

ATTACHMENT C
STRUCTURAL CALCULATIONS

PACIFIC ENGINEERING & DESIGN SI

PHONE LOG

DATE : ~~4/26~~ 5/8/98 TIME : 10³⁰ AM

PHONE # : (509) 754-2011

CONVERSATION WITH : ~~DAVE SMITH~~ MARRENA
: GRANT Co. BLDG DEPT

INFORMATION ON THE CITY OF: MOSES LK (GRANT Co AIRPORT)

98019AS
PROJECT #: ~~95104DS~~ DESCRIPTION: PORT OF MOSES LK BLD ~~2203~~ 401
BLDG 2203

DETAILS OF CONVERSATION:

The following is per discussion with building official of GRANT Co.

Roof Snow Load : 20 PSF

Ground Snow Load : —

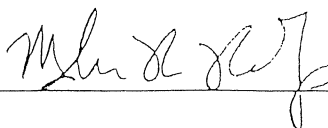
Wind Speed : 70

Exp. : C

Seismic Zone : 2B

Frost Depth : 18"

Other : —

SIGNED: 

Pacific Engineering & Design
7 N. Wenatchee Avenue #405
Wenatchee, Washington 98801
Phone (509) 662-1161

Job BLM 401 # 7801913
Date: 5/8/98 BY: LCR
Subject: STRUCTURAL

52

SIMPLE BEAM ANALYSIS [REC] *****
08:25:06 98/08/11

JOB NUMBER 98019
BEAM DESCRIPTION ROOF SHEATHING

HANDED & LEAN-TO

BEAM DATA *****

BEAM HEIGHT (IN)	75
BEAM WIDTH (IN)	12
BEAM SPAN (FT)	2
LOAD DURATION	1.25
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN ²)	9
SECTION (IN ³)	1.125
INERTIA (IN ⁴)	.42188
CF FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	339.84
SHEAR	758.1
DEFLECTION 1/180	264.96
DEFLECTION 1/240	199.22
DEFLECTION 1/360	133.48

Greater than
30
clear

ANALYSIS IS COMPLETE *****

Pacific Engineering & Design
7 N. Wenatchee Avenue #405
Wenatchee, Washington 98801
Phone (509) 662-1161

Job: Bug dol # 9801915
Date: 5/2/98 BY: KFK
Subject: STRUCTURAL

53

SIMPLE BEAM ANALYSIS [REC] *****
08:22:09 96/08/11

JOB NUMBER 98019
BEAM DESCRIPTION ROOF JOISTS

HANJAR

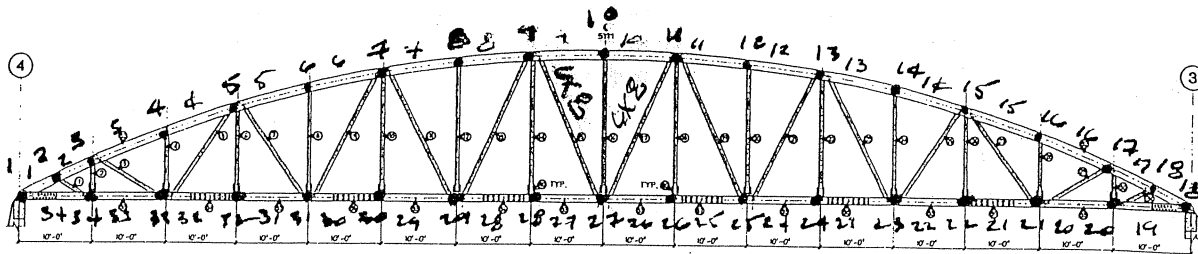
BEAM DATA *****

BEAM HEIGHT (IN)	11.25
BEAM WIDTH (IN)	1.5
BEAM SPAN (FT)	18.333
LOAD DURATION	1.15
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN ²)	16.875
SECTION (IN ³)	31.641
INERTIA (IN ⁴)	177.98
CF FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	104.65	- 52 - 11 = 41
SHEAR	148.98	- 74
DEFLECTION 1/180	145.13	
DEFLECTION 1/240	109.12	- 54
DEFLECTION 1/360	73.11	

ANALYSIS IS COMPLETE *****



TRUSS ELEVATION AND TABLE - BUILDING #408

#	X	Y
1	0	0
2	5	2.53
3	10	4.84
4	20	8.94
5	30	12.29
6	40	14.98
7	50	17.02
8	60	18.44
9	70	19.24
10	80	19.50
11	90	19.27
12	100	18.44
13	110	17.02
14	120	14.98
15	130	12.29
16	140	8.94
17	150	4.84
18	155	2.53
19	160	0
20	120	0
21	140	0
22	120	0
23	100	0
24	80	0
25	60	0
26	40	0
27	20	0
28	0	0
29	10	0

TOP CHORD P/L

ROOFING (2 LAYERS)
X SHEATHING
2X12 @ 24" O.C.
TOP CHORD

4.4 PSF
2.3 PSF
2.2 PSF
2.1 PSF
11 PSF

BOTTOM CHORD DEAD

BOTTOM CHORD
MISC.

2.0 PSF
2.0 PSF
4 PSF

BASIC VERTICAL LOAD CASE

$W = 20 (30) = 600 \text{ PLF}$
 $D = 20 (11) = 220 \text{ PLF (TOP CHORD)}$
 $D = 20 (4) = 80 \text{ PLF (BOTTOM CHORD)}$

SECTION PROPERTIES

TOP CHORD $\rightarrow A = (2) (5\frac{1}{2}) (6\frac{1}{2}) = 174 \text{ IN}^2$
 $I = (2) (5\frac{1}{2}) (16\frac{1}{2})^2 = 3930 \text{ IN}^4$
BOTTOM CHORD $\rightarrow A = (2) (5\frac{1}{2}) (11\frac{1}{2}) = 120 \text{ IN}^2$
 $I = \frac{(2) (5\frac{1}{2}) (11\frac{1}{2})^3}{12} = 1934 \text{ IN}^4$

ALLOWABLE STRESSES

SECTION PROPERTIES (CONT.)

$$F_b = 1200 \text{ psi} \quad (1150 \text{ psi})$$

$$F_c = 1000 \text{ psi}$$

$$F_b = 800 \text{ psi}$$

$$E = 1600 \text{ ksi} \quad (1700 \text{ ksi})$$

↓
GUY-LAM
TORCHER

WEBS

(6x6)

$$A = (5.5)(15.5) = 85.25$$

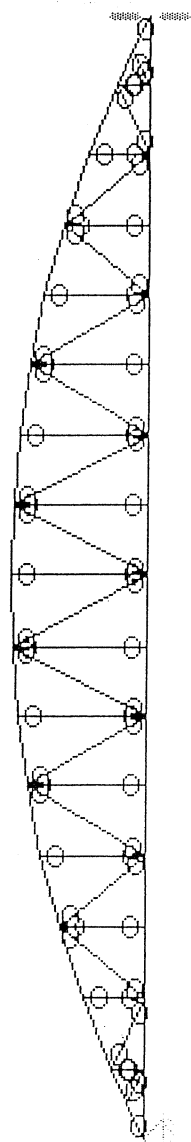
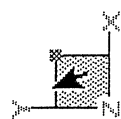
$$I = \frac{(5.5)(5.5)^3}{12} = 76.25$$

