Design Data Report
Final Submittal

(VOLUME 2 – 91st AVENUE BRIDGE STRUCTURAL CALCULATIONS)

September 2002

Bethany Home/Grand Canal Flood Control Project

Bethany Home Outfall Channel, Phase II

Project No. 2001C053, PCN No. 620 03 32

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SLAB

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET of
		DESIGNED BY SEO	DATE AUG 02
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Registered Professional Engineer (Civil) NO 23984 MARK K. GILLILAND Date Signed 9/10/02 ARIZONA, U.S.A.

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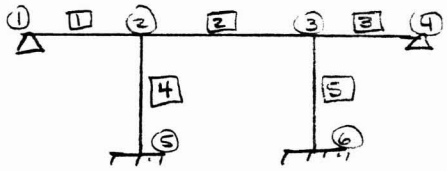
		DESIGNED BY SEO	DATE JUN 02
SUBJECT: SLAB DESIGN		CHECKED BY KMS	DATE 8/02

SLAB DESIGN: ANALYSIS PERFORMED BY BDS

ALLOWABLE STRESS DESIGN



$f'_c = 4000$ psi

$E_c = (57,000)(4000)^{1/2} = 3605$ ksi

$f_s = 24,000$ psi

$f_c = (0.4)(4000 \text{ psi}) = 1600$ psi

Clear (top) = 2 1/2", Clear (Bottom) = 1"

SPANS = 44'-0"

MIN DEPTH (AASHTO 8.9): $(S+10)/30 = 1.8'$ SAY 1'-10"

COLUMNS TO FIXITY: $[1067.43 - (1/2)(2'\text{-}10")] - [1053.00 - 3.7 \times 3.5'] = 25.96$ ft
SAY 26.00 ft

SUPPORT WIDTH: 5.0 ft (WIDTH OF INTEGRAL CAP)

$A_{slab} = (106.46')(1.79') = 190.56 \text{ ft}^2$

$I_{slab} = (106.46)(1.79)^3/(12) = 50.88 \text{ ft}^4$

$A_{sub} = (6)(\pi)(2.0 \text{ ft})^2/4 = 18.85 \text{ ft}^2$

$I_{sub} = (6)(\pi)(2.0 \text{ ft})^4/64 = 4.71 \text{ ft}^4$

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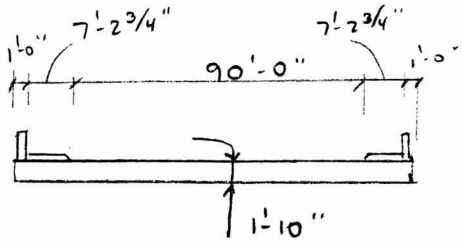

BDS WILL PERFORM THE ANALYSIS.

1. THE AREA AND MOMENT OF INERTIA FOR THE 1'-10" SLAB WILL BE USED.

2. THE VEHICLE LANE LOAD FOR SLAB DESIGN WITH REINFORCEMENT PARALLEL TO TRAFFIC CAN BE DISTRIBUTED OVER A DISTANCE OF (2)(E) AS PER AASHTO 3.24.3.2. SINCE THE SLAB WILL BE DESIGNED ON A PER FOOT BASIS, THE SUPERSTRUCTURE WILL BE ANALYZED WITH ONE LANE LOAD ONLY AND THE CORRESPONDING MOMENTS DIVIDED BY (2)(E) TO OBTAIN THE MOMENTS PER FOOT OF STRUCTURE.

$E = 4 + (0.06)(44.0') = 6.64$ ft

3. SDL'S WILL BE COMPUTED FOR THE TYPICAL 2'-0" SECTION AND FOR THE SIDEWALK SECTION TO DETERMINE THE CONTROLLING MOMENT.

a) <u>TYPICAL 1'-10" SECTION</u>

1. FUTURE WEARING SURFACE
(25 PSF)(1FT)(106.46 ft) — 2662 lb/ft.

2. 1/2" DECK.
(1/2")(1/12)(150 pcf)(106.46 ft) — 666 lb/ft.

b) SIDEWALK SECTION

1. CONCRETE SIDEWALL
(7.19")(1/12)(7.23')(150 pcf) = — 650 lb/ft

2. LIVE LOAD.
(85 psf)(7.23 ft) = — 615 lb/ft

3. PARAPET AND RAILING
(11"/12")(2'-8 3/8")(150 pcf) + 100 lb/ft = — 471 lb/ft

b) CONTINUES

THE SDL FROM SIDEWALK WILL BE ASSUMED TO BE DISTRIBUTED OVER A DECK WIDTH OF 8.23'.

$(1736\ lb/ft)(1/8.23') = 210.63\ lb/ft$

ADDITIONAL DEAD LOADS:

ABUTMENT INTEGRAL CAP = (2.40')(106.46')(4.5')(150pcf) = 172,465 lb

PIER INTEGRAL CAP = (1.0')(5.0')(106.46')(150pcf) = 79,905 lb

NUMBER OF LANES FOR SUBSTRUCTURE:

CLEAR WIDTH = 90'-0"

NUMBER OF LANES = (90'-0"/12'-0")(0.75) = **5.00 ea**

IMPACT = I = 50/L+125 = **0.30**

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TABLE OF POSITIVE MOMENTS

	LOCATION	MOMENTS DL+SDL (PER FOOT)	SWLK (PER FOOT)	LL* (PER FOOT)	DESIGN MOMENT DL + LL+ (K-ft)	
SPAN 1	0	0	0	0	0	
	0.1	20.15	14	19.20	39.35	
	0.2	34.49	24	31.33	65.82	
	0.3	43.04	30	37.12	80.16	
	0.4	45.78	32	39.01	84.79	
	0.5	42.72	30	37.73	80.45	
	0.6	33.85	24	33.96	67.81	
	0.7	19.18	14	25.83	55.01	
	0.8	-1.30	-1	14.23	12.93	P.I = 0.83
	0.9	-27.57	-19	5.57	-	
	1.0	-59.65	-42	5.35	-	
SPAN 2	0	-56.95	-40	6.48	-	
	0.1	-30.84	-22	5.65	-	
	0.2	-10.53	-7	15.66	5.13	P.I = 0.18
	0.3	3.98	3	24.70	28.68	
	0.4	12.68	9	29.82	41.60	
	0.5	15.58	11	30.65	46.23	

NOTE - THE VEHICULAR LL CONTROLS THE DESIGN FOR POSITIVE MOMENT

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POSITIVE MOMENT DESIGN.

SPAN 1 & 3

$M_T = 84.79$ K-ft

$f_c = 1600$ psi, $f_s = 24000$ psi, $n = 8$

$d = 22'' - 1/2'' - 1'' - (1/2)(1.27'') = 19.86''$ (BASED ON #10 BARS)

TRY #10 @ 6", $A_s = 2.54 \text{ in}^2$

$$\rho = \frac{2.54 \text{ in}^2}{(12'')(19.86'')} = 0.106 \implies K = 0.336,\ J = 0.888$$

$$f_s = \frac{(84.79 \text{ K-ft})(12000)}{(2.54 \text{ in}^2)(0.888)(19.86'')} = 22{,}714 \text{ psi} < 24000 \text{ psi} \quad \text{OK}$$

$$f_c = \frac{(2)(84.79 \text{ K-ft})(12000)}{(0.336)(0.888)(12'')(19.86'')^2} = 1441 \text{ psi} < 1600 \text{ psi} \quad \text{OK}$$

NOTE: A_s REQUIRED TO MAXIMIZE ALLOWABLE STRESSES (STL) IS $2.40 \text{ in}^2/\text{ft}$

POSITIVE MOMENT DESIGN

SPAN 2

$M_T = 46.23$ K-ft

$f_c = 1600$ psi , $f_s = 24000$ psi $n = 8$

$d = 19.86''$

TRY # 8 @ 6" , $A_s = 1.58 \text{ in}^2$

$$\rho = \frac{1.58 \text{ in}^2}{(12'')(19.86'')} = 0.0066 \Rightarrow K = 0.252 \quad j = 0.916$$

$$f_s = \frac{(46.23 \text{ K-ft})(12000)}{(1.58 \text{ in}^2)(0.908)(19.86'')} = 19{,}471 \text{ psi} < 24000 \text{ psi} \quad \text{OK}$$

$$f_c = \frac{(2)(46.23 \text{ K-ft})(12000)}{(0.276)(0.908)(12'')(19.86'')^2} = 935 \text{ psi} < 1600 \text{ psi} \quad \text{OK}$$

NOTE:

A_s REQUIRED TO MAXIMIZE ALLOWABLE STRESSES (STL) IS $1.28 \text{ in}^2/\text{ft}$

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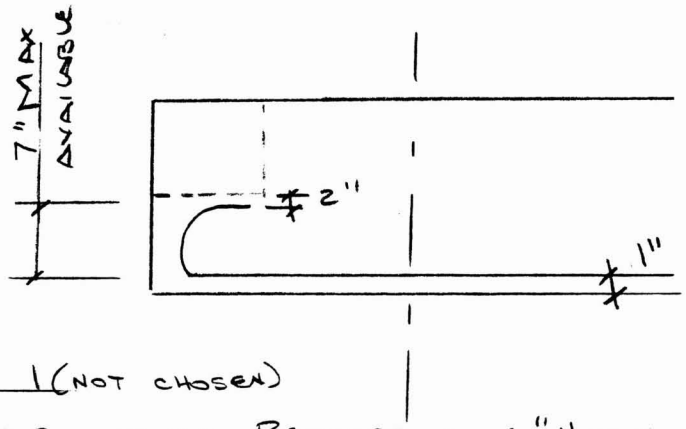
TERMINATION OF POSITIVE MOMENT REINFORCING AT ABUTMENTS

A_s REQUIRED ON SPANS 1 & 3 = 2.40 in^2/ft.

A_s REQUIRED TO EXTEND INTO SUPPORTS = (1/3)(2.40 in^2/ft) = 0.8 in^2

IT IS DESIRABLE TO TERMINATE THESE BARS WITH A STD HOOK BEYOND THE CENTERLINE BEARING:



ALTERNATE 1 (NOT CHOSEN)

A #6 BAR WOULD REQUIRE A 6" HOOK. USE #6 @ 6", A_s = 0.88 in^2

ALSO, A #10 BAR @ 12" REACHES ITS MAX. ALLOWABLE MOMENT (46.1 kip-ft) A DISTANCE OF (0.12)(l_1) = 5'-6" AWAY FROM THE FACE OF ABUTMENT.

THIS BAR MUST BE EXTENDED BY 25" TOWARDS ABUTMENT, OR

(15)(d_b) = 19", (1/20)(Clear Span) = 25", d = 19.8"

5'-6" − (25"/12") = 3'-5". SAY TO THE FACE OF ABUTMENT.

SPLICE EACH OF THE #10 @ 6" WITH THE #6 @ 6" (CLASS C SPLICE)

$l_{d\#10}$ = (48.2")(0.8) = 39"

SPLICE LENGTHS (39")(1.7) = 67" FROM FACE OF ABUTMENT

OR FROM ℄ Brg ABUT = (2'-3")(12") + 67" = 94"

SAY 8'-0"

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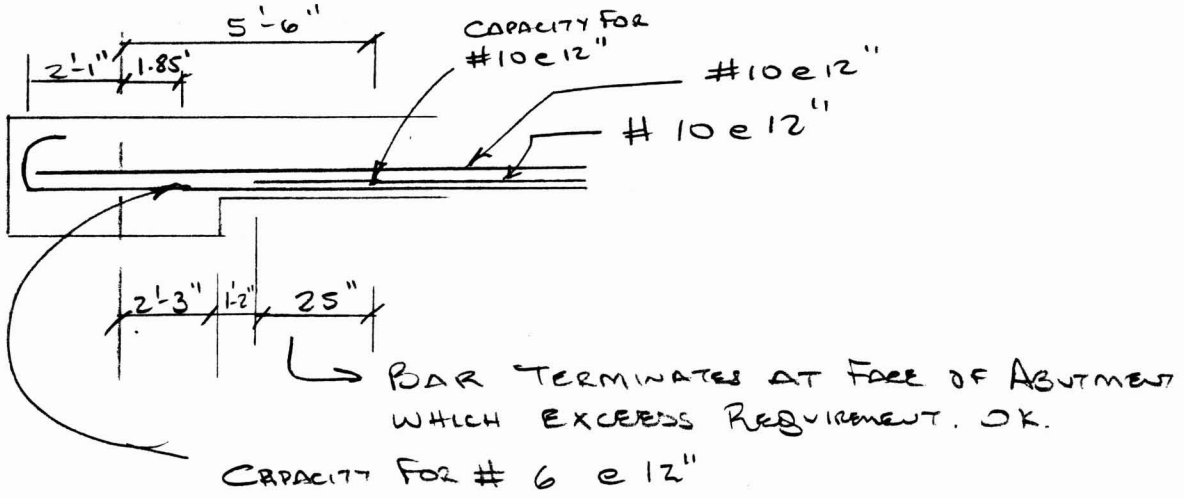
CHECK THE DEVELOPMENT LENGTH OF THE HOOKED # 6 BARS

$l_{dH} = 14.2'' < 2'-3''$ OK

ALTERNATE 2 (RECOMMENDED BY FCD, 8AUG 02)

EXTEND #10 @ 12" TO THE END OF ABUT CAP WITH NO HOOK. END THE OTHER #10 TO THE FACE OF ABUTMENT AND SPLICE IT WITH THE #6 @ 12" W/ A HOOK.



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TERMINATION OF POSITIVE MOMENT REINF. AT PIERS

As REQUIRED TO EXTEND INTO PIERS WILL BE INCREASED FROM 1/4 TO 1/3 AS PER FCD'S REQUEST.

AREA OF STL REQUIRED AT SPANS 1 & 3 = 2.40 in^2/ft

AREA OF STL REQUIRED AT SPAN 2 = 1.28 in^2/ft

AREA OF STL REQUIRED INTO PIERS FROM SPANS 1 & 3 = 0.8 in^2/ft

AREA OF STL REQUIRED INTO PIERS FROM SPAN 2 = 0.43 in^2/ft

SPANS 1 & 3

#8 @ 12" WOULD MEET THE REQUIREMENT OF 0.8 in^2/ft. HOWEVER, IT IS MORE COST EFFECTIVE TO CUT-OFF 1 #10 @ 6" WHERE IT IS NO LONGER NEEDED AND EXTEND REMAINING #10 @ 6" TO SUPPORT.

#10 @ 12" PROVIDES FOR A DESIGN MOMENT OF 46.1 K-ft

DESIGN CAPACITY IS FOUND AT $(0.72)(l_1)$ = 31'-9" FROM ℄ Brg

TERMINATE 1 #10 @ 6" FOR A DISTANCE OF 25" BEYOND 31'-9" = 33'-8"

$(15)(d_b) = 19"$, $(1/20)(\text{clear span}) = 25"$, $d = 19.8"$ SAY 34'-0"

BARS EXTENDING INTO SUPPORTS MUST BE CONTINUOUS OR SPLICED WITH A CLASS A SPLICE.

$(l_{d\#10})(0.8)(1.0) = (48.2")(0.8)(1.0) = 39"$, SAY 3'-4"

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SPAN 2

1 #8 @ 6" WILL BE CUT-OFF WHERE IT IS NO LONGER NEEDED AND THE REMAINING #8 @ 6" WILL EXTEND TO THE SUPPORT.

#8 @ 12" PROVIDES FOR A DESIGN MOMENT OF 29.2 K-ft

DESIGN CAPACITY IS FOUND AT $(0.30)(l_2) = 13.38$ ft FROM ℄ PIER

TERMINATE #8 @ 12" AT A DISTANCE OF 25" BEYOND 13.38' = 11'-3"

$(15)(1.0) = 15"$, $(1/20)(\text{clear span}) = 25"$, $d = 19.8"$

SAY 11'-0"

BARS EXTENDING INTO SUPPORTS MUST BE CONTINUOUS OR SPLICED WITH A CLASS A SPLICE:

$(l_{d\#8})(0.8)(1.0) = 24"$.

HOWEVER, JUST SPLIT $l_{d\#10}$ @ PIER

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POSITIVE MOMENT REINFORCEMENT AASHTO 8.24.2.3

(Eqn 8.65) $l_d \leq M/V + l_a$ (Allowable Stress Design)

CHECK EQN @ PI of SPAN 1 $(0.83)(l_1)$

$M = 46.1$ K-ft

$V = (512\text{ K})(1/106.46\text{ ft}) + (48.14\text{ K})(1/2 \times 6.64') = 8.43\text{K}$

$l_a =$ d or $(12)(d_b)$, 19.86" or $(12)(1.27) = 15.24"$, 19.86" Governs

$$l_d \leq \left(\frac{46.1\text{ K-ft}}{8.43\text{ K}}\right)(12") + 19.86" = 85"$$

$l_{d\#10} = 48.2" < 85"$ OK

CHECK EQN AT PI OF SPAN 2 $(0.18)(l_2)$

$M = 29.2$ K-ft

$V = (449.3\text{K})(1/106.46\text{ ft}) + (49.42\text{ K})(1/2 \times 6.64') = 7.94\text{ K}$

$$l_d \leq \left(\frac{29.2\text{ K-ft}}{7.94\text{ K}}\right)(12") + 19.86" = 64"$$

$l_{d\#8} = 29.8" < 64"$ OK

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TABLE OF NEGATIVE MOMENTS

	LOCATION	MOMENTS DL (PER FT)	SW LK (PER FT)	LL⁻ (PER FT)	DESIGN MOMENT (K-ft)	
SPAN 1	0	0	0	0		
	0.1	20.15	14	-1.73	—	
	0.2	34.49	24	-3.54	—	
	0.3	43.04	30	-5.27	—	
	0.4	45.78	32	-7.08	—	
	0.5	42.72	30	-8.81	—	
	0.6	33.85	24	-10.54	—	
	0.7	19.18	14	-12.35	—	
	0.8	-1.30	-1	-14.08	-15.38	PI = 0.73
	0.9	-27.57	-19	-16.42	-46.57	
	1.0	-59.65	-42	-28.16	-101.65	
SPAN 2	0	-56.95	-40	-27.86	-96.95	
	0.1	-30.84	-22	-20.63	-52.84	
	0.2	-10.53	-7	-17.62	-28.15	
	0.3	3.98	3	-14.61	-10.63	PI = 0.39
	0.4	12.68	9	-11.60	—	
	0.5	15.58	11	-10.62	—	

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SUBJECT: SUB DESIGN		CHECKED BY KMS	DATE 8/02

NEGATIVE MOMENT DESIGN (PIERS 1 & 2)

HORIZONTAL MEMBER MOMENT REDUCTIONS (AASHTO 8.8.1)

PIERS 1 & 2:

$$M_T = \left(\frac{101.65\ K\text{-}ft - 46.57\ K\text{-}ft}{4.40\ ft}\right)\left(4.40' - \frac{5.0}{2}\right) + 46.57\ K\text{-}ft = 70.35\ K$$

$f_c = 1600\ psi$, $f_s = 24000\ psi$, $n = 8$

$d = 22'' - 2\tfrac{1}{2}'' - (1/2)(1.27'') = 18.9''$ (BASED ON #10 BARS)

TRY #10 @ 6", $A_s = 2.54\ in^2$

$$\rho = \frac{2.54\ in^2}{(12'')(18.9'')} = 0.0112 \quad , \Rightarrow K = 0.343 \ , \ J = 0.886$$

$$f_s = \frac{-(70.35\ K\text{-}ft)(12000)}{(2.54\ in^2)(0.886)(18.9'')} = 19,848\ psi < 24000\ psi \ \text{OK}$$

$$f_c = \frac{(2)(70.35\ K\text{-}ft)(12000)}{(0.343)(0.886)(12'')(18.9'')^2} = 1296\ psi < 1600\ psi \ \text{OK}$$

NOTE: A_s REQUIRED OVER PIERS TO MAXIMIZE STRESSES = $2.09\ in^2$

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TERMINATION OF NEGATIVE MOMENT REINFORCING AT PIERS

A_s REQUIRED OVER PIERS = $2.09 in^2$

A_s BEYOND POINT OF INFLECTION = $(1/3)(2.09 in^2) = 0.70 \ in^2/ft$

SAY # 8 @ 12", $A_s = 0.79 \ in^2/ft$

EXTEND A_s BEYOND P.I. BY A DISTANCE EQUAL TO:

1. EFF. DEPTH = 18.9"
2. $(12)(d_b) = (12)(1.0) = 12"$
3. $(1/16)$(Clear Span) $= (1/16)(44.0' - 2.5')(12") = 32"$ (CONTROLS)

THE P.I'S ARE FOUND AT:

SPANS 1 & 3: $(0.73)(l_1) = 32.12$ ft from ℄ Brg Abut

SPAN 2: $(0.39)(l_2) = 17.16$ ft from ℄ Pier.

SPANS 1 & 3

THE FIRST # 10 @ 12" PROVIDES FOR A DESIGN MOMENT OF 43.8 K-ft AND IS FOUND AT $(0.89)(l_1) = 39'-0"$ FROM ℄ BRG ABUT. TERMINATE THIS BAR 32" BEYOND THIS LOCATION OR 36'-4" FROM ℄ BRG ABUT. SAY 9'-0" FROM ℄ PIER.
A # 8 @ 12" PROVIDES FOR A DESIGN MOMENT OF 27.7 K-ft AND IS FOUND AT $(0.84)(l_1) = 37'-0"$ FROM ℄ BRG ABUT. TERMINATE THE #10 @ 12" @ 14'-8" TO KEEP BAR AWAY FROM THE OTHER SPLICE.

l_d # 8 = (29.8")(1.4)(0.8)(1.3) = 3.62' SAY 3'-8"

SPAN 2

8 @ 12" PROVIDES FOR A DESIGN MOMENT OF 27.7 K-ft
DESIGN CAPACITY IS FOUND AT $(0.2)(l_2) = 8.91'$ FROM ℄ PIER.

#10 @ 12" PROVIDES FOR A DESIGN MOMENT OF 43.8 K-ft
DESIGN CAPACITY IS FOUND AT $(0.14)(l_2) = 6.16'$ FROM ℄ PIER

OVER →

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THE FIRST #10 CAN BE TERMINATED AT A DISTANCE OF:

$(2.5\ ft) + l_{d\#10} = (2.5\ ft) + (48.2)(1.4)(0.8)(1/12) = 7.0\ ft$

OR

$6.16\ ft + (32''/12'') = 8.9\ ft$ SAY 9'-0" (CONTROLS)

$d = 18.9$, $(12)(d_b) = 12''$, $(1/16)(\text{Clear Span}) = 32''$

THE SECOND #10 CAN BE TERMINATED AT A DISTANCE OF:

$8.91\ ft + (32''/12'') = 11.6\ ft$

HOWEVER, EXTEND #10 @ 12" TO 16'-0" TO KEEP SPLICE AWAY FROM THE OTHER SPLICE LOCATION. SPLICE THIS BAR WITH A #8 @ 12" TO MEET (1/3)(A_s) REQUIREMENTS (CENTER SPAN)

<u>OPTIONAL TRANSVERSE C.J. IF NEEDED ON SPAN 2 ONLY:</u>

$(0.2)(l_2)$

$M^+ = 5.13^{k\text{-}ft}$, $M^- = 28.15^{k\text{-}ft}$

THIS LOCATION IS NOT DESIRABLE DUE TO HIGH M^-. NONE OF THE NEGATIVE REINFORCING BARS HAVE BEEN TERMINATED AT THIS LOCATION.

$(0.25)(l_2)$

$M^+ = 16.90^{k\text{-}ft}$, $M^- = 19.39^{k\text{-}ft}$

THIS LOCATION IS BETTER.

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MINIMUM REINFORCEMENT (AASHTO 8.17.1)

$$M_{cr} = (f_r)(I_g)/y_t = (7.5)(4000)^{1/2}(12")(22")^3/(12)(11")(12000) = 38.26^{k\text{-}ft}$$

$$\phi M_n \geq 1.2\, M_{cr} = (1.2)(38.26^{k\text{-}ft}) = 45.91^{k\text{-}ft}$$

$$M_n = (A_s)(f_y)\left[d - \frac{(0.59)(A_s)(f_y)}{(f'_c)(b)}\right] = \frac{45.91^{k\text{-}ft}(12{,}000)}{0.9}$$

$$(A_s)(60{,}000)\left[18.9" - \frac{(0.59)(A_s)(60{,}000\,psi)}{(4000\,psi)(12")}\right] = 612{,}134\,\#\text{-}in$$

$$-1{,}134{,}000\,A_s + 44{,}250\,A_s^2 + 612{,}134 = 0$$

$$A_s = \frac{1{,}134{,}000 \pm \sqrt{(1{,}134{,}000)^2 - (4)(44250)(612{,}134)}}{(2)(44250)}$$

$$A_s = \frac{1{,}134{,}000 \pm 1{,}085{,}177}{88500} = 0.55\ in^2/ft \quad \text{OK.}$$

DISTRIBUTION OF REINFORCEMENT (AASHTO 3.24.10)

$$\text{PERCENTAGE} = \frac{100}{\sqrt{S}} = 15.08\% < 50\% \qquad \text{OK.}$$

DISTRIBUTION OF POSITIVE REINF. (BOTTOM SLAB)

SPANS 1 & 3: $(0.1508)(2.54\ in^2) = 0.38\ in^2$

SPAN 2: $(0.1508)(1.58\ in^2) = 0.24\ in^2$

SPAN 1 & 3: Say #6 @ 12", $A_s = 0.44$

SPAN 2: Say #5 @ 12", $A_s = 0.31$

DISTRIBUTION OF NEGATIVE REINF. (TOP SLAB) IS NOT REQUIRED BY AASHTO. HOWEVER, THE TEMPERATURE AND SHRINKAGE REINFORCING REQUIREMENT WILL BE INCREASED FROM #4 @ 18" TO #5 @ 12".

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 14 of 14
		DESIGNED BY SGO	DATE JUN 03
SUBJECT: SLAB DESIGN		CHECKED BY KMB	DATE 8/02

CHECK DECK REINFORCING FOR R+S+T EFFECTS.

SHRINKAGE = 0.0002

TEMPERATURE = 0.000006/°F

RANGE = 40°F

DISTANCE TO POINT OF NO MOVEMENT

- ABUTMENT: (1.5)(44'-0") = 66.0 ft
- PIER: (0.5)(44-0") = 22.0 ft

TOTAL MOVEMENT AT:

- ABUTMENT = [(0.0002) + (0.000006)(40°)] 66.0 ft = 0.029 ft = 0.35"
- PIER: [0.0002 + (0.000006)(40°)] 22.0 ft = 0.010 ft = 0.12"

VERTICAL DISTANCE FROM SUPPORT TO POINT OF FIXITY:

- ABUTMENT: 20.55 ft (STADD PRO)
- PIER: 26.0 ft (STADD PRO)

ABUTMENT

THE SUPERSTRUCTURE IS PIN CONNECTED TO THE ABUTMENT, AND WILL DEFLECT 0.35" WITH THE DECK. CALCULATE THE MOMENT IN THE SHAFT DUE TO THE MOVEMENT AND COMPARE IT WITH THE CRACKING MOMENT:

$$\Delta_{RST} = \frac{(V)(l)^3}{(3)(E)(I)}, \quad E = 3{,}604{,}996 \text{ psi}$$

$$I = (6)(\pi)(21")^4(1/4) = 916{,}470 \text{ in}^4$$

$$l = (20.55 \text{ ft})(12") = 247"$$

$$V = (0.35")(3)(3{,}604{,}996)(916{,}470)(1/247")^3 = 230{,}210 \text{ \#/Bridge}$$

$$V_{SHAFT} = (230{,}210\#)(1/106.46)(18.0 \text{ ft}) = 38{,}923 \text{ \#}$$

$$M_{SHAFT} = (38{,}923\#)(20.55 \text{ ft}) = 799.1 \text{ K-ft}$$

$$M_{CR} = (7.5)(\sqrt{f'_c})(S)$$

$$= (7.5)(4000)^{1/2}(\pi)(21")^3(1/4)(1/12000) = 287.5 \text{ K-ft}$$

$M_{shaft} > M_{cr}$ ∴ Shaft will crack.

NOTE: BASE RST DEMANDS ON A VERTICAL DISTANCE FROM SUPPORT TO POINT OF FIXITY OF (5)(d) = 17.5 ft. (F.S)

USE A CRACKED SECTION

DMJM HARRIS	PROJECT: B Hoc 91ST Ave Bridge	JOB NO. 6888	SHEET 15 of 16
		DESIGNED BY SEO	DATE JUN 02
SUBJECT: Slab Design		CHECKED BY KMS	DATE 8/02

Compute V_{RST} using 17.5 ft

$$V = \frac{(\Delta_{RST})(3)(E)(I)}{(l)^3}, \quad I_{cr} \approx (0.5)(I_g) = 458{,}235 \text{ in}^4$$

$$V = \frac{(0.35")(3)(3{,}604{,}996 \text{ psi})(458235 \text{ in}^4)}{[(17.5 \text{ ft})(12")]^3} = 187{,}294 \text{ \#/Bridge}$$

OR

1760 #/ft.

THIS FORCE OR TENSION WILL BE ADDED TO THE TOP SLAB REINFORCING. ADDITIONALLY, EXTRA REINFORCING WILL BE ADDED TO THE TOP SLAB REINFORCING TO "DRAG" THE APPROACH SLAB (900 #/ft – SEE ABUTMENT CONNECTION DESIGN)

Pier

$$V = \frac{(\Delta_{RST})(12)(E)(I)}{(l)^3}, \quad I = (6 \text{ EA})(\pi)(12")^4(1/4) = 97{,}716 \text{ in}^4$$

$$l = (26.0 \text{ ft})(12") = 312"$$

$$V = \frac{(0.12")(12)(3604996)(97716 \text{ in}^4)}{(312")^3} = 16{,}702 \text{ \#/Bridge}$$

OR

157 #/ft

∴ Additional Reinforcing Required for RST on Deck is:

$$(1760 + 900 + 157) \text{ \#/ft } (1/24{,}000 \text{ psi}) = 0.12 \text{ in}^2/\text{ft}.$$

The only Demand for Top Slab Reinforcing is at the Piers for Negative Moments. $(1/3)(A_s)$ will extend into the Abutment = 0.70 in²/ft. This satisfies the RST demands in Positive Moment Areas. Check Deck over Piers.

Area of Stl Required for AASHTO LC IV.

$$A_{STL} = [A_{STL(DL+LL)} + A_{S(RST)}](0.8)$$

$$= [2.54 \text{ in}^2/\text{ft} + 0.12 \text{ in}^2/\text{ft}](0.8)$$

$$= 2.13 \text{ in}^2/\text{ft} < 2.54 \text{ in}^2/\text{ft Provided}$$

No additional Reinforcing is Required over an Above $A_{STL(DL+LL)}$

DMJM HARRIS	PROJECT: B Hoc 83RD Ave Bridge	JOB NO. 6888	SHEET 16 of 16
		DESIGNED BY SKO	DATE JUN 02
SUBJECT: Slab Design		CHECKED BY KMS	DATE 8/02

LONGITUDINAL EDGE BEAM (AASHTO 3.24.3).

EDGE BEAM TO BE DESIGNED FOR AN ADDITIONAL LL MOMENT OF $(0.10)(P)(S)$, $P = 16,000$ #

$S = 44.0$ ft

APPLY REDUCTION FACTOR OF 20% FOR CONT. SPANS.

$M = (0.10)(16000\ \#)(44.0\ ft)(0.8)$

$= 56,320$ # - ft

EVENTHOUGH, IT IS VERY UNLIKELY THAT SIDEWALK WILL BE REMOVED TO ACCOMMODATE AN ADDITIONAL LANE OF TRAFFIC, AN ADDITIONAL # 10 BAR WILL BE ADDED TO THE TOP AND BOTTOM REINFORCING.

LAP SPLICES FOR TRANSVERSE BARS AT LONG. C.J

USE CLASS B SPLICES

TOP BARS:

5 @ 12": $(l_{d\#5})(1.4)(0.8)(1.3) = 22''$ (SAY 24")

BOTTOM BARS.

5 @ 12": $(l_{d\#5})(0.8)(1.3) = 16''$ (SAY 24")

6 @ 12": $(l_{d\#6})(0.8)(1.3) = 19''$ (SAY 24")

```
*************************************************************************
*                            IAI-BDS                                    *
*                      Bridge Design System                             *
*                                                                       *
*                  By: Imbsen and Associates, Inc.                      *
*                    VERSION 4.2.4     29-JAN-99                        *
*************************************************************************
```

**** Licensed to: Daniel, Mann, Johnson & Mendenhall - Phoenix, AZ ***

91ST-A.doc

KMS 8/02

LISTING OF THE SORTED INPUT FILE

```
CARD              1         2         3         4         5         6         7         8
NUMBER   12345678901234567890123456789012345678901234567890123456789012345678901234567890
-------------------------------------------------------------------------------------------
   1     EX-00004        BHOC 91st Ave Bridge Slab bridge DS=1.83 ft                  000
   2     EX-00004US                                                                   001
   3     EX-00004 1 1 2P H 440          3605     150                  10S             100
   4     EX-00004 2 2 3  H 440          3605     150                  10S             100
   5     EX-00004 3 3 4 PH 440          3605     150                  10S             100
   6     EX-00004 4 5 2    260       50 3605     150                  10S             100
   7     EX-00004 5 6 3    260       50 3605     150                  10S             100
   8     EX-00004 1   0  +26    0              19056    5088                          201
   9     EX-00004 2   0  +26    0              19056    5088                          201
  10     EX-00004 3   0  +26    0              19056    5088                          201
  11     EX-00004 4   0  +26    0               1885     471                          201
  12     EX-00004 5   0  +26    0               1885     471                          201
  13     EX-00004 0 1    666U                       S1/2                              300
  14     EX-00004 0 1   2662U                       SFWS                              300
  15     EX-00004 0 1 172465P                       SABUT 1 DIAPHRAGM                 300
  16     EX-00004 0 2    666U                       S1/2                              300
  17     EX-00004 0 2   2662U                       SFWS                              300
  18     EX-00004 0 2  79905P                       SPIER 1 DIAPHRAGM                 300
  19     EX-00004 0 3    666U                       S1/2                              300
  20     EX-00004 0 3   2662U                       SFWS                              300
  21     EX-00004 0 3  79905P                       SPIER 2 DIAPHRAGM                 300
  22     EX-00004 0 3 172465P 440                   SABUT 2 DIAPHRAGM                 300
  23     EX-00004 1 1    211U                       SSWLK, PARAPET, PED LL            300
  24     EX-00004 1 2    211U                       SSWLK, PARAPET, PED LL            300
  25     EX-00004 1 3    211U                       SSWLK, PARAPET, PED LL            300
  26     EX-00004 1 1000 1000 50 50                                                   400
  27     EX-00004 2 1000 1000 50 50                                                   400
  28     EX-00004 3 1000 1000 50 50                                                   400
         -------------------------------------------------------------------------------
                  1         2         3         4         5         6         7         8
         12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

FRAME DESCRIPTION

MEM NO	JT. LT	JT. RT	END COND LT	END COND RT	DIR	SPAN (FT)	I (FT**4)	SUPPORT OR HINGE (FT)	E (KSI)	DEAD LOAD UNI (KIP/FT)	DEAD LOAD SEC (KCF)	K LT	K RT	CARRY OVER FACTORS LT	CARRY OVER FACTORS RT	RECALL MEM
/---/	/---/		/---/	/---/		/-----/	/------/	/-----/	/------/	/--------/		/----------/		/----------/		/----/
1	1	2	P		H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
2	2	3			H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
3	3	4		P	H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
4	5	2				26.0	0.00	5.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
5	6	3				26.0	0.00	5.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
1 0.0	+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
1	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 1 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
2 0.0	+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
2	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 2 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO (IN)	W (IN)	T (IN)	W (FT)	FACT	T (FT)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
3 0.0	+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
3	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 3 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO (IN)	W (IN)	T (IN)	W (FT)	FACT	T (FT)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
4 0.0	+	26	0.00	0.00	0.00	0.00	18.85	4.71	3605.00	0	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO (IN)	W (IN)	T (IN)	W (FT)	FACT (IN)	T (FT)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
4	0.0	0.00	0.00	0.00	18.85	4.71	0.00	3605.00

MEMBER 4 PROPERTIES

LENGTH: 26.0 FT MIN E*I: 0.170E+05 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO (IN)	W (IN)	T (IN)	W (FT)	FACT (IN)	T (FT)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
+	26	0.00	0.00	0.00	0.00	18.85	4.71	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
5	0.0	0.00	0.00	0.00	18.85	4.71	0.00	3605.00

MEMBER 5 PROPERTIES

LENGTH: 26.0 FT MIN E*I: 0.170E+05 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

FRAME PROPERTIES

MEM NO	JT LT	JT RT	END COND LT	END COND RT	DIR	SPAN (FT)	MIN E*I (KSI-FT**4)	SUPPORT OR HINGE (FT)	E (KSI)	CARRY OVER FACTORS LT	CARRY OVER FACTORS RT	DISTRIBUTION FACTORS LT	DISTRIBUTION FACTORS RT
1	1	2	P		H	44.0	0.1834E+06	0.0	3605.	0.500	0.000	0.000	0.393
2	2	3			H	44.0	0.1834E+06	0.0	3605.	0.500	0.500	0.524	0.524
3	3	4		P	H	44.0	0.1834E+06	0.0	3605.	0.000	0.500	0.393	0.000
4	5	2				26.0	0.1698E+05	5.0	3605.	0.500	0.500	0.000	0.082
5	6	3				26.0	0.1698E+05	5.0	3605.	0.500	0.500	0.000	0.082

***** IF MEMBER IS HORIZONTAL SUPPORT OR HINGE FIELD EQUALS LOCATION OF HINGE FROM LEFT END OF MEMBER *****
***** IF MEMBER IS VERTICAL SUPPORT OR HINGE FIELD EQUALS SUPPORT WIDTH USED FOR MOMENT REDUCTION *****

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LOAD DATA TRIAL 0

LINE	MEM	W OR P (KIP/FT) (KIP)	LOAD CODE	A (FT)	B (FT)	FIXED END MOMENTS LEFT (KIP-FT)	RIGHT (KIP-FT)	DEFLT	COMMENTS
	1	0.666	U	0.0	0.0	0.	0.		1/2
				ASSUMED DATA	44.0				
	1	2.662	U	0.0	0.0	0.	0.		FWS
				ASSUMED DATA	44.0				
	1	172.465	P	0.0	0.0	0.	0.		ABUT 1 DIAPHRAGM
	2	0.666	U	0.0	0.0	0.	0.		1/2
				ASSUMED DATA	44.0				
	2	2.662	U	0.0	0.0	0.	0.		FWS
				ASSUMED DATA	44.0				
	2	79.905	P	0.0	0.0	0.	0.		PIER 1 DIAPHRAGM
	3	0.666	U	0.0	0.0	0.	0.		1/2
				ASSUMED DATA	44.0				
	3	2.662	U	0.0	0.0	0.	0.		FWS
				ASSUMED DATA	44.0				
	3	79.905	P	0.0	0.0	0.	0.		PIER 2 DIAPHRAGM
	3	172.465	P	44.0	0.0	0.	0.		ABUT 2 DIAPHRAGM

FIXED END MOMENTS TRIAL 0

MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)
1	0.	-7723.	2	-5148.	-5148.	3	-7723.	0.
4	0.	0.	5	0.	0.			

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

SIDESWAY DIAGNOSTICS

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

*** SIDESWAY NOT CONSIDERED. FRAME CANNOT SWAY. ***

HORIZONTAL MEMBER MOMENTS (KIP-FT) TRIAL 0

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	2145.	3672.	4582.	4874.	4548.	3604.	2042.	-138.	-2935.	-6350.
2	-6063.	-3283.	-1121.	424.	1350.	1659.	1350.	424.	-1121.	-3283.	-6063.
3	-6350.	-2935.	-138.	2042.	3604.	4548.	4874.	4582.	3672.	2145.	0.

WARNING - MEMBER DEPTHS MISSING SO MOMENT REDUCTION AND STRESSES ARE NOT CALCULATED.

VERTICAL MEMBER MOMENTS(KIP-FT) TRIAL 0

4	-143.	-100.	-57.	-14.	29.	72.	115.	158.	201.	244.	287.
5	143.	100.	57.	14.	-29.	-72.	-115.	-158.	-201.	-244.	-287.

HORIZONTAL MEMBER SHEARS(KIPS) TRIAL 0

1	730.2	417.3	276.9	136.5	-3.9	-144.3	-284.7	-425.1	-565.6	-706.0	-846.4
2	782.0	561.7	421.2	280.8	140.4	0.0	-140.4	-280.8	-421.2	-561.7	-702.1
3	926.3	706.0	565.6	425.1	284.7	144.3	3.9	-136.5	-276.9	-417.3	-730.2

VERTICAL MEMBER SHEARS(KIPS) TRIAL 0

4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5

VERTICAL MEMBER REACTIONS(KIPS) TRIAL 0

MEM NO	LT REACTION	RT REACTION	MEMBER WEIGHT
4	1701.9	1628.4	73.5
5	1701.9	1628.4	73.5

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

TRIAL 0

TANGENTIAL ROTATIONS - RADIANS - CLOCKWISE POSITIVE

SPAN	LT. END	RT. END	SPAN	LT. END	RT. END	SPAN	LT. END	RT. END
1	0.002525	-0.000762	2	-0.000762	0.000762	3	0.000762	-0.002525
4	0.000000	-0.000762	5	0.000000	0.000762			

HORIZONTAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END - DOWNWARD POSITIVE

MEMBER 1	E= 3605. KSI	0.000	0.011	0.020	0.027	0.030	0.030
		0.026	0.020	0.013	0.005	0.000	
MEMBER 2	E= 3605. KSI	0.000	-0.001	-0.001	0.001	0.003	0.003
		0.003	0.001	-0.001	-0.001	0.000	
MEMBER 3	E= 3605. KSI	0.000	0.005	0.013	0.020	0.026	0.030
		0.030	0.027	0.020	0.011	0.000	

VERTICAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END.

MEMBER 4	E= 3605. KSI	0.000	0.000	0.001	0.001	0.002	0.002
		0.003	0.003	0.003	0.002	0.000	
MEMBER 5	E= 3605. KSI	0.000	0.000	-0.001	-0.001	-0.002	-0.002
		-0.003	-0.003	-0.003	-0.002	0.000	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LOAD DATA TRIAL 1

LINE	MEM	W OR P (KIP/FT)	(KIP)	LOAD CODE	A (FT)	B (FT)	FIXED END MOMENTS LEFT (KIP-FT)	RIGHT (KIP-FT)	DEFLT	COMMENTS
	1	0.211		U	0.0	0.0	0.	0.		SWLK, PARAPET, PED LL
					ASSUMED DATA	44.0				
	2	0.211		U	0.0	0.0	0.	0.		SWLK, PARAPET, PED LL
					ASSUMED DATA	44.0				
	3	0.211		U	0.0	0.0	0.	0.		SWLK, PARAPET, PED LL
					ASSUMED DATA	44.0				

FIXED END MOMENTS TRIAL 1

MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)
1	0.	-51.	2	-34.	-34.	3	-51.	0.
4	0.	0.	5	0.	0.			

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

*** SIDESWAY NOT CONSIDERED. FRAME CANNOT SWAY. ***

HORIZONTAL MEMBER MOMENTS (KIP-FT) TRIAL 1

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	14.	24.	30.	32.	30.	24.	14.	-1.	-19.	-42.
2	-40.	-22.	-7.	3.	9.	11.	9.	3.	-7.	-22.	-40.
3	-42.	-19.	-1.	14.	24.	30.	32.	30.	24.	14.	0.

WARNING - MEMBER DEPTHS MISSING SO MOMENT REDUCTION AND STRESSES ARE NOT CALCULATED.

VERTICAL MEMBER MOMENTS(KIP-FT) TRIAL 1

4	-1.	-1.	0.	0.	0.	0.	1.	1.	1.	2.	2.
5	1.	1.	0.	0.	0.	0.	-1.	-1.	-1.	-2.	-2.

HORIZONTAL MEMBER SHEARS(KIPS) TRIAL 1

1	3.7	2.8	1.8	0.9	0.0	-1.0	-1.9	-2.8	-3.7	-4.7	-5.6
2	4.6	3.7	2.8	1.9	0.9	0.0	-0.9	-1.9	-2.8	-3.7	-4.6
3	5.6	4.7	3.7	2.8	1.9	1.0	0.0	-0.9	-1.8	-2.8	-3.7

VERTICAL MEMBER SHEARS(KIPS) TRIAL 1

4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1

VERTICAL MEMBER REACTIONS(KIPS) TRIAL 1

MEM NO	LT REACTION	RT REACTION	MEMBER WEIGHT
4	10.2	10.2	
5	10.2	10.2	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

TRIAL 1

TANGENTIAL ROTATIONS - RADIANS - CLOCKWISE POSITIVE

SPAN	LT. END	RT. END	SPAN	LT. END	RT. END	SPAN	LT. END	RT. END
1	0.000017	-0.000005	2	-0.000005	0.000005	3	0.000005	-0.000017
4	0.000000	-0.000005	5	0.000000	0.000005			

HORIZONTAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END - DOWNWARD POSITIVE

MEMBER 1	E= 3605. KSI	0.000	0.000	0.000	0.000	0.000	0.000
		0.000	0.000	0.000	0.000	0.000	
MEMBER 2	E= 3605. KSI	0.000	0.000	0.000	0.000	0.000	0.000
		0.000	0.000	0.000	0.000	0.000	
MEMBER 3	E= 3605. KSI	0.000	0.000	0.000	0.000	0.000	0.000
		0.000	0.000	0.000	0.000	0.000	

VERTICAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END.

MEMBER 4	E= 3605. KSI	0.000	0.000	0.000	0.000	0.000	0.000
		0.000	0.000	0.000	0.000	0.000	
MEMBER 5	E= 3605. KSI	0.000	0.000	0.000	0.000	0.000	0.000
		0.000	0.000	0.000	0.000	0.000	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LIVE LOAD DIAGNOSTICS

SUPERSTRUCTURE LIVE LOAD

MEM NO.	NUMBER OF LIVE LOAD LANES SUPERSTRUCTURE LT.END	SUPERSTRUCTURE RT.END	SUBSTRUCTURE LT.END	SUBSTRUCTURE RT.END	RESISTING MOMENT OF UNIT STEEL POSITIVE (K-FT/SQ IN)	NEGATIVE	PLOT M ENV.	PLOT S SCALE	INFLUENCE LINES	GEN
1	1.000	1.000	5.0	5.0	0.	0.	0	0	NO	NO
2	1.000	1.000	5.0	5.0	0.	0.				
3	1.000	1.000	5.0	5.0	0.	0.				

LIVE LOAD NO.	TRUCK P1	D1	P2	D2	P3	LANE UNIFORM	MOM. RIDER	SHEAR RIDER	IMPACT	NO. LL LNS.	LIVE LOAD SIDESWAY
	(KIPS)	(FT)	(KIPS)	(FT)	(KIPS)	(KIPS/FT)	(KIP-FT)	(KIPS)			
1.	8.0	14.0	32.0	14.0	32.0	0.640	18.0	26.0	YES	0.00	NO

COMMENTS: HS20-44 AASHTO LOADING WITHOUT ALTERNATIVE

IMPACT FACTORS CALCULATED BY PROGRAM

MEM NO	IMPACT %
1	30.
2	30.
3	30.

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. NEGATIVE LIVE LOAD MOMENT(KIP-FT) ENVELOPE AND ASSOCIATED SHEARS (KIPS)

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	-23.	-47.	-70.	-94.	-117.	-140.	-164.	-187.	-218.	-374.
SHEAR	0.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-30.9	-40.8
2	-370.	-274.	-234.	-194.	-154.	-141.	-154.	-194.	-234.	-274.	-370.
SHEAR	38.3	9.1	9.1	9.1	9.1	0.0	-9.1	-9.1	-9.1	-9.1	-38.3
3	-374.	-218.	-187.	-164.	-140.	-117.	-94.	-70.	-47.	-23.	0.
SHEAR	40.8	30.9	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	0.0

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. DEAD LOAD PLUS NEGATIVE LIVE LOAD MOMENT(KIP-FT) ENVELOPE

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	2122.	3626.	4512.	4780.	4431.	3463.	1878.	-325.	-3153.	-6725.
2	-6433.	-3558.	-1355.	229.	1196.	1518.	1196.	229.	-1355.	-3558.	-6433.
3	-6725.	-3153.	-325.	1878.	3463.	4431.	4780.	4512.	3626.	2122.	0.

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. POSITIVE LIVE LOAD MOMENT(KIP-FT) ENVELOPE AND ASSOCIATED SHEARS (KIPS)

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	255.	416.	493.	518.	501.	451.	343.	189.	74.	71.
SHEAR	0.0	57.9	47.3	37.3	27.3	-33.8	-43.9	-53.9	-63.2	-25.5	1.6
2	86.	75.	208.	328.	396.	407.	396.	328.	208.	75.	86.
SHEAR	-9.1	23.6	55.8	45.8	35.3	25.3	-35.3	-45.8	-55.8	-23.6	9.1
3	71.	74.	189.	343.	451.	501.	518.	493.	416.	255.	0.
SHEAR	-1.6	25.5	63.2	53.9	43.9	33.8	-27.3	-37.3	-47.3	-57.9	0.0

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. DEAD LOAD PLUS POSITIVE LIVE LOAD MOMENT(KIP-FT) ENVELOPE

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	2400.	4088.	5075.	5391.	5048.	4055.	2385.	51.	-2861.	-6279.
2	-5977.	-3208.	-912.	751.	1747.	2066.	1747.	751.	-912.	-3208.	-5977.
3	-6279.	-2861.	51.	2385.	4055.	5048.	5391.	5075.	4088.	2400.	0.

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. LIVE LOAD SHEAR(KIPS) ENVELOPES AND ASSOCIATED MOMENTS (KIP-FT)

MEMBER 1	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	69.0	57.9	47.3	37.3	28.2	20.1	13.0	8.1	4.8	2.3	1.6
MOM.	0.	255.	416.	493.	497.	442.	343.	97.	47.	18.	71.
NEG. V	-5.3	-6.2	-11.2	-16.5	-25.0	-34.9	-44.3	-53.9	-63.2	-71.6	-78.8
MOM.	0.	171.	313.	416.	440.	477.	440.	343.	189.	-10.	-234.
RANGE	74.3	64.0	58.4	53.8	53.2	54.9	57.3	62.0	68.0	73.9	80.4

LL NO. 1. LIVE LOAD SHEAR(KIPS) ENVELOPES AND ASSOCIATED MOMENTS (KIP-FT)

MEMBER 2	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	74.5	65.6	55.8	45.8	35.7	26.1	18.2	13.2	9.1	9.1	9.1
MOM.	-183.	33.	208.	328.	384.	379.	233.	173.	6.	46.	86.
NEG. V	-9.1	-9.1	-9.1	-13.2	-18.2	-26.1	-35.7	-45.8	-55.8	-65.6	-74.5
MOM.	86.	46.	6.	297.	362.	379.	384.	328.	208.	33.	-183.
RANGE	83.6	74.7	64.9	59.0	53.9	52.2	53.9	59.0	64.9	74.7	83.6

LL NO. 1. LIVE LOAD SHEAR(KIPS) ENVELOPES AND ASSOCIATED MOMENTS (KIP-FT)

MEMBER 3	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	78.8	71.6	63.2	53.9	44.3	34.9	25.0	16.5	11.2	6.2	5.3
MOM.	-234.	-10.	189.	343.	440.	477.	440.	416.	313.	171.	0.
NEG. V	-1.6	-2.3	-4.8	-8.1	-13.0	-20.1	-28.2	-37.3	-47.3	-57.9	-69.0
MOM.	71.	91.	170.	249.	343.	442.	497.	493.	416.	255.	0.
RANGE	80.4	73.9	68.0	62.0	57.3	54.9	53.2	53.8	58.4	64.0	74.3

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. DEAD LOAD PLUS LIVE LOAD SHEAR(KIPS) ENVELOPE

MEMBER	1 LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	799.2	475.2	324.2	173.8	24.3	-124.2	-271.7	-417.1	-560.7	-703.7	-844.8
NEG. V	724.9	411.1	265.8	120.0	-28.9	-179.2	-329.0	-479.0	-628.8	-777.5	-925.2

LL NO. 1. DEAD LOAD PLUS LIVE LOAD SHEAR(KIPS) ENVELOPE

MEMBER	2 LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	856.5	627.2	477.1	326.6	176.1	26.1	-122.2	-267.6	-412.1	-552.6	-693.0
NEG. V	772.9	552.6	412.1	267.6	122.2	-26.1	-176.1	-326.6	-477.1	-627.2	-776.6

LL NO. 1. DEAD LOAD PLUS LIVE LOAD SHEAR(KIPS) ENVELOPE

MEMBER	3 LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
POS. V	1005.1	777.5	628.8	479.0	329.0	179.2	28.9	-120.0	-265.8	-411.1	-724.9
NEG. V	924.7	703.7	560.7	417.1	271.7	124.2	-24.3	-173.8	-324.2	-475.2	-799.2

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

LL NO. 1. LIVE LOAD SUPPORT RESULTS

	MAX. AXIAL LOAD			MAX. LONGITUDINAL MOMENT		
	AXIAL LOAD (KIPS)	------MOMENT------ TOP (K-FT)	BOT. (K-FT)	AXIAL LOAD (KIPS)	------MOMENT------ TOP (K-FT)	BOT. (K-FT)
SUPPORT JT. 1						
POSITIVE	344.8	0.	0.	0.0	0.	0.
NEGATIVE	-26.6	0.	0.	0.0	0.	0.
MEMBER 4						
POSITIVE	435.6	77.	-38.	323.7	283.	-142.
NEGATIVE	-53.6	74.	-37.	305.8	-244.	122.
MEMBER 5						
POSITIVE	435.6	-77.	38.	305.8	244.	-122.
NEGATIVE	-53.6	-74.	37.	323.7	-283.	142.
SUPPORT JT. 4						
POSITIVE	344.8	0.	0.	0.0	0.	0.
NEGATIVE	-26.6	0.	0.	0.0	0.	0.

THE RATIO OF SUBSTRUCTURE / SUPERSTRUCTURE LOADING IS 5.000

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft

'APPROXIMATE QUANTITY'
==========

***** CONCRETE SUPER 1164 C.Y. *****

***** CONCRETE SUB 36 C.Y. *****

THE SUPERSTRUCTURE CONCRETE QUANTITY IS BASED ON THE UNIT WEIGHT OF CONCRETE SUPPLIED ON THE FRAME DESCRIPTION CARD. IT ASSUMES THAT ALL THE DEAD LOAD IS GIVEN IN TRIAL 0.

THE CONCRETE SUBSTRUCTURE QUANTITY IS BASED ON TRIAL 0 ONLY.

THE P/S QUANTITIES FOR STRAND ONLY ARE FOR EACH TRIAL, THAT WAS ENTERED AND IN THAT ORDER. STRAND USE IS BASED ON THE LENGTH FROM ANCHOR TO ANCHOR.

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END OF JOB - 022086

                    INCREMENTED CLOCK TIME (SECONDS)=       0.
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Cameer
DIAGRAM

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 1 of 1
		DESIGNED BY SED	DATE JUN 02
SUBJECT: DECK SCREEN ELEVATIONS		CHECKED BY KMS	DATE 8/02

DEFLECTIONS

℄ BRG ABUT	DL + 1/2" FWS (FT)	SWLK + RAILING (FT)	TOTAL CAMBER (FT)
0.1	0.010	0.005	0.04
0.2	0.018	0.009	0.072
0.3	0.025	0.012	0.100
0.4	0.028	0.014	0.112
0.5	0.027	0.014	0.102
0.6	0.024	0.012	0.096
0.7	0.019	0.009	0.076
0.8	0.012	0.006	0.048
0.9	0.005	0.002	0.020
1.0	0.000	0.000	0.000
0.1	-0.001	-0.001	0.000
0.2	0.000	0.000	0.000
0.3	0.001	0.001	0.000
0.4	0.003	0.001	0.012
0.5	0.003	0.002	0.012

NOTES:

THE ABOVE LISTED DEFLECTIONS ARE IMMEDIATE AND WERE BASED ON Ig.

THE DEFLECTIONS DUE TO SWLK + RAILING LOADING WILL NOT BE INCLUDED IN THE CAMBER DIAGRAM DUE TO THE HIGH RATIO OF DECK WIDTH TO SWLK WIDTH.

THE IMMEDIATE DEFLECTIONS WERE MULTIPLIED BY A FACTOR OF 4 AS PER AASHTO 8.13.4.

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*************************************************************************
*                            IAI-BDS                                    *
*                      Bridge Design System                             *
*                                                                       *
*                  By: Imbsen and Associates, Inc.                      *
*                    VERSION 4.2.4    29-JAN-99                         *
*************************************************************************
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**** Licensed to: Daniel, Mann, Johnson & Mendenhall - Phoenix, AZ ***

91ST- B.doc

LISTING OF THE SORTED INPUT FILE

