bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.11	999.00	0.96	999.00	HS 19.13	34.4
5C1	2.42	999.00	2.09	999.00	0.00	83.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. B03
Check Point I. D. 1.474Dead Load Moment 48.9
Superimposed Dead Load Moment 510.7

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV. 593.7	1481.8	-1034.1	1481.8	-1034.1
OPER 656.2	2096.6	-2096.6	2096.6	-2096.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70 R	702.85	28.42	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00
OPER	5C1	698.43 R	537.25	28.42	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.01	999.00	1.01	999.00	36.3
5C1	2.20	999.00	2.20	999.00	88.0

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 0.00

Second Live Load Dist. Factor 0.00

Comments:

Member I. D. S01 Symmetry:

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

Range Length -- Non-Composite:

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

Superimposed Dead Load:

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

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

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

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	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	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	9.57		
		0.00	R	0.00	0.00	0.0	0.00	0.00	33.48	0.00	
OPER	5C1	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.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 1.400Dead Load Moment 2.8
Superimposed Dead Load Moment 34.4

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	0.00 R	0.00	0.00	0.0	0.00	0.00	9.57	
		0.00 R	0.00	0.00	0.0	0.00	0.00	33.48	0.00
OPER	5C1	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		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	57.40		
		0.00	R	0.00	0.00	0.0	0.00	0.00	14.35	0.00	
OPER	5C1	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.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	57.40	
		0.00 R	0.00	0.00	0.0	0.00	0.00	14.35	0.00
OPER	5C1	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		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 2.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.2
 Superimposed Dead Load Moment 15.2

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	35.88		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	14.35	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

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

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.2 15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	35.88	
		0.00 R	0.00	0.00	0.0	0.00	0.00	14.35	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 3.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Superimposed Dead Load
Moment Moment
-2.8 -33.7

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	14.35		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	38.27	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 3.000Dead Load Moment -2.8
Superimposed Dead Load Moment -33.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	0.00 R	0.00	0.00	0.0	0.00	0.00	14.35	
		0.00 R	0.00	0.00	0.0	0.00	0.00	38.27	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 3.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	59.79		
		0.00	R	0.00	0.00	0.0	0.00	0.00	38.27	0.00	
OPER	5C1	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.	top fiber +bend	Rating bottom fiber -bend	Factor	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	999.00	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 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 3.500Dead Load Moment 1.6
Superimposed Dead Load Moment 19.7

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

Live Load Effect

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

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

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	38.27		
		0.00	R	0.00	0.00	0.0	0.00	0.00	62.18	0.00	
OPER	5C1	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				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 4.000Dead Load Moment -3.0
Superimposed Dead Load Moment -37.0

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

Live Load Effect

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

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

Serviceability

Rating Veh.	Rating Factor		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	Rating Value	Load Capacity
HS20	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	83.71		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	62.18	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 4.500Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	83.71	
		0.00 R	0.00	0.00	0.0	0.00	0.00	62.18	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 5.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	62.18		
		0.00	R	0.00	0.00	0.0	0.00	0.00	86.10	0.00	
OPER	5C1	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.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	62.18	
		0.00 R	0.00	0.00	0.0	0.00	0.00	86.10	0.00
OPER	5C1	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		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 5.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.5
 Superimposed Dead Load Moment 18.6

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	107.63		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	129.15	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor 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
5C1	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 5C1

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

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 5.500Dead Load Moment 1.5
Superimposed Dead Load Moment 18.6

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

Live Load Effect

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

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

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	153.07		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	129.15	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 6.000Dead Load Moment -3.0
Superimposed Dead Load Moment -37.0

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.6
Superimposed Dead Load Moment 19.7

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	131.54		
		0.00	R	0.00	0.00	0.0	0.00	0.00	153.07	0.00	
OPER	5C1	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.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 6.500Dead Load Moment 1.6
Superimposed Dead Load Moment 19.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	131.54	
		0.00 R	0.00	0.00	0.0	0.00	0.00	153.07	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 7.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	176.98		
		0.00	R	0.00	0.00	0.0	0.00	0.00	153.07	0.00	
OPER	5C1	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	0.00

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 7.000Dead Load Moment -2.8
Superimposed Dead Load Moment -33.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	176.98	
		0.00 R	0.00	0.00	0.0	0.00	0.00	153.07	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 7.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.2
Superimposed Dead Load Moment 15.2

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	155.46		
		0.00 R	0.00	0.00	0.0	0.00	0.00	176.98	0.00		
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	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 5C1

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

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

Rat. Veh.	Shear Capacity VU	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 7.500Dead Load Moment 1.2
Superimposed Dead Load Moment 15.2

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

Live Load Effect

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

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

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 8.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 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 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Superimposed Dead Load
 Moment Moment
 -3.8 -46.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	133.93		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	176.98	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	133.93	
		0.00 R	0.00	0.00	0.0	0.00	0.00	176.98	0.00
OPER	5C1	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		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 8.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	181.77		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	157.85	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 8.600Dead Load Moment 2.8
Superimposed Dead Load Moment 34.4

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	181.77	
		0.00 R	0.00	0.00	0.0	0.00	0.00	157.85	0.00
OPER	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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. 9.000

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

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

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor 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
5C1	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 5C1

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

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

Rat. Veh.	Shear Capacity VU	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OPER	5C1	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
5C1	999.00	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S01
Check Point I. D. 9.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	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	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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 .143

Second Live Load Dist. Factor .143

Comments:

Member I. D. S02 Symmetry:

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

Range Length		-- Non-Composite:					Hinge Location	
Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation		No. 1	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:		Distributed Load (lbs/ft)				Concentrated
Span No.	Load Type	Dist. from Left Supp.	Left	Right	Length	Load (kips)
1	W	0.000	615.0	615.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

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

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor 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
5C1	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
 Member I. D. S02
 Check Point I. D. 1.000
 HS20 5C1
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.6 0.0 5.9