(6x6)

$$A = 5.5(7.5) = 41.25$$

$$I = \frac{5.5(7.5)^3}{12} = 193.34$$

SL

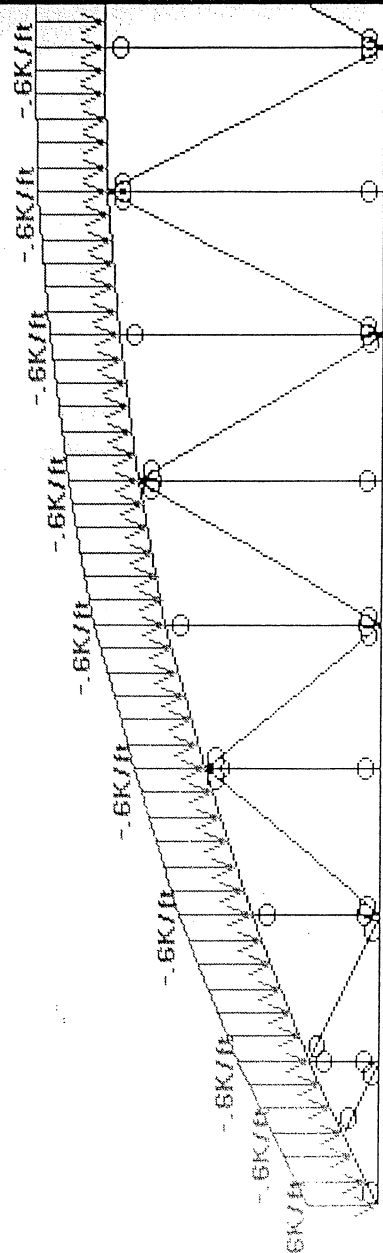
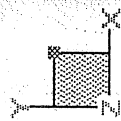
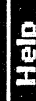
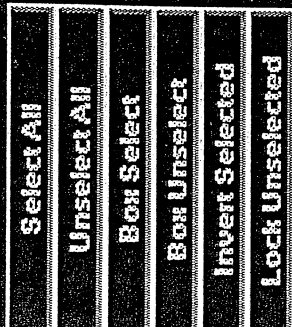
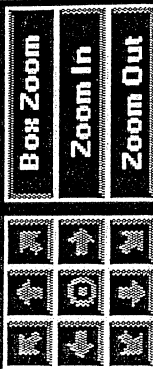
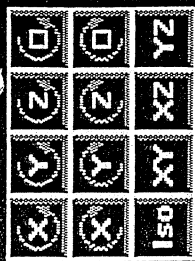


Port of Moses Lake

Bowstring Truss Analysis file No. 98u19BST

Loads: BLC1, TCLIVE

RISA-2D



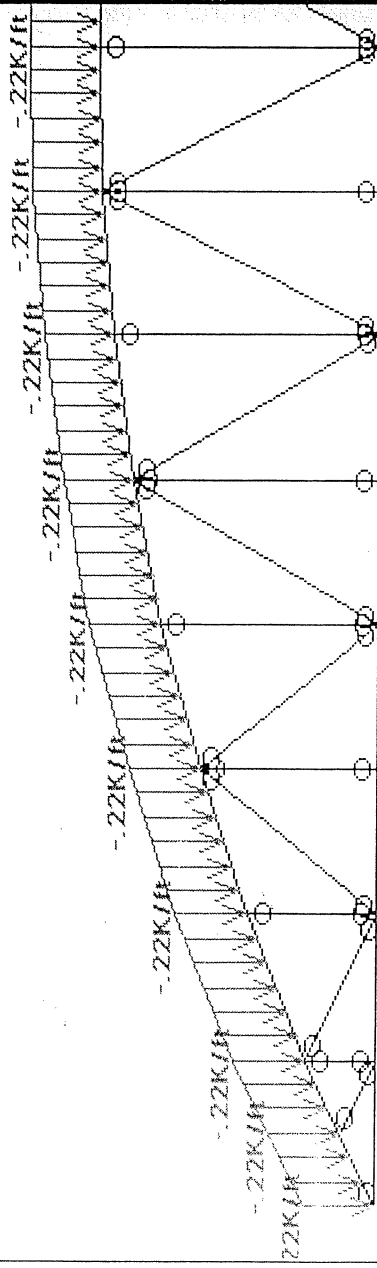
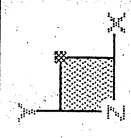
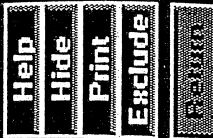
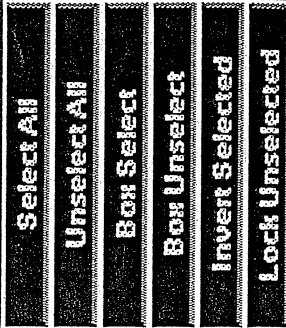
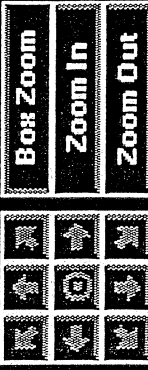
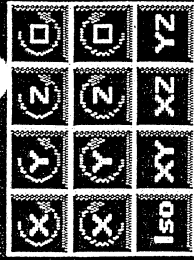
Solution: LC1 LL + DL

Port of Moses Lake

Bowstring Truss Analysis file No. 9bu19BST

Loads: BLC 2, TC DEAD

RISA-2D



Solution: LC1 LL + DL

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Job : 98019AS
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Date: 5/08/98
File: 98019BST

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===== < Member Section Forces, LC 1 : LL + DL > =====

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Member	Joints		Section	Axial	Shear	Moment
	I	-	J	-K-	-K-	-K-ft-
			3	1.34	0.00	0.00
			4	1.34	0.00	0.00
			5	1.34	0.00	0.00
58	23-	14	1	-0.48	0.00	0.00
			2	-0.48	0.00	0.00
			3	-0.48	0.00	0.00
			4	-0.48	0.00	0.00
			5	-0.48	0.00	0.00
59	23-	15	1	-2.38	0.00	0.00
			2	-2.38	0.00	0.00
			3	-2.38	0.00	0.00
			4	-2.38	0.00	0.00
			5	-2.38	0.00	0.00
60	22-	15	1	-0.39	0.00	0.00
			2	-0.39	0.00	0.00
			3	-0.39	0.00	0.00
			4	-0.39	0.00	0.00
			5	-0.39	0.00	0.00
61	15-	21	1	1.61	0.00	0.00
			2	1.61	0.00	0.00
			3	1.61	0.00	0.00
			4	1.61	0.00	0.00
			5	1.61	0.00	0.00
62	21-	16	1	-0.59	0.00	0.00
			2	-0.59	0.00	0.00
			3	-0.59	0.00	0.00
			4	-0.59	0.00	0.00
			5	-0.59	0.00	0.00
63	21-	17	1	-5.90	0.00	0.00
			2	-5.90	0.00	0.00
			3	-5.90	0.00	0.00
			4	-5.90	0.00	0.00
			5	-5.90	0.00	0.00
64	17-	20	1	7.11	0.00	0.00
			2	7.11	0.00	0.00
			3	7.11	0.00	0.00
			4	7.11	0.00	0.00
			5	7.11	0.00	0.00

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Wenatchee, WA 98801

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===== < Member Section Forces, LC 1 : LL + DL > =====

Member	Joints Section		Axial	Shear	Moment
	I	J			
			-K-	-K-	-K-ft-
65	20-	18 1	-13.22	0.00	0.00
		2	-13.22	0.00	0.00
		3	-13.22	0.00	0.00
		4	-13.22	0.00	0.00
		5	-13.22	0.00	0.00