```
 CARD              1         2         3         4         5         6         7         8
NUMBER    12345678901234567890123456789012345678901234567890123456789012345678901234567890
-----------------------------------------------------------------------------------------

   1      EX-00004        BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber          000
   2      EX-00004US                                                                  001
   3      EX-00004 1 1 2P H 440           3605     150                   10S          100
   4      EX-00004 2 2 3  H 440           3605     150                   10S          100
   5      EX-00004 3 3 4 PH 440           3605     150                   10S          100
   6      EX-00004 4 5 2    260        50 3605     150                   10S          100
   7      EX-00004 5 6 3    260        50 3605     150                   10S          100
   8      EX-00004 1   0  +26    0               19056    5088                        201
   9      EX-00004 2   0  +26    0               19056    5088                        201
  10      EX-00004 3   0  +26    0               19056    5088                        201
  11      EX-00004 4   0  +26    0                1885     471                        201
  12      EX-00004 5   0  +26    0                1885     471                        201
  13      EX-00004 0 1    666U                        S1/2                            300
  14      EX-00004 0 1 172465P                        SABUT 1 DIAPHRAGM               300
  15      EX-00004 0 2    666U                        S1/2                            300
  16      EX-00004 0 2  79905P                        SPIER 1 DIAPHRAGM               300
  17      EX-00004 0 3    666U                        S1/2                            300
  18      EX-00004 0 3  79905P                        SPIER 2 DIAPHRAGM               300
  19      EX-00004 0 3 172465P 440                    SABUT 2 DIAPHRAGM               300
  20      EX-00004 1 1  14501U                        SSWLK, PARAPET                  300
  21      EX-00004 1 2  14501U                        SSWLK, PARAPET                  300
  22      EX-00004 1 3  14501U                        SSWLK, PARAPET                  300
          ---------------------------------------------------------------------------
                    1         2         3         4         5         6         7         8
          12345678901234567890123456789012345678901234567890123456789012345678901234567890
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BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

FRAME DESCRIPTION

MEM NO	JT. LT	JT. RT	END COND LT	END COND RT	DIR	SPAN (FT)	I (FT**4)	SUPPORT OR HINGE (FT)	E (KSI)	DEAD LOAD UNI (KIP/FT)	DEAD LOAD SEC (KCF)	K LT	K RT	CARRY OVER FACTORS LT	CARRY OVER FACTORS RT	RECALL MEM
1	1	2	P		H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
2	2	3			H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
3	3	4		P	H	44.0	0.00	0.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
4	5	2				26.0	0.00	5.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	
5	6	3				26.0	0.00	5.0	3605.	0.000	0.150	0.00	0.00	0.00	0.00	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
1 0.0	+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
1	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 1 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

	+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
2 0.0	+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
2	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 2 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T (IN)	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
+	26	0.00	0.00	0.00	0.00	190.56	50.88	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
3	0.0	0.00	0.00	0.00	190.56	50.88	0.00	3605.00

MEMBER 3 PROPERTIES

LENGTH: 44.0 FT MIN E*I: 0.183E+06 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T (IN)	W (IN)	FACT (FT)	T	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
+	26	0.00	0.00	0.00	0.00	18.85	4.71	3605.00	0	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T (IN)	W (IN)	FACT (FT)	T (IN)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
4	0.0	0.00	0.00	0.00	18.85	4.71	0.00	3605.00

MEMBER 4 PROPERTIES

LENGTH: 26.0 FT MIN E*I: 0.170E+05 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

SECTION PROPERTIES - INPUT

MEM NO	LOC. (FT)	RE CALL	Z (FT)	Y (FT)	W (FT)	D (FT)	TOP (IN)	BOT (IN)	NO	W (IN)	T (IN)	W (IN)	FACT (FT)	T (IN)	W (IN)	FACT (FT)	L (FT)	EX (IN)	IN (IN)	L (FT)	EX (IN)	IN (IN)	E (KSI)	STORE

+/-	CODE	V/D (FT)	H (FT)	Z (FT)	Y (FT)	AREA (FT**2)	IZZ (FT**4)	E (KSI)	E-STORE	STORE
+	26	0.00	0.00	0.00	0.00	18.85	4.71	3605.00	0	

SECTION PROPERTIES - OUTPUT

MEM NO	LOC. (FT)	DEPTH (FT)	Z-BAR (FT)	Y-BAR (FT)	AREA (FT**2)	IZZ (FT**4)	IYY (FT**4)	E (KSI)
5	0.0	0.00	0.00	0.00	18.85	4.71	0.00	3605.00

MEMBER 5 PROPERTIES

LENGTH: 26.0 FT MIN E*I: 0.170E+05 KSI-FT**4 STIFF: 4.000 LT 4.000 RT C.O.: 0.500 LT 0.500 RT

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

FRAME PROPERTIES

MEM NO	JT LT	JT RT	END COND LT	END COND RT	DIR	SPAN (FT)	MIN E*I (KSI-FT**4)	SUPPORT OR HINGE (FT)	E (KSI)	CARRY OVER FACTORS LT	CARRY OVER FACTORS RT	DISTRIBUTION FACTORS LT	DISTRIBUTION FACTORS RT
1	1	2	P		H	44.0	0.1834E+06	0.0	3605.	0.500	0.000	0.000	0.393
2	2	3			H	44.0	0.1834E+06	0.0	3605.	0.500	0.500	0.524	0.524
3	3	4		P	H	44.0	0.1834E+06	0.0	3605.	0.000	0.500	0.393	0.000
4	5	2				26.0	0.1698E+05	5.0	3605.	0.500	0.500	0.000	0.082
5	6	3				26.0	0.1698E+05	5.0	3605.	0.500	0.500	0.000	0.082

***** IF MEMBER IS HORIZONTAL SUPPORT OR HINGE FIELD EQUALS LOCATION OF HINGE FROM LEFT END OF MEMBER *****
***** IF MEMBER IS VERTICAL SUPPORT OR HINGE FIELD EQUALS SUPPORT WIDTH USED FOR MOMENT REDUCTION *****

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

LOAD DATA TRIAL 0

LINE	MEM	W OR P (KIP/FT)	(KIP)	LOAD CODE	A (FT)	B (FT)	FIXED END MOMENTS LEFT (KIP-FT)	RIGHT (KIP-FT)	DEFLT	COMMENTS
	1	0.666		U	0.0	0.0	0.	0.		1/2
					ASSUMED DATA	44.0				
	1	172.465		P	0.0	0.0	0.	0.		ABUT 1 DIAPHRAGM
	2	0.666		U	0.0	0.0	0.	0.		1/2
					ASSUMED DATA	44.0				
	2	79.905		P	0.0	0.0	0.	0.		PIER 1 DIAPHRAGM
	3	0.666		U	0.0	0.0	0.	0.		1/2
					ASSUMED DATA	44.0				
	3	79.905		P	0.0	0.0	0.	0.		PIER 2 DIAPHRAGM
	3	172.465		P	44.0	0.0	0.	0.		ABUT 2 DIAPHRAGM

FIXED END MOMENTS TRIAL 0

MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)
1	0.	-7078.	2	-4719.	-4719.	3	-7078.	0.
4	0.	0.	5	0.	0.			

SIDESWAY DIAGNOSTICS

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

*** SIDESWAY NOT CONSIDERED. FRAME CANNOT SWAY. ***

HORIZONTAL MEMBER MOMENTS (KIP-FT) TRIAL 0

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	1966.	3366.	4200.	4467.	4168.	3303.	1872.	-126.	-2690.	-5820.
2	-5558.	-3009.	-1027.	388.	1238.	1521.	1238.	388.	-1027.	-3009.	-5558.
3	-5820.	-2690.	-126.	1872.	3303.	4168.	4467.	4200.	3366.	1966.	0.

WARNING - MEMBER DEPTHS MISSING SO MOMENT REDUCTION AND STRESSES ARE NOT CALCULATED.

VERTICAL MEMBER MOMENTS(KIP-FT) TRIAL 0

4	-131.	-92.	-53.	-13.	26.	66.	105.	145.	184.	223.	263.
5	131.	92.	53.	13.	-26.	-66.	-105.	-145.	-184.	-223.	-263.

HORIZONTAL MEMBER SHEARS(KIPS) TRIAL 0

1	683.7	382.5	253.8	125.1	-3.6	-132.3	-261.0	-389.7	-518.4	-647.1	-775.8
2	723.4	514.8	386.1	257.4	128.7	0.0	-128.7	-257.4	-386.1	-514.8	-643.5
3	855.7	647.1	518.4	389.7	261.0	132.3	3.6	-125.1	-253.8	-382.5	-683.7

VERTICAL MEMBER SHEARS(KIPS) TRIAL 0

4	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
5	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2	-15.2

VERTICAL MEMBER REACTIONS(KIPS) TRIAL 0

MEM NO	LT REACTION	RT REACTION	MEMBER WEIGHT
4	1572.7	1499.2	73.5
5	1572.7	1499.2	73.5

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

TRIAL 0

TANGENTIAL ROTATIONS - RADIANS - CLOCKWISE POSITIVE

SPAN	LT. END	RT. END	SPAN	LT. END	RT. END	SPAN	LT. END	RT. END
1	0.002315	-0.000699	2	-0.000699	0.000699	3	0.000699	-0.002315
4	0.000000	-0.000699	5	0.000000	0.000699			

HORIZONTAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END - DOWNWARD POSITIVE

MEMBER 1	E= 3605. KSI	0.000	0.010	0.018	0.025	0.028	0.027
		0.024	0.019	0.012	0.005	0.000	
MEMBER 2	E= 3605. KSI	0.000	-0.001	0.000	0.001	0.003	0.003
		0.003	0.001	0.000	-0.001	0.000	
MEMBER 3	E= 3605. KSI	0.000	0.005	0.012	0.019	0.024	0.027
		0.028	0.025	0.018	0.010	0.000	

VERTICAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END.

MEMBER 4	E= 3605. KSI	0.000	0.000	0.001	0.001	0.002	0.002
		0.003	0.003	0.002	0.001	0.000	
MEMBER 5	E= 3605. KSI	0.000	0.000	-0.001	-0.001	-0.002	-0.002
		-0.003	-0.003	-0.002	-0.001	0.000	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

LOAD DATA TRIAL 1

LINE MEM	W OR P (KIP/FT)	(KIP)	LOAD CODE	A (FT)	B (FT)	FIXED END MOMENTS LEFT (KIP-FT)	RIGHT (KIP-FT)	DEFLT	COMMENTS
1	14.501		U	0.0	0.0	0.	0.		SWLK, PARAPET
				ASSUMED DATA	44.0				
2	14.501		U	0.0	0.0	0.	0.		SWLK, PARAPET
				ASSUMED DATA	44.0				
3	14.501		U	0.0	0.0	0.	0.		SWLK, PARAPET
				ASSUMED DATA	44.0				

FIXED END MOMENTS TRIAL 1

MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)	MEM NO	FIXED END MOMENTS LT (KIP-FT)	RT (KIP-FT)
1	0.	-3509.	2	-2339.	-2339.	3	-3509.	0.
4	0.	0.	5	0.	0.			

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

*** SIDESWAY NOT CONSIDERED. FRAME CANNOT SWAY. ***

HORIZONTAL MEMBER MOMENTS (KIP-FT) TRIAL 1

MEM NO	LEFT	.1 PT	.2 PT	.3 PT	.4 PT	.5 PT	.6 PT	.7 PT	.8 PT	.9 PT	RIGHT
1	0.	975.	1669.	2082.	2215.	2066.	1638.	928.	-63.	-1334.	-2886.
2	-2755.	-1492.	-509.	192.	614.	754.	614.	192.	-509.	-1492.	-2755.
3	-2886.	-1334.	-63.	928.	1638.	2066.	2215.	2082.	1669.	975.	0.

WARNING - MEMBER DEPTHS MISSING SO MOMENT REDUCTION AND STRESSES ARE NOT CALCULATED.

VERTICAL MEMBER MOMENTS(KIP-FT) TRIAL 1

4	-65.	-46.	-26.	-7.	13.	33.	52.	72.	91.	111.	130.
5	65.	46.	26.	7.	-13.	-33.	-52.	-72.	-91.	-111.	-130.

HORIZONTAL MEMBER SHEARS(KIPS) TRIAL 1

1	253.4	189.6	125.8	62.0	-1.8	-65.6	-129.4	-193.2	-257.0	-320.8	-384.6
2	319.0	255.2	191.4	127.6	63.8	0.0	-63.8	-127.6	-191.4	-255.2	-319.0
3	384.6	320.8	257.0	193.2	129.4	65.6	1.8	-62.0	-125.8	-189.6	-253.4

VERTICAL MEMBER SHEARS(KIPS) TRIAL 1

4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5

VERTICAL MEMBER REACTIONS(KIPS) TRIAL 1

MEM NO	LT REACTION	RT REACTION	MEMBER WEIGHT
4	703.6	703.6	
5	703.6	703.6	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

TRIAL 1

TANGENTIAL ROTATIONS - RADIANS - CLOCKWISE POSITIVE

SPAN	LT. END	RT. END	SPAN	LT. END	RT. END	SPAN	LT. END	RT. END
1	0.001147	-0.000346	2	-0.000346	0.000346	3	0.000346	-0.001147
4	0.000000	-0.000346	5	0.000000	0.000346			

HORIZONTAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END - DOWNWARD POSITIVE

MEMBER 1	E= 3605. KSI	0.000	0.005	0.009	0.012	0.014	0.014
		0.012	0.009	0.006	0.002	0.000	
MEMBER 2	E= 3605. KSI	0.000	-0.001	0.000	0.001	0.001	0.002
		0.001	0.001	0.000	-0.001	0.000	
MEMBER 3	E= 3605. KSI	0.000	0.002	0.006	0.009	0.012	0.014
		0.014	0.012	0.009	0.005	0.000	

VERTICAL MEMBER DEFLECTIONS IN FEET AT 1/10 POINTS FROM LEFT END.

MEMBER 4	E= 3605. KSI	0.000	0.000	0.000	0.001	0.001	0.001
		0.001	0.001	0.001	0.001	0.000	
MEMBER 5	E= 3605. KSI	0.000	0.000	0.000	-0.001	-0.001	-0.001
		-0.001	-0.001	-0.001	-0.001	0.000	

BHOC 91st Ave Bridge Slab bridge DS=1.83 ft Camber

'APPROXIMATE QUANTITY'
==========

***** CONCRETE SUPER 1077 C.Y. *****

***** CONCRETE SUB 36 C.Y. *****

THE SUPERSTRUCTURE CONCRETE QUANTITY IS BASED ON THE UNIT WEIGHT OF CONCRETE SUPPLIED ON THE FRAME DESCRIPTION CARD. IT ASSUMES THAT ALL THE DEAD LOAD IS GIVEN IN TRIAL 0.

THE CONCRETE SUBSTRUCTURE QUANTITY IS BASED ON TRIAL 0 ONLY.