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.26	3.90	-0.20	3.00	-0.27	3.05	-0.20	2.35
OPER	5C1	-0.25	3.09	-0.19	2.38	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	277.57	16.90	HS 337.99	608.4
5C1	497.65	35.60	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	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	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 2.8
Superimposed Dead Load Moment 27.9

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.74 L	11.34	-4.43	0.0	11.53	8.87	9.57			
		-2.60 R	-2.00	56.70	0.0	-1.98	-1.52	33.48	0.00		
OPER	5C1	12.71 L	9.77	-37.43	0.0	0.00	0.00	0.00			
		-2.36 R	-1.82	45.48	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.99	69.07	9.69	76.45	HS 193.77	348.8
5C1	21.24	126.78	18.73	140.33	0.00	749.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.48	1.54	-1.14	1.18	-1.40	1.44	-1.08	1.11
OPER	5C1	-1.37	1.33	-1.06	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	47.08	45.34	HS 999.00	999.0
5C1	84.66	87.63	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 1.400Dead Load Moment 2.8
Superimposed Dead Load Moment 27.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.74 L	11.34	-4.43	0.0	11.53	8.87	9.57	
		-2.60 R	-2.00	56.70	0.0	-1.98	-1.52	33.48	0.00
OPER	5C1	12.71 L	9.77	-37.43	0.0	0.00	0.00	0.00	
		-2.36 R	-1.82	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	10.13	71.55	10.13	71.55	HS 202.52	364.5
5C1	19.57	131.33	19.57	131.33	0.00	782.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Superimposed Dead Load
Moment Moment
-3.8 -37.3

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.74 R	1.34	80.62	0.0	1.33	1.02	57.40			
		-12.62 L	-9.71	3.09	0.0	-11.35	-8.73	14.35		33.48	
OPER	5C1	1.46 R	1.13	106.79	0.0	0.00	0.00	0.00			
		-9.14 R	-7.03	28.74	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	117.70	10.82	106.69	12.34	HS 216.33
5C1	233.51	24.90	211.65	28.40	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.53	4.19	-3.48	3.22	-3.30	3.27	-2.54	2.51
OPER	5C1	-3.39	3.25	-2.61	2.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	14.11	15.43	HS 282.24	508.0
5C1	31.37	33.14	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.74 R	1.34	80.62	0.0	1.33	1.02	57.40	
		-12.62 L	-9.71	3.09	0.0	-11.35	-8.73	14.35	33.48
OPER	5C1	1.46 R	1.13	106.79	0.0	0.00	0.00	0.00	
		-9.14 R	-7.03	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	110.39	11.33	110.39	11.33	HS 226.55	407.8
5C1	218.99	26.08	218.99	26.08	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.2
Superimposed Dead Load Moment 12.5

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Load Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Load Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.10	L	8.54	21.88	0.0	9.67	7.44	35.88		
		-3.43	L	-2.64	-8.87	0.0	-3.06	-2.36	14.35	0.00	
OPER	5C1	10.52	R	8.09	86.88	0.0	0.00	0.00	0.00		
		-4.59	L	-3.53	4.74	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	15.52	49.36	13.79	54.95	HS 275.79	496.4
5C1	27.29	61.49	24.25	68.46	0.00	969.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.69	1.69	-1.30	1.30	-1.49	1.50	-1.15	1.15
OPER	5C1	-1.34	1.38	-1.03	1.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.45	41.20	HS 999.00	999.0
5C1	86.93	84.02	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.2 12.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.10 L	8.54	21.88	0.0	9.67	7.44	35.88	
		-3.43 L	-2.64	-8.87	0.0	-3.06	-2.36	14.35	0.00
OPER	5C1	10.52 R	8.09	86.88	0.0	0.00	0.00	0.00	
		-4.59 L	-3.53	4.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	14.37	51.24	14.37	51.24	HS 287.41	517.3
5C1	25.27	63.83	25.27	63.83	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	2.51 L	1.93	-8.87	0.0	2.23	1.72	14.35			
		-11.93 L	-9.18	27.01	0.0	-10.58	-8.14	38.27		57.40	
OPER	5C1	2.01 L	1.55	-35.04	0.0	0.00	0.00	0.00			
		-7.47 L	-5.74	43.01	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	78.98	11.99	71.34	13.60	HS 239.91	431.8
5C1	164.51	31.96	148.59	36.24	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.25	4.23	-3.27	3.25	-3.24	3.25	-2.49	2.50
OPER	5C1	-3.21	3.18	-2.47	2.45	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.34	15.37	HS 306.85	552.3
5C1	33.82	34.07	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	2.51 L	1.93	-8.87	0.0	2.23	1.72	14.35	
		-11.93 L	-9.18	27.01	0.0	-10.58	-8.14	38.27	57.40
OPER	5C1	2.01 L	1.55	-35.04	0.0	0.00	0.00	0.00	
		-7.47 L	-5.74	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	73.91	12.54	73.91	12.54	HS 250.71	451.3
5C1	153.94	33.40	153.94	33.40	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.00	L	8.46	45.79	0.0	9.77	7.51	59.79		
		-2.59	L	-1.99	15.05	0.0	-2.64	-2.03	38.27	0.00	
OPER	5C1	10.46	L	8.05	8.79	0.0	0.00	0.00	0.00		
		-4.14	L	-3.19	28.66	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	15.44	64.99	13.70	72.25	HS 273.92
5C1	27.04	69.12	23.99	76.84	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.68	1.68	-1.29	1.29	-1.51	1.49	-1.16	1.15
OPER	5C1	-1.33	1.32	-1.02	1.01	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.65	41.71	HS 999.00	999.0
5C1	87.73	88.43	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 3.500Dead Load Moment 1.6
Superimposed Dead Load Moment 16.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.00 L	8.46	45.79	0.0	59.79
		-2.59 L	-1.99	15.05	0.0	38.27
OPER	5C1	10.46 L	8.05	8.79	0.0	0.00
		-4.14 L	-3.19	28.66	0.0	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	
HS20	14.28	67.43	14.28	67.43	514.2
5C1	25.01	71.72	25.01	71.72	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.89 L	1.46	15.05	0.0	1.93	1.49	38.27			
		-11.89 L	-9.14	50.93	0.0	-10.70	-8.23	62.18		81.32	
OPER	5C1	1.58 R	1.21	154.63	0.0	0.00	0.00	0.00			
		-7.48 L	-5.75	66.93	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	103.65	11.89	93.72	13.51	HS 237.87
5C1	211.66	31.51	191.38	35.78	0.00 428.2 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.51	2.51
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.33	15.35	HS 306.63	551.9
5C1	33.77	33.83	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.89 L	1.46	15.05	0.0	1.93	1.49	38.27	
		-11.89 L	-9.14	50.93	0.0	-10.70	-8.23	62.18	81.32
OPER	5C1	1.58 R	1.21	154.63	0.0	0.00	0.00	0.00	
		-7.48 L	-5.75	66.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	97.06	12.44	97.06	12.44	HS 248.72	447.7
5C1	198.19	32.94	198.19	32.94	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	10.99	L	8.45	69.71	0.0	9.72	7.48	83.71		
		-2.57	L	-1.97	38.97	0.0	-2.67	-2.05	62.18	0.00	
OPER	5C1	10.38	L	7.99	32.71	0.0	0.00	0.00	0.00		
		-4.11	L	-3.16	53.45	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	15.51	64.13	13.76	71.32	HS 275.19
5C1	27.35	69.39	24.27	77.16	0.00 495.3 970.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.67	1.67	-1.29	1.29	-1.50	1.50	-1.15	1.16
OPER	5C1	-1.32	1.32	-1.02	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.74	41.67	HS 999.00	999.0
5C1	88.07	87.95	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.5 15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	10.99 L	8.45	69.71	0.0	9.72	7.48	83.71	
		-2.57 L	-1.97	38.97	0.0	-2.67	-2.05	62.18	0.00
OPER	5C1	10.38 L	7.99	32.71	0.0	0.00	0.00	0.00	
		-4.11 L	-3.16	53.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	14.35	66.54	14.35	66.54	HS 286.92	516.5
5C1	25.31	72.00	25.31	72.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.88 L	1.44	38.97	0.0	1.96	1.51	62.18			
		-11.88 R	-9.14	116.49	0.0	-10.65	-8.19	86.10		105.23	
OPER	5C1	1.58 L	1.22	12.79	0.0	0.00	0.00	0.00			
		-7.48 R	-5.75	100.49	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	101.67	11.95	91.90	13.56	HS 238.95	430.1	
5C1	209.99	31.64	189.80	35.92	0.00	999.0	