===== < Member NDS Unity Checks, LC 1 : LL + DL > =====

Memb	Unity		Shear		Fc'	Ft'	Fb'	Fv'	RB	CL	CP	Eqn
	Chk	Loc	Chk	Loc								
					-Ksi-	-Ksi-	-Ksi-	-Ksi-				
1	1.224	5	0.157	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
2	1.304	1	0.134	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
3	1.038	2	0.105	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
4	0.931	3	0.091	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
5	0.911	3	0.094	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
6	0.876	3	0.091	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
7	0.877	3	0.091	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
8	0.857	3	0.089	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
9	0.873	3	0.086	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
10	0.873	3	0.086	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
11	0.857	3	0.089	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
12	0.877	3	0.091	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
13	0.876	3	0.091	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
14	0.911	3	0.094	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
15	0.931	3	0.091	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
16	1.038	4	0.105	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
17	1.304	5	0.134	1	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
18	1.224	1	0.157	5	0.992	0.800	1.404	0.330	3.51	1.00	0.99	3.9-3
19	1.569	5	0.070	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
20	1.686	1	0.067	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
21	1.533	4	0.029	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
22	1.530	2	0.031	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
23	1.534	4	0.027	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
24	1.532	2	0.028	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
25	1.543	4	0.028	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
26	1.544	2	0.027	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
27	1.544	4	0.027	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
28	1.543	2	0.028	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
29	1.532	4	0.028	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
30	1.534	2	0.027	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
31	1.530	4	0.031	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
32	1.533	2	0.029	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
33	1.686	5	0.067	1	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
34	1.569	1	0.070	5	0.694	0.800	1.195	0.190	6.75	1.00	0.69	3.9-1
35	0.546	1	0.000	1	0.925	0.800	1.200	0.190	3.50	1.00	0.93	3.9-1

525

pp
checkBottom
member

Pacific Engineering & Design
7 North Wenatchee, #405
Wenatchee, WA 98801

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Port of Moses Lake
Bowstring Truss Analysis file No. 98019BST

=====< Member NDS Unity Checks, LC 1 : LL + DL >=====

Memb	Unity		Shear		Loc	Fc'	Ft'	Fb'	Fv'	RB	CL	CP	Eqn
	Chk	Loc	Chk	Loc									
						Ksi	Ksi	Ksi	Ksi				
36	0.062	1	0.000	1		0.946	0.800	1.200	0.190	3.26	1.00	0.95	3.9-3
37	0.244	1	0.000	1		0.617	0.800	1.200	0.190	4.93	1.00	0.62	3.9-1
38	0.024	1	0.000	1		0.765	0.800	1.200	0.190	4.42	1.00	0.76	3.9-1
39	0.022	1	0.000	1		0.361	0.800	1.200	0.190	5.88	1.00	0.36	3.9-3
40	0.016	1	0.000	1		0.540	0.800	1.200	0.190	5.18	1.00	0.54	3.9-1
41	0.098	1	0.000	1		0.361	0.800	1.200	0.190	5.88	1.00	0.36	3.9-1
42	0.020	1	0.000	1		0.397	0.800	1.200	0.190	5.72	1.00	0.40	3.9-1
43	0.033	1	0.000	1		0.243	0.800	1.200	0.190	6.56	1.00	0.24	3.9-3
44	0.020	1	0.000	1		0.318	0.800	1.200	0.190	6.09	1.00	0.32	3.9-1
45	0.086	1	0.000	1		0.243	0.800	1.200	0.190	6.56	1.00	0.24	3.9-1
46	0.005	1	0.000	1		0.276	0.800	1.200	0.190	6.34	1.00	0.28	3.9-1
47	0.022	1	0.000	1		0.204	0.800	1.200	0.190	6.88	1.00	0.20	3.9-3
48	0.021	1	0.000	1		0.254	0.800	1.200	0.190	6.48	1.00	0.25	3.9-1
49	0.042	1	0.000	1		0.204	0.800	1.200	0.190	8.04	1.00	0.20	3.9-1
50	0.032	1	0.000	1		0.249	0.800	1.200	0.190	6.52	1.00	0.25	3.9-3
51	0.042	1	0.000	1		0.204	0.800	1.200	0.190	8.04	1.00	0.20	3.9-1
52	0.021	1	0.000	1		0.254	0.800	1.200	0.190	6.48	1.00	0.25	3.9-1
53	0.022	1	0.000	1		0.204	0.800	1.200	0.190	6.88	1.00	0.20	3.9-3
54	0.005	1	0.000	1		0.276	0.800	1.200	0.190	6.34	1.00	0.28	3.9-1
55	0.086	1	0.000	1		0.243	0.800	1.200	0.190	6.56	1.00	0.24	3.9-1
56	0.020	1	0.000	1		0.318	0.800	1.200	0.190	6.09	1.00	0.32	3.9-1
57	0.033	1	0.000	1		0.243	0.800	1.200	0.190	6.56	1.00	0.24	3.9-3
58	0.020	1	0.000	1		0.397	0.800	1.200	0.190	5.72	1.00	0.40	3.9-1
59	0.098	1	0.000	1		0.361	0.800	1.200	0.190	5.88	1.00	0.36	3.9-1
60	0.016	1	0.000	1		0.540	0.800	1.200	0.190	5.18	1.00	0.54	3.9-1
61	0.022	1	0.000	1		0.361	0.800	1.200	0.190	5.88	1.00	0.36	3.9-3
62	0.024	1	0.000	1		0.765	0.800	1.200	0.190	4.42	1.00	0.76	3.9-1
63	0.244	1	0.000	1		0.617	0.800	1.200	0.190	4.93	1.00	0.62	3.9-1
64	0.062	1	0.000	1		0.946	0.800	1.200	0.190	3.26	1.00	0.95	3.9-3
65	0.546	1	0.000	1		0.925	0.800	1.200	0.190	3.50	1.00	0.93	3.9-1

=====< Material Takeoff, LC 1 : LL + DL >=====

Section Set	Database Shape	Total	
		Length	Weight
		ft	K
TC	WOODSIZE-6X16	166.33	7.03
BC	WOODSIZE-6X12	160.00	4.90
W1	WOODSIZE-6X6	430.30	3.16
W2	WOODSIZE-6X8	43.42	0.44
		Total Wts:	15.53

BUTTRESS FOOTINGS:

ROOF:

$$P = \frac{1.00(10)(20+15)}{2}$$

$$= 72,000 \#$$

BUTTRESSES

$$P = \left(\frac{4.5+1.5}{2} \right) (40)(1.5)(1.50)$$

$$= 27,000 \#$$

BEAMS

$$P = 2.5(1.5)(2)(20)(1.50)$$

$$= 15,000 \#$$

COLS

$$P = (3)(1.5)(40)(1.50)$$

$$= 27,000 \#$$

KTG

$$P = 12.25(7.0)(5)(1.50)$$

$$= 64,000 \#$$

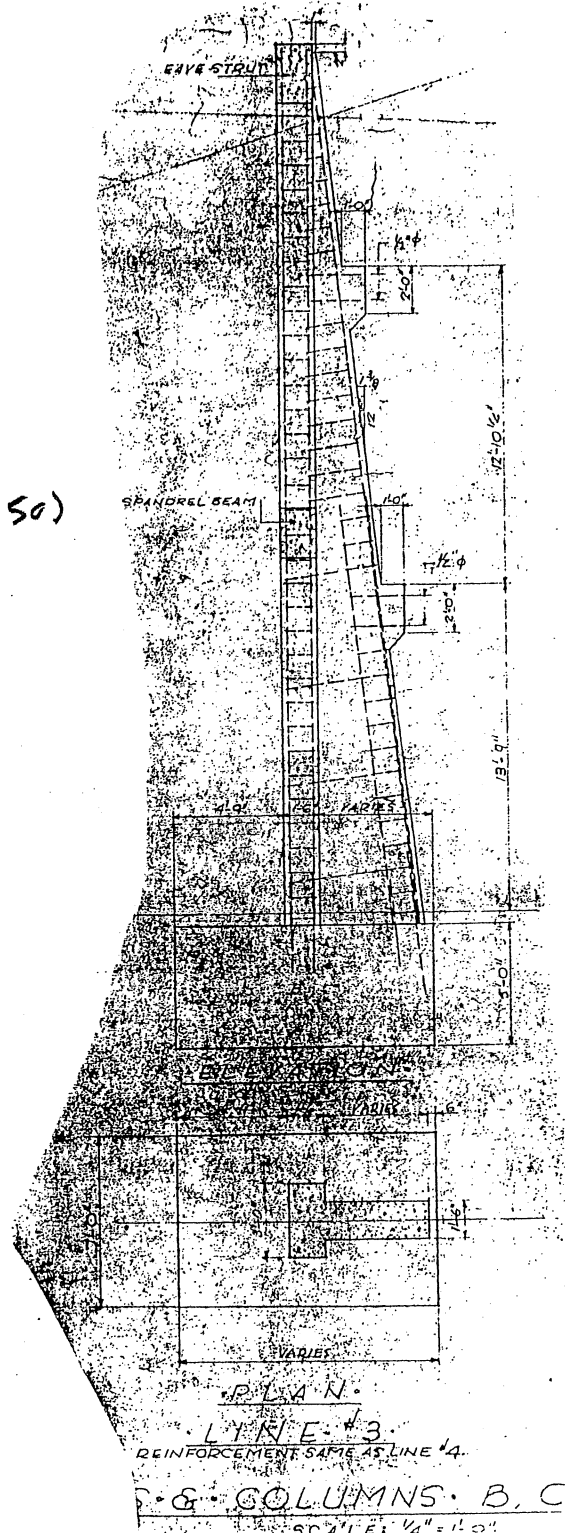
$$R = 205,000 \#$$

$$Q = 205,000$$

$$12.25(7.0)$$

$$= 2390 \#$$

NOTE:
 COLUMN REACTIONS ARE
 ENZIDANTAL



Pacific Engineering & Design
7 N. Wenatchee Avenue #405
Wenatchee, Washington 98801
Phone (509) 662-1161

Job BLDG #01 # 98019 AS
Date: 5/8/98 BY: RLH
Subject: STRUCTURAL

520

SIMPLE BEAM ANALYSIS [REC] *****
09:01:10 96/08/11

JOB NUMBER 98019
BEAM DESCRIPTION ROOF JOISTS

LEAW - TO 20' - SPAN

BEAM DATA *****

BEAM HEIGHT (IN)	9.25
BEAM WIDTH (IN)	1.5
BEAM SPAN (FT)	20
LOAD DURATION	1.15
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN ²)	13.875
SECTION (IN ³)	21.391
INERTIA (IN ⁴)	98.932
CF FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	59.449
SHEAR	109.22
DEFLECTION 1/180	62.135
DEFLECTION 1/240	46.718
DEFLECTION 1/360	31.301

— 30 psf

— 23 psf

ANALYSIS IS COMPLETE *****

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Job BAND 401 # 98019 AS
Date: 5/8/98 BY: ECR
Subject: STRUCTURAL

529

SIMPLE BEAM ANALYSIS [REC] *****
09:01:28 96/08/11

JOB NUMBER 98019
BEAM DESCRIPTION ROOF JOISTS

BEAM DATA *****

BEAM HEIGHT (IN)	9.25
BEAM WIDTH (IN)	1.5
BEAM SPAN (FT)	10
LOAD DURATION	1.15
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN ²)	13.875
SECTION (IN ³)	21.391
INERTIA (IN ⁴)	98.932
Cf FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	237.8
SHEAR	238.35
DEFLECTION 1/180	497.07
DEFLECTION 1/240	373.74
DEFLECTION 1/360	250.41

ANALYSIS IS COMPLETE *****

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Job BURH dcl # 98019A
Date: 5/8/98 BY: KCH
Subject: STRUCTURE

530

SIMPLE BEAM ANALYSIS [REC] *****
09:02:07 96/08/11

JOB NUMBER 98019
BEAM DESCRIPTION CEILING JOISTS 20' SPAN

BEAM DATA *****

BEAM HEIGHT (IN)	5.5
BEAM WIDTH (IN)	1.5
BEAM SPAN (FT)	20
LOAD DURATION	.9
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN^2))	8.25
SECTION (IN^3))	7.5625
INERTIA (IN^4))	20.797
Cf FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	16.448
SHEAR	49.161
DEFLECTION 1/180	13.062
DEFLECTION 1/240	9.8208
DEFLECTION 1/360	6.5799

8 PSF
5 PSF

ANALYSIS IS COMPLETE *****

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Job BLN4401 # 98019 AS
Date: 5/2/98 BY: KEK
Subject: Structural

~~440~~
581

SIMPLE BEAM ANALYSIS [REC] *****
09:04:08 96/08/11

JOB NUMBER 98019
BEAM DESCRIPTION CEILING JOISTS 10' SPAN

BEAM DATA *****

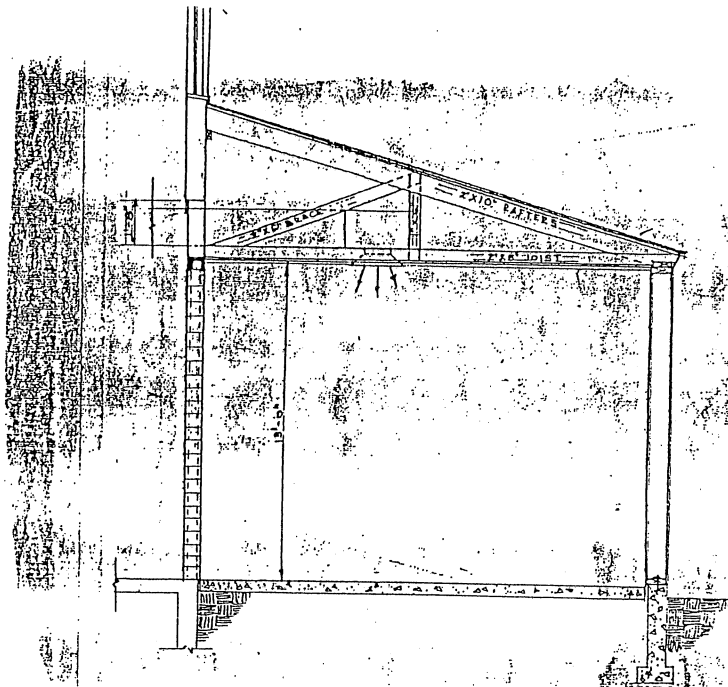
BEAM HEIGHT (IN)	5.5
BEAM WIDTH (IN)	1.5
BEAM SPAN (FT)	10
LOAD DURATION	.9
BENDING STRESS (PSI)	1450
SHEAR STRESS (PSI)	95
ELASTICITY (KSI)	1700
AREA (IN ²)	8.25
SECTION (IN ³)	7.5625
INERTIA (IN ⁴)	20.787
Cf FACTOR	1

BEAM UNIFORM LOADS (PLF) *****

BENDING	65.794	33 psf
SHEAR	103.28	
DEFLECTION 1/180	104.49	
DEFLECTION 1/240	78.566	39 psf
DEFLECTION 1/360	52.639	

ANALYSIS IS COMPLETE *****

LEAN-TO FOOTINGS:



TRANSVERSE SECTION THROUGH LEANTO
SCALE - 1/4" = 1'-0"