THE P/S QUANTITIES FOR STRAND ONLY ARE FOR EACH TRIAL, THAT WAS ENTERED AND IN THAT ORDER. STRAND USE IS BASED ON THE LENGTH FROM ANCHOR TO ANCHOR.

```
END OF JOB - 022086

                    INCREMENTED CLOCK TIME (SECONDS)=       0.
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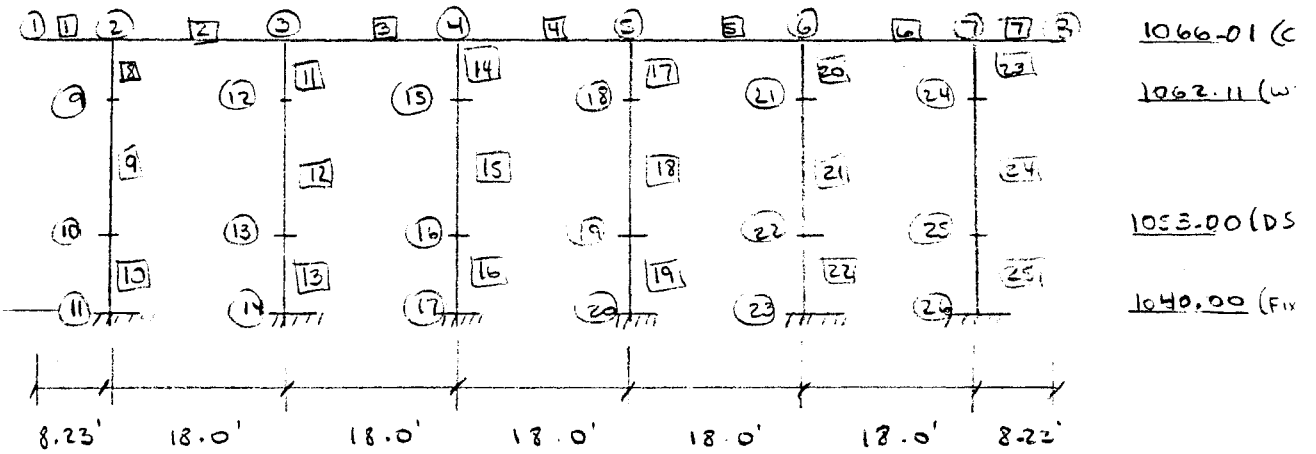
PIER CAP
DESIGN

DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 1 of 10
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: PIER DESIGN		CHECKED BY KMS	DATE 8/02

SCOUR PROTECTION WILL BE PROVIDED AND SHALL CONSIST OF A CONCRETE LINING WITH DEEP CUT-OFF WALLS UPSTREAM AND DOWNSTREAM OF THE BRIDGE LIMITS, THEREBY, ELIMINATING THE ANALYSIS FOR SCOUR CONDITION.

PIER DESIGN: PIER CAP ANALYSIS PERFORMED BY STAAD PRO
LONGITUDINAL FRAME ANALYSIS PERFORMED BY BDS

COLUMNS TO FIXITY: [1067.43 − (1/2)(2'-10")] − [1053.00 − 13.00 ft] = 26.01 ft



SECTION PROPERTIES

$A_{CAP} = (5'-0")(2'-10") = 14.17\ ft^2$

$I_{CAP\ z} = (5'-0")(2'-10")^3/(12) = 9.48\ ft^4$

$I_{CAP\ y} = (2'-10")(5'-0")^3/(12) = 29.51\ ft^4$

$A_{COL} = (\pi/4)(2'-0")^2 = 3.14\ ft^2$, $I_{COL} = (\pi/64)(2'-0")^4 = 0.79\ ft^4$

$A_{DS} = (\pi/4)(3'-6")^2 = 9.62\ ft^2$, $I_{DS} = (\pi/64)(3'-6")^4 = 7.37\ ft^4$

$E = (57{,}000)(4000)^{1/2} = 3{,}604{,}997\ psi$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 2 of 10
		DESIGNED BY SED	DATE JUL 02
SUBJECT: PIER DESIGN		CHECKED BY KMS	DATE 8/02

DESIGN LOADS

1 DEAD LOAD FROM SUPERSTRUCTURE

SHEARS:

MEMBERS 1 & 7: 2'-0" DECK (1628.4 K)(1/106.46') = 15.30 K/ft

SWLK + Parapet $\left(\frac{1121}{1736}\right)$(10.2 K) = 6.59 K/ft

21.89 K/ft ↓

MEMBERS 2 ~ 6 15.30 K/ft ↓

MOMENTS:

MEMBERS 1 & 7: 2'-0" DECK (287 K-ft)(1/106.46') = 2.70 K-ft

SWLK + Parapet (2 K-ft/ft)$\left(\frac{1121}{1736}\right)$ = 1.29 K-ft

3.99 K-ft/ft.

MEMBERS 2 ~ 6: 2.70 K-ft

2. P_{DL-COL} (3.14 ft²)(150 pcf)(1/1000) = 0.471 K/ft ↓

3. P_{DL-DS}: (9.62 ft²)(150 pcf)(1/1000) = 1.44 K/ft ↓

4. LIVE LOADS - PEDESTRIAN TRAFFIC

MEMBERS 1 & 7: PED TRAFFIC$_P$ $\left(\frac{615}{1736}\right)$(10.2 K) = 3.61 K/ft ↓

PED TRAFFIC$_M$ $\left(\frac{615}{1736}\right)$(2 K-ft) = 0.70 K-ft/ft ↻

5 & 6 LIVE LOADS - MAXIMUM AXIAL POSITIVE

MEMBERS 2 ~ 6: HS 20^+_P (435.6 K)(1/90 ft)(1/1.30) = 3.72 K/ft ↓

HS 20$^+_{IMPACT\ P}$ = 1.12 K/ft ↓

HS 20^+_M (77.0 K-ft)(1/90 ft)(1/1.30) = 0.66 K-ft ↻

HS 20$^+_{IMPACT\ P}$ 0.20 K-ft ↻

7 & 8 LIVE LOADS - MAXIMUM MOMENT POSITIVE

MEMBERS 2~6 HS 20^+_P (323.7 K)(1/90 ft)(1/1.30) = 2.77 K/ft ↓

HS 20$^+_{IMPACT\ P}$ = 0.83 K/ft ↓

HS 20^+_M (283.0 K-ft)(1/90 ft)(1/1.30) = 2.42 K-ft/ft ↻

HS 20$^+_{IMPACT\ M}$ 0.73 K-ft/ft ↻

DMJM HARRIS	PROJECT: B40C 91ST AVE BRIDGE	JOB NO. 6888	SHEET 3 of 10
		DESIGNED BY SKO	DATE JUL 02
SUBJECT: PIER DESIGN		CHECKED BY KMS	DATE 8/02

9 & 10 LL FOR MAXIMUM POSITIVE MOMENT ON PIER CAP FROM MAX AXIAL POS

MEMBERS 3 & 5

$HS20^+_P$	(3.72 K)(1/0.75)	=	4.96 K ↓
$HS20^+_{IMPACT\ P}$	(1.12 K)(1/0.75)	=	1.50 K ↓
$HS20^+_M$	(0.66 K-ft)(1/0.75)	=	0.88 K-ft ↻
$HS20^+_{IMPACT\ M}$	(0.20 K-ft)(1/0.75)	=	0.27 K-ft ↻

11 & 12: LL FOR MAXIMUM POSITIVE MOMENT ON PIER CAP FROM MAX MOM POS

MEMBERS 3 & 5

$HS20^+_P$	(2.77 K)(1/0.75)	=	3.69 K ↓
$HS20^+_{IMPACT\ P}$	(0.83 K)(1/0.75)	=	1.11 K ↓
$HS20^+_M$	(2.42 K-ft)(1/0.75)	=	3.23 K-ft ↻
$HS20^+_{IMPACT\ M}$	(0.73 K-ft)(1/0.75)	=	0.97 K-ft ↻

13 & 14: LL FOR MAXIMUM NEGATIVE MOMENT ON PIER CAP FROM MAX AXIAL POS

MEMBERS 2 3 5 6

$HS20^+_P$	4.96 K ↓
$HS20^+_{IMPACT\ P}$	1.50 K ↓
$HS20^+_M$	0.88 K-ft ↻
$HS20^+_{IMPACT\ P}$	0.27 K-ft ↻

15 & 16: LL FOR MAXIMUM NEGATIVE MOMENT ON PIER CAP FROM MAX MOM POS

MEMBERS 2 3 5 6

$HS20^+_P$	3.69 K ↓
$HS20^+_{IMPACT\ P}$	1.11 K ↓
$HS20^+_M$	3.23 K-ft ↻
$HS20^+_{IMPACT\ M}$	0.97 K-ft ↻

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 4 of 10
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: PIER DESIGN		CHECKED BY KMS	DATE 8/02

17 & 18 - MAXIMUM AXIAL NEGATIVE

MEMBERS 2~6: $HS20^-_P$ $(-53.6\ K)(1/90\ ft)(1/1.30) = 0.46\ K/ft \uparrow$

$HS20^-_{IMPACT\ P}$ $0.14\ K/ft \uparrow$

$HS20^-_M$ $(+74\ K\text{-}ft)(1/90\ ft)(1/1.30) = 0.63\ K\text{-}ft/ft$

$HS20^-_{IMPACT\ M}$ $= 0.19\ K\text{-}ft/ft$

19 & 20 LIVE LOADS - MAXIMUM MOMENT NEGATIVE

MEMBERS 2~6: $HS20^-_P$ $(305.8\ K)(1/90\ ft)(1/1.30) = 2.62\ K/ft$

$HS20^-_{IMPACT\ P}$ $0.78\ K/ft$

$HS20^-_M$ $(-244\ K\text{-}ft)(1/90\ ft)(1/1.30) = -2.09\ K\text{-}ft/ft$

$HS20^-_{IMPACT\ M}$ $= -0.62\ K\text{-}ft/ft$

21 BUOYANCY

$P_{B\ COL} = (3.14\ ft^2)(62.4\ pcf)(1/1000) = 0.20\ K/ft \uparrow$

22 STREAM FLOW

$Pressure_{Avg} = (K)(V_{Avg})^2$

where $V = Q/A$, $Q = 3116\ cfs$

$A = 721\ sf$

$Pressure_{Avg} = (1.4)(3116/721)^2 = 26.15\ psf$

MAX FLOW PRESSURE $= (2)(Pressure_{Avg}) = 52.30\ psf$

Flow Pressure @ Channel Lining $= 0.0\ psf$

WIDTH OF BLOCKAGE $= 2'\phi + (2)(2\ ft) = 6\ ft$

$V_{SF\ COL} = (52.30\ psf)(6.0\ ft)(1/1000) = 0.314\ K/ft$

PER ADOT, MINIMUM ANGLE OF ATTACK IS 15°. THEREFORE, PRESSURE AT TOP =

$V_{SF\ COL\ X} = 0.303\ K/ft$, $V_{SF\ COL\ Z} = 0.0107\ K/ft$

PRESSURE AT BOTTOM = 0.0 psf.

DMHARRIS	PROJECT: B Hoc 9131 Ave	JOB NO. 6888	SHEET 5 of 10
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: Pier Design		CHECKED BY KMS	DATE 8/02

23 WIND ON STRUCTURE, V_w

$$V_w = (1/10)(50\ psf + 12\ psf)(44.0\ ft)(6.33')(1/1000)/(106.46') = 0.18\ K/ft$$

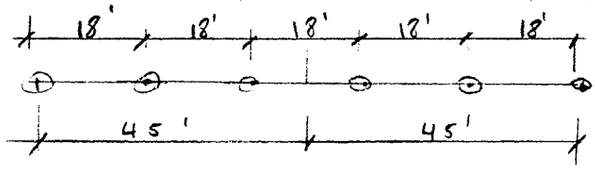
OR $0.145\ K/ft \xrightarrow{x}$
$0.035\ K/ft \xrightarrow{z}$

$h = 1'6''$ railing $+ 3'-0''$ parapet $+ 1'-10''$ deck $= 6'-4''$

THE FORCE$_x$ ACTS AT A DISTANCE OF 1'-4" ABOVE THE DECK AND WILL EXCERT A MOMENT AROUND THE C.G. OF THE PIER CAP OF:

$$M_{wz} = [(1/2)(2'-10'') + 1'-4''](15.44^K) = 42.46^{K\text{-}ft}$$

THIS MOMENT WILL CAUSE COMPRESSION ON ONE END AND TENSION ON THE OTHER END OF THE CAP. THIS MOMENT CAN BE MODELED AS



$$I_{columns} = (6)(\pi)(2')^4/(64) + [(2)(\pi)(2')^2/(4)](9')^2 + [(2)(\pi)(2')^2/4](27')^2 + [(2)(\pi)(2')^2/4](45')^2$$

$$I_{columns} = 4.71\ ft^4 + 509.0\ ft^4 + 4580\ ft^4 + 12724\ ft^4 = 17818\ ft^4$$

$$\sigma_1 = \frac{M_y}{I} = \frac{(42.46^{K\text{-}ft})(45.0')}{17818\ ft^4} = 0.11\ ksf = \sigma_6$$

$$P_1 = (\sigma_1)(A_1) = (0.11\ ksf)(\pi)(2')^2/4 = 0.35\ kips \downarrow = P_6 = 0.35^K \uparrow$$

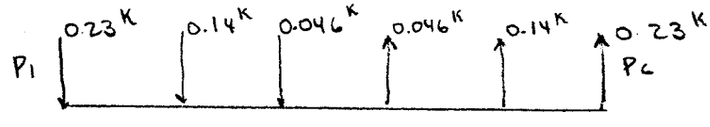
$$M_{wx} = (0.035\ K/ft)(1'-5'' + 1'-4'') = 0.096\ K\text{-}ft/ft \ \overset{x}{\curvearrowright}$$

24 WIND LOAD ON LIVE LOAD, V_{wL}

$$V_{wL} = (1/10)(100\ lb/ft + 40\ lb/ft)(44.0\ ft)(1/1000)/(90.00\ ft) = 0.075\ K/ft$$

OR $0.021\ K/ft \xrightarrow{z}$, $0.054\ K/ft \xrightarrow{x}$

THE FORCE$_x$ ACTS AT A DISTANCE OF 6.0 ft ABOVE THE DECK CAUSING A MOMENT OF $(6.0\ ft)(4.86\ K) = 29.16^{K\text{-}ft}$



$$M_{wL\,x} = (0.021\ K/ft)(6.0\ ft + 1.416') = 0.16\ K\text{-}ft/ft \ \overset{x}{\curvearrowright}$$

DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 6 of 10
		DESIGNED BY SEO	DATE JUL 02
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25 LONGITUDINAL FORCE FROM LIVE LOADS, LF

$V_{LF,z} = (11/10)(0.05)(5 \text{ Lanes}) \left[(640 \text{ psf})(44.0 \text{ ft}) + (18{,}000 \text{ lb})(2)\right](1/1000)(1/90.0 \text{ ft})$

$V_{LF,z} = 0.196 \text{ K/ft} \xrightarrow{z}$ FOR MEMBERS 2~6

THIS FORCE ACTS AT A DISTANCE OF 6.0 ft ABOVE THE DECK CAUSING A MOMENT AROUND THE X-AXIS OF:

$M_{LF,x} = (17.64 \text{ K})(1.42 \text{ ft} + 6.0 \text{ ft})/(90.0 \text{ ft}) = 1.46 \text{ K-ft}$ (X)
(MEMBERS 2~6)

26 RIB SHORTENING, SHRINKAGE, AND TEMPERATURE, RST.

$V_{RST,z} = (16702 \text{ \#/ft})/(1000 \text{ \#})(106.46') = 0.157 \text{ K/ft} \xrightarrow{z}$

R+S+T ALONG LENGTH OF GAP:

DISTANCE TO POINT OF NO MOVEMENT.

#1 (OUTER COLUMN)	= 45'-0"
#2	= 27'-0"
#3	= 9'-0"

TOTAL MOVEMENTS DUE TO TEMPERATURE ONLY

#1 = 0.13", #2 = 0.08", #3 = 0.026"

DMJM HARRIS	PROJECT: BHOC 91 ST AVE BRIDGE	JOB NO. 6888	SHEET 7 of 10
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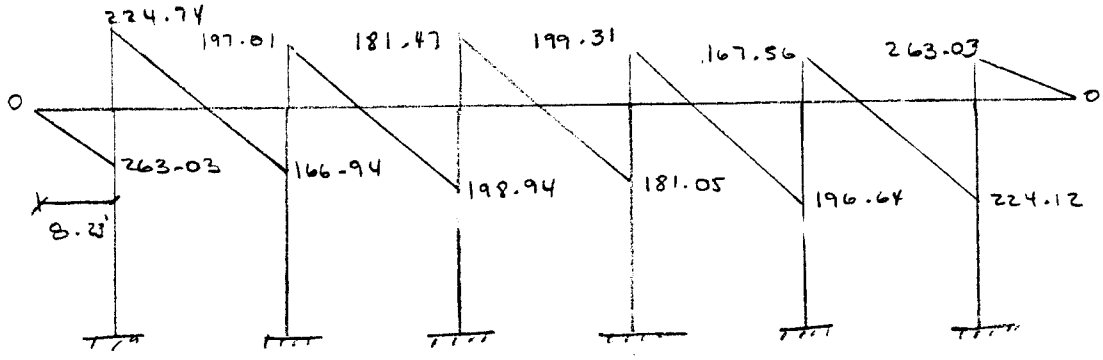
SHEAR DESIGN



COMPUTE SHEAR AT DISTANCE d AWAY FROM SUPPORT:

$$V = \left(\frac{263.03^K}{8.23'}\right)(8.23' - 2'\text{-}10") = 172.48^K$$

$$v = \frac{V}{(b)(d)} = \frac{172.48 \text{ Kips } (1000\#/K)}{(5 \text{ ft} \times 12"/\text{ft})(28.46")} = 101 \text{ psi}$$

$$d = (2'\text{-}10")(12") - 2\tfrac{1}{2}" - 1.27" - 1.27" - (0.5)(1.0") = 28.46"$$

$$V_c = (0.95)(\sqrt{f'_c}) = (0.95)(4000)^{1/2} = 60 \text{ psi}$$

$v > (1/2)(V_c) = 30$ psi ∴ Minimum Reinforcing Must be Satisfied.

$$A_v = \frac{(v - v_c)(b)(s)}{f_s} = \frac{(101.0 - 60.0)(5' \times 12")(12")}{24{,}000 \text{ psi}} = 1.23 \text{ in}^2 \text{ (Controls)}$$

$$A_{v,min} = \frac{(50)(b)(s)}{f_y} = \frac{(50)(5' \times 12")(12")}{60{,}000 \text{ psi}} = 0.60 \text{ in}^2$$

Use #5 @ 6" (STIRRUPS), $A_s = 1.24 \text{ in}^2$

OR

Use 2 SETS #4 @ 7", $A_s = 1.37 \text{ in}^2$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 8 of 10
		DESIGNED BY SEN	DATE JUL 02
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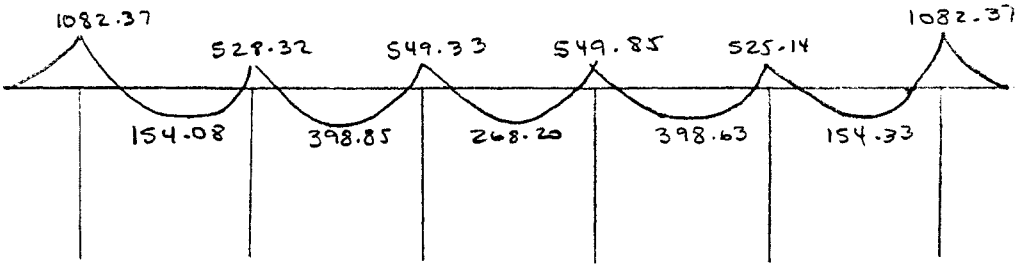
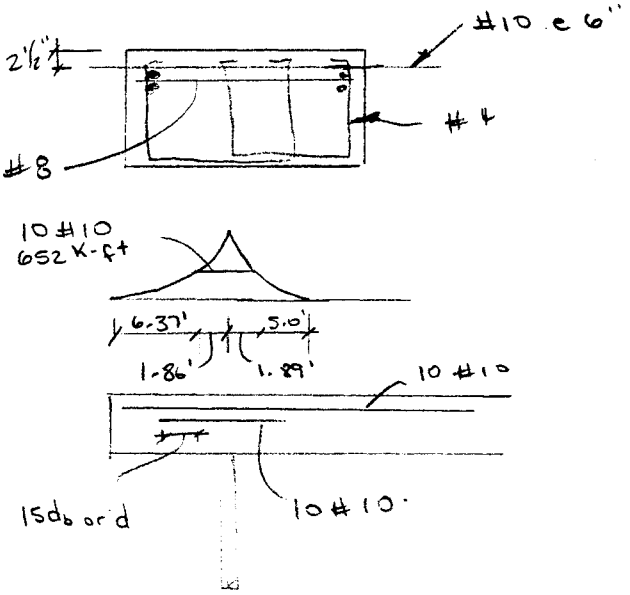
MOMENT DESIGN



NEGATIVE MOMENT REINFORCING AT OVERHANG:



$d = 34" - 2\frac{1}{2}" - 1.27" - 1.27" - (0.5)(1.0") = 28.46$

TRY $A_s = 25.40 \text{ in}^2$ (20 #10)

$f_s = 20{,}610$ psi $f_c = 1600$ psi OK

TRY 10 #10 TOP, 10 #10 BOTTOM

$l_d = (48.2")(1.4)(0.8) = 54"$

$d = 28.46"$, $(15)(d_b) = 19.05"$

$(1/10)(\text{Clear Span}) = 13.5"$

BAR TERMINATION AT OVERHANG (FROM ℄ PIER)

TOP BAR:

$(1.86 \text{ ft}) + l_d = 6.36 \text{ ft}$

∴ EXTEND TO END OF CAP. HOOK IS NOT REQUIRED

BOTTOM BAR:

$1.86 \text{ ft} + (28.46"/12) = 4.23 \text{ ft}$

OR $l_d = 4'\text{-}6"$

∴ EXTEND TO END OF CAP.

BAR TERMINATION AT INTERIOR SPAN IF NEEDED.

TOP BAR.

$(1.89 \text{ ft}) + l_d = 6.39 \text{ ft}$ OR $1.89 \text{ ft} + (28.46"/12) = 9.26 \text{ ft}$

BOTTOM BAR

$(1.89 \text{ ft}) + (28.46"/12") = 4.26 \text{ ft}$ OR $l_d = 4.5 \text{ ft}$.

SAY 5'-0".

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 9 of 10
		DESIGNED BY SEO	DATE 4/02
SUBJECT: PIER CAP DESIGN.		CHECKED BY KMS	DATE 8/02

NEGATIVE MOMENT REINFORCING AT INTERMEDIATE PIER

DESIGN MOMENT = 549.85 K-ft

d = 28.46"

A_s REQUIRED = 10.7 in^2

f_s = 23,814 psi , f_c = 1104 psi

A_s provided = 12.70 in^2 , 10 #10

SPLICE LENGTH AT MIDSPAN IF REQUIRED.

$(l_d)(1.3) = (54")(1.3)(1/12)(10.70/12.70) =$ 4.93 ft SAY 5'-0"

SPLICE LENGTH AT C.L

$(l_d)(1.7)(10.70/12.70) =$ 6.45 in^2 SAY 7'-0"

POSITIVE MOMENT REINFORCING

DESIGN MOMENT = 398.85 K-ft

d = 34" − 1½" − ½" − (½)(1.27") = 31.37"

A_s REQUIRED = 6.9 in^2

f_s = 23,816 psi f_c = 814 psi

A_s provided = 7.62 in^2, 6 #10

SPLICE LENGTH @ CL

$(l_d)(1.7)(6.9/7.62) = (48.2)(0.8)(1.7)(6.9/7.62) =$ 59.36"

SAY 5'-3"

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6899	SHEET 10 of 10
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: PIER CAP DESIGN		CHECKED BY KMS	DATE 8/02

CHECK 1.2 Mcr

$$1.2\,M_{cr} = (1.2)(7.5)(4000)^{1/2}\,\frac{(5' \times 12''/ft)(2.83' \times 12'')^3}{(12)(2.83' \times 12''/ft \times 0.5)}\,(1/12000) = 547\ K\text{-}ft$$

$$\phi M_n > 1.2\,M_{cr}$$

$$\phi M_n = (0.9)\left[(A_s)(f_y)(d)\left(1 - (0.6)(\rho)\frac{(f_y)}{(f'_c)}\right)\right]$$

$$\rho = \frac{7.62\ in^2}{(5' \times 12'')(31.37'')} = 0.004$$

$$\phi M_n = (0.9)\left[(7.62)(60{,}000)(31.37'')\left(1 - (0.6)(0.004)\frac{(60.0)}{(4.0)}\right)\right](1/12000)$$

$$= 1037\ K\text{-}ft > 1.2\,M_{cr} \quad OK$$

KMS 8/02

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**************************************************
*                                                *
*           STAAD.Pro                            *
*           Version  2001    Build 1005          *
*           Proprietary Program of               *
*           RESEARCH ENGINEERS, Intl.            *
*           Date=    JUL 28, 2002                *
*           Time=    17:54:44                    *
*                                                *
*      USER ID: Frederic R. Harris, Inc.         *
**************************************************
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STAAD SPACE PIER 1 - 91ST AVE
START JOB INFORMATION
JOB NAME BHOC - 91ST AVE BRIDGE
JOB CLIENT FCD
JOB NO 046106888.0020
JOB COMMENT PIER ANALYSIS
ENGINEER NAME SEO
ENGINEER DATE 26JUL02(REVISED)
END JOB INFORMATION
INPUT WIDTH 79
UNIT FEET KIP
JOINT COORDINATES
1 0 1066.01 0; 2 8.23 1066.01 0; 3 26.23 1066.01 0; 4 44.23 1066.01 0
5 62.23 1066.01 0; 6 80.23 1066.01 0; 7 98.23 1066.01 0; 8 106.46 1066.01 0
9 8.23 1062.11 0; 10 8.23 1053 0; 11 8.23 1040 0; 12 26.23 1062.11 0
13 26.23 1053 0; 14 26.23 1040 0; 15 44.23 1062.11 0; 16 44.23 1053 0
17 44.23 1040 0; 18 62.23 1062.11 0; 19 62.23 1053 0; 20 62.23 1040 0
21 80.23 1062.11 0; 22 80.23 1053 0; 23 80.23 1040 0; 24 98.23 1062.11 0
25 98.23 1053 0; 26 98.23 1040 0
MEMBER INCIDENCES
1 1 2; 2 2 3; 3 3 4; 4 4 5; 5 5 6; 6 6 7; 7 7 8; 8 2 9; 9 9 10; 10 10 11
11 3 12; 12 12 13; 13 13 14; 14 4 15; 15 15 16; 16 16 17; 17 5 18; 18 18 19
19 19 20; 20 6 21; 21 21 22; 22 22 23; 23 7 24; 24 24 25; 25 25 26
MEMBER PROPERTY AMERICAN
1 TO 7 PRIS YD 2.83 ZD 5
10 13 16 19 22 25 PRIS YD 3.5
8 9 11 12 14 15 17 18 20 21 23 24 PRIS YD 2
UNIT INCHES KIP
CONSTANTS
E 3150 MEMB 1 TO 25
POISSON 0.17 MEMB 1 TO 25
DENSITY 8.68E-005 MEMB 1 TO 25
ALPHA 6E-006 MEMB 1 TO 25
UNIT FEET KIP
SUPPORTS
11 14 17 20 23 26 FIXED
LOAD 1 DL AND SDL - SUPER
MEMBER LOAD
1 7 UNI GY -21.89
2 TO 6 UNI GY -15.3
1 7 UMOM GX 3.99
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42. 2 TO 6 UMOM GX 2.7
43. LOAD 2 COLUMN DEAD LOAD
44. MEMBER LOAD
45. 8 9 11 12 14 15 17 18 20 21 23 24 UNI GY -0.471
46. LOAD 3 DRILLED SHAFT WEIGHT
47. MEMBER LOAD
48. 10 13 16 19 22 25 UNI GY -1.44
49. LOAD 4 PEDESTRIAN TRAFFIC
50. MEMBER LOAD
51. 1 7 UNI GY -3.61
52. 1 7 UMOM GX 0.7
53. LOAD 5 MAXIMUM SHEAR FROM POSITIVE LL
54. MEMBER LOAD
55. 2 TO 6 UNI GY -3.72
56. 2 TO 6 UMOM GX 0.66
57. LOAD 6 IMPACT FROM MAXIMUM SHEAR FROM POSITIVE LL
58. MEMBER LOAD
59. 2 TO 6 UNI GY -1.12
60. 2 TO 6 UMOM GX 0.2
61. LOAD 7 MAXIMUM MOMENT FROM POSITIVE LL
62. MEMBER LOAD
63. 2 TO 6 UNI GY -2.77
64. 2 TO 6 UMOM GX 2.42
65. LOAD 8 IMPACT FROM MAXIMUM MOMENT FROM POSITIVE LL
66. MEMBER LOAD
67. 2 TO 6 UNI GY -0.83
68. 2 TO 6 UMOM GX 0.73
69. LOAD 9 LL FOR MAX POSITIVE MOMENT ON PIER CAP(MAX SHEAR)
70. MEMBER LOAD
71. 3 5 UNI GY -4.96
72. 3 5 UMOM GX 0.88
73. LOAD 10 IMPACT FOR MAXIMUM POSITIVE MOMENT ON PIER CAP(MAX SHEAR)
74. MEMBER LOAD
75. 3 5 UNI GY -1.5
76. 3 5 UMOM GX 0.27
77. LOAD 11 LL FOR MAX POSITIVE MOMENT ON PIER CAP(MAX MOMENT)
78. MEMBER LOAD
79. 3 5 UNI GY -3.69
80. 3 5 UMOM GX 3.23
81. LOAD 12 IMPACT FOR MAXIMUM POSITIVE MOMENT ON PIER CAP(MAX MOM)
82. MEMBER LOAD
83. 3 5 UNI GY -1.11
84. 3 5 UMOM GX 0.97
85. LOAD 13 LL FOR MAX NEGATIVE MOMENT ON PIER CAP(MAX SHEAR)
86. MEMBER LOAD
87. 1 TO 3 5 TO 7 UNI GY -4.96
88. 1 TO 3 5 TO 7 UMOM GX 0.88
89. LOAD 14 IMPACT FOR MAXIMUM NEGATIVE MOMENT ON PIER CAP(MAX SHEAR)
90. MEMBER LOAD
91. 1 TO 3 5 TO 7 UNI GY -1.5
92. 1 TO 3 5 TO 7 UMOM GX 0.27
93. LOAD 15 LL FOR MAX NEGATIVE MOMENT ON PIER CAP(MAX MOMENT)
94. MEMBER LOAD
95. 1 TO 3 5 TO 7 UNI GY -3.69
96. 1 TO 3 5 TO 7 UMOM GX 3.23
97. LOAD 16 IMPACT FOR MAXIMUM NEGATIVE MOMENT ON PIER CAP(MAX MOM)
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 98. MEMBER LOAD
 99. 1 TO 3 5 TO 7 UNI GY -1.11
100. 1 TO 3 5 TO 7 UMOM GX 0.97
101. LOAD 17 MAXIMUM SHEAR FROM NEGATIVE LL
102. MEMBER LOAD
103. 2 TO 6 UNI GY 0.46
104. 2 TO 6 UMOM GX 0.63
105. LOAD 18 IMPACT FROM MAXIMUM SHEAR FROM NEGATIVE LL
106. MEMBER LOAD
107. 2 TO 6 UNI GY 0.14
108. 2 TO 6 UMOM GX 0.19
109. LOAD 19 MAXIMUM MOMENT FROM NEGATIVE LL
110. MEMBER LOAD
111. 2 TO 6 UNI GY -2.62
112. 2 TO 6 UMOM GX -2.09
113. LOAD 20 IMPACT FROM MAXIMUM MOMENT FROM NEGATIVE LL
114. MEMBER LOAD
115. 2 TO 6 UNI GY -0.78
116. 2 TO 6 UMOM GX -0.62
117. LOAD 21 BUOYANCY
118. MEMBER LOAD
119. 9 12 15 18 21 24 UNI GY 0.2
120. LOAD 22 STREAM FLOW
121. MEMBER LOAD
122. 9 12 15 18 21 24 TRAP GX -0.303 0
123. 9 12 15 18 21 24 TRAP GZ 0.0107 0
124. LOAD 23 WIND ON STRUCTURE
125. MEMBER LOAD
126. 1 TO 7 UNI GX -0.145
127. 1 TO 7 UNI GZ 0.035
128. 1 TO 7 UMOM GX 0.096
129. JOINT LOAD
130. 2 FY -0.35
131. 3 FY -0.21
132. 4 FY -0.07
133. 5 FY 0.07
134. 6 FY 0.21
135. 7 FY 0.35
136. LOAD 24 WIND LOAD ON LL
137. MEMBER LOAD
138. 2 TO 6 UNI GX -0.054
139. 2 TO 6 UNI GZ 0.021
140. 2 TO 6 UMOM GX 0.16
141. JOINT LOAD
142. 2 FY -0.23
143. 3 FY -0.14
144. 4 FY -0.046
145. 5 FY 0.046
146. 6 FY 0.14
147. 7 FY 0.23
148. LOAD 25 LONGITUDINAL FORCE FROM LL
149. MEMBER LOAD
150. 2 TO 6 UNI GZ 0.196
151. 2 TO 6 UMOM GX 1.46
152. LOAD 26 RST
153. MEMBER LOAD
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154. 1 TO 7 UNI GZ 0.157
155. TEMPERATURE LOAD
156. 1 TO 7 TEMP 40
157. LOAD COMB 27 GR I MAX LL SHEAR POSITIVE
158. 1 1.0 2 1.0 3 1.0 4 1.0 5 1.0 6 1.0 21 1.0 22 1.0
159. LOAD COMB 28 GR I MAX LL MOM POSITIVE
160. 1 1.0 2 1.0 3 1.0 4 1.0 7 1.0 8 1.0 21 1.0 22 1.0
161. LOAD COMB 29 GR I MAX POSITIVE MOMENT PIER CAP (SHEAR)
162. 1 1.0 2 1.0 3 1.0 4 1.0 9 1.0 10 1.0 21 1.0 22 1.0
163. LOAD COMB 30 GR I MAX POSITIVE MOMENT PIER CAP (MOMENT)
164. 1 1.0 2 1.0 3 1.0 4 1.0 11 1.0 12 1.0 21 1.0 22 1.0
165. LOAD COMB 31 GR I MAX NEGATIVE MOMENT PIER CAP (SHEAR)
166. 1 1.0 2 1.0 3 1.0 4 1.0 13 1.0 14 1.0 21 1.0 22 1.0
167. LOAD COMB 32 GR I MAX NEGATIVE MOMENT PIER CAP (MOMENT)
168. 1 1.0 2 1.0 3 1.0 4 1.0 15 1.0 16 1.0 21 1.0 22 1.0
169. LOAD COMB 33 GR I MAX LL SHEAR NEGATIVE
170. 1 1.0 2 1.0 3 1.0 4 1.0 17 1.0 18 1.0 21 1.0 22 1.0
171. LOAD COMB 34 GR I MAX LL MOM NEGATIVE
172. 1 1.0 2 1.0 3 1.0 4 1.0 19 1.0 20 1.0 21 1.0 22 1.0
173. LOAD COMB 35 GR II
174. 1 0.8 2 0.8 3 0.8 21 0.8 22 0.8 23 0.8
175. LOAD COMB 36 GR III MAX LL SHEAR POSITIVE
176. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 6 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
177. LOAD COMB 37 GR III MAX LL MOM POSITIVE
178. 1 0.8 2 0.8 3 0.8 4 0.8 7 0.8 8 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
179. LOAD COMB 38 GR III MAX POSITIVE MOMENT PIER CAP (SHEAR)
180. 1 0.8 2 0.8 3 0.8 4 0.8 9 0.8 10 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
181. LOAD COMB 39 GR III MAX POSITIVE MOMENT PIER CAP (MOMENT)
182. 1 0.8 2 0.8 3 0.8 4 0.8 11 0.8 12 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
183. LOAD COMB 40 GR III MAX NEGATIVE MOMENT PIER CAP (SHEAR)
184. 1 0.8 2 0.8 3 0.8 4 0.8 13 0.8 14 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
185. LOAD COMB 41 GR III MAX NEGATIVE MOMENT PIER CAP (MOMENT)
186. 1 0.8 2 0.8 3 0.8 4 0.8 15 0.8 16 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
187. LOAD COMB 42 GR III MAX LL SHEAR NEGATIVE
188. 1 0.8 2 0.8 3 0.8 4 0.8 17 0.8 18 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
189. LOAD COMB 43 GR III MAX LL MOM NEGATIVE
190. 1 0.8 2 0.8 3 0.8 4 0.8 19 0.8 20 0.8 21 0.8 22 0.8 23 0.24 24 0.8 25 0.8
191. LOAD COMB 44 GR IV MAX LL SHEAR POSITIVE
192. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 6 0.8 21 0.8 22 0.8 26 0.8
193. LOAD COMB 45 GR IV MAX LL MOM POSITIVE
194. 1 0.8 2 0.8 3 0.8 4 0.8 7 0.8 8 0.8 21 0.8 22 0.8 26 0.8
195. LOAD COMB 46 GR IV MAX POSITIVE MOMENT PIER CAP (SHEAR)
196. 1 0.8 2 0.8 3 0.8 4 0.8 9 0.8 10 0.8 21 0.8 22 0.8 26 0.8
197. LOAD COMB 47 GR IV MAX POSITIVE MOMENT PIER CAP (MOMENT)
198. 1 0.8 2 0.8 3 0.8 4 0.8 11 0.8 12 0.8 21 0.8 22 0.8 26 0.8
199. LOAD COMB 48 GR IV MAX NEGATIVE MOMENT PIER CAP (SHEAR)
200. 1 0.8 2 0.8 3 0.8 4 0.8 13 0.8 14 0.8 21 0.8 22 0.8 26 0.8
201. LOAD COMB 49 GR IV MAX NEGATIVE MOMENT PIER CAP (MOMENT)
202. 1 0.8 2 0.8 3 0.8 4 0.8 15 0.8 16 0.8 21 0.8 22 0.8 26 0.8
203. LOAD COMB 50 GR IV MAX LL SHEAR NEGATIVE
204. 1 0.8 2 0.8 3 0.8 4 0.8 17 0.8 18 0.8 21 0.8 22 0.8 26 0.8
205. LOAD COMB 51 GR IV MAX LL MOM NEGATIVE
206. 1 0.8 2 0.8 3 0.8 4 0.8 19 0.8 20 0.8 21 0.8 22 0.8 26 0.8
207. LOAD COMB 52 GR IV MAX LL SHEAR POSITIVE
208. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 6 0.8 21 0.8 22 0.8 26 -0.8
209. LOAD COMB 53 GR IV MAX LL MOM POSITIVE
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210. 1 0.8 2 0.8 3 0.8 4 0.8 7 0.8 8 0.8 21 0.8 22 0.8 26 -0.8
211. LOAD COMB 54 GR IV MAX POSITIVE MOMENT PIER CAP (SHEAR)
212. 1 0.8 2 0.8 3 0.8 4 0.8 9 0.8 10 0.8 21 0.8 22 0.8 26 -0.8
213. LOAD COMB 55 GR IV MAX POSITIVE MOMENT PIER CAP (MOMENT)
214. 1 0.8 2 0.8 3 0.8 4 0.8 11 0.8 12 0.8 21 0.8 22 0.8 26 -0.8
215. LOAD COMB 56 GR IV MAX NEGATIVE MOMENT PIER CAP (SHEAR)
216. 1 0.8 2 0.8 3 0.8 4 0.8 13 0.8 14 0.8 21 0.8 22 0.8 26 -0.8
217. LOAD COMB 57 GR IV MAX NEGATIVE MOMENT PIER CAP (MOMENT)
218. 1 0.8 2 0.8 3 0.8 4 0.8 15 0.8 16 0.8 21 0.8 22 0.8 26 -0.8
219. LOAD COMB 58 GR IV MAX LL SHEAR NEGATIVE
220. 1 0.8 2 0.8 3 0.8 4 0.8 17 0.8 18 0.8 21 0.8 22 0.8 26 -0.8
221. LOAD COMB 59 GR IV MAX LL MOM NEGATIVE
222. 1 0.8 2 0.8 3 0.8 4 0.8 19 0.8 20 0.8 21 0.8 22 0.8 26 -0.8
223. LOAD COMB 60 GR V
224. 1 0.72 2 0.72 3 0.72 21 0.72 22 0.72 23 0.72 26 0.72
225. LOAD COMB 61 GR V
226. 1 0.72 2 0.72 3 0.72 21 0.72 22 0.72 23 0.72 26 -0.72
227. LOAD COMB 62 GR VI MAX LL SHEAR POSITIVE
228. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 6 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
229. 25 0.72 26 0.72
230. LOAD COMB 63 GR VI MAX LL MOM POSITIVE
231. 1 0.72 2 0.72 3 0.72 4 0.72 7 0.72 8 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
232. 25 0.72 26 0.72
233. LOAD COMB 64 GR VI MAX POSITIVE MOMENT PIER CAP (SHEAR)
234. 1 0.72 2 0.72 3 0.72 4 0.72 9 0.72 10 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
235. 25 0.72 26 0.72
236. LOAD COMB 65 GR VI MAX POSITIVE MOMENT PIER CAP (MOMENT)
237. 1 0.72 2 0.72 3 0.72 4 0.72 11 0.72 12 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
238. 25 0.72 26 0.72
239. LOAD COMB 66 GR VI MAX NEGATIVE MOMENT PIER CAP (SHEAR)
240. 1 0.72 2 0.72 3 0.72 4 0.72 13 0.72 14 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
241. 25 0.72 26 0.72
242. LOAD COMB 67 GR VI MAX NEGATIVE MOMENT PIER CAP (MOMENT)
243. 1 0.72 2 0.72 3 0.72 4 0.72 15 0.72 16 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
244. 25 0.72 26 0.72
245. LOAD COMB 68 GR VI MAX LL SHEAR NEGATIVE
246. 1 0.72 2 0.72 3 0.72 4 0.72 17 0.72 18 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
247. 25 0.72 26 0.72
248. LOAD COMB 69 GR VI MAX LL MOM NEGATIVE
249. 1 0.72 2 0.72 3 0.72 4 0.72 19 0.72 20 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
250. 25 0.72 26 0.72
251. LOAD COMB 70 GR VI MAX LL SHEAR POSITIVE
252. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 6 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
253. 25 0.72 26 -0.72
254. LOAD COMB 71 GR VI MAX LL MOM POSITIVE
255. 1 0.72 2 0.72 3 0.72 4 0.72 7 0.72 8 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
256. 25 0.72 26 -0.72
257. LOAD COMB 72 GR VI MAX POSITIVE MOMENT PIER CAP (SHEAR)
258. 1 0.72 2 0.72 3 0.72 4 0.72 9 0.72 10 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
259. 25 0.72 26 -0.72
260. LOAD COMB 73 GR VI MAX POSITIVE MOMENT PIER CAP (MOMENT)
261. 1 0.72 2 0.72 3 0.72 4 0.72 11 0.72 12 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
262. 25 0.72 26 -0.72
263. LOAD COMB 74 GR VI MAX NEGATIVE MOMENT PIER CAP (SHEAR)
264. 1 0.72 2 0.72 3 0.72 4 0.72 13 0.72 14 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
265. 25 0.72 26 -0.72
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266. LOAD COMB 75 GR VI MAX NEGATIVE MOMENT PIER CAP (MOMENT)
267. 1 0.72 2 0.72 3 0.72 4 0.72 15 0.72 16 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
268. 25 0.72 26 -0.72
269. LOAD COMB 76 GR VI MAX LL SHEAR NEGATIVE
270. 1 0.72 2 0.72 3 0.72 4 0.72 17 0.72 18 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
271. 25 0.72 26 -0.72
272. LOAD COMB 77 GR VI MAX LL MOM NEGATIVE
273. 1 0.72 2 0.72 3 0.72 4 0.72 19 0.72 20 0.72 21 0.72 22 0.72 23 0.22 24 0.72 -
274. 25 0.72 26 -0.72
275. PERFORM ANALYSIS


        P R O B L E M   S T A T I S T I C S
        -----------------------------------

  NUMBER OF JOINTS/MEMBER+ELEMENTS/SUPPORTS =    26/    25/     6
  ORIGINAL/FINAL BAND-WIDTH=    17/     5/     30 DOF
  TOTAL PRIMARY LOAD CASES =   26, TOTAL DEGREES OF FREEDOM =    120
  SIZE OF STIFFNESS MATRIX =       4 DOUBLE  KILO-WORDS
  REQRD/AVAIL. DISK SPACE  =    12.1/  1588.7 MB,  EXMEM =  888.3 MB

++ Processing Element Stiffness Matrix.              17:54:44
++ Processing Global Stiffness Matrix.               17:54:44
++ Processing Triangular Factorization.              17:54:44
++ Calculating Joint Displacements.                  17:54:44
++ Calculating Member  Forces.                       17:54:44

276. LOAD LIST ALL
277. PRINT ANALYSIS RESULTS
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JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
1	1	-0.00022	-0.13174	0.19445	0.00212	0.00000	0.00092
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00009	-0.02906	0.00785	0.00009	0.00000	0.00025
	5	0.00008	0.01082	0.03659	0.00039	0.00000	-0.00015
	6	0.00002	0.00326	0.01109	0.00012	0.00000	-0.00005
	7	0.00006	0.00805	0.13416	0.00143	-0.00001	-0.00011
	8	0.00002	0.00241	0.04047	0.00043	0.00000	-0.00003
	9	0.00002	-0.00022	0.01899	0.00020	0.00000	0.00001
	10	0.00001	-0.00007	0.00583	0.00006	0.00000	0.00000
	11	0.00002	-0.00017	0.06971	0.00073	-0.00001	0.00001
	12	0.00001	-0.00005	0.02094	0.00022	0.00000	0.00000
	13	-0.00003	-0.02537	0.04953	0.00054	0.00000	0.00015
	14	-0.00001	-0.00767	0.01520	0.00017	0.00000	0.00004
	15	-0.00002	-0.01888	0.18179	0.00198	0.00001	0.00011
	16	-0.00001	-0.00568	0.05459	0.00060	0.00000	0.00003
	17	-0.00001	-0.00134	0.03493	0.00037	0.00000	0.00002
	18	0.00000	-0.00041	0.01053	0.00011	0.00000	0.00001
	19	0.00005	0.00762	-0.11586	-0.00123	0.00001	-0.00011
	20	0.00002	0.00227	-0.03437	-0.00037	0.00000	-0.00003
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01368	-0.00042	0.00096	0.00001	0.00000	0.00000
	23	-0.03800	-0.00236	0.03341	0.00026	0.00000	0.00002
	24	-0.01195	-0.00076	0.02117	0.00019	-0.00001	0.00001
	25	0.00000	0.00000	0.19573	0.00177	-0.00006	0.00000
	26	-0.15229	-0.00831	0.12116	0.00087	0.00000	0.00008
	27	-0.01388	-0.14791	0.25094	0.00273	0.00000	0.00098
	28	-0.01391	-0.15151	0.37790	0.00408	-0.00001	0.00103
	29	-0.01395	-0.16227	0.22809	0.00248	0.00000	0.00119
	30	-0.01396	-0.16220	0.29392	0.00317	-0.00001	0.00118
	31	-0.01402	-0.19503	0.26799	0.00293	0.00001	0.00137
	32	-0.01401	-0.18654	0.43965	0.00480	0.00002	0.00132
	33	-0.01399	-0.16373	0.24873	0.00270	0.00000	0.00120
	34	-0.01391	-0.15210	0.05303	0.00062	0.00002	0.00104
	35	-0.04151	-0.10822	0.18306	0.00191	0.00000	0.00075
	36	-0.02979	-0.11950	0.38229	0.00382	-0.00005	0.00079
	37	-0.02981	-0.12239	0.48385	0.00490	-0.00005	0.00083
	38	-0.02984	-0.13099	0.36401	0.00362	-0.00005	0.00096
	39	-0.02985	-0.13093	0.41667	0.00417	-0.00006	0.00096
	40	-0.02990	-0.15720	0.39593	0.00397	-0.00004	0.00110
	41	-0.02989	-0.15041	0.53326	0.00547	-0.00003	0.00106
	42	-0.02988	-0.13216	0.38052	0.00380	-0.00005	0.00097
	43	-0.02981	-0.12285	0.22397	0.00213	-0.00004	0.00084
	44	-0.13294	-0.12498	0.29769	0.00288	0.00000	0.00084
	45	-0.13296	-0.12786	0.39925	0.00396	0.00000	0.00089
	46	-0.13299	-0.13647	0.27940	0.00268	0.00000	0.00101
	47	-0.13300	-0.13641	0.33207	0.00324	-0.00001	0.00101
	48	-0.13305	-0.16268	0.31132	0.00304	0.00001	0.00115

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	49	-0.13304	-0.15588	0.44865	0.00454	0.00001	0.00112
	50	-0.13303	-0.13763	0.29591	0.00286	0.00000	0.00102
	51	-0.13296	-0.12833	0.13936	0.00120	0.00001	0.00089
	52	0.11073	-0.11168	0.10383	0.00148	0.00000	0.00072
	53	0.11071	-0.11456	0.20539	0.00257	0.00000	0.00076
	54	0.11067	-0.12316	0.08554	0.00129	0.00000	0.00089
	55	0.11067	-0.12310	0.13820	0.00184	-0.00001	0.00089
	56	0.11062	-0.14937	0.11746	0.00164	0.00001	0.00103
	57	0.11063	-0.14258	0.25479	0.00314	0.00001	0.00099
	58	0.11064	-0.12433	0.10205	0.00147	0.00000	0.00090
	59	0.11071	-0.11502	-0.05450	-0.00020	0.00001	0.00077
	60	-0.14701	-0.10339	0.25199	0.00235	0.00000	0.00073
	61	0.07229	-0.09141	0.07752	0.00109	0.00000	0.00062
	62	-0.13661	-0.11355	0.43144	0.00406	-0.00004	0.00077
	63	-0.13663	-0.11615	0.52284	0.00504	-0.00005	0.00081
	64	-0.13666	-0.12389	0.41498	0.00389	-0.00004	0.00092
	65	-0.13667	-0.12384	0.46238	0.00438	-0.00005	0.00092
	66	-0.13671	-0.14748	0.44371	0.00421	-0.00004	0.00105
	67	-0.13670	-0.14136	0.56730	0.00556	-0.00003	0.00101
	68	-0.13669	-0.12494	0.42984	0.00405	-0.00004	0.00093
	69	-0.13663	-0.11656	0.28894	0.00255	-0.00003	0.00081
	70	0.08269	-0.10158	0.25696	0.00281	-0.00004	0.00066
	71	0.08267	-0.10417	0.34837	0.00378	-0.00005	0.00070
	72	0.08264	-0.11192	0.24050	0.00263	-0.00004	0.00081
	73	0.08263	-0.11186	0.28790	0.00313	-0.00005	0.00081
	74	0.08259	-0.13550	0.26924	0.00295	-0.00004	0.00094
	75	0.08260	-0.12939	0.39283	0.00430	-0.00003	0.00090
	76	0.08261	-0.11296	0.25536	0.00279	-0.00004	0.00082
	77	0.08267	-0.10459	0.11447	0.00129	-0.00003	0.00070
2	1	-0.00022	-0.04896	0.19412	0.00209	0.00000	0.00044
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00009	-0.00532	0.00763	0.00009	0.00000	0.00018
	5	0.00008	-0.00407	0.03682	0.00039	0.00000	-0.00015
	6	0.00002	-0.00122	0.01116	0.00012	0.00000	-0.00005
	7	0.00006	-0.00303	0.13500	0.00143	-0.00001	-0.00011
	8	0.00002	-0.00091	0.04072	0.00043	0.00000	-0.00003
	9	0.00002	0.00052	0.01930	0.00020	0.00000	0.00001
	10	0.00001	0.00016	0.00592	0.00006	0.00000	0.00000
	11	0.00002	0.00039	0.07084	0.00073	-0.00001	0.00001
	12	0.00001	0.00012	0.02127	0.00022	0.00000	0.00000
	13	-0.00003	-0.01271	0.04928	0.00053	0.00000	0.00004
	14	-0.00001	-0.00384	0.01512	0.00016	0.00000	0.00001
	15	-0.00002	-0.00946	0.18088	0.00196	0.00001	0.00003
	16	-0.00001	-0.00284	0.05432	0.00059	0.00000	0.00001
	17	-0.00001	0.00050	0.03514	0.00037	0.00000	0.00002
	18	0.00000	0.00015	0.01060	0.00011	0.00000	0.00001
	19	0.00005	-0.00286	-0.11659	-0.00123	0.00001	-0.00011

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	20	0.00002	-0.00085	-0.03459	-0.00037	0.00000	-0.00003
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01368	-0.00005	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	-0.00030	0.03340	0.00026	0.00000	0.00002
	24	-0.01195	-0.00011	0.02176	0.00019	-0.00001	0.00001
	25	0.00000	0.00000	0.20119	0.00177	-0.00006	0.00000
	26	-0.12859	-0.00076	0.12109	0.00087	0.00000	0.00008
	27	-0.01388	-0.06036	0.25069	0.00269	0.00000	0.00043
	28	-0.01391	-0.05901	0.37844	0.00405	-0.00001	0.00048
	29	-0.01395	-0.05440	0.22794	0.00245	0.00000	0.00063
	30	-0.01396	-0.05457	0.29483	0.00314	-0.00001	0.00063
	31	-0.01402	-0.07163	0.26711	0.00289	0.00001	0.00067
	32	-0.01401	-0.06737	0.43791	0.00474	0.00002	0.00066
	33	-0.01399	-0.05442	0.24846	0.00267	0.00000	0.00065
	34	-0.01391	-0.05879	0.05154	0.00059	0.00002	0.00048
	35	-0.04150	-0.04004	0.18279	0.00189	0.00000	0.00037
	36	-0.02978	-0.04845	0.38693	0.00379	-0.00005	0.00035
	37	-0.02981	-0.04737	0.48913	0.00487	-0.00005	0.00039
	38	-0.02984	-0.04368	0.36872	0.00359	-0.00005	0.00052
	39	-0.02985	-0.04382	0.42224	0.00414	-0.00006	0.00051
	40	-0.02990	-0.05746	0.40006	0.00394	-0.00004	0.00055
	41	-0.02989	-0.05406	0.53670	0.00542	-0.00003	0.00054
	42	-0.02987	-0.04369	0.38514	0.00377	-0.00005	0.00053
	43	-0.02981	-0.04719	0.22760	0.00210	-0.00004	0.00040
	44	-0.11398	-0.04890	0.29743	0.00285	0.00000	0.00040
	45	-0.11400	-0.04781	0.39963	0.00394	0.00000	0.00044
	46	-0.11403	-0.04412	0.27922	0.00266	0.00000	0.00057
	47	-0.11404	-0.04426	0.33274	0.00321	-0.00001	0.00057
	48	-0.11409	-0.05791	0.31057	0.00301	0.00001	0.00060
	49	-0.11408	-0.05451	0.44720	0.00449	0.00001	0.00059
	50	-0.11407	-0.04414	0.29564	0.00284	0.00000	0.00058
	51	-0.11400	-0.04764	0.13810	0.00117	0.00001	0.00045
	52	0.09177	-0.04768	0.10368	0.00146	0.00000	0.00028
	53	0.09175	-0.04660	0.20588	0.00254	0.00000	0.00032
	54	0.09171	-0.04291	0.08547	0.00126	0.00000	0.00044
	55	0.09171	-0.04305	0.13899	0.00181	-0.00001	0.00044
	56	0.09166	-0.05670	0.11682	0.00161	0.00001	0.00048
	57	0.09167	-0.05329	0.25345	0.00309	0.00001	0.00047
	58	0.09168	-0.04293	0.10189	0.00144	0.00000	0.00046
	59	0.09174	-0.04642	-0.05565	-0.00023	0.00001	0.00033
	60	-0.12994	-0.03659	0.25169	0.00233	0.00000	0.00039
	61	0.05523	-0.03549	0.07732	0.00107	0.00000	0.00028
	62	-0.11954	-0.04415	0.43556	0.00404	-0.00004	0.00037
	63	-0.11956	-0.04318	0.52753	0.00501	-0.00005	0.00041
	64	-0.11959	-0.03986	0.41917	0.00386	-0.00004	0.00052
	65	-0.11960	-0.03998	0.46733	0.00436	-0.00005	0.00052
	66	-0.11964	-0.05226	0.44738	0.00418	-0.00004	0.00055
	67	-0.11964	-0.04920	0.57035	0.00551	-0.00003	0.00054

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	68	-0.11962	-0.03987	0.43395	0.00402	-0.00004	0.00053
	69	-0.11956	-0.04302	0.29216	0.00252	-0.00003	0.00041
	70	0.06563	-0.04306	0.26118	0.00278	-0.00004	0.00026
	71	0.06561	-0.04208	0.35316	0.00376	-0.00005	0.00030
	72	0.06558	-0.03876	0.24480	0.00260	-0.00004	0.00041
	73	0.06557	-0.03889	0.29296	0.00310	-0.00005	0.00041
	74	0.06553	-0.05117	0.27300	0.00292	-0.00004	0.00044
	75	0.06553	-0.04811	0.39598	0.00425	-0.00003	0.00043
	76	0.06555	-0.03878	0.25957	0.00277	-0.00004	0.00042
	77	0.06561	-0.04193	0.11779	0.00127	-0.00003	0.00030
3	1	-0.00012	-0.03687	0.19343	0.00208	0.00000	-0.00007
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00005	0.00111	0.00717	0.00008	0.00000	-0.00002
	5	0.00004	-0.01060	0.03730	0.00040	0.00000	0.00002
	6	0.00001	-0.00319	0.01130	0.00012	0.00000	0.00000
	7	0.00003	-0.00789	0.13676	0.00148	-0.00001	0.00001
	8	0.00001	-0.00237	0.04125	0.00045	0.00000	0.00000
	9	0.00002	-0.00701	0.01994	0.00022	0.00000	-0.00013
	10	0.00001	-0.00212	0.00612	0.00007	0.00000	-0.00004
	11	0.00002	-0.00522	0.07319	0.00079	-0.00001	-0.00009
	12	0.00001	-0.00157	0.02198	0.00024	0.00000	-0.00003
	13	-0.00002	-0.01316	0.04875	0.00053	0.00000	-0.00002
	14	-0.00001	-0.00398	0.01496	0.00016	0.00000	0.00000
	15	-0.00002	-0.00979	0.17894	0.00194	0.00001	-0.00001
	16	0.00000	-0.00295	0.05374	0.00058	0.00000	0.00000
	17	-0.00001	0.00131	0.03560	0.00038	0.00000	0.00000
	18	0.00000	0.00040	0.01074	0.00012	0.00000	0.00000
	19	0.00003	-0.00747	-0.11811	-0.00127	0.00001	0.00001
	20	0.00001	-0.00222	-0.03504	-0.00038	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01367	0.00002	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	0.00007	0.03345	0.00026	0.00000	0.00001
	24	-0.01196	0.00001	0.02291	0.00020	0.00000	0.00000
	25	0.00000	0.00000	0.21194	0.00181	-0.00004	0.00000
	26	-0.07703	0.00059	0.12128	0.00087	0.00000	0.00001
	27	-0.01379	-0.05028	0.25016	0.00268	0.00000	-0.00008
	28	-0.01380	-0.04675	0.37957	0.00408	0.00000	-0.00008
	29	-0.01381	-0.04563	0.22762	0.00244	0.00000	-0.00026
	30	-0.01382	-0.04328	0.29673	0.00319	-0.00001	-0.00022
	31	-0.01387	-0.05364	0.26527	0.00285	0.00001	-0.00012
	32	-0.01387	-0.04923	0.43423	0.00467	0.00002	-0.00011
	33	-0.01385	-0.03478	0.24790	0.00266	0.00000	-0.00010
	34	-0.01380	-0.04618	0.04841	0.00050	0.00001	-0.00008
	35	-0.04143	-0.03003	0.18227	0.00188	0.00000	-0.00005
	36	-0.02972	-0.04020	0.39603	0.00381	-0.00003	-0.00006
	37	-0.02973	-0.03738	0.49956	0.00493	-0.00004	-0.00006
	38	-0.02974	-0.03648	0.37800	0.00362	-0.00003	-0.00021

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	39	-0.02975	-0.03460	0.43329	0.00422	-0.00004	-0.00017
	40	-0.02979	-0.04289	0.40812	0.00395	-0.00003	-0.00009
	41	-0.02978	-0.03936	0.54329	0.00541	-0.00002	-0.00009
	42	-0.02977	-0.02780	0.39423	0.00380	-0.00003	-0.00008
	43	-0.02973	-0.03692	0.23463	0.00207	-0.00003	-0.00006
	44	-0.07266	-0.03976	0.29715	0.00284	0.00000	-0.00006
	45	-0.07267	-0.03693	0.40069	0.00396	0.00000	-0.00006
	46	-0.07268	-0.03603	0.27912	0.00265	0.00000	-0.00020
	47	-0.07268	-0.03416	0.33441	0.00325	-0.00001	-0.00017
	48	-0.07273	-0.04244	0.30924	0.00298	0.00001	-0.00009
	49	-0.07272	-0.03892	0.44441	0.00444	0.00001	-0.00008
	50	-0.07271	-0.02736	0.29535	0.00282	0.00000	-0.00007
	51	-0.07267	-0.03648	0.13576	0.00110	0.00001	-0.00006
	52	0.05060	-0.04070	0.10310	0.00145	0.00000	-0.00007
	53	0.05059	-0.03787	0.20663	0.00256	0.00000	-0.00007
	54	0.05058	-0.03697	0.08507	0.00125	0.00000	-0.00021
	55	0.05057	-0.03509	0.14036	0.00185	-0.00001	-0.00018
	56	0.05053	-0.04338	0.11519	0.00158	0.00001	-0.00010
	57	0.05054	-0.03985	0.25036	0.00304	0.00001	-0.00009
	58	0.05055	-0.02830	0.10129	0.00143	0.00000	-0.00008
	59	0.05058	-0.03741	-0.05830	-0.00030	0.00001	-0.00007
	60	-0.09275	-0.02660	0.25137	0.00232	0.00000	-0.00004
	61	0.01818	-0.02745	0.07672	0.00106	0.00000	-0.00005
	62	-0.08236	-0.03576	0.44389	0.00406	-0.00003	-0.00005
	63	-0.08237	-0.03322	0.53707	0.00507	-0.00004	-0.00005
	64	-0.08238	-0.03241	0.42766	0.00389	-0.00003	-0.00018
	65	-0.08239	-0.03072	0.47741	0.00443	-0.00004	-0.00015
	66	-0.08243	-0.03818	0.45477	0.00418	-0.00003	-0.00008
	67	-0.08242	-0.03500	0.57642	0.00550	-0.00002	-0.00007
	68	-0.08241	-0.02460	0.44226	0.00405	-0.00003	-0.00006
	69	-0.08238	-0.03281	0.29863	0.00250	-0.00002	-0.00005
	70	0.02857	-0.03661	0.26924	0.00281	-0.00003	-0.00006
	71	0.02856	-0.03406	0.36242	0.00381	-0.00003	-0.00006