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.50	2.50
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.36	15.36	HS 307.21	553.0
5C1	33.84	33.84	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.88 L	1.44	38.97	0.0	1.96	1.51	62.18	
		-11.88 R	-9.14	116.49	0.0	-10.65	-8.19	86.10	105.23
OPER	5C1	1.58 L	1.22	12.79	0.0	0.00	0.00	0.00	
		-7.48 R	-5.75	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	95.18	12.49	95.18	12.49	HS 249.80	449.6
5C1	196.58	33.08	196.58	33.08	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.5
Superimposed Dead Load Moment 15.2

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	10.99 R	8.45	121.63	0.0	9.72	7.48	107.63			
		-2.57 R	-1.97	152.37	0.0	-2.67	-2.05	129.15	0.00		
OPER	5C1	10.38 R	7.99	158.63	0.0	0.00	0.00	0.00			
		-4.11 R	-3.16	137.88	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.51	64.13	13.76	71.32	HS 275.19	495.3
5C1	27.35	69.39	24.27	77.16	0.00	970.8

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 5.500
 HS20 5C1
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.67	1.67	-1.29	1.29	-1.50	1.50	-1.16	1.15
OPER	5C1	-1.32	1.32	-1.02	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.71	41.69	HS 999.00	999.0
5C1	88.04	87.98	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.5 15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.99 R	8.45	121.63	0.0	9.72	7.48	107.63	
		-2.57 R	-1.97	152.37	0.0	-2.67	-2.05	129.15	0.00
OPER	5C1	10.38 R	7.99	158.63	0.0	0.00	0.00	0.00	
		-4.11 R	-3.16	137.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		Rating Value		Load Capacity (tons)	
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
HS20	14.35	66.54	14.35	66.54	HS 286.92	516.5
5C1	25.31	72.00	25.31	72.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.89 R	1.46	176.28	0.0	1.93	1.49	153.07			
		-11.88 L	-9.14	98.76	0.0	-10.70	-8.23	129.15		110.02	
OPER	5C1	1.51 R	1.16	204.07	0.0	0.00	0.00	0.00			
		-7.48 R	-5.75	124.37	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	103.66	11.90	93.72	13.51	HS 237.89
5C1	220.55	31.52	199.41	35.79	0.00 428.2 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.51	2.51
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.35	15.33	HS 306.64	551.9
5C1	33.83	33.77	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	1.89 R	1.46	176.28	0.0	1.93	1.49	153.07	
		-11.88 L	-9.14	98.76	0.0	-10.70	-8.23	129.15	110.02
OPER	5C1	1.51 R	1.16	204.07	0.0	0.00	0.00	0.00	
		-7.48 R	-5.75	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	97.06	12.44	97.06	12.44	HS 248.74	447.7
5C1	206.51	32.95	206.51	32.95	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 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
2.30	28.67	28.67	1.699
			124.562

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.6
Superimposed Dead Load Moment 16.1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.00 R	8.46	145.54	0.0	9.77	7.51	131.54			
		-2.59 R	-1.99	176.28	0.0	-2.64	-2.03	153.07	0.00		
OPER	5C1	10.46 R	8.05	182.54	0.0	0.00	0.00	0.00			
		-4.14 R	-3.19	162.68	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.44	64.99	13.70	72.25	HS 273.92	493.1
5C1	27.04	69.12	23.99	76.84	0.00	959.5

