BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	1.917	235.5	235.5	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.9
1	P	12.417	0.0	0.0	0.000	6.5
1	P	19.417	0.0	0.0	0.000	7.2
1	P	26.417	0.0	0.0	0.000	7.2
1	P	33.420	0.0	0.0	0.000	7.9

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	15.03	16.60	16.60	1.44	4.00
			bott	18.39	16.60	16.60	1.44	4.00

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Gross	Area Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	68.80	68.80	16.47	19.83	15040.0	15040.0
n= 8	221.71	221.71	0.11	36.19	43140.2	15040.0
3n= 24	119.77	119.77	6.37	29.93	31981.8	15040.0

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	913.1	758.5	913.1	758.5	3163.69
n= 8	393265.5	1192.0	913.1	758.5	
3n= 24	5016.8	1068.7	913.1	758.5	

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	7.88	1.44	11.530	0.01	0.00	39.79	17.90
bott	8.30	1.44	11.530	84.00	21.01		21.89

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1410.882

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	3163.69	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5173.26

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
324.3	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3104.0C	-1506.6	1966.9	-1898.2C	2050.4	-1496.2	1175.7	-1797.5
OPER	5173.3C	-2510.9	3278.1	-3163.7C	3417.3	-2493.6	1959.5	-2995.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	851.34	R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	660.67	R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.41	999.00	1.38	999.00	HS 27.62	49.7
5C1T	5.17	999.00	2.97	999.00	0.00	237.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
324.3	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	100562.1	-1206.4	1965.7	-964.1	99999.9	-1768.5	1403.6	-1526.3
OPER	100562.1	-2385.4	2901.4	-1981.6	99999.9	-2947.5	2339.3	-2543.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34	R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	660.67	R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	117.46	999.00	1.65	999.00	HS 32.97	59.4
5C1T	151.36	999.00	3.54	999.00	0.00	283.3

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	22.6
1	P	12.417	0.0	0.0	0.000	18.6
1	P	19.417	0.0	0.0	0.000	20.6
1	P	26.417	0.0	0.0	0.000	20.6
1	P	33.420	0.0	0.0	0.000	22.6

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.5	33.36	0.880	top	16.15	16.60	16.60	1.57	3.89
			bott	17.21	16.60	16.60	1.57	3.89

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Gross	Area Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	79.20	79.20	17.72	18.78	17906.1	17906.1
n= 8	232.11	232.11	1.27	35.23	51842.9	17906.1
3n= 24	130.17	130.17	7.94	28.56	37710.7	17906.1

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	1010.5	953.5	1010.5	953.5	3257.15
n= 8	40809.9	1471.6	1010.5	953.5	
3n= 24	4747.7	1320.5	1010.5	953.5	

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	7.86	1.57	10.570	0.01	0.00	37.69	18.25
bott	8.30	1.57	10.570	84.00	21.59		19.45

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1233.270

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	3257.15	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5494.94

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
585.5	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3297.0C	-1667.3	2428.1	-1954.3C	1838.4	-1980.2	1170.0	-2201.0
OPER	5494.9C	-2778.8	4046.8	-3257.2C	3064.0	-3300.4	1950.1	-3668.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	999.00	1.28	999.00	HS 25.61	46.1
5C1T	4.39	999.00	2.79	999.00	0.00	223.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
585.5	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	47967.5	-1118.8	2541.3	-1029.5	46804.6	-2281.6	1378.5	-2192.3
OPER	79170.6	-2639.9	3460.3	-2491.0	78007.7	-3802.7	2297.5	-3653.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	51.22	999.00	1.51	999.00	HS 30.17	54.3
5C1T	111.69	999.00	3.29	999.00	0.00	263.2

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B03 Symmetry:

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

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	14.92	16.60	16.60	1.44	4.04
			bott	18.50	16.60	16.60	1.44	4.04

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	67.40	67.40	16.36	19.94	14924.9	14924.9
n= 8	220.31	220.31	0.09	36.21	42332.8	14924.9
3n= 24	118.37	118.37	6.45	29.85	31298.9	14924.9

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	912.5	748.3	912.5	748.3	3179.83
n= 8	480360.7	1169.0	912.5	748.3	
3n= 24	4851.1	1048.6	912.5	748.3	

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	7.88	1.44	11.530	0.01	0.00	39.79	17.76
bott	8.30	1.44	11.530	84.00	20.80		22.03

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1430.062

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	3179.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5173.00

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3103.8C	-1505.6	1928.9	-1907.9C	1727.8	-1817.9	824.0	-2127.4
OPER	5173.0C	-2509.4	3214.8	-3179.8C	2879.6	-3029.9	1373.3	-3545.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	999.00	0.90	999.00	HS 18.04	32.5
5C1T	4.12	999.00	1.97	999.00	0.00	157.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	101099.5	-990.5	2040.3	-733.2	99999.9	-2090.1	940.6	-1832.8
OPER	101099.5	-2383.9	2667.4	-1955.1	99999.9	-3483.5	1567.7	-3054.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	109.44	999.00	1.03	999.00	HS 20.59	37.1
5C1T	143.18	999.00	2.24	999.00	0.00	179.6

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B04 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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. B04
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	15.48	16.60	16.60	1.44	3.94
			bott	17.94	16.60	16.60	1.44	3.94

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	70.80	70.80	16.92	19.38	15542.7	15542.7
n= 8	223.71	223.71	0.40	35.90	45230.3	15542.7
3n= 24	121.77	121.77	6.81	29.49	33329.7	15542.7

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	918.4	802.1	918.4	802.1	3101.32
n= 8	112579.3	1260.0	918.4	802.1	
3n= 24	4896.8	1130.1	918.4	802.1	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B04
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.44	11.530	0.01	0.00	39.79	18.43
bott	8.30	1.44	11.530	84.00	21.32		21.35

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1334.176

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	3101.32	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5174.01

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B04
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3104.4C	-1515.4	2078.9	-1860.8C	1728.2	-1825.5	939.4	-2091.2
OPER	5174.0C	-2525.6	3464.9	-3101.3C	2880.4	-3042.4	1565.7	-3485.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.89	999.00	1.03	999.00	HS	20.56	37.0
5C1T	4.12	999.00	2.24	999.00		0.00	179.3

SHEAR RATING REPORT

	Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	5C1T		

Member I. D. B04
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B04
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	101099.5	-999.8	2179.8	-817.5	99999.9	-2099.4	1080.1	-1917.1
OPER	101099.5	-2399.4	2899.9	-2095.6	99999.9	-3499.0	1800.2	-3195.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	109.44	999.00	1.18	999.00	HS	23.64	42.6
5C1T	143.18	999.00	2.58	999.00		0.00	206.2

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B05 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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. B05
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	15.72	16.60	16.60	1.44	3.92
			bott	17.70	16.60	16.60	1.44	3.92

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	71.70	71.70	17.16	19.14	15857.1	15857.1
n= 8	224.61	224.61	0.54	35.76	46355.1	15857.1
3n= 24	122.67	122.67	7.02	29.28	34079.9	15857.1

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	924.1	828.5	924.1	828.5	3068.95
n= 8	85120.2	1296.4	924.1	828.5	
3n= 24	4854.5	1163.9	924.1	828.5	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B05
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.44	11.530	0.01	0.00	39.79	18.71
bott	8.30	1.44	11.530	84.00	21.46		21.07

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1291.725

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	3068.95	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5174.42

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B05
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3104.7C	-1524.7	2139.1	-1841.4C	1728.4	-1832.6	985.7	-2076.2
OPER	5174.4C	-2541.2	3565.2	-3068.9C	2880.7	-3054.4	1642.8	-3460.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	999.00	1.08	999.00	HS 21.58	38.8
5C1T	4.12	999.00	2.35	999.00	0.00	188.2

SHEAR RATING REPORT

	Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D. HAM500				
	HS20	5C1T		

Member I. D. B05
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B05
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	96902.5	-1008.6	2239.4	-858.8	95802.8	-2108.2	1139.7	-1958.4
OPER	101099.5	-2414.1	2999.2	-2164.4	99999.9	-3513.7	1899.6	-3264.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	104.85	999.00	1.25	999.00	HS 24.95	44.9
5C1T	143.18	999.00	2.72	999.00	0.00	217.6

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B06 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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. B06
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	16.28	16.60	16.60	1.44	3.85
			bott	17.14	16.60	16.60	1.44	3.85

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	74.00	74.00	17.72	18.58	16595.9	16595.9
n= 8	226.91	226.91	0.90	35.40	49106.3	16595.9
3n= 24	124.97	124.97	7.54	28.76	35889.4	16595.9

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	936.4	893.4	936.4	893.4	2993.00
n= 8	54827.1	1387.0	936.4	893.4	
3n= 24	4760.3	1247.9	936.4	893.4	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B06
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.44	11.530	0.01	0.00	39.79	19.39
bott	8.30	1.44	11.530	84.00	21.79		20.40

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1197.875

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	2993.00	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5175.43

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3105.3C	-1545.0	2288.6	-1795.8C	1728.9	-1848.2	1100.7	-2041.2
OPER	5175.4C	-2575.0	3814.3	-2993.0C	2881.5	-3080.4	1834.4	-3402.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	999.00	1.21	999.00	HS 24.09	43.4
5C1T	4.13	999.00	2.63	999.00	0.00	210.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B06
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	63010.6	-1027.9	2386.4	-960.6	61910.9	-2127.5	1286.7	-2060.2
OPER	101099.5	-2446.2	3244.2	-2334.0	99999.9	-3545.9	2144.5	-3433.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	67.76	999.00	1.41	999.00	HS 28.17	50.7
5C1T	143.18	999.00	3.07	999.00	0.00	245.6

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B07 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	20.2
1	P	12.417	0.0	0.0	0.000	16.6
1	P	19.417	0.0	0.0	0.000	18.4
1	P	26.417	0.0	0.0	0.000	18.4
1	P	33.420	0.0	0.0	0.000	20.2

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. B07
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	16.26	16.60	16.60	1.44	3.86
			bott	17.16	16.60	16.60	1.44	3.86

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	73.90	73.90	17.70	18.60	16561.3	16561.3
n= 8	226.81	226.81	0.88	35.42	48966.3	16561.3
3n= 24	124.87	124.87	7.51	28.79	35799.5	16561.3

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	935.9	890.2	935.9	890.2	2996.76
n= 8	55820.0	1382.3	935.9	890.2	
3n= 24	4765.3	1243.6	935.9	890.2	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B07
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.44	11.530	0.01	0.00	39.79	19.35
bott	8.30	1.44	11.530	84.00	21.78		20.43

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1202.198

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	2996.76	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5175.37

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3105.2C	-1544.2	2280.9	-1798.1C	1728.8	-1847.6	1094.7	-2042.9
OPER	5175.4C	-2573.7	3801.4	-2996.8C	2881.4	-3079.4	1824.5	-3404.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	999.00	1.20	999.00	HS 23.96	43.1
5C1T	4.13	999.00	2.61	999.00	0.00	209.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B07
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
582.2	517.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	64125.1	-1027.2	2378.9	-955.5	63025.4	-2126.8	1279.3	-2055.2
OPER	101099.5	-2445.0	3231.7	-2325.6	99999.9	-3544.7	2132.1	-3425.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	68.98	999.00	1.40	999.00	HS 28.00	50.4
5C1T	143.18	999.00	3.05	999.00	0.00	244.2

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B08 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	15.000	1	0		0.0	0.0
1	2	3.000	2	0		0.0	0.0
1	3	20.833	1	0		0.0	0.0

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	2.750	119.1	119.1	33.330	0.0
1	P	5.417	0.0	0.0	0.000	22.6
1	P	12.417	0.0	0.0	0.000	18.6
1	P	19.417	0.0	0.0	0.000	20.6
1	P	26.417	0.0	0.0	0.000	20.6
1	P	33.420	0.0	0.0	0.000	22.6

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B08
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
36.5	33.36	0.880	top	16.12	16.60	16.60	1.57	3.89
			bott	17.24	16.60	16.60	1.57	3.89

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Gross	Area Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	79.10	79.10	17.69	18.81	17873.2	17873.2
n= 8	232.01	232.01	1.25	35.25	51709.5	17873.2
3n= 24	130.07	130.07	7.92	28.58	37626.1	17873.2

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	1010.1	950.4	1010.1	950.4	3260.89
n= 8	41276.6	1467.1	1010.1	950.4	
3n= 24	4752.0	1316.4	1010.1	950.4	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B08
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.86	1.57	10.570	0.01	0.00	37.69	18.22
bott	8.30	1.57	10.570	84.00	21.57		19.47

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	598.47	598.47	50.535	0.000	1237.228

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	3260.89	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2694.37	3794.29	6.80	0.00	0.00	0.000	5494.62

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	565.1

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
585.5	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3296.8C	-1666.6	2420.6	-1956.5C	1838.3	-1979.7	1164.3	-2202.7
OPER	5494.6C	-2777.7	4034.4	-3260.9C	3063.8	-3299.6	1940.5	-3671.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	913.70 R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43 R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.01	999.00	1.27	999.00	HS 25.49	45.9
5C1T	4.39	999.00	2.78	999.00	0.00	222.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	339.0	-260.8	260.8
OPER	565.1	-434.7	434.7

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B08
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
585.5	577.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	48499.9	-1118.1	2534.2	-1024.7	47337.1	-2281.0	1371.3	-2187.5
OPER	80058.0	-2638.8	3448.4	-2483.0	78895.1	-3801.7	2285.5	-3645.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	913.70	R	702.85	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	698.43	R	537.25	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	51.81	999.00	1.50	999.00	HS 30.02	54.0
5C1T	112.96	999.00	3.27	999.00	0.00	261.8

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Floor Beam Spacing 23.91

Comments:

Member I. D. B09 Symmetry:

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

Range Length -- Non-Composite:

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

Range Length -- Composite:

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

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	1.917	235.5	235.5	35.000	0.0
1	P	5.417	0.0	0.0	0.000	7.9
1	P	12.417	0.0	0.0	0.000	6.5
1	P	19.417	0.0	0.0	0.000	7.2
1	P	26.417	0.0	0.0	0.000	7.2
1	P	33.420	0.0	0.0	0.000	7.9

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B09
Check Point I. D. 1.474

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			
Fy (reinf.)	40000.	40000.	0.	0.
f'c (conc.)	3000.	3000.	0.	0.

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Web Thk. tw		Dc	b max	b min	t	ry
36.3	33.42	0.840	top	16.71	16.60	16.60	1.44	3.81
			bott	16.71	16.60	16.60	1.44	3.81

Hybrid Section Properties:

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

Composite Structural Steel Section Properties:

Effective Slab Width	Effective Slab Thick.	Effective Dist. to Top of Beam	Negative Moment Reinf. Area	Dy	Fy
116.50	10.50	7.25	11.2	5.8	60000.

	Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
	75.90	75.90	18.15	18.15	17145.4	17145.4
n= 8	228.81	228.81	1.17	35.13	51268.7	17145.4
3n= 24	126.87	126.87	7.94	28.36	37284.2	17145.4

	Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
	944.7	944.7	944.7	944.7	2936.56
n= 8	43658.7	1459.6	944.7	944.7	
3n= 24	4693.3	1314.9	944.7	944.7	

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. B09
Check Point I. D. 1.474

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	7.88	1.44	11.530	0.01	0.00	39.79	19.89
bott	7.88	1.44	11.530	84.00	22.07		19.89

ASD - Moment Values

Cb	Iy		J	fb	
	top	bott		top	bott
1.75	548.92	548.92	39.648	0.000	1132.887

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	2936.56	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

Composite Compact Values

C steel	C slab	aa	Af Fy	C'	ybar	Mu
2504.07	3794.29	6.16	0.00	0.00	0.000	5176.23

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

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	7.00	1.00	33000.	73.86	0.00	11.0	537.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B09
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
371.0	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	3105.7C	-1558.7	2408.3	-1761.9C	2023.7	-1564.3	1487.2	-1720.6
OPER	5176.2C	-2597.8	4013.8	-2936.6C	3372.9	-2607.1	2478.7	-2867.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	851.34	R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	660.67	R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.38	999.00	1.75	999.00	HS 34.94	62.9
5C1T	5.11	999.00	3.75	999.00	0.00	300.1

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles

INV.	OPER	POST	SPEC
HS20	5C1T		

Member I. D. B09
Check Point I. D. 1.474

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	322.4	-248.0	248.0
OPER	537.3	-413.3	413.3

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. B09
Check Point I. D. 1.474

Dead Load Moment	Superimposed Dead Load Moment
371.0	237.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	57429.2	-1237.2	2394.4	-1237.2	56820.3	-1846.0	1785.5	-1846.0
OPER	95309.4	-2467.9	3584.8	-2467.9	94700.6	-3076.7	2975.9	-3076.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	851.34	R	654.87	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	660.67	R	508.21	28.42	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	66.74	999.00	2.10	999.00	HS 41.95	75.5
5C1T	143.34	999.00	4.50	999.00	0.00	360.4

BRIDGE / MEMBER DATA

Structure I. D. HAM500

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

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S01 Symmetry:

Span Length:

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

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	0.000	0.000

Range Length -- Non-Composite:

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

Superimposed Dead Load:

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

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.4	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.0	252.3	-317.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20 R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81 R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03 R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.75	32.92	2.44	36.61	HS 48.78	87.8
5C1T	5.59	56.69	4.97	63.05	0.00	397.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.3	66.3
OPER	151.3	-122.2	110.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.01	25.95	-2.31	19.96	-3.12	20.89	-2.40	16.07
OPER	5C1T	-3.55	21.24	-2.73	16.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.53	2.56	HS 51.11	92.0
5C1T	34.42	5.20	0.00	416.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20	R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81	R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03	R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.54	34.16	2.54	34.16	HS	50.86	91.5
5C1T	5.18	58.82	5.18	58.82		0.00	414.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.6	-178.0	144.4	-197.2
OPER	300.6C	-268.7	268.7	-300.6C	272.6	-296.7	240.6	-328.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90	R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06	R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.63	17.13	1.44	18.98	HS 28.74	51.7
5C1T	3.25	29.50	2.87	32.68	0.00	229.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.98	21.00	-4.60	16.15	-5.74	17.56	-4.42	13.51
OPER	5C1T	-5.41	17.54	-4.16	13.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	12.07	3.21	HS 64.28	115.7
5C1T	22.22	6.41	0.00	513.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.9	-156.4	178.9	-156.4	150.8	-184.5	150.8	-184.5
OPER	279.4	-279.4	279.4	-279.4	251.3	-307.5	251.3	-307.5

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90	R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06	R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.50	17.75	1.50	17.75	HS	30.03	54.0
5C1T	3.00	30.57	3.00	30.57		0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.4	-182.2	140.2	-201.4
OPER	300.6C	-268.7	268.7	-300.6C	265.7	-303.6	233.7	-335.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89 L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59 R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64 R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09 R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.35	11.69	1.19	12.92	HS 23.79	42.8
5C1T	2.64	20.13	2.32	22.25	0.00	185.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.87	16.43	-6.82	12.64	-8.45	14.43	-6.50	11.10
OPER	5C1T	-8.18	14.03	-6.30	10.79	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	8.00	4.18	HS 83.60	150.5
5C1T	14.45	8.16	0.00	652.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.6	-153.6	181.6	-153.6	146.7	-188.6	146.7	-188.6
OPER	279.4	-279.4	279.4	-279.4	244.4	-314.4	244.4	-314.4

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64	R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09	R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.24	12.10	1.24	12.10	HS	24.88	44.8
5C1T	2.43	20.84	2.43	20.84		0.00	194.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.500

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

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

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.6	-182.0	140.4	-201.2
OPER	300.6C	-268.7	268.7	-300.6C	266.0	-303.3	234.0	-335.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98 R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89 L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14 R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.40	7.01	1.24	7.74	HS	24.72	44.5
5C1T	2.56	12.06	2.25	13.34		0.00	180.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.3	118.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-15.37	9.50	-11.82	7.31	-13.95	8.87	-10.73	6.82
OPER	5C1T	-13.29	8.43	-10.23	6.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.46	7.48	HS 89.27	160.7
5C1T	8.60	14.05	0.00	688.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.5	-153.8	181.5	-153.8	146.9	-188.4	146.9	-188.4
OPER	279.4	-279.4	279.4	-279.4	244.8	-314.0	244.8	-314.0

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 Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89	L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14	R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.29	7.25	1.29	7.25	HS	25.86	46.5
5C1T	2.36	12.49	2.36	12.49		0.00	188.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	164.1	-177.5	144.9	-196.7
OPER	300.6C	-268.7	268.7	-300.6C	273.4	-295.9	241.4	-327.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18 R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59 L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17 R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	5.69	1.40	6.31	HS 28.03	50.5
5C1T	2.86	9.81	2.53	10.87	0.00	202.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.4	72.3
OPER	151.3	-112.3	120.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-18.34	6.62	-14.11	5.09	-16.67	6.50	-12.83	5.00
OPER	5C1T	-15.87	6.09	-12.21	4.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.67	10.91	HS 73.45	132.2
5C1T	7.07	19.80	0.00	565.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.5	-156.8	178.5	-156.8	151.3	-184.0	151.3	-184.0
OPER	279.4	-279.4	279.4	-279.4	252.2	-306.6	252.2	-306.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18	R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59	L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17	R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.46	5.90	1.46	5.90	HS	29.28	52.7
5C1T	2.64	10.16	2.64	10.16		0.00	211.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37 R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85 L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20 R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.68	1.71	5.21	HS 34.24	61.6
5C1T	3.72	8.06	3.30	8.97	0.00	264.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-22.80	2.98	-17.54	2.29	-19.32	4.42	-14.86	3.40
OPER	5C1T	-18.62	4.09	-14.33	3.15	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.90	16.61	HS 58.05	104.5
5C1T	5.92	29.94	0.00	473.8

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S01				
Check Point I. D.	1.700				

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37	R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85	L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20	R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	4.86	1.78	4.86	HS 35.69	64.2
5C1T	3.44	8.37	3.44	8.37	0.00	275.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97	R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23	R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.31	HS 58.55	105.4
5C1T	5.71	6.63	5.11	7.43	0.00	408.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.7
OPER	151.3	-108.3	124.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-27.72	1.03	-21.32	0.79	-21.85	2.66	-16.81	2.05
OPER	5C1T	-21.45	2.34	-16.50	1.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.34	28.04	HS 46.89	84.4
5C1T	5.05	53.28	0.00	404.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97	R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23	R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS	60.88	109.6
5C1T	5.31	6.90	5.31	6.90		0.00	424.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.4	-147.1	175.3	-166.3
OPER	300.6C	-268.7	268.7	-300.6C	324.1	-245.2	292.1	-277.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85 R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50 R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28 L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.44	2.71	8.51	3.06	HS 54.18	97.5
5C1T	13.23	5.30	11.92	5.99	0.00	423.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-9.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	75.8
OPER	151.3	-106.3	126.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.21	0.56	-24.77	0.43	-24.21	1.24	-18.62	0.95
OPER	5C1T	-24.44	0.88	-18.80	0.67	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.98	61.26	HS 39.62	71.3
5C1T	4.35	144.24	0.00	348.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.3	-177.0	158.3	-177.0	181.7	-153.6	181.7	-153.6
OPER	279.4	-279.4	279.4	-279.4	302.8	-256.0	302.8	-256.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48	R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85	R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50	R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28	L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.83	2.83	8.83	2.83	HS	56.56	101.8
5C1T	12.36	5.53	12.36	5.53		0.00	442.4

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-9.3	0.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.21	33.50	-24.77	25.77	-24.21	26.13	-18.62	20.10
OPER	5C1T	-24.44	26.51	-18.80	20.39	0.00	0.00	0.00	0.00

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		39.35		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.6	-144.9	177.4	-164.1
OPER	300.6C	-268.7	268.7	-300.6C	327.7	-241.6	295.7	-273.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67 R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43 R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56 L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.19	2.14	8.30	2.42	HS	42.84	77.1
5C1T	15.29	4.51	13.80	5.11		0.00	360.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.9	64.7
OPER	151.3	-124.9	107.9

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	29.37	-2.15	22.59	-2.89	23.54	-2.22	18.11
OPER	5C1T	-3.00	23.58	-2.31	18.14	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	25.95	2.20	HS 44.07	79.3
5C1T	41.62	4.57	0.00	366.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	156.8	-178.5	156.8	-178.5	183.9	-151.4	183.9	-151.4
OPER	279.4	-279.4	279.4	-279.4	306.5	-252.3	306.5	-252.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43	R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56	L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.60	2.24	8.60	2.24	HS	44.74	80.5
5C1T	14.30	4.71	14.30	4.71		0.00	376.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.8	-155.7	166.7	-174.9
OPER	300.6C	-268.7	268.7	-300.6C	309.7	-259.5	277.8	-291.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93 L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63 R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11 L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.13	2.78	2.80	3.13	HS 55.68	100.2
5C1T	6.64	5.63	5.96	6.32	0.00	450.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	65.9
OPER	151.3	-122.9	109.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	24.68	-2.15	18.98	-4.29	20.73	-3.30	15.95
OPER	5C1T	-4.56	20.19	-3.50	15.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	17.18	2.67	HS 53.41	96.1
5C1T	26.97	5.44	0.00	435.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.0	-171.3	164.0	-171.3	173.1	-162.2	173.1	-162.2
OPER	279.4	-279.4	279.4	-279.4	288.5	-270.3	288.5	-270.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	59.45	R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93	L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63	R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11	L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.91	2.90	2.91	2.90	HS	57.99	104.4
5C1T	6.19	5.86	6.19	5.86		0.00	468.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	177.9	-163.7	158.7	-182.9
OPER	300.6C	-268.7	268.7	-300.6C	296.5	-272.8	264.5	-304.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43 L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73 R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29 L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.12	3.53	1.89	3.94	HS 37.88	68.2
5C1T	4.25	6.45	3.79	7.21	0.00	303.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	4.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.6	67.1
OPER	151.3	-120.9	111.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-5.15	20.51	-3.96	15.77	-6.59	17.81	-5.07	13.70
OPER	5C1T	-6.39	16.67	-4.91	12.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	11.02	3.27	HS 65.44	117.8
5C1T	18.93	6.71	0.00	536.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.3	-166.0	169.3	-166.0	165.2	-170.1	165.2	-170.1
OPER	279.4	-279.4	279.4	-279.4	275.3	-283.5	275.3	-283.5

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	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73	R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29	L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS 39.42	71.0
5C1T	3.95	6.70	3.95	6.70	0.00	315.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93 L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12 R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88 L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.57	1.66	5.09	HS 33.16	59.7
5C1T	3.55	7.05	3.16	7.86	0.00	252.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.4	68.3
OPER	151.3	-118.9	113.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-9.55	17.12	-7.34	13.17	-9.16	14.86	-7.04	11.43
OPER	5C1T	-8.47	13.97	-6.51	10.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.47	3.99	HS 79.76	143.6
5C1T	14.05	8.15	0.00	651.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.1	-175.2	160.1	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.8	-292.0	266.8	-292.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93	L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12	R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88	L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	4.74	1.73	4.74	HS	34.56	62.2
5C1T	3.29	7.32	3.29	7.32		0.00	263.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.3	-284.0	253.3	-316.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85 R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25 L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85 R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.12	1.67	6.81	HS 33.43	60.2
5C1T	3.47	7.70	3.08	8.57	0.00	246.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.0	70.7
OPER	151.3	-114.9	117.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-17.02	9.38	-13.09	7.21	-14.82	9.23	-11.40	7.10
OPER	5C1T	-13.22	9.45	-10.17	7.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.54	HS 81.04	145.9
5C1T	8.69	12.47	0.00	695.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.8	-161.5	173.8	-161.5	158.4	-176.8	158.4	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25	L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85	R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	6.35	1.74	6.35	HS 34.85	62.7
5C1T	3.21	8.00	3.21	8.00	0.00	256.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81 R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38 R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96 R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.80	1.91	5.35	HS 38.15	68.7
5C1T	4.08	7.33	3.63	8.17	0.00	290.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.39	4.89	-15.68	3.76	-17.75	6.71	-13.65	5.16
OPER	5C1T	-16.16	7.39	-12.43	5.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.72	HS 66.47	119.6
5C1T	6.99	16.22	0.00	559.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.8	171.4	-163.8	162.0	-173.3	162.0	-173.3
OPER	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-288.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81	R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38	R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96	R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.98	1.99	4.98	HS	39.73	71.5
5C1T	3.78	7.61	3.78	7.61		0.00	302.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42 L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77 R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40 R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94 R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.37	103.3
5C1T	5.65	6.70	5.05	7.50	0.00	404.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.99	3.79	-19.22	2.92	-20.63	4.48	-15.87	3.45
OPER	5C1T	-19.38	5.47	-14.91	4.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.66	16.32	HS 53.29	95.9
5C1T	5.72	22.28	0.00	458.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42	L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77	R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40	R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94	R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.65	107.4
5C1T	5.25	6.97	5.25	6.97	0.00	420.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.2	-151.4	171.0	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.0	-252.3	285.1	-284.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60 L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35 R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80 R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.88	2.77	7.09	3.12	HS 55.45	99.8
5C1T	11.18	5.76	10.06	6.49	0.00	460.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.4	74.3
OPER	151.3	-109.0	123.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.62	3.97	-22.79	3.06	-23.37	3.74	-17.97	2.88
OPER	5C1T	-22.61	3.75	-17.39	2.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	18.69	HS 44.15	79.5
5C1T	4.82	33.02	0.00	385.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

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

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01	L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60	L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35	R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80	R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.35	2.89	7.35	2.89	HS 57.81	104.1
5C1T	10.44	6.01	10.44	6.01	0.00	480.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.8	0.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.62	33.80	-22.79	26.00	-23.37	25.99	-17.97	20.00
OPER	5C1T	-22.61	25.95	-17.39	19.96	0.00	0.00	0.00	0.00

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-151.9	170.4	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.1	-253.2	284.1	-285.2