	72	0.02855	-0.03325	0.25301	0.00263	-0.00003	-0.00019
	73	0.02854	-0.03156	0.30277	0.00317	-0.00004	-0.00016
	74	0.02850	-0.03902	0.28012	0.00292	-0.00003	-0.00009
	75	0.02851	-0.03585	0.40177	0.00424	-0.00002	-0.00008
	76	0.02852	-0.02544	0.26761	0.00279	-0.00003	-0.00007
	77	0.02855	-0.03365	0.12398	0.00124	-0.00002	-0.00006
4	1	-0.00004	-0.04039	0.19300	0.00207	0.00000	0.00001
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00002	-0.00011	0.00687	0.00007	0.00000	0.00000
	5	0.00001	-0.00966	0.03760	0.00041	0.00000	0.00000
	6	0.00000	-0.00291	0.01139	0.00012	0.00000	0.00000
	7	0.00001	-0.00719	0.13787	0.00150	0.00000	0.00000
	8	0.00000	-0.00215	0.04159	0.00045	0.00000	0.00000
	9	0.00000	-0.00648	0.02034	0.00022	0.00000	0.00013

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	10	0.00000	-0.00196	0.00624	0.00007	0.00000	0.00004
	11	0.00000	-0.00482	0.07467	0.00082	0.00000	0.00010
	12	0.00000	-0.00145	0.02242	0.00025	0.00000	0.00003
	13	-0.00002	-0.00600	0.04838	0.00051	0.00000	0.00013
	14	0.00000	-0.00182	0.01484	0.00016	0.00000	0.00004
	15	-0.00001	-0.00447	0.17757	0.00188	0.00000	0.00009
	16	0.00000	-0.00134	0.05333	0.00056	0.00000	0.00003
	17	0.00000	0.00119	0.03589	0.00039	0.00000	0.00000
	18	0.00000	0.00036	0.01082	0.00012	0.00000	0.00000
	19	0.00001	-0.00680	-0.11907	-0.00129	0.00000	0.00000
	20	0.00000	-0.00202	-0.03532	-0.00038	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01367	0.00000	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	-0.00002	0.03349	0.00026	0.00000	0.00001
	24	-0.01197	-0.00001	0.02356	0.00020	0.00000	0.00000
	25	0.00000	0.00000	0.21799	0.00184	-0.00001	0.00000
	26	-0.02566	0.00017	0.12146	0.00087	0.00000	0.00001
	27	-0.01371	-0.05383	0.24983	0.00267	0.00000	0.00001
	28	-0.01372	-0.05061	0.38029	0.00409	0.00000	0.00001
	29	-0.01373	-0.04970	0.22742	0.00244	0.00000	0.00018
	30	-0.01373	-0.04753	0.29792	0.00321	0.00000	0.00014
	31	-0.01375	-0.04908	0.26405	0.00281	0.00000	0.00018
	32	-0.01375	-0.04707	0.43173	0.00458	0.00001	0.00013
	33	-0.01373	-0.03970	0.24755	0.00265	0.00000	0.00001
	34	-0.01372	-0.05009	0.04644	0.00047	0.00000	0.00001
	35	-0.04136	-0.03294	0.18196	0.00187	0.00000	0.00001
	36	-0.02966	-0.04307	0.40114	0.00383	-0.00001	0.00001
	37	-0.02967	-0.04050	0.50551	0.00496	-0.00001	0.00001
	38	-0.02968	-0.03977	0.38321	0.00364	-0.00001	0.00015
	39	-0.02968	-0.03804	0.43961	0.00426	-0.00002	0.00011
	40	-0.02970	-0.03928	0.41252	0.00394	-0.00001	0.00014
	41	-0.02969	-0.03767	0.54666	0.00536	-0.00001	0.00011
	42	-0.02968	-0.03178	0.39931	0.00381	-0.00001	0.00001
	43	-0.02967	-0.04008	0.23843	0.00206	-0.00001	0.00001
	44	-0.03150	-0.04292	0.29703	0.00284	0.00000	0.00001
	45	-0.03150	-0.04035	0.40140	0.00397	0.00000	0.00001
	46	-0.03151	-0.03962	0.27910	0.00265	0.00000	0.00015
	47	-0.03151	-0.03789	0.33550	0.00327	0.00000	0.00011
	48	-0.03153	-0.03912	0.30841	0.00295	0.00000	0.00015
	49	-0.03153	-0.03752	0.44255	0.00436	0.00000	0.00011
	50	-0.03151	-0.03162	0.29520	0.00282	0.00000	0.00001
	51	-0.03150	-0.03993	0.13432	0.00107	0.00000	0.00001
	52	0.00956	-0.04320	0.10270	0.00144	0.00000	0.00000
	53	0.00955	-0.04062	0.20707	0.00257	0.00000	0.00000
	54	0.00954	-0.03990	0.08477	0.00125	0.00000	0.00014
	55	0.00954	-0.03816	0.14117	0.00187	0.00000	0.00011
	56	0.00952	-0.03940	0.11408	0.00155	0.00000	0.00014
	57	0.00953	-0.03779	0.24822	0.00297	0.00001	0.00010

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	58	0.00954	-0.03190	0.10087	0.00142	0.00000	0.00000
	59	0.00955	-0.04021	-0.06001	-0.00033	0.00000	0.00000
	60	-0.05570	-0.02952	0.25121	0.00231	0.00000	0.00002
	61	-0.01875	-0.02977	0.07631	0.00105	0.00000	0.00001
	62	-0.04532	-0.03864	0.44860	0.00408	-0.00001	0.00001
	63	-0.04533	-0.03633	0.54254	0.00510	-0.00001	0.00001
	64	-0.04534	-0.03567	0.43247	0.00391	-0.00001	0.00014
	65	-0.04534	-0.03411	0.48324	0.00447	-0.00001	0.00011
	66	-0.04535	-0.03522	0.45885	0.00418	-0.00001	0.00013
	67	-0.04535	-0.03378	0.57957	0.00545	-0.00001	0.00010
	68	-0.04534	-0.02847	0.44696	0.00406	-0.00001	0.00002
	69	-0.04533	-0.03595	0.30217	0.00249	-0.00001	0.00001
	70	-0.00838	-0.03889	0.27371	0.00282	-0.00001	0.00001
	71	-0.00838	-0.03657	0.36764	0.00384	-0.00001	0.00001
	72	-0.00839	-0.03592	0.25757	0.00265	-0.00001	0.00013
	73	-0.00839	-0.03436	0.30834	0.00321	-0.00001	0.00010
	74	-0.00840	-0.03547	0.28395	0.00292	-0.00001	0.00013
	75	-0.00840	-0.03403	0.40468	0.00419	-0.00001	0.00010
	76	-0.00839	-0.02872	0.27207	0.00280	-0.00001	0.00001
	77	-0.00838	-0.03620	0.12727	0.00123	-0.00001	0.00001
5	1	0.00004	-0.04039	0.19300	0.00207	0.00000	-0.00001
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00002	-0.00011	0.00687	0.00007	0.00000	0.00000
	5	-0.00001	-0.00966	0.03760	0.00041	0.00000	0.00000
	6	0.00000	-0.00291	0.01139	0.00012	0.00000	0.00000
	7	-0.00001	-0.00719	0.13787	0.00150	0.00000	0.00000
	8	0.00000	-0.00215	0.04159	0.00045	0.00000	0.00000
	9	0.00000	-0.00648	0.02034	0.00022	0.00000	-0.00013
	10	0.00000	-0.00196	0.00624	0.00007	0.00000	-0.00004
	11	0.00000	-0.00482	0.07467	0.00082	0.00000	-0.00010
	12	0.00000	-0.00145	0.02242	0.00025	0.00000	-0.00003
	13	0.00002	-0.00600	0.04838	0.00051	0.00000	-0.00013
	14	0.00000	-0.00182	0.01484	0.00016	0.00000	-0.00004
	15	0.00001	-0.00447	0.17757	0.00188	0.00000	-0.00009
	16	0.00000	-0.00134	0.05333	0.00056	0.00000	-0.00003
	17	0.00000	0.00119	0.03589	0.00039	0.00000	0.00000
	18	0.00000	0.00036	0.01082	0.00012	0.00000	0.00000
	19	-0.00001	-0.00680	-0.11907	-0.00129	0.00000	0.00000
	20	0.00000	-0.00202	-0.03532	-0.00038	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01367	0.00000	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	0.00002	0.03349	0.00026	0.00000	0.00001
	24	-0.01197	0.00001	0.02356	0.00020	0.00000	0.00000
	25	0.00000	0.00000	0.21799	0.00184	0.00001	0.00000
	26	0.02566	0.00017	0.12146	0.00087	0.00000	-0.00001
	27	-0.01364	-0.05382	0.24983	0.00267	0.00000	-0.00001
	28	-0.01363	-0.05060	0.38029	0.00409	0.00000	-0.00001

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	29	-0.01362	-0.04969	0.22742	0.00244	0.00000	-0.00018
	30	-0.01362	-0.04752	0.29792	0.00321	0.00000	-0.00013
	31	-0.01360	-0.04907	0.26405	0.00281	0.00000	-0.00017
	32	-0.01360	-0.04706	0.43173	0.00458	-0.00001	-0.00013
	33	-0.01362	-0.03970	0.24755	0.00265	0.00000	-0.00001
	34	-0.01363	-0.05008	0.04644	0.00047	0.00000	-0.00001
	35	-0.04130	-0.03290	0.18196	0.00187	0.00000	0.00000
	36	-0.02960	-0.04304	0.40114	0.00383	0.00001	0.00000
	37	-0.02960	-0.04047	0.50551	0.00496	0.00001	0.00000
	38	-0.02959	-0.03974	0.38321	0.00364	0.00001	-0.00014
	39	-0.02959	-0.03801	0.43961	0.00426	0.00002	-0.00010
	40	-0.02957	-0.03924	0.41252	0.00394	0.00001	-0.00013
	41	-0.02957	-0.03764	0.54666	0.00536	0.00001	-0.00010
	42	-0.02959	-0.03174	0.39931	0.00381	0.00001	0.00000
	43	-0.02960	-0.04005	0.23843	0.00206	0.00001	0.00000
	44	0.00962	-0.04292	0.29703	0.00284	0.00000	-0.00001
	45	0.00962	-0.04034	0.40140	0.00397	0.00000	-0.00001
	46	0.00963	-0.03962	0.27910	0.00265	0.00000	-0.00015
	47	0.00963	-0.03788	0.33550	0.00327	0.00000	-0.00011
	48	0.00965	-0.03912	0.30841	0.00295	0.00000	-0.00014
	49	0.00965	-0.03751	0.44255	0.00436	0.00000	-0.00011
	50	0.00963	-0.03162	0.29520	0.00282	0.00000	-0.00001
	51	0.00962	-0.03993	0.13432	0.00107	0.00000	-0.00001
	52	-0.03144	-0.04319	0.10270	0.00144	0.00000	0.00000
	53	-0.03143	-0.04062	0.20707	0.00257	0.00000	0.00000
	54	-0.03142	-0.03989	0.08477	0.00125	0.00000	-0.00014
	55	-0.03142	-0.03816	0.14117	0.00187	0.00000	-0.00010
	56	-0.03140	-0.03940	0.11408	0.00155	0.00000	-0.00013
	57	-0.03141	-0.03779	0.24822	0.00297	-0.00001	-0.00010
	58	-0.03142	-0.03190	0.10087	0.00142	0.00000	0.00000
	59	-0.03143	-0.04020	-0.06001	-0.00033	0.00000	0.00000
	60	-0.01869	-0.02948	0.25121	0.00231	0.00000	0.00000
	61	-0.05564	-0.02973	0.07631	0.00105	0.00000	0.00001
	62	-0.00832	-0.03861	0.44860	0.00408	0.00001	-0.00001
	63	-0.00832	-0.03630	0.54254	0.00510	0.00001	-0.00001
	64	-0.00831	-0.03564	0.43247	0.00391	0.00001	-0.00013
	65	-0.00831	-0.03408	0.48324	0.00447	0.00001	-0.00010
	66	-0.00829	-0.03519	0.45885	0.00418	0.00001	-0.00013
	67	-0.00830	-0.03375	0.57957	0.00545	0.00001	-0.00009
	68	-0.00830	-0.02844	0.44696	0.00406	0.00001	-0.00001
	69	-0.00832	-0.03592	0.30217	0.00249	0.00001	-0.00001
	70	-0.04527	-0.03886	0.27371	0.00282	0.00001	0.00000
	71	-0.04527	-0.03654	0.36764	0.00384	0.00001	0.00000
	72	-0.04525	-0.03589	0.25757	0.00265	0.00001	-0.00012
	73	-0.04525	-0.03433	0.30834	0.00321	0.00001	-0.00009
	74	-0.04524	-0.03544	0.28395	0.00292	0.00001	-0.00012
	75	-0.04524	-0.03400	0.40468	0.00419	0.00001	-0.00009
	76	-0.04525	-0.02869	0.27207	0.00280	0.00001	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	77	-0.04526	-0.03617	0.12727	0.00123	0.00001	0.00000
6	1	0.00012	-0.03687	0.19343	0.00208	0.00000	0.00007
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00005	0.00111	0.00717	0.00008	0.00000	0.00002
	5	-0.00004	-0.01060	0.03730	0.00040	0.00000	-0.00002
	6	-0.00001	-0.00319	0.01130	0.00012	0.00000	0.00000
	7	-0.00003	-0.00789	0.13676	0.00148	0.00001	-0.00001
	8	-0.00001	-0.00237	0.04125	0.00045	0.00000	0.00000
	9	-0.00002	-0.00701	0.01994	0.00022	0.00000	0.00013
	10	-0.00001	-0.00212	0.00612	0.00007	0.00000	0.00004
	11	-0.00002	-0.00522	0.07319	0.00079	0.00001	0.00009
	12	-0.00001	-0.00157	0.02198	0.00024	0.00000	0.00003
	13	0.00002	-0.01316	0.04875	0.00053	0.00000	0.00002
	14	0.00001	-0.00398	0.01496	0.00016	0.00000	0.00000
	15	0.00002	-0.00979	0.17894	0.00194	-0.00001	0.00001
	16	0.00000	-0.00295	0.05374	0.00058	0.00000	0.00000
	17	0.00001	0.00131	0.03560	0.00038	0.00000	0.00000
	18	0.00000	0.00040	0.01074	0.00012	0.00000	0.00000
	19	-0.00003	-0.00747	-0.11811	-0.00127	-0.00001	-0.00001
	20	-0.00001	-0.00222	-0.03504	-0.00038	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01367	-0.00002	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	-0.00007	0.03345	0.00026	0.00000	0.00001
	24	-0.01196	-0.00001	0.02291	0.00020	0.00000	0.00000
	25	0.00000	0.00000	0.21194	0.00181	0.00004	0.00000
	26	0.07703	0.00059	0.12128	0.00087	0.00000	-0.00001
	27	-0.01356	-0.05032	0.25016	0.00268	0.00000	0.00008
	28	-0.01355	-0.04679	0.37957	0.00408	0.00000	0.00008
	29	-0.01354	-0.04566	0.22762	0.00244	0.00000	0.00026
	30	-0.01353	-0.04332	0.29673	0.00319	0.00001	0.00022
	31	-0.01348	-0.05367	0.26527	0.00285	-0.00001	0.00012
	32	-0.01348	-0.04927	0.43423	0.00467	-0.00002	0.00011
	33	-0.01350	-0.03482	0.24790	0.00266	0.00000	0.00010
	34	-0.01355	-0.04622	0.04841	0.00050	-0.00001	0.00008
	35	-0.04123	-0.03016	0.18227	0.00188	0.00000	0.00006
	36	-0.02954	-0.04028	0.39603	0.00381	0.00003	0.00006
	37	-0.02953	-0.03745	0.49956	0.00493	0.00004	0.00007
	38	-0.02952	-0.03656	0.37800	0.00362	0.00003	0.00021
	39	-0.02951	-0.03468	0.43329	0.00422	0.00004	0.00018
	40	-0.02947	-0.04296	0.40812	0.00395	0.00003	0.00010
	41	-0.02948	-0.03944	0.54329	0.00541	0.00002	0.00009
	42	-0.02949	-0.02788	0.39423	0.00380	0.00003	0.00008
	43	-0.02953	-0.03700	0.23463	0.00207	0.00003	0.00007
	44	0.05078	-0.03979	0.29715	0.00284	0.00000	0.00006
	45	0.05079	-0.03696	0.40069	0.00396	0.00000	0.00006
	46	0.05080	-0.03606	0.27912	0.00265	0.00000	0.00020
	47	0.05080	-0.03418	0.33441	0.00325	0.00001	0.00017

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	48	0.05085	-0.04247	0.30924	0.00298	-0.00001	0.00009
	49	0.05084	-0.03894	0.44441	0.00444	-0.00001	0.00009
	50	0.05083	-0.02739	0.29535	0.00282	0.00000	0.00008
	51	0.05079	-0.03650	0.13576	0.00110	-0.00001	0.00006
	52	-0.07248	-0.04073	0.10310	0.00145	0.00000	0.00007
	53	-0.07247	-0.03790	0.20663	0.00256	0.00000	0.00007
	54	-0.07246	-0.03700	0.08507	0.00125	0.00000	0.00021
	55	-0.07245	-0.03512	0.14036	0.00185	0.00001	0.00018
	56	-0.07241	-0.04341	0.11519	0.00158	-0.00001	0.00010
	57	-0.07242	-0.03988	0.25036	0.00304	-0.00001	0.00010
	58	-0.07243	-0.02832	0.10129	0.00143	0.00000	0.00009
	59	-0.07246	-0.03744	-0.05830	-0.00030	-0.00001	0.00007
	60	0.01835	-0.02673	0.25137	0.00232	0.00000	0.00005
	61	-0.09258	-0.02757	0.07672	0.00106	0.00000	0.00006
	62	0.02873	-0.03583	0.44389	0.00406	0.00003	0.00005
	63	0.02874	-0.03329	0.53707	0.00507	0.00004	0.00006
	64	0.02875	-0.03248	0.42766	0.00389	0.00003	0.00019
	65	0.02875	-0.03079	0.47741	0.00443	0.00004	0.00016
	66	0.02879	-0.03824	0.45477	0.00418	0.00003	0.00008
	67	0.02878	-0.03507	0.57642	0.00550	0.00002	0.00008
	68	0.02877	-0.02467	0.44226	0.00405	0.00003	0.00007
	69	0.02874	-0.03288	0.29863	0.00250	0.00002	0.00006
	70	-0.08220	-0.03667	0.26924	0.00281	0.00003	0.00006
	71	-0.08219	-0.03413	0.36242	0.00381	0.00003	0.00007
	72	-0.08218	-0.03332	0.25301	0.00263	0.00003	0.00020
	73	-0.08218	-0.03163	0.30277	0.00317	0.00004	0.00017
	74	-0.08214	-0.03909	0.28012	0.00292	0.00003	0.00009
	75	-0.08215	-0.03592	0.40177	0.00424	0.00002	0.00009
	76	-0.08216	-0.02551	0.26761	0.00279	0.00003	0.00008
	77	-0.08219	-0.03372	0.12398	0.00124	0.00002	0.00007
7	1	0.00022	-0.04896	0.19412	0.00209	0.00000	-0.00044
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00009	-0.00532	0.00763	0.00009	0.00000	-0.00018
	5	-0.00008	-0.00407	0.03682	0.00039	0.00000	0.00015
	6	-0.00002	-0.00122	0.01116	0.00012	0.00000	0.00005
	7	-0.00006	-0.00303	0.13500	0.00143	0.00001	0.00011
	8	-0.00002	-0.00091	0.04072	0.00043	0.00000	0.00003
	9	-0.00002	0.00052	0.01930	0.00020	0.00000	-0.00001
	10	-0.00001	0.00016	0.00592	0.00006	0.00000	0.00000
	11	-0.00002	0.00039	0.07084	0.00073	0.00001	-0.00001
	12	-0.00001	0.00012	0.02127	0.00022	0.00000	0.00000
	13	0.00003	-0.01271	0.04928	0.00053	0.00000	-0.00004
	14	0.00001	-0.00384	0.01512	0.00016	0.00000	-0.00001
	15	0.00002	-0.00946	0.18088	0.00196	-0.00001	-0.00003
	16	0.00001	-0.00284	0.05432	0.00059	0.00000	-0.00001
	17	0.00001	0.00050	0.03514	0.00037	0.00000	-0.00002
	18	0.00000	0.00015	0.01060	0.00011	0.00000	-0.00001

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	19	-0.00005	-0.00286	-0.11659	-0.00123	-0.00001	0.00011
	20	-0.00002	-0.00085	-0.03459	-0.00037	0.00000	0.00003
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01368	0.00005	0.00096	0.00001	0.00000	0.00000
	23	-0.03799	0.00030	0.03340	0.00026	0.00000	0.00002
	24	-0.01195	0.00011	0.02176	0.00019	0.00001	0.00001
	25	0.00000	0.00000	0.20119	0.00177	0.00006	0.00000
	26	0.12859	-0.00076	0.12109	0.00087	0.00000	-0.00008
	27	-0.01347	-0.06027	0.25069	0.00269	0.00000	-0.00042
	28	-0.01345	-0.05892	0.37844	0.00405	0.00001	-0.00047
	29	-0.01340	-0.05430	0.22794	0.00245	0.00000	-0.00062
	30	-0.01339	-0.05448	0.29483	0.00314	0.00001	-0.00062
	31	-0.01333	-0.07154	0.26711	0.00289	-0.00001	-0.00067
	32	-0.01334	-0.06728	0.43791	0.00474	-0.00002	-0.00065
	33	-0.01336	-0.05433	0.24846	0.00267	0.00000	-0.00064
	34	-0.01344	-0.05870	0.05154	0.00059	-0.00002	-0.00048
	35	-0.04116	-0.03950	0.18279	0.00189	0.00000	-0.00034
	36	-0.02946	-0.04806	0.38693	0.00379	0.00005	-0.00032
	37	-0.02944	-0.04697	0.48913	0.00487	0.00005	-0.00037
	38	-0.02940	-0.04328	0.36872	0.00359	0.00005	-0.00049
	39	-0.02940	-0.04342	0.42224	0.00414	0.00006	-0.00049
	40	-0.02935	-0.05707	0.40006	0.00394	0.00004	-0.00052
	41	-0.02936	-0.05367	0.53670	0.00542	0.00003	-0.00051
	42	-0.02937	-0.04330	0.38514	0.00377	0.00005	-0.00050
	43	-0.02943	-0.04680	0.22760	0.00210	0.00004	-0.00037
	44	0.09210	-0.04883	0.29743	0.00285	0.00000	-0.00040
	45	0.09212	-0.04774	0.39963	0.00394	0.00000	-0.00044
	46	0.09215	-0.04405	0.27922	0.00266	0.00000	-0.00056
	47	0.09216	-0.04419	0.33274	0.00321	0.00001	-0.00056
	48	0.09221	-0.05784	0.31057	0.00301	-0.00001	-0.00059
	49	0.09220	-0.05443	0.44720	0.00449	-0.00001	-0.00058
	50	0.09218	-0.04407	0.29564	0.00284	0.00000	-0.00057
	51	0.09212	-0.04757	0.13810	0.00117	-0.00001	-0.00044
	52	-0.11365	-0.04761	0.10368	0.00146	0.00000	-0.00027
	53	-0.11363	-0.04653	0.20588	0.00254	0.00000	-0.00031
	54	-0.11359	-0.04284	0.08547	0.00126	0.00000	-0.00044
	55	-0.11359	-0.04298	0.13899	0.00181	0.00001	-0.00044
	56	-0.11354	-0.05662	0.11682	0.00161	-0.00001	-0.00047
	57	-0.11355	-0.05322	0.25345	0.00309	-0.00001	-0.00046
	58	-0.11356	-0.04285	0.10189	0.00144	0.00000	-0.00045
	59	-0.11362	-0.04635	-0.05565	-0.00023	-0.00001	-0.00032
	60	0.05554	-0.03609	0.25169	0.00233	0.00000	-0.00036
	61	-0.12963	-0.03500	0.07732	0.00107	0.00000	-0.00025
	62	0.06592	-0.04380	0.43556	0.00404	0.00004	-0.00035
	63	0.06594	-0.04282	0.52753	0.00501	0.00005	-0.00038
	64	0.06597	-0.03950	0.41917	0.00386	0.00004	-0.00050
	65	0.06598	-0.03963	0.46733	0.00436	0.00005	-0.00049
	66	0.06602	-0.05191	0.44738	0.00418	0.00004	-0.00052

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	67	0.06601	-0.04885	0.57035	0.00551	0.00003	-0.00052
	68	0.06600	-0.03952	0.43395	0.00402	0.00004	-0.00051
	69	0.06594	-0.04267	0.29216	0.00252	0.00003	-0.00039
	70	-0.11925	-0.04270	0.26118	0.00278	0.00004	-0.00024
	71	-0.11923	-0.04173	0.35316	0.00376	0.00005	-0.00027
	72	-0.11920	-0.03841	0.24480	0.00260	0.00004	-0.00039
	73	-0.11919	-0.03853	0.29296	0.00310	0.00005	-0.00038
	74	-0.11915	-0.05082	0.27300	0.00292	0.00004	-0.00041
	75	-0.11916	-0.04775	0.39598	0.00425	0.00003	-0.00041
	76	-0.11917	-0.03842	0.25957	0.00277	0.00004	-0.00040
	77	-0.11923	-0.04157	0.11779	0.00127	0.00003	-0.00028
8	1	0.00022	-0.13174	0.19445	0.00212	0.00000	-0.00092
	2	0.00000	-0.00055	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00009	-0.02906	0.00785	0.00009	0.00000	-0.00025
	5	-0.00008	0.01082	0.03659	0.00039	0.00000	0.00015
	6	-0.00002	0.00326	0.01109	0.00012	0.00000	0.00005
	7	-0.00006	0.00805	0.13416	0.00143	0.00001	0.00011
	8	-0.00002	0.00241	0.04047	0.00043	0.00000	0.00003
	9	-0.00002	-0.00022	0.01899	0.00020	0.00000	-0.00001
	10	-0.00001	-0.00007	0.00583	0.00006	0.00000	0.00000
	11	-0.00002	-0.00017	0.06971	0.00073	0.00001	-0.00001
	12	-0.00001	-0.00005	0.02094	0.00022	0.00000	0.00000
	13	0.00003	-0.02537	0.04953	0.00054	0.00000	-0.00015
	14	0.00001	-0.00767	0.01520	0.00017	0.00000	-0.00004
	15	0.00002	-0.01888	0.18179	0.00198	-0.00001	-0.00011
	16	0.00001	-0.00568	0.05459	0.00060	0.00000	-0.00003
	17	0.00001	-0.00134	0.03493	0.00037	0.00000	-0.00002
	18	0.00000	-0.00041	0.01053	0.00011	0.00000	-0.00001
	19	-0.00005	0.00762	-0.11586	-0.00123	-0.00001	0.00011
	20	-0.00002	0.00227	-0.03437	-0.00037	0.00000	0.00003
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01368	0.00042	0.00096	0.00001	0.00000	0.00000
	23	-0.03800	0.00236	0.03341	0.00026	0.00000	0.00002
	24	-0.01195	0.00076	0.02117	0.00019	0.00001	0.00001
	25	0.00000	0.00000	0.19573	0.00177	0.00006	0.00000
	26	0.15229	-0.00831	0.12116	0.00087	0.00000	-0.00008
	27	-0.01347	-0.14706	0.25094	0.00273	0.00000	-0.00097
	28	-0.01345	-0.15067	0.37790	0.00408	0.00001	-0.00102
	29	-0.01340	-0.16143	0.22809	0.00248	0.00000	-0.00118
	30	-0.01339	-0.16135	0.29392	0.00317	0.00001	-0.00118
	31	-0.01333	-0.19418	0.26799	0.00293	-0.00001	-0.00136
	32	-0.01334	-0.18569	0.43965	0.00480	-0.00002	-0.00131
	33	-0.01336	-0.16288	0.24873	0.00270	0.00000	-0.00119
	34	-0.01344	-0.15125	0.05303	0.00062	-0.00002	-0.00103
	35	-0.04117	-0.10377	0.18306	0.00191	0.00000	-0.00071
	36	-0.02946	-0.11647	0.38229	0.00382	0.00005	-0.00077
	37	-0.02944	-0.11936	0.48385	0.00490	0.00005	-0.00081

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	38	-0.02940	-0.12796	0.36401	0.00362	0.00005	-0.00093
	39	-0.02940	-0.12790	0.41667	0.00417	0.00006	-0.00093
	40	-0.02935	-0.15417	0.39593	0.00397	0.00004	-0.00108
	41	-0.02936	-0.14738	0.53326	0.00547	0.00003	-0.00104
	42	-0.02937	-0.12913	0.38052	0.00380	0.00005	-0.00094
	43	-0.02944	-0.11982	0.22397	0.00213	0.00004	-0.00081
	44	0.11106	-0.12430	0.29769	0.00288	0.00000	-0.00084
	45	0.11108	-0.12719	0.39925	0.00396	0.00000	-0.00088
	46	0.11111	-0.13579	0.27940	0.00268	0.00000	-0.00100
	47	0.11112	-0.13573	0.33207	0.00324	0.00001	-0.00100
	48	0.11117	-0.16200	0.31132	0.00304	-0.00001	-0.00115
	49	0.11116	-0.15521	0.44865	0.00454	-0.00001	-0.00111
	50	0.11115	-0.13696	0.29591	0.00286	0.00000	-0.00102
	51	0.11108	-0.12765	0.13936	0.00120	-0.00001	-0.00089
	52	-0.13261	-0.11100	0.10383	0.00148	0.00000	-0.00072
	53	-0.13259	-0.11388	0.20539	0.00257	0.00000	-0.00076
	54	-0.13255	-0.12249	0.08554	0.00129	0.00000	-0.00088
	55	-0.13255	-0.12243	0.13820	0.00184	0.00001	-0.00088
	56	-0.13250	-0.14870	0.11746	0.00164	-0.00001	-0.00103
	57	-0.13251	-0.14190	0.25479	0.00314	-0.00001	-0.00099
	58	-0.13252	-0.12365	0.10205	0.00147	0.00000	-0.00089
	59	-0.13259	-0.11435	-0.05450	-0.00020	-0.00001	-0.00076
	60	0.07260	-0.09938	0.25199	0.00235	0.00000	-0.00070
	61	-0.14670	-0.08741	0.07752	0.00109	0.00000	-0.00059
	62	0.08298	-0.11080	0.43144	0.00406	0.00004	-0.00075
	63	0.08300	-0.11340	0.52284	0.00504	0.00005	-0.00078
	64	0.08304	-0.12114	0.41498	0.00389	0.00004	-0.00089
	65	0.08304	-0.12109	0.46238	0.00438	0.00005	-0.00089
	66	0.08308	-0.14473	0.44371	0.00421	0.00004	-0.00102
	67	0.08308	-0.13862	0.56730	0.00556	0.00003	-0.00099
	68	0.08307	-0.12219	0.42984	0.00405	0.00004	-0.00090
	69	0.08301	-0.11382	0.28894	0.00255	0.00003	-0.00079
	70	-0.13632	-0.09883	0.25696	0.00281	0.00004	-0.00064
	71	-0.13630	-0.10143	0.34837	0.00378	0.00005	-0.00067
	72	-0.13627	-0.10917	0.24050	0.00263	0.00004	-0.00078
	73	-0.13626	-0.10912	0.28790	0.00313	0.00005	-0.00078
	74	-0.13622	-0.13276	0.26924	0.00295	0.00004	-0.00091
	75	-0.13622	-0.12664	0.39283	0.00430	0.00003	-0.00088
	76	-0.13624	-0.11022	0.25536	0.00279	0.00004	-0.00079
	77	-0.13629	-0.10184	0.11447	0.00129	0.00003	-0.00068
9	1	0.01275	-0.03789	0.10949	0.00152	0.00000	0.00014
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00504	-0.00411	0.00414	0.00006	0.00000	0.00006
	5	-0.00433	-0.00315	0.02099	0.00029	0.00000	-0.00005
	6	-0.00130	-0.00095	0.00636	0.00009	0.00000	-0.00001
	7	-0.00322	-0.00234	0.07697	0.00105	-0.00001	-0.00004
	8	-0.00097	-0.00070	0.02322	0.00032	0.00000	-0.00001

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	9	0.00024	0.00040	0.01115	0.00015	0.00000	0.00000
	10	0.00007	0.00012	0.00342	0.00005	0.00000	0.00000
	11	0.00018	0.00030	0.04091	0.00055	-0.00001	0.00000
	12	0.00005	0.00009	0.01229	0.00016	0.00000	0.00000
	13	0.00111	-0.00984	0.02772	0.00039	0.00000	0.00001
	14	0.00033	-0.00298	0.00851	0.00012	0.00000	0.00000
	15	0.00082	-0.00732	0.10176	0.00142	0.00001	0.00001
	16	0.00025	-0.00220	0.03056	0.00043	0.00000	0.00000
	17	0.00054	0.00039	0.02004	0.00027	0.00000	0.00001
	18	0.00016	0.00012	0.00604	0.00008	0.00000	0.00000
	19	-0.00305	-0.00222	-0.06647	-0.00091	0.00001	-0.00003
	20	-0.00091	-0.00066	-0.01972	-0.00027	0.00000	-0.00001
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01260	-0.00003	0.00072	0.00001	0.00000	0.00004
	23	-0.03277	-0.00023	0.02167	0.00023	0.00000	0.00017
	24	-0.01031	-0.00009	0.01352	0.00016	0.00000	0.00006
	25	0.00000	0.00000	0.12514	0.00145	-0.00004	0.00000
	26	-0.11077	-0.00059	0.08095	0.00081	0.00000	0.00059
	27	-0.00044	-0.04686	0.14170	0.00196	0.00000	0.00018
	28	0.00100	-0.04581	0.21454	0.00296	0.00000	0.00019
	29	0.00550	-0.04224	0.12892	0.00178	0.00000	0.00024
	30	0.00542	-0.04238	0.16755	0.00230	-0.00001	0.00024
	31	0.00663	-0.05558	0.15058	0.00210	0.00001	0.00026
	32	0.00626	-0.05229	0.24667	0.00344	0.00001	0.00025
	33	0.00589	-0.04226	0.14043	0.00195	0.00000	0.00025
	34	0.00123	-0.04564	0.02816	0.00041	0.00001	0.00020
	35	-0.02610	-0.03110	0.10550	0.00141	0.00000	0.00029
	36	-0.01647	-0.03761	0.22949	0.00291	-0.00003	0.00023
	37	-0.01532	-0.03677	0.28776	0.00371	-0.00004	0.00024
	38	-0.01172	-0.03392	0.21927	0.00277	-0.00003	0.00028
	39	-0.01178	-0.03402	0.25017	0.00318	-0.00004	0.00028
	40	-0.01081	-0.04459	0.23659	0.00302	-0.00003	0.00029
	41	-0.01111	-0.04195	0.31346	0.00409	-0.00003	0.00029
	42	-0.01141	-0.03393	0.22848	0.00290	-0.00003	0.00028
	43	-0.01513	-0.03664	0.13866	0.00167	-0.00003	0.00024
	44	-0.08897	-0.03796	0.17812	0.00222	0.00000	0.00062
	45	-0.08782	-0.03712	0.23639	0.00302	0.00000	0.00063
	46	-0.08422	-0.03426	0.16789	0.00208	0.00000	0.00067
	47	-0.08428	-0.03437	0.19880	0.00249	-0.00001	0.00067
	48	-0.08331	-0.04493	0.18522	0.00233	0.00000	0.00068
	49	-0.08361	-0.04230	0.26209	0.00340	0.00001	0.00068
	50	-0.08391	-0.03428	0.17710	0.00221	0.00000	0.00067
	51	-0.08763	-0.03698	0.08728	0.00098	0.00001	0.00063
	52	0.08826	-0.03702	0.04861	0.00092	0.00000	-0.00033
	53	0.08941	-0.03618	0.10687	0.00172	0.00000	-0.00032
	54	0.09301	-0.03332	0.03838	0.00078	0.00000	-0.00028
	55	0.09295	-0.03343	0.06928	0.00119	-0.00001	-0.00028
	56	0.09392	-0.04399	0.05571	0.00103	0.00001	-0.00027

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	57	0.09362	-0.04136	0.13258	0.00210	0.00001	-0.00027
	58	0.09332	-0.03334	0.04759	0.00091	0.00000	-0.00028
	59	0.08960	-0.03604	-0.04223	-0.00032	0.00001	-0.00032
	60	-0.10324	-0.02842	0.15323	0.00185	0.00000	0.00069
	61	0.05626	-0.02757	0.03667	0.00068	0.00000	-0.00017
	62	-0.09471	-0.03427	0.26491	0.00321	-0.00003	0.00063
	63	-0.09367	-0.03352	0.31735	0.00392	-0.00004	0.00064
	64	-0.09043	-0.03095	0.25571	0.00308	-0.00003	0.00068
	65	-0.09049	-0.03105	0.28352	0.00345	-0.00004	0.00068
	66	-0.08962	-0.04055	0.27130	0.00330	-0.00003	0.00069
	67	-0.08988	-0.03818	0.34048	0.00427	-0.00002	0.00069
	68	-0.09015	-0.03096	0.26400	0.00320	-0.00003	0.00068
	69	-0.09350	-0.03340	0.18316	0.00209	-0.00002	0.00065
	70	0.06480	-0.03343	0.14835	0.00204	-0.00003	-0.00022
	71	0.06584	-0.03267	0.20079	0.00275	-0.00003	-0.00021
	72	0.06908	-0.03010	0.13914	0.00191	-0.00003	-0.00017
	73	0.06902	-0.03020	0.16696	0.00228	-0.00004	-0.00018
	74	0.06989	-0.03971	0.15474	0.00213	-0.00003	-0.00017
	75	0.06962	-0.03734	0.22392	0.00310	-0.00002	-0.00017
	76	0.06936	-0.03011	0.14743	0.00203	-0.00003	-0.00017
	77	0.06600	-0.03255	0.06660	0.00092	-0.00002	-0.00021
10	1	0.00902	-0.01204	0.01548	0.00020	0.00000	-0.00009
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00357	-0.00131	0.00050	0.00001	0.00000	-0.00003
	5	-0.00306	-0.00100	0.00309	0.00004	0.00000	0.00003
	6	-0.00092	-0.00030	0.00094	0.00001	0.00000	0.00001
	7	-0.00228	-0.00074	0.01135	0.00014	0.00000	0.00002
	8	-0.00068	-0.00022	0.00342	0.00004	0.00000	0.00001
	9	0.00016	0.00013	0.00172	0.00002	0.00000	0.00000
	10	0.00005	0.00004	0.00053	0.00001	0.00000	0.00000
	11	0.00012	0.00010	0.00632	0.00008	0.00000	0.00000
	12	0.00004	0.00003	0.00190	0.00002	0.00000	0.00000
	13	0.00079	-0.00313	0.00388	0.00005	0.00000	-0.00001
	14	0.00024	-0.00095	0.00119	0.00002	0.00000	0.00000
	15	0.00058	-0.00233	0.01424	0.00018	0.00000	-0.00001
	16	0.00018	-0.00070	0.00428	0.00006	0.00000	0.00000
	17	0.00038	0.00012	0.00295	0.00004	0.00000	0.00000
	18	0.00012	0.00004	0.00089	0.00001	0.00000	0.00000
	19	-0.00216	-0.00070	-0.00980	-0.00012	0.00000	0.00002
	20	-0.00064	-0.00021	-0.00291	-0.00004	0.00000	0.00001
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00517	-0.00001	0.00022	0.00000	0.00000	0.00005
	23	-0.01100	-0.00007	0.00465	0.00005	0.00000	0.00012
	24	-0.00346	-0.00003	0.00261	0.00003	0.00000	0.00004
	25	0.00000	0.00000	0.02424	0.00029	-0.00001	0.00000
	26	-0.03711	-0.00019	0.01854	0.00021	0.00000	0.00039
	27	0.00343	-0.01515	0.02023	0.00026	0.00000	-0.00003

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	28	0.00445	-0.01482	0.03097	0.00040	0.00000	-0.00004
	29	0.00763	-0.01368	0.01845	0.00024	0.00000	-0.00007
	30	0.00757	-0.01373	0.02442	0.00031	0.00000	-0.00007
	31	0.00844	-0.01792	0.02127	0.00027	0.00000	-0.00008
	32	0.00818	-0.01688	0.03472	0.00045	0.00000	-0.00008
	33	0.00791	-0.01369	0.02005	0.00026	0.00000	-0.00007
	34	0.00462	-0.01477	0.00349	0.00005	0.00000	-0.00004
	35	-0.00572	-0.01009	0.01629	0.00020	0.00000	0.00007
	36	-0.00266	-0.01216	0.03878	0.00047	0.00000	0.00003
	37	-0.00185	-0.01189	0.04737	0.00058	-0.00001	0.00002
	38	0.00069	-0.01099	0.03736	0.00046	0.00000	0.00000
	39	0.00065	-0.01102	0.04213	0.00052	-0.00001	0.00000
	40	0.00135	-0.01438	0.03961	0.00049	0.00000	-0.00001
	41	0.00113	-0.01354	0.05037	0.00062	0.00000	0.00000
	42	0.00092	-0.01099	0.03863	0.00047	0.00000	0.00000
	43	-0.00171	-0.01185	0.02539	0.00030	0.00000	0.00002
	44	-0.02694	-0.01227	0.03102	0.00038	0.00000	0.00029
	45	-0.02613	-0.01201	0.03961	0.00049	0.00000	0.00028
	46	-0.02359	-0.01110	0.02959	0.00036	0.00000	0.00026
	47	-0.02363	-0.01113	0.03437	0.00042	0.00000	0.00026
	48	-0.02293	-0.01449	0.03185	0.00039	0.00000	0.00025
	49	-0.02315	-0.01365	0.04261	0.00053	0.00000	0.00025
	50	-0.02336	-0.01110	0.03087	0.00037	0.00000	0.00026
	51	-0.02599	-0.01196	0.01763	0.00021	0.00000	0.00028
	52	0.03243	-0.01197	0.00136	0.00004	0.00000	-0.00034
	53	0.03325	-0.01171	0.00995	0.00015	0.00000	-0.00035
	54	0.03579	-0.01080	-0.00007	0.00002	0.00000	-0.00037
	55	0.03575	-0.01083	0.00471	0.00008	0.00000	-0.00037
	56	0.03644	-0.01419	0.00219	0.00005	0.00000	-0.00038
	57	0.03623	-0.01335	0.01295	0.00019	0.00000	-0.00038
	58	0.03602	-0.01080	0.00121	0.00004	0.00000	-0.00038
	59	0.03338	-0.01166	-0.01203	-0.00013	0.00000	-0.00035
	60	-0.03186	-0.00922	0.02800	0.00034	0.00000	0.00034
	61	0.02157	-0.00895	0.00131	0.00003	0.00000	-0.00022
	62	-0.02916	-0.01108	0.04827	0.00058	0.00000	0.00031
	63	-0.02842	-0.01084	0.05600	0.00068	0.00000	0.00031
	64	-0.02614	-0.01002	0.04699	0.00056	0.00000	0.00028
	65	-0.02618	-0.01005	0.05129	0.00062	0.00000	0.00028
	66	-0.02555	-0.01308	0.04902	0.00059	0.00000	0.00028
	67	-0.02574	-0.01232	0.05870	0.00071	0.00000	0.00028
	68	-0.02593	-0.01003	0.04814	0.00058	0.00000	0.00028
	69	-0.02831	-0.01080	0.03622	0.00043	0.00000	0.00031
	70	0.02428	-0.01081	0.02158	0.00028	0.00000	-0.00025
	71	0.02501	-0.01057	0.02931	0.00037	0.00000	-0.00026
	72	0.02730	-0.00975	0.02029	0.00026	0.00000	-0.00028
	73	0.02726	-0.00979	0.02459	0.00031	0.00000	-0.00028
	74	0.02789	-0.01281	0.02232	0.00029	0.00000	-0.00029
	75	0.02770	-0.01205	0.03201	0.00041	0.00000	-0.00029

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	76	0.02750	-0.00976	0.02144	0.00027	0.00000	-0.00029
	77	0.02513	-0.01053	0.00952	0.00012	0.00000	-0.00026
11	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	1	-0.00228	-0.02853	0.10943	0.00151	0.00000	-0.00002
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00072	0.00086	0.00410	0.00006	0.00000	-0.00001
	5	0.00051	-0.00820	0.02104	0.00029	0.00000	0.00000
	6	0.00015	-0.00247	0.00637	0.00009	0.00000	0.00000
	7	0.00038	-0.00611	0.07713	0.00107	-0.00001	0.00000
	8	0.00011	-0.00183	0.02327	0.00032	0.00000	0.00000
	9	-0.00364	-0.00543	0.01121	0.00016	0.00000	-0.00004
	10	-0.00110	-0.00164	0.00344	0.00005	0.00000	-0.00001
	11	-0.00271	-0.00404	0.04113	0.00058	-0.00001	-0.00003
	12	-0.00081	-0.00122	0.01235	0.00017	0.00000	-0.00001
	13	-0.00048	-0.01019	0.02745	0.00038	0.00000	0.00000
	14	-0.00014	-0.00308	0.00842	0.00012	0.00000	0.00000
	15	-0.00036	-0.00758	0.10075	0.00141	0.00001	0.00000
	16	-0.00011	-0.00228	0.03026	0.00042	0.00000	0.00000
	17	-0.00006	0.00101	0.02008	0.00028	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	18	-0.00002	0.00031	0.00606	0.00008	0.00000	0.00000
	19	0.00036	-0.00578	-0.06662	-0.00093	0.00000	0.00000
	20	0.00011	-0.00172	-0.01976	-0.00027	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01269	0.00001	0.00072	0.00001	0.00000	0.00004
	23	-0.03323	0.00005	0.02170	0.00023	0.00000	0.00017
	24	-0.01047	0.00001	0.01440	0.00016	0.00000	0.00005
	25	0.00000	0.00000	0.13336	0.00151	-0.00003	0.00000
	26	-0.06751	0.00045	0.08110	0.00081	0.00000	0.00034
	27	-0.01503	-0.03906	0.14165	0.00196	0.00000	0.00002
	28	-0.01520	-0.03632	0.21465	0.00297	0.00000	0.00002
	29	-0.02043	-0.03546	0.12889	0.00178	0.00000	-0.00004
	30	-0.01922	-0.03364	0.16773	0.00232	-0.00001	-0.00003
	31	-0.01632	-0.04165	0.15011	0.00208	0.00001	0.00000
	32	-0.01616	-0.03824	0.24525	0.00340	0.00001	0.00001
	33	-0.01577	-0.02706	0.14038	0.00194	0.00000	0.00001
	34	-0.01522	-0.03588	0.02787	0.00037	0.00001	0.00002
	35	-0.03856	-0.02335	0.10548	0.00140	0.00000	0.00015
	36	-0.02837	-0.03123	0.23674	0.00296	-0.00002	0.00010
	37	-0.02851	-0.02904	0.29514	0.00377	-0.00003	0.00010
	38	-0.03269	-0.02835	0.22653	0.00282	-0.00003	0.00005
	39	-0.03172	-0.02689	0.25760	0.00326	-0.00003	0.00006
	40	-0.02940	-0.03331	0.24351	0.00306	-0.00002	0.00009
	41	-0.02927	-0.03058	0.31962	0.00412	-0.00002	0.00009
	42	-0.02897	-0.02163	0.23572	0.00295	-0.00002	0.00009
	43	-0.02853	-0.02869	0.14571	0.00170	-0.00002	0.00010
	44	-0.06603	-0.03088	0.17821	0.00222	0.00000	0.00029
	45	-0.06617	-0.02870	0.23660	0.00303	0.00000	0.00029
	46	-0.07036	-0.02800	0.16799	0.00208	0.00000	0.00024
	47	-0.06938	-0.02655	0.19907	0.00251	-0.00001	0.00025
	48	-0.06706	-0.03296	0.18497	0.00231	0.00000	0.00028
	49	-0.06693	-0.03023	0.26108	0.00337	0.00001	0.00028
	50	-0.06663	-0.02129	0.17719	0.00220	0.00000	0.00028
	51	-0.06619	-0.02834	0.08717	0.00095	0.00001	0.00029
	52	0.04199	-0.03161	0.04844	0.00091	0.00000	-0.00026
	53	0.04185	-0.02942	0.10683	0.00173	0.00000	-0.00026
	54	0.03766	-0.02873	0.03823	0.00077	0.00000	-0.00031
	55	0.03864	-0.02727	0.06930	0.00121	0.00000	-0.00030
	56	0.04096	-0.03369	0.05521	0.00101	0.00000	-0.00027
	57	0.04108	-0.03096	0.13132	0.00207	0.00001	-0.00027
	58	0.04139	-0.02201	0.04742	0.00090	0.00000	-0.00027
	59	0.04183	-0.02907	-0.04259	-0.00035	0.00001	-0.00026
	60	-0.08331	-0.02069	0.15332	0.00185	0.00000	0.00038
	61	0.01390	-0.02135	0.03654	0.00067	0.00000	-0.00011
	62	-0.07427	-0.02778	0.27155	0.00325	-0.00002	0.00034
	63	-0.07440	-0.02581	0.32410	0.00398	-0.00003	0.00033
	64	-0.07817	-0.02519	0.26236	0.00313	-0.00002	0.00029
	65	-0.07729	-0.02388	0.29032	0.00352	-0.00003	0.00030

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	66	-0.07520	-0.02965	0.27764	0.00334	-0.00002	0.00033
	67	-0.07509	-0.02719	0.34614	0.00429	-0.00002	0.00033
	68	-0.07481	-0.01914	0.27063	0.00324	-0.00002	0.00033
	69	-0.07442	-0.02549	0.18962	0.00211	-0.00002	0.00033
	70	0.02294	-0.02843	0.15476	0.00208	-0.00002	-0.00016
	71	0.02282	-0.02646	0.20732	0.00281	-0.00003	-0.00016
	72	0.01905	-0.02584	0.14557	0.00195	-0.00002	-0.00020
	73	0.01993	-0.02453	0.17354	0.00235	-0.00003	-0.00019
	74	0.02202	-0.03030	0.16085	0.00217	-0.00002	-0.00017
	75	0.02213	-0.02785	0.22935	0.00312	-0.00002	-0.00017
	76	0.02241	-0.01979	0.15384	0.00207	-0.00002	-0.00016
	77	0.02280	-0.02615	0.07283	0.00094	-0.00002	-0.00016
13	1	-0.00157	-0.00907	0.01566	0.00020	0.00000	0.00002
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00049	0.00027	0.00061	0.00001	0.00000	0.00000
	5	0.00034	-0.00261	0.00297	0.00004	0.00000	0.00000
	6	0.00010	-0.00079	0.00090	0.00001	0.00000	0.00000
	7	0.00026	-0.00194	0.01091	0.00014	0.00000	0.00000
	8	0.00008	-0.00058	0.00329	0.00004	0.00000	0.00000
	9	-0.00256	-0.00173	0.00156	0.00002	0.00000	0.00003
	10	-0.00078	-0.00052	0.00048	0.00001	0.00000	0.00001
	11	-0.00191	-0.00128	0.00573	0.00007	0.00000	0.00002
	12	-0.00057	-0.00039	0.00172	0.00002	0.00000	0.00001
	13	-0.00033	-0.00324	0.00385	0.00005	0.00000	0.00000
	14	-0.00010	-0.00098	0.00118	0.00002	0.00000	0.00000
	15	-0.00025	-0.00241	0.01415	0.00018	0.00000	0.00000
	16	-0.00007	-0.00072	0.00425	0.00005	0.00000	0.00000
	17	-0.00004	0.00032	0.00284	0.00004	0.00000	0.00000
	18	-0.00001	0.00010	0.00086	0.00001	0.00000	0.00000
	19	0.00024	-0.00184	-0.00942	-0.00012	0.00000	0.00000
	20	0.00007	-0.00055	-0.00279	-0.00004	0.00000	0.00000
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00523	0.00000	0.00022	0.00000	0.00000	0.00005
	23	-0.01132	0.00002	0.00466	0.00005	0.00000	0.00012
	24	-0.00356	0.00000	0.00287	0.00003	0.00000	0.00004
	25	0.00000	0.00000	0.02661	0.00031	0.00000	0.00000
	26	-0.02304	0.00014	0.01859	0.00021	0.00000	0.00024
	27	-0.00684	-0.01267	0.02037	0.00026	0.00000	0.00007
	28	-0.00695	-0.01180	0.03069	0.00039	0.00000	0.00007
	29	-0.01063	-0.01153	0.01853	0.00024	0.00000	0.00011
	30	-0.00977	-0.01095	0.02395	0.00031	0.00000	0.00010
	31	-0.00772	-0.01350	0.02153	0.00028	0.00000	0.00008
	32	-0.00761	-0.01241	0.03489	0.00045	0.00000	0.00008
	33	-0.00734	-0.00886	0.02019	0.00026	0.00000	0.00007
	34	-0.00697	-0.01166	0.00428	0.00005	0.00000	0.00007
	35	-0.01449	-0.00763	0.01643	0.00021	0.00000	0.00015
	36	-0.01104	-0.01013	0.04099	0.00050	0.00000	0.00011

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	37	-0.01113	-0.00944	0.04925	0.00060	0.00000	0.00012
	38	-0.01407	-0.00922	0.03953	0.00048	0.00000	0.00014
	39	-0.01338	-0.00875	0.04386	0.00054	0.00000	0.00014
	40	-0.01174	-0.01079	0.04192	0.00051	0.00000	0.00012
	41	-0.01165	-0.00993	0.05261	0.00065	0.00000	0.00012
	42	-0.01144	-0.00708	0.04085	0.00050	0.00000	0.00012
	43	-0.01115	-0.00933	0.02812	0.00033	0.00000	0.00012
	44	-0.02390	-0.01002	0.03116	0.00038	0.00000	0.00025
	45	-0.02400	-0.00933	0.03942	0.00048	0.00000	0.00025
	46	-0.02693	-0.00911	0.02970	0.00036	0.00000	0.00028
	47	-0.02625	-0.00865	0.03403	0.00041	0.00000	0.00027
	48	-0.02461	-0.01068	0.03209	0.00039	0.00000	0.00026
	49	-0.02452	-0.00982	0.04278	0.00053	0.00000	0.00026
	50	-0.02431	-0.00697	0.03102	0.00038	0.00000	0.00025
	51	-0.02401	-0.00922	0.01829	0.00021	0.00000	0.00025
	52	0.01296	-0.01025	0.00142	0.00004	0.00000	-0.00014
	53	0.01287	-0.00956	0.00968	0.00015	0.00000	-0.00014
	54	0.00993	-0.00934	-0.00005	0.00002	0.00000	-0.00011