ROOF

$$P = \frac{20}{2} (30 + 10 + 10) = 500 \#/\text{ft}$$

$$Q = \frac{1260}{1.33} = 947 \text{ psf}$$

WALL

$$P = 13 (20) = 260 \#/\text{ft}$$

FOUNDATION

$$P = 3 (67 \times 150) = 300 \#/\text{ft}$$

FTG

$$P = 1.33 (1.0) (150) = 200 \#/\text{ft}$$

FTG

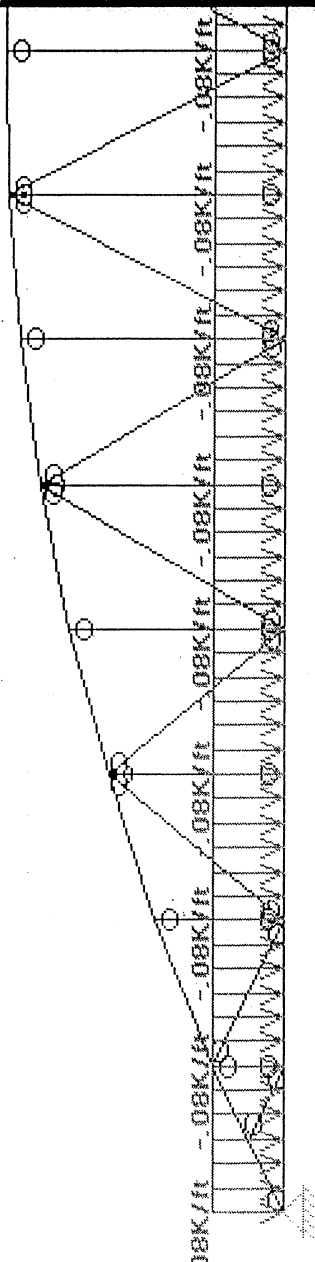
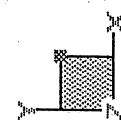
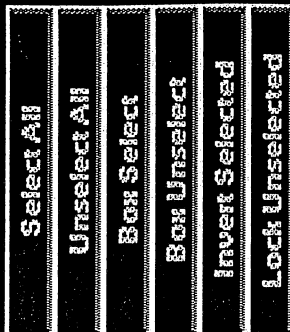
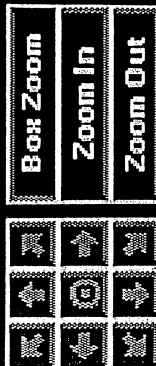
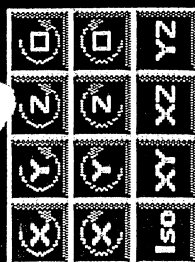
$$1200 \#/\text{ft}$$

Port of Moses Lake

Bowstring Truss Analysis file No. 50J19BST

Loads: BLC3, BC DEAD

RISA-2D



Solution: LC1 LL + DL

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Units..... US Standard
 Steel Code..... AISC 9th Edition ASD
 Allowable Stress Increase Factor.. 1.150
 Include Shear Deformation..... Yes
 No. of Sections for Member Calcs.. 5
 Do Redesign..... No
 P-Delta Analysis Tolerance..... 0.50%

===== < Joint Coordinates > =====			
Joint No	X Coordinate ft	Y Coordinate ft	Joint Temperature 1/2 F
1	0.000	0.000	0.00
2	5.000	2.530	0.00
3	10.000	4.860	0.00
4	20.000	8.940	0.00
5	30.000	12.290	0.00
6	40.000	14.980	0.00
7	50.000	17.020	0.00
8	60.000	18.440	0.00
9	70.000	19.270	0.00
10	80.000	19.500	0.00
11	90.000	19.270	0.00
12	100.000	18.440	0.00
13	110.000	17.020	0.00
14	120.000	14.980	0.00
15	130.000	12.290	0.00
16	140.000	8.940	0.00
17	150.000	4.860	0.00
18	155.000	2.530	0.00
19	160.000	0.000	0.00
20	150.000	0.000	0.00
21	140.000	0.000	0.00
22	130.000	0.000	0.00
23	120.000	0.000	0.00
24	110.000	0.000	0.00
25	100.000	0.000	0.00
26	90.000	0.000	0.00
27	80.000	0.000	0.00
28	70.000	0.000	0.00
29	60.000	0.000	0.00
30	50.000	0.000	0.00
31	40.000	0.000	0.00
32	30.000	0.000	0.00
33	20.000	0.000	0.00
34	10.000	0.000	0.00

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===== < Boundary Conditions > =====

Joint	Translation			
No	X	Y	Rotation	
	K/in	K/in	K-ft/rad	
1	Reaction	Reaction		
19		Reaction		

===== < Materials (General) > =====

Material	Young's	Shear	Poisson's	Thermal	Weight	Yield
Label	Modulus	Modulus	Ratio	Coef.	Density	Stress
	Ksi	Ksi		10 ⁻⁵ °F	K/ft ³	Ksi
STL	29000.00	11154.00	0.3000	0.65000	0.490	36.00

===== < Wood Material Parameters > =====

Wood	NDS Species						CC	E	Poisson	Weight
Set	Database	Fb	Ft	Fv	Fc	E	mr	Mod	Therm	Den
		Ksi	Ksi	Ksi	Ksi	Ksi				10 ⁻⁵ K/ft ³
TC	WOODSIZE-6X16	1.450	0.800	0.165	1.000	1700.0	1.000	0.30	0.30	0.035
BC	WOODSIZE-6X12	1.200	0.800	0.095	1.000	1600.0	1.000	0.30	0.30	0.035
W1	WOODSIZE-6X6	1.200	0.800	0.095	1.000	1600.0	1.000	0.30	0.30	0.035
W2	WOODSIZE-6X8	1.200	0.800	0.095	1.000	1600.0	1.000	0.30	0.30	0.035

===== < Sections > =====

Section	Database	Material	As	As	I	I	T
Label	Shape	Label	Area	0,2 1,3	1,3	0,2	C
			in ²		in ⁴	in ⁴	
TC	WOODSIZE-6X16	TC	174.00	1.2 1.2	398.00	3930.00	
BC	WOODSIZE-6X12	BC	126.00	1.2 1.2	319.00	1934.00	
W1	WOODSIZE-6X6	W1	30.25	1.2 1.2	76.26	76.26	
W2	WOODSIZE-6X8	W2	41.25	1.2 1.2	103.98	193.36	

===== < Members > =====

Memb	Joints	Rotate	Section	Releases	Offsets	Inactive?
No.	I	J	90°	Set	I:AVM J:AVM	I-End J-End Label Length
						in-in-ft
1	1	2	TC	PIN		5.60
2	2	3	TC			5.52
3	3	4	TC			10.80
4	4	5	TC			10.55
5	5	6	TC			10.36
6	6	7	TC			10.21
7	7	8	TC			10.10
8	8	9	TC			10.03
9	9	10	TC			10.00
10	10	11	TC			10.00
11	11	12	TC			10.03
12	12	13	TC			10.10
13	13	14	TC			10.21
14	14	15	TC			10.36
15	15	16	TC			10.55

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===== < Members > =====									
Memb	Joints	Rotate	Section	Releases		Offsets		Inactive?	
No.	I	J	90 $\frac{1}{2}$	Set	I:AVM	J:AVM	I-End	J-End	Label Length
							in	in	ft
16	16	17	TC						10.80
17	17	18	TC						5.52
18	18	19	TC			PIN			5.60
19	1	34	BC						10.00
20	34	33	BC						10.00
21	33	32	BC						10.00
22	32	31	BC						10.00
23	31	30	BC						10.00
24	30	29	BC						10.00
25	29	28	BC						10.00
26	28	27	BC						10.00
27	27	26	BC						10.00
28	26	25	BC						10.00
29	25	24	BC						10.00
30	24	23	BC						10.00
31	23	22	BC						10.00
32	22	21	BC						10.00
33	21	20	BC						10.00
34	20	19	BC						10.00
35	2	34	W1		PIN	PIN			5.60
36	34	3	W1		PIN	PIN			4.86
37	3	33	W1		PIN	PIN			11.12
38	33	4	W1		PIN	PIN			8.94
39	33	5	W1		PIN	PIN			15.84
40	5	32	W1		PIN	PIN			12.29
41	5	31	W1		PIN	PIN			15.84
42	31	6	W1		PIN	PIN			14.98
43	31	7	W1		PIN	PIN			19.74
44	7	30	W1		PIN	PIN			17.02
45	7	29	W1		PIN	PIN			19.74
46	29	8	W1		PIN	PIN			18.44
47	29	9	W1		PIN	PIN			21.71
48	9	28	W1		PIN	PIN			19.27
49	9	27	W2		PIN	PIN			21.71
50	27	10	W1		PIN	PIN			19.50
51	27	11	W2		PIN	PIN			21.71
52	11	26	W1		PIN	PIN			19.27
53	11	25	W1		PIN	PIN			21.71
54	25	12	W1		PIN	PIN			18.44
55	25	13	W1		PIN	PIN			19.74
56	13	24	W1		PIN	PIN			17.02
57	13	23	W1		PIN	PIN			19.74
58	23	14	W1		PIN	PIN			14.98
59	23	15	W1		PIN	PIN			15.84
60	22	15	W1		PIN	PIN			12.29
61	15	21	W1		PIN	PIN			15.84