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60 R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46 L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36 L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.61	2.73	6.84	3.08	HS 54.66	98.4
5C1T	10.73	5.98	9.64	6.73	0.00	478.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.1
OPER	151.3	-124.2	108.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	29.42	-2.19	22.63	-3.20	23.47	-2.46	18.05
OPER	5C1T	-3.18	22.99	-2.45	17.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.30	2.21	HS 44.29	79.7
5C1T	39.02	4.72	0.00	377.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46	L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36	L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.10	2.85	7.10	2.85	HS	56.98	102.6
5C1T	10.01	6.23	10.01	6.23		0.00	498.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS	56.71	102.1
5C1T	5.47	7.07	4.89	7.91		0.00	391.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.3	66.3
OPER	151.3	-122.2	110.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.84	24.77	-2.19	19.05	-4.45	20.70	-3.42	15.92
OPER	5C1T	-4.73	19.81	-3.64	15.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.49	2.68	HS 53.57	96.4
5C1T	25.81	5.58	0.00	446.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	168.0	-167.3	168.0	-167.3	167.1	-168.1	167.1	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-280.2

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	58.99	106.2
5C1T	5.09	7.35	5.09	7.35		0.00	407.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.0	256.3	-313.0

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99 L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11 L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82 L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.12	4.82	1.88	5.37	HS 37.70	67.9
5C1T	3.94	7.85	3.51	8.74	0.00	280.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.96	20.31	-3.81	15.63	-6.71	17.79	-5.16	13.69
OPER	5C1T	-6.65	16.57	-5.12	12.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.74	3.32	HS 66.47	119.7
5C1T	18.07	6.79	0.00	543.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99	L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11	L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82	L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.96	5.00	1.96	5.00	HS	39.28	70.7
5C1T	3.65	8.15	3.65	8.15		0.00	292.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83 L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31 R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21 L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.85	6.21	1.64	6.90	HS 32.86	59.1
5C1T	3.30	8.41	2.92	9.35	0.00	233.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	16.93	-7.22	13.02	-9.27	14.84	-7.13	11.41
OPER	5C1T	-8.87	13.57	-6.82	10.44	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	7.56	4.06	HS 81.18	146.1
5C1T	13.33	8.44	0.00	675.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.3	-160.0	175.3	-160.0	156.1	-179.2	156.1	-179.2
OPER	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-298.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31	R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21	L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.71	6.44	1.71	6.44	HS	34.28	61.7
5C1T	3.05	8.73	3.05	8.73		0.00	244.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.5
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61 R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00 L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16 R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.86	6.24	1.65	6.94	HS 33.00	59.4
5C1T	3.36	8.17	2.98	9.08	0.00	238.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.5	71.1
OPER	151.3	-114.2	118.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.92	9.37	-13.02	7.21	-14.95	9.16	-11.50	7.05
OPER	5C1T	-13.83	8.74	-10.64	6.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.59	HS 81.00	145.8
5C1T	8.26	13.56	0.00	660.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.2	175.0	-160.2	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	260.9	-297.9	260.9	-297.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61	R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00	L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16	R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.72	6.47	1.72	6.47	HS	34.42	62.0
5C1T	3.11	8.47	3.11	8.47		0.00	248.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.8	154.6	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.6	257.7	-311.6

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69 R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21 R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37 R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.13	4.84	1.90	5.39	HS	37.99	68.4
5C1T	4.01	7.48	3.57	8.34		0.00	285.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.31	4.94	-15.62	3.80	-17.90	6.61	-13.77	5.08
OPER	5C1T	-16.79	6.57	-12.92	5.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.94	HS 66.32	119.4
5C1T	6.68	18.33	0.00	534.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-174.2
OPER	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-290.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69	R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21	R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37	R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS 39.57	71.2
5C1T	3.72	7.77	3.72	7.77	0.00	297.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78 R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38 R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02 R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.39	103.3
5C1T	5.66	6.68	5.06	7.48	0.00	404.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.79	2.86	-19.07	2.20	-20.80	4.35	-16.00	3.35
OPER	5C1T	-20.08	4.67	-15.45	3.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.67	16.90	HS 53.37	96.1
5C1T	5.49	26.25	0.00	439.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-166.8
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38	R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02	R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.68	107.4
5C1T	5.26	6.95	5.26	6.95		0.00	420.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.4	-150.2	172.2	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	319.0	-250.3	287.0	-282.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30 L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66 L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59 R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23 R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.08	2.75	7.27	3.10	HS 54.95	98.9
5C1T	11.56	5.66	10.40	6.38	0.00	452.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.7
OPER	151.3	-108.3	124.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.44	2.99	-22.64	2.30	-23.57	3.15	-18.13	2.42
OPER	5C1T	-23.31	3.07	-17.93	2.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.73	HS 44.14	79.4
5C1T	4.64	40.50	0.00	371.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.3	-175.0	160.3	-175.0	178.6	-156.6	178.6	-156.6
OPER	279.4	-279.4	279.4	-279.4	297.7	-261.1	297.7	-261.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59	R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23	R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.54	2.87	7.54	2.87	HS	57.31	103.2
5C1T	10.79	5.90	10.79	5.90		0.00	472.2

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.5	0.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.44	33.80	-22.64	26.00	-23.57	26.06	-18.13	20.04
OPER	5C1T	-23.31	26.09	-17.93	20.07	0.00	0.00	0.00	0.00

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.401

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		24.77		104.9

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.537

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		24.77		104.9

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.0	172.3	-169.2
OPER	300.6C	-268.7	268.7	-300.6C	319.2	-250.1	287.2	-282.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73 R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03 L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02 L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.98	2.74	7.18	3.09	HS 54.83	98.7
5C1T	11.81	5.55	10.63	6.26	0.00	444.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.6	65.0
OPER	151.3	-124.4	108.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.15	23.54	-2.42	18.10
OPER	5C1T	-3.04	23.11	-2.34	17.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.72	2.21	HS 44.20	79.6
5C1T	40.92	4.69	0.00	375.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.2	-175.1	160.2	-175.1	178.8	-156.5	178.8	-156.5
OPER	279.4	-279.4	279.4	-279.4	298.0	-260.8	298.0	-260.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03	L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02	L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.45	2.86	7.45	2.86	HS	57.19	102.9
5C1T	11.02	5.79	11.02	5.79		0.00	463.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.537

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47 R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81 L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93 L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72 L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS 57.48	103.5
5C1T	5.72	6.55	5.11	7.34	0.00	408.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.2
OPER	151.3	-122.4	110.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.38	20.77	-3.37	15.98
OPER	5C1T	-4.59	19.89	-3.53	15.30	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	16.75	2.67	HS 53.45	96.2
5C1T	26.64	5.55	0.00	443.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93	L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72	L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS	59.76	107.6
5C1T	5.31	6.82	5.31	6.82		0.00	425.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.537

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.4	-310.8

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71 L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90 L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90 L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.90	5.37	HS	38.10	68.6
5C1T	4.04	7.36	3.59	8.20		0.00	287.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.2	67.4
OPER	151.3	-120.4	112.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.65	17.86	-5.11	13.74
OPER	5C1T	-6.52	16.62	-5.02	12.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.87	3.32	HS 66.40	119.5
5C1T	18.46	6.76	0.00	540.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71	L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90	L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90	L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.01	1.98	5.01	HS	39.68	71.4
5C1T	3.74	7.64	3.74	7.64		0.00	299.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.537

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.1

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61 L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54 R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64 L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.22	1.66	6.91	HS 33.12	59.6
5C1T	3.39	8.03	3.01	8.93	0.00	240.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.4	114.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.20	14.91	-7.08	11.47
OPER	5C1T	-8.72	13.65	-6.71	10.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.58	4.05	HS 81.10	146.0
5C1T	13.58	8.38	0.00	670.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.6	-160.6	174.6	-160.6	157.1	-178.1	157.1	-178.1
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54	R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64	L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.45	1.73	6.45	HS	34.54	62.2
5C1T	3.13	8.33	3.13	8.33		0.00	250.8

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.537

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		24.77		104.9

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.8	150.5	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	282.9	-286.4	250.9	-318.4

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59 R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76 L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94 R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.87	6.23	1.65	6.92	HS	33.10	59.6
5C1T	3.38	8.20	2.99	9.11		0.00	239.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.4	118.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.88	9.23	-11.45	7.10
OPER	5C1T	-13.64	8.76	-10.49	6.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.58	HS 81.17	146.1
5C1T	8.39	13.50	0.00	671.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.5	174.7	-160.5	157.0	-178.3	157.0	-178.3
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.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76	L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94	R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.46	1.73	6.46	HS	34.51	62.1
5C1T	3.12	8.51	3.12	8.51		0.00	249.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.3	258.0	-311.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69 R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79 R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24 R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.83	1.90	5.39	HS 38.03	68.5
5C1T	4.04	7.50	3.59	8.36	0.00	287.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.4	120.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.84	6.68	-13.72	5.14
OPER	5C1T	-16.59	6.58	-12.76	5.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.81	HS 66.46	119.6
5C1T	6.78	18.29	0.00	542.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-174.1
OPER	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-290.1

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79	R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24	R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS 39.61	71.3
5C1T	3.74	7.79	3.74	7.79	0.00	299.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78 R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63 R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92 R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.34	103.2
5C1T	5.63	6.70	5.03	7.50	0.00	402.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.3	73.4
OPER	151.3	-110.5	122.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.74	4.41	-15.96	3.40
OPER	5C1T	-19.87	4.66	-15.28	3.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	16.62	HS 53.50	96.3
5C1T	5.56	26.26	0.00	444.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63	R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92	R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.62	107.3
5C1T	5.23	6.97	5.23	6.97	0.00	418.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33 L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67 L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86 R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14 R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.99	2.76	7.19	3.11	HS	55.11	99.2
5C1T	11.43	5.69	10.28	6.41		0.00	455.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.1	74.6
OPER	151.3	-108.5	124.3

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.51	3.18	-18.08	2.44
OPER	5C1T	-23.07	3.09	-17.74	2.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.46	HS 44.24	79.6
5C1T	4.70	40.24	0.00	376.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.6	-174.7	160.6	-174.7	178.2	-157.1	178.2	-157.1
OPER	279.4	-279.4	279.4	-279.4	297.0	-261.8	297.0	-261.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86	R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14	R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.46	2.87	7.46	2.87	HS	57.46	103.4
5C1T	10.66	5.93	10.66	5.93		0.00	474.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.3	0.0

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.80	-22.63	26.00	-23.51	26.03	-18.08	20.02
OPER	5C1T	-23.07	26.04	-17.74	20.03	0.00	0.00	0.00	0.00

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

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

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

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

Moment

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

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

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

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

Live Load Effect

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

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

Rating Shear

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

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

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

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-35.9

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

Live Load Effect

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

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

Serviceability

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

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

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

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33 R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67 R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86 L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14 L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.86	2.76	7.07	3.11	HS	55.11	99.2
5C1T	11.43	5.69	10.28	6.41		0.00	455.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

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

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.6	65.1
OPER	151.3	-124.3	108.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.18	23.51	-2.44	18.08
OPER	5C1T	-3.09	23.07	-2.38	17.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	23.46	2.21	HS	44.24	79.6
5C1T	40.24	4.70		0.00	376.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-16.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.6	-174.7	160.6	-174.7	178.2	-157.1	178.2	-157.1
OPER	279.4	-279.4	279.4	-279.4	297.0	-261.8	297.0	-261.8

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86	L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14	L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.34	2.87	7.34	2.87	HS	57.46	103.4
5C1T	10.66	5.93	10.66	5.93		0.00	474.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

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

Non-Composite Structural Steel Section Properties:

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

Hybrid Section Properties:

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

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

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

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

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

Non Compact Values (N)

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

ASD/LFD Shear Values

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

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79 L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63 L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92 L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.34	103.2
5C1T	5.63	6.70	5.03	7.50	0.00	402.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.3
OPER	151.3	-122.3	110.5

Live Load Effect

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

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.41	20.74	-3.40	15.96
OPER	5C1T	-4.66	19.87	-3.58	15.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	16.62	2.67	HS 53.50	96.3
5C1T	26.26	5.56	0.00	444.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

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

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79	L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63	L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92	L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.62	107.3
5C1T	5.23	6.97	5.23	6.97	0.00	418.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

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

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.0	-167.6	154.8	-186.8
OPER	300.6C	-268.7	268.7	-300.6C	289.9	-279.3	258.0	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69 L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79 L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24 L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.83	1.90	5.39	HS 38.03	68.5
5C1T	4.04	7.50	3.59	8.36	0.00	287.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.2	67.5
OPER	151.3	-120.3	112.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.68	17.84	-5.14	13.72
OPER	5C1T	-6.58	16.59	-5.06	12.76	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	Rating Factor (+)	Shear Rating Value	Load Capacity (tons)
HS20	10.81	3.32	HS 66.46	119.6
5C1T	18.29	6.78	0.00	542.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.9	-163.4	171.9	-163.4	161.2	-174.1	161.2	-174.1
OPER	279.4	-279.4	279.4	-279.4	268.7	-290.1	268.7	-290.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79	L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24	L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.61	71.3
5C1T	3.74	7.79	3.74	7.79		0.00	299.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.7	-171.8	150.5	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	282.9	-286.4	250.9	-318.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59 L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76 R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09 L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.23	1.65	6.92	HS 33.10	59.6
5C1T	3.38	8.16	2.99	9.07	0.00	239.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.6
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.23	14.88	-7.10	11.45
OPER	5C1T	-8.76	13.64	-6.74	10.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.58	4.06	HS 81.17	146.1
5C1T	13.50	8.39	0.00	671.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.5	174.7	-160.5	157.0	-178.3	157.0	-178.3
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76	R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09	L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.46	1.73	6.46	HS	34.51	62.1
5C1T	3.12	8.47	3.12	8.47		0.00	249.9

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.87	28.67	28.67	1.699	999999.000	101.047

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		23.03		105.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.3	-173.2	149.2	-192.4
OPER	300.6C	-268.7	268.7	-300.6C	280.6	-288.7	248.6	-320.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.12	1.70	9.02	HS 33.96	61.1
5C1T	3.22	8.39	2.85	9.32	0.00	228.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	18.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.7	-159.6	175.7	-159.6	155.6	-179.7	155.6	-179.7
OPER	279.4	-279.4	279.4	-279.4	259.3	-299.5	259.3	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.77	8.42	1.77	8.42	HS	35.43	63.8
5C1T	2.98	8.70	2.98	8.70		0.00	238.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.840

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60 R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53 L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51 R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.22	1.66	6.91	HS 33.12	59.6
5C1T	3.39	8.06	3.01	8.96	0.00	240.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.6	71.1
OPER	151.3	-114.3	118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.91	9.20	-11.47	7.08
OPER	5C1T	-13.65	8.72	-10.50	6.71	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.05	7.58	HS 81.10	146.0
5C1T	8.38	13.58	0.00	670.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	16.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.6	-160.6	174.6	-160.6	157.1	-178.1	157.1	-178.1
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53	L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51	R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.45	1.73	6.45	HS	34.54	62.2
5C1T	3.13	8.36	3.13	8.36		0.00	250.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.840

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.4	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71 R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90 R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90 R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.90	5.37	HS	38.10	68.6
5C1T	4.04	7.36	3.60	8.20		0.00	287.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.4	72.2
OPER	151.3	-112.3	120.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.86	6.65	-13.74	5.11
OPER	5C1T	-16.62	6.52	-12.78	5.02	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.87	HS 66.40	119.5
5C1T	6.76	18.46	0.00	540.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.41	L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71	R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90	R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90	R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.01	1.98	5.01	HS	39.68	71.4
5C1T	3.74	7.64	3.74	7.64		0.00	299.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.840

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47 L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81 R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93 R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72 R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS 57.48	103.5
5C1T	5.72	6.55	5.11	7.34	0.00	408.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.2	73.4
OPER	151.3	-110.4	122.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.77	4.38	-15.98	3.37
OPER	5C1T	-19.89	4.59	-15.30	3.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	16.75	HS 53.45	96.2
5C1T	5.55	26.64	0.00	443.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93	R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72	R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS 59.76	107.6
5C1T	5.31	6.82	5.31	6.82	0.00	425.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.840

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.5	-150.0	172.3	-169.2
OPER	300.6C	-268.7	268.7	-300.6C	319.2	-250.1	287.2	-282.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73 L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03 R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02 R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.11	2.74	7.30	3.09	HS 54.83	98.7
5C1T	11.81	5.55	10.63	6.26	0.00	444.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	74.6
OPER	151.3	-108.4	124.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.54	3.15	-18.10	2.42
OPER	5C1T	-23.11	3.04	-17.77	2.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.72	HS 44.20	79.6
5C1T	4.69	40.92	0.00	375.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-17.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.2	-175.1	160.2	-175.1	178.8	-156.5	178.8	-156.5
OPER	279.4	-279.4	279.4	-279.4	298.0	-260.8	298.0	-260.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03	R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02	R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.57	2.86	7.57	2.86	HS 57.19	102.9
5C1T	11.02	5.79	11.02	5.79	0.00	463.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.840

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS 28.88	52.0
5C1T	28.17	3.83	25.53	4.37	0.00	306.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.4	106.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.81	-22.63	26.01	-23.54	26.09	-18.10	20.07
OPER	5C1T	-23.11	26.30	-17.77	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.73	67.9
5C1T	4.08	4.04	0.00	323.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
5C1T	26.42	4.01	26.42	4.01		0.00	320.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	204.4	-137.1	185.2	-156.3
OPER	300.6C	-268.7	268.7	-300.6C	340.7	-228.6	308.7	-260.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.24	1.44	12.00	1.65	HS 28.88	52.0
5C1T	28.17	3.83	25.53	4.37	0.00	306.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-9.2	9.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.8	63.8
OPER	151.3	-106.4	106.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.73	67.9
5C1T	4.08	4.04	0.00	323.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-37.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.6	-183.7	151.6	-183.7	191.7	-143.6	191.7	-143.6
OPER	279.4	-279.4	279.4	-279.4	319.5	-239.3	319.5	-239.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.42	1.51	12.42	1.51	HS	30.23	54.4
5C1T	26.42	4.01	26.42	4.01		0.00	320.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	191.4	-150.2	172.2	-169.4
OPER	300.6C	-268.7	268.7	-300.6C	319.0	-250.3	287.0	-282.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30 R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66 R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59 L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23 L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.95	2.75	7.15	3.10	HS 54.95	98.9
5C1T	11.56	5.66	10.40	6.38	0.00	452.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.7	65.0
OPER	151.3	-124.5	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	29.44	-2.20	22.64	-3.15	23.57	-2.42	18.13
OPER	5C1T	-3.07	23.31	-2.36	17.93	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.73	2.21	HS 44.14	79.4
5C1T	40.50	4.64	0.00	371.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.3	-175.0	160.3	-175.0	178.6	-156.6	178.6	-156.6
OPER	279.4	-279.4	279.4	-279.4	297.7	-261.1	297.7	-261.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59	L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23	L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.42	2.87	7.42	2.87	HS 57.31	103.2
5C1T	10.79	5.90	10.79	5.90	0.00	472.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor: Positive Bending	Negative Bending	Hybrid Yield Strength: Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area: Gross	Net	Neutral Axis: Top	Bott.	Moment of Inertia: Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus: Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.2	-160.4	162.0	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	302.0	-267.3	270.0	-299.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78 L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38 L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02 L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.39	103.3
5C1T	5.66	6.68	5.06	7.48	0.00	404.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.5	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.86	24.79	-2.20	19.07	-4.35	20.80	-3.35	16.00
OPER	5C1T	-4.67	20.08	-3.59	15.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.90	2.67	HS 53.37	96.1
5C1T	26.25	5.49	0.00	439.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.2	167.1	-168.2	168.4	-166.8	168.4	-166.8
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38	L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02	L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.68	107.4
5C1T	5.26	6.95	5.26	6.95		0.00	420.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.8	-167.8	154.6	-186.9
OPER	300.6C	-268.7	268.7	-300.6C	289.7	-279.6	257.7	-311.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69 L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21 L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37 L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	4.84	1.90	5.39	HS 37.99	68.4
5C1T	4.01	7.48	3.57	8.34	0.00	285.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.94	20.31	-3.80	15.62	-6.61	17.90	-5.08	13.77
OPER	5C1T	-6.57	16.79	-5.06	12.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.94	3.32	HS 66.32	119.4
5C1T	18.33	6.68	0.00	534.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	10.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.0	-163.3	172.0	-163.3	161.1	-174.2	161.1	-174.2
OPER	279.4	-279.4	279.4	-279.4	268.5	-290.3	268.5	-290.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69	L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21	L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37	L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	5.02	1.98	5.02	HS	39.57	71.2
5C1T	3.72	7.77	3.72	7.77		0.00	297.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.3	150.1	-191.5
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61 L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00 R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16 L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.86	6.24	1.65	6.94	HS 33.00	59.4
5C1T	3.36	8.17	2.98	9.08	0.00	238.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.1	68.5
OPER	151.3	-118.5	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-9.37	16.92	-7.21	13.02	-9.16	14.95	-7.05	11.50
OPER	5C1T	-8.74	13.83	-6.72	10.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.59	4.05	HS 81.00	145.8
5C1T	13.56	8.26	0.00	660.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.2	175.0	-160.2	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	260.9	-297.9	260.9	-297.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61	L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00	R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16	L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.72	6.47	1.72	6.47	HS	34.42	62.0
5C1T	3.11	8.47	3.11	8.47		0.00	248.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.88	28.67	28.67	1.699	999999.000	101.699

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		25.85		104.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	167.6	-174.0	148.4	-193.2
OPER	300.6C	-268.7	268.7	-300.6C	279.4	-289.9	247.4	-321.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.91	8.23	1.69	9.14	HS 33.77	60.8
5C1T	3.16	8.46	2.80	9.40	0.00	224.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.11	187.4
5C1T	10.50	10.28	0.00	822.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	19.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.2	-159.1	176.2	-159.1	154.9	-180.4	154.9	-180.4
OPER	279.4	-279.4	279.4	-279.4	258.1	-300.7	258.1	-300.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	8.54	1.76	8.54	HS 35.24	63.4
5C1T	2.92	8.78	2.92	8.78	0.00	233.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.9	-172.7	149.7	-191.9
OPER	300.6C	-268.7	268.7	-300.6C	281.4	-287.9	249.4	-319.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83 R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31 L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21 L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.85	6.21	1.64	6.90	HS 32.86	59.1
5C1T	3.30	8.42	2.92	9.35	0.00	233.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.5	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.93	9.38	-13.02	7.22	-14.84	9.27	-11.41	7.13
OPER	5C1T	-13.57	8.87	-10.44	6.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.56	HS 81.18	146.1
5C1T	8.44	13.33	0.00	675.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	17.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.3	-160.0	175.3	-160.0	156.1	-179.2	156.1	-179.2
OPER	279.4	-279.4	279.4	-279.4	260.2	-298.6	260.2	-298.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31	L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21	L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.71	6.44	1.71	6.44	HS	34.28	61.7
5C1T	3.05	8.73	3.05	8.73		0.00	244.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.0	256.3	-313.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99 R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11 R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82 R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.12	4.82	1.88	5.37	HS 37.70	67.9
5C1T	3.94	7.85	3.51	8.74	0.00	280.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.1
OPER	151.3	-112.5	120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.31	4.96	-15.63	3.81	-17.79	6.71	-13.69	5.16
OPER	5C1T	-16.57	6.65	-12.75	5.12	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.32	10.74	HS 66.47	119.7
5C1T	6.79	18.07	0.00	543.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99	R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11	R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82	R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.96	5.00	1.96	5.00	HS	39.28	70.7
5C1T	3.65	8.15	3.65	8.15		0.00	292.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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	5C1T		
Member I. D.	S01				
Check Point I. D.	6.800				

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.7	160.7	-180.9
OPER	300.6C	-268.7	268.7	-300.6C	299.8	-269.5	267.8	-301.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67 L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15 R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76 R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13 R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS 56.71	102.1
5C1T	5.47	7.07	4.89	7.91	0.00	391.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.3	73.3
OPER	151.3	-110.6	122.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.84	-19.05	2.19	-20.70	4.45	-15.92	3.42
OPER	5C1T	-19.81	4.73	-15.24	3.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.68	16.49	HS 53.57	96.4
5C1T	5.58	25.81	0.00	446.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	168.0	-167.3	168.0	-167.3	167.1	-168.1	167.1	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.6	-280.2	278.6	-280.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76	R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13	R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS 58.99	106.2
5C1T	5.09	7.35	5.09	7.35	0.00	407.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-151.9	170.4	-171.1
OPER	300.6C	-268.7	268.7	-300.6C	316.1	-253.2	284.1	-285.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60 L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46 R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36 R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.73	2.73	6.95	3.08	HS	54.66	98.4
5C1T	10.73	5.98	9.64	6.73		0.00	478.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.1	74.5
OPER	151.3	-108.6	124.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.42	2.96	-22.63	2.28	-23.47	3.20	-18.05	2.46
OPER	5C1T	-22.99	3.18	-17.69	2.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.21	23.30	HS 44.29	79.7
5C1T	4.72	39.02	0.00	377.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46	R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36	R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.22	2.85	7.22	2.85	HS 56.98	102.6
5C1T	10.01	6.23	10.01	6.23	0.00	498.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS 29.25	52.6
5C1T	20.98	3.92	18.99	4.46	0.00	313.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-7.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.0	64.2
OPER	151.3	-106.6	107.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.97	-22.63	26.13	-23.47	25.86	-18.05	19.89
OPER	5C1T	-22.99	25.68	-17.69	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
5C1T	4.11	4.17	0.00	328.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.60	55.1
5C1T	19.66	4.10	19.66	4.10		0.00	328.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor: Positive Bending	Negative Bending	Hybrid Yield Strength: Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area: Gross	Net	Neutral Axis: Top	Bott.	Moment of Inertia: Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus: Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.81	28.67	28.67	1.699	999999.000	98.062

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.2	-139.3	183.1	-158.5
OPER	300.6C	-268.7	268.7	-300.6C	337.1	-232.2	305.1	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	10.07	1.46	9.12	1.66	HS 29.25	52.6
5C1T	20.98	3.92	18.99	4.46	0.00	313.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-9.0	8.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.0	64.2
OPER	151.3	-106.6	107.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.89	HS 37.80	68.0
5C1T	4.11	4.17	0.00	328.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-33.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.1	-182.2	153.1	-182.2	189.5	-145.8	189.5	-145.8
OPER	279.4	-279.4	279.4	-279.4	315.8	-243.0	315.8	-243.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.44	1.53	9.44	1.53	HS	30.60	55.1
5C1T	19.66	4.10	19.66	4.10		0.00	328.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.2	-151.4	171.0	-170.5
OPER	300.6C	-268.7	268.7	-300.6C	317.0	-252.3	285.1	-284.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60 R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35 L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80 L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.76	2.77	6.97	3.12	HS	55.44	99.8
5C1T	11.18	5.76	10.06	6.49		0.00	460.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.3	65.4
OPER	151.3	-123.8	109.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	29.62	-2.92	22.79	-3.74	23.37	-2.88	17.97
OPER	5C1T	-3.75	22.61	-2.88	17.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	19.58	2.21	HS	44.15	79.5
5C1T	33.02	4.82		0.00	385.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-15.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.1	-174.2	161.1	-174.2	177.5	-157.8	177.5	-157.8
OPER	279.4	-279.4	279.4	-279.4	295.8	-263.0	295.8	-263.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35	L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80	L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.24	2.89	7.24	2.89	HS	57.81	104.1
5C1T	10.43	6.01	10.43	6.01		0.00	480.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.5	161.8	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.43 R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77 L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40 L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94 L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.37	103.3
5C1T	5.65	6.70	5.05	7.50	0.00	404.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	24.99	-2.92	19.22	-4.48	20.63	-3.45	15.87
OPER	5C1T	-5.47	19.38	-4.20	14.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	16.32	2.66	HS 53.29	95.9
5C1T	22.28	5.72	0.00	458.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40	L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94	L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.65	107.4
5C1T	5.25	6.97	5.25	6.97	0.00	420.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.7	-166.9	155.5	-186.1
OPER	300.6C	-268.7	268.7	-300.6C	291.2	-278.1	259.2	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81 L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38 L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96 L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.79	1.91	5.35	HS 38.15	68.7
5C1T	4.08	7.33	3.63	8.17	0.00	290.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.89	20.39	-3.76	15.68	-6.71	17.75	-5.16	13.65
OPER	5C1T	-7.39	16.16	-5.68	12.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.72	3.32	HS 66.47	119.6
5C1T	16.22	6.99	0.00	559.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.8	171.4	-163.8	162.0	-173.3	162.0	-173.3
OPER	279.4	-279.4	279.4	-279.4	269.9	-288.9	269.9	-288.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81	L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38	L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96	L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.98	1.99	4.98	HS	39.73	71.5
5C1T	3.78	7.61	3.78	7.61		0.00	302.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.4	152.0	-189.6
OPER	300.6C	-268.7	268.7	-300.6C	285.3	-284.0	253.3	-316.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85 L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25 R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85 L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.12	1.67	6.81	HS 33.43	60.2
5C1T	3.47	7.70	3.08	8.57	0.00	246.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-70.7	69.0
OPER	151.3	-117.8	114.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-9.38	17.02	-7.21	13.09	-9.23	14.82	-7.10	11.40
OPER	5C1T	-9.45	13.22	-7.27	10.17	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.54	4.05	HS 81.04	145.9
5C1T	12.47	8.69	0.00	695.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.8	-161.5	173.8	-161.5	158.4	-176.8	158.4	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25	R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85	L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	6.35	1.74	6.35	HS 34.85	62.7
5C1T	3.21	8.00	3.21	8.00	0.00	256.9