	55	0.01062	-0.00888	0.00429	0.00008	0.00000	-0.00012
	56	0.01226	-0.01091	0.00235	0.00005	0.00000	-0.00013
	57	0.01235	-0.01005	0.01304	0.00019	0.00000	-0.00013
	58	0.01256	-0.00720	0.00128	0.00004	0.00000	-0.00014
	59	0.01286	-0.00945	-0.01145	-0.00013	0.00000	-0.00014
	60	-0.02963	-0.00676	0.02817	0.00034	0.00000	0.00031
	61	0.00355	-0.00697	0.00140	0.00003	0.00000	-0.00004
	62	-0.02657	-0.00902	0.05030	0.00060	0.00000	0.00028
	63	-0.02665	-0.00839	0.05773	0.00070	0.00000	0.00028
	64	-0.02930	-0.00819	0.04898	0.00058	0.00000	0.00031
	65	-0.02868	-0.00778	0.05287	0.00063	0.00000	0.00030
	66	-0.02720	-0.00961	0.05113	0.00061	0.00000	0.00029
	67	-0.02712	-0.00883	0.06075	0.00074	0.00000	0.00028
	68	-0.02693	-0.00627	0.05017	0.00060	0.00000	0.00028
	69	-0.02667	-0.00829	0.03871	0.00045	0.00000	0.00028
	70	0.00661	-0.00922	0.02353	0.00030	0.00000	-0.00007
	71	0.00653	-0.00860	0.03096	0.00039	0.00000	-0.00007
	72	0.00388	-0.00840	0.02221	0.00028	0.00000	-0.00005
	73	0.00450	-0.00798	0.02611	0.00033	0.00000	-0.00005
	74	0.00598	-0.00982	0.02436	0.00031	0.00000	-0.00007
	75	0.00606	-0.00904	0.03398	0.00043	0.00000	-0.00007
	76	0.00625	-0.00648	0.02340	0.00029	0.00000	-0.00007
	77	0.00651	-0.00850	0.01194	0.00015	0.00000	-0.00007
14	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
15	1	0.00017	-0.03126	0.10929	0.00151	0.00000	0.00000
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00004	-0.00009	0.00401	0.00005	0.00000	0.00000
	5	-0.00001	-0.00747	0.02113	0.00030	0.00000	0.00000
	6	0.00000	-0.00225	0.00640	0.00009	0.00000	0.00000
	7	-0.00001	-0.00557	0.07748	0.00108	0.00000	0.00000
	8	0.00000	-0.00167	0.02337	0.00033	0.00000	0.00000
	9	0.00383	-0.00501	0.01133	0.00016	0.00000	0.00004
	10	0.00116	-0.00152	0.00348	0.00005	0.00000	0.00001
	11	0.00285	-0.00373	0.04159	0.00059	0.00000	0.00003
	12	0.00086	-0.00112	0.01249	0.00018	0.00000	0.00001
	13	0.00369	-0.00465	0.02760	0.00038	0.00000	0.00004
	14	0.00112	-0.00140	0.00847	0.00012	0.00000	0.00001
	15	0.00275	-0.00346	0.10130	0.00138	0.00000	0.00003
	16	0.00083	-0.00104	0.03042	0.00041	0.00000	0.00001
	17	0.00000	0.00092	0.02017	0.00028	0.00000	0.00000
	18	0.00000	0.00028	0.00608	0.00009	0.00000	0.00000
	19	-0.00001	-0.00526	-0.06691	-0.00094	0.00000	0.00000
	20	0.00000	-0.00157	-0.01985	-0.00028	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01267	0.00000	0.00072	0.00001	0.00000	0.00004
	23	-0.03316	-0.00002	0.02174	0.00023	0.00000	0.00017
	24	-0.01045	-0.00001	0.01490	0.00017	0.00000	0.00005
	25	0.00000	0.00000	0.13798	0.00155	-0.00001	0.00000
	26	-0.02238	0.00013	0.08125	0.00081	0.00000	0.00012

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	27	-0.01248	-0.04180	0.14155	0.00195	0.00000	0.00004
	28	-0.01248	-0.03931	0.21487	0.00298	0.00000	0.00004
	29	-0.00748	-0.03861	0.12883	0.00178	0.00000	0.00010
	30	-0.00876	-0.03693	0.16810	0.00234	0.00000	0.00008
	31	-0.00766	-0.03813	0.15008	0.00206	0.00000	0.00010
	32	-0.00889	-0.03657	0.24574	0.00336	0.00000	0.00008
	33	-0.01246	-0.03087	0.14027	0.00193	0.00000	0.00004
	34	-0.01247	-0.03891	0.02726	0.00035	0.00000	0.00004
	35	-0.03653	-0.02561	0.10540	0.00140	0.00000	0.00017
	36	-0.02630	-0.03345	0.24076	0.00299	-0.00001	0.00012
	37	-0.02630	-0.03146	0.29942	0.00381	-0.00001	0.00012
	38	-0.02230	-0.03090	0.23058	0.00285	-0.00001	0.00016
	39	-0.02332	-0.02955	0.26200	0.00330	-0.00001	0.00015
	40	-0.02244	-0.03051	0.24759	0.00307	-0.00001	0.00016
	41	-0.02343	-0.02927	0.32411	0.00412	-0.00001	0.00015
	42	-0.02629	-0.02471	0.23974	0.00298	-0.00001	0.00012
	43	-0.02629	-0.03114	0.14933	0.00171	-0.00001	0.00012
	44	-0.02788	-0.03333	0.17824	0.00221	0.00000	0.00013
	45	-0.02788	-0.03134	0.23689	0.00304	0.00000	0.00013
	46	-0.02389	-0.03078	0.16806	0.00207	0.00000	0.00017
	47	-0.02491	-0.02943	0.19948	0.00252	0.00000	0.00016
	48	-0.02403	-0.03039	0.18507	0.00230	0.00000	0.00017
	49	-0.02502	-0.02915	0.26159	0.00334	0.00000	0.00016
	50	-0.02787	-0.02459	0.17721	0.00220	0.00000	0.00013
	51	-0.02788	-0.03102	0.08680	0.00093	0.00000	0.00013
	52	0.00792	-0.03355	0.04824	0.00091	0.00000	-0.00006
	53	0.00792	-0.03155	0.10690	0.00173	0.00000	-0.00006
	54	0.01192	-0.03099	0.03806	0.00077	0.00000	-0.00001
	55	0.01089	-0.02965	0.06948	0.00122	0.00000	-0.00002
	56	0.01177	-0.03061	0.05507	0.00100	0.00000	-0.00001
	57	0.01079	-0.02936	0.13159	0.00204	0.00000	-0.00003
	58	0.00793	-0.02480	0.04722	0.00090	0.00000	-0.00006
	59	0.00792	-0.03123	-0.04319	-0.00037	0.00000	-0.00006
	60	-0.04898	-0.02295	0.15335	0.00184	0.00000	0.00024
	61	-0.01676	-0.02314	0.03636	0.00067	0.00000	0.00007
	62	-0.03991	-0.03001	0.27527	0.00328	-0.00001	0.00019
	63	-0.03991	-0.02822	0.32806	0.00402	-0.00001	0.00019
	64	-0.03631	-0.02771	0.26611	0.00315	-0.00001	0.00023
	65	-0.03724	-0.02650	0.29439	0.00355	-0.00001	0.00022
	66	-0.03644	-0.02736	0.28142	0.00335	-0.00001	0.00023
	67	-0.03733	-0.02624	0.35029	0.00429	-0.00001	0.00022
	68	-0.03990	-0.02214	0.27435	0.00327	-0.00001	0.00019
	69	-0.03991	-0.02793	0.19298	0.00213	-0.00001	0.00019
	70	-0.00769	-0.03020	0.15828	0.00211	-0.00001	0.00002
	71	-0.00769	-0.02841	0.21106	0.00284	-0.00001	0.00002
	72	-0.00409	-0.02790	0.14911	0.00198	-0.00001	0.00006
	73	-0.00501	-0.02669	0.17739	0.00238	-0.00001	0.00005
	74	-0.00422	-0.02756	0.16442	0.00218	-0.00001	0.00006

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	75	-0.00511	-0.02644	0.23329	0.00312	0.00000	0.00005
	76	-0.00768	-0.02233	0.15735	0.00209	-0.00001	0.00003
	77	-0.00769	-0.02812	0.07598	0.00095	-0.00001	0.00002
16	1	0.00013	-0.00994	0.01570	0.00020	0.00000	0.00000
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00003	-0.00003	0.00064	0.00001	0.00000	0.00000
	5	-0.00001	-0.00238	0.00294	0.00004	0.00000	0.00000
	6	0.00000	-0.00072	0.00089	0.00001	0.00000	0.00000
	7	-0.00001	-0.00177	0.01080	0.00014	0.00000	0.00000
	8	0.00000	-0.00053	0.00326	0.00004	0.00000	0.00000
	9	0.00269	-0.00159	0.00152	0.00002	0.00000	-0.00003
	10	0.00081	-0.00048	0.00047	0.00001	0.00000	-0.00001
	11	0.00200	-0.00119	0.00559	0.00007	0.00000	-0.00002
	12	0.00060	-0.00036	0.00168	0.00002	0.00000	-0.00001
	13	0.00260	-0.00148	0.00408	0.00005	0.00000	-0.00003
	14	0.00079	-0.00045	0.00125	0.00002	0.00000	-0.00001
	15	0.00193	-0.00110	0.01497	0.00019	0.00000	-0.00002
	16	0.00058	-0.00033	0.00449	0.00006	0.00000	-0.00001
	17	0.00000	0.00029	0.00281	0.00004	0.00000	0.00000
	18	0.00000	0.00009	0.00085	0.00001	0.00000	0.00000
	19	-0.00001	-0.00167	-0.00932	-0.00012	0.00000	0.00000
	20	0.00000	-0.00050	-0.00277	-0.00004	0.00000	0.00000
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00522	0.00000	0.00022	0.00000	0.00000	0.00005
	23	-0.01127	-0.00001	0.00467	0.00005	0.00000	0.00012
	24	-0.00355	0.00000	0.00301	0.00004	0.00000	0.00004
	25	0.00000	0.00000	0.02794	0.00033	0.00000	0.00000
	26	-0.00760	0.00004	0.01863	0.00021	0.00000	0.00008
	27	-0.00507	-0.01354	0.02040	0.00026	0.00000	0.00005
	28	-0.00507	-0.01275	0.03061	0.00039	0.00000	0.00005
	29	-0.00156	-0.01253	0.01855	0.00024	0.00000	0.00002
	30	-0.00246	-0.01200	0.02383	0.00031	0.00000	0.00003
	31	-0.00168	-0.01238	0.02189	0.00028	0.00000	0.00002
	32	-0.00254	-0.01188	0.03602	0.00046	0.00000	0.00003
	33	-0.00506	-0.01007	0.02022	0.00026	0.00000	0.00005
	34	-0.00507	-0.01262	0.00447	0.00006	0.00000	0.00005
	35	-0.01308	-0.00835	0.01647	0.00021	0.00000	0.00014
	36	-0.00960	-0.01084	0.04220	0.00051	0.00000	0.00010
	37	-0.00960	-0.01021	0.05037	0.00062	0.00000	0.00010
	38	-0.00679	-0.01003	0.04072	0.00049	0.00000	0.00007
	39	-0.00751	-0.00960	0.04494	0.00055	0.00000	0.00008
	40	-0.00688	-0.00990	0.04340	0.00053	0.00000	0.00007
	41	-0.00758	-0.00951	0.05470	0.00067	0.00000	0.00008
	42	-0.00959	-0.00806	0.04206	0.00051	0.00000	0.00010
	43	-0.00960	-0.01010	0.02946	0.00035	0.00000	0.00010
	44	-0.01014	-0.01080	0.03123	0.00038	0.00000	0.00011
	45	-0.01013	-0.01017	0.03940	0.00048	0.00000	0.00011

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	46	-0.00732	-0.00999	0.02975	0.00036	0.00000	0.00008
	47	-0.00804	-0.00956	0.03397	0.00041	0.00000	0.00009
	48	-0.00742	-0.00987	0.03242	0.00039	0.00000	0.00008
	49	-0.00811	-0.00947	0.04373	0.00054	0.00000	0.00009
	50	-0.01012	-0.00802	0.03108	0.00038	0.00000	0.00011
	51	-0.01013	-0.01007	0.01849	0.00021	0.00000	0.00011
	52	0.00202	-0.01087	0.00141	0.00004	0.00000	-0.00002
	53	0.00202	-0.01024	0.00958	0.00014	0.00000	-0.00002
	54	0.00483	-0.01006	-0.00007	0.00002	0.00000	-0.00005
	55	0.00411	-0.00963	0.00415	0.00008	0.00000	-0.00004
	56	0.00474	-0.00994	0.00261	0.00005	0.00000	-0.00005
	57	0.00404	-0.00954	0.01391	0.00020	0.00000	-0.00004
	58	0.00203	-0.00809	0.00127	0.00004	0.00000	-0.00002
	59	0.00202	-0.01013	-0.01133	-0.00013	0.00000	-0.00002
	60	-0.01724	-0.00748	0.02824	0.00034	0.00000	0.00018
	61	-0.00631	-0.00754	0.00141	0.00003	0.00000	0.00007
	62	-0.01416	-0.00972	0.05142	0.00061	0.00000	0.00015
	63	-0.01415	-0.00915	0.05877	0.00071	0.00000	0.00015
	64	-0.01162	-0.00899	0.05009	0.00060	0.00000	0.00012
	65	-0.01227	-0.00861	0.05389	0.00065	0.00000	0.00013
	66	-0.01171	-0.00888	0.05249	0.00063	0.00000	0.00013
	67	-0.01234	-0.00853	0.06267	0.00075	0.00000	0.00013
	68	-0.01414	-0.00722	0.05129	0.00061	0.00000	0.00015
	69	-0.01415	-0.00906	0.03995	0.00046	0.00000	0.00015
	70	-0.00322	-0.00979	0.02458	0.00031	0.00000	0.00003
	71	-0.00321	-0.00922	0.03194	0.00040	0.00000	0.00003
	72	-0.00068	-0.00905	0.02325	0.00029	0.00000	0.00001
	73	-0.00133	-0.00867	0.02705	0.00034	0.00000	0.00001
	74	-0.00077	-0.00895	0.02566	0.00032	0.00000	0.00001
	75	-0.00140	-0.00859	0.03583	0.00045	0.00000	0.00002
	76	-0.00320	-0.00728	0.02445	0.00031	0.00000	0.00003
	77	-0.00321	-0.00912	0.01312	0.00016	0.00000	0.00003
17	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
18	1	-0.00017	-0.03126	0.10929	0.00151	0.00000	0.00000
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00004	-0.00009	0.00401	0.00005	0.00000	0.00000
	5	0.00001	-0.00747	0.02113	0.00030	0.00000	0.00000
	6	0.00000	-0.00225	0.00640	0.00009	0.00000	0.00000
	7	0.00001	-0.00557	0.07748	0.00108	0.00000	0.00000
	8	0.00000	-0.00167	0.02337	0.00033	0.00000	0.00000
	9	-0.00383	-0.00501	0.01133	0.00016	0.00000	-0.00004
	10	-0.00116	-0.00152	0.00348	0.00005	0.00000	-0.00001
	11	-0.00285	-0.00373	0.04159	0.00059	0.00000	-0.00003
	12	-0.00086	-0.00112	0.01249	0.00018	0.00000	-0.00001
	13	-0.00369	-0.00465	0.02760	0.00038	0.00000	-0.00004
	14	-0.00112	-0.00140	0.00847	0.00012	0.00000	-0.00001
	15	-0.00275	-0.00346	0.10130	0.00138	0.00000	-0.00003
	16	-0.00083	-0.00104	0.03042	0.00041	0.00000	-0.00001
	17	0.00000	0.00092	0.02017	0.00028	0.00000	0.00000
	18	0.00000	0.00028	0.00608	0.00009	0.00000	0.00000
	19	0.00001	-0.00526	-0.06691	-0.00094	0.00000	0.00000
	20	0.00000	-0.00157	-0.01985	-0.00028	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01267	0.00000	0.00072	0.00001	0.00000	0.00004
	23	-0.03316	0.00002	0.02174	0.00023	0.00000	0.00017
	24	-0.01045	0.00001	0.01490	0.00017	0.00000	0.00005
	25	0.00000	0.00000	0.13798	0.00155	0.00001	0.00000
	26	0.02238	0.00013	0.08125	0.00081	0.00000	-0.00012
	27	-0.01286	-0.04180	0.14155	0.00195	0.00000	0.00004
	28	-0.01287	-0.03930	0.21487	0.00298	0.00000	0.00004
	29	-0.01786	-0.03860	0.12883	0.00178	0.00000	-0.00002
	30	-0.01658	-0.03692	0.16810	0.00234	0.00000	0.00000
	31	-0.01768	-0.03812	0.15008	0.00206	0.00000	-0.00001
	32	-0.01645	-0.03657	0.24574	0.00336	0.00000	0.00000
	33	-0.01288	-0.03087	0.14027	0.00193	0.00000	0.00004
	34	-0.01287	-0.03890	0.02726	0.00035	0.00000	0.00004
	35	-0.03680	-0.02557	0.10540	0.00140	0.00000	0.00017

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	36	-0.02661	-0.03343	0.24076	0.00299	0.00001	0.00012
	37	-0.02661	-0.03143	0.29942	0.00381	0.00001	0.00011
	38	-0.03061	-0.03087	0.23058	0.00285	0.00001	0.00007
	39	-0.02958	-0.02953	0.26200	0.00330	0.00001	0.00008
	40	-0.03046	-0.03049	0.24759	0.00307	0.00001	0.00007
	41	-0.02947	-0.02924	0.32411	0.00412	0.00001	0.00008
	42	-0.02662	-0.02468	0.23974	0.00298	0.00001	0.00011
	43	-0.02661	-0.03111	0.14933	0.00171	0.00001	0.00011
	44	0.00761	-0.03333	0.17824	0.00221	0.00000	-0.00006
	45	0.00761	-0.03134	0.23689	0.00304	0.00000	-0.00006
	46	0.00361	-0.03077	0.16806	0.00207	0.00000	-0.00011
	47	0.00464	-0.02943	0.19948	0.00252	0.00000	-0.00009
	48	0.00375	-0.03039	0.18507	0.00230	0.00000	-0.00010
	49	0.00474	-0.02915	0.26159	0.00334	0.00000	-0.00009
	50	0.00760	-0.02459	0.17721	0.00220	0.00000	-0.00006
	51	0.00761	-0.03102	0.08680	0.00093	0.00000	-0.00006
	52	-0.02819	-0.03354	0.04824	0.00091	0.00000	0.00012
	53	-0.02820	-0.03155	0.10690	0.00173	0.00000	0.00012
	54	-0.03219	-0.03099	0.03806	0.00077	0.00000	0.00008
	55	-0.03117	-0.02965	0.06948	0.00122	0.00000	0.00009
	56	-0.03205	-0.03060	0.05507	0.00100	0.00000	0.00008
	57	-0.03106	-0.02936	0.13159	0.00204	0.00000	0.00009
	58	-0.02820	-0.02480	0.04722	0.00090	0.00000	0.00012
	59	-0.02820	-0.03123	-0.04319	-0.00037	0.00000	0.00012
	60	-0.01701	-0.02292	0.15335	0.00184	0.00000	0.00007
	61	-0.04923	-0.02311	0.03636	0.00067	0.00000	0.00023
	62	-0.00797	-0.02999	0.27527	0.00328	0.00001	0.00002
	63	-0.00797	-0.02819	0.32806	0.00402	0.00001	0.00002
	64	-0.01157	-0.02769	0.26611	0.00315	0.00001	-0.00002
	65	-0.01064	-0.02648	0.29439	0.00355	0.00001	-0.00001
	66	-0.01144	-0.02734	0.28142	0.00335	0.00001	-0.00002
	67	-0.01055	-0.02622	0.35029	0.00429	0.00001	-0.00001
	68	-0.00798	-0.02212	0.27435	0.00327	0.00001	0.00002
	69	-0.00797	-0.02790	0.19298	0.00213	0.00001	0.00002
	70	-0.04019	-0.03018	0.15828	0.00211	0.00001	0.00019
	71	-0.04019	-0.02839	0.21106	0.00284	0.00001	0.00019
	72	-0.04379	-0.02788	0.14911	0.00198	0.00001	0.00015
	73	-0.04287	-0.02667	0.17739	0.00238	0.00001	0.00016
	74	-0.04366	-0.02753	0.16442	0.00218	0.00001	0.00015
	75	-0.04277	-0.02641	0.23329	0.00312	0.00000	0.00016
	76	-0.04020	-0.02231	0.15735	0.00209	0.00001	0.00019
	77	-0.04019	-0.02810	0.07598	0.00095	0.00001	0.00019
19	1	-0.00013	-0.00994	0.01570	0.00020	0.00000	0.00000
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00003	-0.00003	0.00064	0.00001	0.00000	0.00000
	5	0.00001	-0.00238	0.00294	0.00004	0.00000	0.00000
	6	0.00000	-0.00072	0.00089	0.00001	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	7	0.00001	-0.00177	0.01080	0.00014	0.00000	0.00000
	8	0.00000	-0.00053	0.00326	0.00004	0.00000	0.00000
	9	-0.00269	-0.00159	0.00152	0.00002	0.00000	0.00003
	10	-0.00081	-0.00048	0.00047	0.00001	0.00000	0.00001
	11	-0.00200	-0.00119	0.00559	0.00007	0.00000	0.00002
	12	-0.00060	-0.00036	0.00168	0.00002	0.00000	0.00001
	13	-0.00260	-0.00148	0.00408	0.00005	0.00000	0.00003
	14	-0.00079	-0.00045	0.00125	0.00002	0.00000	0.00001
	15	-0.00193	-0.00110	0.01497	0.00019	0.00000	0.00002
	16	-0.00058	-0.00033	0.00449	0.00006	0.00000	0.00001
	17	0.00000	0.00029	0.00281	0.00004	0.00000	0.00000
	18	0.00000	0.00009	0.00085	0.00001	0.00000	0.00000
	19	0.00001	-0.00167	-0.00932	-0.00012	0.00000	0.00000
	20	0.00000	-0.00050	-0.00277	-0.00004	0.00000	0.00000
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00522	0.00000	0.00022	0.00000	0.00000	0.00005
	23	-0.01127	0.00001	0.00467	0.00005	0.00000	0.00012
	24	-0.00355	0.00000	0.00301	0.00004	0.00000	0.00004
	25	0.00000	0.00000	0.02794	0.00033	0.00000	0.00000
	26	0.00760	0.00004	0.01863	0.00021	0.00000	-0.00008
	27	-0.00537	-0.01354	0.02040	0.00026	0.00000	0.00006
	28	-0.00537	-0.01275	0.03061	0.00039	0.00000	0.00006
	29	-0.00888	-0.01253	0.01855	0.00024	0.00000	0.00009
	30	-0.00798	-0.01199	0.02383	0.00031	0.00000	0.00008
	31	-0.00876	-0.01238	0.02189	0.00028	0.00000	0.00009
	32	-0.00790	-0.01188	0.03602	0.00046	0.00000	0.00008
	33	-0.00538	-0.01007	0.02022	0.00026	0.00000	0.00006
	34	-0.00537	-0.01262	0.00447	0.00006	0.00000	0.00006
	35	-0.01330	-0.00834	0.01647	0.00021	0.00000	0.00014
	36	-0.00984	-0.01083	0.04220	0.00051	0.00000	0.00010
	37	-0.00984	-0.01020	0.05037	0.00062	0.00000	0.00010
	38	-0.01265	-0.01002	0.04072	0.00049	0.00000	0.00013
	39	-0.01193	-0.00959	0.04494	0.00055	0.00000	0.00012
	40	-0.01256	-0.00990	0.04340	0.00053	0.00000	0.00013
	41	-0.01186	-0.00950	0.05470	0.00067	0.00000	0.00012
	42	-0.00985	-0.00805	0.04206	0.00051	0.00000	0.00010
	43	-0.00984	-0.01010	0.02946	0.00035	0.00000	0.00010
	44	0.00178	-0.01080	0.03123	0.00038	0.00000	-0.00002
	45	0.00178	-0.01017	0.03940	0.00048	0.00000	-0.00002
	46	-0.00103	-0.00999	0.02975	0.00036	0.00000	0.00001
	47	-0.00031	-0.00956	0.03397	0.00041	0.00000	0.00000
	48	-0.00093	-0.00987	0.03242	0.00039	0.00000	0.00001
	49	-0.00024	-0.00947	0.04373	0.00054	0.00000	0.00000
	50	0.00177	-0.00802	0.03108	0.00038	0.00000	-0.00002
	51	0.00178	-0.01006	0.01849	0.00021	0.00000	-0.00002
	52	-0.01037	-0.01087	0.00141	0.00004	0.00000	0.00011
	53	-0.01037	-0.01024	0.00958	0.00014	0.00000	0.00011
	54	-0.01318	-0.01006	-0.00007	0.00002	0.00000	0.00014

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	55	-0.01246	-0.00963	0.00415	0.00008	0.00000	0.00013
	56	-0.01309	-0.00993	0.00261	0.00005	0.00000	0.00013
	57	-0.01239	-0.00954	0.01391	0.00020	0.00000	0.00013
	58	-0.01039	-0.00809	0.00127	0.00004	0.00000	0.00011
	59	-0.01037	-0.01013	-0.01133	-0.00013	0.00000	0.00011
	60	-0.00650	-0.00747	0.02824	0.00034	0.00000	0.00007
	61	-0.01744	-0.00753	0.00141	0.00003	0.00000	0.00018
	62	-0.00343	-0.00972	0.05142	0.00061	0.00000	0.00003
	63	-0.00343	-0.00915	0.05877	0.00071	0.00000	0.00004
	64	-0.00596	-0.00899	0.05009	0.00060	0.00000	0.00006
	65	-0.00531	-0.00860	0.05389	0.00065	0.00000	0.00005
	66	-0.00587	-0.00888	0.05249	0.00063	0.00000	0.00006
	67	-0.00525	-0.00852	0.06267	0.00075	0.00000	0.00005
	68	-0.00344	-0.00722	0.05129	0.00061	0.00000	0.00004
	69	-0.00343	-0.00906	0.03995	0.00046	0.00000	0.00004
	70	-0.01437	-0.00978	0.02458	0.00031	0.00000	0.00015
	71	-0.01437	-0.00921	0.03194	0.00040	0.00000	0.00015
	72	-0.01690	-0.00905	0.02325	0.00029	0.00000	0.00018
	73	-0.01625	-0.00866	0.02705	0.00034	0.00000	0.00017
	74	-0.01681	-0.00894	0.02566	0.00032	0.00000	0.00017
	75	-0.01619	-0.00858	0.03583	0.00045	0.00000	0.00017
	76	-0.01438	-0.00728	0.02445	0.00031	0.00000	0.00015
	77	-0.01437	-0.00912	0.01312	0.00016	0.00000	0.00015
20	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
21	1	0.00228	-0.02853	0.10943	0.00151	0.00000	0.00002
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00072	0.00086	0.00410	0.00006	0.00000	0.00001
	5	-0.00051	-0.00820	0.02104	0.00029	0.00000	0.00000
	6	-0.00015	-0.00247	0.00637	0.00009	0.00000	0.00000
	7	-0.00038	-0.00611	0.07713	0.00107	0.00001	0.00000
	8	-0.00011	-0.00183	0.02327	0.00032	0.00000	0.00000
	9	0.00364	-0.00543	0.01121	0.00016	0.00000	0.00004
	10	0.00110	-0.00164	0.00344	0.00005	0.00000	0.00001
	11	0.00271	-0.00404	0.04113	0.00058	0.00001	0.00003
	12	0.00081	-0.00122	0.01235	0.00017	0.00000	0.00001
	13	0.00048	-0.01019	0.02745	0.00038	0.00000	0.00000
	14	0.00014	-0.00308	0.00842	0.00012	0.00000	0.00000
	15	0.00036	-0.00758	0.10075	0.00141	-0.00001	0.00000
	16	0.00011	-0.00228	0.03026	0.00042	0.00000	0.00000
	17	0.00006	0.00101	0.02008	0.00028	0.00000	0.00000
	18	0.00002	0.00031	0.00606	0.00008	0.00000	0.00000
	19	-0.00036	-0.00578	-0.06662	-0.00093	0.00000	0.00000
	20	-0.00011	-0.00172	-0.01976	-0.00027	0.00000	0.00000
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01269	-0.00001	0.00072	0.00001	0.00000	0.00004
	23	-0.03323	-0.00005	0.02170	0.00023	0.00000	0.00017
	24	-0.01047	-0.00001	0.01440	0.00016	0.00000	0.00005
	25	0.00000	0.00000	0.13336	0.00151	0.00003	0.00000
	26	0.06751	0.00045	0.08110	0.00081	0.00000	-0.00034
	27	-0.01034	-0.03909	0.14165	0.00196	0.00000	0.00007
	28	-0.01017	-0.03635	0.21465	0.00297	0.00000	0.00007
	29	-0.00494	-0.03548	0.12889	0.00178	0.00000	0.00012
	30	-0.00616	-0.03367	0.16773	0.00232	0.00001	0.00011
	31	-0.00905	-0.04168	0.15011	0.00208	-0.00001	0.00008
	32	-0.00922	-0.03827	0.24525	0.00340	-0.00001	0.00008
	33	-0.00960	-0.02709	0.14038	0.00194	0.00000	0.00007
	34	-0.01015	-0.03591	0.02787	0.00037	-0.00001	0.00007
	35	-0.03491	-0.02346	0.10548	0.00140	0.00000	0.00019
	36	-0.02462	-0.03129	0.23674	0.00296	0.00002	0.00014
	37	-0.02449	-0.02910	0.29514	0.00377	0.00003	0.00014
	38	-0.02030	-0.02841	0.22653	0.00282	0.00003	0.00018
	39	-0.02127	-0.02695	0.25760	0.00326	0.00003	0.00017
	40	-0.02359	-0.03336	0.24351	0.00306	0.00002	0.00015
	41	-0.02372	-0.03064	0.31962	0.00412	0.00002	0.00014
	42	-0.02403	-0.02169	0.23572	0.00295	0.00002	0.00014
	43	-0.02446	-0.02875	0.14571	0.00170	0.00002	0.00014
	44	0.04573	-0.03091	0.17821	0.00222	0.00000	-0.00022

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	45	0.04587	-0.02872	0.23660	0.00303	0.00000	-0.00022
	46	0.05006	-0.02802	0.16799	0.00208	0.00000	-0.00018
	47	0.04909	-0.02657	0.19907	0.00251	0.00001	-0.00019
	48	0.04677	-0.03298	0.18497	0.00231	0.00000	-0.00021
	49	0.04664	-0.03025	0.26108	0.00337	-0.00001	-0.00021
	50	0.04633	-0.02131	0.17719	0.00220	0.00000	-0.00022
	51	0.04589	-0.02837	0.08717	0.00095	-0.00001	-0.00022
	52	-0.06228	-0.03163	0.04844	0.00091	0.00000	0.00033
	53	-0.06215	-0.02944	0.10683	0.00173	0.00000	0.00033
	54	-0.05796	-0.02875	0.03823	0.00077	0.00000	0.00037
	55	-0.05893	-0.02730	0.06930	0.00121	0.00000	0.00036
	56	-0.06125	-0.03371	0.05521	0.00101	0.00000	0.00034
	57	-0.06138	-0.03098	0.13132	0.00207	-0.00001	0.00034
	58	-0.06169	-0.02203	0.04742	0.00090	0.00000	0.00033
	59	-0.06213	-0.02909	-0.04259	-0.00035	-0.00001	0.00033
	60	0.01719	-0.02079	0.15332	0.00185	0.00000	-0.00008
	61	-0.08002	-0.02144	0.03654	0.00067	0.00000	0.00042
	62	0.02632	-0.02783	0.27155	0.00325	0.00002	-0.00012
	63	0.02644	-0.02586	0.32410	0.00398	0.00003	-0.00012
	64	0.03021	-0.02524	0.26236	0.00313	0.00002	-0.00008
	65	0.02933	-0.02393	0.29032	0.00352	0.00003	-0.00009
	66	0.02724	-0.02970	0.27764	0.00334	0.00002	-0.00012
	67	0.02713	-0.02725	0.34614	0.00429	0.00002	-0.00012
	68	0.02685	-0.01919	0.27063	0.00324	0.00002	-0.00012
	69	0.02646	-0.02555	0.18962	0.00211	0.00002	-0.00012
	70	-0.07090	-0.02849	0.15476	0.00208	0.00002	0.00037
	71	-0.07078	-0.02652	0.20732	0.00281	0.00003	0.00037
	72	-0.06701	-0.02589	0.14557	0.00195	0.00002	0.00041
	73	-0.06789	-0.02458	0.17354	0.00235	0.00003	0.00040
	74	-0.06997	-0.03035	0.16085	0.00217	0.00002	0.00038
	75	-0.07009	-0.02790	0.22935	0.00312	0.00002	0.00038
	76	-0.07036	-0.01985	0.15384	0.00207	0.00002	0.00038
	77	-0.07076	-0.02620	0.07283	0.00094	0.00002	0.00037
22	1	0.00157	-0.00907	0.01566	0.00020	0.00000	-0.00002
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	0.00049	0.00027	0.00061	0.00001	0.00000	0.00000
	5	-0.00034	-0.00261	0.00297	0.00004	0.00000	0.00000
	6	-0.00010	-0.00079	0.00090	0.00001	0.00000	0.00000
	7	-0.00026	-0.00194	0.01091	0.00014	0.00000	0.00000
	8	-0.00008	-0.00058	0.00329	0.00004	0.00000	0.00000
	9	0.00256	-0.00173	0.00156	0.00002	0.00000	-0.00003
	10	0.00078	-0.00052	0.00048	0.00001	0.00000	-0.00001
	11	0.00191	-0.00128	0.00573	0.00007	0.00000	-0.00002
	12	0.00057	-0.00039	0.00172	0.00002	0.00000	-0.00001
	13	0.00033	-0.00324	0.00385	0.00005	0.00000	0.00000
	14	0.00010	-0.00098	0.00118	0.00002	0.00000	0.00000
	15	0.00025	-0.00241	0.01415	0.00018	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	16	0.00007	-0.00072	0.00425	0.00005	0.00000	0.00000
	17	0.00004	0.00032	0.00284	0.00004	0.00000	0.00000
	18	0.00001	0.00010	0.00086	0.00001	0.00000	0.00000
	19	-0.00024	-0.00184	-0.00942	-0.00012	0.00000	0.00000
	20	-0.00007	-0.00055	-0.00279	-0.00004	0.00000	0.00000
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00523	0.00000	0.00022	0.00000	0.00000	0.00005
	23	-0.01132	-0.00002	0.00466	0.00005	0.00000	0.00012
	24	-0.00356	0.00000	0.00287	0.00003	0.00000	0.00004
	25	0.00000	0.00000	0.02661	0.00031	0.00000	0.00000
	26	0.02304	0.00014	0.01859	0.00021	0.00000	-0.00024
	27	-0.00362	-0.01268	0.02037	0.00026	0.00000	0.00004
	28	-0.00351	-0.01181	0.03069	0.00039	0.00000	0.00004
	29	0.00017	-0.01154	0.01853	0.00024	0.00000	0.00000
	30	-0.00069	-0.01096	0.02395	0.00031	0.00000	0.00001
	31	-0.00274	-0.01351	0.02153	0.00028	0.00000	0.00003
	32	-0.00285	-0.01242	0.03489	0.00045	0.00000	0.00003
	33	-0.00312	-0.00887	0.02019	0.00026	0.00000	0.00003
	34	-0.00349	-0.01167	0.00428	0.00005	0.00000	0.00004
	35	-0.01199	-0.00766	0.01643	0.00021	0.00000	0.00013
	36	-0.00846	-0.01015	0.04099	0.00050	0.00000	0.00009
	37	-0.00837	-0.00946	0.04925	0.00060	0.00000	0.00009
	38	-0.00543	-0.00924	0.03953	0.00048	0.00000	0.00006
	39	-0.00612	-0.00877	0.04386	0.00054	0.00000	0.00007
	40	-0.00776	-0.01081	0.04192	0.00051	0.00000	0.00008
	41	-0.00785	-0.00994	0.05261	0.00065	0.00000	0.00008
	42	-0.00806	-0.00710	0.04085	0.00050	0.00000	0.00009
	43	-0.00836	-0.00934	0.02812	0.00033	0.00000	0.00009
	44	0.01554	-0.01003	0.03116	0.00038	0.00000	-0.00016
	45	0.01563	-0.00933	0.03942	0.00048	0.00000	-0.00017
	46	0.01857	-0.00911	0.02970	0.00036	0.00000	-0.00019
	47	0.01788	-0.00865	0.03403	0.00041	0.00000	-0.00019
	48	0.01624	-0.01069	0.03209	0.00039	0.00000	-0.00017
	49	0.01615	-0.00982	0.04278	0.00053	0.00000	-0.00017
	50	0.01594	-0.00698	0.03102	0.00038	0.00000	-0.00017
	51	0.01564	-0.00922	0.01829	0.00021	0.00000	-0.00017
	52	-0.02133	-0.01026	0.00142	0.00004	0.00000	0.00023
	53	-0.02124	-0.00957	0.00968	0.00015	0.00000	0.00022
	54	-0.01830	-0.00934	-0.00005	0.00002	0.00000	0.00020
	55	-0.01898	-0.00888	0.00429	0.00008	0.00000	0.00020
	56	-0.02063	-0.01092	0.00235	0.00005	0.00000	0.00022
	57	-0.02071	-0.01005	0.01304	0.00019	0.00000	0.00022
	58	-0.02093	-0.00721	0.00128	0.00004	0.00000	0.00022
	59	-0.02122	-0.00945	-0.01145	-0.00013	0.00000	0.00022
	60	0.00580	-0.00679	0.02817	0.00034	0.00000	-0.00006
	61	-0.02738	-0.00700	0.00140	0.00003	0.00000	0.00029
	62	0.00893	-0.00903	0.05030	0.00060	0.00000	-0.00009
	63	0.00901	-0.00841	0.05773	0.00070	0.00000	-0.00010

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	64	0.01165	-0.00821	0.04898	0.00058	0.00000	-0.00012
	65	0.01104	-0.00779	0.05287	0.00063	0.00000	-0.00012
	66	0.00956	-0.00963	0.05113	0.00061	0.00000	-0.00010
	67	0.00948	-0.00885	0.06075	0.00074	0.00000	-0.00010
	68	0.00929	-0.00629	0.05017	0.00060	0.00000	-0.00010
	69	0.00902	-0.00831	0.03871	0.00045	0.00000	-0.00010
	70	-0.02425	-0.00924	0.02353	0.00030	0.00000	0.00026
	71	-0.02417	-0.00861	0.03096	0.00039	0.00000	0.00026
	72	-0.02152	-0.00842	0.02221	0.00028	0.00000	0.00023
	73	-0.02214	-0.00800	0.02611	0.00033	0.00000	0.00024
	74	-0.02362	-0.00983	0.02436	0.00031	0.00000	0.00025
	75	-0.02370	-0.00905	0.03398	0.00043	0.00000	0.00025
	76	-0.02389	-0.00649	0.02340	0.00029	0.00000	0.00025
	77	-0.02416	-0.00851	0.01194	0.00015	0.00000	0.00026
23	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
24	1	-0.01275	-0.03789	0.10949	0.00152	0.00000	-0.00014
	2	0.00000	-0.00052	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00504	-0.00411	0.00414	0.00006	0.00000	-0.00006
	5	0.00433	-0.00315	0.02099	0.00029	0.00000	0.00005

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	6	0.00130	-0.00095	0.00636	0.00009	0.00000	0.00001
	7	0.00322	-0.00234	0.07697	0.00105	0.00001	0.00004
	8	0.00097	-0.00070	0.02322	0.00032	0.00000	0.00001
	9	-0.00024	0.00040	0.01115	0.00015	0.00000	0.00000
	10	-0.00007	0.00012	0.00342	0.00005	0.00000	0.00000
	11	-0.00018	0.00030	0.04091	0.00055	0.00001	0.00000
	12	-0.00005	0.00009	0.01229	0.00016	0.00000	0.00000
	13	-0.00111	-0.00984	0.02772	0.00039	0.00000	-0.00001
	14	-0.00033	-0.00298	0.00851	0.00012	0.00000	0.00000
	15	-0.00082	-0.00732	0.10176	0.00142	-0.00001	-0.00001
	16	-0.00025	-0.00220	0.03056	0.00043	0.00000	0.00000
	17	-0.00054	0.00039	0.02004	0.00027	0.00000	-0.00001
	18	-0.00016	0.00012	0.00604	0.00008	0.00000	0.00000
	19	0.00305	-0.00222	-0.06647	-0.00091	-0.00001	0.00003
	20	0.00091	-0.00066	-0.01972	-0.00027	0.00000	0.00001
	21	0.00000	0.00014	0.00000	0.00000	0.00000	0.00000
	22	-0.01260	0.00003	0.00072	0.00001	0.00000	0.00004
	23	-0.03277	0.00023	0.02167	0.00023	0.00000	0.00017
	24	-0.01031	0.00009	0.01352	0.00016	0.00000	0.00006
	25	0.00000	0.00000	0.12514	0.00145	0.00004	0.00000
	26	0.11077	-0.00059	0.08095	0.00081	0.00000	-0.00059
	27	-0.02476	-0.04679	0.14170	0.00196	0.00000	-0.00009
	28	-0.02620	-0.04574	0.21454	0.00296	0.00000	-0.00011
	29	-0.03070	-0.04217	0.12892	0.00178	0.00000	-0.00016
	30	-0.03062	-0.04231	0.16755	0.00230	0.00001	-0.00016
	31	-0.03183	-0.05551	0.15058	0.00210	-0.00001	-0.00017
	32	-0.03146	-0.05222	0.24667	0.00344	-0.00001	-0.00017
	33	-0.03109	-0.04219	0.14043	0.00195	0.00000	-0.00016
	34	-0.02643	-0.04557	0.02816	0.00041	-0.00001	-0.00011
	35	-0.04650	-0.03068	0.10550	0.00141	0.00000	0.00006
	36	-0.03592	-0.03731	0.22949	0.00291	0.00003	0.00001
	37	-0.03708	-0.03647	0.28776	0.00371	0.00004	0.00000
	38	-0.04068	-0.03361	0.21927	0.00277	0.00003	-0.00004
	39	-0.04061	-0.03372	0.25017	0.00318	0.00004	-0.00004
	40	-0.04158	-0.04428	0.23659	0.00302	0.00003	-0.00005
	41	-0.04128	-0.04165	0.31346	0.00409	0.00003	-0.00005
	42	-0.04099	-0.03363	0.22848	0.00290	0.00003	-0.00004
	43	-0.03726	-0.03633	0.13866	0.00167	0.00003	0.00000
	44	0.06881	-0.03790	0.17812	0.00222	0.00000	-0.00055
	45	0.06765	-0.03706	0.23639	0.00302	0.00000	-0.00056
	46	0.06405	-0.03421	0.16789	0.00208	0.00000	-0.00060
	47	0.06412	-0.03431	0.19880	0.00249	0.00001	-0.00060
	48	0.06315	-0.04488	0.18522	0.00233	0.00000	-0.00061
	49	0.06345	-0.04224	0.26209	0.00340	-0.00001	-0.00061
	50	0.06374	-0.03422	0.17710	0.00221	0.00000	-0.00061
	51	0.06747	-0.03693	0.08728	0.00098	-0.00001	-0.00056
	52	-0.10842	-0.03696	0.04861	0.00092	0.00000	0.00040
	53	-0.10958	-0.03612	0.10687	0.00172	0.00000	0.00039

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	54	-0.11318	-0.03327	0.03838	0.00078	0.00000	0.00035
	55	-0.11311	-0.03337	0.06928	0.00119	0.00001	0.00035
	56	-0.11408	-0.04394	0.05571	0.00103	-0.00001	0.00034
	57	-0.11378	-0.04130	0.13258	0.00210	-0.00001	0.00034
	58	-0.11349	-0.03328	0.04759	0.00091	0.00000	0.00034
	59	-0.10976	-0.03599	-0.04223	-0.00032	-0.00001	0.00039
	60	0.03790	-0.02804	0.15323	0.00185	0.00000	-0.00037
	61	-0.12160	-0.02719	0.03667	0.00068	0.00000	0.00048
	62	0.04729	-0.03400	0.26491	0.00321	0.00003	-0.00042
	63	0.04625	-0.03324	0.31735	0.00392	0.00004	-0.00043
	64	0.04301	-0.03067	0.25571	0.00308	0.00003	-0.00046
	65	0.04307	-0.03077	0.28352	0.00345	0.00004	-0.00046
	66	0.04220	-0.04028	0.27130	0.00330	0.00003	-0.00047
	67	0.04247	-0.03791	0.34048	0.00427	0.00002	-0.00047
	68	0.04273	-0.03069	0.26400	0.00320	0.00003	-0.00047
	69	0.04609	-0.03312	0.18316	0.00209	0.00002	-0.00043
	70	-0.11222	-0.03315	0.14835	0.00204	0.00003	0.00044
	71	-0.11325	-0.03240	0.20079	0.00275	0.00003	0.00043
	72	-0.11650	-0.02983	0.13914	0.00191	0.00003	0.00039
	73	-0.11644	-0.02992	0.16696	0.00228	0.00004	0.00039
	74	-0.11731	-0.03943	0.15474	0.00213	0.00003	0.00038
	75	-0.11704	-0.03706	0.22392	0.00310	0.00002	0.00039
	76	-0.11677	-0.02984	0.14743	0.00203	0.00003	0.00039
	77	-0.11342	-0.03228	0.06660	0.00092	0.00002	0.00043
25	1	-0.00902	-0.01204	0.01548	0.00020	0.00000	0.00009
	2	0.00000	-0.00022	0.00000	0.00000	0.00000	0.00000
	3	0.00000	-0.00033	0.00000	0.00000	0.00000	0.00000
	4	-0.00357	-0.00131	0.00050	0.00001	0.00000	0.00003
	5	0.00306	-0.00100	0.00309	0.00004	0.00000	-0.00003
	6	0.00092	-0.00030	0.00094	0.00001	0.00000	-0.00001
	7	0.00228	-0.00074	0.01135	0.00014	0.00000	-0.00002
	8	0.00068	-0.00022	0.00342	0.00004	0.00000	-0.00001
	9	-0.00016	0.00013	0.00172	0.00002	0.00000	0.00000
	10	-0.00005	0.00004	0.00053	0.00001	0.00000	0.00000
	11	-0.00012	0.00010	0.00632	0.00008	0.00000	0.00000
	12	-0.00004	0.00003	0.00190	0.00002	0.00000	0.00000
	13	-0.00079	-0.00313	0.00388	0.00005	0.00000	0.00001
	14	-0.00024	-0.00095	0.00119	0.00002	0.00000	0.00000
	15	-0.00058	-0.00233	0.01424	0.00018	0.00000	0.00001
	16	-0.00018	-0.00070	0.00428	0.00006	0.00000	0.00000
	17	-0.00038	0.00012	0.00295	0.00004	0.00000	0.00000
	18	-0.00012	0.00004	0.00089	0.00001	0.00000	0.00000
	19	0.00216	-0.00070	-0.00980	-0.00012	0.00000	-0.00002
	20	0.00064	-0.00021	-0.00291	-0.00004	0.00000	-0.00001
	21	0.00000	0.00007	0.00000	0.00000	0.00000	0.00000
	22	-0.00517	0.00001	0.00022	0.00000	0.00000	0.00005
	23	-0.01100	0.00007	0.00465	0.00005	0.00000	0.00012
	24	-0.00346	0.00003	0.00261	0.00003	0.00000	0.00004

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	25	0.00000	0.00000	0.02424	0.00029	0.00001	0.00000
	26	0.03711	-0.00019	0.01854	0.00021	0.00000	-0.00039
	27	-0.01377	-0.01513	0.02023	0.00026	0.00000	0.00014
	28	-0.01479	-0.01480	0.03097	0.00040	0.00000	0.00015
	29	-0.01797	-0.01366	0.01845	0.00024	0.00000	0.00018
	30	-0.01791	-0.01371	0.02442	0.00031	0.00000	0.00018
	31	-0.01878	-0.01790	0.02127	0.00027	0.00000	0.00019
	32	-0.01852	-0.01686	0.03472	0.00045	0.00000	0.00018
	33	-0.01825	-0.01367	0.02005	0.00026	0.00000	0.00018
	34	-0.01496	-0.01474	0.00349	0.00005	0.00000	0.00015
	35	-0.02015	-0.00996	0.01629	0.00020	0.00000	0.00021
	36	-0.01643	-0.01207	0.03878	0.00047	0.00000	0.00017
	37	-0.01724	-0.01180	0.04737	0.00058	0.00001	0.00018
	38	-0.01978	-0.01089	0.03736	0.00046	0.00000	0.00020
	39	-0.01974	-0.01092	0.04213	0.00052	0.00001	0.00020
	40	-0.02043	-0.01428	0.03961	0.00049	0.00000	0.00021
	41	-0.02022	-0.01345	0.05037	0.00062	0.00000	0.00020
	42	-0.02001	-0.01090	0.03863	0.00047	0.00000	0.00020
	43	-0.01737	-0.01176	0.02539	0.00030	0.00000	0.00018
	44	0.01867	-0.01225	0.03102	0.00038	0.00000	-0.00021
	45	0.01785	-0.01199	0.03961	0.00049	0.00000	-0.00020
	46	0.01531	-0.01108	0.02959	0.00036	0.00000	-0.00017
	47	0.01536	-0.01111	0.03437	0.00042	0.00000	-0.00017
	48	0.01466	-0.01447	0.03185	0.00039	0.00000	-0.00017
	49	0.01487	-0.01363	0.04261	0.00053	0.00000	-0.00017
	50	0.01509	-0.01108	0.03087	0.00037	0.00000	-0.00017
	51	0.01772	-0.01194	0.01763	0.00021	0.00000	-0.00020
	52	-0.04071	-0.01196	0.00136	0.00004	0.00000	0.00043
	53	-0.04152	-0.01169	0.00995	0.00015	0.00000	0.00043
	54	-0.04406	-0.01078	-0.00007	0.00002	0.00000	0.00046
	55	-0.04402	-0.01081	0.00471	0.00008	0.00000	0.00046
	56	-0.04471	-0.01417	0.00219	0.00005	0.00000	0.00046
	57	-0.04450	-0.01333	0.01295	0.00019	0.00000	0.00046
	58	-0.04429	-0.01078	0.00121	0.00004	0.00000	0.00046
	59	-0.04165	-0.01165	-0.01203	-0.00013	0.00000	0.00043
	60	0.00858	-0.00910	0.02800	0.00034	0.00000	-0.00010
	61	-0.04486	-0.00883	0.00131	0.00003	0.00000	0.00047
	62	0.01189	-0.01099	0.04827	0.00058	0.00000	-0.00013
	63	0.01116	-0.01075	0.05600	0.00068	0.00000	-0.00013
	64	0.00887	-0.00994	0.04699	0.00056	0.00000	-0.00010
	65	0.00891	-0.00997	0.05129	0.00062	0.00000	-0.00010
	66	0.00828	-0.01299	0.04902	0.00059	0.00000	-0.00010
	67	0.00847	-0.01223	0.05870	0.00071	0.00000	-0.00010
	68	0.00867	-0.00994	0.04814	0.00058	0.00000	-0.00010
	69	0.01104	-0.01071	0.03622	0.00043	0.00000	-0.00012
	70	-0.04155	-0.01072	0.02158	0.00028	0.00000	0.00043
	71	-0.04228	-0.01048	0.02931	0.00037	0.00000	0.00044
	72	-0.04457	-0.00967	0.02029	0.00026	0.00000	0.00046

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	73	-0.04453	-0.00970	0.02459	0.00031	0.00000	0.00046
	74	-0.04515	-0.01272	0.02232	0.00029	0.00000	0.00047
	75	-0.04496	-0.01197	0.03201	0.00041	0.00000	0.00047
	76	-0.04477	-0.00967	0.02144	0.00027	0.00000	0.00047
	77	-0.04240	-0.01045	0.00952	0.00012	0.00000	0.00044
26	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	36	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	37	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	38	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	39	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	41	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	42	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	43	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	44	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	45	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	46	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	47	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	48	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	49	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	51	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	52	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	53	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	54	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	56	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	57	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	58	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	59	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	61	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	62	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	63	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	64	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	71	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	72	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	73	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	74	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	75	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	76	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	77	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
11	1	-2.86	336.94	0.06	-50.79	-0.07	41.24