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.68	1.68	-1.29	1.29	-1.49	1.51	-1.15	1.16
OPER	5C1	-1.32	1.33	-1.01	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.75	41.60	HS 999.00	999.0
5C1	88.53	87.63	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
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.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.00 R	8.46	145.54	0.0	9.77	7.51	131.54	
		-2.59 R	-1.99	176.28	0.0	-2.64	-2.03	153.07	0.00
OPER	5C1	10.46 R	8.05	182.54	0.0	0.00	0.00	0.00	
		-4.14 R	-3.19	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	14.28	67.43	14.28	67.43	HS 285.65	514.2
5C1	25.01	71.72	25.01	71.72	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	2.51 R	1.93	200.20	0.0	2.23	1.72	176.98			
		-11.92 L	-9.17	122.68	0.0	-10.58	-8.14	153.07	133.93		
OPER	5C1	2.01 R	1.55	226.38	0.0	0.00	0.00	0.00			
		-7.46 R	-5.74	148.28	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	78.98	12.01	71.34	13.62	HS 240.20
5C1	164.51	31.97	148.60	36.25	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.25	-3.25	3.27	-3.25	3.24	-2.50	2.49
OPER	5C1	-3.18	3.21	-2.45	2.47	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.37	15.34	HS 306.85	552.3
5C1	34.07	33.82	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	2.51 R	1.93	200.20	0.0	2.23	1.72	176.98	
		-11.92 L	-9.17	122.68	0.0	-10.58	-8.14	153.07	133.93
OPER	5C1	2.01 R	1.55	226.38	0.0	0.00	0.00	0.00	
		-7.46 R	-5.74	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	73.91	12.55	73.91	12.55	HS 251.02	451.8
5C1	153.94	33.41	153.94	33.41	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 7.500Dead Load Moment 1.2
Superimposed Dead Load Moment 12.5

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.10 R	8.54	169.46	0.0	9.67	7.44	155.46			
		-3.43 R	-2.64	200.20	0.0	-3.06	-2.36	176.98	0.00		
OPER	5C1	10.52 L	8.09	104.46	0.0	0.00	0.00	0.00			
		-4.59 R	-3.53	186.59	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.52	49.36	13.79	54.95	HS 275.79	496.4
5C1	27.29	61.49	24.25	68.46	0.00	969.9

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear (-)	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				Lane Live Load Shear			
		w/imp. (-)	(+)	w/o imp. (-)	(+)	w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-1.69	1.69	-1.30	1.30	-1.50	1.49	-1.15	1.15
OPER	5C1	-1.38	1.34	-1.06	1.03	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.25	41.41	HS 999.00	999.0
5C1	84.11	86.83	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.2 12.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.10 R	8.54	169.46	0.0	9.67	7.44	155.46	
		-3.43 R	-2.64	200.20	0.0	-3.06	-2.36	176.98	0.00
OPER	5C1	10.52 L	8.09	104.46	0.0	0.00	0.00	0.00	
		-4.59 R	-3.53	186.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	14.37	51.24	14.37	51.24	HS 287.41	517.3
5C1	25.27	63.83	25.27	63.83	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	37.27	390.83	102.7
bott	22.62		37.27		102.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.74 L	1.34	110.72	0.0	1.33	1.02	133.93			
		-12.62 R	-9.71	188.59	0.0	-11.35	-8.73	176.98	157.85		
OPER	5C1	1.46 L	1.13	84.54	0.0	0.00	0.00	0.00			
		-9.14 L	-7.03	162.59	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	117.70	10.82	106.68	12.34		HS 216.41	389.5
5C1	233.51	24.90	211.65	28.40		0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S02
 Check Point I. D. 8.000
 HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.53	-3.25	3.48	-3.27	3.30	-2.51	2.54
OPER	5C1	-3.27	3.39	-2.52	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.28	14.11	HS 282.24	508.0
5C1	32.93	31.37	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.74 L	1.34	110.72	0.0	1.33	1.02	133.93	
		-12.62 R	-9.71	188.59	0.0	-11.35	-8.73	176.98	157.85
OPER	5C1	1.46 L	1.13	84.54	0.0	0.00	0.00	0.00	
		-9.14 L	-7.03	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	110.39	11.33	110.39	11.33	HS 226.63	407.9
5C1	218.99	26.08	218.99	26.08	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 2.8
Superimposed Dead Load Moment 27.9

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.74 R	11.34	195.77	0.0	11.53	8.87	181.77			
		-2.60 L	-2.00	134.63	0.0	-1.98	-1.52	157.85	0.00		
OPER	5C1	12.71 R	9.77	228.77	0.0	0.00	0.00	0.00			
		-2.36 L	-1.82	145.85	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.99	69.07	9.69	76.45	HS 193.77	348.8
5C1	21.24	126.78	18.73	140.33	0.00	749.1

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.54	1.48	-1.18	1.14	-1.44	1.40	-1.11	1.08
OPER	5C1	-1.33	1.34	-1.02	1.03	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	45.34	47.08	HS 999.00	999.0
5C1	87.63	86.65	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 8.600Dead Load Moment 2.8
Superimposed Dead Load Moment 27.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.74 R	11.34	195.77	0.0	11.53	8.87	181.77	
		-2.60 L	-2.00	134.63	0.0	-1.98	-1.52	157.85	0.00
OPER	5C1	12.71 R	9.77	228.77	0.0	0.00	0.00	0.00	
		-2.36 L	-1.82	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	10.13	71.55	10.13	71.55	HS 202.52	364.5
5C1	19.57	131.33	19.57	131.33	0.00	782.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 0.0
 Superimposed Dead Load Moment 0.0

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

Live Load Effect

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

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

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor 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
5C1	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 5C1