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.276

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		12.48		107.0

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.3	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.1	252.2	-317.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	6.24	1.71	6.94	HS 34.13	61.4
5C1T	3.34	7.57	2.96	8.41	0.00	236.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.5	70.1
OPER	151.3	-115.8	116.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.19	HS 103.10	185.6
5C1T	10.00	10.87	0.00	800.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	6.47	1.78	6.47	HS 35.58	64.0
5C1T	3.09	7.85	3.09	7.85	0.00	247.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93 R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12 L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88 R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.57	1.66	5.09	HS 33.16	59.7
5C1T	3.55	7.05	3.16	7.86	0.00	252.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.3	71.4
OPER	151.3	-113.8	118.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-17.12	9.55	-13.17	7.34	-14.86	9.16	-11.43	7.04
OPER	5C1T	-13.97	8.47	-10.75	6.51	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.99	7.47	HS 79.76	143.6
5C1T	8.15	14.05	0.00	651.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	11.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.1	-175.2	160.1	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.8	-292.0	266.8	-292.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	92.63	L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93	R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12	L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88	R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	4.74	1.73	4.74	HS	34.56	62.2
5C1T	3.29	7.32	3.29	7.32		0.00	263.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	177.9	-163.7	158.7	-182.9
OPER	300.6C	-268.7	268.7	-300.6C	296.5	-272.8	264.5	-304.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43 R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73 L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29 R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.12	3.53	1.89	3.94	HS 37.88	68.2
5C1T	4.25	6.45	3.79	7.21	0.00	303.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-4.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.1	72.6
OPER	151.3	-111.8	120.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.51	5.15	-15.77	3.96	-17.81	6.59	-13.70	5.07
OPER	5C1T	-16.67	6.39	-12.82	4.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.27	11.02	HS 65.44	117.8
5C1T	6.71	18.93	0.00	536.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.3	-166.0	169.3	-166.0	165.2	-170.1	165.2	-170.1
OPER	279.4	-279.4	279.4	-279.4	275.3	-283.5	275.3	-283.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73	L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29	R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS	39.42	71.0
5C1T	3.95	6.70	3.95	6.70		0.00	315.8

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.8	-155.7	166.7	-174.9
OPER	300.6C	-268.7	268.7	-300.6C	309.7	-259.5	277.8	-291.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93 R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63 L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11 R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.13	2.78	2.80	3.13	HS 55.68	100.2
5C1T	6.64	5.63	5.96	6.32	0.00	450.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.9	73.7
OPER	151.3	-109.8	122.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.68	2.79	-18.98	2.15	-20.73	4.29	-15.95	3.30
OPER	5C1T	-20.19	4.56	-15.53	3.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.67	17.18	HS 53.41	96.1
5C1T	5.44	26.97	0.00	435.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-8.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.0	-171.3	164.0	-171.3	173.1	-162.2	173.1	-162.2
OPER	279.4	-279.4	279.4	-279.4	288.5	-270.3	288.5	-270.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63	L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11	R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.91	2.90	2.91	2.90	HS 57.99	104.4
5C1T	6.19	5.86	6.19	5.86	0.00	468.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	196.6	-144.9	177.4	-164.1
OPER	300.6C	-268.7	268.7	-300.6C	327.7	-241.6	295.7	-273.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67 L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43 L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56 R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.37	2.14	8.45	2.42	HS 42.84	77.1
5C1T	15.29	4.51	13.80	5.11	0.00	360.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	74.9
OPER	151.3	-107.9	124.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.37	2.91	-22.59	2.24	-23.54	2.89	-18.11	2.22
OPER	5C1T	-23.58	3.00	-18.14	2.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.20	25.74	HS 44.07	79.3
5C1T	4.57	41.62	0.00	366.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-25.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	156.8	-178.5	156.8	-178.5	183.9	-151.4	183.9	-151.4
OPER	279.4	-279.4	279.4	-279.4	306.5	-252.3	306.5	-252.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43	L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56	R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.76	2.24	8.76	2.24	HS	44.74	80.5
5C1T	14.30	4.71	14.30	4.71		0.00	376.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.96	28.67	28.67	1.699	999999.000	106.216

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		39.35		102.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS 26.04	46.9
5C1T	29.98	3.00	27.24	3.43	0.00	239.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.5	62.6
OPER	151.3	-105.9	104.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.37	36.19	-22.59	27.84	-23.54	26.36	-18.11	20.28
OPER	5C1T	-23.58	27.13	-18.14	20.87	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.88	1.73	HS 34.61	62.3
5C1T	3.97	3.85	0.00	307.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.2
5C1T	28.16	3.14	28.16	3.14		0.00	251.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	210.3	-131.3	191.1	-150.5
OPER	300.6C	-268.7	268.7	-300.6C	350.4	-218.9	318.4	-250.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	15.10	1.30	13.72	1.49	HS 26.04	46.9
5C1T	29.98	3.00	27.24	3.43	0.00	239.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-9.7	11.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.5	62.6
OPER	151.3	-105.9	104.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.88	1.73	HS 34.61	62.3
5C1T	3.97	3.85	0.00	307.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-46.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	147.7	-187.6	147.7	-187.6	197.5	-137.8	197.5	-137.8
OPER	279.4	-279.4	279.4	-279.4	329.2	-229.6	329.2	-229.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.19	1.37	14.19	1.37	HS	27.31	49.2
5C1T	28.16	3.14	28.16	3.14		0.00	251.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	194.4	-147.1	175.3	-166.3
OPER	300.6C	-268.7	268.7	-300.6C	324.1	-245.2	292.1	-277.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85 L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50 L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28 R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.27	2.71	8.35	3.06	HS 54.16	97.5
5C1T	13.23	5.30	11.92	5.99	0.00	423.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	9.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-75.8	63.8
OPER	151.3	-126.4	106.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.56	32.21	-0.43	24.77	-1.24	24.21	-0.95	18.62
OPER	5C1T	-0.88	24.44	-0.67	18.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	61.26	1.98	HS 39.62	71.3
5C1T	144.24	4.35	0.00	348.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-21.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.3	-177.0	158.3	-177.0	181.7	-153.6	181.7	-153.6
OPER	279.4	-279.4	279.4	-279.4	302.8	-256.0	302.8	-256.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50	L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28	R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.66	2.83	8.66	2.83	HS 56.54	101.8
5C1T	12.36	5.53	12.36	5.53	0.00	442.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.5	-160.1	162.3	-179.3
OPER	300.6C	-268.7	268.7	-300.6C	302.5	-266.8	270.5	-298.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44 R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57 L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97 L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23 L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.31	HS 58.55	105.4
5C1T	5.71	6.63	5.11	7.43	0.00	408.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.7	65.0
OPER	151.3	-124.4	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.03	27.72	-0.79	21.32	-2.66	21.85	-2.05	16.81
OPER	5C1T	-2.34	21.45	-1.80	16.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	28.04	2.34	HS 46.89	84.4
5C1T	53.28	5.05	0.00	404.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	166.9	-168.4	166.9	-168.4	168.7	-166.5	168.7	-166.5
OPER	279.4	-279.4	279.4	-279.4	281.2	-277.6	281.2	-277.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97	L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23	L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS 60.88	109.6
5C1T	5.31	6.90	5.31	6.90	0.00	424.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.2	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37 L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85 R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20 L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	4.68	1.71	5.21	HS 34.24	61.6
5C1T	3.72	8.06	3.30	8.97	0.00	264.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.4	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.98	22.80	-2.29	17.54	-4.42	19.32	-3.40	14.86
OPER	5C1T	-4.09	18.62	-3.15	14.33	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	16.61	2.90	HS 58.05	104.5
5C1T	29.94	5.92	0.00	473.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	14.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.88	R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37	L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85	R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20	L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	4.86	1.78	4.86	HS 35.69	64.2
5C1T	3.44	8.37	3.44	8.37	0.00	275.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	164.1	-177.5	144.9	-196.7
OPER	300.6C	-268.7	268.7	-300.6C	273.4	-295.9	241.4	-327.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18 L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59 R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17 L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.59	5.69	1.40	6.31	HS 28.03	50.5
5C1T	2.86	9.81	2.53	10.87	0.00	202.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.3	67.4
OPER	151.3	-120.5	112.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-6.62	18.34	-5.09	14.11	-6.50	16.67	-5.00	12.83
OPER	5C1T	-6.09	15.87	-4.68	12.21	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.91	3.67	HS 73.45	132.2
5C1T	19.80	7.07	0.00	565.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	25.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.5	-156.8	178.5	-156.8	151.3	-184.0	151.3	-184.0
OPER	279.4	-279.4	279.4	-279.4	252.2	-306.6	252.2	-306.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59	R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17	L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.46	5.90	1.46	5.90	HS	29.28	52.7
5C1T	2.64	10.16	2.64	10.16		0.00	211.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.71	28.67	28.67	1.699	999999.000	92.374

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		9.55		107.5

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.6	-182.0	140.4	-201.2
OPER	300.6C	-268.7	268.7	-300.6C	266.0	-303.3	234.0	-335.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98 L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89 R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14 L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.40	7.01	1.24	7.74	HS 24.72	44.5
5C1T	2.56	12.06	2.25	13.34	0.00	180.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.6
OPER	151.3	-118.5	114.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.50	15.37	-7.31	11.82	-8.87	13.95	-6.82	10.73
OPER	5C1T	-8.43	13.29	-6.49	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.48	4.46	HS 89.21	160.6
5C1T	14.05	8.60	0.00	687.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.5	-153.8	181.5	-153.8	146.9	-188.4	146.9	-188.4
OPER	279.4	-279.4	279.4	-279.4	244.8	-314.0	244.8	-314.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89	R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14	L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.29	7.25	1.29	7.25	HS 25.86	46.5
5C1T	2.36	12.49	2.36	12.49	0.00	188.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	158.1	-183.5	138.9	-202.7
OPER	300.6C	-268.7	268.7	-300.6C	263.5	-305.8	231.5	-337.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.34	8.83	1.18	9.75	HS 23.58	42.4
5C1T	2.49	15.20	2.19	16.80	0.00	174.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.48	204.3
5C1T	10.53	10.76	0.00	842.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	34.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	182.5	-152.8	182.5	-152.8	145.3	-189.9	145.3	-189.9
OPER	279.4	-279.4	279.4	-279.4	242.2	-316.6	242.2	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.23	9.14	1.23	9.14	HS 24.68	44.4
5C1T	2.29	15.74	2.29	15.74	0.00	183.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	159.4	-182.2	140.2	-201.4
OPER	300.6C	-268.7	268.7	-300.6C	265.7	-303.6	233.7	-335.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89 R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59 L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64 L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09 L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.35	11.69	1.19	12.92	HS 23.79	42.8
5C1T	2.64	20.13	2.32	22.25	0.00	185.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.43	8.87	-12.64	6.82	-14.43	8.45	-11.10	6.50
OPER	5C1T	-14.03	8.18	-10.79	6.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.18	8.00	HS 83.60	150.5
5C1T	8.16	14.45	0.00	652.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	32.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.6	-153.6	181.6	-153.6	146.7	-188.6	146.7	-188.6
OPER	279.4	-279.4	279.4	-279.4	244.4	-314.4	244.4	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64	L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09	L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.24	12.10	1.24	12.10	HS 24.88	44.8
5C1T	2.43	20.84	2.43	20.84	0.00	194.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.6	-178.0	144.4	-197.2
OPER	300.6C	-268.7	268.7	-300.6C	272.6	-296.7	240.6	-328.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.63	17.13	1.44	18.98	HS 28.74	51.7
5C1T	3.25	29.50	2.87	32.68	0.00	229.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.5	72.2
OPER	151.3	-112.5	120.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-21.00	5.98	-16.15	4.60	-17.56	5.74	-13.51	4.42
OPER	5C1T	-17.54	5.41	-13.49	4.16	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.21	12.07	HS 64.28	115.7
5C1T	6.41	22.22	0.00	513.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	26.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	178.9	-156.4	178.9	-156.4	150.8	-184.5	150.8	-184.5
OPER	279.4	-279.4	279.4	-279.4	251.3	-307.5	251.3	-307.5

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.50	17.75	1.50	17.75	HS	30.03	54.0
5C1T	3.00	30.57	3.00	30.57		0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.5	-171.0	151.4	-190.2
OPER	300.6C	-268.7	268.7	-300.6C	284.2	-285.0	252.3	-317.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20 L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81 L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03 L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.75	32.92	2.44	36.61	HS 48.78	87.8
5C1T	5.59	56.69	4.97	63.05	0.00	397.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.3	73.3
OPER	151.3	-110.5	122.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-25.95	3.01	-19.96	2.31	-20.89	3.12	-16.07	2.40
OPER	5C1T	-21.24	3.55	-16.34	2.73	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.56	23.53	HS 51.11	92.0
5C1T	5.20	34.42	0.00	416.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.2	-161.1	174.2	-161.1	157.8	-177.5	157.8	-177.5
OPER	279.4	-279.4	279.4	-279.4	263.0	-295.8	263.0	-295.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20	L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81	L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03	L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.54	34.16	2.54	34.16	HS	50.86	91.5
5C1T	5.18	58.82	5.18	58.82		0.00	414.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S01
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.1	70.2
OPER	151.3	-108.5	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.09	33.07	HS 41.75	75.1
5C1T	4.33	999.00	0.00	346.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S01
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
Year of Construction 1959
Roadway Width 32.000
Number of Spans 8

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S02 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	0.000	615.0	615.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	615.0	615.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	615.0	615.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	615.0	615.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	615.0	615.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	615.0	615.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	615.0	615.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	615.0	615.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	109.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	5C1T	-2.10	25.07	-1.62	19.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	34.73	2.11	HS 42.29	76.1
5C1T	58.42	4.39	0.00	350.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20 R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81 R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03 R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.78	32.58	2.47	36.27	HS 49.34	88.8
5C1T	5.65	56.11	5.02	62.47	0.00	401.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.7	66.9
OPER	151.3	-121.2	111.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-3.01	25.95	-2.31	19.96	-3.12	20.89	-2.40	16.07
OPER	5C1T	-3.55	21.24	-2.73	16.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.33	2.58	HS 51.59	92.9
5C1T	34.13	5.25	0.00	420.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.0	-162.2	173.0	-162.2	159.6	-175.7	159.6	-175.7
OPER	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-292.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20	R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81	R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03	R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.57	33.82	2.57	33.82	HS	51.42	92.6
5C1T	5.23	58.24	5.23	58.24		0.00	418.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.0	147.3	-194.2
OPER	300.6C	-268.7	268.7	-300.6C	277.5	-291.7	245.6	-323.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45 L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39 R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90 R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06 R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.66	16.84	1.47	18.69	HS 29.34	52.8
5C1T	3.31	29.01	2.93	32.19	0.00	234.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.6	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.98	21.00	-4.60	16.15	-5.74	17.56	-4.42	13.51
OPER	5C1T	-5.41	17.54	-4.16	13.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	12.00	3.23	HS 64.66	116.4
5C1T	22.09	6.45	0.00	516.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.9	-158.4	176.9	-158.4	153.8	-181.5	153.8	-181.5
OPER	279.4	-279.4	279.4	-279.4	256.3	-302.5	256.3	-302.5

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90	R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06	R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.53	17.47	1.53	17.47	HS	30.62	55.1
5C1T	3.06	30.08	3.06	30.08		0.00	244.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.1	-178.5	143.9	-197.7
OPER	300.6C	-268.7	268.7	-300.6C	271.8	-297.5	239.8	-329.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64	R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09	R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	11.45	1.22	12.68	HS 24.41	43.9
5C1T	2.70	19.72	2.38	21.84	0.00	190.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.9
OPER	151.3	-118.0	114.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.87	16.43	-6.82	12.64	-8.45	14.43	-6.50	11.10
OPER	5C1T	-8.18	14.03	-6.30	10.79	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.98	4.19	HS 83.83	150.9
5C1T	14.41	8.18	0.00	654.7

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	1.300				

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.2	-156.1	179.2	-156.1	150.3	-184.9	150.3	-184.9
OPER	279.4	-279.4	279.4	-279.4	250.6	-308.2	250.6	-308.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64	R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09	R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.27	11.86	1.27	11.86	HS	25.51	45.9
5C1T	2.49	20.43	2.49	20.43		0.00	199.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79 L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78 R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90 R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11 R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	8.64	1.21	9.56	HS 24.24	43.6
5C1T	2.55	14.88	2.25	16.47	0.00	179.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	5C1T	-11.06	10.81	-8.51	8.32	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-186.1
OPER	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.27	8.95	1.27	8.95	HS	25.34	45.6
5C1T	2.35	15.42	2.35	15.42		0.00	187.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.2	-178.4	144.0	-197.6
OPER	300.6C	-268.7	268.7	-300.6C	272.0	-297.3	240.0	-329.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98 R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89 L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14 R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.44	6.87	1.27	7.61	HS 25.35	45.6
5C1T	2.62	11.83	2.31	13.10	0.00	184.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.5	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-15.37	9.50	-11.82	7.31	-13.95	8.87	-10.73	6.82
OPER	5C1T	-13.29	8.43	-10.23	6.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	4.48	7.45	HS 89.59	161.3
5C1T	8.63	14.00	0.00	690.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.1	-156.2	179.1	-156.2	150.4	-184.8	150.4	-184.8
OPER	279.4	-279.4	279.4	-279.4	250.7	-308.1	250.7	-308.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89	L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14	R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.32	7.11	1.32	7.11	HS	26.49	47.7
5C1T	2.41	12.25	2.41	12.25		0.00	193.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.9	-174.7	147.7	-193.9
OPER	300.6C	-268.7	268.7	-300.6C	278.2	-291.1	246.2	-323.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18 R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59 L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17 R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	5.60	1.43	6.22	HS 28.58	51.4
5C1T	2.91	9.65	2.58	10.71	0.00	206.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-113.0	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-18.34	6.62	-14.11	5.09	-16.67	6.50	-12.83	5.00
OPER	5C1T	-15.87	6.09	-12.21	4.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.69	10.85	HS 73.90	133.0
5C1T	7.12	19.68	0.00	569.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.6	-158.7	176.6	-158.7	154.2	-181.1	154.2	-181.1
OPER	279.4	-279.4	279.4	-279.4	256.9	-301.9	256.9	-301.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18	R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59	L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17	R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.49	5.81	1.49	5.81	HS	29.83	53.7
5C1T	2.69	10.01	2.69	10.01		0.00	215.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.1	256.3	-313.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37 R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85 L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20 R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.95	4.64	1.73	5.16	HS 34.60	62.3
5C1T	3.75	7.99	3.33	8.89	0.00	266.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.3	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-22.80	2.98	-17.54	2.29	-19.32	4.42	-14.86	3.40
OPER	5C1T	-18.62	4.09	-14.33	3.15	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.93	16.47	HS 58.60	105.5
5C1T	5.98	29.68	0.00	478.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.88	L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37	R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85	L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20	R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.80	4.81	1.80	4.81	HS	36.05	64.9
5C1T	3.47	8.29	3.47	8.29		0.00	277.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44 L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57 R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97 R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23 R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.27	3.86	2.92	4.32	HS 58.49	105.3
5C1T	5.70	6.64	5.10	7.43	0.00	408.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.8	73.8
OPER	151.3	-109.7	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-27.72	1.03	-21.32	0.79	-21.85	2.66	-16.81	2.05
OPER	5C1T	-21.45	2.34	-16.50	1.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.38	27.73	HS 47.50	85.5
5C1T	5.12	52.67	0.00	409.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97	R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23	R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS	60.82	109.5
5C1T	5.30	6.91	5.30	6.91		0.00	424.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85 R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50 R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28 L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.33	2.75	8.39	3.11	HS 55.08	99.1
5C1T	13.06	5.39	11.76	6.08	0.00	430.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-64.9	74.8
OPER	151.3	-108.1	124.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-32.21	0.56	-24.77	0.43	-24.21	1.24	-18.62	0.95
OPER	5C1T	-24.44	0.88	-18.80	0.67	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.01	60.41	HS 40.28	72.5
5C1T	4.42	142.22	0.00	353.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-156.0
OPER	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-260.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48	R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85	R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50	R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28	L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.71	2.87	8.71	2.87	HS	57.46	103.4
5C1T	12.19	5.62	12.19	5.62		0.00	449.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS 27.07	48.7
5C1T	29.23	3.12	26.49	3.55	0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-7.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	64.6
OPER	151.3	-106.5	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.21	33.50	-24.77	25.77	-24.21	26.13	-18.62	20.10
OPER	5C1T	-24.44	26.51	-18.80	20.39	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.77	1.93	HS 35.31	63.6
5C1T	3.92	4.07	0.00	314.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.34	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.240

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS 27.07	48.7
5C1T	29.23	3.12	26.49	3.55	0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-9.0	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.9	64.6
OPER	151.3	-106.5	107.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	5C1T	-27.13	26.51	-20.87	20.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.77	1.93	HS 35.31	63.6
5C1T	3.92	4.07	0.00	314.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.34	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.8	-147.8	174.6	-167.0
OPER	300.6C	-268.7	268.7	-300.6C	323.0	-246.3	291.0	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67 R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43 R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56 L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.06	2.18	8.16	2.47	HS 43.67	78.6
5C1T	15.07	4.60	13.58	5.20	0.00	367.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.0	65.6
OPER	151.3	-123.4	109.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	29.37	-2.15	22.59	-2.89	23.54	-2.22	18.11
OPER	5C1T	-3.00	23.58	-2.31	18.14	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	25.64	2.23	HS 44.68	80.4
5C1T	41.12	4.64	0.00	371.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.7	-176.6	158.7	-176.6	181.1	-154.2	181.1	-154.2
OPER	279.4	-279.4	279.4	-279.4	301.8	-257.0	301.8	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43	R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56	L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.46	2.28	8.46	2.28	HS	45.58	82.0
5C1T	14.08	4.80	14.08	4.80		0.00	383.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	184.9	-156.7	165.7	-175.8
OPER	300.6C	-268.7	268.7	-300.6C	308.2	-261.1	276.2	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93 L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63 R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11 L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.11	2.80	2.79	3.14	HS 55.75	100.4
5C1T	6.61	5.66	5.92	6.36	0.00	453.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	24.68	-2.15	18.98	-4.29	20.73	-3.30	15.95
OPER	5C1T	-4.56	20.19	-3.50	15.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	17.02	2.70	HS 53.96	97.1
5C1T	26.72	5.50	0.00	439.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.6	-170.7	164.6	-170.7	172.2	-163.1	172.2	-163.1
OPER	279.4	-279.4	279.4	-279.4	287.0	-271.8	287.0	-271.8

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	59.45	R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93	L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63	R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11	L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.90	2.92	2.90	2.92	HS	57.92	104.3
5C1T	6.15	5.89	6.15	5.89		0.00	471.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.4	-163.2	159.2	-182.4
OPER	300.6C	-268.7	268.7	-300.6C	297.3	-272.0	265.3	-304.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43 L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73 R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29 L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.13	3.52	1.90	3.93	HS	37.99	68.4
5C1T	4.26	6.43	3.80	7.19		0.00	304.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.6
OPER	151.3	-120.1	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.15	20.51	-3.96	15.77	-6.59	17.81	-5.07	13.70
OPER	5C1T	-6.39	16.67	-4.91	12.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	10.94	3.30	HS	65.90	118.6
5C1T	18.81	6.76		0.00	540.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.0	-166.3	169.0	-166.3	165.6	-169.7	165.6	-169.7
OPER	279.4	-279.4	279.4	-279.4	276.0	-282.8	276.0	-282.8

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73	R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29	L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	3.65	1.98	3.65	HS	39.53	71.2
5C1T	3.96	6.69	3.96	6.69		0.00	316.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93 L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12 R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88 L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	4.53	1.67	5.05	HS 33.45	60.2
5C1T	3.58	7.00	3.18	7.80	0.00	254.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.1	68.5
OPER	151.3	-118.5	114.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.55	17.12	-7.34	13.17	-9.16	14.86	-7.04	11.43
OPER	5C1T	-8.47	13.97	-6.51	10.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.45	4.00	HS 80.05	144.1
5C1T	14.00	8.18	0.00	654.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-173.9
OPER	279.4	-279.4	279.4	-279.4	268.9	-289.9	268.9	-289.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93	L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12	R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88	L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	4.71	1.74	4.71	HS	34.84	62.7
5C1T	3.32	7.27	3.32	7.27		0.00	265.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. 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	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	6.18	1.73	6.88	HS 34.50	62.1
5C1T	3.37	7.49	2.99	8.34	0.00	239.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.1	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	5C1T	-10.75	11.58	-8.27	8.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.16	HS 103.10	185.6
5C1T	10.87	10.00	0.00	800.1

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	2.500				

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber		bottom fiber		Available Capacity for LL+I top fiber		bottom fiber	
	+bend	-bend	+bend	-bend	+bend	-bend	+bend	-bend
INV.	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-175.8
OPER	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-293.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.80	6.41	1.80	6.41	HS	35.96	64.7
5C1T	3.12	7.78	3.12	7.78		0.00	249.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85 R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25 L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85 R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.90	6.06	1.69	6.75	HS 33.78	60.8
5C1T	3.50	7.63	3.11	8.50	0.00	249.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.1	70.6
OPER	151.3	-115.1	117.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.02	9.38	-13.09	7.21	-14.82	9.23	-11.40	7.10
OPER	5C1T	-13.22	9.45	-10.17	7.27	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	4.06	7.52	HS 81.20	146.2
5C1T	8.71	12.44	0.00	696.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.0	-175.2	160.0	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.7	-292.1	266.7	-292.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25	L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85	R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.76	6.29	1.76	6.29	HS	35.20	63.4
5C1T	3.24	7.93	3.24	7.93		0.00	259.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.7	-165.9	156.5	-185.1
OPER	300.6C	-268.7	268.7	-300.6C	292.8	-276.4	260.9	-308.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.52 L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81 R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38 R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96 R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.76	1.92	5.32	HS 38.40	69.1
5C1T	4.10	7.28	3.65	8.12	0.00	292.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.1	71.5
OPER	151.3	-113.5	119.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.39	4.89	-15.68	3.76	-17.75	6.71	-13.65	5.16
OPER	5C1T	-16.16	7.39	-12.43	5.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.34	10.67	HS 66.82	120.3
5C1T	7.02	16.14	0.00	561.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	170.8	-164.5	170.8	-164.5	163.0	-172.3	163.0	-172.3
OPER	279.4	-279.4	279.4	-279.4	271.6	-287.2	271.6	-287.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81	R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38	R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96	R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.00	4.95	2.00	4.95	HS	39.98	72.0
5C1T	3.81	7.57	3.81	7.57		0.00	304.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42 L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77 R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40 R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94 R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.85	2.87	4.30	HS 57.34	103.2
5C1T	5.65	6.70	5.05	7.50	0.00	403.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.1	72.5
OPER	151.3	-111.9	120.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.99	3.79	-19.22	2.92	-20.63	4.48	-15.87	3.45
OPER	5C1T	-19.38	5.47	-14.91	4.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.69	16.19	HS 53.75	96.7
5C1T	5.77	22.10	0.00	461.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42	L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77	R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40	R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94	R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.62	107.3
5C1T	5.25	6.97	5.25	6.97		0.00	420.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.5	-153.1	169.3	-172.2
OPER	300.6C	-268.7	268.7	-300.6C	314.2	-255.1	282.2	-287.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60 L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35 R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80 R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.81	2.80	7.02	3.15	HS 56.07	100.9
5C1T	11.08	5.82	9.95	6.55	0.00	465.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.2	73.5
OPER	151.3	-110.3	122.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.62	3.97	-22.79	3.06	-23.37	3.74	-17.97	2.88
OPER	5C1T	-22.61	3.75	-17.39	2.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.23	18.49	HS 44.68	80.4
5C1T	4.88	32.68	0.00	390.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.2	-173.1	162.2	-173.1	175.8	-159.5	175.8	-159.5
OPER	279.4	-279.4	279.4	-279.4	293.0	-265.8	293.0	-265.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01	L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60	L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35	R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80	R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.28	2.92	7.28	2.92	HS	58.43	105.2
5C1T	10.33	6.07	10.33	6.07		0.00	485.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS	30.01	54.0
5C1T	20.58	4.03	18.59	4.57		0.00	322.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	65.0
OPER	151.3	-108.7	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.62	33.80	-22.79	26.00	-23.37	25.99	-17.97	20.00
OPER	5C1T	-22.61	25.95	-17.39	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.23	4.18	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS 31.37	56.5
5C1T	19.26	4.21	19.26	4.21	0.00	336.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS 30.01	54.0
5C1T	20.58	4.03	18.59	4.57	0.00	322.0