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	-1.13	36.59	0.04	-1.48	-0.05	16.30
	5	0.97	27.98	-0.04	-10.35	0.05	-14.01
	6	0.29	8.43	-0.01	-3.14	0.01	-4.22
	7	0.72	20.84	-0.14	-37.97	0.18	-10.43
	8	0.22	6.24	-0.04	-11.45	0.05	-3.13
	9	-0.05	-3.58	-0.05	-5.89	0.07	0.73
	10	-0.02	-1.08	-0.02	-1.81	0.02	0.22
	11	-0.04	-2.67	-0.19	-21.61	0.24	0.55
	12	-0.01	-0.80	-0.06	-6.49	0.07	0.16
	13	-0.25	87.48	0.03	-12.66	-0.05	3.59
	14	-0.08	26.46	0.01	-3.89	-0.02	1.09
	15	-0.19	65.08	0.11	-46.48	-0.20	2.67
	16	-0.06	19.58	0.03	-13.96	-0.06	0.80
	17	-0.12	-3.46	-0.04	-9.88	0.05	1.73
	18	-0.04	-1.05	-0.01	-2.98	0.01	0.53
	19	0.68	19.71	0.12	32.79	-0.16	-9.86
	20	0.20	5.87	0.04	9.73	-0.05	-2.94
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.37	0.31	-0.05	-0.93	0.00	-22.55
	23	2.51	2.04	-0.62	-17.82	0.00	-46.34
	24	0.79	0.76	-0.27	-9.70	0.13	-14.58
	25	0.00	0.00	-2.53	-90.06	1.17	0.00
	26	8.46	5.23	-2.77	-72.25	0.01	-156.32
	27	-1.36	433.27	-0.01	-66.69	-0.05	16.77
	28	-1.68	423.94	-0.14	-102.62	0.12	21.44
	29	-2.69	392.19	-0.02	-60.89	-0.03	35.95
	30	-2.67	393.39	-0.20	-81.30	0.19	35.70
	31	-2.95	510.80	0.09	-69.75	-0.19	39.68
	32	-2.86	481.52	0.19	-113.64	-0.37	38.47
	33	-2.78	392.35	0.00	-66.07	-0.06	37.25
	34	-1.73	422.44	0.21	-10.68	-0.32	22.19
	35	0.81	289.85	-0.49	-55.63	-0.05	-22.12
	36	0.15	347.72	-2.40	-137.44	0.99	-9.37
	37	-0.11	340.25	-2.51	-166.18	1.13	-5.63
	38	-0.92	314.86	-2.41	-132.80	1.01	5.97
	39	-0.90	315.81	-2.56	-149.12	1.19	5.78
	40	-1.12	409.74	-2.32	-139.88	0.89	8.95
	41	-1.06	386.31	-2.24	-175.00	0.74	7.99
	42	-0.99	314.98	-2.39	-136.94	0.99	7.02
	43	-0.15	339.05	-2.23	-92.63	0.78	-5.03
	44	5.68	350.80	-2.22	-111.16	-0.04	-111.64
	45	5.42	343.33	-2.33	-139.90	0.10	-107.91
	46	4.62	317.94	-2.24	-106.51	-0.02	-96.30
	47	4.63	318.90	-2.38	-122.84	0.16	-96.50
	48	4.41	412.82	-2.15	-113.60	-0.14	-93.32

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	49	4.48	389.40	-2.07	-148.71	-0.29	-94.28
	50	4.54	318.06	-2.22	-110.65	-0.04	-95.26
	51	5.38	342.13	-2.05	-66.35	-0.25	-107.30
	52	-7.86	342.44	2.22	4.45	-0.05	138.48
	53	-8.11	334.97	2.11	-24.30	0.09	142.21
	54	-8.92	309.57	2.20	9.09	-0.03	153.82
	55	-8.91	310.53	2.06	-7.24	0.15	153.62
	56	-9.13	404.46	2.29	2.00	-0.16	156.80
	57	-9.06	381.03	2.37	-33.11	-0.30	155.84
	58	-8.99	309.70	2.22	4.95	-0.05	154.86
	59	-8.16	333.77	2.39	49.25	-0.26	142.81
	60	6.83	264.63	-2.44	-102.09	-0.04	-132.46
	61	-5.36	257.11	1.56	1.95	-0.06	92.65
	62	6.23	316.72	-4.16	-175.79	0.90	-121.17
	63	6.00	310.00	-4.26	-201.66	1.02	-117.81
	64	5.28	287.14	-4.17	-171.61	0.92	-107.36
	65	5.29	288.00	-4.30	-186.30	1.08	-107.54
	66	5.09	372.53	-4.09	-177.99	0.80	-104.68
	67	5.15	351.45	-4.02	-209.59	0.67	-105.55
	68	5.21	287.25	-4.16	-175.34	0.90	-106.42
	69	5.96	308.92	-4.00	-135.46	0.71	-117.27
	70	-5.95	309.19	-0.16	-71.75	0.89	103.94
	71	-6.18	302.47	-0.26	-97.62	1.01	107.30
	72	-6.91	279.62	-0.17	-67.57	0.90	117.74
	73	-6.89	280.48	-0.30	-82.26	1.07	117.57
	74	-7.09	365.01	-0.10	-73.95	0.79	120.43
	75	-7.03	343.93	-0.02	-105.55	0.66	119.56
	76	-6.97	279.72	-0.16	-71.30	0.89	118.68
	77	-6.22	301.39	-0.01	-31.42	0.70	107.84
14	1	0.49	253.72	-0.02	-51.65	-0.06	-7.14
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	0.15	-7.64	-0.01	-2.06	-0.04	-2.24
	5	-0.11	72.95	0.01	-9.76	0.04	1.57
	6	-0.03	21.96	0.00	-2.96	0.01	0.47
	7	-0.08	54.32	0.04	-35.78	0.15	1.17
	8	-0.02	16.28	0.01	-10.79	0.04	0.35
	9	0.81	48.28	0.01	-5.09	0.05	-11.72
	10	0.25	14.60	0.00	-1.56	0.02	-3.54
	11	0.60	35.92	0.05	-18.68	0.20	-8.72
	12	0.18	10.80	0.02	-5.61	0.06	-2.62
	13	0.10	90.59	0.02	-12.60	-0.05	-1.51
	14	0.03	27.40	0.01	-3.87	-0.01	-0.46
	15	0.08	67.40	0.09	-46.25	-0.17	-1.12
	16	0.02	20.27	0.03	-13.89	-0.05	-0.34
	17	0.01	-9.02	0.01	-9.31	0.04	-0.19
	18	0.00	-2.75	0.00	-2.81	0.01	-0.06
	19	-0.08	51.38	-0.03	30.90	-0.13	1.11

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	20	-0.02	15.30	-0.01	9.17	-0.04	0.33
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.39	-0.12	-0.05	-0.93	0.00	-22.81
	23	2.61	-0.45	-0.62	-17.86	0.01	-47.81
	24	0.82	-0.07	-0.32	-10.74	0.09	-15.05
	25	0.00	0.00	-3.01	-99.79	0.86	0.00
	26	5.32	-4.04	-2.79	-72.46	0.02	-97.35
	27	1.89	363.90	-0.06	-67.35	-0.04	-30.15
	28	1.93	339.59	-0.02	-101.21	0.10	-30.68
	29	3.09	331.87	-0.06	-61.29	-0.03	-47.46
	30	2.82	315.71	-0.01	-78.93	0.16	-43.54
	31	2.17	386.98	-0.04	-71.11	-0.16	-34.16
	32	2.13	356.66	0.04	-114.78	-0.32	-33.65
	33	2.05	257.22	-0.06	-66.76	-0.05	-32.45
	34	1.94	335.67	-0.12	-14.58	-0.26	-30.76
	35	3.59	220.94	-0.55	-56.35	-0.04	-62.21
	36	2.80	290.96	-2.86	-146.60	0.72	-47.64
	37	2.83	271.51	-2.83	-173.68	0.84	-48.06
	38	3.76	265.33	-2.86	-141.75	0.74	-61.48
	39	3.54	252.40	-2.82	-155.86	0.89	-58.35
	40	3.02	309.42	-2.85	-149.60	0.63	-50.84
	41	2.99	285.16	-2.78	-184.54	0.50	-50.44
	42	2.93	205.61	-2.86	-146.13	0.72	-49.48
	43	2.83	268.37	-2.91	-104.38	0.55	-48.13
	44	5.77	287.90	-2.28	-111.85	-0.02	-102.00
	45	5.80	268.44	-2.25	-138.94	0.09	-102.42
	46	6.73	262.27	-2.27	-107.00	0.00	-115.85
	47	6.52	249.34	-2.23	-121.11	0.15	-112.71
	48	6.00	306.36	-2.26	-114.86	-0.11	-105.20
	49	5.97	282.10	-2.19	-149.79	-0.24	-104.80
	50	5.90	202.55	-2.28	-111.38	-0.02	-103.84
	51	5.81	265.30	-2.33	-69.63	-0.19	-102.49
	52	-2.74	294.35	2.18	4.09	-0.05	53.76
	53	-2.72	274.90	2.21	-23.00	0.06	53.34
	54	-1.79	268.72	2.18	8.94	-0.04	39.91
	55	-2.00	255.80	2.22	-5.17	0.11	43.05
	56	-2.52	312.81	2.19	1.08	-0.14	50.55
	57	-2.55	288.56	2.26	-33.85	-0.27	50.96
	58	-2.62	209.01	2.18	4.56	-0.05	51.92
	59	-2.71	271.76	2.13	46.31	-0.23	53.27
	60	7.07	195.94	-2.50	-102.89	-0.02	-126.08
	61	-0.60	201.75	1.51	1.46	-0.05	14.10
	62	6.36	258.96	-4.59	-184.18	0.67	-113.16
	63	6.39	241.45	-4.56	-208.56	0.77	-113.53
	64	7.23	235.89	-4.58	-179.82	0.68	-125.62
	65	7.03	224.26	-4.55	-192.52	0.81	-122.79
	66	6.56	275.57	-4.57	-186.89	0.58	-116.04
	67	6.54	253.74	-4.51	-218.33	0.47	-115.68

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	68	6.48	182.15	-4.59	-183.76	0.66	-114.81
	69	6.39	238.62	-4.63	-146.18	0.51	-113.59
	70	-1.30	264.77	-0.57	-79.84	0.64	27.02
	71	-1.28	247.26	-0.55	-104.21	0.74	26.65
	72	-0.44	241.70	-0.57	-75.47	0.65	14.56
	73	-0.64	230.07	-0.53	-88.17	0.78	17.39
	74	-1.10	281.38	-0.56	-82.54	0.55	24.14
	75	-1.13	259.55	-0.50	-113.98	0.44	24.50
	76	-1.19	187.96	-0.57	-79.41	0.63	25.37
	77	-1.27	244.43	-0.62	-41.84	0.48	26.59
17	1	-0.04	277.99	-0.04	-51.89	-0.02	0.61
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	-0.01	0.76	-0.03	-2.22	-0.02	0.14
	5	0.00	66.46	0.03	-9.59	0.02	-0.05
	6	0.00	20.01	0.01	-2.91	0.00	-0.02
	7	0.00	49.49	0.10	-35.16	0.06	-0.04
	8	0.00	14.83	0.03	-10.61	0.02	-0.01
	9	-0.85	44.58	0.04	-4.86	0.02	12.28
	10	-0.26	13.48	0.01	-1.49	0.01	3.71
	11	-0.63	33.17	0.14	-17.85	0.08	9.14
	12	-0.19	9.98	0.04	-5.36	0.02	2.75
	13	-0.82	41.31	-0.06	-13.66	-0.02	11.86
	14	-0.25	12.49	-0.02	-4.19	-0.01	3.59
	15	-0.61	30.73	-0.20	-50.13	-0.07	8.83
	16	-0.18	9.24	-0.06	-15.06	-0.02	2.65
	17	0.00	-8.22	0.03	-9.15	0.02	0.01
	18	0.00	-2.50	0.01	-2.76	0.00	0.00
	19	0.00	46.81	-0.09	30.36	-0.05	-0.04
	20	0.00	13.94	-0.03	9.01	-0.01	-0.01
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.38	0.02	-0.05	-0.93	0.00	-22.77
	23	2.60	0.16	-0.62	-17.90	0.00	-47.57
	24	0.82	0.08	-0.35	-11.33	0.03	-14.99
	25	0.00	0.00	-3.28	-105.26	0.30	0.00
	26	1.75	-1.19	-2.80	-72.66	0.01	-32.07
	27	1.34	388.27	-0.08	-67.54	-0.02	-22.09
	28	1.34	366.12	0.02	-100.81	0.04	-22.07
	29	0.22	359.87	-0.07	-61.40	-0.01	-6.02
	30	0.51	344.95	0.06	-78.26	0.06	-10.13
	31	0.26	355.60	-0.19	-72.90	-0.06	-6.57
	32	0.54	341.77	-0.38	-120.23	-0.13	-10.54
	33	1.33	291.08	-0.08	-66.96	-0.02	-22.01
	34	1.34	362.55	-0.23	-15.68	-0.10	-22.07
	35	3.15	240.96	-0.57	-56.58	-0.02	-55.78
	36	2.35	310.72	-3.12	-151.60	0.26	-41.08
	37	2.35	293.00	-3.04	-178.21	0.30	-41.07
	38	1.46	287.99	-3.11	-146.69	0.26	-28.23

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	39	1.68	276.06	-3.00	-160.18	0.32	-31.51
	40	1.49	284.58	-3.20	-155.88	0.22	-28.66
	41	1.71	273.52	-3.36	-193.75	0.16	-31.84
	42	2.34	232.96	-3.12	-151.13	0.25	-41.02
	43	2.35	290.14	-3.24	-110.11	0.19	-41.06
	44	2.47	309.67	-2.30	-112.16	-0.01	-43.33
	45	2.47	291.94	-2.22	-138.77	0.04	-43.32
	46	1.58	286.94	-2.29	-107.25	0.00	-30.48
	47	1.81	275.00	-2.19	-120.73	0.06	-33.76
	48	1.61	283.53	-2.39	-116.44	-0.04	-30.91
	49	1.83	272.47	-2.54	-154.31	-0.10	-34.09
	50	2.46	231.91	-2.30	-111.69	-0.01	-43.27
	51	2.47	289.08	-2.42	-70.67	-0.07	-43.31
	52	-0.33	311.57	2.17	4.09	-0.02	7.98
	53	-0.33	293.85	2.25	-22.52	0.02	8.00
	54	-1.22	288.85	2.18	9.00	-0.02	20.84
	55	-0.99	276.91	2.29	-4.48	0.04	17.55
	56	-1.19	285.43	2.09	-0.19	-0.06	20.40
	57	-0.97	274.37	1.93	-38.06	-0.12	17.22
	58	-0.33	233.82	2.17	4.56	-0.02	8.05
	59	-0.33	290.99	2.05	45.58	-0.09	8.00
	60	4.09	216.01	-2.53	-103.23	-0.01	-73.30
	61	1.58	217.72	1.50	1.39	-0.02	-27.12
	62	3.38	278.79	-4.82	-188.82	0.24	-60.25
	63	3.38	262.84	-4.75	-212.78	0.28	-60.24
	64	2.58	258.34	-4.81	-184.40	0.24	-48.68
	65	2.78	247.59	-4.72	-196.54	0.29	-51.64
	66	2.61	255.26	-4.90	-192.68	0.20	-49.08
	67	2.80	245.31	-5.04	-226.76	0.15	-51.93
	68	3.38	208.81	-4.82	-188.40	0.24	-60.19
	69	3.38	260.27	-4.93	-151.48	0.18	-60.24
	70	0.86	280.51	-0.79	-84.20	0.22	-14.07
	71	0.86	264.55	-0.72	-108.15	0.26	-14.06
	72	0.06	260.05	-0.78	-79.78	0.23	-2.50
	73	0.27	249.31	-0.69	-91.92	0.28	-5.46
	74	0.09	256.98	-0.87	-88.05	0.19	-2.90
	75	0.29	247.03	-1.01	-122.14	0.14	-5.75
	76	0.86	210.53	-0.79	-83.78	0.22	-14.01
	77	0.86	261.98	-0.90	-46.86	0.16	-14.06
20	1	0.04	277.99	-0.04	-51.89	0.02	-0.61
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	0.01	0.76	-0.03	-2.22	0.02	-0.14
	5	0.00	66.46	0.03	-9.59	-0.02	0.05
	6	0.00	20.01	0.01	-2.91	0.00	0.02
	7	0.00	49.49	0.10	-35.16	-0.06	0.04
	8	0.00	14.83	0.03	-10.61	-0.02	0.01
	9	0.85	44.58	0.04	-4.86	-0.02	-12.28

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	10	0.26	13.48	0.01	-1.49	-0.01	-3.71
	11	0.63	33.17	0.14	-17.85	-0.08	-9.14
	12	0.19	9.98	0.04	-5.36	-0.02	-2.75
	13	0.82	41.31	-0.06	-13.66	0.02	-11.86
	14	0.25	12.49	-0.02	-4.19	0.01	-3.59
	15	0.61	30.73	-0.20	-50.13	0.07	-8.83
	16	0.18	9.24	-0.06	-15.06	0.02	-2.65
	17	0.00	-8.22	0.03	-9.15	-0.02	-0.01
	18	0.00	-2.50	0.01	-2.76	0.00	0.00
	19	0.00	46.81	-0.09	30.36	0.05	0.04
	20	0.00	13.94	-0.03	9.01	0.01	0.01
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.38	-0.02	-0.05	-0.93	0.00	-22.77
	23	2.60	-0.16	-0.62	-17.90	0.00	-47.57
	24	0.82	-0.08	-0.35	-11.33	-0.03	-14.99
	25	0.00	0.00	-3.28	-105.26	-0.30	0.00
	26	-1.75	-1.19	-2.80	-72.66	-0.01	32.07
	27	1.43	388.24	-0.08	-67.54	0.02	-23.45
	28	1.43	366.08	0.02	-100.81	-0.04	-23.47
	29	2.55	359.83	-0.07	-61.40	0.01	-39.52
	30	2.26	344.91	0.06	-78.26	-0.06	-35.41
	31	2.51	355.56	-0.19	-72.90	0.06	-38.97
	32	2.23	341.74	-0.38	-120.23	0.13	-35.00
	33	1.44	291.04	-0.08	-66.96	0.02	-23.53
	34	1.43	362.51	-0.23	-15.68	0.10	-23.47
	35	3.22	240.67	-0.57	-56.58	0.02	-56.76
	36	2.42	310.49	-3.12	-151.60	-0.26	-42.16
	37	2.42	292.77	-3.04	-178.21	-0.30	-42.18
	38	3.31	287.77	-3.11	-146.69	-0.26	-55.02
	39	3.09	275.83	-3.00	-160.18	-0.32	-51.73
	40	3.28	284.35	-3.20	-155.88	-0.22	-54.58
	41	3.06	273.29	-3.36	-193.75	-0.16	-51.41
	42	2.43	232.74	-3.12	-151.13	-0.25	-42.23
	43	2.42	289.91	-3.24	-110.11	-0.19	-42.18
	44	-0.25	309.64	-2.30	-112.16	0.01	6.90
	45	-0.25	291.91	-2.22	-138.77	-0.04	6.88
	46	0.64	286.91	-2.29	-107.25	0.00	-5.96
	47	0.41	274.98	-2.19	-120.73	-0.06	-2.67
	48	0.61	283.50	-2.39	-116.44	0.04	-5.52
	49	0.39	272.44	-2.54	-154.31	0.10	-2.34
	50	-0.25	231.88	-2.30	-111.69	0.01	6.83
	51	-0.25	289.06	-2.42	-70.67	0.07	6.88
	52	2.54	311.54	2.17	4.09	0.02	-44.41
	53	2.55	293.82	2.25	-22.52	-0.02	-44.43
	54	3.44	288.82	2.18	9.00	0.02	-57.27
	55	3.21	276.88	2.29	-4.48	-0.04	-53.98
	56	3.41	285.40	2.09	-0.19	0.06	-56.83
	57	3.19	274.34	1.93	-38.06	0.12	-53.66

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	58	2.55	233.79	2.17	4.56	0.02	-44.48
	59	2.55	290.96	2.05	45.58	0.09	-44.43
	60	1.64	215.74	-2.53	-103.23	0.01	-28.00
	61	4.16	217.46	1.50	1.39	0.02	-74.18
	62	0.93	278.58	-4.82	-188.82	-0.24	-15.05
	63	0.93	262.63	-4.75	-212.78	-0.28	-15.06
	64	1.73	258.13	-4.81	-184.40	-0.24	-26.62
	65	1.53	247.39	-4.72	-196.54	-0.29	-23.66
	66	1.71	255.06	-4.90	-192.68	-0.20	-26.22
	67	1.51	245.10	-5.04	-226.76	-0.15	-23.37
	68	0.94	208.60	-4.82	-188.40	-0.24	-15.11
	69	0.93	260.06	-4.93	-151.48	-0.18	-15.06
	70	3.45	280.30	-0.79	-84.20	-0.22	-61.23
	71	3.45	264.35	-0.72	-108.15	-0.26	-61.24
	72	4.25	259.85	-0.78	-79.78	-0.23	-72.80
	73	4.05	249.10	-0.69	-91.92	-0.28	-69.84
	74	4.22	256.77	-0.87	-88.05	-0.19	-72.41
	75	4.03	246.82	-1.01	-122.14	-0.14	-69.55
	76	3.45	210.32	-0.79	-83.78	-0.22	-61.29
	77	3.45	261.77	-0.90	-46.86	-0.16	-61.24
23	1	-0.49	253.72	-0.02	-51.65	0.06	7.14
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	-0.15	-7.64	-0.01	-2.06	0.04	2.24
	5	0.11	72.95	0.01	-9.76	-0.04	-1.57
	6	0.03	21.96	0.00	-2.96	-0.01	-0.47
	7	0.08	54.32	0.04	-35.78	-0.15	-1.17
	8	0.02	16.28	0.01	-10.79	-0.04	-0.35
	9	-0.81	48.28	0.01	-5.09	-0.05	11.72
	10	-0.25	14.60	0.00	-1.56	-0.02	3.54
	11	-0.60	35.92	0.05	-18.68	-0.20	8.72
	12	-0.18	10.80	0.02	-5.61	-0.06	2.62
	13	-0.10	90.59	0.02	-12.60	0.05	1.51
	14	-0.03	27.40	0.01	-3.87	0.01	0.46
	15	-0.08	67.40	0.09	-46.25	0.17	1.12
	16	-0.02	20.27	0.03	-13.89	0.05	0.34
	17	-0.01	-9.02	0.01	-9.31	-0.04	0.19
	18	0.00	-2.75	0.00	-2.81	-0.01	0.06
	19	0.08	51.38	-0.03	30.90	0.13	-1.11
	20	0.02	15.30	-0.01	9.17	0.04	-0.33
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.39	0.12	-0.05	-0.93	0.00	-22.81
	23	2.61	0.45	-0.62	-17.86	-0.01	-47.81
	24	0.82	0.07	-0.32	-10.74	-0.09	-15.05
	25	0.00	0.00	-3.01	-99.79	-0.86	0.00
	26	-5.32	-4.04	-2.79	-72.46	-0.02	97.35
	27	0.88	364.15	-0.06	-67.35	0.04	-15.48
	28	0.85	339.83	-0.02	-101.21	-0.10	-14.95

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	29	-0.32	332.11	-0.06	-61.29	0.03	1.83
	30	-0.05	315.95	-0.01	-78.93	-0.16	-2.09
	31	0.61	387.22	-0.04	-71.11	0.16	-11.47
	32	0.64	356.90	0.04	-114.78	0.32	-11.98
	33	0.72	257.47	-0.06	-66.76	0.05	-13.18
	34	0.84	335.91	-0.12	-14.58	0.26	-14.87
	35	2.81	221.86	-0.55	-56.35	0.04	-50.79
	36	1.99	291.48	-2.86	-146.60	-0.72	-35.90
	37	1.96	272.03	-2.83	-173.68	-0.84	-35.48
	38	1.03	265.85	-2.86	-141.75	-0.74	-22.05
	39	1.25	252.93	-2.82	-155.86	-0.89	-25.19
	40	1.77	309.94	-2.85	-149.60	-0.63	-32.70
	41	1.80	285.69	-2.78	-184.54	-0.50	-33.10
	42	1.86	206.14	-2.86	-146.13	-0.72	-34.06
	43	1.96	268.89	-2.91	-104.38	-0.55	-35.41
	44	-3.55	288.09	-2.28	-111.85	0.02	65.50
	45	-3.58	268.64	-2.25	-138.94	-0.09	65.92
	46	-4.51	262.46	-2.27	-107.00	0.00	79.34
	47	-4.30	249.53	-2.23	-121.11	-0.15	76.21
	48	-3.78	306.55	-2.26	-114.86	0.11	68.70
	49	-3.75	282.30	-2.19	-149.79	0.24	68.30
	50	-3.68	202.75	-2.28	-111.38	0.02	67.34
	51	-3.59	265.50	-2.33	-69.63	0.19	65.98
	52	4.96	294.55	2.18	4.09	0.05	-90.26
	53	4.94	275.09	2.21	-23.00	-0.06	-89.84
	54	4.01	268.92	2.18	8.94	0.04	-76.41
	55	4.22	255.99	2.22	-5.17	-0.11	-79.55
	56	4.74	313.01	2.19	1.08	0.14	-87.06
	57	4.77	288.75	2.26	-33.85	0.27	-87.46
	58	4.84	209.20	2.18	4.56	0.05	-88.42
	59	4.93	271.96	2.13	46.31	0.23	-89.77
	60	-1.31	196.77	-2.50	-102.89	0.02	24.38
	61	6.36	202.58	1.51	1.46	0.05	-115.80
	62	-2.03	259.43	-4.59	-184.18	-0.67	37.59
	63	-2.06	241.92	-4.56	-208.56	-0.77	37.97
	64	-2.90	236.36	-4.58	-179.82	-0.68	50.05
	65	-2.70	224.73	-4.55	-192.52	-0.81	47.23
	66	-2.23	276.05	-4.57	-186.89	-0.58	40.47
	67	-2.21	254.22	-4.51	-218.33	-0.47	40.11
	68	-2.15	182.62	-4.59	-183.76	-0.66	39.24
	69	-2.06	239.10	-4.63	-146.18	-0.51	38.03
	70	5.64	265.24	-0.57	-79.84	-0.64	-102.59
	71	5.61	247.73	-0.55	-104.21	-0.74	-102.21
	72	4.77	242.17	-0.57	-75.47	-0.65	-90.13
	73	4.97	230.54	-0.53	-88.17	-0.78	-92.95
	74	5.44	281.86	-0.56	-82.54	-0.55	-99.71
	75	5.46	260.03	-0.50	-113.98	-0.44	-100.07
	76	5.52	188.43	-0.57	-79.41	-0.63	-100.94

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	77	5.61	244.91	-0.62	-41.84	-0.48	-102.15
26	1	2.86	336.94	0.06	-50.79	0.07	-41.24
	2	0.00	6.13	0.00	0.00	0.00	0.00
	3	0.00	18.72	0.00	0.00	0.00	0.00
	4	1.13	36.59	0.04	-1.48	0.05	-16.30
	5	-0.97	27.98	-0.04	-10.35	-0.05	14.01
	6	-0.29	8.43	-0.01	-3.14	-0.01	4.22
	7	-0.72	20.84	-0.14	-37.97	-0.18	10.43
	8	-0.22	6.24	-0.04	-11.45	-0.05	3.13
	9	0.05	-3.58	-0.05	-5.89	-0.07	-0.73
	10	0.02	-1.08	-0.02	-1.81	-0.02	-0.22
	11	0.04	-2.67	-0.19	-21.61	-0.24	-0.55
	12	0.01	-0.80	-0.06	-6.49	-0.07	-0.16
	13	0.25	87.48	0.03	-12.66	0.05	-3.59
	14	0.08	26.46	0.01	-3.89	0.02	-1.09
	15	0.19	65.08	0.11	-46.48	0.20	-2.67
	16	0.06	19.58	0.03	-13.96	0.06	-0.80
	17	0.12	-3.46	-0.04	-9.88	-0.05	-1.73
	18	0.04	-1.05	-0.01	-2.98	-0.01	-0.53
	19	-0.68	19.71	0.12	32.79	0.16	9.86
	20	-0.20	5.87	0.04	9.73	0.05	2.94
	21	0.00	-1.82	0.00	0.00	0.00	0.00
	22	1.37	-0.31	-0.05	-0.93	0.00	-22.55
	23	2.51	-2.04	-0.62	-17.82	0.00	-46.34
	24	0.79	-0.76	-0.27	-9.70	-0.13	-14.58
	25	0.00	0.00	-2.53	-90.06	-1.17	0.00
	26	-8.46	5.23	-2.77	-72.25	-0.01	156.32
	27	4.10	432.65	-0.01	-66.69	0.05	-61.86
	28	4.42	423.32	-0.14	-102.62	-0.12	-66.53
	29	5.43	391.57	-0.02	-60.89	0.03	-81.04
	30	5.41	392.77	-0.20	-81.30	-0.19	-80.79
	31	5.69	510.17	0.09	-69.75	0.19	-84.77
	32	5.60	480.90	0.19	-113.64	0.37	-83.56
	33	5.52	391.73	0.00	-66.07	0.06	-82.34
	34	4.47	421.82	0.21	-10.68	0.32	-67.28
	35	5.39	286.09	-0.49	-55.63	0.05	-88.10
	36	4.51	345.02	-2.40	-137.44	-0.99	-72.28
	37	4.77	337.56	-2.51	-166.18	-1.13	-76.01
	38	5.57	312.16	-2.41	-132.80	-1.01	-87.62
	39	5.56	313.12	-2.56	-149.12	-1.19	-87.42
	40	5.78	407.04	-2.32	-139.88	-0.89	-90.60
	41	5.72	383.62	-2.24	-175.00	-0.74	-89.64
	42	5.65	312.28	-2.39	-136.94	-0.99	-88.66
	43	4.81	336.35	-2.23	-92.63	-0.78	-76.61
	44	-3.49	350.30	-2.22	-111.16	0.04	75.57
	45	-3.23	342.84	-2.33	-139.90	-0.10	71.84
	46	-2.43	317.44	-2.24	-106.51	0.02	60.23
	47	-2.44	318.40	-2.38	-122.84	-0.16	60.42

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	48	-2.22	412.32	-2.15	-113.60	0.14	57.25
	49	-2.29	388.90	-2.07	-148.71	0.29	58.21
	50	-2.36	317.56	-2.22	-110.65	0.04	59.18
	51	-3.19	341.63	-2.05	-66.35	0.25	71.23
	52	10.05	341.94	2.22	4.45	0.05	-174.55
	53	10.30	334.48	2.11	-24.30	-0.09	-178.28
	54	11.11	309.08	2.20	9.09	0.03	-189.89
	55	11.10	310.04	2.06	-7.24	-0.15	-189.70
	56	11.32	403.96	2.29	2.00	0.16	-192.87
	57	11.25	380.54	2.37	-33.11	0.30	-191.91
	58	11.18	309.20	2.22	4.95	0.05	-190.94
	59	10.35	333.27	2.39	49.25	0.26	-178.89
	60	-1.24	261.24	-2.44	-102.09	0.04	33.26
	61	10.94	253.72	1.56	1.95	0.06	-191.84
	62	-2.02	314.27	-4.16	-175.79	-0.90	47.32
	63	-1.79	307.56	-4.26	-201.66	-1.02	43.96
	64	-1.06	284.70	-4.17	-171.61	-0.92	33.51
	65	-1.08	285.56	-4.30	-186.30	-1.08	33.69
	66	-0.88	370.09	-4.09	-177.99	-0.80	30.83
	67	-0.94	349.01	-4.02	-209.59	-0.67	31.70
	68	-1.00	284.81	-4.16	-175.34	-0.90	32.57
	69	-1.75	306.47	-4.00	-135.46	-0.71	43.42
	70	10.16	306.75	-0.16	-71.75	-0.89	-177.79
	71	10.39	300.03	-0.26	-97.62	-1.01	-181.15
	72	11.12	277.17	-0.17	-67.57	-0.90	-191.60
	73	11.11	278.04	-0.30	-82.26	-1.07	-191.42
	74	11.31	362.56	-0.10	-73.95	-0.79	-194.28
	75	11.25	341.48	-0.02	-105.55	-0.66	-193.41
	76	11.18	277.28	-0.16	-71.30	-0.89	-192.53
	77	10.43	298.95	-0.01	-31.42	-0.70	-181.69

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
1	1	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	180.15	0.00	-32.84	0.00	-741.34
	2	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	3	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	4	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	29.71	0.00	-5.76	0.00	-122.26
	5	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	6	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	7	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	8	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	9	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	10	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	11	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	12	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	13	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	40.82	0.00	-7.24	0.00	-167.98
	14	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	12.34	0.00	-2.22	0.00	-50.80
	15	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	30.37	0.00	-26.58	0.00	-124.97
	16	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	9.14	0.00	-7.98	0.00	-37.59
	17	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	18	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	19	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	20	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	21	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	22	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	1.19	0.00	-0.29	-0.79	-1.19	0.00
	24	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	25	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	26	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	-1.29	0.00	-5.32	0.00
	27	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	28	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	29	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	30	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	31	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	263.03	0.00	-48.06	0.00	-1082.37
	32	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	249.37	0.00	-73.16	0.00	-1026.15
	33	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	34	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	209.86	0.00	-38.60	0.00	-863.59
	35	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.95	144.12	-0.23	-26.90	-0.95	-593.07
	36	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	37	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	38	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	39	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	40	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	210.42	-0.07	-38.64	-0.28	-865.90
	41	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	199.50	-0.07	-58.72	-0.28	-820.92
	42	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	43	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.29	167.89	-0.07	-31.07	-0.28	-690.88
	44	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88
	45	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88
	46	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88
	48	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	210.42	-1.03	-38.45	-4.25	-865.90
	49	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	199.50	-1.03	-58.53	-4.25	-820.92
	50	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88
	51	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	-1.03	-30.88	-4.25	-690.88
	52	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	53	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	54	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	55	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	56	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	210.42	1.03	-38.45	4.25	-865.90
	57	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	199.50	1.03	-58.53	4.25	-820.92
	58	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	59	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	167.89	1.03	-30.88	4.25	-690.88
	60	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.86	129.71	-1.14	-24.21	-4.68	-533.76
	61	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.86	129.71	0.72	-24.21	2.97	-533.76
	62	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	63	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	64	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	65	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	66	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	189.38	-0.99	-34.78	-4.09	-779.31
	67	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	179.55	-0.99	-52.85	-4.09	-738.83
	68	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	69	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	-0.99	-27.96	-4.09	-621.79
	70	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79
	72	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79
	73	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79
	74	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	189.38	0.87	-34.78	3.57	-779.31
	75	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	179.55	0.87	-52.85	3.57	-738.83
	76	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79
	77	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.26	151.10	0.87	-27.96	3.57	-621.79
2	1	2	-2.86	156.78	0.06	-19.42	-0.07	708.17
		3	2.86	118.62	-0.06	-29.18	-0.94	-364.66
	2	2	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00
	3	2	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00
	4	2	-1.13	6.87	0.04	3.29	-0.05	109.15
		3	1.13	-6.87	-0.04	-3.29	-0.64	14.60
	5	2	0.97	27.98	-0.04	-9.33	0.05	11.27
		3	-0.97	38.98	0.04	-2.55	0.66	-110.19
	6	2	0.29	8.43	-0.01	-2.83	0.01	3.39
		3	-0.29	11.73	0.01	-0.77	0.20	-33.17
	7	2	0.72	20.84	-0.14	-34.22	0.18	8.39
		3	-0.72	29.02	0.14	-9.34	2.41	-82.05
	8	2	0.22	6.24	-0.04	-10.32	0.05	2.51
		3	-0.22	8.70	0.04	-2.82	0.73	-24.58
	9	2	-0.05	-3.58	-0.05	-4.52	0.07	-0.58
		3	0.05	3.58	0.05	4.52	0.88	-63.90
	10	2	-0.02	-1.08	-0.02	-1.39	0.02	-0.17
		3	0.02	1.08	0.02	1.39	0.27	-19.33
	11	2	-0.04	-2.67	-0.19	-16.61	0.24	-0.43
		3	0.04	2.67	0.19	16.61	3.22	-47.54
	12	2	-0.01	-0.80	-0.06	-4.99	0.07	-0.13
		3	0.01	0.80	0.06	4.99	0.97	-14.30
	13	2	-0.25	46.66	0.03	-6.21	-0.05	165.08
		3	0.25	42.62	-0.03	-9.63	-0.49	-128.74
	14	2	-0.08	14.11	0.01	-1.91	-0.02	49.92
		3	0.08	12.89	-0.01	-2.95	-0.15	-38.93
	15	2	-0.19	34.71	0.11	-22.79	-0.20	122.81
		3	0.19	31.71	-0.11	-35.35	-1.81	-95.78
	16	2	-0.06	10.44	0.03	-6.84	-0.06	36.94
		3	0.06	9.54	-0.03	-10.62	-0.54	-28.81

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	2	-0.12	-3.46	-0.04	-8.91	0.05	-1.39
		3	0.12	-4.82	0.04	-2.43	0.63	13.63
	18	2	-0.04	-1.05	-0.01	-2.69	0.01	-0.42
		3	0.04	-1.47	0.01	-0.73	0.19	4.15
	19	2	0.68	19.71	0.12	29.56	-0.16	7.93
		3	-0.68	27.45	-0.12	8.06	-2.08	-77.60
	20	2	0.20	5.87	0.04	8.77	-0.05	2.36
		3	-0.20	8.17	-0.04	2.39	-0.62	-23.10
	21	2	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00
	22	2	-0.01	0.31	0.00	0.00	0.00	3.48
		3	0.01	-0.31	0.00	0.00	0.00	2.11
	23	2	1.32	1.69	-0.33	-0.92	1.19	18.96
		3	1.29	-1.69	-0.30	-0.80	-0.90	11.49
	24	2	0.79	0.53	-0.27	-2.64	0.13	5.96
		3	0.18	-0.53	-0.11	-0.24	1.36	3.62
	25	2	0.00	0.00	-2.53	-24.17	1.17	0.00
		3	0.00	0.00	-0.99	-2.11	12.68	0.00
	26	2	8.46	5.23	-1.48	-0.08	5.33	63.74
		3	-8.46	-5.23	-1.34	0.08	-4.07	30.33
	27	2	-2.74	200.38	0.04	-28.29	-0.05	835.46
		3	2.74	162.14	-0.04	-35.79	-0.73	-491.31
	28	2	-3.06	191.05	-0.09	-60.68	0.12	831.70
		3	3.06	149.15	0.09	-44.62	1.56	-454.58
	29	2	-4.07	159.30	0.03	-22.04	-0.03	820.05
		3	4.07	116.10	-0.03	-26.56	-0.44	-431.18
	30	2	-4.05	160.50	-0.16	-37.73	0.19	820.24
		3	4.05	114.90	0.16	-10.87	2.60	-409.79
	31	2	-4.33	224.74	0.13	-24.24	-0.19	1035.81
		3	4.33	166.94	-0.13	-45.06	-2.23	-515.62
	32	2	-4.24	209.12	0.24	-45.76	-0.37	980.56
		3	4.24	152.68	-0.24	-78.44	-3.93	-472.53
	33	2	-4.16	159.46	0.05	-27.73	-0.06	818.98
		3	4.16	105.14	-0.05	-35.63	-0.77	-330.18
	34	2	-3.11	189.55	0.26	22.19	-0.32	831.10
		3	3.11	147.05	-0.26	-22.01	-4.28	-448.66
	35	2	-1.24	127.03	-0.22	-16.28	0.89	584.49
		3	3.33	93.29	-0.28	-23.99	-1.48	-280.84
	36	2	-1.24	161.14	-2.29	-44.30	1.28	677.69
		3	2.65	128.88	-0.99	-30.70	10.43	-387.39
	37	2	-1.50	153.67	-2.40	-70.21	1.41	674.68
		3	2.91	118.49	-0.88	-37.77	12.26	-358.01
	38	2	-2.31	128.27	-2.30	-39.30	1.30	665.36
		3	3.71	92.05	-0.97	-23.32	10.66	-339.29
	39	2	-2.29	129.23	-2.45	-51.85	1.48	665.51
		3	3.70	91.09	-0.83	-10.77	13.10	-322.18
	40	2	-2.51	180.62	-2.22	-41.06	1.17	837.96
		3	3.92	132.72	-1.06	-38.12	9.23	-406.84

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	2	-2.45	168.13	-2.13	-58.28	1.02	793.77
		3	3.85	121.31	-1.14	-64.82	7.87	-372.37
	42	2	-2.38	128.40	-2.29	-43.85	1.28	664.51
		3	3.78	83.28	-0.99	-30.58	10.40	-258.49
	43	2	-1.54	152.47	-2.12	-3.91	1.06	674.20
		3	2.95	116.81	-1.16	-19.69	7.59	-353.27
	44	2	4.58	164.48	-1.15	-22.70	4.22	719.36
		3	-4.58	125.53	-1.11	-28.57	-3.84	-368.78
	45	2	4.32	157.02	-1.26	-48.60	4.35	716.35
		3	-4.32	115.14	-1.00	-35.64	-2.01	-339.40
	46	2	3.51	131.62	-1.17	-17.70	4.23	707.03
		3	-3.51	88.70	-1.10	-21.18	-3.61	-320.68
	47	2	3.53	132.58	-1.31	-30.24	4.42	707.18
		3	-3.53	87.74	-0.95	-8.64	-1.18	-303.57
	48	2	3.31	183.97	-1.08	-19.46	4.11	879.63
		3	-3.31	129.37	-1.18	-35.98	-5.04	-388.23
	49	2	3.37	171.48	-0.99	-36.67	3.96	835.43
		3	-3.37	117.96	-1.27	-62.69	-6.40	-353.76
	50	2	3.44	131.75	-1.15	-22.24	4.21	706.18
		3	-3.44	79.93	-1.11	-28.44	-3.87	-239.88
	51	2	4.28	155.82	-0.98	17.69	4.00	715.87
		3	-4.28	113.46	-1.28	-17.55	-6.68	-334.66
	52	2	-8.96	156.12	1.22	-22.57	-4.30	617.38
		3	8.96	133.89	1.04	-28.69	2.68	-417.31
	53	2	-9.22	148.66	1.11	-48.48	-4.17	614.37
		3	9.22	123.50	1.15	-35.76	4.50	-387.93
	54	2	-10.02	123.26	1.21	-17.57	-4.29	605.05
		3	10.02	97.06	1.05	-21.31	2.91	-369.21
	55	2	-10.01	124.22	1.06	-30.12	-4.10	605.20
		3	10.01	96.10	1.20	-8.76	5.34	-352.10
	56	2	-10.23	175.61	1.29	-19.33	-4.41	777.65
		3	10.23	137.73	0.97	-36.11	1.48	-436.76
	57	2	-10.16	163.12	1.38	-36.55	-4.56	733.45
		3	10.16	126.32	0.88	-62.81	0.11	-402.29
	58	2	-10.10	123.38	1.22	-22.12	-4.31	604.20
		3	10.10	88.30	1.04	-28.57	2.64	-288.41
	59	2	-9.26	147.46	1.39	17.82	-4.52	613.89
		3	9.26	121.82	0.87	-17.67	-0.17	-383.19
	60	2	4.97	118.09	-1.27	-14.70	4.64	571.93
		3	-3.09	80.20	-1.22	-21.53	-4.26	-230.92
	61	2	-7.21	110.56	0.87	-14.59	-3.03	480.15
		3	9.09	87.72	0.71	-21.64	1.60	-274.60
	62	2	4.98	148.79	-3.13	-39.93	4.99	655.88
		3	-3.70	112.22	-1.86	-27.58	6.46	-326.77
	63	2	4.75	142.07	-3.23	-63.25	5.11	653.18
		3	-3.47	102.87	-1.76	-33.94	8.10	-300.33
	64	2	4.02	119.22	-3.14	-35.43	5.00	644.79
		3	-2.75	79.07	-1.84	-20.94	6.66	-283.48

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	2	4.03	120.08	-3.27	-46.72	5.17	644.93
		3	-2.76	78.21	-1.71	-9.64	8.85	-268.08
	66	2	3.83	166.33	-3.06	-37.02	4.89	800.13
		3	-2.56	115.68	-1.92	-34.25	5.38	-344.28
	67	2	3.89	155.09	-2.99	-52.51	4.76	760.36
		3	-2.62	105.41	-2.00	-58.29	4.15	-313.25
	68	2	3.96	119.33	-3.13	-39.52	4.99	644.02
		3	-2.68	71.19	-1.86	-27.47	6.43	-210.76
	69	2	4.71	140.99	-2.98	-3.58	4.80	652.74
		3	-3.43	101.36	-2.01	-17.67	3.90	-296.06
	70	2	-7.21	141.27	-0.99	-39.82	-2.68	564.10
		3	8.48	119.75	0.08	-27.69	12.32	-370.45
	71	2	-7.44	134.55	-1.09	-63.14	-2.56	561.40
		3	8.71	110.39	0.18	-34.05	13.96	-344.00
	72	2	-8.16	111.69	-1.01	-35.32	-2.66	553.01
		3	9.44	86.60	0.09	-21.05	12.53	-327.15
	73	2	-8.15	112.55	-1.14	-46.61	-2.50	553.15
		3	9.42	85.73	0.22	-9.76	14.71	-311.75
	74	2	-8.35	158.80	-0.93	-36.91	-2.78	708.35
		3	9.62	123.20	0.01	-34.37	11.24	-387.95
	75	2	-8.29	147.56	-0.85	-52.40	-2.91	668.57
		3	9.56	112.93	-0.06	-58.40	10.01	-356.93
	76	2	-8.23	111.80	-0.99	-39.41	-2.68	552.24
		3	9.50	78.71	0.08	-27.58	12.29	-254.43
	77	2	-7.48	133.47	-0.84	-3.47	-2.87	560.96
		3	8.75	108.89	-0.08	-17.78	9.76	-339.74
3	1	3	-2.37	135.11	0.04	-22.06	0.89	370.32
		4	2.37	140.29	-0.04	-26.54	-1.62	-416.98
	2	3	0.00	0.00	0.00	0.00	0.00	0.00
		4	0.00	0.00	0.00	0.00	0.00	0.00
	3	3	0.00	0.00	0.00	0.00	0.00	0.00
		4	0.00	0.00	0.00	0.00	0.00	0.00
	4	3	-0.98	-0.76	0.03	1.51	0.60	-12.82
		4	0.98	0.76	-0.03	-1.51	-1.09	-0.93
	5	3	0.86	33.98	-0.03	-7.50	-0.62	108.95
		4	-0.86	32.98	0.03	-4.38	1.13	-100.02
	6	3	0.26	10.23	-0.01	-2.27	-0.19	32.80
		4	-0.26	9.93	0.01	-1.33	0.34	-30.11
	7	3	0.64	25.30	-0.10	-27.49	-2.26	81.12
		4	-0.64	24.56	0.10	-16.07	4.13	-74.47
	8	3	0.19	7.58	-0.03	-8.29	-0.68	24.31
		4	-0.19	7.36	0.03	-4.85	1.25	-22.32
	9	3	0.76	44.70	-0.04	-10.00	-0.82	73.31
		4	-0.76	44.58	0.04	-5.84	1.50	-72.31
	10	3	0.23	13.52	-0.01	-3.07	-0.25	22.17
		4	-0.23	13.48	0.01	-1.79	0.46	-21.87

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	3	0.57	33.25	-0.14	-36.69	-3.02	54.54
		4	-0.57	33.17	0.14	-21.45	5.51	-53.80
	12	3	0.17	10.00	-0.04	-11.02	-0.91	16.41
		4	-0.17	9.98	0.04	-6.44	1.65	-16.18
	13	3	-0.15	47.97	0.06	-3.62	0.45	129.94
		4	0.15	41.31	-0.06	-12.22	-1.44	-69.95
	14	3	-0.04	14.51	0.02	-1.11	0.14	39.30
		4	0.04	12.49	-0.02	-3.75	-0.44	-21.16
	15	3	-0.11	35.69	0.20	-13.28	1.63	96.67
		4	0.11	30.73	-0.20	-44.86	-5.28	-52.04
	16	3	-0.03	10.74	0.06	-3.99	0.49	29.08
		4	0.03	9.24	-0.06	-13.47	-1.59	-15.65
	17	3	-0.11	-4.20	-0.03	-7.16	-0.59	-13.47
		4	0.11	-4.08	0.03	-4.18	1.07	12.37
	18	3	-0.03	-1.28	-0.01	-2.16	-0.18	-4.10
		4	0.03	-1.24	0.01	-1.26	0.32	3.76
	19	3	0.61	23.93	0.09	23.74	1.95	76.73
		4	-0.61	23.23	-0.09	13.88	-3.56	-70.44
	20	3	0.18	7.12	0.03	7.04	0.58	22.84
		4	-0.18	6.92	-0.03	4.12	-1.06	-20.97
	21	3	0.00	0.00	0.00	0.00	0.00	0.00
		4	0.00	0.00	0.00	0.00	0.00	0.00
	22	3	0.00	0.19	0.00	0.00	0.00	1.59
		4	0.00	-0.19	0.00	0.00	0.00	1.81
	23	3	1.32	1.03	-0.32	-0.90	0.90	8.64
		4	1.29	-1.03	-0.31	-0.83	-0.78	9.85
	24	3	0.64	0.32	-0.22	-2.12	-1.27	2.72
		4	0.33	-0.32	-0.16	-0.76	1.76	3.10
	25	3	0.00	0.00	-2.02	-19.40	-11.82	0.00
		4	0.00	0.00	-1.51	-6.88	16.34	0.00
	26	3	13.79	1.19	-1.44	-0.07	4.09	10.82
		4	-13.79	-1.19	-1.38	0.07	-3.56	10.62
	27	3	-2.23	178.74	0.03	-30.32	0.68	500.83
		4	2.23	183.78	-0.03	-33.76	-1.24	-546.23
	28	3	-2.51	167.41	-0.07	-56.33	-1.46	464.52
		4	2.51	172.79	0.07	-48.97	2.66	-512.89
	29	3	-2.36	192.74	0.02	-33.62	0.41	454.57
		4	2.36	198.94	-0.02	-35.68	-0.75	-510.28
	30	3	-2.61	177.79	-0.11	-68.26	-2.44	430.03
		4	2.61	184.01	0.11	-55.94	4.45	-486.08
	31	3	-3.54	197.01	0.14	-25.28	2.07	528.32
		4	3.54	194.67	-0.14	-44.02	-4.59	-507.21
	32	3	-3.49	180.96	0.33	-37.82	3.61	484.83
		4	3.49	180.84	-0.33	-86.38	-9.58	-483.80
	33	3	-3.49	129.05	0.03	-29.87	0.72	341.51
		4	3.49	135.55	-0.03	-33.49	-1.31	-399.97
	34	3	-2.56	165.59	0.18	10.23	4.02	458.66
		4	2.56	171.01	-0.18	-10.05	-7.33	-507.51

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	3	-0.84	109.06	-0.23	-18.37	1.43	304.44
		4	2.93	111.26	-0.28	-21.89	-1.92	-324.26
	36	3	-0.95	143.50	-1.84	-41.68	-9.71	404.92
		4	2.36	146.52	-1.44	-33.32	13.30	-432.14
	37	3	-1.18	134.44	-1.92	-62.49	-11.42	375.86
		4	2.59	137.72	-1.36	-45.49	16.42	-405.47
	38	3	-1.06	154.70	-1.85	-44.32	-9.93	367.91
		4	2.46	158.64	-1.43	-34.86	13.69	-403.38
	39	3	-1.26	142.73	-1.95	-72.03	-12.21	348.28
		4	2.66	146.71	-1.32	-51.07	17.85	-384.02
	40	3	-2.00	158.12	-1.75	-37.65	-8.60	426.90
		4	3.41	155.23	-1.53	-41.53	10.62	-400.92
	41	3	-1.96	145.27	-1.60	-47.68	-7.37	392.11
		4	3.37	144.17	-1.68	-75.42	6.63	-382.19
	42	3	-1.96	103.75	-1.84	-41.32	-9.68	277.46
		4	3.37	107.93	-1.44	-33.11	13.24	-315.13
	43	3	-1.22	132.97	-1.71	-9.24	-7.04	371.18
		4	2.62	136.31	-1.56	-14.35	8.42	-401.16
	44	3	9.25	143.94	-1.13	-24.32	3.82	409.32
		4	-9.25	146.07	-1.13	-26.95	-3.84	-428.49
	45	3	9.02	134.88	-1.21	-45.13	2.11	380.27
		4	-9.02	137.28	-1.05	-39.11	-0.72	-401.82
	46	3	9.14	155.15	-1.14	-26.95	3.60	372.31
		4	-9.14	158.20	-1.12	-28.49	-3.44	-399.73
	47	3	8.94	143.18	-1.24	-54.67	1.32	352.68
		4	-8.94	146.26	-1.02	-44.69	0.72	-380.37
	48	3	8.20	158.56	-1.04	-20.28	4.93	431.31
		4	-8.20	154.78	-1.22	-35.16	-6.52	-397.27
	49	3	8.24	145.72	-0.89	-30.32	6.16	396.52
		4	-8.24	143.72	-1.37	-69.04	-10.51	-378.54
	50	3	8.24	104.19	-1.13	-23.95	3.85	281.87
		4	-8.24	107.49	-1.13	-26.73	-3.89	-311.48
	51	3	8.98	133.42	-1.01	8.12	6.49	375.58
		4	-8.98	135.86	-1.25	-7.98	-8.71	-397.52
	52	3	-12.81	142.04	1.18	-24.20	-2.73	392.01
		4	12.81	147.98	1.08	-27.07	1.85	-445.48
	53	3	-13.04	132.98	1.10	-45.01	-4.44	362.96
		4	13.04	139.18	1.16	-39.23	4.98	-418.81
	54	3	-12.91	153.24	1.17	-26.83	-2.95	355.00
		4	12.91	160.10	1.09	-28.61	2.25	-416.72
	55	3	-13.12	141.28	1.06	-54.55	-5.23	335.37
		4	13.12	148.16	1.20	-44.81	6.41	-397.36
	56	3	-13.86	156.66	1.27	-20.16	-1.62	414.00
		4	13.86	156.69	0.99	-35.28	-0.83	-414.26
	57	3	-13.82	143.81	1.42	-30.20	-0.39	379.21
		4	13.82	145.63	0.84	-69.16	-4.82	-395.53
	58	3	-13.82	102.29	1.18	-23.83	-2.70	264.56
		4	13.82	109.39	1.08	-26.85	1.80	-328.47

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	3	-13.08	131.52	1.30	8.24	-0.06	358.27
		4	13.08	137.76	0.96	-8.10	-3.02	-414.50
	60	3	9.17	99.01	-1.24	-16.59	4.24	281.79
		4	-7.29	99.28	-1.25	-19.65	-4.29	-284.19
	61	3	-10.68	97.30	0.84	-16.48	-1.66	266.21
		4	12.56	100.99	0.74	-19.76	0.84	-299.48
	62	3	9.07	130.01	-2.69	-37.57	-5.79	372.25
		4	-7.80	131.01	-2.29	-29.94	9.40	-381.24
	63	3	8.87	121.85	-2.76	-56.30	-7.33	346.10
		4	-7.59	123.09	-2.22	-40.89	12.21	-357.24
	64	3	8.98	140.09	-2.70	-39.95	-5.98	338.94
		4	-7.71	141.92	-2.28	-31.33	9.76	-355.36
	65	3	8.80	129.32	-2.80	-64.89	-8.04	321.27
		4	-7.52	131.17	-2.19	-45.91	13.50	-337.93
	66	3	8.13	143.17	-2.62	-33.94	-4.79	392.04
		4	-6.86	138.84	-2.37	-37.33	6.99	-353.15
	67	3	8.16	131.61	-2.48	-42.97	-3.68	360.73
		4	-6.89	128.89	-2.51	-67.83	3.40	-336.29
	68	3	8.17	94.23	-2.69	-37.25	-5.76	257.54
		4	-6.89	96.28	-2.29	-29.75	9.35	-275.93
	69	3	8.83	120.54	-2.58	-8.38	-3.39	341.89
		4	-7.56	121.81	-2.40	-12.87	5.02	-353.36
	70	3	-10.78	128.29	-0.62	-37.47	-11.68	356.67