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===== < Members > =====									
Memb	Joints	Rotate	Section	Releases		Offsets		Inactive?	
No.	I	J	90 $\frac{1}{2}$	Set	I:AVM	J:AVM	I-End	J-End	Label
							in	in	ft
62	21	16	W1		PIN	PIN			8.94
63	21	17	W1		PIN	PIN			11.12
64	17	20	W1		PIN	PIN			4.86
65	20	18	W1		PIN	PIN			5.60

===== < AISC,NDS Parameters > =====									
Member	Section	Length	Lb-out	Lb-in	Lcomp	K	K	Cm	Cb,B Sway
Set			le-out	le-in	le-bend	out	in	CH	o i
		ft	ft	ft	ft				
1	TC	5.60	2.00	2.00	2.00				
2	TC	5.52	2.00	2.00	2.00				
3	TC	10.80	2.00	2.00	2.00				
4	TC	10.55	2.00	2.00	2.00				
5	TC	10.36	2.00	2.00	2.00				
6	TC	10.21	2.00	2.00	2.00				
7	TC	10.10	2.00	2.00	2.00				
8	TC	10.03	2.00	2.00	2.00				
9	TC	10.00	2.00	2.00	2.00				
10	TC	10.00	2.00	2.00	2.00				
11	TC	10.03	2.00	2.00	2.00				
12	TC	10.10	2.00	2.00	2.00				
13	TC	10.21	2.00	2.00	2.00				
14	TC	10.36	2.00	2.00	2.00				
15	TC	10.55	2.00	2.00	2.00				
16	TC	10.80	2.00	2.00	2.00				
17	TC	5.52	2.00	2.00	2.00				
18	TC	5.60	2.00	2.00	2.00				
19	BC	10.00							
20	BC	10.00							
21	BC	10.00							
22	BC	10.00							
23	BC	10.00							
24	BC	10.00							
25	BC	10.00							
26	BC	10.00							
27	BC	10.00							
28	BC	10.00							
29	BC	10.00							
30	BC	10.00							
31	BC	10.00							
32	BC	10.00							
33	BC	10.00							
34	BC	10.00							
35	W1	5.60							
36	W1	4.86							
37	W1	11.12							

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 Bowstring Truss Analysis file No. 98019BST

===== < AISC,NDS Parameters > =====										
Member	Section	Length	Lb-out	Lb-in	Lcomp	K	K	CH	Cm	Cb,B Sway
Set			le-out	le-in	le-bend	out	in			o i
		ft	ft	ft	ft					
38	W1	8.94								
39	W1	15.84								
40	W1	12.29								
41	W1	15.84								
42	W1	14.98								
43	W1	19.74								
44	W1	17.02								
45	W1	19.74								
46	W1	18.44								
47	W1	21.71								
48	W1	19.27								
49	W2	21.71								
50	W1	19.50								
51	W2	21.71								
52	W1	19.27								
53	W1	21.71								
54	W1	18.44								
55	W1	19.74								
56	W1	17.02								
57	W1	19.74								
58	W1	14.98								
59	W1	15.84								
60	W1	12.29								
61	W1	15.84								
62	W1	8.94								
63	W1	11.12								
64	W1	4.86								
65	W1	5.60								

===== < Basic Load Case Data > =====				
BLC	Basic Load Case		Load Type Totals	
No.	Description		Nodal	Point Dist.
1	TC	LIVE		18
2	TC	DEAD		18
3	BC	DEAD		16

===== < Member Distributed Loads, BLC 1 > =====				
Member	Joints		Load Pattern	Pattern
	I	J	Label	Multiplier
1	1	2	UNIFORM	0.6000
2	2	3	UNIFORM	0.6000
3	3	4	UNIFORM	0.6000
4	4	5	UNIFORM	0.6000
5	5	6	UNIFORM	0.6000

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===== < Member Distributed Loads, BLC 1 > =====				
Member	Joints		Load Pattern	Pattern
	I	J	Label	Multiplier
6	6	7	UNIFORM	0.6000
7	7	8	UNIFORM	0.6000
8	8	9	UNIFORM	0.6000
9	9	10	UNIFORM	0.6000
10	10	11	UNIFORM	0.6000
11	11	12	UNIFORM	0.6000
12	12	13	UNIFORM	0.6000
13	13	14	UNIFORM	0.6000
14	14	15	UNIFORM	0.6000
15	15	16	UNIFORM	0.6000
16	16	17	UNIFORM	0.6000
17	17	18	UNIFORM	0.6000
18	18	19	UNIFORM	0.6000

===== < Member Distributed Loads, BLC 2 > =====				
Member	Joints		Load Pattern	Pattern
	I	J	Label	Multiplier
1	1	2	UNIFORM	0.2200
2	2	3	UNIFORM	0.2200
3	3	4	UNIFORM	0.2200
4	4	5	UNIFORM	0.2200
5	5	6	UNIFORM	0.2200
6	6	7	UNIFORM	0.2200
7	7	8	UNIFORM	0.2200
8	8	9	UNIFORM	0.2200
9	9	10	UNIFORM	0.2200
10	10	11	UNIFORM	0.2200
11	11	12	UNIFORM	0.2200
12	12	13	UNIFORM	0.2200
13	13	14	UNIFORM	0.2200
14	14	15	UNIFORM	0.2200
15	15	16	UNIFORM	0.2200
16	16	17	UNIFORM	0.2200
17	17	18	UNIFORM	0.2200
18	18	19	UNIFORM	0.2200

===== < Member Distributed Loads, BLC 3 > =====				
Member	Joints		Load Pattern	Pattern
	I	J	Label	Multiplier
19	1	34	UNIFORM	0.0800
20	34	33	UNIFORM	0.0800
21	33	32	UNIFORM	0.0800
22	32	31	UNIFORM	0.0800
23	31	30	UNIFORM	0.0800

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===== < Member Distributed Loads, BLC 3 > =====

Member	Joints		Load Pattern	Pattern	Multiplier
	I	J	Label		
24	30	29	UNIFORM		0.0800
25	29	28	UNIFORM		0.0800
26	28	27	UNIFORM		0.0800
27	27	26	UNIFORM		0.0800
28	26	25	UNIFORM		0.0800
29	25	24	UNIFORM		0.0800
30	24	23	UNIFORM		0.0800
31	23	22	UNIFORM		0.0800
32	22	21	UNIFORM		0.0800
33	21	20	UNIFORM		0.0800
34	20	19	UNIFORM		0.0800

===== < Load Patterns > =====

Pattern Label	Dir	Magnitudes		Locations	
		Start	End	Start	End
		-K/ft, F-	-K/ft, F-	-ft or %	-ft or %
UNIFORM	Y	-1.000	-1.000	0.000	0.000

===== < Load Combinations > =====

No.	Description	BLC		BLC		BLC		BLC		BLC		RWPE SSdv
		Fac		Fac		Fac		Fac				
1	LL + DL	Y	-0	1	1	2	1	3	1		Y	