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.0	7.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.2	65.0
OPER	151.3	-108.7	108.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	5C1T	-25.68	25.95	-19.76	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.23	4.18	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS	31.37	56.5
5C1T	19.26	4.21	19.26	4.21		0.00	336.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.0	-153.5	168.8	-172.7
OPER	300.6C	-268.7	268.7	-300.6C	313.4	-255.9	281.4	-287.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60 R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46 L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36 L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.55	2.76	6.78	3.11	HS 55.23	99.4
5C1T	10.64	6.04	9.55	6.80	0.00	483.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	66.0
OPER	151.3	-122.8	110.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	29.42	-2.19	22.63	-3.20	23.47	-2.46	18.05
OPER	5C1T	-3.18	22.99	-2.45	17.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.05	2.24	HS 44.85	80.7
5C1T	38.59	4.78	0.00	382.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.5	-172.7	162.5	-172.7	175.3	-160.0	175.3	-160.0
OPER	279.4	-279.4	279.4	-279.4	292.2	-266.6	292.2	-266.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46	L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36	L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.04	2.88	7.04	2.88	HS 57.55	103.6
5C1T	9.92	6.30	9.92	6.30	0.00	503.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.18	3.83	2.84	4.29	HS	56.75	102.2
5C1T	5.48	7.06	4.89	7.90		0.00	391.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.7	66.9
OPER	151.3	-121.2	111.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	24.77	-2.19	19.05	-4.45	20.70	-3.42	15.92
OPER	5C1T	-4.73	19.81	-3.64	15.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.35	2.70	HS 54.06	97.3
5C1T	25.59	5.63	0.00	450.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.4	167.9	-167.4	167.2	-168.0	167.2	-168.0
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	59.03	106.3
5C1T	5.09	7.34	5.09	7.34		0.00	407.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99 L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11 L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82 L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.78	1.90	5.33	HS 38.02	68.4
5C1T	3.97	7.78	3.54	8.68	0.00	282.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.6	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.96	20.31	-3.81	15.63	-6.71	17.79	-5.16	13.69
OPER	5C1T	-6.65	16.57	-5.12	12.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.69	3.34	HS 66.86	120.4
5C1T	17.97	6.83	0.00	546.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99	L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11	L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82	L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	4.97	1.98	4.97	HS	39.60	71.3
5C1T	3.68	8.09	3.68	8.09		0.00	294.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.7	151.7	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.8	-284.5	252.8	-316.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83 L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31 R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21 L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.13	1.66	6.82	HS 33.30	59.9
5C1T	3.34	8.32	2.96	9.25	0.00	237.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.9
OPER	151.3	-117.9	114.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	16.93	-7.22	13.02	-9.27	14.84	-7.13	11.41
OPER	5C1T	-8.87	13.57	-6.82	10.44	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	7.54	4.07	HS 81.39	146.5
5C1T	13.30	8.46	0.00	676.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-295.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31	R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21	L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.37	1.74	6.37	HS	34.72	62.5
5C1T	3.09	8.63	3.09	8.63		0.00	247.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32 R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26 R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.13	1.71	9.04	HS 34.27	61.7
5C1T	3.20	8.36	2.84	9.29	0.00	227.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	5C1T	-11.30	11.10	-8.69	8.54	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.22	187.6
5C1T	10.29	10.49	0.00	823.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32	R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26	R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	8.44	1.79	8.44	HS	35.74	64.3
5C1T	2.96	8.67	2.96	8.67		0.00	237.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.3	152.0	-189.5
OPER	300.6C	-268.7	268.7	-300.6C	285.4	-283.9	253.4	-315.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61 R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00 L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16 R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.17	1.67	6.87	HS 33.42	60.2
5C1T	3.40	8.07	3.02	8.98	0.00	241.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.92	9.37	-13.02	7.21	-14.95	9.16	-11.50	7.05
OPER	5C1T	-13.83	8.74	-10.64	6.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.57	HS 81.25	146.2
5C1T	8.28	13.52	0.00	662.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.5	173.7	-161.5	158.5	-176.8	158.5	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61	R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00	L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16	R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.40	1.74	6.40	HS	34.84	62.7
5C1T	3.14	8.38	3.14	8.38		0.00	251.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.0	-166.6	155.8	-185.8
OPER	300.6C	-268.7	268.7	-300.6C	291.6	-277.6	259.7	-309.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69 R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21 R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37 R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.36	HS	38.28	68.9
5C1T	4.04	7.43	3.60	8.29		0.00	287.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.8	71.9
OPER	151.3	-112.9	119.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.31	4.94	-15.62	3.80	-17.90	6.61	-13.77	5.08
OPER	5C1T	-16.79	6.57	-12.92	5.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.34	10.87	HS 66.74	120.1
5C1T	6.72	18.23	0.00	538.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.0	171.2	-164.0	162.2	-173.0	162.2	-173.0
OPER	279.4	-279.4	279.4	-279.4	270.4	-288.4	270.4	-288.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69	R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21	R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37	R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.99	1.99	4.99	HS 39.86	71.7
5C1T	3.74	7.72	3.74	7.72	0.00	299.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38	R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02	R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS	57.35	103.2
5C1T	5.65	6.68	5.05	7.48		0.00	404.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.8	72.9
OPER	151.3	-111.3	121.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.79	2.86	-19.07	2.20	-20.80	4.35	-16.00	3.35
OPER	5C1T	-20.08	4.67	-15.45	3.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.69	16.75	HS 53.89	97.0
5C1T	5.54	26.01	0.00	443.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38	R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02	R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.64	107.3
5C1T	5.26	6.95	5.26	6.95	0.00	420.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.5	-152.1	170.3	-171.3
OPER	300.6C	-268.7	268.7	-300.6C	315.8	-253.5	283.8	-285.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30 L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66 L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59 R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23 R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.00	2.78	7.19	3.13	HS 55.65	100.2
5C1T	11.45	5.73	10.29	6.45	0.00	458.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.8	73.8
OPER	151.3	-109.7	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.44	2.99	-22.64	2.30	-23.57	3.15	-18.13	2.42
OPER	5C1T	-23.31	3.07	-17.93	2.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.24	23.46	HS 44.72	80.5
5C1T	4.71	40.03	0.00	376.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.7	161.6	-173.7	176.7	-158.5	176.7	-158.5
OPER	279.4	-279.4	279.4	-279.4	294.6	-264.2	294.6	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59	R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23	R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.46	2.90	7.46	2.90	HS	58.01	104.4
5C1T	10.68	5.97	10.68	5.97		0.00	477.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00 L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59 R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67 R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS 29.76	53.6
5C1T	26.51	3.95	23.97	4.49	0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	64.9
OPER	151.3	-108.1	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.44	33.80	-22.64	26.00	-23.57	26.06	-18.13	20.04
OPER	5C1T	-23.31	26.09	-17.93	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.11	4.15	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS	31.12	56.0
5C1T	24.82	4.13	24.82	4.13		0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.002

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00 L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59 R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67 R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS 29.76	53.6
5C1T	26.51	3.95	23.97	4.49	0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.8	64.9
OPER	151.3	-108.1	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	5C1T	-26.30	26.09	-20.23	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.11	4.15	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS 31.12	56.0
5C1T	24.82	4.13	24.82	4.13	0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.084

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-152.0	170.4	-171.2
OPER	300.6C	-268.7	268.7	-300.6C	316.0	-253.3	284.0	-285.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73 R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03 L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02 L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.90	2.78	7.10	3.13	HS	55.54	100.0
5C1T	11.69	5.63	10.51	6.34		0.00	450.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.8	65.9
OPER	151.3	-123.0	109.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.15	23.54	-2.42	18.10
OPER	5C1T	-3.04	23.11	-2.34	17.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.45	2.24	HS 44.78	80.6
5C1T	40.45	4.75	0.00	380.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03	L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02	L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.36	2.89	7.36	2.89	HS	57.89	104.2
5C1T	10.90	5.86	10.90	5.86		0.00	469.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.084

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47 R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81 L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93 L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72 L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS 57.42	103.4
5C1T	5.71	6.56	5.11	7.34	0.00	408.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.3	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.38	20.77	-3.37	15.98
OPER	5C1T	-4.59	19.89	-3.53	15.30	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	16.60	2.70	HS 53.96	97.1
5C1T	26.41	5.60	0.00	448.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93	L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72	L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.71	107.5
5C1T	5.31	6.82	5.31	6.82		0.00	424.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.084

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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	5C1T		
Member I. D.	S02				
Check Point I. D.	4.300				

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.2	156.2	-185.4
OPER	300.6C	-268.7	268.7	-300.6C	292.2	-277.0	260.3	-309.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71 L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90 L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90 L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.15	4.79	1.92	5.34	HS	38.36	69.1
5C1T	4.07	7.31	3.62	8.15		0.00	289.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.8	67.8
OPER	151.3	-119.7	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.65	17.86	-5.11	13.74
OPER	5C1T	-6.52	16.62	-5.02	12.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.80	3.34	HS 66.81	120.3
5C1T	18.35	6.80	0.00	544.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.0	-164.3	171.0	-164.3	162.6	-172.7	162.6	-172.7
OPER	279.4	-279.4	279.4	-279.4	271.0	-287.8	271.0	-287.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71	L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90	L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90	L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.00	4.97	2.00	4.97	HS	39.95	71.9
5C1T	3.77	7.59	3.77	7.59		0.00	301.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.084

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.7	-169.9	152.5	-189.1
OPER	300.6C	-268.7	268.7	-300.6C	286.2	-283.1	254.2	-315.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61 L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54 R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64 L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.15	1.68	6.85	HS 33.53	60.3
5C1T	3.43	7.94	3.04	8.84	0.00	243.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.20	14.91	-7.08	11.47
OPER	5C1T	-8.72	13.65	-6.71	10.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.56	4.07	HS 81.34	146.4
5C1T	13.55	8.40	0.00	671.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.4	-161.9	173.4	-161.9	159.0	-176.3	159.0	-176.3
OPER	279.4	-279.4	279.4	-279.4	264.9	-293.9	264.9	-293.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54	R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64	L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.75	6.39	1.75	6.39	HS	34.94	62.9
5C1T	3.17	8.24	3.17	8.24		0.00	253.7

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. 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	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.084

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		15.64		106.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	8.02	1.72	8.92	HS 34.43	62.0
5C1T	3.26	8.29	2.89	9.22	0.00	231.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	5C1T	-11.12	11.15	-8.55	8.58	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.25	187.7
5C1T	10.48	10.43	0.00	834.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-177.6
OPER	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-296.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	8.32	1.79	8.32	HS 35.90	64.6
5C1T	3.02	8.60	3.02	8.60	0.00	241.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.6	-170.0	152.4	-189.2
OPER	300.6C	-268.7	268.7	-300.6C	286.0	-283.3	254.0	-315.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59 R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76 L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94 R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.16	1.67	6.86	HS 33.50	60.3
5C1T	3.41	8.11	3.03	9.02	0.00	242.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.8	70.8
OPER	151.3	-114.7	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.88	9.23	-11.45	7.10
OPER	5C1T	-13.64	8.76	-10.49	6.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.07	7.56	HS 81.40	146.5
5C1T	8.41	13.47	0.00	673.0

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	4.600				

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.5	-161.8	173.5	-161.8	158.8	-176.4	158.8	-176.4
OPER	279.4	-279.4	279.4	-279.4	264.7	-294.1	264.7	-294.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76	L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94	R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.75	6.39	1.75	6.39	HS	34.92	62.9
5C1T	3.16	8.42	3.16	8.42		0.00	252.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.1	-166.5	155.9	-185.7
OPER	300.6C	-268.7	268.7	-300.6C	291.8	-277.4	259.9	-309.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69 R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79 R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24 R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.35	HS 38.31	69.0
5C1T	4.07	7.45	3.62	8.31	0.00	289.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.9	71.8
OPER	151.3	-113.1	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.84	6.68	-13.72	5.14
OPER	5C1T	-16.59	6.58	-12.76	5.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	3.34	10.75	HS	66.86	120.3
5C1T	6.82	18.19		0.00	545.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.1	171.2	-164.1	162.4	-172.9	162.4	-172.9
OPER	279.4	-279.4	279.4	-279.4	270.6	-288.2	270.6	-288.2

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79	R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24	R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.99	2.00	4.99	HS 39.89	71.8
5C1T	3.77	7.74	3.77	7.74	0.00	301.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78 R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63 R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92 R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.20	3.84	2.87	4.30	HS	57.31	103.2
5C1T	5.62	6.71	5.03	7.51		0.00	402.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.8
OPER	151.3	-111.5	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.74	4.41	-15.96	3.40
OPER	5C1T	-19.87	4.66	-15.28	3.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.70	16.48	HS 54.00	97.2
5C1T	5.61	26.04	0.00	449.0

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	4.800				

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63	R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92	R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.59	107.3
5C1T	5.23	6.97	5.23	6.97		0.00	418.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.1	-152.5	169.9	-171.6
OPER	300.6C	-268.7	268.7	-300.6C	315.2	-254.1	283.2	-286.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33 L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67 L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86 R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14 R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.91	2.79	7.11	3.14	HS	55.78	100.4
5C1T	11.32	5.76	10.17	6.48		0.00	460.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.9	73.7
OPER	151.3	-109.9	122.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.51	3.18	-18.08	2.44
OPER	5C1T	-23.07	3.09	-17.74	2.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.24	23.20	HS 44.81	80.7
5C1T	4.76	39.79	0.00	381.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.8	-173.5	161.8	-173.5	176.4	-158.9	176.4	-158.9
OPER	279.4	-279.4	279.4	-279.4	294.0	-264.8	294.0	-264.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86	R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14	R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.38	2.91	7.38	2.91	HS	58.13	104.6
5C1T	10.55	6.00	10.55	6.00		0.00	480.1

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor: Positive Bending	Negative Bending	Hybrid Yield Strength: Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area: Gross	Net	Neutral Axis: Top	Bott.	Moment of Inertia: Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus: Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. 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	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	199.6	-142.0	180.4	-161.2
OPER	300.6C	-268.7	268.7	-300.6C	332.7	-236.6	300.7	-268.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.72	1.50	11.50	1.70	HS 29.90	53.8
5C1T	26.27	3.99	23.75	4.53	0.00	319.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.9
OPER	151.3	-108.2	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.80	-22.63	26.00	-23.51	26.03	-18.08	20.02
OPER	5C1T	-23.07	26.04	-17.74	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.44	69.2
5C1T	4.16	4.16	0.00	332.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.8	-180.5	154.8	-180.5	186.9	-148.4	186.9	-148.4
OPER	279.4	-279.4	279.4	-279.4	311.4	-247.4	311.4	-247.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.91	1.56	11.91	1.56	HS	31.25	56.3
5C1T	24.59	4.17	24.59	4.17		0.00	333.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	199.6	-142.0	180.4	-161.2
OPER	300.6C	-268.7	268.7	-300.6C	332.7	-236.6	300.7	-268.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.72	1.50	11.50	1.70	HS 29.90	53.8
5C1T	26.27	3.99	23.75	4.53	0.00	319.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.4	7.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.9
OPER	151.3	-108.2	108.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	5C1T	-26.04	26.04	-20.03	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.44	69.2
5C1T	4.16	4.16	0.00	332.5

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	5.000				

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.8	-180.5	154.8	-180.5	186.9	-148.4	186.9	-148.4
OPER	279.4	-279.4	279.4	-279.4	311.4	-247.4	311.4	-247.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	11.91	1.56	11.91	1.56	HS	31.25	56.3
5C1T	24.59	4.17	24.59	4.17		0.00	333.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.1	-152.5	169.9	-171.6
OPER	300.6C	-268.7	268.7	-300.6C	315.2	-254.1	283.2	-286.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33 R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67 R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86 L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14 L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.78	2.79	6.99	3.14	HS 55.78	100.4
5C1T	11.32	5.76	10.17	6.48	0.00	460.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.7	65.9
OPER	151.3	-122.9	109.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.18	23.51	-2.44	18.08
OPER	5C1T	-3.09	23.07	-2.38	17.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.20	2.24	HS 44.81	80.7
5C1T	39.79	4.76	0.00	381.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.8	-173.5	161.8	-173.5	176.4	-158.9	176.4	-158.9
OPER	279.4	-279.4	279.4	-279.4	294.0	-264.8	294.0	-264.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86	L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14	L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.26	2.91	7.26	2.91	HS 58.13	104.6
5C1T	10.55	6.00	10.55	6.00	0.00	480.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79 L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63 L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92 L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.20	3.84	2.87	4.30	HS 57.31	103.2
5C1T	5.62	6.71	5.03	7.51	0.00	402.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.9
OPER	151.3	-121.3	111.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.41	20.74	-3.40	15.96
OPER	5C1T	-4.66	19.87	-3.58	15.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	16.48	2.70	HS 54.00	97.2
5C1T	26.04	5.61	0.00	449.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79	L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63	L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92	L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.59	107.3
5C1T	5.23	6.97	5.23	6.97	0.00	418.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.1	-166.5	155.9	-185.7
OPER	300.6C	-268.7	268.7	-300.6C	291.8	-277.4	259.9	-309.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69 L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79 L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24 L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.35	HS 38.31	69.0
5C1T	4.07	7.45	3.62	8.31	0.00	289.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.8	67.9
OPER	151.3	-119.6	113.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.68	17.84	-5.14	13.72
OPER	5C1T	-6.58	16.59	-5.06	12.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.75	3.34	HS 66.86	120.3
5C1T	18.19	6.82	0.00	545.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.1	171.2	-164.1	162.4	-172.9	162.4	-172.9
OPER	279.4	-279.4	279.4	-279.4	270.6	-288.2	270.6	-288.2

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.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79	L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24	L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.99	2.00	4.99	HS 39.89	71.8
5C1T	3.77	7.74	3.77	7.74	0.00	301.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.6	-170.0	152.4	-189.2
OPER	300.6C	-268.7	268.7	-300.6C	286.0	-283.3	254.0	-315.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59 L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76 R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09 L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.16	1.67	6.86	HS 33.50	60.3
5C1T	3.41	8.07	3.03	8.99	0.00	242.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.8	68.8
OPER	151.3	-118.0	114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.23	14.88	-7.10	11.45
OPER	5C1T	-8.76	13.64	-6.74	10.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.56	4.07	HS 81.40	146.5
5C1T	13.47	8.41	0.00	673.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.5	-161.8	173.5	-161.8	158.8	-176.4	158.8	-176.4
OPER	279.4	-279.4	279.4	-279.4	264.7	-294.1	264.7	-294.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76	R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09	L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.75	6.39	1.75	6.39	HS	34.92	62.9
5C1T	3.16	8.38	3.16	8.38		0.00	252.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.82	28.67	28.67	1.699	999999.000	98.673

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		14.17		106.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.4	-171.2	151.2	-190.4
OPER	300.6C	-268.7	268.7	-300.6C	284.0	-285.3	252.0	-317.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	8.02	1.72	8.92	HS 34.43	62.0
5C1T	3.26	8.29	2.89	9.22	0.00	231.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	15.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.3	-161.0	174.3	-161.0	157.6	-177.6	157.6	-177.6
OPER	279.4	-279.4	279.4	-279.4	262.7	-296.1	262.7	-296.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	8.32	1.79	8.32	HS	35.90	64.6
5C1T	3.02	8.60	3.02	8.60		0.00	241.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.387

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.7	-169.9	152.5	-189.1
OPER	300.6C	-268.7	268.7	-300.6C	286.2	-283.1	254.2	-315.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60 R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53 L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51 R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.15	1.68	6.85	HS 33.53	60.3
5C1T	3.43	7.97	3.04	8.87	0.00	243.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.91	9.20	-11.47	7.08
OPER	5C1T	-13.65	8.72	-10.50	6.71	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.07	7.56	HS 81.34	146.4
5C1T	8.40	13.55	0.00	671.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	13.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.4	-161.9	173.4	-161.9	159.0	-176.3	159.0	-176.3
OPER	279.4	-279.4	279.4	-279.4	264.9	-293.9	264.9	-293.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53	L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51	R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.75	6.39	1.75	6.39	HS	34.94	62.9
5C1T	3.17	8.28	3.17	8.28		0.00	253.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.387

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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	5C1T		
Member I. D.	S02				
Check Point I. D.	5.700				

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.3	-166.2	156.2	-185.4
OPER	300.6C	-268.7	268.7	-300.6C	292.2	-277.0	260.3	-309.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71 R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90 R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90 R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.15	4.79	1.92	5.34	HS	38.36	69.1
5C1T	4.07	7.31	3.62	8.15		0.00	289.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.8	71.8
OPER	151.3	-113.0	119.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.86	6.65	-13.74	5.11
OPER	5C1T	-16.62	6.52	-12.78	5.02	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.34	10.80	HS 66.81	120.3
5C1T	6.80	18.35	0.00	544.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.0	-164.3	171.0	-164.3	162.6	-172.7	162.6	-172.7
OPER	279.4	-279.4	279.4	-279.4	271.0	-287.8	271.0	-287.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71	R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90	R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90	R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.00	4.97	2.00	4.97	HS 39.95	71.9
5C1T	3.77	7.59	3.77	7.59	0.00	301.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.387

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47 L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81 R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93 R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72 R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS 57.42	103.4
5C1T	5.71	6.56	5.11	7.34	0.00	408.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.8	72.8
OPER	151.3	-111.4	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.77	4.38	-15.98	3.37
OPER	5C1T	-19.89	4.59	-15.30	3.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.70	16.60	HS 53.96	97.1
5C1T	5.60	26.41	0.00	448.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93	R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72	R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.71	107.5
5C1T	5.31	6.82	5.31	6.82		0.00	424.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.387

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.6	-152.0	170.4	-171.2
OPER	300.6C	-268.7	268.7	-300.6C	316.0	-253.3	284.0	-285.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73 L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03 R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02 R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.03	2.78	7.22	3.13	HS	55.54	100.0
5C1T	11.69	5.63	10.51	6.34		0.00	450.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.9	73.8
OPER	151.3	-109.8	123.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.54	3.15	-18.10	2.42
OPER	5C1T	-23.11	3.04	-17.77	2.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.24	23.45	HS 44.78	80.6
5C1T	4.75	40.45	0.00	380.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.5	-173.8	161.5	-173.8	176.9	-158.4	176.9	-158.4
OPER	279.4	-279.4	279.4	-279.4	294.8	-264.0	294.8	-264.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03	R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02	R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.49	2.89	7.49	2.89	HS 57.89	104.2
5C1T	10.90	5.86	10.90	5.86	0.00	469.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.387

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS	29.76	53.6
5C1T	27.59	3.95	24.95	4.49		0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.8
OPER	151.3	-108.2	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.81	-22.63	26.01	-23.54	26.09	-18.10	20.07
OPER	5C1T	-23.11	26.30	-17.77	20.23	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.15	4.11	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS	31.12	56.0
5C1T	25.84	4.13	25.84	4.13		0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.2	-141.4	181.0	-160.6
OPER	300.6C	-268.7	268.7	-300.6C	333.7	-235.6	301.7	-267.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.97	1.49	11.73	1.69	HS	29.76	53.6
5C1T	27.59	3.95	24.95	4.49		0.00	315.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-7.5	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.9	64.8
OPER	151.3	-108.2	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.36	69.1
5C1T	4.15	4.11	0.00	328.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-30.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.4	-180.9	154.4	-180.9	187.5	-147.8	187.5	-147.8
OPER	279.4	-279.4	279.4	-279.4	312.5	-246.3	312.5	-246.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.14	1.56	12.14	1.56	HS	31.12	56.0
5C1T	25.84	4.13	25.84	4.13		0.00	330.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.5	-152.1	170.3	-171.3
OPER	300.6C	-268.7	268.7	-300.6C	315.8	-253.5	283.8	-285.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30 R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66 R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59 L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23 L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.87	2.78	7.07	3.13	HS 55.65	100.2
5C1T	11.45	5.73	10.29	6.45	0.00	458.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.8	65.8
OPER	151.3	-123.0	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	29.44	-2.20	22.64	-3.15	23.57	-2.42	18.13
OPER	5C1T	-3.07	23.31	-2.36	17.93	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.46	2.24	HS 44.72	80.5
5C1T	40.03	4.71	0.00	376.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-13.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.7	161.6	-173.7	176.7	-158.5	176.7	-158.5
OPER	279.4	-279.4	279.4	-279.4	294.6	-264.2	294.6	-264.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59	L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23	L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.34	2.90	7.34	2.90	HS 58.01	104.4
5C1T	10.68	5.97	10.68	5.97	0.00	477.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.5	161.9	-179.7
OPER	300.6C	-268.7	268.7	-300.6C	301.8	-267.5	269.8	-299.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78 L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38 L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02 L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.35	103.2
5C1T	5.65	6.68	5.05	7.48	0.00	404.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.9	66.8
OPER	151.3	-121.4	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	24.79	-2.20	19.07	-4.35	20.80	-3.35	16.00
OPER	5C1T	-4.67	20.08	-3.59	15.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.75	2.69	HS 53.89	97.0
5C1T	26.01	5.54	0.00	443.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.5	-278.3	280.5	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38	L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02	L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.64	107.3
5C1T	5.26	6.95	5.26	6.95		0.00	420.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.0	-166.6	155.8	-185.8
OPER	300.6C	-268.7	268.7	-300.6C	291.6	-277.6	259.7	-309.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69 L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21 L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37 L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.36	HS 38.28	68.9
5C1T	4.04	7.43	3.60	8.29	0.00	287.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.31	-3.80	15.62	-6.61	17.90	-5.08	13.77
OPER	5C1T	-6.57	16.79	-5.06	12.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.87	3.34	HS 66.74	120.1
5C1T	18.23	6.72	0.00	538.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	8.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.2	-164.0	171.2	-164.0	162.2	-173.0	162.2	-173.0
OPER	279.4	-279.4	279.4	-279.4	270.4	-288.4	270.4	-288.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69	L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21	L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37	L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.99	1.99	4.99	HS 39.86	71.7
5C1T	3.74	7.72	3.74	7.72	0.00	299.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.2	-170.3	152.0	-189.5
OPER	300.6C	-268.7	268.7	-300.6C	285.4	-283.9	253.4	-315.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61 L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00 R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16 L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.17	1.67	6.87	HS 33.42	60.2
5C1T	3.40	8.07	3.02	8.98	0.00	241.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.92	-7.21	13.02	-9.16	14.95	-7.05	11.50
OPER	5C1T	-8.74	13.83	-6.72	10.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.57	4.06	HS 81.25	146.2
5C1T	13.52	8.28	0.00	662.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.5	173.7	-161.5	158.5	-176.8	158.5	-176.8
OPER	279.4	-279.4	279.4	-279.4	264.1	-294.7	264.1	-294.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61	L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00	R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16	L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.40	1.74	6.40	HS	34.84	62.7
5C1T	3.14	8.38	3.14	8.38		0.00	251.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.83	28.67	28.67	1.699	999999.000	99.300

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		16.71		106.2

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.8	-171.8	150.6	-191.0
OPER	300.6C	-268.7	268.7	-300.6C	283.0	-286.3	251.0	-318.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.13	1.71	9.04	HS 34.27	61.7
5C1T	3.20	8.36	2.84	9.29	0.00	227.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.10	187.4
5C1T	10.50	10.28	0.00	822.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.0	-178.2	157.0	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.7	-297.1	261.7	-297.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	8.44	1.79	8.44	HS 35.74	64.3
5C1T	2.96	8.67	2.96	8.67	0.00	237.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.9	-170.7	151.7	-189.9
OPER	300.6C	-268.7	268.7	-300.6C	284.8	-284.5	252.8	-316.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83 R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31 L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21 L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.13	1.66	6.82	HS 33.30	59.9
5C1T	3.34	8.32	2.96	9.25	0.00	237.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.9	70.8
OPER	151.3	-114.8	117.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.93	9.38	-13.02	7.22	-14.84	9.27	-11.41	7.13
OPER	5C1T	-13.57	8.87	-10.44	6.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.07	7.54	HS 81.39	146.5
5C1T	8.46	13.30	0.00	676.8

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	6.600				

Dead Load Moment	Superimposed Dead Load Moment
1.4	14.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.3	174.0	-161.3	158.1	-177.2	158.1	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.5	-295.3	263.5	-295.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31	L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21	L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.37	1.74	6.37	HS	34.72	62.5
5C1T	3.09	8.63	3.09	8.63		0.00	247.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.3	-167.3	155.1	-186.5
OPER	300.6C	-268.7	268.7	-300.6C	290.4	-278.9	258.5	-310.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99 R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11 R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82 R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.78	1.90	5.33	HS 38.02	68.4
5C1T	3.97	7.78	3.54	8.68	0.00	282.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.31	4.96	-15.63	3.81	-17.79	6.71	-13.69	5.16
OPER	5C1T	-16.57	6.65	-12.75	5.12	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.34	10.69	HS 66.86	120.4
5C1T	6.83	17.97	0.00	546.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.7	-163.6	171.7	-163.6	161.5	-173.8	161.5	-173.8
OPER	279.4	-279.4	279.4	-279.4	269.2	-289.6	269.2	-289.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	Loc. of Conc. w/o imp.	Load 1	Load 2
INV.	HS20	81.57	L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99	R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11	R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82	R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.98	4.97	1.98	4.97	HS 39.60	71.3
5C1T	3.68	8.09	3.68	8.09	0.00	294.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.0	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	300.0	-269.3	268.0	-301.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67 L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15 R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76 R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13 R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.18	3.83	2.84	4.29	HS 56.75	102.2
5C1T	5.48	7.06	4.89	7.90	0.00	391.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.9	72.7
OPER	151.3	-111.6	121.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.84	-19.05	2.19	-20.70	4.45	-15.92	3.42
OPER	5C1T	-19.81	4.73	-15.24	3.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.70	16.35	HS 54.06	97.3
5C1T	5.63	25.59	0.00	450.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.4	167.9	-167.4	167.2	-168.0	167.2	-168.0
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76	R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13	R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	59.03	106.3
5C1T	5.09	7.34	5.09	7.34		0.00	407.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.0	-153.5	168.8	-172.7
OPER	300.6C	-268.7	268.7	-300.6C	313.4	-255.9	281.4	-287.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46	R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36	R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.67	2.76	6.89	3.11	HS	55.23	99.4
5C1T	10.64	6.04	9.55	6.80		0.00	483.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.0	73.7
OPER	151.3	-110.0	122.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.42	2.96	-22.63	2.28	-23.47	3.20	-18.05	2.46
OPER	5C1T	-22.99	3.18	-17.69	2.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.24	23.05	HS 44.85	80.7
5C1T	4.78	38.59	0.00	382.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-11.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.5	-172.7	162.5	-172.7	175.3	-160.0	175.3	-160.0
OPER	279.4	-279.4	279.4	-279.4	292.2	-266.6	292.2	-266.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46	R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36	R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.15	2.88	7.15	2.88	HS 57.55	103.6
5C1T	9.92	6.30	9.92	6.30	0.00	503.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS 30.05	54.1
5C1T	20.58	4.03	18.59	4.57	0.00	322.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-5.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	65.2
OPER	151.3	-108.3	108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.97	-22.63	26.13	-23.47	25.86	-18.05	19.89
OPER	5C1T	-22.99	25.68	-17.69	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.18	4.23	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS	31.40	56.5
5C1T	19.26	4.21	19.26	4.21		0.00	336.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.888