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

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

Rat. Veh.	Shear Capacity VU	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.90	0.00	-3.00	0.00	-3.05	0.27	-2.35	0.20
OPER	5C1	-3.09	0.00	-2.38	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.90	264.33	HS 337.99	608.4
5C1	35.60	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S02
Check Point I. D. 9.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load 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	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	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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 .143

Second Live Load Dist. Factor .143

Comments:

Member I. D. S03 Symmetry:

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

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

Superimposed Dead Load:						
Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Live Load Effect

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

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

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-0.26	3.90	-0.20	3.00	-0.27	3.05	-0.20	2.35
OPER	5C1	-0.25	3.09	-0.19	2.38	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	279.13	16.79	HS 335.87	604.6
5C1	500.44	35.38	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 1.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I	
	top fiber	bottom fiber	top fiber	bottom fi
bend	+bend	-bend	+bend	-bend
INV.	167.6	-167.6	167.6	-167.6
167.6				
OPER	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.	Lane Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00	0.00
OPER	5C1	0.00 R	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber	Factor bottom fiber	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.0
5C1	999.00	999.00	999.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 2.8
Superimposed Dead Load Moment 31.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.74 L	11.34	-4.43	0.0	11.53	8.87	9.57			
		-2.60 R	-2.00	56.70	0.0	-1.98	-1.52	33.48	0.00		
OPER	5C1	12.71 L	9.77	-37.43	0.0	0.00	0.00	0.00			
		-2.36 R	-1.82	45.48	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	10.86	69.82	9.56	77.21	191.12
5C1	20.99	128.16	18.47	141.71	738.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.48	1.54	-1.14	1.18	-1.40	1.44	-1.08	1.11
OPER	5C1	-1.37	1.33	-1.06	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	47.07	45.34	HS 999.00	999.0
5C1	84.65	87.64	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 1.400Dead Load Moment 2.8
Superimposed Dead Load Moment 31.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.74 L	11.34	-4.43	0.0	11.53	8.87	9.57	
		-2.60 R	-2.00	56.70	0.0	-1.98	-1.52	33.48	0.00
OPER	5C1	12.71 L	9.77	-37.43	0.0	0.00	0.00	0.00	
		-2.36 R	-1.82	45.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		
HS20	9.99	72.30	9.99	72.30	HS 199.87	359.8
5C1	19.32	132.72	19.32	132.72	0.00	772.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.74 R	1.34	80.62	0.0	1.33	1.02	57.40			
		-12.62 L	-9.71	3.09	0.0	-11.35	-8.73	14.35	33.48		
OPER	5C1	1.46 R	1.13	106.79	0.0	0.00	0.00	0.00			
		-9.14 R	-7.03	28.74	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	119.21	10.61	108.19	12.13	HS 212.18
5C1	236.49	24.42	214.63	27.92	0.00 977.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 2.000
 HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.53	4.19	-3.48	3.22	-3.30	3.27	-2.54	2.51
OPER	5C1	-3.39	3.25	-2.61	2.50	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	13.97	15.29	HS 279.44	503.0
5C1	31.06	32.86	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.74 R	1.34	80.62	0.0	1.33	1.02	57.40	
		-12.62 L	-9.71	3.09	0.0	-11.35	-8.73	14.35	33.48
OPER	5C1	1.46 R	1.13	106.79	0.0	0.00	0.00	0.00	
		-9.14 R	-7.03	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	111.89	11.12	111.89	11.12	HS 222.40	400.3
5C1	221.98	25.60	221.98	25.60	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 2.500Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.10 L	8.54	21.88	0.0	9.67	7.44	35.88			
		-3.43 L	-2.64	-8.87	0.0	-3.06	-2.36	14.35	0.00		
OPER	5C1	10.52 R	8.09	86.88	0.0	0.00	0.00	0.00			
		-4.59 L	-3.53	4.74	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	15.44	49.61	13.71	55.20	274.23
5C1	27.15	61.81	24.11	68.77	0.00

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.69	1.69	-1.30	1.30	-1.49	1.50	-1.15	1.15
OPER	5C1	-1.34	1.38	-1.03	1.06	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.47	41.19	HS 999.00	999.0
5C1	86.96	83.98	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment Superimposed Dead Load Moment

1.2 13.9

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.10 L	8.54	21.88	0.0	9.67	7.44	35.88	
		-3.43 L	-2.64	-8.87	0.0	-3.06	-2.36	14.35	0.00
OPER	5C1	10.52 R	8.09	86.88	0.0	0.00	0.00	0.00	
		-4.59 L	-3.53	4.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	14.29	51.49	14.29	51.49	HS 285.86	514.5
5C1	25.13	64.15	25.13	64.15	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	2.51 L	1.93	-8.87	0.0	2.23	1.72	14.35			
		-11.93 L	-9.18	27.01	0.0	-10.58	-8.14	38.27		57.40	
OPER	5C1	2.01 L	1.55	-35.04	0.0	0.00	0.00	0.00			
		-7.47 L	-5.74	43.01	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	79.74	11.84	72.11	13.44	HS 236.69
5C1	166.10	31.53	150.18	35.81	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.25	4.23	-3.27	3.25	-3.24	3.25	-2.49	2.50
OPER	5C1	-3.21	3.18	-2.47	2.45	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.23	15.25	HS 304.52	548.1
5C1	33.56	33.80	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 3.000Dead Load Moment -2.8
Superimposed Dead Load Moment -30.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	2.51 L	1.93	-8.87	0.0	2.23	1.72	14.35	
		-11.93 L	-9.18	27.01	0.0	-10.58	-8.14	38.27	57.40
OPER	5C1	2.01 L	1.55	-35.04	0.0	0.00	0.00	0.00	
		-7.47 L	-5.74	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	74.67	12.38	74.67	12.38	HS 247.50	445.5
5C1	155.53	32.97	155.53	32.97	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.6
Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.00	L	8.46	45.79	0.0	9.77	7.51	59.79		
		-2.59	L	-1.99	15.05	0.0	-2.64	-2.03	38.27	0.00	
OPER	5C1	10.46	L	8.05	8.79	0.0	0.00	0.00	0.00		
		-4.14	L	-3.19	28.66	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	15.34	65.42	13.59	72.68	HS 271.88	489.4
5C1	26.87	69.57	23.81	77.29	0.00	952.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.68	1.68	-1.29	1.29	-1.51	1.49	-1.16	1.15
OPER	5C1	-1.33	1.32	-1.02	1.01	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.65	41.71	HS 999.00	999.0
5C1	87.72	88.44	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 3.500Dead Load Moment 1.6
Superimposed Dead Load Moment 18.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2			
INV.	HS20	11.00 L	8.46	45.79	0.0	9.77	7.51	59.79	
		-2.59 L	-1.99	15.05	0.0	-2.64	-2.03	38.27	0.00
OPER	5C1	10.46 L	8.05	8.79	0.0	0.00	0.00	0.00	
		-4.14 L	-3.19	28.66	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber		Rating Factor bottom fiber		Rating Value	Load Capacity (tons)
	+bend	-bend	+bend	-bend		
HS20	14.18	67.86	14.18	67.86	HS 283.61	510.5
5C1	24.84	72.17	24.84	72.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.89 L	1.46	15.05	0.0	1.93	1.49	38.27			
		-11.89 L	-9.14	50.93	0.0	-10.70	-8.23	62.18		81.32	
OPER	5C1	1.58 R	1.21	154.63	0.0	0.00	0.00	0.00			
		-7.48 L	-5.75	66.93	0.0	0.00	0.00	0.00		0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	Rating Value	Load Capacity (tons)
HS20	104.75	11.72	94.81	13.33	234.32
5C1	213.89	31.04	193.60	35.31	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.51	2.51
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.21	15.23	HS 304.12	547.4
5C1	33.50	33.55	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 4.000Dead Load Moment -3.0
Superimposed Dead Load Moment -33.5