===== < Joint Displacements, LC 1 : LL + DL > =====

Joint No	Translation		Rotation
	X	Y	Öz
	in	in	rad
1	0.000	0.000	-0.01029
2	0.294	-0.654	-0.00925
3	0.480	-1.134	-0.00682
4	0.689	-1.829	-0.00474
5	0.797	-2.357	-0.00362
6	0.835	-2.744	-0.00272
7	0.833	-3.047	-0.00201
8	0.799	-3.248	-0.00130
9	0.748	-3.377	-0.00072
10	0.688	-3.421	0.00000
11	0.628	-3.377	0.00072
12	0.578	-3.248	0.00130
13	0.544	-3.047	0.00201
14	0.542	-2.744	0.00272
15	0.580	-2.357	0.00362
16	0.688	-1.829	0.00474
17	0.897	-1.134	0.00682
18	1.083	-0.654	0.00925

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===== < Joint Displacements, LC 1 : LL + DL > =====			
Joint No	Translation X	Translation Y	Rotation $\bar{O}_z$
	in	in	rad
19	1.377	0.000	0.01029
20	1.300	-1.125	0.00765
21	1.217	-1.830	0.00485
22	1.130	-2.358	0.00380
23	1.043	-2.746	0.00285
24	0.955	-3.049	0.00208
25	0.867	-3.248	0.00137
26	0.778	-3.380	0.00070
27	0.688	-3.415	0.00000
28	0.599	-3.380	-0.00070
29	0.510	-3.248	-0.00137
30	0.422	-3.049	-0.00208
31	0.333	-2.746	-0.00285
32	0.246	-2.358	-0.00380
33	0.159	-1.830	-0.00485
34	0.076	-1.125	-0.00765

===== < Reactions, LC 1 : LL + DL > =====			
Joint No	Forces X	Forces Y	Moment Mz
	K	K	K-ft
1	0.00	74.60	0.00
19	0.00	74.60	0.00
Totals:	0.00	149.19	
Center of Gravity Coords (X,Y,Z) (ft) :			
80.000, 11.894, 0.000			

===== < Member Section Forces, LC 1 : LL + DL > =====						
Member	Joints Section		Axial	Shear	Moment	
	I	J	K	K	K-ft	
1	1-	2 1	147.29	7.50	0.00	
		2	146.77	6.48	-9.79	
		3	146.25	5.45	-18.14	
		4	145.73	4.43	-25.06	
		5	145.21	3.40	-30.54	
2	2-	3 1	153.20	-2.29	-30.54	
		2	152.72	-3.32	-26.67	
		3	152.24	-4.34	-21.39	
		4	151.76	-5.37	-14.69	
		5	151.29	-6.39	-6.58	
3	3-	4 1	158.04	3.17	-6.58	
		2	157.21	1.12	-12.36	
		3	156.37	-0.93	-12.61	
		4	155.53	-2.98	-7.33	

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=====< Member Section Forces, LC 1 : LL + DL >=====						
Member	Joints Section		Axial	Shear	Moment	
	I	J	-K-	-K-	-K-ft-	
	5		154.70	-5.03	3.49	
4	4-	5	1	154.51	4.33	3.49
			2	153.83	2.28	-5.23
			3	153.14	0.23	-8.55
			4	152.45	-1.82	-6.46
			5	151.77	-3.87	1.03
5	5-	6	1	153.89	3.71	1.03
			2	153.34	1.66	-5.91
			3	152.79	-0.39	-7.54
			4	152.24	-2.44	-3.87
			5	151.69	-4.49	5.12
6	6-	7	1	151.58	4.37	5.12
			2	151.16	2.32	-3.43
			3	150.75	0.27	-6.74
			4	150.33	-1.78	-4.83
			5	149.91	-3.83	2.32
7	7-	8	1	151.42	3.84	2.32
			2	151.13	1.79	-4.78
			3	150.84	-0.26	-6.70
			4	150.55	-2.31	-3.45
			5	150.26	-4.36	4.99
8	8-	9	1	150.25	4.26	4.99
			2	150.08	2.21	-3.14
			3	149.91	0.16	-6.12
			4	149.74	-1.89	-3.95
			5	149.57	-3.94	3.35
9	9-	10	1	150.56	4.07	3.35
			2	150.51	2.02	-4.26
			3	150.47	-0.03	-6.75
			4	150.42	-2.08	-4.11
			5	150.37	-4.13	3.66
10	10-	11	1	150.37	4.13	3.66
			2	150.42	2.08	-4.11
			3	150.47	0.03	-6.75
			4	150.51	-2.02	-4.26
			5	150.56	-4.07	3.35
11	11-	12	1	149.57	3.94	3.35
			2	149.74	1.89	-3.95

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===== < Member Section Forces, LC 1 : LL + DL > =====						
Member	Joints Section		Axial	Shear	Moment	
	I	J	-K-	-K-	-K-ft-	
		3	149.91	-0.16	-6.12	
		4	150.08	-2.21	-3.14	
		5	150.25	-4.26	4.99	
12	12-	13	1	150.26	4.36	4.99
			2	150.55	2.31	-3.45
			3	150.84	0.26	-6.70
			4	151.13	-1.79	-4.78
			5	151.42	-3.84	2.32
13	13-	14	1	149.91	3.83	2.32
			2	150.33	1.78	-4.83
			3	150.75	-0.27	-6.74
			4	151.16	-2.32	-3.43
			5	151.58	-4.37	5.12
14	14-	15	1	151.69	4.49	5.12
			2	152.24	2.44	-3.87
			3	152.79	0.39	-7.54
			4	153.34	-1.66	-5.91
			5	153.89	-3.71	1.03
15	15-	16	1	151.77	3.87	1.03
			2	152.45	1.82	-6.46
			3	153.14	-0.23	-8.55
			4	153.83	-2.28	-5.23
			5	154.51	-4.33	3.49
16	16-	17	1	154.70	5.03	3.49
			2	155.53	2.98	-7.33
			3	156.37	0.93	-12.61
			4	157.21	-1.12	-12.36
			5	158.04	-3.17	-6.58
17	17-	18	1	151.29	6.39	-6.58
			2	151.76	5.37	-14.69
			3	152.24	4.34	-21.39
			4	152.72	3.32	-26.67
			5	153.20	2.29	-30.54
18	18-	19	1	145.21	-3.40	-30.54
			2	145.73	-4.43	-25.06
			3	146.25	-5.45	-18.14
			4	146.77	-6.48	-9.79
			5	147.29	-7.50	0.00

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===== < Member Section Forces, LC 1 : LL + DL > =====									
Member	Joints		Section	Axial		Shear		Moment	
	I	- J		-K-	-K-	-K-	-K-	-K-	-K-
19	1-	34	1	-128.04	1.40	0.00			
			2	-128.04	1.20	-3.26			
			3	-128.04	1.00	-6.02			
			4	-128.04	0.80	-8.28			
			5	-128.04	0.60	-10.03			
20	34-	33	1	-139.83	-0.54	-10.03			
			2	-139.83	-0.74	-8.44			
			3	-139.83	-0.94	-6.35			
			4	-139.83	-1.14	-3.76			
			5	-139.83	-1.34	-0.66			
21	33-	32	1	-146.15	0.58	-0.66			
			2	-146.15	0.38	-1.88			
			3	-146.15	0.18	-2.59			
			4	-146.15	-0.02	-2.80			
			5	-146.15	-0.22	-2.51			
22	32-	31	1	-146.15	0.17	-2.51			
			2	-146.15	-0.03	-2.70			
			3	-146.15	-0.23	-2.38			
			4	-146.15	-0.43	-1.56			
			5	-146.15	-0.63	-0.25			
23	31-	30	1	-148.33	0.55	-0.25			
			2	-148.33	0.35	-1.36			
			3	-148.33	0.15	-1.97			
			4	-148.33	-0.05	-2.09			
			5	-148.33	-0.25	-1.70			
24	30-	29	1	-148.33	0.23	-1.70			
			2	-148.33	0.03	-2.03			
			3	-148.33	-0.17	-1.86			
			4	-148.33	-0.37	-1.19			
			5	-148.33	-0.57	-0.02			
25	29-	28	1	-149.80	0.55	-0.02			
			2	-149.80	0.35	-1.16			
			3	-149.80	0.15	-1.79			
			4	-149.80	-0.05	-1.92			
			5	-149.80	-0.25	-1.55			
26	28-	27	1	-149.80	0.26	-1.55			
			2	-149.80	0.06	-1.94			
			3	-149.80	-0.14	-1.83			
			4	-149.80	-0.34	-1.22			