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	198.4	-143.2	179.2	-162.4
OPER	300.6C	-268.7	268.7	-300.6C	330.7	-238.6	298.7	-270.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.88	1.50	8.93	1.70	HS 30.05	54.1
5C1T	20.58	4.03	18.59	4.57	0.00	322.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.3	7.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.0	65.2
OPER	151.3	-108.3	108.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.92	1.92	HS 38.39	69.1
5C1T	4.18	4.23	0.00	334.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-27.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	155.6	-179.7	155.6	-179.7	185.7	-149.6	185.7	-149.6
OPER	279.4	-279.4	279.4	-279.4	309.4	-249.4	309.4	-249.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.25	1.57	9.25	1.57	HS	31.40	56.5
5C1T	19.26	4.21	19.26	4.21		0.00	336.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.5	-153.1	169.3	-172.2
OPER	300.6C	-268.7	268.7	-300.6C	314.2	-255.1	282.2	-287.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60 R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35 L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80 L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.69	2.80	6.90	3.15	HS	56.07	100.9
5C1T	11.08	5.82	9.95	6.55		0.00	465.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.5	66.2
OPER	151.3	-122.5	110.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	29.62	-2.92	22.79	-3.74	23.37	-2.88	17.97
OPER	5C1T	-3.75	22.61	-2.88	17.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	19.37	2.23	HS 44.68	80.4
5C1T	32.68	4.88	0.00	390.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.2	-173.1	162.2	-173.1	175.8	-159.5	175.8	-159.5
OPER	279.4	-279.4	279.4	-279.4	293.0	-265.8	293.0	-265.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35	L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80	L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.17	2.92	7.17	2.92	HS	58.43	105.2
5C1T	10.33	6.07	10.33	6.07		0.00	485.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.6	-267.7	269.6	-299.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.43 R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77 L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40 L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94 L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.85	2.87	4.30	HS 57.34	103.2
5C1T	5.65	6.70	5.05	7.50	0.00	403.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.5	67.1
OPER	151.3	-120.8	111.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-3.79	24.99	-2.92	19.22	-4.48	20.63	-3.45	15.87
OPER	5C1T	-5.47	19.38	-4.20	14.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.19	2.69	HS 53.75	96.7
5C1T	22.10	5.77	0.00	461.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.3	-168.0	167.3	-168.0	168.2	-167.1	168.2	-167.1
OPER	279.4	-279.4	279.4	-279.4	280.3	-278.5	280.3	-278.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40	L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94	L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.62	107.3
5C1T	5.25	6.97	5.25	6.97		0.00	420.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.7	-165.9	156.5	-185.1
OPER	300.6C	-268.7	268.7	-300.6C	292.8	-276.4	260.9	-308.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81 L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38 L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96 L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.76	1.92	5.32	HS 38.40	69.1
5C1T	4.10	7.28	3.65	8.12	0.00	292.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.5	68.1
OPER	151.3	-119.2	113.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.89	20.39	-3.76	15.68	-6.71	17.75	-5.16	13.65
OPER	5C1T	-7.39	16.16	-5.68	12.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.67	3.34	HS 66.82	120.3
5C1T	16.14	7.02	0.00	561.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	7.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	170.8	-164.5	170.8	-164.5	163.0	-172.3	163.0	-172.3
OPER	279.4	-279.4	279.4	-279.4	271.6	-287.2	271.6	-287.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81	L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38	L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96	L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.00	4.95	2.00	4.95	HS	39.98	72.0
5C1T	3.81	7.57	3.81	7.57		0.00	304.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.8	-168.8	153.6	-188.0
OPER	300.6C	-268.7	268.7	-300.6C	288.0	-281.3	256.0	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85 L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25 R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85 L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.90	6.06	1.69	6.75	HS 33.78	60.8
5C1T	3.50	7.63	3.11	8.50	0.00	249.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.6	69.1
OPER	151.3	-117.6	115.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	17.02	-7.21	13.09	-9.23	14.82	-7.10	11.40
OPER	5C1T	-9.45	13.22	-7.27	10.17	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.52	4.06	HS 81.20	146.2
5C1T	12.44	8.71	0.00	696.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.7	-162.6	172.7	-162.6	160.0	-175.2	160.0	-175.2
OPER	279.4	-279.4	279.4	-279.4	266.7	-292.1	266.7	-292.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25	R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85	L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.76	6.29	1.76	6.29	HS 35.20	63.4
5C1T	3.24	7.93	3.24	7.93	0.00	259.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.77	28.67	28.67	1.699	999999.000	95.954

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		4.18		108.4

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.2	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	287.0	-282.3	255.0	-314.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	6.18	1.73	6.88	HS 34.50	62.1
5C1T	3.37	7.49	2.99	8.34	0.00	239.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.4	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.6	70.1
OPER	151.3	-116.0	116.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.18	HS 103.22	185.8
5C1T	10.01	10.86	0.00	801.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.2	173.1	-162.2	159.5	-175.8	159.5	-175.8
OPER	279.4	-279.4	279.4	-279.4	265.8	-293.0	265.8	-293.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	6.41	1.80	6.41	HS 35.96	64.7
5C1T	3.12	7.78	3.12	7.78	0.00	249.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.1	-167.5	154.9	-186.7
OPER	300.6C	-268.7	268.7	-300.6C	290.2	-279.1	258.2	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93 R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12 L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88 R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	4.53	1.67	5.05	HS 33.45	60.2
5C1T	3.58	7.00	3.18	7.80	0.00	254.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-68.5	71.1
OPER	151.3	-114.2	118.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-17.12	9.55	-13.17	7.34	-14.86	9.16	-11.43	7.04
OPER	5C1T	-13.97	8.47	-10.75	6.51	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	4.00	7.45	HS 80.05	144.1
5C1T	8.18	14.00	0.00	654.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	9.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.8	-163.5	171.8	-163.5	161.4	-173.9	161.4	-173.9
OPER	279.4	-279.4	279.4	-279.4	268.9	-289.9	268.9	-289.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93	R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12	L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88	R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	4.71	1.74	4.71	HS	34.84	62.7
5C1T	3.32	7.27	3.32	7.27		0.00	265.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.4	-163.2	159.2	-182.4
OPER	300.6C	-268.7	268.7	-300.6C	297.3	-272.0	265.3	-304.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43 R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73 L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29 R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	3.52	1.90	3.93	HS 37.99	68.4
5C1T	4.26	6.43	3.80	7.19	0.00	304.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.6	72.1
OPER	151.3	-112.6	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.51	5.15	-15.77	3.96	-17.81	6.59	-13.70	5.07
OPER	5C1T	-16.67	6.39	-12.82	4.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.30	10.94	HS 65.90	118.6
5C1T	6.76	18.81	0.00	540.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.0	-166.3	169.0	-166.3	165.6	-169.7	165.6	-169.7
OPER	279.4	-279.4	279.4	-279.4	276.0	-282.8	276.0	-282.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73	L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29	R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.98	3.65	1.98	3.65	HS	39.53	71.2
5C1T	3.96	6.69	3.96	6.69		0.00	316.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	184.9	-156.7	165.7	-175.8
OPER	300.6C	-268.7	268.7	-300.6C	308.2	-261.1	276.2	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93 R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63 L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11 R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.11	2.80	2.79	3.14	HS 55.75	100.4
5C1T	6.61	5.66	5.92	6.36	0.00	453.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.68	2.79	-18.98	2.15	-20.73	4.29	-15.95	3.30
OPER	5C1T	-20.19	4.56	-15.53	3.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.70	17.02	HS 53.96	97.1
5C1T	5.50	26.72	0.00	439.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-6.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.6	-170.7	164.6	-170.7	172.2	-163.1	172.2	-163.1
OPER	279.4	-279.4	279.4	-279.4	287.0	-271.8	287.0	-271.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	59.45	L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93	R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63	L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11	R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.90	2.92	2.90	2.92	HS 57.92	104.3
5C1T	6.15	5.89	6.15	5.89	0.00	471.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.8	-147.8	174.6	-167.0
OPER	300.6C	-268.7	268.7	-300.6C	323.0	-246.3	291.0	-278.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67 L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43 L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56 R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.23	2.18	8.32	2.47	HS 43.67	78.6
5C1T	15.07	4.60	13.58	5.20	0.00	367.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 7.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.6	74.0
OPER	151.3	-109.4	123.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.37	2.91	-22.59	2.24	-23.54	2.89	-18.11	2.22
OPER	5C1T	-23.58	3.00	-18.14	2.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.23	25.43	HS 44.68	80.4
5C1T	4.64	41.12	0.00	371.0

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	7.900				

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-20.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	158.7	-176.6	158.7	-176.6	181.1	-154.2	181.1	-154.2
OPER	279.4	-279.4	279.4	-279.4	301.8	-257.0	301.8	-257.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43	L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56	R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.62	2.28	8.62	2.28	HS	45.58	82.0
5C1T	14.08	4.80	14.08	4.80		0.00	383.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.90	28.67	28.67	1.699	999999.000	102.944

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		28.00		104.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS 27.07	48.7
5C1T	29.23	3.12	26.49	3.55	0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.6	63.9
OPER	151.3	-107.7	106.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.37	36.19	-22.59	27.84	-23.54	26.36	-18.11	20.28
OPER	5C1T	-23.58	27.13	-18.14	20.87	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.91	1.77	HS 35.31	63.6
5C1T	4.04	3.92	0.00	314.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.35	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. 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	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	205.0	-136.6	185.8	-155.7
OPER	300.6C	-268.7	268.7	-300.6C	341.7	-227.6	309.7	-259.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.73	1.35	13.35	1.54	HS 27.07	48.7
5C1T	29.23	3.12	26.49	3.55	0.00	249.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-7.8	9.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.6	63.9
OPER	151.3	-107.7	106.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.91	1.77	HS 35.31	63.6
5C1T	4.04	3.92	0.00	314.0

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S02				
Check Point I. D.	8.000				

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-37.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	151.2	-184.1	151.2	-184.1	192.3	-143.0	192.3	-143.0
OPER	279.4	-279.4	279.4	-279.4	320.5	-238.3	320.5	-238.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	13.81	1.42	13.81	1.42	HS	28.35	51.0
5C1T	27.41	3.26	27.41	3.26		0.00	261.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	192.0	-149.6	172.8	-168.8
OPER	300.6C	-268.7	268.7	-300.6C	320.0	-249.3	288.0	-281.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85 L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50 L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28 R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.15	2.75	8.24	3.11	HS 55.06	99.1
5C1T	13.06	5.39	11.76	6.08	0.00	430.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	7.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.8	64.9
OPER	151.3	-124.6	108.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-0.56	32.21	-0.43	24.77	-1.24	24.21	-0.95	18.62
OPER	5C1T	-0.88	24.44	-0.67	18.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	60.40	2.01	HS 40.28	72.5
5C1T	142.22	4.42	0.00	353.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-17.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.9	-175.4	159.9	-175.4	179.3	-156.0	179.3	-156.0
OPER	279.4	-279.4	279.4	-279.4	298.8	-260.0	298.8	-260.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50	L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28	R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.54	2.87	8.54	2.87	HS	57.43	103.4
5C1T	12.19	5.62	12.19	5.62		0.00	449.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.3	-160.3	162.1	-179.5
OPER	300.6C	-268.7	268.7	-300.6C	302.2	-267.1	270.2	-299.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97	L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23	L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.27	3.86	2.92	4.32	HS	58.49	105.3
5C1T	5.70	6.64	5.10	7.43		0.00	408.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.8	65.8
OPER	151.3	-123.0	109.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-1.03	27.72	-0.79	21.32	-2.66	21.85	-2.05	16.81
OPER	5C1T	-2.34	21.45	-1.80	16.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	27.73	2.38	HS 47.50	85.5
5C1T	52.67	5.12	0.00	409.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.6	-166.7	168.6	-166.7
OPER	279.4	-279.4	279.4	-279.4	280.9	-277.9	280.9	-277.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97	L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23	L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS 60.82	109.5
5C1T	5.30	6.91	5.30	6.91	0.00	424.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.9	-168.6	153.8	-187.8
OPER	300.6C	-268.7	268.7	-300.6C	288.2	-281.1	256.3	-313.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37 L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85 R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20 L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.95	4.64	1.73	5.16	HS 34.60	62.3
5C1T	3.75	7.99	3.33	8.89	0.00	266.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	4.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.8
OPER	151.3	-121.4	111.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.98	22.80	-2.29	17.54	-4.42	19.32	-3.40	14.86
OPER	5C1T	-4.09	18.62	-3.15	14.33	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	16.47	2.93	HS 58.60	105.5
5C1T	29.68	5.98	0.00	478.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	11.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.6	-162.7	172.6	-162.7	160.2	-175.1	160.2	-175.1
OPER	279.4	-279.4	279.4	-279.4	267.0	-291.8	267.0	-291.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37	L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85	R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20	L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.80	4.81	1.80	4.81	HS 36.05	64.9
5C1T	3.47	8.29	3.47	8.29	0.00	277.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.9	-174.7	147.7	-193.9
OPER	300.6C	-268.7	268.7	-300.6C	278.2	-291.1	246.2	-323.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18 L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59 R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17 L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.62	5.60	1.43	6.22	HS 28.58	51.4
5C1T	2.91	9.65	2.58	10.71	0.00	206.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.9	67.8
OPER	151.3	-119.8	113.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.62	18.34	-5.09	14.11	-6.50	16.67	-5.00	12.83
OPER	5C1T	-6.09	15.87	-4.68	12.21	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	10.85	3.69	HS	73.90	133.0
5C1T	19.68	7.12		0.00	569.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	20.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.6	-158.7	176.6	-158.7	154.2	-181.1	154.2	-181.1
OPER	279.4	-279.4	279.4	-279.4	256.9	-301.9	256.9	-301.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59	R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17	L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.49	5.81	1.49	5.81	HS 29.83	53.7
5C1T	2.69	10.01	2.69	10.01	0.00	215.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.67	28.67	28.67	1.699	999999.000	90.239

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		17.31		106.1

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S02
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.2	-178.4	144.0	-197.6
OPER	300.6C	-268.7	268.7	-300.6C	272.0	-297.3	240.0	-329.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98 L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89 R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14 L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.44	6.87	1.27	7.61	HS 25.35	45.6
5C1T	2.62	11.83	2.31	13.10	0.00	184.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.50	15.37	-7.31	11.82	-8.87	13.95	-6.82	10.73
OPER	5C1T	-8.43	13.29	-6.49	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	7.46	4.47	HS	89.48	161.1
5C1T	14.01	8.62		0.00	689.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.1	-156.2	179.1	-156.2	150.4	-184.8	150.4	-184.8
OPER	279.4	-279.4	279.4	-279.4	250.7	-308.1	250.7	-308.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89	R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14	L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.32	7.11	1.32	7.11	HS	26.49	47.7
5C1T	2.41	12.25	2.41	12.25		0.00	193.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ 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 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	162.0	-179.6	142.8	-198.8
OPER	300.6C	-268.7	268.7	-300.6C	270.0	-299.3	238.0	-331.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	8.64	1.21	9.56	HS 24.24	43.6
5C1T	2.55	14.88	2.25	16.47	0.00	179.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	27.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.9	-155.4	179.9	-155.4	149.2	-186.1	149.2	-186.1
OPER	279.4	-279.4	279.4	-279.4	248.7	-310.1	248.7	-310.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.27	8.95	1.27	8.95	HS	25.34	45.6
5C1T	2.35	15.42	2.35	15.42		0.00	187.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	163.1	-178.5	143.9	-197.7
OPER	300.6C	-268.7	268.7	-300.6C	271.8	-297.5	239.8	-329.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64	L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09	L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.38	11.45	1.22	12.68	HS 24.41	43.9
5C1T	2.70	19.72	2.38	21.84	0.00	190.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.9	70.8
OPER	151.3	-114.8	118.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.43	8.87	-12.64	6.82	-14.43	8.45	-11.10	6.50
OPER	5C1T	-14.03	8.18	-10.79	6.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.19	7.98	HS 83.83	150.9
5C1T	8.18	14.41	0.00	654.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	26.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	179.2	-156.1	179.2	-156.1	150.3	-184.9	150.3	-184.9
OPER	279.4	-279.4	279.4	-279.4	250.6	-308.2	250.6	-308.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64	L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09	L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.27	11.86	1.27	11.86	HS 25.51	45.9
5C1T	2.49	20.43	2.49	20.43	0.00	199.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	166.5	-175.0	147.3	-194.2
OPER	300.6C	-268.7	268.7	-300.6C	277.5	-291.7	245.6	-323.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.66	16.84	1.47	18.69	HS 29.34	52.8
5C1T	3.31	29.01	2.93	32.19	0.00	234.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-21.00	5.98	-16.15	4.60	-17.56	5.74	-13.51	4.42
OPER	5C1T	-17.54	5.41	-13.49	4.16	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.23	12.00	HS 64.66	116.4
5C1T	6.45	22.09	0.00	516.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	21.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	176.9	-158.4	176.9	-158.4	153.8	-181.5	153.8	-181.5
OPER	279.4	-279.4	279.4	-279.4	256.3	-302.5	256.3	-302.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.53	17.47	1.53	17.47	HS 30.62	55.1
5C1T	3.06	30.08	3.06	30.08	0.00	244.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.3	-169.3	153.1	-188.5
OPER	300.6C	-268.7	268.7	-300.6C	287.2	-282.1	255.2	-314.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20 L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81 L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03 L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.78	32.58	2.47	36.27	HS 49.34	88.8
5C1T	5.65	56.11	5.02	62.47	0.00	401.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.7
OPER	151.3	-111.5	121.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-25.95	3.01	-19.96	2.31	-20.89	3.12	-16.07	2.40
OPER	5C1T	-21.24	3.55	-16.34	2.73	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.58	23.33	HS	51.59	92.9
5C1T	5.25	34.13		0.00	420.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	12.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.0	-162.2	173.0	-162.2	159.6	-175.7	159.6	-175.7
OPER	279.4	-279.4	279.4	-279.4	265.9	-292.9	265.9	-292.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20	L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81	L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03	L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.57	33.82	2.57	33.82	HS	51.42	92.6
5C1T	5.23	58.24	5.23	58.24		0.00	418.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S02
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-5.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.0	70.2
OPER	151.3	-109.9	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.11	33.07	HS 42.29	76.1
5C1T	4.39	999.00	0.00	350.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S02
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

BRIDGE / MEMBER DATA

Structure I. D. HAM500

Material of Construction SS
Year of Construction 1959
Roadway Width 32.000
Number of Spans 8

Live Load Distribution Factor 1.143

Second Live Load Dist. Factor 1.143
Comments:

Member I. D. S03 Symmetry:

Span Length:

Span 1	Span 2	Span 3	Span 4	Span 5
23.917	23.917	23.917	23.917	23.917

Span 6	Span 7	Span 8	Span 9	Span 10
23.917	23.917	23.917	0.000	0.000

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Section Left	Section Right	Section Variation	Hinge Location No. 1	Hinge Location No. 2
1	1	23.917	1	0		0.0	0.0
2	1	23.917	1	0		0.0	0.0
3	1	23.917	1	0		0.0	0.0
4	1	23.917	1	0		0.0	0.0
5	1	23.917	1	0		0.0	0.0
6	1	23.917	1	0		0.0	0.0
7	1	23.917	1	0		0.0	0.0
8	1	23.917	1	0		0.0	0.0

Superimposed Dead Load:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft) Left	Right	Length	Concentrated Load (kips)
1	W	0.000	688.0	688.0	23.917	0.0
1	P	11.958	0.0	0.0	0.000	0.1
2	W	0.000	688.0	688.0	23.917	0.0
2	P	11.958	0.0	0.0	0.000	0.1
3	W	0.000	688.0	688.0	23.917	0.0
3	P	11.958	0.0	0.0	0.000	0.1
4	W	0.000	688.0	688.0	23.917	0.0
4	P	11.958	0.0	0.0	0.000	0.1
5	W	0.000	688.0	688.0	23.917	0.0
5	P	11.958	0.0	0.0	0.000	0.1
6	W	0.000	688.0	688.0	23.917	0.0
6	P	11.958	0.0	0.0	0.000	0.1
7	W	0.000	688.0	688.0	23.917	0.0
7	P	11.958	0.0	0.0	0.000	0.1
8	W	0.000	688.0	688.0	23.917	0.0
8	P	11.958	0.0	0.0	0.000	0.1

NOTE: All distances are shown in decimal feet, moments are shown in foot-kips, and shears are shown in kips. Section and section properties are shown as: in., in.**2, in.**3, and in.**4.

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.5
OPER	151.3	-123.5	109.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.08	31.19	-1.60	24.00	-2.12	24.40	-1.63	18.77
OPER	5C1T	-2.10	25.07	-1.62	19.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	34.92	2.10	HS 42.02	75.6
5C1T	58.74	4.36	0.00	348.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.100

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.1	152.2	-189.3
OPER	300.6C	-268.7	268.7	-300.6C	285.7	-283.6	253.7	-315.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20 R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81 R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03 R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.76	32.75	2.45	36.44	HS 49.06	88.3
5C1T	5.62	56.40	4.99	62.76	0.00	399.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.0	66.6
OPER	151.3	-121.7	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.01	25.95	-2.31	19.96	-3.12	20.89	-2.40	16.07
OPER	5C1T	-3.55	21.24	-2.73	16.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	23.43	2.57	HS	51.35	92.4
5C1T	34.28	5.23		0.00	418.1

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	1.100				

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.6	-161.7	173.6	-161.7	158.7	-176.6	158.7	-176.6
OPER	279.4	-279.4	279.4	-279.4	264.5	-294.3	264.5	-294.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	L	47.74	-11.61	0.0	39.19	30.15	2.39	
		-5.20	R	-4.00	56.70	0.0	-3.96	-3.04	33.48	0.00
OPER	5C1T	50.81	R	39.08	105.39	0.0	0.00	0.00	0.00	
		-5.03	R	-3.87	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.56	33.99	2.56	33.99	HS	51.14	92.1
5C1T	5.21	58.53	5.21	58.53		0.00	416.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.0	-176.5	145.9	-195.7
OPER	300.6C	-268.7	268.7	-300.6C	275.1	-294.2	243.1	-326.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90	R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06	R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.64	16.99	1.45	18.83	HS 29.04	52.3
5C1T	3.28	29.25	2.90	32.44	0.00	231.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.0	67.7
OPER	151.3	-119.9	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-5.98	21.00	-4.60	16.15	-5.74	17.56	-4.42	13.51
OPER	5C1T	-5.41	17.54	-4.16	13.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	12.04	3.22	HS 64.47	116.0
5C1T	22.15	6.43	0.00	514.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.200

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.9	-157.4	177.9	-157.4	152.3	-183.0	152.3	-183.0
OPER	279.4	-279.4	279.4	-279.4	253.8	-305.0	253.8	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	L	77.27	-9.22	0.0	66.77	51.36	4.78	
		-10.39	R	-7.99	56.70	0.0	-7.91	-6.09	33.48	0.00
OPER	5C1T	83.90	R	64.54	107.78	0.0	0.00	0.00	0.00	
		-10.06	R	-7.74	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.52	17.61	1.52	17.61	HS	30.32	54.6
5C1T	3.03	30.32	3.03	30.32		0.00	242.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.2	-180.3	142.1	-199.5
OPER	300.6C	-268.7	268.7	-300.6C	268.7	-300.6	236.8	-332.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89 L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59 R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64 R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09 R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.37	11.57	1.21	12.80	HS 24.10	43.4
5C1T	2.67	19.92	2.35	22.04	0.00	188.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-8.87	16.43	-6.82	12.64	-8.45	14.43	-6.50	11.10
OPER	5C1T	-8.18	14.03	-6.30	10.79	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.99	4.19	HS 83.71	150.7
5C1T	14.43	8.17	0.00	653.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.300

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4	-154.9	180.4	-154.9	148.5	-186.8	148.5	-186.8
OPER	279.4	-279.4	279.4	-279.4	247.5	-311.3	247.5	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	117.89	L	90.68	-6.82	0.0	84.85	65.27	7.18	
		-15.59	R	-11.99	56.70	0.0	-11.87	-9.13	33.48	0.00
OPER	5C1T	100.64	R	77.41	110.18	0.0	0.00	0.00	0.00	
		-15.09	R	-11.60	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.26	11.98	1.26	11.98	HS	25.19	45.3
5C1T	2.46	20.64	2.46	20.64		0.00	196.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79 L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78 R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90 R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11 R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.36	8.74	1.20	9.66	HS 23.91	43.0
5C1T	2.52	15.05	2.22	16.64	0.00	177.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-11.85	12.31	-9.12	9.47	-11.20	11.52	-8.62	8.86
OPER	5C1T	-11.06	10.81	-8.51	8.32	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.89	5.67	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.400

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	L	90.61	-4.43	0.0	92.13	70.87	9.57	
		-20.78	R	-15.99	56.70	0.0	-15.83	-12.17	33.48	0.00
OPER	5C1T	105.90	R	81.46	108.57	0.0	0.00	0.00	0.00	
		-20.11	R	-15.47	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.25	9.05	1.25	9.05	HS 25.01	45.0
5C1T	2.32	15.58	2.32	15.58	0.00	185.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.4	-180.2	142.2	-199.4
OPER	300.6C	-268.7	268.7	-300.6C	268.9	-300.4	236.9	-332.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98 R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89 L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14 R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.42	6.94	1.25	7.68	HS 25.03	45.1
5C1T	2.59	11.95	2.28	13.22	0.00	182.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.7	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-15.37	9.50	-11.82	7.31	-13.95	8.87	-10.73	6.82
OPER	5C1T	-13.29	8.43	-10.23	6.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.47	7.47	HS 89.44	161.0
5C1T	8.62	14.02	0.00	689.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.3	-155.0	180.3	-155.0	148.6	-186.7	148.6	-186.7
OPER	279.4	-279.4	279.4	-279.4	247.7	-311.1	247.7	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	L	87.37	-16.04	0.0	91.16	70.12	11.96	
		-25.98	R	-19.98	56.70	0.0	-19.78	-15.22	33.48	0.00
OPER	5C1T	103.89	L	79.92	-39.04	0.0	0.00	0.00	0.00	
		-25.14	R	-19.34	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.31	7.18	1.31	7.18	HS	26.17	47.1
5C1T	2.38	12.37	2.38	12.37		0.00	190.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.5	-176.1	146.3	-195.3
OPER	300.6C	-268.7	268.7	-300.6C	275.8	-293.5	243.8	-325.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37 L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18 R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59 L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17 R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	5.65	1.41	6.26	HS 28.30	50.9
5C1T	2.88	9.73	2.55	10.79	0.00	204.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.6	72.1
OPER	151.3	-112.6	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-18.34	6.62	-14.11	5.09	-16.67	6.50	-12.83	5.00
OPER	5C1T	-15.87	6.09	-12.21	4.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.68	10.88	HS 73.67	132.6
5C1T	7.09	19.74	0.00	567.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.600

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.6	-157.7	177.6	-157.7	152.7	-182.6	152.7	-182.6
OPER	279.4	-279.4	279.4	-279.4	254.5	-304.3	254.5	-304.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	L	79.51	-13.65	0.0	81.03	62.33	14.35	
		-31.18	R	-23.98	56.70	0.0	-23.74	-18.26	33.48	0.00
OPER	5C1T	95.59	L	73.53	-36.65	0.0	0.00	0.00	0.00	
		-30.17	R	-23.21	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.48	5.86	1.48	5.86	HS	29.55	53.2
5C1T	2.66	10.09	2.66	10.09		0.00	213.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.1	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	286.9	-282.4	254.9	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37 R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85 L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20 R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	4.66	1.72	5.19	HS 34.42	62.0
5C1T	3.73	8.02	3.32	8.93	0.00	265.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-22.80	2.98	-17.54	2.29	-19.32	4.42	-14.86	3.40
OPER	5C1T	-18.62	4.09	-14.33	3.15	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.92	16.54	HS 58.32	105.0
5C1T	5.95	29.81	0.00	476.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.700

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.1	173.1	-162.1	159.4	-175.9	159.4	-175.9
OPER	279.4	-279.4	279.4	-279.4	265.7	-293.1	265.7	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	L	68.37	-11.26	0.0	64.70	49.77	16.74	
		-36.37	R	-27.98	56.70	0.0	-28.96	-22.28	33.48	81.32
OPER	5C1T	76.85	L	59.12	-34.26	0.0	0.00	0.00	0.00	
		-35.20	R	-27.08	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.84	1.79	4.84	HS	35.87	64.6
5C1T	3.46	8.33	3.46	8.33		0.00	276.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44 L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57 R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97 R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23 R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.32	HS	58.52	105.3
5C1T	5.71	6.64	5.10	7.43		0.00	408.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.0	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-27.72	1.03	-21.32	0.79	-21.85	2.66	-16.81	2.05
OPER	5C1T	-21.45	2.34	-16.50	1.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.36	27.89	HS 47.19	84.9
5C1T	5.08	52.98	0.00	406.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	L	42.64	-8.87	0.0	42.24	32.49	19.13	
		-41.57	R	-31.98	56.70	0.0	-33.16	-25.51	33.48	81.32
OPER	5C1T	52.97	R	40.74	153.13	0.0	0.00	0.00	0.00	
		-40.23	R	-30.94	132.48	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS 60.85	109.5
5C1T	5.31	6.90	5.31	6.90	0.00	424.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 1.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.2	-148.3	174.0	-167.5
OPER	300.6C	-268.7	268.7	-300.6C	322.1	-247.2	290.1	-279.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85 R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50 R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28 L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.39	2.73	8.45	3.09	HS 54.63	98.3
5C1T	13.14	5.34	11.84	6.03	0.00	427.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.8	-8.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	75.3
OPER	151.3	-107.2	125.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-32.21	0.56	-24.77	0.43	-24.21	1.24	-18.62	0.95
OPER	5C1T	-24.44	0.88	-18.80	0.67	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.00	60.83	HS 39.95	71.9
5C1T	4.39	143.23	0.00	351.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 1.900

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.1	-176.2	159.1	-176.2	180.5	-154.8	180.5	-154.8
OPER	279.4	-279.4	279.4	-279.4	300.8	-258.0	300.8	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48	R	8.06	85.40	0.0	20.59	15.84	21.53	
		-53.85	R	-41.42	42.70	0.0	-54.31	-41.78	33.48	9.57
OPER	5C1T	24.50	R	18.85	155.53	0.0	0.00	0.00	0.00	
		-46.28	L	-35.60	-13.52	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.77	2.85	8.77	2.85	HS	57.00	102.6
5C1T	12.28	5.57	12.28	5.57		0.00	445.9

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 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	-0.9	-8.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.3	64.1
OPER	151.3	-105.4	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-32.21	33.50	-24.77	25.77	-24.21	26.13	-18.62	20.10
OPER	5C1T	-24.44	26.51	-18.80	20.39	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.75	1.91	HS 34.96	62.9
5C1T	3.89	4.03	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS 27.82	50.1
5C1T	27.79	3.20	27.79	3.20	0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91 L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69 R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05 R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.9	0.8	-10.0	8.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-63.3	64.1
OPER	151.3	-105.4	106.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-36.19	33.50	-27.84	25.77	-26.36	26.13	-20.28	20.10
OPER	5C1T	-27.13	26.51	-20.87	20.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.75	1.91	HS 34.96	62.9
5C1T	3.89	4.03	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92	R	10.71	80.62	0.0	10.60	8.15	57.40	
		-100.91	L	-77.62	3.09	0.0	-90.69	-69.76	14.35	33.48
OPER	5C1T	11.69	R	8.99	193.79	0.0	0.00	0.00	0.00	
		-73.05	R	-56.19	28.74	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS 27.82	50.1
5C1T	27.79	3.20	27.79	3.20	0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	195.2	-146.3	176.0	-165.5
OPER	300.6C	-268.7	268.7	-300.6C	325.4	-243.9	293.4	-275.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67 R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43 R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56 L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.13	2.16	8.23	2.45	HS 43.25	77.9
5C1T	15.18	4.55	13.69	5.15	0.00	364.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	7.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.5	65.2
OPER	151.3	-124.1	108.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	29.37	-2.15	22.59	-2.89	23.54	-2.22	18.11
OPER	5C1T	-3.00	23.58	-2.31	18.14	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	25.79	2.22	HS 44.38	79.9
5C1T	41.37	4.61	0.00	368.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.100