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.89 L	1.46	15.05	0.0	38.27	
		-11.89 L	-9.14	50.93	0.0	62.18	81.32
OPER	5C1	1.58 R	1.21	154.63	0.0	0.00	
		-7.48 L	-5.75	66.93	0.0	0.00	0.00

Serviceability

Rating Veh.	Rating top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	98.15	12.26	98.15	HS 245.17	441.3
5C1	200.42	32.47	200.42	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

ASD - Moment Values

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

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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

Dead Load Moment 1.5
 Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment w/o imp.	Loc. of Load 1	Conc. Load 2
INV.	HS20	10.99 L	8.45	69.71	0.0	9.72	7.48	83.71			
		-2.57 L	-1.97	38.97	0.0	-2.67	-2.05	62.18	0.00		
OPER	5C1	10.38 L	7.99	32.71	0.0	0.00	0.00	0.00			
		-4.11 L	-3.16	53.45	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.41	64.52	13.66	71.71	HS 273.27	491.9
5C1	27.18	69.81	24.10	77.59	0.00	964.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 4.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.67	1.67	-1.29	1.29	-1.50	1.50	-1.15	1.16
OPER	5C1	-1.32	1.32	-1.02	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.74	41.66	HS 999.00	999.0
5C1	88.08	87.94	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment Superimposed Dead Load Moment

1.5 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.99 L	8.45	69.71	0.0	9.72	7.48	83.71	
		-2.57 L	-1.97	38.97	0.0	-2.67	-2.05	62.18	0.00
OPER	5C1	10.38 L	7.99	32.71	0.0	0.00	0.00	0.00	
		-4.11 L	-3.16	53.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	14.25	66.94	14.25	66.94	HS 285.01	513.0
5C1	25.14	72.43	25.14	72.43	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	23.93	390.83	105.0
bott	22.62		23.93		105.0

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.88 L	1.44	38.97	0.0	1.96	1.51	62.18			
		-11.88 R	-9.14	116.49	0.0	-10.65	-8.19	86.10	105.23		
OPER	5C1	1.58 L	1.22	12.79	0.0	0.00	0.00	0.00			
		-7.48 R	-5.75	100.49	0.0	0.00	0.00	0.00	0.00		

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	102.72	11.77	92.94	13.39	HS 235.51	423.9	
5C1	212.14	31.18	191.95	35.46	0.00	999.0	

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.50	2.50
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.24	15.24	HS 304.75	548.5
5C1	33.57	33.57	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I		top fiber		bottom fi	
	top fiber	bottom fiber	top fiber	bottom fi	top fiber	bottom fi	top fiber	bottom fi
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
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.	Truck	Live Load Moment	Loc. of Ax.	Lane Live Load Moment	Loc. of Conc.				
Typ.	Veh.	w/imp.	w/o imp.	Front Wheel	Dis.	w/imp.	w/o imp.	Load 1	Load 2
INV.	HS20	1.88 L	1.44	38.97	0.0	1.96	1.51	62.18	
		-11.88 R	-9.14	116.49	0.0	-10.65	-8.19	86.10	105.23
OPER	5C1	1.58 L	1.22	12.79	0.0	0.00	0.00	0.00	
		-7.48 R	-5.75	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	96.22	12.32	96.22	12.32	HS 246.36	443.5
5C1	198.73	32.62	198.73	32.62	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. 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 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment 1.5
Superimposed Dead Load Moment 16.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	10.99 R	8.45	121.63	0.0	9.72	7.48	107.63			
		-2.57 R	-1.97	152.37	0.0	-2.67	-2.05	129.15	0.00		
OPER	5C1	10.38 R	7.99	158.63	0.0	0.00	0.00	0.00			
		-4.11 R	-3.16	137.88	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.41	64.52	13.66	71.71	HS 273.27	491.9
5C1	27.18	69.81	24.10	77.59	0.00	964.0

SHEAR RATING REPORT

Rating Types and Vehicles
 INV. OPER POST SPEC
 Structure I. D. HAM500
 Member I. D. S03
 Check Point I. D. 5.500
 HS20 5C1
 Dead Load Superimposed Dead Load
 Shear (-) Shear (+) Shear
 0.0 0.0 0.1