		4	12.05	132.72	-0.30	-30.05	14.52	-396.53
	71	3	-10.98	120.14	-0.69	-56.19	-13.22	330.52
		4	12.26	124.81	-0.23	-41.00	17.34	-372.52
	72	3	-10.87	138.38	-0.62	-39.84	-11.88	323.36
		4	12.15	143.63	-0.29	-31.43	14.88	-370.65
	73	3	-11.05	127.61	-0.72	-64.78	-13.93	305.69
		4	12.33	132.89	-0.20	-46.02	18.63	-353.22
	74	3	-11.72	141.45	-0.54	-33.84	-10.68	376.46
		4	13.00	140.56	-0.38	-37.43	12.11	-368.43
	75	3	-11.69	129.89	-0.40	-42.86	-9.57	345.15
		4	12.96	130.61	-0.52	-67.94	8.52	-351.58
	76	3	-11.69	92.52	-0.61	-37.14	-11.66	241.96
		4	12.96	97.99	-0.30	-29.86	14.47	-291.22
	77	3	-11.02	118.82	-0.51	-8.27	-9.28	326.31
		4	12.29	123.53	-0.41	-12.98	10.14	-368.65
4	1	4	-2.41	137.70	0.00	-24.30	1.60	416.47
		5	2.41	137.70	0.00	-24.30	-1.60	-416.47
	2	4	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.00	0.00
	3	4	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.00	0.00
	4	4	-0.99	0.00	0.00	0.00	1.08	0.81
		5	0.99	0.00	0.00	0.00	-1.08	-0.81

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	4	0.87	33.48	0.00	-5.94	-1.11	100.07
		5	-0.87	33.48	0.00	-5.94	1.11	-100.07
	6	4	0.26	10.08	0.00	-1.80	-0.34	30.13
		5	-0.26	10.08	0.00	-1.80	0.34	-30.13
	7	4	0.65	24.93	0.00	-21.78	-4.07	74.51
		5	-0.65	24.93	0.00	-21.78	4.07	-74.51
	8	4	0.19	7.47	0.00	-6.57	-1.23	22.33
		5	-0.19	7.47	0.00	-6.57	1.23	-22.33
	9	4	-0.09	0.00	0.00	0.00	-1.48	62.47
		5	0.09	0.00	0.00	0.00	1.48	-62.47
	10	4	-0.03	0.00	0.00	0.00	-0.45	18.89
		5	0.03	0.00	0.00	0.00	0.45	-18.89
	11	4	-0.07	0.00	0.00	0.00	-5.43	46.47
		5	0.07	0.00	0.00	0.00	5.43	-46.47
	12	4	-0.02	0.00	0.00	0.00	-1.63	13.98
		5	0.02	0.00	0.00	0.00	1.63	-13.98
	13	4	-0.97	0.00	0.00	0.00	1.42	60.43
		5	0.97	0.00	0.00	0.00	-1.42	-60.43
	14	4	-0.29	0.00	0.00	0.00	0.44	18.28
		5	0.29	0.00	0.00	0.00	-0.44	-18.28
	15	4	-0.72	0.00	0.00	0.00	5.21	44.96
		5	0.72	0.00	0.00	0.00	-5.21	-44.96
	16	4	-0.22	0.00	0.00	0.00	1.56	13.52
		5	0.22	0.00	0.00	0.00	-1.56	-13.52
	17	4	-0.11	-4.14	0.00	-5.67	-1.06	-12.37
		5	0.11	-4.14	0.00	-5.67	1.06	12.37
	18	4	-0.03	-1.26	0.00	-1.71	-0.32	-3.77
		5	0.03	-1.26	0.00	-1.71	0.32	3.77
	19	4	0.61	23.58	0.00	18.81	3.51	70.48
		5	-0.61	23.58	0.00	18.81	-3.51	-70.48
	20	4	0.18	7.02	0.00	5.58	1.04	20.98
		5	-0.18	7.02	0.00	5.58	-1.04	-20.98
	21	4	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.00	0.00
	22	4	0.00	0.21	0.00	0.00	0.00	1.85
		5	0.00	-0.21	0.00	0.00	0.00	1.85
	23	4	1.30	1.12	-0.31	-0.86	0.78	10.09
		5	1.31	-1.12	-0.31	-0.86	-0.78	10.09
	24	4	0.49	0.35	-0.19	-1.44	-1.72	3.18
		5	0.49	-0.35	-0.19	-1.44	1.72	3.18
	25	4	0.00	0.00	-1.76	-13.14	-16.04	0.00
		5	0.00	0.00	-1.76	-13.14	16.04	0.00
	26	4	15.53	0.00	-1.41	0.00	3.57	2.80
		5	-15.53	0.00	-1.41	0.00	-3.57	-2.80
	27	4	-2.27	181.47	0.00	-32.04	1.23	549.33
		5	2.27	181.05	0.00	-32.04	-1.23	-545.62
	28	4	-2.56	170.31	0.00	-52.65	-2.63	515.97
		5	2.56	169.89	0.00	-52.65	2.63	-512.27

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	4	-3.51	137.91	0.00	-24.30	0.74	500.49
		5	3.51	137.49	0.00	-24.30	-0.74	-496.79
	30	4	-3.48	137.91	0.00	-24.30	-4.39	479.59
		5	3.48	137.49	0.00	-24.30	4.39	-475.88
	31	4	-4.66	137.91	0.00	-24.30	4.53	497.84
		5	4.66	137.49	0.00	-24.30	-4.53	-494.14
	32	4	-4.33	137.91	0.00	-24.30	9.44	477.62
		5	4.33	137.49	0.00	-24.30	-9.44	-473.91
	33	4	-3.54	132.51	0.00	-31.68	1.29	403.00
		5	3.54	132.09	0.00	-31.68	-1.29	-399.29
	34	4	-2.60	168.51	0.00	0.09	7.23	510.59
		5	2.60	168.09	0.00	0.09	-7.23	-506.89
	35	4	-0.89	111.22	-0.25	-20.13	1.90	342.73
		5	2.97	109.10	-0.25	-20.13	-1.90	-323.62
	36	4	-1.11	145.72	-1.64	-37.50	-13.04	444.43
		5	2.52	144.29	-1.64	-37.50	13.04	-431.53
	37	4	-1.34	136.80	-1.64	-53.99	-16.12	417.74
		5	2.75	135.36	-1.64	-53.99	16.12	-404.85
	38	4	-2.11	110.88	-1.64	-31.31	-13.43	405.36
		5	3.51	109.44	-1.64	-31.31	13.43	-392.46
	39	4	-2.09	110.88	-1.64	-31.31	-17.53	388.64
		5	3.49	109.44	-1.64	-31.31	17.53	-375.74
	40	4	-3.02	110.88	-1.64	-31.31	-10.40	403.24
		5	4.43	109.44	-1.64	-31.31	10.40	-390.34
	41	4	-2.77	110.88	-1.64	-31.31	-6.47	387.06
		5	4.17	109.44	-1.64	-31.31	6.47	-374.16
	42	4	-2.13	106.56	-1.64	-37.22	-12.99	327.36
		5	3.53	105.12	-1.64	-37.22	12.99	-314.46
	43	4	-1.38	135.36	-1.64	-11.80	-8.24	413.44
		5	2.79	133.92	-1.64	-11.80	8.24	-400.54
	44	4	10.61	145.17	-1.13	-25.63	3.83	441.71
		5	-10.61	144.84	-1.13	-25.63	-3.83	-438.74
	45	4	10.38	136.24	-1.13	-42.12	0.75	415.02
		5	-10.38	135.92	-1.13	-42.12	-0.75	-412.06
	46	4	9.62	110.32	-1.13	-19.44	3.44	402.64
		5	-9.62	110.00	-1.13	-19.44	-3.44	-399.67
	47	4	9.64	110.32	-1.13	-19.44	-0.66	385.91
		5	-9.64	110.00	-1.13	-19.44	0.66	-382.95
	48	4	8.70	110.32	-1.13	-19.44	6.47	400.52
		5	-8.70	110.00	-1.13	-19.44	-6.47	-397.55
	49	4	8.96	110.32	-1.13	-19.44	10.41	384.34
		5	-8.96	110.00	-1.13	-19.44	-10.41	-381.37
	50	4	9.60	106.00	-1.13	-25.34	3.89	324.64
		5	-9.60	105.68	-1.13	-25.34	-3.89	-321.67
	51	4	10.34	134.80	-1.13	0.07	8.64	410.72
		5	-10.34	134.48	-1.13	0.07	-8.64	-407.75
	52	4	-14.24	145.17	1.13	-25.63	-1.87	437.22
		5	14.24	144.84	1.13	-25.63	1.87	-434.25

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	4	-14.47	136.24	1.13	-42.12	-4.95	410.54
		5	14.47	135.92	1.13	-42.12	4.95	-407.57
	54	4	-15.24	110.32	1.13	-19.44	-2.26	398.15
		5	15.24	110.00	1.13	-19.44	2.26	-395.19
	55	4	-15.21	110.32	1.13	-19.44	-6.37	381.43
		5	15.21	110.00	1.13	-19.44	6.37	-378.46
	56	4	-16.15	110.32	1.13	-19.44	0.77	396.03
		5	16.15	110.00	1.13	-19.44	-0.77	-393.07
	57	4	-15.89	110.32	1.13	-19.44	4.70	379.85
		5	15.89	110.00	1.13	-19.44	-4.70	-376.89
	58	4	-15.26	106.00	1.13	-25.34	-1.82	320.15
		5	15.26	105.68	1.13	-25.34	1.82	-317.19
	59	4	-14.51	134.80	1.13	0.07	2.93	406.23
		5	14.51	134.48	1.13	0.07	-2.93	-403.27
	60	4	10.39	100.10	-1.24	-18.12	4.28	310.48
		5	-8.51	98.19	-1.24	-18.12	-4.28	-293.28
	61	4	-11.98	100.10	0.79	-18.12	-0.86	306.44
		5	13.86	98.19	0.79	-18.12	0.86	-289.24
	62	4	10.19	131.16	-2.49	-33.76	-9.16	402.05
		5	-8.91	129.86	-2.49	-33.76	9.16	-390.36
	63	4	9.98	123.12	-2.49	-48.60	-11.94	378.03
		5	-8.71	121.82	-2.49	-48.60	11.94	-366.34
	64	4	9.29	99.79	-2.49	-28.18	-9.52	366.88
		5	-8.02	98.49	-2.49	-28.18	9.52	-355.19
	65	4	9.31	99.79	-2.49	-28.18	-13.21	351.83
		5	-8.04	98.49	-2.49	-28.18	13.21	-340.14
	66	4	8.47	99.79	-2.49	-28.18	-6.79	364.98
		5	-7.19	98.49	-2.49	-28.18	6.79	-353.29
	67	4	8.70	99.79	-2.49	-28.18	-3.25	350.41
		5	-7.43	98.49	-2.49	-28.18	3.25	-338.73
	68	4	9.27	95.91	-2.49	-33.50	-9.12	296.69
		5	-8.00	94.61	-2.49	-33.50	9.12	-285.00
	69	4	9.95	121.83	-2.49	-10.62	-4.84	374.16
		5	-8.67	120.53	-2.49	-10.62	4.84	-362.47
	70	4	-12.18	131.16	-0.46	-33.76	-14.30	398.01
		5	13.46	129.86	-0.46	-33.76	14.30	-386.32
	71	4	-12.39	123.12	-0.46	-48.60	-17.07	373.99
		5	13.66	121.82	-0.46	-48.60	17.07	-362.30
	72	4	-13.08	99.79	-0.46	-28.18	-14.65	362.85
		5	14.35	98.49	-0.46	-28.18	14.65	-351.16
	73	4	-13.06	99.79	-0.46	-28.18	-18.34	347.79
		5	14.33	98.49	-0.46	-28.18	18.34	-336.10
	74	4	-13.90	99.79	-0.46	-28.18	-11.92	360.94
		5	15.18	98.49	-0.46	-28.18	11.92	-349.25
	75	4	-13.67	99.79	-0.46	-28.18	-8.38	346.38
		5	14.94	98.49	-0.46	-28.18	8.38	-334.69
	76	4	-13.09	95.91	-0.46	-33.50	-14.25	292.65
		5	14.37	94.61	-0.46	-33.50	14.25	-280.96

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	4	-12.42	121.83	-0.46	-10.62	-9.98	370.12
		5	13.70	120.53	-0.46	-10.62	9.98	-358.43
5	1	5	-2.37	140.29	-0.04	-26.54	1.62	416.98
		6	2.37	135.11	0.04	-22.06	-0.89	-370.32
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	0.00	0.00
	3	5	0.00	0.00	0.00	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	0.00	0.00
	4	5	-0.98	0.76	-0.03	-1.51	1.09	0.93
		6	0.98	-0.76	0.03	1.51	-0.60	12.82
	5	5	0.86	32.98	0.03	-4.38	-1.13	100.02
		6	-0.86	33.98	-0.03	-7.50	0.62	-108.95
	6	5	0.26	9.93	0.01	-1.33	-0.34	30.11
		6	-0.26	10.23	-0.01	-2.27	0.19	-32.80
	7	5	0.64	24.56	0.10	-16.07	-4.13	74.47
		6	-0.64	25.30	-0.10	-27.49	2.26	-81.12
	8	5	0.19	7.36	0.03	-4.85	-1.25	22.32
		6	-0.19	7.58	-0.03	-8.29	0.68	-24.31
	9	5	0.76	44.58	0.04	-5.84	-1.50	72.31
		6	-0.76	44.70	-0.04	-10.00	0.82	-73.31
	10	5	0.23	13.48	0.01	-1.79	-0.46	21.87
		6	-0.23	13.52	-0.01	-3.07	0.25	-22.17
	11	5	0.57	33.17	0.14	-21.45	-5.51	53.80
		6	-0.57	33.25	-0.14	-36.69	3.02	-54.54
	12	5	0.17	9.98	0.04	-6.44	-1.65	16.18
		6	-0.17	10.00	-0.04	-11.02	0.91	-16.41
	13	5	-0.15	41.31	-0.06	-12.22	1.44	69.95
		6	0.15	47.97	0.06	-3.62	-0.45	-129.94
	14	5	-0.04	12.49	-0.02	-3.75	0.44	21.16
		6	0.04	14.51	0.02	-1.11	-0.14	-39.30
	15	5	-0.11	30.73	-0.20	-44.86	5.28	52.04
		6	0.11	35.69	0.20	-13.28	-1.63	-96.67
	16	5	-0.03	9.24	-0.06	-13.47	1.59	15.65
		6	0.03	10.74	0.06	-3.99	-0.49	-29.08
	17	5	-0.11	-4.08	0.03	-4.18	-1.07	-12.37
		6	0.11	-4.20	-0.03	-7.16	0.59	13.47
	18	5	-0.03	-1.24	0.01	-1.26	-0.32	-3.76
		6	0.03	-1.28	-0.01	-2.16	0.18	4.10
	19	5	0.61	23.23	-0.09	13.88	3.56	70.44
		6	-0.61	23.93	0.09	23.74	-1.95	-76.73
	20	5	0.18	6.92	-0.03	4.12	1.06	20.97
		6	-0.18	7.12	0.03	7.04	-0.58	-22.84
	21	5	0.00	0.00	0.00	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	0.00	0.00
	22	5	0.00	0.19	0.00	0.00	0.00	1.81
		6	0.00	-0.19	0.00	0.00	0.00	1.59

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	1.29	1.03	-0.31	-0.83	0.78	9.85
		6	1.32	-1.03	-0.32	-0.90	-0.90	8.64
	24	5	0.33	0.32	-0.16	-0.76	-1.76	3.10
		6	0.64	-0.32	-0.22	-2.12	1.27	2.72
	25	5	0.00	0.00	-1.51	-6.88	-16.34	0.00
		6	0.00	0.00	-2.02	-19.40	11.82	0.00
	26	5	13.79	-1.19	-1.38	0.07	3.56	-10.62
		6	-13.79	1.19	-1.44	-0.07	-4.09	-10.82
	27	5	-2.22	184.16	-0.03	-33.76	1.24	549.85
		6	2.22	178.36	0.03	-30.32	-0.68	-497.66
	28	5	-2.50	173.16	0.07	-48.97	-2.66	516.51
		6	2.50	167.04	-0.07	-56.33	1.46	-461.35
	29	5	-2.35	199.31	-0.02	-35.68	0.75	513.90
		6	2.35	192.37	0.02	-33.62	-0.41	-451.40
	30	5	-2.60	184.39	0.11	-55.94	-4.45	489.70
		6	2.60	177.41	-0.11	-68.26	2.44	-426.86
	31	5	-3.53	195.04	-0.14	-44.02	4.59	510.83
		6	3.53	196.64	0.14	-25.28	-2.07	-525.14
	32	5	-3.48	181.22	-0.33	-86.38	9.58	487.41
		6	3.48	180.58	0.33	-37.82	-3.61	-481.66
	33	5	-3.48	135.92	-0.03	-33.49	1.31	403.59
		6	3.48	128.68	0.03	-29.87	-0.72	-338.34
	34	5	-2.55	171.39	-0.18	-10.05	7.33	511.13
		6	2.55	165.21	0.18	10.23	-4.02	-455.49
	35	5	-0.86	113.21	-0.28	-21.89	1.92	342.91
		6	2.95	107.11	-0.23	-18.37	-1.43	-288.08
	36	5	-1.20	147.83	-1.44	-33.32	-13.30	444.72
		6	2.60	142.18	-1.84	-41.68	9.71	-393.88
	37	5	-1.43	139.04	-1.36	-45.49	-16.42	418.05
		6	2.83	133.12	-1.92	-62.49	11.42	-364.83
	38	5	-1.30	159.96	-1.43	-34.86	-13.69	415.97
		6	2.71	153.39	-1.85	-44.32	9.93	-356.87
	39	5	-1.51	148.02	-1.32	-51.07	-17.85	396.61
		6	2.91	141.42	-1.95	-72.03	12.21	-337.24
	40	5	-2.25	156.54	-1.53	-41.53	-10.62	413.51
		6	3.65	156.80	-1.75	-37.65	8.60	-415.87
	41	5	-2.21	145.48	-1.68	-75.42	-6.63	394.78
		6	3.61	143.96	-1.60	-47.68	7.37	-381.08
	42	5	-2.21	109.25	-1.44	-33.11	-13.24	327.71
		6	3.61	102.43	-1.84	-41.32	9.68	-266.42
	43	5	-1.47	137.62	-1.56	-14.35	-8.42	413.75
		6	2.87	131.66	-1.71	-9.24	7.04	-360.14
	44	5	9.25	146.37	-1.13	-26.95	3.84	431.38
		6	-9.25	143.64	-1.13	-24.32	-3.82	-406.78
	45	5	9.02	137.58	-1.05	-39.11	0.72	404.71
		6	-9.02	134.58	-1.21	-45.13	-2.11	-377.73
	46	5	9.15	158.50	-1.12	-28.49	3.44	402.63
		6	-9.15	154.85	-1.14	-26.95	-3.60	-369.77

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	5	8.95	146.56	-1.02	-44.69	-0.72	383.27
		6	-8.95	142.88	-1.24	-54.67	-1.32	-350.14
	48	5	8.20	155.08	-1.22	-35.16	6.52	400.17
		6	-8.20	158.26	-1.04	-20.28	-4.93	-428.77
	49	5	8.24	144.02	-1.37	-69.04	10.51	381.44
		6	-8.24	145.42	-0.89	-30.32	-6.16	-393.98
	50	5	8.24	107.79	-1.13	-26.73	3.89	314.38
		6	-8.24	103.89	-1.13	-23.95	-3.85	-279.33
	51	5	8.99	136.16	-1.25	-7.98	8.71	400.41
		6	-8.99	133.12	-1.01	8.12	-6.49	-373.05
	52	5	-12.80	148.28	1.08	-27.07	-1.85	448.37
		6	12.80	141.74	1.18	-24.20	2.73	-389.47
	53	5	-13.03	139.48	1.16	-39.23	-4.98	421.70
		6	13.03	132.68	1.10	-45.01	4.44	-360.42
	54	5	-12.91	160.40	1.09	-28.61	-2.25	419.62
		6	12.91	152.94	1.17	-26.83	2.95	-352.46
	55	5	-13.11	148.47	1.20	-44.81	-6.41	400.25
		6	13.11	140.97	1.06	-54.55	5.23	-332.83
	56	5	-13.85	156.99	0.99	-35.28	0.83	417.15
		6	13.85	156.36	1.27	-20.16	1.62	-411.46
	57	5	-13.81	145.93	0.84	-69.16	4.82	398.43
		6	13.81	143.51	1.42	-30.20	0.39	-376.67
	58	5	-13.81	109.69	1.08	-26.85	-1.80	331.36
		6	13.81	101.99	1.18	-23.83	2.70	-262.02
	59	5	-13.07	138.07	0.96	-8.10	3.02	417.40
		6	13.07	131.21	1.30	8.24	0.06	-355.74
	60	5	9.15	101.03	-1.25	-19.65	4.29	300.98
		6	-7.27	97.26	-1.24	-16.59	-4.24	-267.06
	61	5	-10.70	102.74	0.74	-19.76	-0.84	316.27
		6	12.58	95.54	0.84	-16.48	1.66	-251.48
	62	5	8.85	132.20	-2.29	-29.94	-9.40	392.64
		6	-7.58	128.82	-2.69	-37.57	5.79	-362.25
	63	5	8.64	124.28	-2.22	-40.89	-12.21	368.64
		6	-7.37	120.66	-2.76	-56.30	7.33	-336.10
	64	5	8.76	143.11	-2.28	-31.33	-9.76	366.77
		6	-7.48	138.90	-2.70	-39.95	5.98	-328.94
	65	5	8.57	132.36	-2.19	-45.91	-13.50	349.34
		6	-7.30	128.13	-2.80	-64.89	8.04	-311.27
	66	5	7.91	140.03	-2.37	-37.33	-6.99	364.55
		6	-6.63	141.98	-2.62	-33.94	4.79	-382.03
	67	5	7.94	130.08	-2.51	-67.83	-3.40	347.69
		6	-6.67	130.42	-2.48	-42.97	3.68	-350.72
	68	5	7.94	97.47	-2.29	-29.75	-9.35	287.34
		6	-6.67	93.04	-2.69	-37.25	5.76	-247.54
	69	5	8.61	123.00	-2.40	-12.87	-5.02	364.77
		6	-7.34	119.35	-2.58	-8.38	3.39	-331.88
	70	5	-11.00	133.91	-0.30	-30.05	-14.52	407.93
		6	12.27	127.10	-0.62	-37.47	11.68	-346.67

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	5	-11.21	125.99	-0.23	-41.00	-17.34	383.93
		6	12.48	118.95	-0.69	-56.19	13.22	-320.52
	72	5	-11.09	144.82	-0.29	-31.43	-14.88	382.05
		6	12.37	137.19	-0.62	-39.84	11.88	-313.36
	73	5	-11.28	134.08	-0.20	-46.02	-18.63	364.63
		6	12.55	126.42	-0.72	-64.78	13.93	-295.69
	74	5	-11.94	141.75	-0.38	-37.43	-12.11	379.84
		6	13.22	140.26	-0.54	-33.84	10.68	-366.45
	75	5	-11.91	131.79	-0.52	-67.94	-8.52	362.98
		6	13.18	128.70	-0.40	-42.86	9.57	-335.14
	76	5	-11.91	99.18	-0.30	-29.86	-14.47	302.63
		6	13.18	91.33	-0.61	-37.14	11.66	-231.96
	77	5	-11.24	124.72	-0.41	-12.98	-10.14	380.06
		6	12.51	117.63	-0.51	-8.27	9.28	-316.30
6	1	6	-2.86	118.62	-0.06	-29.18	0.94	364.66
		7	2.86	156.78	0.06	-19.42	0.07	-708.17
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		7	0.00	0.00	0.00	0.00	0.00	0.00
	3	6	0.00	0.00	0.00	0.00	0.00	0.00
		7	0.00	0.00	0.00	0.00	0.00	0.00
	4	6	-1.13	-6.87	-0.04	-3.29	0.64	-14.60
		7	1.13	6.87	0.04	3.29	0.05	-109.15
	5	6	0.97	38.98	0.04	-2.55	-0.66	110.19
		7	-0.97	27.98	-0.04	-9.33	-0.05	-11.27
	6	6	0.29	11.73	0.01	-0.77	-0.20	33.17
		7	-0.29	8.43	-0.01	-2.83	-0.01	-3.39
	7	6	0.72	29.02	0.14	-9.34	-2.41	82.05
		7	-0.72	20.84	-0.14	-34.22	-0.18	-8.39
	8	6	0.22	8.70	0.04	-2.82	-0.73	24.58
		7	-0.22	6.24	-0.04	-10.32	-0.05	-2.51
	9	6	-0.05	3.58	0.05	4.52	-0.88	63.90
		7	0.05	-3.58	-0.05	-4.52	-0.07	0.58
	10	6	-0.02	1.08	0.02	1.39	-0.27	19.33
		7	0.02	-1.08	-0.02	-1.39	-0.02	0.17
	11	6	-0.04	2.67	0.19	16.61	-3.22	47.54
		7	0.04	-2.67	-0.19	-16.61	-0.24	0.43
	12	6	-0.01	0.80	0.06	4.99	-0.97	14.30
		7	0.01	-0.80	-0.06	-4.99	-0.07	0.13
	13	6	-0.25	42.62	-0.03	-9.63	0.49	128.74
		7	0.25	46.66	0.03	-6.21	0.05	-165.08
	14	6	-0.08	12.89	-0.01	-2.95	0.15	38.93
		7	0.08	14.11	0.01	-1.91	0.02	-49.92
	15	6	-0.19	31.71	-0.11	-35.35	1.81	95.78
		7	0.19	34.71	0.11	-22.79	0.20	-122.81
	16	6	-0.06	9.54	-0.03	-10.62	0.54	28.81
		7	0.06	10.44	0.03	-6.84	0.06	-36.94

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	6	-0.12	-4.82	0.04	-2.43	-0.63	-13.63
		7	0.12	-3.46	-0.04	-8.91	-0.05	1.39
	18	6	-0.04	-1.47	0.01	-0.73	-0.19	-4.15
		7	0.04	-1.05	-0.01	-2.69	-0.01	0.42
	19	6	0.68	27.45	-0.12	8.06	2.08	77.60
		7	-0.68	19.71	0.12	29.56	0.16	-7.93
	20	6	0.20	8.17	-0.04	2.39	0.62	23.10
		7	-0.20	5.87	0.04	8.77	0.05	-2.36
	21	6	0.00	0.00	0.00	0.00	0.00	0.00
		7	0.00	0.00	0.00	0.00	0.00	0.00
	22	6	0.01	0.31	0.00	0.00	0.00	2.11
		7	-0.01	-0.31	0.00	0.00	0.00	3.48
	23	6	1.29	1.69	-0.30	-0.80	0.90	11.49
		7	1.32	-1.69	-0.33	-0.92	-1.19	18.96
	24	6	0.18	0.53	-0.11	-0.24	-1.36	3.62
		7	0.79	-0.53	-0.27	-2.64	-0.13	5.96
	25	6	0.00	0.00	-0.99	-2.11	-12.68	0.00
		7	0.00	0.00	-2.53	-24.17	-1.17	0.00
	26	6	8.46	-5.23	-1.34	0.08	4.07	-30.33
		7	-8.46	5.23	-1.48	-0.08	-5.33	-63.74
	27	6	-2.72	162.76	-0.04	-35.79	0.73	495.53
		7	2.72	199.76	0.04	-28.29	0.05	-828.49
	28	6	-3.04	149.77	0.09	-44.62	-1.56	458.80
		7	3.04	190.43	-0.09	-60.68	-0.12	-824.74
	29	6	-4.05	116.72	-0.03	-26.56	0.44	435.40
		7	4.05	158.68	0.03	-22.04	0.03	-813.08
	30	6	-4.03	115.52	0.16	-10.87	-2.60	414.01
		7	4.03	159.88	-0.16	-37.73	-0.19	-813.28
	31	6	-4.30	167.56	-0.13	-45.06	2.23	519.84
		7	4.30	224.12	0.13	-24.24	0.19	-1028.84
	32	6	-4.22	153.30	-0.24	-78.44	3.93	476.76
		7	4.22	208.50	0.24	-45.76	0.37	-973.59
	33	6	-4.14	105.77	-0.05	-35.63	0.77	334.40
		7	4.14	158.83	0.05	-27.73	0.06	-812.02
	34	6	-3.09	147.67	-0.26	-22.01	4.28	452.88
		7	3.09	188.93	0.26	22.19	0.32	-824.13
	35	6	-1.25	96.49	-0.28	-23.99	1.48	302.61
		7	3.33	123.83	-0.22	-16.28	-0.89	-548.59
	36	6	-1.72	131.04	-0.99	-30.70	-10.43	402.08
		7	3.12	158.97	-2.29	-44.30	-1.28	-653.47
	37	6	-1.98	120.65	-0.88	-37.77	-12.26	372.69
		7	3.38	151.51	-2.40	-70.21	-1.41	-650.47
	38	6	-2.78	94.21	-0.97	-23.32	-10.66	353.97
		7	4.18	126.11	-2.30	-39.30	-1.30	-641.15
	39	6	-2.77	93.25	-0.83	-10.77	-13.10	336.86
		7	4.17	127.07	-2.45	-51.85	-1.48	-641.30
	40	6	-2.99	134.88	-1.06	-38.12	-9.23	421.53
		7	4.39	178.46	-2.22	-41.06	-1.17	-813.75

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	6	-2.92	123.47	-1.14	-64.82	-7.87	387.06
		7	4.33	165.97	-2.13	-58.28	-1.02	-769.55
	42	6	-2.85	85.44	-0.99	-30.58	-10.40	273.17
		7	4.26	126.24	-2.29	-43.85	-1.28	-640.29
	43	6	-2.02	118.97	-1.16	-19.69	-7.59	367.96
		7	3.42	150.31	-2.12	-3.91	-1.06	-649.99
	44	6	4.60	126.03	-1.11	-28.57	3.84	372.16
		7	-4.60	163.99	-1.15	-22.70	-4.22	-713.78
	45	6	4.34	115.64	-1.00	-35.64	2.01	342.78
		7	-4.34	156.52	-1.26	-48.60	-4.35	-710.78
	46	6	3.53	89.19	-1.10	-21.18	3.61	324.06
		7	-3.53	131.13	-1.17	-17.70	-4.23	-701.46
	47	6	3.55	88.23	-0.95	-8.64	1.18	306.95
		7	-3.55	132.09	-1.31	-30.24	-4.42	-701.61
	48	6	3.32	129.87	-1.18	-35.98	5.04	391.61
		7	-3.32	183.47	-1.08	-19.46	-4.11	-874.06
	49	6	3.39	118.46	-1.27	-62.69	6.40	357.14
		7	-3.39	170.98	-0.99	-36.67	-3.96	-829.86
	50	6	3.46	80.43	-1.11	-28.44	3.87	243.26
		7	-3.46	131.25	-1.15	-22.24	-4.21	-700.60
	51	6	4.29	113.96	-1.28	-17.55	6.68	338.04
		7	-4.29	155.32	-0.98	17.69	-4.00	-710.30
	52	6	-8.94	134.39	1.04	-28.69	-2.68	420.69
		7	8.94	155.63	1.22	-22.57	4.30	-611.80
	53	6	-9.20	124.00	1.15	-35.76	-4.50	391.31
		7	9.20	148.16	1.11	-48.48	4.17	-608.80
	54	6	-10.01	97.55	1.05	-21.31	-2.91	372.59
		7	10.01	122.77	1.21	-17.57	4.29	-599.48
	55	6	-9.99	96.60	1.20	-8.76	-5.34	355.48
		7	9.99	123.72	1.06	-30.12	4.10	-599.63
	56	6	-10.21	138.23	0.97	-36.11	-1.48	440.14
		7	10.21	175.11	1.29	-19.33	4.41	-772.08
	57	6	-10.15	126.82	0.88	-62.81	-0.11	405.67
		7	10.15	162.62	1.38	-36.55	4.56	-727.88
	58	6	-10.08	88.79	1.04	-28.57	-2.64	291.78
		7	10.08	122.89	1.22	-22.12	4.31	-598.62
	59	6	-9.24	122.32	0.87	-17.67	0.17	386.57
		7	9.24	146.96	1.39	17.82	4.52	-608.32
	60	6	4.97	83.08	-1.22	-21.53	4.26	250.51
		7	-3.09	115.21	-1.27	-14.70	-4.64	-539.62
	61	6	-7.21	90.61	0.71	-21.64	-1.60	294.19
		7	9.09	107.68	0.87	-14.59	3.03	-447.84
	62	6	4.55	114.18	-1.86	-27.58	-6.46	340.08
		7	-3.28	146.83	-3.13	-39.93	-4.99	-633.94
	63	6	4.32	104.83	-1.76	-33.94	-8.10	313.63
		7	-3.04	140.12	-3.23	-63.25	-5.11	-631.24
	64	6	3.59	81.03	-1.84	-20.94	-6.66	296.79
		7	-2.32	117.26	-3.14	-35.43	-5.00	-622.85

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	6	3.61	80.17	-1.71	-9.64	-8.85	281.39
		7	-2.33	118.12	-3.27	-46.72	-5.17	-622.99
	66	6	3.41	117.64	-1.92	-34.25	-5.38	357.58
		7	-2.13	164.37	-3.06	-37.02	-4.89	-778.19
	67	6	3.47	107.37	-2.00	-58.29	-4.15	326.56
		7	-2.19	153.13	-2.99	-52.51	-4.76	-738.41
	68	6	3.53	73.14	-1.86	-27.47	-6.43	224.06
		7	-2.25	117.37	-3.13	-39.52	-4.99	-622.08
	69	6	4.28	103.32	-2.01	-17.67	-3.90	309.37
		7	-3.01	139.03	-2.98	-3.58	-4.80	-630.80
	70	6	-7.63	121.71	0.08	-27.69	-12.32	383.75
		7	8.91	139.31	-0.99	-39.82	2.68	-542.16
	71	6	-7.86	112.35	0.18	-34.05	-13.96	357.31
		7	9.14	132.59	-1.09	-63.14	2.56	-539.46
	72	6	-8.59	88.55	0.09	-21.05	-12.53	340.46
		7	9.86	109.73	-1.01	-35.32	2.66	-531.07
	73	6	-8.58	87.69	0.22	-9.76	-14.71	325.06
		7	9.85	110.60	-1.14	-46.61	2.50	-531.20
	74	6	-8.78	125.16	0.01	-34.37	-11.24	401.26
		7	10.05	156.85	-0.93	-36.91	2.78	-686.41
	75	6	-8.72	114.89	-0.06	-58.40	-10.01	370.24
		7	9.99	145.60	-0.85	-52.40	2.91	-646.63
	76	6	-8.65	80.67	0.08	-27.58	-12.29	267.74
		7	9.93	109.84	-0.99	-39.41	2.68	-530.30
	77	6	-7.90	110.84	-0.08	-17.78	-9.76	353.04
		7	9.18	131.51	-0.84	-3.47	2.87	-539.02
7	1	7	0.00	180.15	0.00	-32.84	0.00	741.34
		8	0.00	0.00	0.00	0.00	0.00	0.00
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	3	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	4	7	0.00	29.71	0.00	-5.76	0.00	122.26
		8	0.00	0.00	0.00	0.00	0.00	0.00
	5	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	6	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	7	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	8	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	9	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	10	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	12	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	13	7	0.00	40.82	0.00	-7.24	0.00	167.98
		8	0.00	0.00	0.00	0.00	0.00	0.00
	14	7	0.00	12.35	0.00	-2.22	0.00	50.80
		8	0.00	0.00	0.00	0.00	0.00	0.00
	15	7	0.00	30.37	0.00	-26.58	0.00	124.97
		8	0.00	0.00	0.00	0.00	0.00	0.00
	16	7	0.00	9.14	0.00	-7.98	0.00	37.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	17	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	18	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	19	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	20	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	21	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	22	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	23	7	1.19	0.00	-0.29	-0.79	1.19	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	24	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	25	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	26	7	0.00	0.00	-1.29	0.00	5.32	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	27	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	28	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	29	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	30	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	31	7	0.00	263.03	0.00	-48.06	0.00	1082.37
		8	0.00	0.00	0.00	0.00	0.00	0.00
	32	7	0.00	249.37	0.00	-73.16	0.00	1026.15
		8	0.00	0.00	0.00	0.00	0.00	0.00
	33	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00
	34	7	0.00	209.87	0.00	-38.60	0.00	863.59
		8	0.00	0.00	0.00	0.00	0.00	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	7	0.95	144.12	-0.23	-26.90	0.95	593.07
		8	0.00	0.00	0.00	0.00	0.00	0.00
	36	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	37	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	38	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	39	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	40	7	0.29	210.42	-0.07	-38.64	0.28	865.90
		8	0.00	0.00	0.00	0.00	0.00	0.00
	41	7	0.29	199.50	-0.07	-58.72	0.28	820.92
		8	0.00	0.00	0.00	0.00	0.00	0.00
	42	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	43	7	0.29	167.89	-0.07	-31.07	0.28	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	44	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	45	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	46	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	47	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	48	7	0.00	210.42	-1.03	-38.45	4.25	865.90
		8	0.00	0.00	0.00	0.00	0.00	0.00
	49	7	0.00	199.50	-1.03	-58.53	4.25	820.92
		8	0.00	0.00	0.00	0.00	0.00	0.00
	50	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	51	7	0.00	167.89	-1.03	-30.88	4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	52	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	53	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	54	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	55	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	56	7	0.00	210.42	1.03	-38.45	-4.25	865.90
		8	0.00	0.00	0.00	0.00	0.00	0.00
	57	7	0.00	199.50	1.03	-58.53	-4.25	820.92
		8	0.00	0.00	0.00	0.00	0.00	0.00
	58	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	7	0.00	167.89	1.03	-30.88	-4.25	690.88
		8	0.00	0.00	0.00	0.00	0.00	0.00
	60	7	0.86	129.71	-1.14	-24.21	4.68	533.76
		8	0.00	0.00	0.00	0.00	0.00	0.00
	61	7	0.86	129.71	0.72	-24.21	-2.97	533.76
		8	0.00	0.00	0.00	0.00	0.00	0.00
	62	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	63	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	64	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	65	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	66	7	0.26	189.38	-0.99	-34.78	4.09	779.31
		8	0.00	0.00	0.00	0.00	0.00	0.00
	67	7	0.26	179.55	-0.99	-52.85	4.09	738.83
		8	0.00	0.00	0.00	0.00	0.00	0.00
	68	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	69	7	0.26	151.10	-0.99	-27.96	4.09	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	70	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	71	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	72	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	73	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	74	7	0.26	189.38	0.87	-34.78	-3.57	779.31
		8	0.00	0.00	0.00	0.00	0.00	0.00
	75	7	0.26	179.55	0.87	-52.85	-3.57	738.83
		8	0.00	0.00	0.00	0.00	0.00	0.00
	76	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
	77	7	0.26	151.10	0.87	-27.96	-3.57	621.79
		8	0.00	0.00	0.00	0.00	0.00	0.00
8	1	2	336.94	2.86	-0.06	-0.07	52.26	33.17
		9	-336.94	-2.86	0.06	0.07	-52.04	-22.01
	2	2	0.00	0.00	0.00	0.00	0.00	0.00
		9	-1.84	0.00	0.00	0.00	0.00	0.00
	3	2	0.00	0.00	0.00	0.00	0.00	0.00
		9	0.00	0.00	0.00	0.00	0.00	0.00
	4	2	36.59	1.13	-0.04	-0.05	2.47	13.11
		9	-36.59	-1.13	0.04	0.05	-2.32	-8.70

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	2	27.98	-0.97	0.04	0.05	9.33	-11.27
		9	-27.98	0.97	-0.04	-0.05	-9.49	7.48
	6	2	8.43	-0.29	0.01	0.01	2.83	-3.39
		9	-8.43	0.29	-0.01	-0.01	-2.87	2.25
	7	2	20.84	-0.72	0.14	0.18	34.22	-8.39
		9	-20.84	0.72	-0.14	-0.18	-34.79	5.57
	8	2	6.24	-0.22	0.04	0.05	10.32	-2.51
		9	-6.24	0.22	-0.04	-0.05	-10.49	1.67
	9	2	-3.58	0.05	0.05	0.07	4.52	0.58
		9	3.58	-0.05	-0.05	-0.07	-4.73	-0.38
	10	2	-1.08	0.02	0.02	0.02	1.39	0.17
		9	1.08	-0.02	-0.02	-0.02	-1.45	-0.12
	11	2	-2.67	0.04	0.19	0.24	16.61	0.43
		9	2.67	-0.04	-0.19	-0.24	-17.36	-0.28
	12	2	-0.80	0.01	0.06	0.07	4.99	0.13
		9	0.80	-0.01	-0.06	-0.07	-5.21	-0.09
	13	2	87.48	0.25	-0.03	-0.05	13.45	2.89
		9	-87.48	-0.25	0.03	0.05	-13.33	-1.92
	14	2	26.46	0.08	-0.01	-0.02	4.13	0.88
		9	-26.46	-0.08	0.01	0.02	-4.09	-0.58
	15	2	65.08	0.19	-0.11	-0.20	49.37	2.15
		9	-65.08	-0.19	0.11	0.20	-48.94	-1.43
	16	2	19.58	0.06	-0.03	-0.06	14.83	0.65
		9	-19.58	-0.06	0.03	0.06	-14.70	-0.43
	17	2	-3.46	0.12	0.04	0.05	8.91	1.39
		9	3.46	-0.12	-0.04	-0.05	-9.06	-0.92
	18	2	-1.05	0.04	0.01	0.01	2.69	0.42
		9	1.05	-0.04	-0.01	-0.01	-2.73	-0.28
	19	2	19.71	-0.68	-0.12	-0.16	-29.56	-7.93
		9	-19.71	0.68	0.12	0.16	30.04	5.27
	20	2	5.87	-0.20	-0.04	-0.05	-8.77	-2.36
		9	-5.87	0.20	0.04	0.05	8.91	1.57
	21	2	0.00	0.00	0.00	0.00	0.00	0.00
		9	0.00	0.00	0.00	0.00	0.00	0.00
	22	2	0.31	0.01	0.00	0.00	0.00	-3.48
		9	-0.31	-0.01	0.00	0.00	0.00	3.53
	23	2	2.04	-2.51	0.62	0.00	1.71	-18.96
		9	-2.04	2.51	-0.62	0.00	-4.13	9.17
	24	2	0.76	-0.79	0.27	0.13	2.64	-5.96
		9	-0.76	0.79	-0.27	-0.13	-3.70	2.88
	25	2	0.00	0.00	2.53	1.17	24.17	0.00
		9	0.00	0.00	-2.53	-1.17	-34.05	0.00
	26	2	5.23	-8.46	2.77	0.01	0.08	-63.74
		9	-5.23	8.46	-2.77	-0.01	-10.90	30.74
	27	2	410.24	2.74	-0.04	-0.05	66.89	28.14
		9	-412.08	-2.74	0.04	0.05	-66.72	-17.46
	28	2	400.92	3.06	0.09	0.12	99.28	31.89
		9	-402.75	-3.06	-0.09	-0.12	-99.64	-19.95

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	2	369.17	4.07	-0.03	-0.03	60.64	43.55
		9	-371.01	-4.07	0.03	0.03	-60.54	-27.68
	30	2	370.37	4.05	0.16	0.19	76.33	43.35
		9	-372.20	-4.05	-0.16	-0.19	-76.93	-27.55
	31	2	487.77	4.33	-0.13	-0.19	72.31	46.57
		9	-489.61	-4.33	0.13	0.19	-71.78	-29.69
	32	2	458.49	4.24	-0.24	-0.37	118.93	45.60
		9	-460.33	-4.24	0.24	0.37	-118.00	-29.04
	33	2	369.32	4.16	-0.05	-0.06	66.33	44.61
		9	-371.16	-4.16	0.05	0.06	-66.15	-28.39
	34	2	399.41	3.11	-0.26	-0.32	16.40	32.50
		9	-401.25	-3.11	0.26	0.32	-15.41	-20.35
	35	2	271.43	0.29	0.45	-0.05	43.18	8.58
		9	-272.90	-0.29	-0.45	0.05	-44.93	-7.45
	36	2	329.30	0.96	2.36	0.99	75.37	13.19
		9	-330.76	-0.96	-2.36	-0.99	-84.57	-9.46
	37	2	321.83	1.22	2.47	1.13	101.28	16.19
		9	-323.30	-1.22	-2.47	-1.13	-110.90	-11.45
	38	2	296.43	2.02	2.37	1.01	70.37	25.52
		9	-297.90	-2.02	-2.37	-1.01	-79.62	-17.64
	39	2	297.39	2.01	2.52	1.19	82.92	25.36
		9	-298.86	-2.01	-2.52	-1.19	-92.73	-17.54
	40	2	391.32	2.23	2.29	0.89	79.70	27.93
		9	-392.79	-2.23	-2.29	-0.89	-88.62	-19.24
	41	2	367.89	2.16	2.20	0.74	117.00	27.16
		9	-369.36	-2.16	-2.20	-0.74	-125.59	-18.73
	42	2	296.56	2.09	2.36	0.99	74.92	26.37
		9	-298.03	-2.09	-2.36	-0.99	-84.11	-18.21
	43	2	320.63	1.26	2.19	0.78	34.98	16.68
		9	-322.10	-1.26	-2.19	-0.78	-43.51	-11.77
	44	2	332.38	-4.58	2.19	-0.04	53.58	-28.48
		9	-333.85	4.58	-2.19	0.04	-62.10	10.63
	45	2	324.91	-4.32	2.29	0.10	79.48	-25.48
		9	-326.38	4.32	-2.29	-0.10	-88.43	8.63
	46	2	299.52	-3.51	2.20	-0.02	48.58	-16.15
		9	-300.99	3.51	-2.20	0.02	-57.15	2.45
	47	2	300.47	-3.53	2.34	0.16	61.12	-16.31
		9	-301.94	3.53	-2.34	-0.16	-70.26	2.55
	48	2	394.40	-3.31	2.11	-0.14	57.91	-13.74
		9	-395.87	3.31	-2.11	0.14	-66.15	0.84
	49	2	370.97	-3.37	2.03	-0.29	95.21	-14.51
		9	-372.44	3.37	-2.03	0.29	-103.12	1.36
	50	2	299.64	-3.44	2.18	-0.04	53.12	-15.30
		9	-301.11	3.44	-2.18	0.04	-61.64	1.88
	51	2	323.71	-4.28	2.02	-0.25	13.19	-24.99
		9	-325.18	4.28	-2.02	0.25	-21.05	8.31
	52	2	324.01	8.96	-2.25	-0.05	53.45	73.50
		9	-325.48	-8.96	2.25	0.05	-44.66	-38.56

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	2	316.55	9.22	-2.15	0.09	79.36	76.50
		9	-318.02	-9.22	2.15	-0.09	-70.99	-40.55
	54	2	291.15	10.02	-2.24	-0.03	48.45	85.83
		9	-292.62	-10.02	2.24	0.03	-39.71	-46.74
	55	2	292.11	10.01	-2.10	0.15	61.00	85.67
		9	-293.58	-10.01	2.10	-0.15	-52.83	-46.63
	56	2	386.04	10.23	-2.33	-0.16	57.78	88.24
		9	-387.50	-10.23	2.33	0.16	-48.71	-48.34
	57	2	362.61	10.16	-2.41	-0.30	95.08	87.47
		9	-364.08	-10.16	2.41	0.30	-85.68	-47.83
	58	2	291.28	10.10	-2.26	-0.05	53.00	86.68
		9	-292.75	-10.10	2.26	0.05	-44.20	-47.31
	59	2	315.35	9.26	-2.42	-0.26	13.06	76.99
		9	-316.82	-9.26	2.42	0.26	-3.61	-40.87
	60	2	248.05	-5.83	2.40	-0.04	38.92	-38.17
		9	-249.37	5.83	-2.40	0.04	-48.29	15.42
	61	2	240.53	6.35	-1.59	-0.06	38.81	53.61
		9	-241.85	-6.35	1.59	0.06	-32.59	-28.84
	62	2	300.14	-5.24	4.12	0.90	67.90	-34.10
		9	-301.46	5.24	-4.12	-0.90	-83.97	13.66
	63	2	293.42	-5.01	4.22	1.02	91.21	-31.39
		9	-294.74	5.01	-4.22	-1.02	-107.67	11.86
	64	2	270.56	-4.28	4.13	0.92	63.40	-23.00
		9	-271.88	4.28	-4.13	-0.92	-79.52	6.30
	65	2	271.43	-4.30	4.27	1.08	74.69	-23.14
		9	-272.75	4.30	-4.27	-1.08	-91.32	6.39
	66	2	355.96	-4.10	4.06	0.80	71.80	-20.83
		9	-357.28	4.10	-4.06	-0.80	-87.62	4.85
	67	2	334.88	-4.16	3.98	0.67	105.36	-21.52
		9	-336.20	4.16	-3.98	-0.67	-120.89	5.31
	68	2	270.67	-4.22	4.12	0.90	67.49	-22.23
		9	-271.99	4.22	-4.12	-0.90	-83.56	5.78
	69	2	292.34	-4.97	3.97	0.71	31.55	-30.96
		9	-293.66	4.97	-3.97	-0.71	-47.03	11.57
	70	2	292.61	6.94	0.13	0.89	67.78	57.69
		9	-293.93	-6.94	-0.13	-0.89	-68.28	-30.61
	71	2	285.90	7.18	0.22	1.01	91.10	60.39
		9	-287.22	-7.18	-0.22	-1.01	-91.98	-32.40
	72	2	263.04	7.90	0.14	0.90	63.29	68.78
		9	-264.36	-7.90	-0.14	-0.90	-63.83	-37.97
	73	2	263.90	7.89	0.27	1.07	74.58	68.64
		9	-265.22	-7.89	-0.27	-1.07	-75.63	-37.88
	74	2	348.43	8.09	0.06	0.79	71.68	70.95
		9	-349.75	-8.09	-0.06	-0.79	-71.92	-39.42
	75	2	327.35	8.03	-0.01	0.66	105.25	70.26
		9	-328.67	-8.03	0.01	-0.66	-105.20	-38.95
	76	2	263.15	7.97	0.12	0.89	67.38	69.55
		9	-264.47	-7.97	-0.12	-0.89	-67.86	-38.48

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	2	284.81	7.21	-0.03	0.70	31.43	60.83
		9	-286.13	-7.21	0.03	-0.70	-31.33	-32.69
9	1	9	336.94	2.86	-0.06	-0.07	52.04	22.01
		10	-336.94	-2.86	0.06	0.07	-51.53	4.05
	2	9	1.84	0.00	0.00	0.00	0.00	0.00
		10	-6.13	0.00	0.00	0.00	0.00	0.00
	3	9	0.00	0.00	0.00	0.00	0.00	0.00
		10	0.00	0.00	0.00	0.00	0.00	0.00
	4	9	36.59	1.13	-0.04	-0.05	2.32	8.70
		10	-36.59	-1.13	0.04	0.05	-1.97	1.60
	5	9	27.98	-0.97	0.04	0.05	9.49	-7.48
		10	-27.98	0.97	-0.04	-0.05	-9.84	-1.38
	6	9	8.43	-0.29	0.01	0.01	2.87	-2.25
		10	-8.43	0.29	-0.01	-0.01	-2.98	-0.41
	7	9	20.84	-0.72	0.14	0.18	34.79	-5.57
		10	-20.84	0.72	-0.14	-0.18	-36.10	-1.02
	8	9	6.24	-0.22	0.04	0.05	10.49	-1.67
		10	-6.24	0.22	-0.04	-0.05	-10.89	-0.31
	9	9	-3.58	0.05	0.05	0.07	4.73	0.38
		10	3.58	-0.05	-0.05	-0.07	-5.21	0.08
	10	9	-1.08	0.02	0.02	0.02	1.45	0.12
		10	1.08	-0.02	-0.02	-0.02	-1.60	0.02
	11	9	-2.67	0.04	0.19	0.24	17.36	0.28
		10	2.67	-0.04	-0.19	-0.24	-19.11	0.06
	12	9	-0.80	0.01	0.06	0.07	5.21	0.09
		10	0.80	-0.01	-0.06	-0.07	-5.74	0.02
	13	9	87.48	0.25	-0.03	-0.05	13.33	1.92
		10	-87.48	-0.25	0.03	0.05	-13.06	0.35
	14	9	26.46	0.08	-0.01	-0.02	4.09	0.58
		10	-26.46	-0.08	0.01	0.02	-4.01	0.11
	15	9	65.08	0.19	-0.11	-0.20	48.94	1.43
		10	-65.08	-0.19	0.11	0.20	-47.93	0.26
	16	9	19.58	0.06	-0.03	-0.06	14.70	0.43
		10	-19.58	-0.06	0.03	0.06	-14.39	0.08
	17	9	-3.46	0.12	0.04	0.05	9.06	0.92
		10	3.46	-0.12	-0.04	-0.05	-9.40	0.17
	18	9	-1.05	0.04	0.01	0.01	2.73	0.28
		10	1.05	-0.04	-0.01	-0.01	-2.83	0.05
	19	9	19.71	-0.68	-0.12	-0.16	-30.04	-5.27
		10	-19.71	0.68	0.12	0.16	31.17	-0.97
	20	9	5.87	-0.20	-0.04	-0.05	-8.91	-1.57
		10	-5.87	0.20	0.04	0.05	9.25	-0.29
	21	9	0.00	0.00	0.00	0.00	0.00	0.00
		10	1.82	0.00	0.00	0.00	0.00	0.00
	22	9	0.31	0.01	0.00	0.00	0.00	-3.53
		10	-0.31	1.37	-0.05	0.00	-0.30	-4.75

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	9	2.04	-2.51	0.62	0.00	4.13	-9.17
		10	-2.04	2.51	-0.62	0.00	-9.77	-13.70
	24	9	0.76	-0.79	0.27	0.13	3.70	-2.88
		10	-0.76	0.79	-0.27	-0.13	-6.17	-4.31
	25	9	0.00	0.00	2.53	1.17	34.05	0.00
		10	0.00	0.00	-2.53	-1.17	-57.12	0.00
	26	9	5.23	-8.46	2.77	0.01	10.90	-30.74
		10	-5.23	8.46	-2.77	-0.01	-36.18	-46.34
	27	9	412.08	2.74	-0.04	-0.05	66.72	17.46
		10	-414.55	-1.36	-0.01	0.05	-66.62	-0.89
	28	9	402.75	3.06	0.09	0.12	99.64	19.95
		10	-405.22	-1.68	-0.14	-0.12	-100.78	-0.43
	29	9	371.01	4.07	-0.03	-0.03	60.54	27.68
		10	-373.47	-2.69	-0.02	0.03	-60.60	1.00
	30	9	372.20	4.05	0.16	0.19	76.93	27.55
		10	-374.67	-2.67	-0.20	-0.19	-78.64	0.98
	31	9	489.61	4.33	-0.13	-0.19	71.78	29.69
		10	-492.08	-2.95	0.09	0.19	-70.86	1.36
	32	9	460.33	4.24	-0.24	-0.37	118.00	29.04
		10	-462.80	-2.86	0.19	0.37	-116.11	1.24
	33	9	371.16	4.16	-0.05	-0.06	66.15	28.39
		10	-373.63	-2.78	0.00	0.06	-66.03	1.12
	34	9	401.25	3.11	-0.26	-0.32	15.41	20.35
		10	-403.72	-1.73	0.21	0.32	-13.37	-0.36
	35	9	272.90	0.29	0.45	-0.05	44.93	7.45
		10	-274.88	0.81	-0.49	0.05	-49.27	-11.52
	36	9	330.76	0.96	2.36	0.99	84.57	9.46
		10	-332.74	0.15	-2.40	-0.99	-106.28	-7.45
	37	9	323.30	1.22	2.47	1.13	110.90	11.45
		10	-325.28	-0.11	-2.51	-1.13	-133.61	-7.08
	38	9	297.90	2.02	2.37	1.01	79.62	17.64
		10	-299.88	-0.92	-2.41	-1.01	-101.46	-5.94
	39	9	298.86	2.01	2.52	1.19	92.73	17.54
		10	-300.84	-0.90	-2.56	-1.19	-115.90	-5.96
	40	9	392.79	2.23	2.29	0.89	88.62	19.24
		10	-394.76	-1.12	-2.32	-0.89	-109.67	-5.65
	41	9	369.36	2.16	2.20	0.74	125.59	18.73
		10	-371.34	-1.06	-2.24	-0.74	-145.87	-5.75
	42	9	298.03	2.09	2.36	0.99	84.11	18.21
		10	-300.00	-0.99	-2.39	-0.99	-105.80	-5.84
	43	9	322.10	1.26	2.19	0.78	43.51	11.77
		10	-324.07	-0.15	-2.23	-0.78	-63.68	-7.02
	44	9	333.85	-4.58	2.19	-0.04	62.10	-10.63
		10	-335.82	5.68	-2.22	0.04	-82.24	-37.78
	45	9	326.38	-4.32	2.29	0.10	88.43	-8.63
		10	-328.36	5.42	-2.33	-0.10	-109.57	-37.41
	46	9	300.99	-3.51	2.20	-0.02	57.15	-2.45
		10	-302.96	4.62	-2.24	0.02	-77.42	-36.27

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	9	301.94	-3.53	2.34	0.16	70.26	-2.55
		10	-303.92	4.63	-2.38	-0.16	-91.86	-36.29
	48	9	395.87	-3.31	2.11	-0.14	66.15	-0.84
		10	-397.84	4.41	-2.15	0.14	-85.63	-35.98
	49	9	372.44	-3.37	2.03	-0.29	103.12	-1.36
		10	-374.42	4.48	-2.07	0.29	-121.83	-36.08
	50	9	301.11	-3.44	2.18	-0.04	61.64	-1.88
		10	-303.08	4.54	-2.22	0.04	-81.76	-36.17
	51	9	325.18	-4.28	2.02	-0.25	21.05	-8.31
		10	-327.15	5.38	-2.05	0.25	-39.64	-37.35
	52	9	325.48	8.96	-2.25	-0.05	44.66	38.56
		10	-327.46	-7.86	2.22	0.05	-24.36	36.36
	53	9	318.02	9.22	-2.15	0.09	70.99	40.55
		10	-320.00	-8.11	2.11	-0.09	-51.68	36.72
	54	9	292.62	10.02	-2.24	-0.03	39.71	46.74
		10	-294.60	-8.92	2.20	0.03	-19.54	37.87
	55	9	293.58	10.01	-2.10	0.15	52.83	46.63
		10	-295.56	-8.91	2.06	-0.15	-33.97	37.85
	56	9	387.50	10.23	-2.33	-0.16	48.71	48.34
		10	-389.48	-9.13	2.29	0.16	-27.75	38.15
	57	9	364.08	10.16	-2.41	-0.30	85.68	47.83
		10	-366.06	-9.06	2.37	0.30	-63.95	38.06
	58	9	292.75	10.10	-2.26	-0.05	44.20	47.31
		10	-294.72	-8.99	2.22	0.05	-23.88	37.97