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	157.7	-177.5	157.7	-177.5	182.5	-152.8	182.5	-152.8
OPER	279.4	-279.4	279.4	-279.4	304.1	-254.7	304.1	-254.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	R	15.03	54.31	0.0	21.39	16.46	26.31	
		-67.67	R	-52.06	33.13	0.0	-56.20	-43.23	14.35	38.27
OPER	5C1T	21.43	R	16.48	164.31	0.0	0.00	0.00	0.00	
		-53.56	L	-41.20	-2.43	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.53	2.26	8.53	2.26	HS 45.16	81.3
5C1T	14.19	4.76	14.19	4.76	0.00	380.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.4	-156.2	166.2	-175.4
OPER	300.6C	-268.7	268.7	-300.6C	309.0	-260.3	277.0	-292.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93 L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63 R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11 L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.12	2.79	2.80	3.13	HS 55.85	100.5
5C1T	6.63	5.64	5.94	6.34	0.00	451.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.4	66.2
OPER	151.3	-122.3	110.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.79	24.68	-2.15	18.98	-4.29	20.73	-3.30	15.95
OPER	5C1T	-4.56	20.19	-3.50	15.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	17.10	2.68	HS 53.69	96.6
5C1T	26.85	5.47	0.00	437.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.200

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.3	-171.0	164.3	-171.0	172.6	-162.6	172.6	-162.6
OPER	279.4	-279.4	279.4	-279.4	287.7	-271.1	287.7	-271.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45	R	45.73	56.70	0.0	40.91	31.47	28.70	
		-55.93	L	-43.03	-8.87	0.0	-38.16	-29.36	14.35	38.27
OPER	5C1T	46.63	R	35.87	131.70	0.0	0.00	0.00	0.00	
		-46.11	L	-35.47	2.35	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.90	2.91	2.90	2.91	HS	58.08	104.5
5C1T	6.17	5.88	6.17	5.88		0.00	470.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.1	-163.4	158.9	-182.6
OPER	300.6C	-268.7	268.7	-300.6C	296.9	-272.4	264.9	-304.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43 L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73 R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29 L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	3.52	1.90	3.93	HS 37.94	68.3
5C1T	4.26	6.44	3.80	7.20	0.00	303.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.3	67.3
OPER	151.3	-120.5	112.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-5.15	20.51	-3.96	15.77	-6.59	17.81	-5.07	13.70
OPER	5C1T	-6.39	16.67	-4.91	12.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.98	3.28	HS 65.67	118.2
5C1T	18.87	6.73	0.00	538.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.300

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.1	-166.1	169.1	-166.1	165.4	-169.9	165.4	-169.9
OPER	279.4	-279.4	279.4	-279.4	275.6	-283.2	275.6	-283.2

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	R	64.45	59.09	0.0	60.87	46.83	31.09	
		-46.43	L	-35.72	-8.87	0.0	-33.60	-25.85	14.35	0.00
OPER	5C1T	69.73	R	53.64	134.09	0.0	0.00	0.00	0.00	
		-42.29	L	-32.53	3.13	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS	39.48	71.1
5C1T	3.95	6.70	3.95	6.70		0.00	316.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93 L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12 R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88 L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.87	4.55	1.66	5.07	HS	33.30	59.9
5C1T	3.56	7.03	3.17	7.83		0.00	253.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	2.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.2	68.4
OPER	151.3	-118.7	114.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.55	17.12	-7.34	13.17	-9.16	14.86	-7.04	11.43
OPER	5C1T	-8.47	13.97	-6.51	10.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.46	3.99	HS 79.90	143.8
5C1T	14.03	8.16	0.00	652.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.400

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-174.6
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-291.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63	R	71.26	61.48	0.0	72.64	55.87	33.48	
		-36.93	L	-28.41	-8.87	0.0	-29.05	-22.34	14.35	0.00
OPER	5C1T	81.12	R	62.40	132.48	0.0	0.00	0.00	0.00	
		-39.88	L	-30.68	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	4.73	1.74	4.73	HS	34.70	62.5
5C1T	3.30	7.30	3.30	7.30		0.00	264.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	6.21	1.72	6.91	HS 34.31	61.8
5C1T	3.35	7.53	2.98	8.38	0.00	238.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.2	69.5
OPER	151.3	-116.9	115.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.52	13.48	-10.40	10.37	-11.93	11.97	-9.17	9.21
OPER	5C1T	-10.75	11.58	-8.27	8.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.19	5.15	HS 103.06	185.5
5C1T	10.88	10.00	0.00	799.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 L	68.22	21.88	0.0	77.29	59.45	35.88	
		-27.43 L	-21.10	-8.87	0.0	-24.49	-18.84	14.35	0.00
OPER	5C1T	85.16 L	65.51	-15.12	0.0	0.00	0.00	0.00	
		-37.69 L	-28.99	-36.65	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	6.44	1.79	6.44	HS 35.76	64.4
5C1T	3.10	7.81	3.10	7.81	0.00	248.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.6	152.8	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.6	-282.7	254.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85 R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25 L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85 R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.09	1.68	6.78	HS 33.60	60.5
5C1T	3.48	7.67	3.10	8.54	0.00	247.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.0	70.6
OPER	151.3	-115.0	117.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-17.02	9.38	-13.09	7.21	-14.82	9.23	-11.40	7.10
OPER	5C1T	-13.22	9.45	-10.17	7.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.53	HS 81.12	146.0
5C1T	8.70	12.45	0.00	696.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.600

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.2	-162.0	173.2	-162.0	159.2	-176.0	159.2	-176.0
OPER	279.4	-279.4	279.4	-279.4	265.4	-293.4	265.4	-293.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.93	L	69.95	10.27	0.0	72.82	56.01	38.27	
		-27.85	R	-21.42	80.62	0.0	-25.56	-19.66	57.40	0.00
OPER	5C1T	82.25	L	63.27	-12.73	0.0	0.00	0.00	0.00	
		-36.85	R	-28.35	154.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.75	6.32	1.75	6.32	HS	35.02	63.0
5C1T	3.23	7.96	3.23	7.96		0.00	258.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.2	-166.4	156.0	-185.6
OPER	300.6C	-268.7	268.7	-300.6C	292.0	-277.3	260.0	-309.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81 R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38 R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96 R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.78	1.91	5.33	HS 38.28	68.9
5C1T	4.09	7.30	3.64	8.15	0.00	291.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-2.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.9	71.7
OPER	151.3	-113.2	119.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.39	4.89	-15.68	3.76	-17.75	6.71	-13.65	5.16
OPER	5C1T	-16.16	7.39	-12.43	5.68	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.33	10.69	HS 66.64	120.0
5C1T	7.01	16.18	0.00	560.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-172.8
OPER	279.4	-279.4	279.4	-279.4	270.8	-288.0	270.8	-288.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	L	62.71	12.66	0.0	61.38	47.22	40.66	
		-34.81	R	-26.77	80.62	0.0	-28.55	-21.96	57.40	0.00
OPER	5C1T	71.38	R	54.91	174.66	0.0	0.00	0.00	0.00	
		-37.96	R	-29.20	155.62	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.97	1.99	4.97	HS 39.86	71.7
5C1T	3.79	7.59	3.79	7.59	0.00	303.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42 L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77 R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40 R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94 R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.36	103.2
5C1T	5.65	6.70	5.05	7.50	0.00	404.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.9	72.8
OPER	151.3	-111.4	121.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.99	3.79	-19.22	2.92	-20.63	4.48	-15.87	3.45
OPER	5C1T	-19.38	5.47	-14.91	4.20	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.68	16.25	HS 53.52	96.3
5C1T	5.75	22.19	0.00	459.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.42	L	43.40	15.05	0.0	42.82	32.94	43.05	
		-41.77	R	-32.13	80.62	0.0	-33.28	-25.60	57.40	105.23
OPER	5C1T	53.40	R	41.08	177.05	0.0	0.00	0.00	0.00	
		-39.94	R	-30.72	156.40	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.64	107.4
5C1T	5.25	6.97	5.25	6.97	0.00	420.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 2.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.4	-152.2	170.2	-171.4
OPER	300.6C	-268.7	268.7	-300.6C	315.6	-253.7	283.6	-285.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60 L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35 R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80 R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.85	2.79	7.05	3.14	HS 55.75	100.4
5C1T	11.13	5.79	10.01	6.52	0.00	463.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.8	73.9
OPER	151.3	-109.6	123.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.62	3.97	-22.79	3.06	-23.37	3.74	-17.97	2.88
OPER	5C1T	-22.61	3.75	-17.39	2.88	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	2.22	18.59	HS	44.41	79.9
5C1T	4.85	32.85		0.00	387.9

SERVICEABILITY RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S03
Check Point I. D. 2.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.6	161.6	-173.6	176.6	-158.6	176.6	-158.6
OPER	279.4	-279.4	279.4	-279.4	294.4	-264.4	294.4	-264.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.01	L	12.31	17.44	0.0	24.13	18.56	45.44	
		-54.60	L	-42.00	38.62	0.0	-50.59	-38.91	57.40	35.88
OPER	5C1T	28.35	R	21.81	92.44	0.0	0.00	0.00	0.00	
		-43.80	R	-33.69	158.79	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.32	2.91	7.32	2.91	HS	58.12	104.6
5C1T	10.39	6.04	10.39	6.04		0.00	483.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS	29.61	53.3
5C1T	20.78	3.97	18.79	4.51		0.00	317.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.5
OPER	151.3	-107.8	107.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.62	33.80	-22.79	26.00	-23.37	25.99	-17.97	20.00
OPER	5C1T	-22.61	25.95	-17.39	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.91	HS 38.10	68.6
5C1T	4.20	4.14	0.00	331.3

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	3.000				

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	30.96	55.7
5C1T	19.46	4.15	19.46	4.15		0.00	332.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40 L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07 L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27 L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS 29.61	53.3
5C1T	20.78	3.97	18.79	4.51	0.00	317.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-7.8	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.7	64.5
OPER	151.3	-107.8	107.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.97	33.80	-26.13	26.00	-25.86	25.99	-19.89	20.00
OPER	5C1T	-25.68	25.95	-19.76	19.96	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.91	HS 38.10	68.6
5C1T	4.20	4.14	0.00	331.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	L	15.45	-8.87	0.0	17.83	13.72	14.35	
		-95.40	L	-73.38	27.01	0.0	-84.60	-65.08	38.27	57.40
OPER	5C1T	16.07	L	12.36	-122.04	0.0	0.00	0.00	0.00	
		-59.27	L	-45.60	43.01	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	30.96	55.7
5C1T	19.46	4.15	19.46	4.15		0.00	332.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.7	169.7	-171.9
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.5	282.8	-286.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60 R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46 L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36 L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.58	2.75	6.81	3.09	HS 54.94	98.9
5C1T	10.68	6.01	9.60	6.76	0.00	480.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-74.1	65.6
OPER	151.3	-123.5	109.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.84	29.42	-2.19	22.63	-3.20	23.47	-2.46	18.05
OPER	5C1T	-3.18	22.99	-2.45	17.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	23.17	2.23	HS 44.57	80.2
5C1T	38.81	4.75	0.00	380.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.100

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-159.2
OPER	279.4	-279.4	279.4	-279.4	293.5	-265.3	293.5	-265.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.56	R	12.74	78.23	0.0	24.91	19.16	50.23	
		-55.60	R	-42.77	57.05	0.0	-50.39	-38.76	38.27	59.79
OPER	5C1T	29.46	L	22.66	-83.77	0.0	0.00	0.00	0.00	
		-42.36	L	-32.58	23.88	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.07	2.86	7.07	2.86	HS	57.26	103.1
5C1T	9.96	6.26	9.96	6.26		0.00	501.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS	56.74	102.1
5C1T	5.48	7.07	4.89	7.90		0.00	391.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.0	66.6
OPER	151.3	-121.7	111.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.84	24.77	-2.19	19.05	-4.45	20.70	-3.42	15.92
OPER	5C1T	-4.73	19.81	-3.64	15.24	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	16.42	2.69	HS 53.81	96.9
5C1T	25.70	5.61	0.00	448.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.200

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.3	167.9	-167.3	167.2	-168.1	167.2	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67	R	43.59	80.62	0.0	43.00	33.08	52.62	
		-42.15	L	-32.42	15.05	0.0	-31.75	-24.42	38.27	69.36
OPER	5C1T	54.76	L	42.12	-81.38	0.0	0.00	0.00	0.00	
		-38.13	L	-29.33	-60.73	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS	59.01	106.2
5C1T	5.09	7.35	5.09	7.35		0.00	407.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.6	-168.0	154.4	-187.2
OPER	300.6C	-268.7	268.7	-300.6C	289.3	-279.9	257.4	-311.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99 L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11 L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82 L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	4.80	1.89	5.35	HS 37.86	68.2
5C1T	3.96	7.82	3.52	8.71	0.00	281.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-71.9	67.7
OPER	151.3	-119.9	112.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.96	20.31	-3.81	15.63	-6.71	17.79	-5.16	13.69
OPER	5C1T	-6.65	16.57	-5.12	12.75	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.72	3.33	HS 66.66	120.0
5C1T	18.02	6.81	0.00	544.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.300

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.2	-163.1	172.2	-163.1	160.9	-174.4	160.9	-174.4
OPER	279.4	-279.4	279.4	-279.4	268.1	-290.7	268.1	-290.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57	R	62.75	83.01	0.0	62.17	47.83	55.01	
		-34.99	L	-26.92	15.05	0.0	-27.90	-21.46	38.27	0.00
OPER	5C1T	73.11	L	56.24	8.01	0.0	0.00	0.00	0.00	
		-35.82	L	-27.55	27.05	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	4.99	1.97	4.99	HS	39.44	71.0
5C1T	3.67	8.11	3.67	8.11		0.00	293.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09 R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83 L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31 R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21 L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.17	1.65	6.86	HS 33.08	59.5
5C1T	3.32	8.36	2.94	9.30	0.00	235.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.9	68.8
OPER	151.3	-118.1	114.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	16.93	-7.22	13.02	-9.27	14.84	-7.13	11.41
OPER	5C1T	-8.87	13.57	-6.82	10.44	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.55	4.06	HS 81.27	146.3
5C1T	13.32	8.45	0.00	675.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	R	70.07	85.40	0.0	73.64	56.65	57.40	
		-27.83	L	-21.41	15.05	0.0	-24.52	-18.86	38.27	0.00
OPER	5C1T	85.31	R	65.62	108.40	0.0	0.00	0.00	0.00	
		-34.21	L	-26.32	27.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.40	1.73	6.40	HS	34.49	62.1
5C1T	3.07	8.68	3.07	8.68		0.00	245.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67 L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32 R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26 R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.18	1.70	9.09	HS 34.02	61.2
5C1T	3.18	8.41	2.82	9.35	0.00	225.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.1	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.9
OPER	151.3	-116.3	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-12.04	11.93	-9.26	9.18
OPER	5C1T	-11.30	11.10	-8.69	8.54	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	5.21	5.22	HS 104.21	187.6
5C1T	10.29	10.49	0.00	823.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89	L	67.61	45.79	0.0	78.07	60.06	59.79	
		-20.67	L	-15.90	15.05	0.0	-21.13	-16.25	38.27	0.00
OPER	5C1T	88.32	R	67.94	110.79	0.0	0.00	0.00	0.00	
		-34.26	R	-26.35	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	8.49	1.77	8.49	HS 35.48	63.9
5C1T	2.94	8.73	2.94	8.73	0.00	235.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61 R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00 L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16 R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.21	1.66	6.90	HS 33.21	59.8
5C1T	3.38	8.12	3.00	9.03	0.00	239.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.6	71.0
OPER	151.3	-114.4	118.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.92	9.37	-13.02	7.21	-14.95	9.16	-11.50	7.05
OPER	5C1T	-13.83	8.74	-10.64	6.72	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.58	HS 81.11	146.0
5C1T	8.27	13.55	0.00	661.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-177.8
OPER	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-296.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	L	69.98	34.18	0.0	73.39	56.45	62.18	
		-27.61	R	-21.24	104.53	0.0	-24.53	-18.87	81.32	0.00
OPER	5C1T	84.00	L	64.62	11.18	0.0	0.00	0.00	0.00	
		-35.16	R	-27.04	177.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.44	1.73	6.44	HS	34.63	62.3
5C1T	3.12	8.43	3.12	8.43		0.00	250.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.4	-167.2	155.2	-186.4
OPER	300.6C	-268.7	268.7	-300.6C	290.7	-278.6	258.7	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69 R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21 R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37 R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.91	5.37	HS	38.13	68.6
5C1T	4.03	7.46	3.58	8.31		0.00	286.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.5	72.1
OPER	151.3	-112.6	120.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.31	4.94	-15.62	3.80	-17.90	6.61	-13.77	5.08
OPER	5C1T	-16.79	6.57	-12.92	5.06	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	3.33	10.91	HS 66.53	119.8
5C1T	6.70	18.28	0.00	536.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.6	-163.7	171.6	-163.7	161.7	-173.6	161.7	-173.6
OPER	279.4	-279.4	279.4	-279.4	269.4	-289.4	269.4	-289.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	36.58	0.0	61.68	47.45	64.58	
		-34.69	R	-26.69	104.53	0.0	-28.07	-21.59	81.32	0.00
OPER	5C1T	72.21	R	55.54	111.58	0.0	0.00	0.00	0.00	
		-37.37	R	-28.74	179.53	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	5.00	1.99	5.00	HS 39.72	71.5
5C1T	3.73	7.74	3.73	7.74	0.00	298.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	161.9	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78 R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38 R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02 R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.38	103.3
5C1T	5.66	6.68	5.06	7.48	0.00	404.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.5	73.2
OPER	151.3	-110.8	122.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.79	2.86	-19.07	2.20	-20.80	4.35	-16.00	3.35
OPER	5C1T	-20.08	4.67	-15.45	3.59	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.68	16.82	HS 53.63	96.5
5C1T	5.52	26.13	0.00	441.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-166.9
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	38.97	0.0	42.78	32.90	66.97	
		-41.78	R	-32.14	104.53	0.0	-33.38	-25.67	81.32	129.15
OPER	5C1T	53.38	R	41.06	200.97	0.0	0.00	0.00	0.00	
		-40.02	R	-30.79	180.32	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.66	107.4
5C1T	5.26	6.95	5.26	6.95		0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 3.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.1	171.3	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59	R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23	R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.04	2.77	7.23	3.12	HS	55.30	99.5
5C1T	11.51	5.70	10.35	6.42		0.00	455.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.4	74.3
OPER	151.3	-109.0	123.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.44	2.99	-22.64	2.30	-23.57	3.15	-18.13	2.42
OPER	5C1T	-23.31	3.07	-17.93	2.36	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.22	23.59	HS 44.43	80.0
5C1T	4.68	40.27	0.00	374.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 3.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.9	-174.3	160.9	-174.3	177.7	-157.6	177.7	-157.6
OPER	279.4	-279.4	279.4	-279.4	296.2	-262.6	296.2	-262.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	L	12.54	41.36	0.0	23.68	18.22	69.36	
		-54.66	L	-42.05	62.53	0.0	-51.04	-39.26	81.32	59.79
OPER	5C1T	27.59	R	21.22	203.36	0.0	0.00	0.00	0.00	
		-44.23	R	-34.02	181.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.50	2.88	7.50	2.88	HS	57.66	103.8
5C1T	10.74	5.94	10.74	5.94		0.00	475.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS 29.32	52.8
5C1T	26.79	3.89	24.25	4.43	0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-6.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	64.4
OPER	151.3	-107.2	107.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.44	33.80	-22.64	26.00	-23.57	26.06	-18.13	20.04
OPER	5C1T	-23.31	26.09	-17.93	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.08	4.11	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.67	55.2
5C1T	25.10	4.07	25.10	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.208

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00 L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59 R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67 R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS 29.32	52.8
5C1T	26.79	3.89	24.25	4.43	0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.7	-8.4	8.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.3	64.4
OPER	151.3	-107.2	107.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.81	33.80	-26.01	26.00	-26.09	26.06	-20.07	20.04
OPER	5C1T	-26.30	26.09	-20.23	20.07	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.08	4.11	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	L	11.64	15.05	0.0	15.44	11.88	38.27	
		-95.00	L	-73.08	50.93	0.0	-85.49	-65.76	62.18	81.32
OPER	5C1T	12.59	R	9.68	241.63	0.0	0.00	0.00	0.00	
		-59.67	R	-45.90	76.58	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.67	55.2
5C1T	25.10	4.07	25.10	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.315

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34 R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73 R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03 L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02 L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.94	2.76	7.14	3.11	HS 55.18	99.3
5C1T	11.75	5.59	10.57	6.30	0.00	447.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.15	23.54	-2.42	18.10
OPER	5C1T	-3.04	23.11	-2.34	17.77	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.58	2.22	HS 44.49	80.1
5C1T	40.68	4.72	0.00	377.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-157.4
OPER	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-262.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	R	12.57	102.14	0.0	24.01	18.47	74.14	
		-54.73	R	-42.10	80.97	0.0	-51.14	-39.34	62.18	83.71
OPER	5C1T	27.03	L	20.79	-59.86	0.0	0.00	0.00	0.00	
		-45.02	L	-34.63	-38.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.41	2.88	7.41	2.88	HS 57.54	103.6
5C1T	10.97	5.83	10.97	5.83	0.00	466.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.315

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93	L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72	L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS	57.45	103.4
5C1T	5.71	6.56	5.11	7.34		0.00	408.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.1	66.5
OPER	151.3	-121.9	110.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.38	20.77	-3.37	15.98
OPER	5C1T	-4.59	19.89	-3.53	15.30	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	Rating Factor (+)	Shear Rating Value	Load Capacity (tons)
HS20	16.67	2.68	HS 53.71	96.7
5C1T	26.52	5.57	0.00	446.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	R	43.44	104.53	0.0	42.17	32.44	76.53	
		-41.81	L	-32.16	38.97	0.0	-33.84	-26.03	62.18	14.35
OPER	5C1T	52.93	L	40.71	-57.47	0.0	0.00	0.00	0.00	
		-40.72	L	-31.32	-36.82	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS	59.74	107.5
5C1T	5.31	6.82	5.31	6.82		0.00	424.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.315

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.8	-166.8	155.6	-186.0
OPER	300.6C	-268.7	268.7	-300.6C	291.3	-277.9	259.4	-309.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71 L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90 L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90 L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.36	HS 38.23	68.8
5C1T	4.05	7.33	3.61	8.18	0.00	288.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.0	67.6
OPER	151.3	-120.1	112.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.65	17.86	-5.11	13.74
OPER	5C1T	-6.52	16.62	-5.02	12.78	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.84	3.33	HS 66.60	119.9
5C1T	18.41	6.78	0.00	542.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.9	171.4	-163.9	162.1	-173.2	162.1	-173.2
OPER	279.4	-279.4	279.4	-279.4	270.1	-288.7	270.1	-288.7

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	R	62.62	106.93	0.0	61.47	47.28	78.93	
		-34.71	L	-26.70	38.97	0.0	-28.30	-21.77	62.18	0.00
OPER	5C1T	71.90	L	55.31	31.93	0.0	0.00	0.00	0.00	
		-37.90	L	-29.16	-36.03	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.99	1.99	4.99	HS	39.81	71.7
5C1T	3.76	7.62	3.76	7.62		0.00	300.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.315

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.6	-284.7	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61 L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54 R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64 L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.19	1.67	6.88	HS 33.32	60.0
5C1T	3.41	7.99	3.03	8.88	0.00	242.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.20	14.91	-7.08	11.47
OPER	5C1T	-8.72	13.65	-6.71	10.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.57	4.06	HS 81.21	146.2
5C1T	13.56	8.39	0.00	670.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.2	174.0	-161.2	158.0	-177.2	158.0	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.4	-295.4	263.4	-295.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.99	109.32	0.0	73.08	56.22	81.32	
		-27.61	L	-21.23	38.97	0.0	-24.82	-19.09	62.18	0.00
OPER	5C1T	83.54	R	64.26	132.32	0.0	0.00	0.00	0.00	
		-35.64	L	-27.42	-35.16	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.42	1.74	6.42	HS	34.74	62.5
5C1T	3.15	8.29	3.15	8.29		0.00	252.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.85	28.67	28.67	1.699	999999.000	100.315

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		20.21		105.6

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.07	1.71	8.97	HS 34.19	61.5
5C1T	3.24	8.34	2.87	9.27	0.00	229.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.9	69.8
OPER	151.3	-116.5	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-11.98	12.00	-9.21	9.23
OPER	5C1T	-11.12	11.15	-8.55	8.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.21	HS 104.25	187.7
5C1T	10.48	10.43	0.00	834.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 L	67.56	69.71	0.0	77.68	59.75	83.71	
		-20.50 L	-15.77	38.97	0.0	-21.34	-16.41	62.18	0.00
OPER	5C1T	87.09 L	66.99	32.71	0.0	0.00	0.00	0.00	
		-34.42 L	-26.47	-34.42	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.78	8.38	1.78	8.38	HS 35.66	64.2
5C1T	3.00	8.65	3.00	8.65	0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.4	-284.9	252.4	-316.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59 R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76 L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94 R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.88	6.20	1.66	6.89	HS	33.30	59.9
5C1T	3.40	8.15	3.01	9.07		0.00	241.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	70.9
OPER	151.3	-114.6	118.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.88	9.23	-11.45	7.10
OPER	5C1T	-13.64	8.76	-10.49	6.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.57	HS 81.28	146.3
5C1T	8.40	13.48	0.00	672.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.1	-161.2	174.1	-161.2	157.9	-177.4	157.9	-177.4
OPER	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-295.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.98	L	69.98	58.10	0.0	73.15	56.27	86.10	
		-27.59	R	-21.22	128.45	0.0	-24.73	-19.03	105.23	0.00
OPER	5C1T	83.76	L	64.43	35.10	0.0	0.00	0.00	0.00	
		-34.94	R	-26.87	201.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.43	1.74	6.43	HS	34.71	62.5
5C1T	3.14	8.46	3.14	8.46		0.00	251.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.0	155.3	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	290.9	-278.4	258.9	-310.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69 R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79 R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24 R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.91	5.37	HS	38.17	68.7
5C1T	4.05	7.48	3.61	8.34		0.00	288.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	120.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.84	6.68	-13.72	5.14
OPER	5C1T	-16.59	6.58	-12.76	5.06	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	3.33	10.78	HS 66.66	120.0
5C1T	6.80	18.24	0.00	543.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.700

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.5	-163.7	171.5	-163.7	161.8	-173.5	161.8	-173.5
OPER	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-289.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.40	L	62.61	60.49	0.0	61.60	47.38	88.49	
		-34.69	R	-26.68	128.45	0.0	-28.14	-21.65	105.23	0.00
OPER	5C1T	71.79	R	55.23	135.49	0.0	0.00	0.00	0.00	
		-37.24	R	-28.65	203.45	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	5.00	1.99	5.00	HS	39.75	71.6
5C1T	3.76	7.76	3.76	7.76		0.00	300.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78 R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63 R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92 R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.33	103.2
5C1T	5.62	6.70	5.03	7.51	0.00	402.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.6	73.1
OPER	151.3	-111.0	121.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.74	4.41	-15.96	3.40
OPER	5C1T	-19.87	4.66	-15.28	3.58	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.69	16.55	HS 53.75	96.7
5C1T	5.59	26.15	0.00	446.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.800

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45	L	43.42	62.88	0.0	42.85	32.96	90.88	
		-41.78	R	-32.14	128.45	0.0	-33.33	-25.64	105.23	153.07
OPER	5C1T	53.63	R	41.25	224.88	0.0	0.00	0.00	0.00	
		-39.92	R	-30.71	204.23	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS	59.61	107.3
5C1T	5.23	6.97	5.23	6.97		0.00	418.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 4.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.8	-284.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.33 L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67 L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86 R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14 R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.95	2.77	7.15	3.12	HS	55.44	99.8
5C1T	11.37	5.72	10.22	6.45		0.00	457.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-65.5	74.1
OPER	151.3	-109.2	123.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.51	3.18	-18.08	2.44
OPER	5C1T	-23.07	3.09	-17.74	2.38	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.23	23.33	HS 44.53	80.1
5C1T	4.73	40.01	0.00	378.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 4.900

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-158.0
OPER	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-263.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	L	12.56	65.28	0.0	23.90	18.39	93.28	
		-54.67	L	-42.05	86.45	0.0	-50.83	-39.10	105.23	83.71
OPER	5C1T	27.86	R	21.43	227.28	0.0	0.00	0.00	0.00	
		-44.14	R	-33.95	205.84	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.42	2.89	7.42	2.89	HS 57.80	104.0
5C1T	10.61	5.97	10.61	5.97	0.00	477.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.85	1.47	11.63	1.67	HS 29.46	53.0
5C1T	26.54	3.93	24.01	4.47	0.00	314.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load (-) Shear	Dead Load (+) Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-0.7	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-64.4	64.4
OPER	151.3	-107.4	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.42	33.80	-22.63	26.00	-23.51	26.03	-18.08	20.02
OPER	5C1T	-23.07	26.04	-17.74	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.91	HS 38.13	68.6
5C1T	4.12	4.12	0.00	329.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-146.4
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-243.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.04	1.54	12.04	1.54	HS	30.82	55.5
5C1T	24.86	4.12	24.86	4.12		0.00	329.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	201.7	-139.9	182.5	-159.1
OPER	300.6C	-268.7	268.7	-300.6C	336.1	-233.2	304.1	-265.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01 L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97 R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66 L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25 R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	12.85	1.47	11.63	1.67	HS 29.46	53.0
5C1T	26.54	3.93	24.01	4.47	0.00	314.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load (-) Shear	Dead Load (+) Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.7	0.7	-8.2	8.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-64.4	64.4
OPER	151.3	-107.4	107.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-33.80	33.80	-26.00	26.00	-26.03	26.03	-20.02	20.02
OPER	5C1T	-26.04	26.04	-20.03	20.03	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.91	HS 38.13	68.6
5C1T	4.12	4.12	0.00	329.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.000