Rat. Veh.	Shear Capacity VU	Available Capacity (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.67	1.67	-1.29	1.29	-1.50	1.50	-1.16	1.15
OPER	5C1	-1.32	1.32	-1.02	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.71	41.70	HS 999.00	999.0
5C1	88.04	87.98	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment Superimposed Dead Load Moment

1.5 16.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 178.7	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-
OPER 297.8	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.99 R	8.45	121.63	0.0	9.72	7.48	107.63	
		-2.57 R	-1.97	152.37	0.0	-2.67	-2.05	129.15	0.00
OPER	5C1	10.38 R	7.99	158.63	0.0	0.00	0.00	0.00	
		-4.11 R	-3.16	137.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	14.25	66.94	14.25	66.94	HS 285.01	513.0
5C1	25.14	72.43	25.14	72.43	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.89 R	1.46	176.28	0.0	1.93	1.49	153.07			
		-11.88 L	-9.14	98.76	0.0	-10.70	-8.23	129.15	110.02		
OPER	5C1	1.51 R	1.16	204.07	0.0	0.00	0.00	0.00			
		-7.48 R	-5.75	124.37	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend		
HS20	104.75	11.72	94.81	13.33	HS 234.34	421.8
5C1	222.88	31.05	201.74	35.32	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.23	-3.25	3.25	-3.26	3.26	-2.51	2.51
OPER	5C1	-3.20	3.20	-2.46	2.46	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.23	15.21	HS 304.12	547.4
5C1	33.55	33.50	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 145.7	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-
OPER 242.8	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load 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	1.89 R	1.46	176.28	0.0	1.93	1.49	153.07	
		-11.88 L	-9.14	98.76	0.0	-10.70	-8.23	129.15	110.02
OPER	5C1	1.51 R	1.16	204.07	0.0	0.00	0.00	0.00	
		-7.48 R	-5.75	124.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	98.15	12.26	98.15	12.26	HS 245.19	441.4
5C1	208.84	32.48	208.84	32.48	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.30	28.67	28.67	1.699	124.562	124.562

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	25.37	390.83	104.8
bott	22.62		25.37		104.8

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment 1.6
Superimposed Dead Load Moment 18.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.00 R	8.46	145.54	0.0	9.77	7.51	131.54			
		-2.59 R	-1.99	176.28	0.0	-2.64	-2.03	153.07	0.00		
OPER	5C1	10.46 R	8.05	182.54	0.0	0.00	0.00	0.00			
		-4.14 R	-3.19	162.68	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.34	65.42	13.59	72.68	HS 271.88	489.4
5C1	26.87	69.57	23.81	77.29	0.00	952.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 6.500

Dead Load	Superimposed Dead Load
Shear	(-) Shear (+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.68	1.68	-1.29	1.29	-1.49	1.51	-1.15	1.16
OPER	5C1	-1.32	1.33	-1.01	1.02	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.76	41.60	HS 999.00	999.0
5C1	88.54	87.62	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
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.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.00 R	8.46	145.54	0.0	9.77	7.51	131.54	
		-2.59 R	-1.99	176.28	0.0	-2.64	-2.03	153.07	0.00
OPER	5C1	10.46 R	8.05	182.54	0.0	0.00	0.00	0.00	
		-4.14 R	-3.19	162.68	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	14.18	67.86	14.18	67.86	HS 283.61	510.5
5C1	24.84	72.17	24.84	72.17	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	0.00
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending	Modulus - Z		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	2.51 R	1.93	200.20	0.0	2.23	1.72	176.98			
		-11.92 L	-9.17	122.68	0.0	-10.58	-8.14	153.07	133.93		
OPER	5C1	2.01 R	1.55	226.38	0.0	0.00	0.00	0.00			
		-7.46 R	-5.74	148.28	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	79.74	11.85	72.11	13.46	HS 236.98
5C1	166.10	31.54	150.18	35.82	0.00 999.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.25	-3.25	3.27	-3.25	3.24	-2.50	2.49
OPER	5C1	-3.18	3.21	-2.45	2.47	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.25	15.23	HS 304.52	548.1
5C1	33.80	33.56	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh. ber	Moment Capacity		Available Capacity for LL+I					
	top fiber	bottom fiber	top fiber	bottom fi				
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV.	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.	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	2.51 R	1.93	200.20	0.0	2.23	1.72	176.98	
		-11.92 L	-9.17	122.68	0.0	-10.58	-8.14	153.07	133.93
OPER	5C1	2.01 R	1.55	226.38	0.0	0.00	0.00	0.00	
		-7.46 R	-5.74	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top fiber	bottom fiber	top fiber	bottom fiber		
	+bend	-bend	+bend	-bend		
HS20	74.67	12.39	74.67	12.39	HS 247.80	446.0
5C1	155.53	32.98	155.53	32.98	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.29	28.67	28.67	1.699	123.927	123.927

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	19.61	390.83	105.7
bott	22.62		19.61		105.7

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment 1.2
Superimposed Dead Load Moment 13.9

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	11.10	R	8.54	169.46	0.0	9.67	7.44	155.46		
		-3.43	R	-2.64	200.20	0.0	-3.06	-2.36	176.98	0.00	
OPER	5C1	10.52	L	8.09	104.46	0.0	0.00	0.00	0.00		
		-4.59	R	-3.53	186.59	0.0	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.44	49.61	13.71	55.20	HS 274.23	493.6
5C1	27.15	61.81	24.11	68.77	0.00	964.4

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 7.500

Dead Load	Superimposed	Dead Load
Shear	(-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.69	1.69	-1.30	1.30	-1.50	1.49	-1.15	1.15
OPER	5C1	-1.38	1.34	-1.06	1.03	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	41.23	41.42	HS 999.00	999.0
5C1	84.08	86.87	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment Superimposed Dead Load Moment