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===== < Member Section Forces, LC 1 : LL + DL > =====									
Member	Joints		Section	Axial		Shear		Moment	
	I	-	J		K		K		K-ft
			5		-149.80		-0.54		-0.11
27	27-	26	1		-149.80		0.54		-0.11
			2		-149.80		0.34		-1.22
			3		-149.80		0.14		-1.83
			4		-149.80		-0.06		-1.94
			5		-149.80		-0.26		-1.55
28	26-	25	1		-149.80		0.25		-1.55
			2		-149.80		0.05		-1.92
			3		-149.80		-0.15		-1.79
			4		-149.80		-0.35		-1.16
			5		-149.80		-0.55		-0.02
29	25-	24	1		-148.33		0.57		-0.02
			2		-148.33		0.37		-1.19
			3		-148.33		0.17		-1.86
			4		-148.33		-0.03		-2.03
			5		-148.33		-0.23		-1.70
30	24-	23	1		-148.33		0.25		-1.70
			2		-148.33		0.05		-2.09
			3		-148.33		-0.15		-1.97
			4		-148.33		-0.35		-1.36
			5		-148.33		-0.55		-0.25
31	23-	22	1		-146.15		0.63		-0.25
			2		-146.15		0.43		-1.56
			3		-146.15		0.23		-2.38
			4		-146.15		0.03		-2.70
			5		-146.15		-0.17		-2.51
32	22-	21	1		-146.15		0.22		-2.51
			2		-146.15		0.02		-2.80
			3		-146.15		-0.18		-2.59
			4		-146.15		-0.38		-1.88
			5		-146.15		-0.58		-0.66
33	21-	20	1		-139.83		1.34		-0.66
			2		-139.83		1.14		-3.76
			3		-139.83		0.94		-6.35
			4		-139.83		0.74		-8.44
			5		-139.83		0.54		-10.03
34	20-	19	1		-128.04		-0.60		-10.03
			2		-128.04		-0.80		-8.28

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===== < Member Section Forces, LC 1 : LL + DL > =====

Member	Joints Section		Axial	Shear	Moment
	I	J	-K	-K	-K-ft
		3	-128.04	-1.00	-6.02
		4	-128.04	-1.20	-3.26
		5	-128.04	-1.40	0.00

35	2-	34	1	-13.22	0.00
			2	-13.22	0.00
			3	-13.22	0.00
			4	-13.22	0.00
			5	-13.22	0.00

36	34-	3	1	7.11	0.00
			2	7.11	0.00
			3	7.11	0.00
			4	7.11	0.00
			5	7.11	0.00

37	3-	33	1	-5.90	0.00
			2	-5.90	0.00
			3	-5.90	0.00
			4	-5.90	0.00
			5	-5.90	0.00

38	33-	4	1	-0.59	0.00
			2	-0.59	0.00
			3	-0.59	0.00
			4	-0.59	0.00
			5	-0.59	0.00

39	33-	5	1	1.61	0.00
			2	1.61	0.00
			3	1.61	0.00
			4	1.61	0.00
			5	1.61	0.00

40	5-	32	1	-0.39	0.00
			2	-0.39	0.00
			3	-0.39	0.00
			4	-0.39	0.00
			5	-0.39	0.00

41	5-	31	1	-2.38	0.00
			2	-2.38	0.00
			3	-2.38	0.00
			4	-2.38	0.00
			5	-2.38	0.00

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===== < Member Section Forces, LC 1 : LL + DL > =====

Member	Joints	Section	Axial	Shear	Moment
	I - J		-K	-K	-K-ft
42	31-	6 1	-0.48	0.00	0.00
		2	-0.48	0.00	0.00
		3	-0.48	0.00	0.00
		4	-0.48	0.00	0.00
		5	-0.48	0.00	0.00
43	31-	7 1	1.34	0.00	0.00
		2	1.34	0.00	0.00
		3	1.34	0.00	0.00
		4	1.34	0.00	0.00
		5	1.34	0.00	0.00
44	7-	30 1	-0.49	0.00	0.00
		2	-0.49	0.00	0.00
		3	-0.49	0.00	0.00
		4	-0.49	0.00	0.00
		5	-0.49	0.00	0.00
45	7-	29 1	-2.08	0.00	0.00
		2	-2.08	0.00	0.00
		3	-2.08	0.00	0.00
		4	-2.08	0.00	0.00
		5	-2.08	0.00	0.00
46	29-	8 1	-0.13	0.00	0.00
		2	-0.13	0.00	0.00
		3	-0.13	0.00	0.00
		4	-0.13	0.00	0.00
		5	-0.13	0.00	0.00
47	29-	9 1	0.90	0.00	0.00
		2	0.90	0.00	0.00
		3	0.90	0.00	0.00
		4	0.90	0.00	0.00
		5	0.90	0.00	0.00
48	9-	28 1	-0.50	0.00	0.00
		2	-0.50	0.00	0.00
		3	-0.50	0.00	0.00
		4	-0.50	0.00	0.00
		5	-0.50	0.00	0.00
49	9-	27 1	-1.37	0.00	0.00
		2	-1.37	0.00	0.00
		3	-1.37	0.00	0.00
		4	-1.37	0.00	0.00

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=====< Member Section Forces, LC 1 : LL + DL >=====									
Member	Joints		Section	Axial		Shear		Moment	
	I	-	J		K		K		K-ft
			5		-1.37		0.00		0.00

50	27-	10	1		1.34		0.00		0.00
			2		1.34		0.00		0.00
			3		1.34		0.00		0.00
			4		1.34		0.00		0.00
			5		1.34		0.00		0.00

51	27-	11	1		-1.37		0.00		0.00
			2		-1.37		0.00		0.00
			3		-1.37		0.00		0.00
			4		-1.37		0.00		0.00
			5		-1.37		0.00		0.00

52	11-	26	1		-0.50		0.00		0.00
			2		-0.50		0.00		0.00
			3		-0.50		0.00		0.00
			4		-0.50		0.00		0.00
			5		-0.50		0.00		0.00

53	11-	25	1		0.90		0.00		0.00
			2		0.90		0.00		0.00
			3		0.90		0.00		0.00
			4		0.90		0.00		0.00
			5		0.90		0.00		0.00

54	25-	12	1		-0.13		0.00		0.00
			2		-0.13		0.00		0.00
			3		-0.13		0.00		0.00
			4		-0.13		0.00		0.00
			5		-0.13		0.00		0.00

55	25-	13	1		-2.08		0.00		0.00
			2		-2.08		0.00		0.00
			3		-2.08		0.00		0.00
			4		-2.08		0.00		0.00
			5		-2.08		0.00		0.00

56	13-	24	1		-0.49		0.00		0.00
			2		-0.49		0.00		0.00
			3		-0.49		0.00		0.00
			4		-0.49		0.00		0.00
			5		-0.49		0.00		0.00

57	13-	23	1		1.34		0.00		0.00
			2		1.34		0.00		0.00