Dead Load Moment	Superimposed Dead Load Moment
-2.9	-32.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.5	-181.8	153.5	-181.8	188.9	-146.4	188.9	-146.4
OPER	279.4	-279.4	279.4	-279.4	314.9	-243.9	314.9	-243.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.01	L	11.55	38.97	0.0	15.69	12.07	62.18	
		-94.97	R	-73.06	116.49	0.0	-85.13	-65.48	86.10	105.23
OPER	5C1T	12.66	L	9.74	-74.21	0.0	0.00	0.00	0.00	
		-59.25	R	-45.58	100.49	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.04	1.54	12.04	1.54	HS	30.82	55.5
5C1T	24.86	4.12	24.86	4.12		0.00	329.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.0	-151.5	170.9	-170.7
OPER	300.6C	-268.7	268.7	-300.6C	316.7	-252.6	284.8	-284.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		Truck Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Loc. of Ax. Dis.	Lane Live Load Moment w/imp.	Lane Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86	L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14	L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.82	2.77	7.03	3.12	HS 55.44	99.8
5C1T	11.37	5.72	10.22	6.45	0.00	457.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.6

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.1	65.5
OPER	151.3	-123.6	109.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.85	29.42	-2.19	22.63	-3.18	23.51	-2.44	18.08
OPER	5C1T	-3.09	23.07	-2.38	17.74	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.33	2.23	HS 44.53	80.1
5C1T	40.01	4.73	0.00	378.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-14.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.2	-174.1	161.2	-174.1	177.3	-158.0	177.3	-158.0
OPER	279.4	-279.4	279.4	-279.4	295.5	-263.3	295.5	-263.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.33	R	12.56	126.06	0.0	24.29	18.69	98.06	
		-54.67	R	-42.05	104.88	0.0	-50.85	-39.12	86.10	107.63
OPER	5C1T	27.86	L	21.43	-35.94	0.0	0.00	0.00	0.00	
		-44.14	L	-33.95	-14.51	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.30	2.89	7.30	2.89	HS 57.80	104.0
5C1T	10.61	5.97	10.61	5.97	0.00	477.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79 L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63 L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92 L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.33	103.2
5C1T	5.62	6.70	5.03	7.51	0.00	402.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	5.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.1	66.6
OPER	151.3	-121.8	111.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.85	24.77	-2.19	19.06	-4.41	20.74	-3.40	15.96
OPER	5C1T	-4.66	19.87	-3.58	15.28	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.55	2.69	HS 53.75	96.7
5C1T	26.15	5.59	0.00	446.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	128.45	0.0	42.38	32.60	100.45	
		-41.79	L	-32.14	62.88	0.0	-33.32	-25.63	86.10	38.27
OPER	5C1T	53.63	L	41.25	-33.55	0.0	0.00	0.00	0.00	
		-39.92	L	-30.71	-12.90	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.61	107.3
5C1T	5.23	6.97	5.23	6.97	0.00	418.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.5	-167.0	155.3	-186.2
OPER	300.6C	-268.7	268.7	-300.6C	290.9	-278.4	258.9	-310.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40 R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69 L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79 L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24 L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.91	5.37	HS 38.17	68.7
5C1T	4.05	7.48	3.61	8.34	0.00	288.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.3

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.0	67.7
OPER	151.3	-120.0	112.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.94	20.30	-3.80	15.62	-6.68	17.84	-5.14	13.72
OPER	5C1T	-6.58	16.59	-5.06	12.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.78	3.33	HS 66.66	120.0
5C1T	18.24	6.80	0.00	543.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.5	-163.7	171.5	-163.7	161.8	-173.5	161.8	-173.5
OPER	279.4	-279.4	279.4	-279.4	269.7	-289.1	269.7	-289.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.40	R	62.61	130.84	0.0	61.60	47.39	102.84	
		-34.69	L	-26.68	62.88	0.0	-28.14	-21.65	86.10	0.00
OPER	5C1T	71.79	L	55.23	55.84	0.0	0.00	0.00	0.00	
		-37.24	L	-28.65	-12.12	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	5.00	1.99	5.00	HS	39.75	71.6
5C1T	3.76	7.76	3.76	7.76		0.00	300.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.7	-170.9	151.5	-190.1
OPER	300.6C	-268.7	268.7	-300.6C	284.4	-284.9	252.4	-316.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59 L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76 R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09 L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.20	1.66	6.89	HS 33.30	59.9
5C1T	3.40	8.12	3.01	9.03	0.00	241.1

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-70.9	68.7
OPER	151.3	-118.2	114.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-9.37	16.91	-7.21	13.01	-9.23	14.88	-7.10	11.45
OPER	5C1T	-8.76	13.64	-6.74	10.49	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	7.57	4.06	HS 81.28	146.3
5C1T	13.48	8.40	0.00	672.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.400

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.1	-161.2	174.1	-161.2	157.9	-177.4	157.9	-177.4
OPER	279.4	-279.4	279.4	-279.4	263.2	-295.6	263.2	-295.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98	R	69.98	133.23	0.0	73.15	56.27	105.23	
		-27.59	L	-21.22	62.88	0.0	-24.73	-19.03	86.10	0.00
OPER	5C1T	83.76	R	64.43	156.23	0.0	0.00	0.00	0.00	
		-35.09	L	-26.99	-11.24	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	6.43	1.74	6.43	HS	34.71	62.5
5C1T	3.14	8.43	3.14	8.43		0.00	251.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.84	28.67	28.67	1.699	999999.000	99.865

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		18.60		105.9

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.3	-172.2	150.1	-191.4
OPER	300.6C	-268.7	268.7	-300.6C	282.2	-287.1	250.2	-319.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83 R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50 R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09 R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42 R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	8.07	1.71	8.97	HS 34.19	61.5
5C1T	3.24	8.34	2.87	9.27	0.00	229.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-13.38	13.38	-10.29	10.29	-12.00	11.98	-9.23	9.21
OPER	5C1T	-11.15	11.12	-8.58	8.55	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.22	HS 104.33	187.8
5C1T	10.44	10.47	0.00	835.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.500

Dead Load Moment	Superimposed Dead Load Moment
1.5	16.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.0	-160.3	175.0	-160.3	156.6	-178.7	156.6	-178.7
OPER	279.4	-279.4	279.4	-279.4	261.0	-297.8	261.0	-297.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.83	R	67.56	121.63	0.0	77.68	59.75	107.63	
		-20.50	R	-15.77	152.37	0.0	-21.34	-16.41	129.15	0.00
OPER	5C1T	87.09	R	66.99	158.63	0.0	0.00	0.00	0.00	
		-34.42	R	-26.47	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.78	8.38	1.78	8.38	HS	35.66	64.2
5C1T	3.00	8.65	3.00	8.65		0.00	239.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.619

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.8	-170.8	151.6	-190.0
OPER	300.6C	-268.7	268.7	-300.6C	284.6	-284.7	252.7	-316.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.98 L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60 R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53 L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51 R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.88	6.19	1.67	6.88	HS 33.32	60.0
5C1T	3.41	8.02	3.03	8.92	0.00	242.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-1.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.7	71.0
OPER	151.3	-114.5	118.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.91	9.37	-13.01	7.21	-14.91	9.20	-11.47	7.08
OPER	5C1T	-13.65	8.72	-10.50	6.71	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.57	HS 81.21	146.2
5C1T	8.39	13.56	0.00	670.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.600

Dead Load Moment	Superimposed Dead Load Moment
1.3	14.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.0	-161.2	174.0	-161.2	158.0	-177.2	158.0	-177.2
OPER	279.4	-279.4	279.4	-279.4	263.4	-295.4	263.4	-295.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	90.98	L	69.99	82.02	0.0	73.08	56.22	110.02	
		-27.60	R	-21.23	152.37	0.0	-24.82	-19.09	129.15	0.00
OPER	5C1T	83.53	L	64.26	59.02	0.0	0.00	0.00	0.00	
		-35.51	R	-27.31	225.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.74	6.42	1.74	6.42	HS 34.74	62.5
5C1T	3.15	8.32	3.15	8.32	0.00	252.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.619

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	5.700				

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.8	-166.8	155.6	-186.0
OPER	300.6C	-268.7	268.7	-300.6C	291.3	-277.9	259.4	-309.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71 R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90 R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90 R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.80	1.91	5.36	HS 38.23	68.8
5C1T	4.05	7.33	3.61	8.18	0.00	288.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.4	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.6	72.0
OPER	151.3	-112.7	120.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.30	4.94	-15.62	3.80	-17.86	6.65	-13.74	5.11
OPER	5C1T	-16.62	6.52	-12.78	5.02	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.33	10.84	HS 66.60	119.9
5C1T	6.78	18.41	0.00	542.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.700

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.4	-163.9	171.4	-163.9	162.1	-173.2	162.1	-173.2
OPER	279.4	-279.4	279.4	-279.4	270.1	-288.7	270.1	-288.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41	L	62.62	84.41	0.0	61.47	47.28	112.41	
		-34.71	R	-26.70	152.37	0.0	-28.30	-21.77	129.15	0.00
OPER	5C1T	71.90	R	55.31	159.41	0.0	0.00	0.00	0.00	
		-37.90	R	-29.16	227.37	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.99	4.99	1.99	4.99	HS	39.81	71.7
5C1T	3.76	7.62	3.76	7.62		0.00	300.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.619

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47 L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81 R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93 R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72 R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.21	3.83	2.87	4.29	HS	57.45	103.4
5C1T	5.71	6.56	5.11	7.34		0.00	408.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.0	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.5	73.1
OPER	151.3	-110.9	121.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.77	2.85	-19.06	2.19	-20.77	4.38	-15.98	3.37
OPER	5C1T	-19.89	4.59	-15.30	3.53	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.68	16.67	HS 53.71	96.7
5C1T	5.57	26.52	0.00	446.0

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.800

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

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.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.47	L	43.44	86.80	0.0	42.64	32.80	114.80	
		-41.81	R	-32.16	152.37	0.0	-33.85	-26.03	129.15	176.98
OPER	5C1T	52.93	R	40.71	248.80	0.0	0.00	0.00	0.00	
		-40.72	R	-31.32	228.15	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.99	3.98	2.99	3.98	HS	59.74	107.5
5C1T	5.31	6.82	5.31	6.82		0.00	424.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 5.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.619

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.6	-151.0	171.4	-170.2
OPER	300.6C	-268.7	268.7	-300.6C	317.6	-251.7	285.6	-283.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03	R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02	R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	8.07	2.76	7.26	3.11	HS 55.18	99.3
5C1T	11.75	5.59	10.57	6.30	0.00	447.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.4	74.2
OPER	151.3	-109.1	123.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.42	2.97	-22.63	2.28	-23.54	3.15	-18.10	2.42
OPER	5C1T	-23.11	3.04	-17.77	2.34	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.22	23.58	HS 44.49	80.1
5C1T	4.72	40.68	0.00	377.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 5.900

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.8	-174.4	160.8	-174.4	177.8	-157.4	177.8	-157.4
OPER	279.4	-279.4	279.4	-279.4	296.4	-262.4	296.4	-262.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.34	L	12.57	89.19	0.0	23.62	18.17	117.19	
		-54.73	L	-42.10	110.37	0.0	-51.12	-39.32	129.15	107.63
OPER	5C1T	27.03	R	20.79	251.19	0.0	0.00	0.00	0.00	
		-45.02	R	-34.63	229.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.53	2.88	7.53	2.88	HS 57.54	103.6
5C1T	10.97	5.83	10.97	5.83	0.00	466.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	Allowable stress (fs) (psi)			
RATIO/Inv.	0.00	0.00	0.00	
	Inventory	Operating	Posting	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Web Depth D	Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.619

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS 29.32	52.8
5C1T	27.88	3.89	25.24	4.43	0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.7	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.3
OPER	151.3	-107.3	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.81	-22.63	26.01	-23.54	26.09	-18.10	20.07
OPER	5C1T	-23.11	26.30	-17.77	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.11	4.08	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.68	55.2
5C1T	26.13	4.07	26.13	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	202.3	-139.3	183.1	-158.4
OPER	300.6C	-268.7	268.7	-300.6C	337.2	-232.1	305.2	-264.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	15.13 R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99 L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09 R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67 L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	13.10	1.47	11.86	1.67	HS 29.32	52.8
5C1T	27.88	3.89	25.24	4.43	0.00	311.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.8	-8.3	8.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.4	64.3
OPER	151.3	-107.3	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.81	-26.00	26.01	-26.06	26.09	-20.04	20.07
OPER	5C1T	-26.09	26.30	-20.07	20.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.90	1.90	HS 38.05	68.5
5C1T	4.11	4.08	0.00	326.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.000

Dead Load Moment	Superimposed Dead Load Moment
-3.0	-33.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	153.0	-182.3	153.0	-182.3	189.6	-145.7	189.6	-145.7
OPER	279.4	-279.4	279.4	-279.4	316.0	-242.8	316.0	-242.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	15.13	R	11.64	176.28	0.0	15.44	11.88	153.07	
		-94.99	L	-73.07	98.76	0.0	-85.49	-65.76	129.15	110.02
OPER	5C1T	12.09	R	9.30	291.07	0.0	0.00	0.00	0.00	
		-59.67	L	-45.90	114.76	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	12.28	1.53	12.28	1.53	HS	30.68	55.2
5C1T	26.13	4.07	26.13	4.07		0.00	325.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	190.4	-151.1	171.3	-170.3
OPER	300.6C	-268.7	268.7	-300.6C	317.4	-251.9	285.4	-283.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.30 R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66 R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59 L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23 L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.91	2.77	7.11	3.12	HS 55.30	99.5
5C1T	11.51	5.70	10.35	6.42	0.00	455.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.3	65.4
OPER	151.3	-123.8	109.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-2.86	29.44	-2.20	22.64	-3.15	23.57	-2.42	18.13
OPER	5C1T	-3.07	23.31	-2.36	17.93	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	23.59	2.22	HS 44.43	80.0
5C1T	40.27	4.68	0.00	374.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.100

Dead Load Moment	Superimposed Dead Load Moment
-1.4	-15.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	160.9	-174.3	160.9	-174.3	177.7	-157.6	177.7	-157.6
OPER	279.4	-279.4	279.4	-279.4	296.2	-262.6	296.2	-262.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.30	R	12.54	149.98	0.0	24.08	18.52	121.98	
		-54.66	R	-42.05	128.80	0.0	-51.07	-39.28	110.02	131.54
OPER	5C1T	27.59	L	21.22	-12.02	0.0	0.00	0.00	0.00	
		-44.23	L	-34.02	9.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.38	2.88	7.38	2.88	HS 57.66	103.8
5C1T	10.73	5.94	10.73	5.94	0.00	475.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.1	-160.4	161.9	-179.6
OPER	300.6C	-268.7	268.7	-300.6C	301.9	-267.4	269.9	-299.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.45 R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78 L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38 L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02 L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.38	103.3
5C1T	5.66	6.68	5.06	7.48	0.00	404.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.2	66.5
OPER	151.3	-122.0	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.86	24.79	-2.20	19.07	-4.35	20.80	-3.35	16.00
OPER	5C1T	-4.67	20.08	-3.59	15.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.82	2.68	HS 53.63	96.5
5C1T	26.13	5.52	0.00	441.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-1.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.1	-168.1	167.1	-168.1	168.4	-166.9	168.4	-166.9
OPER	279.4	-279.4	279.4	-279.4	280.7	-278.1	280.7	-278.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.45	R	43.42	152.37	0.0	42.30	32.54	124.37	
		-41.78	L	-32.14	86.80	0.0	-33.37	-25.67	110.02	62.18
OPER	5C1T	53.38	L	41.06	-9.63	0.0	0.00	0.00	0.00	
		-40.02	L	-30.79	11.02	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.98	3.99	2.98	3.99	HS	59.66	107.4
5C1T	5.26	6.95	5.26	6.95		0.00	420.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	174.4	-167.2	155.2	-186.4
OPER	300.6C	-268.7	268.7	-300.6C	290.7	-278.6	258.7	-310.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.41 R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69 L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21 L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37 L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.14	4.82	1.91	5.37	HS 38.13	68.6
5C1T	4.03	7.46	3.58	8.31	0.00	286.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-72.1	67.5
OPER	151.3	-120.2	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-4.94	20.31	-3.80	15.62	-6.61	17.90	-5.08	13.77
OPER	5C1T	-6.57	16.79	-5.06	12.92	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.91	3.33	HS 66.53	119.8
5C1T	18.28	6.70	0.00	536.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.300

Dead Load Moment	Superimposed Dead Load Moment
0.8	9.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.6	-163.7	171.6	-163.7	161.7	-173.6	161.7	-173.6
OPER	279.4	-279.4	279.4	-279.4	269.4	-289.4	269.4	-289.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.41	R	62.62	154.76	0.0	61.68	47.45	126.76	
		-34.69	L	-26.69	86.80	0.0	-28.07	-21.59	110.02	0.00
OPER	5C1T	72.21	L	55.54	79.76	0.0	0.00	0.00	0.00	
		-37.37	L	-28.74	11.80	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	5.00	1.99	5.00	HS 39.72	71.5
5C1T	3.73	7.74	3.73	7.74	0.00	298.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	170.3	-171.3	151.1	-190.5
OPER	300.6C	-268.7	268.7	-300.6C	283.8	-285.5	251.8	-317.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97 R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61 L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00 R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16 L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.21	1.66	6.90	HS 33.21	59.8
5C1T	3.38	8.12	3.00	9.03	0.00	239.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.6
OPER	151.3	-118.4	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.37	16.92	-7.21	13.02	-9.16	14.95	-7.05	11.50
OPER	5C1T	-8.74	13.83	-6.72	10.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.58	4.06	HS 81.11	146.0
5C1T	13.55	8.27	0.00	661.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.400

Dead Load Moment	Superimposed Dead Load Moment
1.4	15.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.4	-160.9	174.4	-160.9	157.5	-177.8	157.5	-177.8
OPER	279.4	-279.4	279.4	-279.4	262.5	-296.3	262.5	-296.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.97	R	69.98	157.15	0.0	73.39	56.45	129.15	
		-27.61	L	-21.24	86.80	0.0	-24.53	-18.87	110.02	0.00
OPER	5C1T	84.00	R	64.62	180.15	0.0	0.00	0.00	0.00	
		-35.16	L	-27.04	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.73	6.44	1.73	6.44	HS	34.63	62.3
5C1T	3.12	8.43	3.12	8.43		0.00	250.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.86	28.67	28.67	1.699	999999.000	100.505

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		21.28		105.5

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	168.7	-172.9	149.5	-192.1
OPER	300.6C	-268.7	268.7	-300.6C	281.1	-288.2	249.1	-320.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	87.89 R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67 R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32 L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26 L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.92	8.18	1.70	9.09	HS 34.02	61.2
5C1T	3.18	8.41	2.82	9.35	0.00	225.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.9	69.7
OPER	151.3	-116.6	116.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.39	13.39	-10.30	10.30	-11.93	12.04	-9.18	9.26
OPER	5C1T	-11.10	11.30	-8.54	8.69	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.22	5.20	HS 104.09	187.4
5C1T	10.51	10.28	0.00	822.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.500

Dead Load Moment	Superimposed Dead Load Moment
1.6	18.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	175.4	-159.8	175.4	-159.8	155.9	-179.4	155.9	-179.4
OPER	279.4	-279.4	279.4	-279.4	259.9	-298.9	259.9	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	87.89	R	67.61	145.54	0.0	78.07	60.06	131.54	
		-20.67	R	-15.90	176.28	0.0	-21.13	-16.25	153.07	0.00
OPER	5C1T	88.32	L	67.94	80.54	0.0	0.00	0.00	0.00	
		-34.26	L	-26.35	13.41	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.77	8.49	1.77	8.49	HS 35.48	63.9
5C1T	2.94	8.73	2.94	8.73	0.00	235.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	169.9	-171.7	150.7	-190.9
OPER	300.6C	-268.7	268.7	-300.6C	283.1	-286.2	251.1	-318.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31	L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21	L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	6.17	1.65	6.86	HS 33.08	59.5
5C1T	3.32	8.37	2.94	9.30	0.00	235.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.7	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.93	9.38	-13.02	7.22	-14.84	9.27	-11.41	7.13
OPER	5C1T	-13.57	8.87	-10.44	6.82	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.06	7.55	HS 81.27	146.3
5C1T	8.45	13.32	0.00	675.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.600

Dead Load Moment	Superimposed Dead Load Moment
1.4	16.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	174.7	-160.6	174.7	-160.6	157.1	-178.2	157.1	-178.2
OPER	279.4	-279.4	279.4	-279.4	261.9	-296.9	261.9	-296.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	91.09	L	70.07	105.93	0.0	73.64	56.65	133.93	
		-27.83	R	-21.41	176.28	0.0	-24.52	-18.86	153.07	0.00
OPER	5C1T	85.31	L	65.62	82.93	0.0	0.00	0.00	0.00	
		-34.21	L	-26.31	14.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.73	6.40	1.73	6.40	HS 34.49	62.1
5C1T	3.07	8.68	3.07	8.68	0.00	245.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.6	-168.0	154.4	-187.2
OPER	300.6C	-268.7	268.7	-300.6C	289.3	-279.9	257.4	-311.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.57 L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99 R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11 R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82 R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	4.80	1.89	5.35	HS 37.86	68.2
5C1T	3.96	7.82	3.52	8.71	0.00	281.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-67.7	71.9
OPER	151.3	-112.9	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-20.31	4.96	-15.63	3.81	-17.79	6.71	-13.69	5.16
OPER	5C1T	-16.57	6.65	-12.75	5.12	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Shear Rating Value	Load Capacity (tons)
HS20	3.33	10.72	HS 66.66	120.0
5C1T	6.81	18.02	0.00	544.8

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.700

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.4

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.2	-163.1	172.2	-163.1	160.9	-174.4	160.9	-174.4
OPER	279.4	-279.4	279.4	-279.4	268.1	-290.7	268.1	-290.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	81.57	L	62.74	108.33	0.0	62.17	47.83	136.33	
		-34.99	R	-26.92	176.28	0.0	-27.90	-21.46	153.07	0.00
OPER	5C1T	73.11	R	56.24	183.33	0.0	0.00	0.00	0.00	
		-35.82	R	-27.55	164.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.97	4.99	1.97	4.99	HS 39.44	71.0
5C1T	3.67	8.11	3.67	8.11	0.00	293.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	179.9	-161.6	160.8	-180.8
OPER	300.6C	-268.7	268.7	-300.6C	299.9	-269.4	267.9	-301.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.67 L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15 R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76 R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13 R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.17	3.84	2.84	4.29	HS 56.74	102.1
5C1T	5.48	7.07	4.89	7.90	0.00	391.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-66.6	73.0
OPER	151.3	-111.1	121.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-24.77	2.84	-19.05	2.19	-20.70	4.45	-15.92	3.42
OPER	5C1T	-19.81	4.73	-15.24	3.64	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	2.69	16.42	HS 53.81	96.9
5C1T	5.61	25.70	0.00	448.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.800

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.9	-167.3	167.9	-167.3	167.2	-168.1	167.2	-168.1
OPER	279.4	-279.4	279.4	-279.4	278.7	-280.1	278.7	-280.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.67	L	43.59	110.72	0.0	43.47	33.44	138.72	
		-42.15	R	-32.42	176.28	0.0	-31.76	-24.43	153.07	121.98
OPER	5C1T	54.76	R	42.12	272.72	0.0	0.00	0.00	0.00	
		-38.13	R	-29.33	252.07	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.95	3.99	2.95	3.99	HS 59.01	106.2
5C1T	5.09	7.35	5.09	7.35	0.00	407.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 6.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	188.8	-152.7	169.7	-171.9
OPER	300.6C	-268.7	268.7	-300.6C	314.7	-254.5	282.8	-286.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.56 L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60 L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46 R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36 R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	7.70	2.75	6.92	3.09	HS	54.94	98.9
5C1T	10.68	6.01	9.60	6.76		0.00	480.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.6	74.1
OPER	151.3	-109.3	123.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.42	2.96	-22.63	2.28	-23.47	3.20	-18.05	2.46
OPER	5C1T	-22.99	3.18	-17.69	2.45	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.23	23.17	HS 44.57	80.2
5C1T	4.75	38.80	0.00	380.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 6.900

Dead Load Moment	Superimposed Dead Load Moment
-1.2	-12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	162.0	-173.3	162.0	-173.3	176.1	-159.2	176.1	-159.2
OPER	279.4	-279.4	279.4	-279.4	293.5	-265.3	293.5	-265.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.56	L	12.74	113.11	0.0	24.52	18.86	141.11	
		-55.60	L	-42.77	134.28	0.0	-50.37	-38.74	153.07	131.54
OPER	5C1T	29.46	R	22.66	275.11	0.0	0.00	0.00	0.00	
		-42.36	R	-32.58	167.46	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.18	2.86	7.18	2.86	HS 57.26	103.1
5C1T	9.96	6.26	9.96	6.26	0.00	501.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS 29.65	53.4
5C1T	20.78	3.97	18.79	4.51	0.00	317.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.7	-6.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.7
OPER	151.3	-107.5	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.42	33.97	-22.63	26.13	-23.47	25.86	-18.05	19.89
OPER	5C1T	-22.99	25.68	-17.69	19.76	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.90	HS 38.10	68.6
5C1T	4.14	4.20	0.00	331.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	31.00	55.8
5C1T	19.46	4.15	19.46	4.15		0.00	332.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	96.981

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	200.3	-141.2	181.1	-160.4
OPER	300.6C	-268.7	268.7	-300.6C	333.9	-235.4	301.9	-267.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	20.08 R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28 L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07 R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26 R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.98	1.48	9.02	1.68	HS 29.65	53.4
5C1T	20.78	3.97	18.79	4.51	0.00	317.8

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.7	0.7	-8.2	7.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.5	64.7
OPER	151.3	-107.5	107.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.80	33.97	-26.00	26.13	-25.99	25.86	-20.00	19.89
OPER	5C1T	-25.95	25.68	-19.96	19.76	0.00	0.00	0.00	0.00

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.91	1.90	HS 38.10	68.6
5C1T	4.14	4.20	0.00	331.3

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.000

Dead Load Moment	Superimposed Dead Load Moment
-2.8	-30.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	154.3	-180.9	154.3	-180.9	187.6	-147.7	187.6	-147.7
OPER	279.4	-279.4	279.4	-279.4	312.6	-246.2	312.6	-246.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	20.08	R	15.45	200.20	0.0	17.83	13.72	176.98	
		-95.28	L	-73.29	122.68	0.0	-84.60	-65.08	153.07	133.93
OPER	5C1T	16.07	R	12.36	313.38	0.0	0.00	0.00	0.00	
		-59.26	R	-45.58	148.28	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	9.34	1.55	9.34	1.55	HS	31.00	55.8
5C1T	19.46	4.15	19.46	4.15		0.00	332.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	189.4	-152.2	170.2	-171.4
OPER	300.6C	-268.7	268.7	-300.6C	315.6	-253.7	283.6	-285.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	16.01 R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60 R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35 L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80 L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.72	2.79	6.94	3.14	HS 55.75	100.4
5C1T	11.13	5.79	10.01	6.52	0.00	463.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-73.9	65.8
OPER	151.3	-123.1	109.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	29.62	-2.92	22.79	-3.74	23.37	-2.88	17.97
OPER	5C1T	-3.75	22.61	-2.88	17.39	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	19.47	2.22	HS	44.41	79.9
5C1T	32.85	4.85		0.00	387.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.100

Dead Load Moment	Superimposed Dead Load Moment
-1.3	-13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	161.6	-173.6	161.6	-173.6	176.6	-158.6	176.6	-158.6
OPER	279.4	-279.4	279.4	-279.4	294.4	-264.4	294.4	-264.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	16.01	R	12.32	173.89	0.0	24.53	18.87	145.89	
		-54.60	R	-42.00	152.72	0.0	-50.61	-38.93	133.93	155.46
OPER	5C1T	28.35	L	21.81	98.89	0.0	0.00	0.00	0.00	
		-43.80	L	-33.69	32.54	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	7.20	2.91	7.20	2.91	HS 58.12	104.6
5C1T	10.39	6.04	10.39	6.04	0.00	482.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.0	-160.6	161.8	-179.8
OPER	300.6C	-268.7	268.7	-300.6C	301.7	-267.6	269.7	-299.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	56.43 R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77 L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40 L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94 L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.21	3.84	2.87	4.30	HS 57.36	103.2
5C1T	5.65	6.70	5.05	7.50	0.00	404.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.4	0.0	4.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.8	66.9
OPER	151.3	-121.3	111.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-3.79	24.99	-2.92	19.22	-4.48	20.63	-3.45	15.87
OPER	5C1T	-5.47	19.38	-4.20	14.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	16.25	2.68	HS 53.52	96.3
5C1T	22.19	5.75	0.00	459.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.200

Dead Load Moment	Superimposed Dead Load Moment
-0.1	-0.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.2	-168.1	167.2	-168.1	168.3	-167.0	168.3	-167.0
OPER	279.4	-279.4	279.4	-279.4	280.4	-278.4	280.4	-278.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	56.43	R	43.40	176.28	0.0	42.35	32.58	148.28	
		-41.77	L	-32.13	110.72	0.0	-33.28	-25.60	133.93	86.10
OPER	5C1T	53.40	L	41.08	14.28	0.0	0.00	0.00	0.00	
		-39.94	L	-30.72	34.93	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.98	4.00	2.98	4.00	HS 59.64	107.4
5C1T	5.25	6.97	5.25	6.97	0.00	420.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	175.2	-166.4	156.0	-185.6
OPER	300.6C	-268.7	268.7	-300.6C	292.0	-277.3	260.0	-309.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52 R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81 L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38 L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96 L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.15	4.78	1.91	5.33	HS 38.28	68.9
5C1T	4.09	7.30	3.64	8.15	0.00	291.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	2.9