1.2 13.9

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 176.7	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-
OPER 294.5	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	11.10 R	8.54	169.46	0.0	9.67	7.44	155.46	
		-3.43 R	-2.64	200.20	0.0	-3.06	-2.36	176.98	0.00
OPER	5C1	10.52 L	8.09	104.46	0.0	0.00	0.00	0.00	
		-4.59 R	-3.53	186.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	14.29	51.49	14.29	51.49	HS 285.86	514.5
5C1	25.13	64.15	25.13	64.15	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending Top	Positive Bending Bott.	Negative Bending Top	Negative Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
2.13	28.67	28.67	1.699	115.449	115.449

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	41.22	390.83	102.1
bott	22.62		41.22		102.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 8.000

Dead Load Superimposed Dead Load
Moment Moment
-3.8 -41.7

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	1.74 L	1.34	110.72	0.0	1.33	1.02	133.93			
		-12.62 R	-9.71	188.59	0.0	-11.35	-8.73	176.98	157.85		
OPER	5C1	1.46 L	1.13	84.54	0.0	0.00	0.00	0.00			
		-9.14 L	-7.03	162.59	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend -bend	Rating Value	Load Capacity (tons)
HS20	119.21	10.61	108.19	12.13	HS 212.25
5C1	236.49	24.42	214.63	27.92	0.00 382.1 977.0

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-4.23	4.53	-3.25	3.48	-3.27	3.30	-2.51	2.54
OPER	5C1	-3.27	3.39	-2.52	2.61	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	15.15	13.97	HS 279.44	503.0
5C1	32.65	31.06	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 140.4	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-
OPER 234.0	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	1.74 L	1.34	110.72	0.0	1.33	1.02	133.93	
		-12.62 R	-9.71	188.59	0.0	-11.35	-8.73	176.98	157.85
OPER	5C1	1.46 L	1.13	84.54	0.0	0.00	0.00	0.00	
		-9.14 L	-7.03	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	111.89	11.12	111.89	11.12	HS 222.47	400.4
5C1	221.98	25.60	221.98	25.60	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section
Positive Bending	Negative Bending			Modulus - Z
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment 2.8
Superimposed Dead Load Moment 31.2

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend	top fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	14.74 R	11.34	195.77	0.0	11.53	8.87	181.77			
		-2.60 L	-2.00	134.63	0.0	-1.98	-1.52	157.85	0.00		
OPER	5C1	12.71 R	9.77	228.77	0.0	0.00	0.00	0.00			
		-2.36 L	-1.82	145.85	0.0	0.00	0.00	0.00	0.00	0.00	

Moment

Rating Veh.	top fiber +bend	Rating bottom fiber -bend	Factor bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.86	69.82	9.56	77.20	HS 191.12	344.0
5C1	20.99	128.16	18.47	141.71	0.00	738.8

SHEAR RATING REPORT

Rating Types and Vehicles

INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 8.600

Dead Load	Superimposed Dead Load
Shear (-)	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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-1.54	1.48	-1.18	1.14	-1.44	1.40	-1.11	1.08
OPER	5C1	-1.33	1.34	-1.02	1.03	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	45.34	47.07	HS 999.00	999.0
5C1	87.64	86.64	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 188.0	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-
OPER 313.3	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	14.74 R	11.34	195.77	0.0	11.53	8.87	181.77	
		-2.60 L	-2.00	134.63	0.0	-1.98	-1.52	157.85	0.00
OPER	5C1	12.71 R	9.77	228.77	0.0	0.00	0.00	0.00	
		-2.36 L	-1.82	145.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating		Factor		Rating Value	Load Capacity (tons)
	top +bend	fiber -bend	bottom +bend	fiber -bend		
HS20	9.99	72.30	9.99	72.30	HS 199.87	359.8
5C1	19.32	132.71	19.32	132.71	0.00	772.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi)			
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	24750.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height	Web Depth	Thk.		Dc	b max	b min	t	ry
H	D	tw	top	9.86	8.24	8.24	0.62	1.77
21.0	19.76	0.400	bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Gross	Area Net	Neutral Axis		Moment of Inertia	
		Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Top	Bending Bott.	Negative Top	Bending Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	143.50	80.99	49.40	24.64
bott	3.92	0.62	13.400	143.50	80.99		24.64

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	28.67	28.67	1.699	94.775	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 /	36500/ sqrt Fy	20,000,000 Af/ Fy d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 9.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh.	Moment Capacity				Available Capacity for LL+I			
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck w/imp.	Live Load w/o imp.	Moment	Loc. of Front Wheel	Ax. Dis.	Lane w/imp.	Live Load w/o imp.	Moment	Loc. of Load 1	Conc. Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	
OPER	5C1	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor				Rating Value	Load Capacity (tons)
	top fiber +bend	bottom fiber -bend	top fiber -bend	bottom fiber +bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	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 5C1

Member I. D. S03
Check Point I. D. 9.000

Dead Load	Superimposed Dead Load
Shear (-) Shear	(+) 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				Lane Live Load Shear			
		w/imp.		w/o imp.		w/imp.		w/o imp.	
		(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)
INV.	HS20	-3.90	0.00	-3.00	0.00	-3.05	0.27	-2.35	0.20
OPER	5C1	-3.09	0.00	-2.38	0.00	0.00	0.00	0.00	0.00

Rating		Shear		
Veh.	Rating (-)	Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.79	264.33	HS 335.87	604.6
5C1	35.38	999.00	0.00	999.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1

Member I. D. S03
Check Point I. D. 9.000Dead Load Moment 0.0
Superimposed Dead Load Moment 0.0

Rating Veh. ber	Moment Capacity				Available Capacity for LL+I			
	top fiber		bottom fiber		top fiber		bottom fi	
bend	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-
INV. 167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-
OPER 279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load 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	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	5C1	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		bottom fiber		Rating Value	Load Capacity (tons)
	top fiber +bend	-bend	+bend	-bend		
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1	999.00	999.00	999.00	999.00	0.00	999.0