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.7	67.9
OPER	151.3	-119.5	113.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-4.89	20.39	-3.76	15.68	-6.71	17.75	-5.16	13.65
OPER	5C1T	-7.39	16.16	-5.68	12.43	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	10.69	3.33	HS 66.64	120.0
5C1T	16.18	7.01	0.00	560.4

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.300

Dead Load Moment	Superimposed Dead Load Moment
0.7	8.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	171.1	-164.2	171.1	-164.2	162.5	-172.8	162.5	-172.8
OPER	279.4	-279.4	279.4	-279.4	270.8	-288.0	270.8	-288.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	81.52	R	62.71	178.68	0.0	61.38	47.22	150.68	
		-34.81	L	-26.77	110.72	0.0	-28.55	-21.96	133.93	0.00
OPER	5C1T	71.38	L	54.91	16.68	0.0	0.00	0.00	0.00	
		-37.96	L	-29.20	35.72	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.99	4.97	1.99	4.97	HS 39.86	71.7
5C1T	3.79	7.59	3.79	7.59	0.00	303.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.0	-169.6	152.8	-188.8
OPER	300.6C	-268.7	268.7	-300.6C	286.6	-282.7	254.7	-314.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93 R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85 L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25 R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85 L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.89	6.09	1.68	6.78	HS 33.60	60.5
5C1T	3.48	7.67	3.10	8.54	0.00	247.7

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.1	0.0	1.2

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-70.6	69.0
OPER	151.3	-117.7	115.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.38	17.02	-7.21	13.09	-9.23	14.82	-7.10	11.40
OPER	5C1T	-9.45	13.22	-7.27	10.17	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	7.53	4.06	HS 81.12	146.0
5C1T	12.45	8.70	0.00	696.2

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.400

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.2	-162.0	173.2	-162.0	159.2	-176.0	159.2	-176.0
OPER	279.4	-279.4	279.4	-279.4	265.4	-293.4	265.4	-293.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Loc. of Ax. w/o imp.	Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	90.93	R	69.95	181.07	0.0	72.82	56.01	153.07	
		-27.85	L	-21.42	110.72	0.0	-25.56	-19.66	133.93	0.00
OPER	5C1T	82.25	R	63.27	204.07	0.0	0.00	0.00	0.00	
		-36.85	L	-28.35	37.33	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.75	6.32	1.75	6.32	HS 35.02	63.0
5C1T	3.23	7.96	3.23	7.96	0.00	258.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.79	28.67	28.67	1.699	999999.000	97.119

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		8.33		107.7

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.3	-170.2	152.1	-189.4
OPER	300.6C	-268.7	268.7	-300.6C	285.6	-283.7	253.6	-315.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69 R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43 R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16 R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69 R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.93	6.21	1.72	6.91	HS 34.31	61.8
5C1T	3.35	7.53	2.98	8.38	0.00	238.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	-0.5	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-69.6	70.1
OPER	151.3	-115.9	116.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-13.48	13.52	-10.37	10.40	-11.97	11.93	-9.21	9.17
OPER	5C1T	-11.58	10.75	-8.91	8.27	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	5.16	5.18	HS 103.17	185.7
5C1T	10.01	10.87	0.00	800.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.500

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.9

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.7	-161.6	173.7	-161.6	158.6	-176.7	158.6	-176.7
OPER	279.4	-279.4	279.4	-279.4	264.3	-294.5	264.3	-294.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.69	R	68.22	169.46	0.0	77.29	59.45	155.46	
		-27.43	R	-21.10	200.20	0.0	-24.49	-18.84	176.98	0.00
OPER	5C1T	85.16	R	65.51	206.46	0.0	0.00	0.00	0.00	
		-37.69	R	-28.99	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.79	6.44	1.79	6.44	HS 35.76	64.4
5C1T	3.10	7.81	3.10	7.81	0.00	248.3

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	173.4	-168.1	154.3	-187.3
OPER	300.6C	-268.7	268.7	-300.6C	289.1	-280.2	257.1	-312.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	92.63 L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93 R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12 L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88 R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.87	4.55	1.66	5.07	HS 33.30	59.9
5C1T	3.56	7.03	3.17	7.83	0.00	253.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.2	-2.2	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.4	71.2
OPER	151.3	-114.0	118.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-17.12	9.55	-13.17	7.34	-14.86	9.16	-11.43	7.04
OPER	5C1T	-13.97	8.47	-10.75	6.51	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.99	7.46	HS 79.90	143.8
5C1T	8.16	14.03	0.00	652.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.600

Dead Load Moment	Superimposed Dead Load Moment
0.9	10.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	172.3	-163.0	172.3	-163.0	160.7	-174.6	160.7	-174.6
OPER	279.4	-279.4	279.4	-279.4	267.8	-291.0	267.8	-291.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	92.63	L	71.26	129.85	0.0	72.64	55.87	157.85	
		-36.93	R	-28.41	200.20	0.0	-29.05	-22.34	176.98	0.00
OPER	5C1T	81.12	L	62.40	58.85	0.0	0.00	0.00	0.00	
		-39.88	R	-30.68	227.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.74	4.73	1.74	4.73	HS	34.70	62.5
5C1T	3.30	7.30	3.30	7.30		0.00	264.1

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.700

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	178.1	-163.4	158.9	-182.6
OPER	300.6C	-268.7	268.7	-300.6C	296.9	-272.4	264.9	-304.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79 L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43 R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73 L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29 R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.13	3.52	1.90	3.93	HS 37.94	68.3
5C1T	4.26	6.44	3.80	7.20	0.00	303.9

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.8	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.3	72.3
OPER	151.3	-112.2	120.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-20.51	5.15	-15.77	3.96	-17.81	6.59	-13.70	5.07
OPER	5C1T	-16.67	6.39	-12.82	4.91	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.28	10.98	HS 65.67	118.2
5C1T	6.73	18.87	0.00	538.5

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	7.700				

Dead Load Moment	Superimposed Dead Load Moment
0.3	3.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	169.1	-166.1	169.1	-166.1	165.4	-169.9	165.4	-169.9
OPER	279.4	-279.4	279.4	-279.4	275.6	-283.2	275.6	-283.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	83.79	L	64.45	132.24	0.0	60.87	46.82	160.24	
		-46.43	R	-35.72	200.20	0.0	-33.60	-25.85	176.98	0.00
OPER	5C1T	69.73	L	53.64	57.24	0.0	0.00	0.00	0.00	
		-42.29	R	-32.53	188.20	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.97	3.66	1.97	3.66	HS	39.48	71.1
5C1T	3.95	6.70	3.95	6.70		0.00	316.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	185.4	-156.2	166.2	-175.4
OPER	300.6C	-268.7	268.7	-300.6C	309.0	-260.3	277.0	-292.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93 R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63 L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11 R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.12	2.79	2.80	3.13	HS 55.85	100.5
5C1T	6.63	5.64	5.94	6.34	0.00	451.6

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.5	-5.5	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.2	73.4
OPER	151.3	-110.4	122.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-24.68	2.79	-18.98	2.15	-20.73	4.29	-15.95	3.30
OPER	5C1T	-20.19	4.56	-15.53	3.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.68	17.10	HS 53.69	96.6
5C1T	5.47	26.85	0.00	437.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.800

Dead Load Moment	Superimposed Dead Load Moment
-0.7	-7.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	164.3	-171.0	164.3	-171.0	172.6	-162.6	172.6	-162.6
OPER	279.4	-279.4	279.4	-279.4	287.7	-271.1	287.7	-271.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	59.45 L	45.73	134.63	0.0	40.91	31.47	162.63	
		-55.93 R	-43.03	200.20	0.0	-38.16	-29.36	176.98	86.10
OPER	5C1T	46.63 L	35.87	146.63	0.0	0.00	0.00	0.00	
		-46.11 R	-35.47	275.98	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.90	2.91	2.90	2.91	HS 58.08	104.5
5C1T	6.17	5.88	6.17	5.88	0.00	470.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 7.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	195.2	-146.3	176.0	-165.5
OPER	300.6C	-268.7	268.7	-300.6C	325.4	-243.9	293.4	-275.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	19.54 L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67 L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43 L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56 R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.30	2.16	8.39	2.45	HS 43.25	77.9
5C1T	15.18	4.55	13.69	5.15	0.00	364.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.2	74.5
OPER	151.3	-108.6	124.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-29.37	2.91	-22.59	2.24	-23.54	2.89	-18.11	2.22
OPER	5C1T	-23.58	3.00	-18.14	2.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.22	25.59	HS 44.38	79.9
5C1T	4.61	41.37	0.00	368.5

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 7.900

Dead Load Moment	Superimposed Dead Load Moment
-2.1	-22.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	157.7	-177.5	157.7	-177.5	182.5	-152.8	182.5	-152.8
OPER	279.4	-279.4	279.4	-279.4	304.1	-254.7	304.1	-254.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	19.54	L	15.03	137.03	0.0	20.99	16.15	165.03	
		-67.67	L	-52.05	158.20	0.0	-56.18	-43.21	176.98	153.07
OPER	5C1T	21.43	L	16.48	27.03	0.0	0.00	0.00	0.00	
		-53.56	R	-41.20	193.77	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.69	2.26	8.69	2.26	HS	45.16	81.3
5C1T	14.19	4.76	14.19	4.76		0.00	380.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.93	28.67	28.67	1.699	999999.000	104.581

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		33.68		103.3

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.6	-0.8	-7.1	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	63.3
OPER	151.3	-106.8	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-29.37	36.19	-22.59	27.84	-23.54	26.36	-18.11	20.28
OPER	5C1T	-23.58	27.13	-18.14	20.87	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.75	HS 34.96	62.9
5C1T	4.01	3.89	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS 27.83	50.1
5C1T	27.79	3.20	27.79	3.20	0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	207.6	-133.9	188.5	-153.1
OPER	300.6C	-268.7	268.7	-300.6C	346.1	-223.2	314.1	-255.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	13.92 L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87 R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69 L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05 L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	14.91	1.33	13.54	1.52	HS 26.55	47.8
5C1T	29.60	3.06	26.87	3.49	0.00	244.5

SHEAR RATING REPORT

Structure I. D. HAM500

Rating Types and Vehicles
INV. OPER POST SPEC
HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load		Superimposed Dead Load	
(-) Shear	(+) Shear	(-) Shear	(+) Shear
-0.8	0.9	-8.8	10.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-64.1	63.3
OPER	151.3	-106.8	105.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)	Lane Live Load Shear w/imp. (-)	(+)	w/o imp. (-)	(+)
INV.	HS20	-33.82	36.19	-26.01	27.84	-26.13	26.36	-20.10	20.28
OPER	5C1T	-26.68	27.13	-20.52	20.87	0.00	0.00	0.00	0.00

Rating Veh.	Shear Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	1.89	1.75	HS 34.96	62.9
5C1T	4.01	3.89	0.00	310.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.000

Dead Load Moment	Superimposed Dead Load Moment
-3.8	-41.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	149.5	-185.8	149.5	-185.8	194.9	-140.4	194.9	-140.4
OPER	279.4	-279.4	279.4	-279.4	324.8	-234.0	324.8	-234.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	13.92	L	10.71	110.72	0.0	10.60	8.15	133.93	
		-100.87	R	-77.59	188.59	0.0	-90.69	-69.76	176.98	157.85
OPER	5C1T	11.69	L	8.99	-2.46	0.0	0.00	0.00	0.00	
		-73.05	L	-56.19	162.59	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	14.00	1.39	14.00	1.39	HS	27.83	50.1
5C1T	27.79	3.20	27.79	3.20		0.00	256.2

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.100

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	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 5C1T

Member I. D. S03
Check Point I. D. 8.100

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	193.2	-148.3	174.0	-167.5
OPER	300.6C	-268.7	268.7	-300.6C	322.1	-247.2	290.1	-279.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	10.48 L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85 L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50 L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28 R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	9.21	2.73	8.30	3.08	HS 54.61	98.3
5C1T	13.14	5.34	11.84	6.03	0.00	427.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.100

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.8	0.0	8.4

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-75.3	64.3
OPER	151.3	-125.5	107.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-0.56	32.21	-0.43	24.77	-1.24	24.21	-0.95	18.62
OPER	5C1T	-0.88	24.44	-0.67	18.80	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	60.83	2.00	HS 39.95	71.9
5C1T	143.23	4.39	0.00	351.1

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	8.100				

Dead Load Moment	Superimposed Dead Load Moment
-1.8	-19.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	159.1	-176.2	159.1	-176.2	180.5	-154.8	180.5	-154.8
OPER	279.4	-279.4	279.4	-279.4	300.8	-258.0	300.8	-258.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	10.48	L	8.06	105.93	0.0	20.98	16.14	169.81	
		-53.85	L	-41.42	148.63	0.0	-54.33	-41.79	157.85	181.77
OPER	5C1T	24.50	L	18.85	35.81	0.0	0.00	0.00	0.00	
		-46.28	R	-35.60	204.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	8.60	2.85	8.60	2.85	HS	56.98	102.6
5C1T	12.28	5.57	12.28	5.57		0.00	445.9

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.200

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	181.4	-160.2	162.2	-179.4
OPER	300.6C	-268.7	268.7	-300.6C	302.3	-267.0	270.4	-298.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97	L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23	L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	3.27	3.85	2.93	4.32	HS	58.52	105.3
5C1T	5.71	6.64	5.10	7.43		0.00	408.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.6	0.0	6.7

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-74.2	65.4
OPER	151.3	-123.7	109.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-1.03	27.72	-0.79	21.32	-2.66	21.85	-2.05	16.81
OPER	5C1T	-2.34	21.45	-1.80	16.50	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	27.89	2.36	HS 47.19	84.9
5C1T	52.98	5.08	0.00	406.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.200

Dead Load Moment	Superimposed Dead Load Moment
-0.2	-1.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.0	-168.3	167.0	-168.3	168.7	-166.6	168.7	-166.6
OPER	279.4	-279.4	279.4	-279.4	281.1	-277.7	281.1	-277.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	55.44	R	42.64	200.20	0.0	41.77	32.13	172.20	
		-41.57	L	-31.98	134.63	0.0	-33.15	-25.50	157.85	110.02
OPER	5C1T	52.97	L	40.75	38.20	0.0	0.00	0.00	0.00	
		-40.23	L	-30.94	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	3.04	4.01	3.04	4.01	HS 60.85	109.5
5C1T	5.31	6.90	5.31	6.90	0.00	424.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.300

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.300

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	172.1	-169.4	153.0	-188.6
OPER	300.6C	-268.7	268.7	-300.6C	286.9	-282.4	254.9	-314.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88 R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37 L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85 R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20 L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.94	4.66	1.72	5.19	HS 34.42	62.0
5C1T	3.73	8.02	3.32	8.93	0.00	265.4

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.300

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.5	0.0	5.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-73.2	66.5
OPER	151.3	-121.9	110.8

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-2.98	22.80	-2.29	17.54	-4.42	19.32	-3.40	14.86
OPER	5C1T	-4.09	18.62	-3.15	14.33	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	16.54	2.92	HS 58.32	105.0
5C1T	29.81	5.95	0.00	476.0

SERVICEABILITY RATING REPORT

		Rating Types and Vehicles INV.	OPER	POST	SPEC
Structure I. D.	HAM500				
		HS20	5C1T		
Member I. D.	S03				
Check Point I. D.	8.300				

Dead Load Moment	Superimposed Dead Load Moment
1.1	12.6

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.1	-162.1	173.1	-162.1	159.4	-175.9	159.4	-175.9
OPER	279.4	-279.4	279.4	-279.4	265.7	-293.1	265.7	-293.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	88.88	R	68.37	202.59	0.0	64.70	49.77	174.59	
		-36.37	L	-27.98	134.63	0.0	-28.96	-22.28	157.85	110.02
OPER	5C1T	76.85	R	59.12	225.59	0.0	0.00	0.00	0.00	
		-35.20	L	-27.08	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.79	4.84	1.79	4.84	HS	35.87	64.6
5C1T	3.46	8.33	3.46	8.33		0.00	276.6

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.400

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.5	-176.1	146.3	-195.3
OPER	300.6C	-268.7	268.7	-300.6C	275.8	-293.5	243.8	-325.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59	R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17	L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.60	5.65	1.41	6.26	HS 28.30	50.9
5C1T	2.88	9.73	2.55	10.79	0.00	204.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.3	0.0	3.5

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-72.1	67.6
OPER	151.3	-120.1	112.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-6.62	18.34	-5.09	14.11	-6.50	16.67	-5.00	12.83
OPER	5C1T	-6.09	15.87	-4.68	12.21	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	10.88	3.68	HS 73.67	132.6
5C1T	19.74	7.09	0.00	567.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.400

Dead Load Moment	Superimposed Dead Load Moment
2.0	22.8

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.6	-157.7	177.6	-157.7	152.7	-182.6	152.7	-182.6
OPER	279.4	-279.4	279.4	-279.4	254.5	-304.3	254.5	-304.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	103.37	R	79.51	204.98	0.0	81.03	62.33	176.98	
		-31.18	L	-23.98	134.63	0.0	-23.74	-18.26	157.85	0.00
OPER	5C1T	95.59	R	73.53	227.98	0.0	0.00	0.00	0.00	
		-30.17	L	-23.21	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.48	5.86	1.48	5.86	HS	29.55	53.2
5C1T	2.66	10.09	2.66	10.09		0.00	213.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.500

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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
1.69	28.67	28.67	1.699	999999.000	91.345

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		13.36		106.8

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.4	-180.2	142.2	-199.4
OPER	300.6C	-268.7	268.7	-300.6C	268.9	-300.4	236.9	-332.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58 R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98 L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89 R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14 L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.42	6.94	1.25	7.68	HS 25.03	45.1
5C1T	2.59	11.95	2.28	13.22	0.00	182.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.2	0.0	1.8

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-71.0	68.7
OPER	151.3	-118.3	114.4

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-9.50	15.37	-7.31	11.82	-8.87	13.95	-6.82	10.73
OPER	5C1T	-8.43	13.29	-6.49	10.23	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)		Rating Value	Load Capacity (tons)
HS20	7.47	4.47	HS	89.34	160.8
5C1T	14.03	8.61		0.00	688.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.500

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.1

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.3	-155.0	180.3	-155.0	148.6	-186.7	148.6	-186.7
OPER	279.4	-279.4	279.4	-279.4	247.7	-311.1	247.7	-311.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	113.58	R	87.37	207.38	0.0	91.16	70.12	179.38	
		-25.98	L	-19.98	134.63	0.0	-19.78	-15.22	157.85	0.00
OPER	5C1T	103.89	R	79.92	230.38	0.0	0.00	0.00	0.00	
		-25.14	L	-19.34	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.31	7.18	1.31	7.18	HS	26.17	47.1
5C1T	2.38	12.37	2.38	12.37		0.00	190.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.600

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	160.0	-181.6	140.8	-200.8
OPER	300.6C	-268.7	268.7	-300.6C	266.7	-302.6	234.7	-334.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.36	8.74	1.20	9.66	HS 23.91	43.0
5C1T	2.52	15.04	2.22	16.64	0.00	177.3

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
0.0	0.0	0.1

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	(+)
INV.	90.8	-69.8	69.8
OPER	151.3	-116.4	116.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)	Lane Live Load Shear w/imp. (-)	w/imp. (+)	w/o imp. (-)	w/o imp. (+)
INV.	HS20	-12.31	11.85	-9.47	9.12	-11.52	11.20	-8.86	8.62
OPER	5C1T	-11.06	10.81	-8.51	8.31	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	(+)	Rating Value	Load Capacity (tons)
HS20	5.67	5.89	HS 113.45	204.2
5C1T	10.52	10.77	0.00	841.9

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.600

Dead Load Moment	Superimposed Dead Load Moment
2.8	31.2

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	181.2	-154.1	181.2	-154.1	147.3	-188.0	147.3	-188.0
OPER	279.4	-279.4	279.4	-279.4	245.5	-313.3	245.5	-313.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.79	R	90.61	195.77	0.0	92.13	70.87	181.77	
		-20.78	L	-15.99	134.63	0.0	-15.83	-12.17	157.85	0.00
OPER	5C1T	105.90	L	81.46	82.77	0.0	0.00	0.00	0.00	
		-20.11	L	-15.47	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.25	9.05	1.25	9.05	HS	25.01	45.0
5C1T	2.32	15.58	2.32	15.58		0.00	185.4

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.700

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	161.2	-180.3	142.1	-199.5
OPER	300.6C	-268.7	268.7	-300.6C	268.7	-300.6	236.8	-332.5

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64	L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09	L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.37	11.57	1.21	12.80	HS 24.10	43.4
5C1T	2.67	19.92	2.35	22.04	0.00	188.2

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.1	-1.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-68.8	70.9
OPER	151.3	-114.6	118.1

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-16.43	8.87	-12.64	6.82	-14.43	8.45	-11.10	6.50
OPER	5C1T	-14.03	8.18	-10.79	6.30	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	4.19	7.99	HS 83.71	150.7
5C1T	8.17	14.43	0.00	653.7

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.700

Dead Load Moment	Superimposed Dead Load Moment
2.6	29.3

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4	-154.9	180.4	-154.9	148.5	-186.8	148.5	-186.8
OPER	279.4	-279.4	279.4	-279.4	247.5	-311.3	247.5	-311.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	117.89	R	90.68	198.16	0.0	84.85	65.27	184.16	
		-15.59	L	-11.99	134.63	0.0	-11.87	-9.13	157.85	0.00
OPER	5C1T	100.64	L	77.41	81.16	0.0	0.00	0.00	0.00	
		-15.09	L	-11.60	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.26	11.98	1.26	11.98	HS 25.19	45.3
5C1T	2.46	20.64	2.46	20.64	0.00	196.7

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.800

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	165.0	-176.5	145.9	-195.7
OPER	300.6C	-268.7	268.7	-300.6C	275.1	-294.2	243.1	-326.2

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	1.64	16.99	1.45	18.83	HS 29.04	52.3
5C1T	3.28	29.25	2.90	32.44	0.00	231.8

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.3	-3.3	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-67.7	72.0
OPER	151.3	-112.8	119.9

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-21.00	5.98	-16.15	4.60	-17.56	5.74	-13.51	4.42
OPER	5C1T	-17.54	5.41	-13.49	4.16	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	3.22	12.04	HS 64.47	116.0
5C1T	6.43	22.15	0.00	514.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.800

Dead Load Moment	Superimposed Dead Load Moment
2.1	23.5

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	177.9	-157.4	177.9	-157.4	152.3	-183.0	152.3	-183.0
OPER	279.4	-279.4	279.4	-279.4	253.8	-305.0	253.8	-305.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Loc. of Conc. Load 2
INV.	HS20	100.45	R	77.27	200.55	0.0	66.77	51.36	186.55	
		-10.39	L	-7.99	134.63	0.0	-7.91	-6.09	157.85	0.00
OPER	5C1T	83.90	L	64.54	83.55	0.0	0.00	0.00	0.00	
		-10.06	L	-7.74	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	1.52	17.61	1.52	17.61	HS	30.32	54.6
5C1T	3.03	30.32	3.03	30.32		0.00	242.0

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

RATIO/Inv.	Allowable stress (fs) (psi) Inventory 0.00	Operating 0.00	Posting 0.00	Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor Positive Bending	Negative Bending	Hybrid Yield Strength Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area Gross	Net	Neutral Axis Top	Bott.	Moment of Inertia Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus Positive Bending Top	Bott.	Negative Bending Top	Bott.	Plastic Section Modulus - Z (Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 8.900

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	171.4	-170.1	152.2	-189.3
OPER	300.6C	-268.7	268.7	-300.6C	285.7	-283.6	253.7	-315.6

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06 R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20 L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81 L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03 L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	2.76	32.75	2.45	36.44	HS 49.06	88.3
5C1T	5.62	56.40	4.99	62.76	0.00	399.5

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.4	-4.9	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-66.6	73.0
OPER	151.3	-111.0	121.7

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-25.95	3.01	-19.96	2.31	-20.89	3.12	-16.07	2.40
OPER	5C1T	-21.24	3.55	-16.34	2.73	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.57	23.43	HS 51.35	92.4
5C1T	5.23	34.28	0.00	418.1

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 8.900

Dead Load Moment	Superimposed Dead Load Moment
1.2	13.7

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	173.6	-161.7	173.6	-161.7	158.7	-176.6	158.7	-176.6
OPER	279.4	-279.4	279.4	-279.4	264.5	-294.3	264.5	-294.3

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		Live Load Moment w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	Live Load Moment w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	62.06	R	47.74	202.94	0.0	39.19	30.15	188.94	
		-5.20	L	-4.00	134.63	0.0	-3.96	-3.04	157.85	0.00
OPER	5C1T	50.81	L	39.08	85.94	0.0	0.00	0.00	0.00	
		-5.03	L	-3.87	58.85	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend		Rating Value	Load Capacity (tons)
HS20	2.56	33.99	2.56	33.99	HS	51.14	92.1
5C1T	5.21	58.53	5.21	58.53		0.00	416.5

SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

RATIO/Inv.	Allowable stress (fs) (psi) 0.00 Inventory	0.00 Operating	0.00 Posting	0.00 Special
Fy (yield)	18150.	24750.	0.	0.
Fy (ultimate)	33000.			

Non-Composite Structural Steel Section Properties:

Section Height H	Depth D	Web Thk. tw		Dc	b max	b min	t	ry
21.0	19.76	0.400	top	9.86	8.24	8.24	0.62	1.77
			bott	9.86	8.24	8.24	0.62	1.77

Hybrid Section Properties:

Hybrid Reduction Factor		Hybrid Yield Strength		
Positive Bending	Negative Bending	Top	Web	Bottom
1.0000	1.0000	33000.	33000.	33000.

Section Area		Neutral Axis		Moment of Inertia	
Gross	Net	Top	Bott.	Positive Bending	Negative Bending
18.30	18.30	10.47	10.47	1330.0	1330.0

Section Modulus				Plastic Section Modulus - Z
Positive Bending		Negative Bending		
Top	Bott.	Top	Bott.	(Fy * Z)
127.0	127.0	127.0	127.0	390.83

ADDITIONAL SECTION DATA (ASD/LFD)

Structure I. D. HAM500

Member I. D. S03
Check Point I. D. 9.000

	b'	t	b/t	Lb (in.)	Lb/ry	D/tw	Dc/tw
top	3.92	0.62	13.400	0.01	0.01	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	999999.000	94.775

LFD - Moment Values

Compact Values (C)

	4110/ sqrt Fy	19230/ sqrt Fy	M1	Mu	3.6-2.2(M1/Mu)E6/ Fy
top	22.62	105.86	0.00	390.83	109.1
bott	22.62		0.00		109.1

Braced Non Compact Values (B)

	24 / sqrt Fy	36500/ Fy	20,000,000 Af/ d
top	24.00	200.93	0.00
bott	24.00		0.00

Non Compact Values (N)

	Cb	lambda	Rb	Mr	Lp	Lr
top	0.00	0.	0.000	0.00	0.0	0.00
bott	0.00	0.	0.000	0.00	0.0	0.00

ASD/LFD Shear Values

k	d0 (ft)	C	Fyweb	6000 sqrt(k)/ sqrt Fy	7500 sqrt(k)/ sqrt Fy	ASD Fv	LFD Vp
5.00	11.96	1.00	33000.	73.86	0.00	11.0	151.3

MOMENT RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	180.4C	-161.2	161.2	-180.4C	180.4	-161.2	161.2	-180.4
OPER	300.6C	-268.7	268.7	-300.6C	300.6	-268.7	268.7	-300.6

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Rat. Veh.	Truck Live Load Moment w/imp.	w/o imp.	Loc. of Ax. Front Wheel	Dis.	Lane Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00 R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Moment

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0

SHEAR RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Shear	Superimposed Dead Load (-) Shear	Superimposed Dead Load (+) Shear
-0.6	-6.6	0.0

Rat. Veh.	Shear Capacity VU	Available Capacity for LL+I (-)	Available Capacity for LL+I (+)
INV.	90.8	-65.5	70.2
OPER	151.3	-109.2	117.0

Live Load Effect

Impact Factors: +bend - .300 -bend - .300

Rat. Typ.	Rat. Veh.	Truck Live Load Shear w/imp. (-)	Truck Live Load Shear w/imp. (+)	Truck Live Load Shear w/o imp. (-)	Truck Live Load Shear w/o imp. (+)	Lane Live Load Shear w/imp. (-)	Lane Live Load Shear w/imp. (+)	Lane Live Load Shear w/o imp. (-)	Lane Live Load Shear w/o imp. (+)
INV.	HS20	-31.19	0.00	-24.00	0.00	-24.40	2.12	-18.77	1.63
OPER	5C1T	-25.07	0.00	-19.28	0.00	0.00	0.00	0.00	0.00

Rating Shear

Veh.	Rating Factor (-)	Rating Factor (+)	Rating Value	Load Capacity (tons)
HS20	2.10	33.07	HS 42.02	75.6
5C1T	4.36	999.00	0.00	348.6

SERVICEABILITY RATING REPORT

Rating Types and Vehicles
INV. OPER POST SPEC

Structure I. D. HAM500

HS20 5C1T

Member I. D. S03
Check Point I. D. 9.000

Dead Load Moment	Superimposed Dead Load Moment
0.0	0.0

Rating Veh.	Moment Capacity top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Available Capacity for LL+I top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend
INV.	167.6	-167.6	167.6	-167.6	167.6	-167.6	167.6	-167.6
OPER	279.4	-279.4	279.4	-279.4	279.4	-279.4	279.4	-279.4

Live Load Effect

Impact Factors: +bend - .000 -bend - .000

Rat. Typ.	Truck Veh.	Live Load Moment w/imp.		w/o imp.	Loc. of Ax. Front Wheel	Lane Dis.	Live Load Moment w/imp.	w/o imp.	Loc. of Conc. Load 1	Load 2
INV.	HS20	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00
OPER	5C1T	0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	
		0.00	R	0.00	0.00	0.0	0.00	0.00	0.00	0.00

Serviceability

Rating Veh.	Rating Factor top fiber +bend	top fiber -bend	bottom fiber +bend	bottom fiber -bend	Rating Value	Load Capacity (tons)
HS20	999.00	999.00	999.00	999.00	HS 999.00	999.0
5C1T	999.00	999.00	999.00	999.00	0.00	999.0