	59	9	316.82	9.26	-2.42	-0.26	3.61	40.87
		10	-318.79	-8.16	2.39	0.26	18.24	36.78
	60	9	249.37	-5.83	2.40	-0.04	48.29	-15.42
		10	-251.15	6.83	-2.44	0.04	-70.39	-43.73
	61	9	241.85	6.35	-1.59	-0.06	32.59	28.84
		10	-243.63	-5.36	1.56	0.06	-18.30	22.99
	62	9	301.46	-5.24	4.12	0.90	83.97	-13.66
		10	-303.24	6.23	-4.16	-0.90	-121.74	-40.12
	63	9	294.74	-5.01	4.22	1.02	107.67	-11.86
		10	-296.52	6.00	-4.26	-1.02	-146.33	-39.79
	64	9	271.88	-4.28	4.13	0.92	79.52	-6.30
		10	-273.66	5.28	-4.17	-0.92	-117.40	-38.76
	65	9	272.75	-4.30	4.27	1.08	91.32	-6.39
		10	-274.53	5.29	-4.30	-1.08	-130.39	-38.78
	66	9	357.28	-4.10	4.06	0.80	87.62	-4.85
		10	-359.06	5.09	-4.09	-0.80	-124.79	-38.51
	67	9	336.20	-4.16	3.98	0.67	120.89	-5.31
		10	-337.98	5.15	-4.02	-0.67	-157.37	-38.59
	68	9	271.99	-4.22	4.12	0.90	83.56	-5.78
		10	-273.77	5.21	-4.16	-0.90	-121.31	-38.67
	69	9	293.66	-4.97	3.97	0.71	47.03	-11.57
		10	-295.44	5.96	-4.00	-0.71	-83.40	-39.74
	70	9	293.93	6.94	0.13	0.89	68.28	30.61
		10	-295.71	-5.95	-0.16	-0.89	-69.64	26.60

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	9	287.22	7.18	0.22	1.01	91.98	32.40
		10	-289.00	-6.18	-0.26	-1.01	-94.24	26.93
	72	9	264.36	7.90	0.14	0.90	63.83	37.97
		10	-266.14	-6.91	-0.17	-0.90	-65.31	27.96
	73	9	265.22	7.89	0.27	1.07	75.63	37.88
		10	-267.00	-6.89	-0.30	-1.07	-78.30	27.94
	74	9	349.75	8.09	0.06	0.79	71.92	39.42
		10	-351.53	-7.09	-0.10	-0.79	-72.69	28.22
	75	9	328.67	8.03	-0.01	0.66	105.20	38.95
		10	-330.45	-7.03	-0.02	-0.66	-105.28	28.13
	76	9	264.47	7.97	0.12	0.89	67.86	38.48
		10	-266.25	-6.97	-0.16	-0.89	-69.22	28.05
	77	9	286.13	7.21	-0.03	0.70	31.33	32.69
		10	-287.91	-6.22	-0.01	-0.70	-31.30	26.98
10	1	10	336.94	2.86	-0.06	-0.07	51.53	-4.05
		11	-336.94	-2.86	0.06	0.07	-50.79	41.24
	2	10	6.13	0.00	0.00	0.00	0.00	0.00
		11	-6.13	0.00	0.00	0.00	0.00	0.00
	3	10	0.00	0.00	0.00	0.00	0.00	0.00
		11	-18.72	0.00	0.00	0.00	0.00	0.00
	4	10	36.59	1.13	-0.04	-0.05	1.97	-1.60
		11	-36.59	-1.13	0.04	0.05	-1.48	16.30
	5	10	27.98	-0.97	0.04	0.05	9.84	1.38
		11	-27.98	0.97	-0.04	-0.05	-10.35	-14.01
	6	10	8.43	-0.29	0.01	0.01	2.98	0.41
		11	-8.43	0.29	-0.01	-0.01	-3.14	-4.22
	7	10	20.84	-0.72	0.14	0.18	36.10	1.02
		11	-20.84	0.72	-0.14	-0.18	-37.97	-10.43
	8	10	6.24	-0.22	0.04	0.05	10.89	0.31
		11	-6.24	0.22	-0.04	-0.05	-11.45	-3.13
	9	10	-3.58	0.05	0.05	0.07	5.21	-0.08
		11	3.58	-0.05	-0.05	-0.07	-5.89	0.73
	10	10	-1.08	0.02	0.02	0.02	1.60	-0.02
		11	1.08	-0.02	-0.02	-0.02	-1.81	0.22
	11	10	-2.67	0.04	0.19	0.24	19.11	-0.06
		11	2.67	-0.04	-0.19	-0.24	-21.61	0.55
	12	10	-0.80	0.01	0.06	0.07	5.74	-0.02
		11	0.80	-0.01	-0.06	-0.07	-6.49	0.16
	13	10	87.48	0.25	-0.03	-0.05	13.06	-0.35
		11	-87.48	-0.25	0.03	0.05	-12.66	3.59
	14	10	26.46	0.08	-0.01	-0.02	4.01	-0.11
		11	-26.46	-0.08	0.01	0.02	-3.89	1.09
	15	10	65.08	0.19	-0.11	-0.20	47.93	-0.26
		11	-65.08	-0.19	0.11	0.20	-46.48	2.67
	16	10	19.58	0.06	-0.03	-0.06	14.39	-0.08
		11	-19.58	-0.06	0.03	0.06	-13.96	0.80

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	10	-3.46	0.12	0.04	0.05	9.40	-0.17
		11	3.46	-0.12	-0.04	-0.05	-9.88	1.73
	18	10	-1.05	0.04	0.01	0.01	2.83	-0.05
		11	1.05	-0.04	-0.01	-0.01	-2.98	0.53
	19	10	19.71	-0.68	-0.12	-0.16	-31.17	0.97
		11	-19.71	0.68	0.12	0.16	32.79	-9.86
	20	10	5.87	-0.20	-0.04	-0.05	-9.25	0.29
		11	-5.87	0.20	0.04	0.05	9.73	-2.94
	21	10	-1.82	0.00	0.00	0.00	0.00	0.00
		11	1.82	0.00	0.00	0.00	0.00	0.00
	22	10	0.31	-1.37	0.05	0.00	0.30	4.75
		11	-0.31	1.37	-0.05	0.00	-0.93	-22.55
	23	10	2.04	-2.51	0.62	0.00	9.77	13.70
		11	-2.04	2.51	-0.62	0.00	-17.82	-46.34
	24	10	0.76	-0.79	0.27	0.13	6.17	4.31
		11	-0.76	0.79	-0.27	-0.13	-9.70	-14.58
	25	10	0.00	0.00	2.53	1.17	57.12	0.00
		11	0.00	0.00	-2.53	-1.17	-90.06	0.00
	26	10	5.23	-8.46	2.77	0.01	36.18	46.34
		11	-5.23	8.46	-2.77	-0.01	-72.25	-156.32
	27	10	414.55	1.36	0.01	-0.05	66.62	0.89
		11	-433.27	-1.36	-0.01	0.05	-66.69	16.77
	28	10	405.22	1.68	0.14	0.12	100.78	0.43
		11	-423.94	-1.68	-0.14	-0.12	-102.62	21.44
	29	10	373.47	2.69	0.02	-0.03	60.60	-1.00
		11	-392.19	-2.69	-0.02	0.03	-60.89	35.95
	30	10	374.67	2.67	0.20	0.19	78.64	-0.98
		11	-393.39	-2.67	-0.20	-0.19	-81.30	35.70
	31	10	492.08	2.95	-0.09	-0.19	70.86	-1.36
		11	-510.80	-2.95	0.09	0.19	-69.75	39.68
	32	10	462.80	2.86	-0.19	-0.37	116.11	-1.24
		11	-481.52	-2.86	0.19	0.37	-113.64	38.47
	33	10	373.63	2.78	0.00	-0.06	66.03	-1.12
		11	-392.35	-2.78	0.00	0.06	-66.07	37.25
	34	10	403.72	1.73	-0.21	-0.32	13.37	0.36
		11	-422.44	-1.73	0.21	0.32	-10.68	22.19
	35	10	274.88	-0.81	0.49	-0.05	49.27	11.52
		11	-289.85	0.81	-0.49	0.05	-55.63	-22.12
	36	10	332.74	-0.15	2.40	0.99	106.28	7.45
		11	-347.72	0.15	-2.40	-0.99	-137.44	-9.37
	37	10	325.28	0.11	2.51	1.13	133.61	7.08
		11	-340.25	-0.11	-2.51	-1.13	-166.18	-5.63
	38	10	299.88	0.92	2.41	1.01	101.46	5.94
		11	-314.86	-0.92	-2.41	-1.01	-132.80	5.97
	39	10	300.84	0.90	2.56	1.19	115.90	5.96
		11	-315.81	-0.90	-2.56	-1.19	-149.12	5.78
	40	10	394.76	1.12	2.32	0.89	109.67	5.65
		11	-409.74	-1.12	-2.32	-0.89	-139.88	8.95

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	10	371.34	1.06	2.24	0.74	145.87	5.75
		11	-386.31	-1.06	-2.24	-0.74	-175.00	7.99
	42	10	300.00	0.99	2.39	0.99	105.80	5.84
		11	-314.98	-0.99	-2.39	-0.99	-136.94	7.02
	43	10	324.07	0.15	2.23	0.78	63.68	7.02
		11	-339.05	-0.15	-2.23	-0.78	-92.63	-5.03
	44	10	335.82	-5.68	2.22	-0.04	82.24	37.78
		11	-350.80	5.68	-2.22	0.04	-111.16	-111.64
	45	10	328.36	-5.42	2.33	0.10	109.57	37.41
		11	-343.33	5.42	-2.33	-0.10	-139.90	-107.91
	46	10	302.96	-4.62	2.24	-0.02	77.42	36.27
		11	-317.94	4.62	-2.24	0.02	-106.51	-96.30
	47	10	303.92	-4.63	2.38	0.16	91.86	36.29
		11	-318.90	4.63	-2.38	-0.16	-122.84	-96.50
	48	10	397.84	-4.41	2.15	-0.14	85.63	35.98
		11	-412.82	4.41	-2.15	0.14	-113.60	-93.32
	49	10	374.42	-4.48	2.07	-0.29	121.83	36.08
		11	-389.40	4.48	-2.07	0.29	-148.71	-94.28
	50	10	303.08	-4.54	2.22	-0.04	81.76	36.17
		11	-318.06	4.54	-2.22	0.04	-110.65	-95.26
	51	10	327.15	-5.38	2.05	-0.25	39.64	37.35
		11	-342.13	5.38	-2.05	0.25	-66.35	-107.30
	52	10	327.46	7.86	-2.22	-0.05	24.36	-36.36
		11	-342.44	-7.86	2.22	0.05	4.45	138.48
	53	10	320.00	8.11	-2.11	0.09	51.68	-36.72
		11	-334.97	-8.11	2.11	-0.09	-24.30	142.21
	54	10	294.60	8.92	-2.20	-0.03	19.54	-37.87
		11	-309.57	-8.92	2.20	0.03	9.09	153.82
	55	10	295.56	8.91	-2.06	0.15	33.97	-37.85
		11	-310.53	-8.91	2.06	-0.15	-7.24	153.62
	56	10	389.48	9.13	-2.29	-0.16	27.75	-38.15
		11	-404.46	-9.13	2.29	0.16	2.00	156.80
	57	10	366.06	9.06	-2.37	-0.30	63.95	-38.06
		11	-381.03	-9.06	2.37	0.30	-33.11	155.84
	58	10	294.72	8.99	-2.22	-0.05	23.88	-37.97
		11	-309.70	-8.99	2.22	0.05	4.95	154.86
	59	10	318.79	8.16	-2.39	-0.26	-18.24	-36.78
		11	-333.77	-8.16	2.39	0.26	49.25	142.81
	60	10	251.15	-6.83	2.44	-0.04	70.39	43.73
		11	-264.63	6.83	-2.44	0.04	-102.09	-132.46
	61	10	243.63	5.36	-1.56	-0.06	18.30	-22.99
		11	-257.11	-5.36	1.56	0.06	1.95	92.65
	62	10	303.24	-6.23	4.16	0.90	121.74	40.12
		11	-316.72	6.23	-4.16	-0.90	-175.79	-121.17
	63	10	296.52	-6.00	4.26	1.02	146.33	39.79
		11	-310.00	6.00	-4.26	-1.02	-201.66	-117.81
	64	10	273.66	-5.28	4.17	0.92	117.40	38.76
		11	-287.14	5.28	-4.17	-0.92	-171.61	-107.36

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	10	274.53	-5.29	4.30	1.08	130.39	38.78
		11	-288.00	5.29	-4.30	-1.08	-186.30	-107.54
	66	10	359.06	-5.09	4.09	0.80	124.79	38.51
		11	-372.53	5.09	-4.09	-0.80	-177.99	-104.68
	67	10	337.98	-5.15	4.02	0.67	157.37	38.59
		11	-351.45	5.15	-4.02	-0.67	-209.59	-105.55
	68	10	273.77	-5.21	4.16	0.90	121.31	38.67
		11	-287.25	5.21	-4.16	-0.90	-175.34	-106.42
	69	10	295.44	-5.96	4.00	0.71	83.40	39.74
		11	-308.92	5.96	-4.00	-0.71	-135.46	-117.27
	70	10	295.71	5.95	0.16	0.89	69.64	-26.60
		11	-309.19	-5.95	-0.16	-0.89	-71.75	103.94
	71	10	289.00	6.18	0.26	1.01	94.24	-26.93
		11	-302.47	-6.18	-0.26	-1.01	-97.62	107.30
	72	10	266.14	6.91	0.17	0.90	65.31	-27.96
		11	-279.62	-6.91	-0.17	-0.90	-67.57	117.74
	73	10	267.00	6.89	0.30	1.07	78.30	-27.94
		11	-280.48	-6.89	-0.30	-1.07	-82.26	117.57
	74	10	351.53	7.09	0.10	0.79	72.69	-28.22
		11	-365.01	-7.09	-0.10	-0.79	-73.95	120.43
	75	10	330.45	7.03	0.02	0.66	105.28	-28.13
		11	-343.93	-7.03	-0.02	-0.66	-105.55	119.56
	76	10	266.25	6.97	0.16	0.89	69.22	-28.05
		11	-279.72	-6.97	-0.16	-0.89	-71.30	118.68
	77	10	287.91	6.22	0.01	0.70	31.30	-26.98
		11	-301.39	-6.22	-0.01	-0.70	-31.42	107.84
11	1	3	253.72	-0.49	0.02	-0.06	51.24	-5.67
		12	-253.72	0.49	-0.02	0.06	-51.30	3.75
	2	3	0.00	0.00	0.00	0.00	0.00	0.00
		12	-1.84	0.00	0.00	0.00	0.00	0.00
	3	3	0.00	0.00	0.00	0.00	0.00	0.00
		12	0.00	0.00	0.00	0.00	0.00	0.00
	4	3	-7.64	-0.15	0.01	-0.04	1.78	-1.77
		12	7.64	0.15	-0.01	0.04	-1.82	1.17
	5	3	72.95	0.11	-0.01	0.04	10.04	1.24
		12	-72.95	-0.11	0.01	-0.04	-10.00	-0.82
	6	3	21.96	0.03	0.00	0.01	3.04	0.37
		12	-21.96	-0.03	0.00	-0.01	-3.03	-0.25
	7	3	54.32	0.08	-0.04	0.15	36.82	0.92
		12	-54.32	-0.08	0.04	-0.15	-36.67	-0.61
	8	3	16.28	0.02	-0.01	0.04	11.11	0.28
		12	-16.28	-0.02	0.01	-0.04	-11.06	-0.18
	9	3	48.28	-0.81	-0.01	0.05	5.47	-9.41
		12	-48.28	0.81	0.01	-0.05	-5.41	6.24
	10	3	14.60	-0.25	0.00	0.02	1.68	-2.84
		12	-14.60	0.25	0.00	-0.02	-1.66	1.89

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	3	35.92	-0.60	-0.05	0.20	20.08	-7.00
		12	-35.92	0.60	0.05	-0.20	-19.87	4.64
	12	3	10.80	-0.18	-0.02	0.06	6.03	-2.11
		12	-10.80	0.18	0.02	-0.06	-5.97	1.40
	13	3	90.59	-0.10	-0.02	-0.05	13.25	-1.20
		12	-90.59	0.10	0.02	0.05	-13.15	0.79
	14	3	27.40	-0.03	-0.01	-0.01	4.06	-0.36
		12	-27.40	0.03	0.01	0.01	-4.04	0.24
	15	3	67.40	-0.08	-0.09	-0.17	48.63	-0.89
		12	-67.40	0.08	0.09	0.17	-48.27	0.59
	16	3	20.27	-0.02	-0.03	-0.05	14.60	-0.27
		12	-20.27	0.02	0.03	0.05	-14.50	0.18
	17	3	-9.02	-0.01	-0.01	0.04	9.59	-0.15
		12	9.02	0.01	0.01	-0.04	-9.55	0.10
	18	3	-2.75	0.00	0.00	0.01	2.89	-0.05
		12	2.75	0.00	0.00	-0.01	-2.88	0.03
	19	3	51.38	0.08	0.03	-0.13	-31.80	0.87
		12	-51.38	-0.08	-0.03	0.13	31.67	-0.58
	20	3	15.30	0.02	0.01	-0.04	-9.43	0.26
		12	-15.30	-0.02	-0.01	0.04	9.39	-0.17
	21	3	0.00	0.00	0.00	0.00	0.00	0.00
		12	0.00	0.00	0.00	0.00	0.00	0.00
	22	3	-0.12	-0.01	0.00	0.00	0.00	-3.70
		12	0.12	0.01	0.00	0.00	0.00	3.67
	23	3	-0.45	-2.61	0.62	0.01	1.70	-20.13
		12	0.45	2.61	-0.62	-0.01	-4.13	9.95
	24	3	-0.07	-0.82	0.32	0.09	2.36	-6.34
		12	0.07	0.82	-0.32	-0.09	-3.62	3.13
	25	3	0.00	0.00	3.01	0.86	21.51	0.00
		12	0.00	0.00	-3.01	-0.86	-33.25	0.00
	26	3	-4.04	-5.32	2.79	0.02	0.00	-41.15
		12	4.04	5.32	-2.79	-0.02	-10.86	20.38
	27	3	340.88	-0.51	0.01	-0.04	66.11	-9.53
		12	-342.72	0.51	-0.01	0.04	-66.16	7.52
	28	3	316.56	-0.55	-0.03	0.10	100.95	-9.94
		12	-318.40	0.55	0.03	-0.10	-100.85	7.80
	29	3	308.84	-1.71	0.01	-0.03	60.17	-23.39
		12	-310.68	1.71	-0.01	0.03	-60.20	16.71
	30	3	292.68	-1.44	-0.04	0.16	79.13	-20.24
		12	-294.52	1.44	0.04	-0.16	-78.96	14.63
	31	3	363.95	-0.79	-0.01	-0.16	70.34	-12.70
		12	-365.79	0.79	0.01	0.16	-70.31	9.62
	32	3	333.63	-0.75	-0.09	-0.32	116.25	-12.30
		12	-335.47	0.75	0.09	0.32	-115.89	9.35
	33	3	234.20	-0.67	0.01	-0.05	65.50	-11.34
		12	-236.03	0.67	-0.01	0.05	-65.55	8.72
	34	3	312.64	-0.56	0.07	-0.26	11.79	-10.01
		12	-314.48	0.56	-0.07	0.26	-12.06	7.84

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	3	202.52	-2.49	0.51	-0.04	42.36	-23.60
		12	-203.99	2.49	-0.51	0.04	-44.34	13.89
	36	3	272.54	-1.70	2.82	0.72	72.39	-17.52
		12	-274.01	1.70	-2.82	-0.72	-83.40	10.91
	37	3	253.09	-1.72	2.79	0.84	100.27	-17.85
		12	-254.55	1.72	-2.79	-0.84	-111.16	11.13
	38	3	246.91	-2.65	2.82	0.74	67.64	-28.61
		12	-248.38	2.65	-2.82	-0.74	-78.64	18.26
	39	3	233.98	-2.44	2.78	0.89	82.81	-26.10
		12	-235.45	2.44	-2.78	-0.89	-93.65	16.59
	40	3	291.00	-1.92	2.81	0.63	75.77	-20.06
		12	-292.47	1.92	-2.81	-0.63	-86.73	12.59
	41	3	266.74	-1.89	2.74	0.50	112.51	-19.74
		12	-268.21	1.89	-2.74	-0.50	-123.20	12.37
	42	3	187.19	-1.82	2.83	0.72	71.90	-18.97
		12	-188.66	1.82	-2.83	-0.72	-82.92	11.87
	43	3	249.95	-1.73	2.87	0.55	28.93	-17.91
		12	-251.42	1.73	-2.87	-0.55	-40.13	11.16
	44	3	269.48	-4.67	2.24	-0.02	52.88	-40.54
		12	-270.94	4.67	-2.24	0.02	-61.62	22.32
	45	3	250.02	-4.70	2.21	0.09	80.76	-40.87
		12	-251.49	4.70	-2.21	-0.09	-89.37	22.54
	46	3	243.84	-5.63	2.23	0.00	48.14	-51.63
		12	-245.31	5.63	-2.23	0.00	-56.85	29.68
	47	3	230.92	-5.41	2.19	0.15	63.30	-49.11
		12	-232.39	5.41	-2.19	-0.15	-71.86	28.01
	48	3	287.93	-4.89	2.22	-0.11	56.27	-43.08
		12	-289.40	4.89	-2.22	0.11	-64.94	24.00
	49	3	263.68	-4.86	2.15	-0.24	93.00	-42.76
		12	-265.15	4.86	-2.15	0.24	-101.41	23.79
	50	3	184.13	-4.80	2.24	-0.02	52.40	-41.99
		12	-185.60	4.80	-2.24	0.02	-61.13	23.28
	51	3	246.88	-4.70	2.29	-0.19	9.43	-40.92
		12	-248.35	4.70	-2.29	0.19	-18.34	22.58
	52	3	275.93	3.85	-2.22	-0.05	52.89	25.30
		12	-277.40	-3.85	2.22	0.05	-44.23	-10.29
	53	3	256.48	3.82	-2.25	0.06	80.77	24.97
		12	-257.95	-3.82	2.25	-0.06	-71.99	-10.07
	54	3	250.30	2.89	-2.22	-0.04	48.14	14.21
		12	-251.77	-2.89	2.22	0.04	-39.47	-2.93
	55	3	237.37	3.11	-2.26	0.11	63.31	16.73
		12	-238.84	-3.11	2.26	-0.11	-54.48	-4.61
	56	3	294.39	3.63	-2.23	-0.14	56.27	22.76
		12	-295.86	-3.63	2.23	0.14	-47.56	-8.61
	57	3	270.14	3.66	-2.30	-0.27	93.01	23.08
		12	-271.60	-3.66	2.30	0.27	-84.02	-8.82
	58	3	190.59	3.72	-2.22	-0.05	52.40	23.85
		12	-192.05	-3.72	2.22	0.05	-43.75	-9.33

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	3	253.34	3.82	-2.17	-0.23	9.43	24.91
		12	-254.81	-3.82	2.17	0.23	-0.96	-10.03
	60	3	179.36	-6.07	2.46	-0.02	38.12	-50.86
		12	-180.68	6.07	-2.46	0.02	-47.73	27.18
	61	3	185.17	1.59	-1.55	-0.05	38.12	8.39
		12	-186.49	-1.59	1.55	0.05	-32.09	-2.17
	62	3	242.38	-5.37	4.55	0.67	65.16	-45.48
		12	-243.70	5.37	-4.55	-0.67	-82.90	24.53
	63	3	224.87	-5.40	4.52	0.77	90.24	-45.78
		12	-226.19	5.40	-4.52	-0.77	-107.88	24.73
	64	3	219.31	-6.23	4.55	0.68	60.88	-55.46
		12	-220.63	6.23	-4.55	-0.68	-78.61	31.15
	65	3	207.68	-6.04	4.51	0.81	74.53	-53.19
		12	-209.00	6.04	-4.51	-0.81	-92.12	29.65
	66	3	258.99	-5.57	4.54	0.58	68.20	-47.76
		12	-260.31	5.57	-4.54	-0.58	-85.89	26.04
	67	3	237.16	-5.54	4.48	0.47	101.26	-47.47
		12	-238.48	5.54	-4.48	-0.47	-118.71	25.85
	68	3	165.57	-5.48	4.55	0.66	64.72	-46.78
		12	-166.89	5.48	-4.55	-0.66	-82.47	25.40
	69	3	222.05	-5.40	4.59	0.51	26.04	-45.82
		12	-223.37	5.40	-4.59	-0.51	-43.96	24.76
	70	3	248.19	2.30	0.54	0.64	65.16	13.78
		12	-249.51	-2.30	-0.54	-0.64	-67.26	-4.82
	71	3	230.68	2.27	0.51	0.74	90.25	13.48
		12	-232.00	-2.27	-0.51	-0.74	-92.24	-4.62
	72	3	225.12	1.43	0.54	0.65	60.88	3.79
		12	-226.44	-1.43	-0.54	-0.65	-62.97	1.80
	73	3	213.49	1.63	0.50	0.78	74.54	6.06
		12	-214.81	-1.63	-0.50	-0.78	-76.48	0.30
	74	3	264.80	2.10	0.53	0.55	68.20	11.49
		12	-266.12	-2.10	-0.53	-0.55	-70.25	-3.31
	75	3	242.97	2.12	0.46	0.44	101.26	11.78
		12	-244.29	-2.12	-0.46	-0.44	-103.07	-3.50
	76	3	171.38	2.18	0.54	0.63	64.72	12.47
		12	-172.70	-2.18	-0.54	-0.63	-66.82	-3.95
	77	3	227.86	2.27	0.58	0.48	26.05	13.43
		12	-229.18	-2.27	-0.58	-0.48	-28.31	-4.59
12	1	12	253.72	-0.49	0.02	-0.06	51.30	-3.75
		13	-253.72	0.49	-0.02	0.06	-51.45	-0.74
	2	12	1.84	0.00	0.00	0.00	0.00	0.00
		13	-6.13	0.00	0.00	0.00	0.00	0.00
	3	12	0.00	0.00	0.00	0.00	0.00	0.00
		13	0.00	0.00	0.00	0.00	0.00	0.00
	4	12	-7.64	-0.15	0.01	-0.04	1.82	-1.17
		13	7.64	0.15	-0.01	0.04	-1.92	-0.23

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	12	72.95	0.11	-0.01	0.04	10.00	0.82
		13	-72.95	-0.11	0.01	-0.04	-9.90	0.17
	6	12	21.96	0.03	0.00	0.01	3.03	0.25
		13	-21.96	-0.03	0.00	-0.01	-3.00	0.05
	7	12	54.32	0.08	-0.04	0.15	36.67	0.61
		13	-54.32	-0.08	0.04	-0.15	-36.30	0.12
	8	12	16.28	0.02	-0.01	0.04	11.06	0.18
		13	-16.28	-0.02	0.01	-0.04	-10.95	0.04
	9	12	48.28	-0.81	-0.01	0.05	5.41	-6.24
		13	-48.28	0.81	0.01	-0.05	-5.28	-1.16
	10	12	14.60	-0.25	0.00	0.02	1.66	-1.89
		13	-14.60	0.25	0.00	-0.02	-1.62	-0.35
	11	12	35.92	-0.60	-0.05	0.20	19.87	-4.64
		13	-35.92	0.60	0.05	-0.20	-19.38	-0.86
	12	12	10.80	-0.18	-0.02	0.06	5.97	-1.40
		13	-10.80	0.18	0.02	-0.06	-5.82	-0.26
	13	12	90.59	-0.10	-0.02	-0.05	13.15	-0.79
		13	-90.59	0.10	0.02	0.05	-12.92	-0.15
	14	12	27.40	-0.03	-0.01	-0.01	4.04	-0.24
		13	-27.40	0.03	0.01	0.01	-3.97	-0.05
	15	12	67.40	-0.08	-0.09	-0.17	48.27	-0.59
		13	-67.40	0.08	0.09	0.17	-47.44	-0.12
	16	12	20.27	-0.02	-0.03	-0.05	14.50	-0.18
		13	-20.27	0.02	0.03	0.05	-14.25	-0.03
	17	12	-9.02	-0.01	-0.01	0.04	9.55	-0.10
		13	9.02	0.01	0.01	-0.04	-9.45	-0.02
	18	12	-2.75	0.00	0.00	0.01	2.88	-0.03
		13	2.75	0.00	0.00	-0.01	-2.85	-0.01
	19	12	51.38	0.08	0.03	-0.13	-31.67	0.58
		13	-51.38	-0.08	-0.03	0.13	31.35	0.12
	20	12	15.30	0.02	0.01	-0.04	-9.39	0.17
		13	-15.30	-0.02	-0.01	0.04	9.30	0.03
	21	12	0.00	0.00	0.00	0.00	0.00	0.00
		13	1.82	0.00	0.00	0.00	0.00	0.00
	22	12	-0.12	-0.01	0.00	0.00	0.00	-3.67
		13	0.12	1.39	-0.05	0.00	-0.30	-4.78
	23	12	-0.45	-2.61	0.62	0.01	4.13	-9.95
		13	0.45	2.61	-0.62	-0.01	-9.78	-13.85
	24	12	-0.07	-0.82	0.32	0.09	3.62	-3.13
		13	0.07	0.82	-0.32	-0.09	-6.55	-4.36
	25	12	0.00	0.00	3.01	0.86	33.25	0.00
		13	0.00	0.00	-3.01	-0.86	-60.67	0.00
	26	12	-4.04	-5.32	2.79	0.02	10.86	-20.38
		13	4.04	5.32	-2.79	-0.02	-36.24	-28.13
	27	12	342.72	-0.51	0.01	-0.04	66.16	-7.52
		13	-345.18	1.89	-0.06	0.04	-66.56	-5.54
	28	12	318.40	-0.55	-0.03	0.10	100.85	-7.80
		13	-320.87	1.93	-0.02	-0.10	-100.91	-5.59

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	12	310.68	-1.71	0.01	-0.03	60.20	-16.71
		13	-313.15	3.09	-0.06	0.03	-60.56	-7.26
	30	12	294.52	-1.44	-0.04	0.16	78.96	-14.63
		13	-296.99	2.82	-0.01	-0.16	-78.86	-6.87
	31	12	365.79	-0.79	-0.01	-0.16	70.31	-9.62
		13	-368.26	2.17	-0.04	0.16	-70.55	-5.95
	32	12	335.47	-0.75	-0.09	-0.32	115.89	-9.35
		13	-337.94	2.13	0.04	0.32	-115.35	-5.90
	33	12	236.03	-0.67	0.01	-0.05	65.55	-8.72
		13	-238.50	2.05	-0.06	0.05	-65.96	-5.78
	34	12	314.48	-0.56	0.07	-0.26	12.06	-7.84
		13	-316.95	1.94	-0.12	0.26	-13.01	-5.60
	35	12	203.99	-2.49	0.51	-0.04	44.34	-13.89
		13	-205.96	3.59	-0.55	0.04	-49.22	-15.49
	36	12	274.01	-1.70	2.82	0.72	83.40	-10.91
		13	-275.98	2.80	-2.86	-0.72	-109.37	-11.24
	37	12	254.55	-1.72	2.79	0.84	111.16	-11.13
		13	-256.53	2.83	-2.83	-0.84	-136.85	-11.29
	38	12	248.38	-2.65	2.82	0.74	78.64	-18.26
		13	-250.35	3.76	-2.86	-0.74	-104.57	-12.62
	39	12	235.45	-2.44	2.78	0.89	93.65	-16.59
		13	-237.43	3.54	-2.82	-0.89	-119.21	-12.31
	40	12	292.47	-1.92	2.81	0.63	86.73	-12.59
		13	-294.44	3.02	-2.85	-0.63	-112.57	-11.58
	41	12	268.21	-1.89	2.74	0.50	123.20	-12.37
		13	-270.19	2.99	-2.78	-0.50	-148.40	-11.54
	42	12	188.66	-1.82	2.83	0.72	82.92	-11.87
		13	-190.64	2.93	-2.86	-0.72	-108.89	-11.44
	43	12	251.42	-1.73	2.87	0.55	40.13	-11.16
		13	-253.39	2.83	-2.91	-0.55	-66.53	-11.29
	44	12	270.94	-4.67	2.24	-0.02	61.62	-22.32
		13	-272.92	5.77	-2.28	0.02	-82.24	-26.93
	45	12	251.49	-4.70	2.21	0.09	89.37	-22.54
		13	-253.47	5.80	-2.25	-0.09	-109.72	-26.97
	46	12	245.31	-5.63	2.23	0.00	56.85	-29.68
		13	-247.29	6.73	-2.27	0.00	-77.44	-28.31
	47	12	232.39	-5.41	2.19	0.15	71.86	-28.01
		13	-234.36	6.52	-2.23	-0.15	-92.08	-28.00
	48	12	289.40	-4.89	2.22	-0.11	64.94	-24.00
		13	-291.38	6.00	-2.26	0.11	-85.44	-27.26
	49	12	265.15	-4.86	2.15	-0.24	101.41	-23.79
		13	-267.12	5.97	-2.19	0.24	-121.27	-27.22
	50	12	185.60	-4.80	2.24	-0.02	61.13	-23.28
		13	-187.57	5.90	-2.28	0.02	-81.76	-27.12
	51	12	248.35	-4.70	2.29	-0.19	18.34	-22.58
		13	-250.33	5.81	-2.33	0.19	-39.41	-26.98
	52	12	277.40	3.85	-2.22	-0.05	44.23	10.29
		13	-279.38	-2.74	2.18	0.05	-24.25	18.07

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	12	257.95	3.82	-2.25	0.06	71.99	10.07
		13	-259.92	-2.72	2.21	-0.06	-51.73	18.03
	54	12	251.77	2.89	-2.22	-0.04	39.47	2.93
		13	-253.75	-1.79	2.18	0.04	-19.45	16.69
	55	12	238.84	3.11	-2.26	0.11	54.48	4.61
		13	-240.82	-2.00	2.22	-0.11	-34.09	17.00
	56	12	295.86	3.63	-2.23	-0.14	47.56	8.61
		13	-297.84	-2.52	2.19	0.14	-27.45	17.74
	57	12	271.60	3.66	-2.30	-0.27	84.02	8.82
		13	-273.58	-2.55	2.26	0.27	-63.28	17.78
	58	12	192.05	3.72	-2.22	-0.05	43.75	9.33
		13	-194.03	-2.62	2.18	0.05	-23.77	17.88
	59	12	254.81	3.82	-2.17	-0.23	0.96	10.03
		13	-256.78	-2.71	2.13	0.23	18.58	18.02
	60	12	180.68	-6.07	2.46	-0.02	47.73	-27.18
		13	-182.46	7.07	-2.50	0.02	-70.39	-34.20
	61	12	186.49	1.59	-1.55	-0.05	32.09	2.17
		13	-188.27	-0.60	1.51	0.05	-18.20	6.31
	62	12	243.70	-5.37	4.55	0.67	82.90	-24.53
		13	-245.48	6.36	-4.59	-0.67	-124.57	-30.42
	63	12	226.19	-5.40	4.52	0.77	107.88	-24.73
		13	-227.97	6.39	-4.56	-0.77	-149.30	-30.46
	64	12	220.63	-6.23	4.55	0.68	78.61	-31.15
		13	-222.41	7.23	-4.58	-0.68	-120.25	-31.67
	65	12	209.00	-6.04	4.51	0.81	92.12	-29.65
		13	-210.78	7.03	-4.55	-0.81	-133.43	-31.39
	66	12	260.31	-5.57	4.54	0.58	85.89	-26.04
		13	-262.09	6.56	-4.57	-0.58	-127.44	-30.73
	67	12	238.48	-5.54	4.48	0.47	118.71	-25.85
		13	-240.26	6.54	-4.51	-0.47	-159.70	-30.69
	68	12	166.89	-5.48	4.55	0.66	82.47	-25.40
		13	-168.67	6.48	-4.59	-0.66	-124.14	-30.60
	69	12	223.37	-5.40	4.59	0.51	43.96	-24.76
		13	-225.15	6.39	-4.63	-0.51	-86.02	-30.47
	70	12	249.51	2.30	0.54	0.64	67.26	4.82
		13	-251.29	-1.30	-0.57	-0.64	-72.38	10.08
	71	12	232.00	2.27	0.51	0.74	92.24	4.62
		13	-233.78	-1.28	-0.55	-0.74	-97.11	10.04
	72	12	226.44	1.43	0.54	0.65	62.97	-1.80
		13	-228.22	-0.44	-0.57	-0.65	-68.06	8.83
	73	12	214.81	1.63	0.50	0.78	76.48	-0.30
		13	-216.59	-0.64	-0.53	-0.78	-81.24	9.11
	74	12	266.12	2.10	0.53	0.55	70.25	3.31
		13	-267.90	-1.10	-0.56	-0.55	-75.25	9.78
	75	12	244.29	2.12	0.46	0.44	103.07	3.50
		13	-246.07	-1.13	-0.50	-0.44	-107.51	9.81
	76	12	172.70	2.18	0.54	0.63	66.82	3.95
		13	-174.48	-1.19	-0.57	-0.63	-71.95	9.90

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	12	229.18	2.27	0.58	0.48	28.31	4.59
		13	-230.96	-1.27	-0.62	-0.48	-33.82	10.03
13	1	13	253.72	-0.49	0.02	-0.06	51.45	0.74
		14	-253.72	0.49	-0.02	0.06	-51.65	-7.14
	2	13	6.13	0.00	0.00	0.00	0.00	0.00
		14	-6.13	0.00	0.00	0.00	0.00	0.00
	3	13	0.00	0.00	0.00	0.00	0.00	0.00
		14	-18.72	0.00	0.00	0.00	0.00	0.00
	4	13	-7.64	-0.15	0.01	-0.04	1.92	0.23
		14	7.64	0.15	-0.01	0.04	-2.06	-2.24
	5	13	72.95	0.11	-0.01	0.04	9.90	-0.17
		14	-72.95	-0.11	0.01	-0.04	-9.76	1.57
	6	13	21.96	0.03	0.00	0.01	3.00	-0.05
		14	-21.96	-0.03	0.00	-0.01	-2.96	0.47
	7	13	54.32	0.08	-0.04	0.15	36.30	-0.12
		14	-54.32	-0.08	0.04	-0.15	-35.78	1.17
	8	13	16.28	0.02	-0.01	0.04	10.95	-0.04
		14	-16.28	-0.02	0.01	-0.04	-10.79	0.35
	9	13	48.28	-0.81	-0.01	0.05	5.28	1.16
		14	-48.28	0.81	0.01	-0.05	-5.09	-11.72
	10	13	14.60	-0.25	0.00	0.02	1.62	0.35
		14	-14.60	0.25	0.00	-0.02	-1.56	-3.54
	11	13	35.92	-0.60	-0.05	0.20	19.38	0.86
		14	-35.92	0.60	0.05	-0.20	-18.68	-8.72
	12	13	10.80	-0.18	-0.02	0.06	5.82	0.26
		14	-10.80	0.18	0.02	-0.06	-5.61	-2.62
	13	13	90.59	-0.10	-0.02	-0.05	12.92	0.15
		14	-90.59	0.10	0.02	0.05	-12.60	-1.51
	14	13	27.40	-0.03	-0.01	-0.01	3.97	0.05
		14	-27.40	0.03	0.01	0.01	-3.87	-0.46
	15	13	67.40	-0.08	-0.09	-0.17	47.44	0.12
		14	-67.40	0.08	0.09	0.17	-46.25	-1.12
	16	13	20.27	-0.02	-0.03	-0.05	14.25	0.03
		14	-20.27	0.02	0.03	0.05	-13.89	-0.34
	17	13	-9.02	-0.01	-0.01	0.04	9.45	0.02
		14	9.02	0.01	0.01	-0.04	-9.31	-0.19
	18	13	-2.75	0.00	0.00	0.01	2.85	0.01
		14	2.75	0.00	0.00	-0.01	-2.81	-0.06
	19	13	51.38	0.08	0.03	-0.13	-31.35	-0.12
		14	-51.38	-0.08	-0.03	0.13	30.90	1.11
	20	13	15.30	0.02	0.01	-0.04	-9.30	-0.03
		14	-15.30	-0.02	-0.01	0.04	9.17	0.33
	21	13	-1.82	0.00	0.00	0.00	0.00	0.00
		14	1.82	0.00	0.00	0.00	0.00	0.00
	22	13	-0.12	-1.39	0.05	0.00	0.30	4.78
		14	0.12	1.39	-0.05	0.00	-0.93	-22.81

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	13	-0.45	-2.61	0.62	0.01	9.78	13.85
		14	0.45	2.61	-0.62	-0.01	-17.86	-47.81
	24	13	-0.07	-0.82	0.32	0.09	6.55	4.36
		14	0.07	0.82	-0.32	-0.09	-10.74	-15.05
	25	13	0.00	0.00	3.01	0.86	60.67	0.00
		14	0.00	0.00	-3.01	-0.86	-99.79	0.00
	26	13	-4.04	-5.32	2.79	0.02	36.24	28.13
		14	4.04	5.32	-2.79	-0.02	-72.46	-97.35
	27	13	345.18	-1.89	0.06	-0.04	66.56	5.54
		14	-363.90	1.89	-0.06	0.04	-67.35	-30.15
	28	13	320.87	-1.93	0.02	0.10	100.91	5.59
		14	-339.59	1.93	-0.02	-0.10	-101.21	-30.68
	29	13	313.15	-3.09	0.06	-0.03	60.56	7.26
		14	-331.87	3.09	-0.06	0.03	-61.29	-47.46
	30	13	296.99	-2.82	0.01	0.16	78.86	6.87
		14	-315.71	2.82	-0.01	-0.16	-78.93	-43.54
	31	13	368.26	-2.17	0.04	-0.16	70.55	5.95
		14	-386.98	2.17	-0.04	0.16	-71.11	-34.16
	32	13	337.94	-2.13	-0.04	-0.32	115.35	5.90
		14	-356.66	2.13	0.04	0.32	-114.78	-33.65
	33	13	238.50	-2.05	0.06	-0.05	65.96	5.78
		14	-257.22	2.05	-0.06	0.05	-66.76	-32.45
	34	13	316.95	-1.94	0.12	-0.26	13.01	5.60
		14	-335.67	1.94	-0.12	0.26	-14.58	-30.76
	35	13	205.96	-3.59	0.55	-0.04	49.22	15.49
		14	-220.94	3.59	-0.55	0.04	-56.35	-62.21
	36	13	275.98	-2.80	2.86	0.72	109.37	11.24
		14	-290.96	2.80	-2.86	-0.72	-146.60	-47.64
	37	13	256.53	-2.83	2.83	0.84	136.85	11.29
		14	-271.51	2.83	-2.83	-0.84	-173.68	-48.06
	38	13	250.35	-3.76	2.86	0.74	104.57	12.62
		14	-265.33	3.76	-2.86	-0.74	-141.75	-61.48
	39	13	237.43	-3.54	2.82	0.89	119.21	12.31
		14	-252.40	3.54	-2.82	-0.89	-155.86	-58.35
	40	13	294.44	-3.02	2.85	0.63	112.57	11.58
		14	-309.42	3.02	-2.85	-0.63	-149.60	-50.84
	41	13	270.19	-2.99	2.78	0.50	148.40	11.54
		14	-285.16	2.99	-2.78	-0.50	-184.54	-50.44
	42	13	190.64	-2.93	2.86	0.72	108.89	11.44
		14	-205.61	2.93	-2.86	-0.72	-146.13	-49.48
	43	13	253.39	-2.83	2.91	0.55	66.53	11.29
		14	-268.37	2.83	-2.91	-0.55	-104.38	-48.13
	44	13	272.92	-5.77	2.28	-0.02	82.24	26.93
		14	-287.90	5.77	-2.28	0.02	-111.85	-102.00
	45	13	253.47	-5.80	2.25	0.09	109.72	26.97
		14	-268.44	5.80	-2.25	-0.09	-138.94	-102.42
	46	13	247.29	-6.73	2.27	0.00	77.44	28.31
		14	-262.27	6.73	-2.27	0.00	-107.00	-115.85

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	13	234.36	-6.52	2.23	0.15	92.08	28.00
		14	-249.34	6.52	-2.23	-0.15	-121.11	-112.71
	48	13	291.38	-6.00	2.26	-0.11	85.44	27.26
		14	-306.36	6.00	-2.26	0.11	-114.86	-105.20
	49	13	267.12	-5.97	2.19	-0.24	121.27	27.22
		14	-282.10	5.97	-2.19	0.24	-149.79	-104.80
	50	13	187.57	-5.90	2.28	-0.02	81.76	27.12
		14	-202.55	5.90	-2.28	0.02	-111.38	-103.84
	51	13	250.33	-5.81	2.33	-0.19	39.41	26.98
		14	-265.30	5.81	-2.33	0.19	-69.63	-102.49
	52	13	279.38	2.74	-2.18	-0.05	24.25	-18.07
		14	-294.35	-2.74	2.18	0.05	4.09	53.76
	53	13	259.92	2.72	-2.21	0.06	51.73	-18.03
		14	-274.90	-2.72	2.21	-0.06	-23.00	53.34
	54	13	253.75	1.79	-2.18	-0.04	19.45	-16.69
		14	-268.72	-1.79	2.18	0.04	8.94	39.91
	55	13	240.82	2.00	-2.22	0.11	34.09	-17.00
		14	-255.80	-2.00	2.22	-0.11	-5.17	43.05
	56	13	297.84	2.52	-2.19	-0.14	27.45	-17.74
		14	-312.81	-2.52	2.19	0.14	1.08	50.55
	57	13	273.58	2.55	-2.26	-0.27	63.28	-17.78
		14	-288.56	-2.55	2.26	0.27	-33.85	50.96
	58	13	194.03	2.62	-2.18	-0.05	23.77	-17.88
		14	-209.01	-2.62	2.18	0.05	4.56	51.92
	59	13	256.78	2.71	-2.13	-0.23	-18.58	-18.02
		14	-271.76	-2.71	2.13	0.23	46.31	53.27
	60	13	182.46	-7.07	2.50	-0.02	70.39	34.20
		14	-195.94	7.07	-2.50	0.02	-102.89	-126.08
	61	13	188.27	0.60	-1.51	-0.05	18.20	-6.31
		14	-201.75	-0.60	1.51	0.05	1.46	14.10
	62	13	245.48	-6.36	4.59	0.67	124.57	30.42
		14	-258.96	6.36	-4.59	-0.67	-184.18	-113.16
	63	13	227.97	-6.39	4.56	0.77	149.30	30.46
		14	-241.45	6.39	-4.56	-0.77	-208.56	-113.53
	64	13	222.41	-7.23	4.58	0.68	120.25	31.67
		14	-235.89	7.23	-4.58	-0.68	-179.82	-125.62
	65	13	210.78	-7.03	4.55	0.81	133.43	31.39
		14	-224.26	7.03	-4.55	-0.81	-192.52	-122.79
	66	13	262.09	-6.56	4.57	0.58	127.44	30.73
		14	-275.57	6.56	-4.57	-0.58	-186.89	-116.04
	67	13	240.26	-6.54	4.51	0.47	159.70	30.69
		14	-253.74	6.54	-4.51	-0.47	-218.33	-115.68
	68	13	168.67	-6.48	4.59	0.66	124.14	30.60
		14	-182.15	6.48	-4.59	-0.66	-183.76	-114.81
	69	13	225.15	-6.39	4.63	0.51	86.02	30.47
		14	-238.62	6.39	-4.63	-0.51	-146.18	-113.59
	70	13	251.29	1.30	0.57	0.64	72.38	-10.08
		14	-264.77	-1.30	-0.57	-0.64	-79.84	27.02

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	13	233.78	1.28	0.55	0.74	97.11	-10.04
		14	-247.26	-1.28	-0.55	-0.74	-104.21	26.65
	72	13	228.22	0.44	0.57	0.65	68.06	-8.83
		14	-241.70	-0.44	-0.57	-0.65	-75.47	14.56
	73	13	216.59	0.64	0.53	0.78	81.24	-9.11
		14	-230.07	-0.64	-0.53	-0.78	-88.17	17.39
	74	13	267.90	1.10	0.56	0.55	75.25	-9.78
		14	-281.38	-1.10	-0.56	-0.55	-82.54	24.14
	75	13	246.07	1.13	0.50	0.44	107.51	-9.81
		14	-259.55	-1.13	-0.50	-0.44	-113.98	24.50
	76	13	174.48	1.19	0.57	0.63	71.95	-9.90
		14	-187.96	-1.19	-0.57	-0.63	-79.41	25.37
	77	13	230.96	1.27	0.62	0.48	33.82	-10.03
		14	-244.43	-1.27	-0.62	-0.48	-41.84	26.59
14	1	4	277.99	0.04	0.04	-0.02	50.84	0.51
		15	-277.99	-0.04	-0.04	0.02	-51.00	-0.34
	2	4	0.00	0.00	0.00	0.00	0.00	0.00
		15	-1.84	0.00	0.00	0.00	0.00	0.00
	3	4	0.00	0.00	0.00	0.00	0.00	0.00
		15	0.00	0.00	0.00	0.00	0.00	0.00
	4	4	0.76	0.01	0.03	-0.02	1.51	0.12
		15	-0.76	-0.01	-0.03	0.02	-1.62	-0.08
	5	4	66.46	0.00	-0.03	0.02	10.32	-0.05
		15	-66.46	0.00	0.03	-0.02	-10.21	0.04
	6	4	20.01	0.00	-0.01	0.00	3.13	-0.02
		15	-20.01	0.00	0.01	0.00	-3.09	0.01
	7	4	49.49	0.00	-0.10	0.06	37.85	-0.04
		15	-49.49	0.00	0.10	-0.06	-37.45	0.03
	8	4	14.83	0.00	-0.03	0.02	11.42	-0.01
		15	-14.83	0.00	0.03	-0.02	-11.30	0.01
	9	4	44.58	0.85	-0.04	0.02	5.84	9.85
		15	-44.58	-0.85	0.04	-0.02	-5.70	-6.53
	10	4	13.48	0.26	-0.01	0.01	1.79	2.98
		15	-13.48	-0.26	0.01	-0.01	-1.75	-1.97
	11	4	33.17	0.63	-0.14	0.08	21.45	7.33
		15	-33.17	-0.63	0.14	-0.08	-20.91	-4.86
	12	4	9.98	0.19	-0.04	0.02	6.44	2.20
		15	-9.98	-0.19	0.04	-0.02	-6.28	-1.46
	13	4	41.31	0.82	0.06	-0.02	12.22	9.52
		15	-41.31	-0.82	-0.06	0.02	-12.44	-6.31
	14	4	12.49	0.25	0.02	-0.01	3.75	2.88
		15	-12.49	-0.25	-0.02	0.01	-3.82	-1.91
	15	4	30.73	0.61	0.20	-0.07	44.86	7.08
		15	-30.73	-0.61	-0.20	0.07	-45.65	-4.70
	16	4	9.24	0.18	0.06	-0.02	13.47	2.13
		15	-9.24	-0.18	-0.06	0.02	-13.71	-1.41

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	4	-8.22	0.00	-0.03	0.02	9.85	0.01
		15	8.22	0.00	0.03	-0.02	-9.75	0.00
	18	4	-2.50	0.00	-0.01	0.00	2.97	0.00
		15	2.50	0.00	0.01	0.00	-2.94	0.00
	19	4	46.81	0.00	0.09	-0.05	-32.69	-0.04
		15	-46.81	0.00	-0.09	0.05	32.34	0.02
	20	4	13.94	0.00	0.03	-0.01	-9.70	-0.01
		15	-13.94	0.00	-0.03	0.01	9.59	0.01
	21	4	0.00	0.00	0.00	0.00	0.00	0.00
		15	0.00	0.00	0.00	0.00	0.00	0.00
	22	4	0.02	0.00	0.00	0.00	0.00	-3.66
		15	-0.02	0.00	0.00	0.00	0.00	3.65
	23	4	0.16	-2.60	0.62	0.00	1.69	-19.94
		15	-0.16	2.60	-0.62	0.00	-4.12	9.82
	24	4	0.08	-0.82	0.35	0.03	2.20	-6.28
		15	-0.08	0.82	-0.35	-0.03	-3.57	3.09
	25	4	0.00	0.00	3.28	0.30	20.02	0.00
		15	0.00	0.00	-3.28	-0.30	-32.80	0.00
	26	4	-1.19	-1.75	2.80	0.01	-0.07	-13.42
		15	1.19	1.75	-2.80	-0.01	-10.83	6.60
	27	4	365.25	0.04	0.03	-0.02	65.80	-3.10
		15	-367.08	-0.04	-0.03	0.02	-65.92	3.27
	28	4	343.09	0.04	-0.07	0.04	101.62	-3.08
		15	-344.93	-0.04	0.07	-0.04	-101.36	3.26
	29	4	336.84	1.16	0.02	-0.01	59.98	9.79
		15	-338.68	-1.16	-0.02	0.01	-60.06	-5.28
	30	4	321.92	0.87	-0.11	0.06	80.24	6.50
		15	-323.76	-0.87	0.11	-0.06	-79.81	-3.09
	31	4	332.57	1.12	0.14	-0.06	68.32	9.36
		15	-334.41	-1.12	-0.14	0.06	-68.87	-5.00
	32	4	318.75	0.84	0.33	-0.13	110.68	6.18
		15	-320.59	-0.84	-0.33	0.13	-111.97	-2.88
	33	4	268.05	0.05	0.03	-0.02	65.17	-3.03
		15	-269.89	-0.05	-0.03	0.02	-65.30	3.22
	34	4	339.52	0.05	0.18	-0.10	9.96	-3.08
		15	-341.36	-0.05	-0.18	0.10	-10.68	3.26
	35	4	222.54	-2.05	0.53	-0.02	42.02	-18.48
		15	-224.01	2.05	-0.53	0.02	-44.09	10.50
	36	4	292.30	-1.24	3.08	0.26	70.83	-12.29
		15	-293.77	1.24	-3.08	-0.26	-82.83	7.45
	37	4	274.57	-1.24	3.00	0.30	99.48	-12.28
		15	-276.04	1.24	-3.00	-0.30	-111.17	7.44
	38	4	269.57	-0.35	3.07	0.26	66.17	-1.98
		15	-271.04	0.35	-3.07	-0.26	-78.14	0.61
	39	4	257.64	-0.58	2.96	0.32	82.38	-4.61
		15	-259.11	0.58	-2.96	-0.32	-93.93	2.36
	40	4	266.16	-0.38	3.16	0.22	72.84	-2.32
		15	-267.63	0.38	-3.16	-0.22	-85.18	0.83

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	4	255.10	-0.60	3.32	0.16	106.73	-4.87
		15	-256.57	0.60	-3.32	-0.16	-119.67	2.52
	42	4	214.54	-1.24	3.08	0.25	70.33	-12.23
		15	-216.01	1.24	-3.08	-0.25	-82.33	7.41
	43	4	271.72	-1.24	3.20	0.19	26.15	-12.28
		15	-273.19	1.24	-3.20	-0.19	-38.63	7.44
	44	4	291.25	-1.36	2.26	-0.01	52.58	-13.22
		15	-292.72	1.36	-2.26	0.01	-61.40	7.90
	45	4	273.52	-1.36	2.18	0.04	81.23	-13.20
		15	-274.99	1.36	-2.18	-0.04	-89.75	7.89
	46	4	268.52	-0.47	2.25	0.00	47.93	-2.90
		15	-269.99	0.47	-2.25	0.00	-56.71	1.06
	47	4	256.58	-0.70	2.15	0.06	64.13	-5.54
		15	-258.05	0.70	-2.15	-0.06	-72.51	2.80
	48	4	265.11	-0.50	2.35	-0.04	54.60	-3.25
		15	-266.58	0.50	-2.35	0.04	-63.76	1.28
	49	4	254.05	-0.72	2.50	-0.10	88.48	-5.79
		15	-255.52	0.72	-2.50	0.10	-98.24	2.97
	50	4	213.49	-1.36	2.26	-0.01	52.08	-13.16
		15	-214.96	1.36	-2.26	0.01	-60.91	7.86
	51	4	270.66	-1.36	2.38	-0.07	7.91	-13.20
		15	-272.13	1.36	-2.38	0.07	-17.21	7.89
	52	4	293.15	1.43	-2.21	-0.02	52.70	8.26
		15	-294.62	-1.43	2.21	0.02	-44.07	-2.66
	53	4	275.43	1.44	-2.29	0.02	81.35	8.27
		15	-276.90	-1.44	2.29	-0.02	-72.42	-2.67
	54	4	270.43	2.32	-2.22	-0.02	48.05	18.57
		15	-271.90	-2.32	2.22	0.02	-39.38	-9.50
	55	4	258.49	2.10	-2.33	0.04	64.25	15.93
		15	-259.96	-2.10	2.33	-0.04	-55.18	-7.76
	56	4	267.01	2.29	-2.12	-0.06	54.72	18.23
		15	-268.48	-2.29	2.12	0.06	-46.43	-9.28
	57	4	255.95	2.07	-1.97	-0.12	88.60	15.68
		15	-257.42	-2.07	1.97	0.12	-80.91	-7.59
	58	4	215.40	1.44	-2.21	-0.02	52.20	8.32
		15	-216.86	-1.44	2.21	0.02	-43.58	-2.71
	59	4	272.57	1.44	-2.09	-0.09	8.03	8.27
		15	-274.04	-1.44	2.09	0.09	0.12	-2.67
	60	4	199.43	-3.10	2.49	-0.01	37.77	-26.29
		15	-200.75	3.10	-2.49	0.01	-47.48	14.20
	61	4	201.14	-0.58	-1.54	-0.02	37.88	-6.97
		15	-202.46	0.58	1.54	0.02	-31.89	4.70
	62	4	262.21	-2.39	4.78	0.24	63.70	-20.81
		15	-263.53	2.39	-4.78	-0.24	-82.36	11.49
	63	4	246.26	-2.39	4.71	0.28	89.49	-20.79
		15	-247.58	2.39	-4.71	-0.28	-107.87	11.49
	64	4	241.76	-1.59	4.78	0.24	59.51	-11.52
		15	-243.08	1.59	-4.78	-0.24	-78.14	5.34

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	4	231.02	-1.79	4.68	0.29	74.09	-13.90
		15	-232.34	1.79	-4.68	-0.29	-92.35	6.91
	66	4	238.69	-1.61	4.86	0.20	65.51	-11.83
		15	-240.01	1.61	-4.86	-0.20	-84.48	5.54
	67	4	228.73	-1.81	5.00	0.15	96.01	-14.13
		15	-230.05	1.81	-5.00	-0.15	-115.52	7.06
	68	4	192.23	-2.38	4.79	0.24	63.25	-20.75
		15	-193.55	2.38	-4.79	-0.24	-81.91	11.46
	69	4	243.69	-2.39	4.90	0.18	23.49	-20.79
		15	-245.01	2.39	-4.90	-0.18	-42.58	11.48
	70	4	263.93	0.13	0.76	0.22	63.80	-1.48
		15	-265.25	-0.13	-0.76	-0.22	-66.76	1.99
	71	4	247.98	0.13	0.69	0.26	89.59	-1.47
		15	-249.30	-0.13	-0.69	-0.26	-92.28	1.98
	72	4	243.47	0.93	0.75	0.23	59.62	7.80
		15	-244.80	-0.93	-0.75	-0.23	-62.54	-4.17
	73	4	232.73	0.73	0.66	0.28	74.20	5.43
		15	-234.05	-0.73	-0.66	-0.28	-76.76	-2.59
	74	4	240.40	0.91	0.84	0.19	65.62	7.50
		15	-241.72	-0.91	-0.84	-0.19	-68.88	-3.96
	75	4	230.45	0.71	0.97	0.14	96.12	5.20
		15	-231.77	-0.71	-0.97	-0.14	-99.92	-2.44
	76	4	193.95	0.14	0.76	0.22	63.35	-1.43
		15	-195.27	-0.14	-0.76	-0.22	-66.32	1.95
	77	4	245.40	0.13	0.87	0.16	23.60	-1.46
		15	-246.73	-0.13	-0.87	-0.16	-26.99	1.98
15	DL 1	15	277.99	0.04	0.04	-0.02	51.00	0.34
		16	-277.99	-0.04	-0.04	0.02	-51.37	0.05
	DL 2	15	1.84	0.00	0.00	0.00	0.00	0.00
		16	-6.13	0.00	0.00	0.00	0.00	0.00
	3	15	0.00	0.00	0.00	0.00	0.00	0.00
		16	0.00	0.00	0.00	0.00	0.00	0.00
	PED LL 4	15	0.76	0.01	0.03	-0.02	1.62	0.08
		16	-0.76	-0.01	-0.03	0.02	-1.87	0.01
	5	15	66.46	0.00	-0.03	0.02	10.21	-0.04
		16	-66.46	0.00	0.03	-0.02	-9.96	0.00
	6	15	20.01	0.00	-0.01	0.00	3.09	-0.01
		16	-20.01	0.00	0.01	0.00	-3.02	0.00
	7	15	49.49	0.00	-0.10	0.06	37.45	-0.03
		16	-49.49	0.00	0.10	-0.06	-36.50	0.00
	8	15	14.83	0.00	-0.03	0.02	11.30	-0.01
		16	-14.83	0.00	0.03	-0.02	-11.01	0.00
	9	15	44.58	0.85	-0.04	0.02	5.70	6.53
		16	-44.58	-0.85	0.04	-0.02	-5.35	1.22
	10	15	13.48	0.26	-0.01	0.01	1.75	1.97
		16	-13.48	-0.26	0.01	-0.01	-1.64	0.37

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	15	33.17	0.63	-0.14	0.08	20.91	4.86
		16	-33.17	-0.63	0.14	-0.08	-19.65	0.91
	12	15	9.98	0.19	-0.04	0.02	6.28	1.46
		16	-9.98	-0.19	0.04	-0.02	-5.90	0.27
	13	15	41.31	0.82	0.06	-0.02	12.44	6.31
		16	-41.31	-0.82	-0.06	0.02	-12.94	1.18
	14	15	12.49	0.25	0.02	-0.01	3.82	1.91
		16	-12.49	-0.25	-0.02	0.01	-3.97	0.36
LL	15	15	30.73	0.61	0.20	-0.07	45.65	4.70
		16	-30.73	-0.61	-0.20	0.07	-47.50	0.88
LL	16	15	9.24	0.18	0.06	-0.02	13.71	1.41
		16	-9.24	-0.18	-0.06	0.02	-14.26	0.26
	17	15	-8.22	0.00	-0.03	0.02	9.75	0.00
		16	8.22	0.00	0.03	-0.02	-9.50	0.00
	18	15	-2.50	0.00	-0.01	0.00	2.94	0.00
		16	2.50	0.00	0.01	0.00	-2.87	0.00
	19	15	46.81	0.00	0.09	-0.05	-32.34	-0.02
		16	-46.81	0.00	-0.09	0.05	31.53	0.00
	20	15	13.94	0.00	0.03	-0.01	-9.59	-0.01
		16	-13.94	0.00	-0.03	0.01	9.35	0.00
B	21	15	0.00	0.00	0.00	0.00	0.00	0.00
		16	1.82	0.00	0.00	0.00	0.00	0.00
SF	22	15	0.02	0.00	0.00	0.00	0.00	-3.65
		16	-0.02	1.38	-0.05	0.00	-0.30	-4.77
W	23	15	0.16	-2.60	0.62	0.00	4.12	-9.82
		16	-0.16	2.60	-0.62	0.00	-9.80	-13.83
WL	24	15	0.08	-0.82	0.35	0.03	3.57	-3.09
		16	-0.08	0.82	-0.35	-0.03	-6.77	-4.36
LF	25	15	0.00	0.00	3.28	0.30	32.80	0.00
		16	0.00	0.00	-3.28	-0.30	-62.66	0.00
RST	26	15	-1.19	-1.75	2.80	0.01	10.83	-6.60
		16	1.19	1.75	-2.80	-0.01	-36.30	-9.33
	27	15	367.08	0.04	0.03	-0.02	65.92	-3.27
		16	-369.55	1.34	-0.08	0.02	-66.50	-4.72
	28	15	344.93	0.04	-0.07	0.04	101.36	-3.26
		16	-347.40	1.34	0.02	-0.04	-101.04	-4.71
	29	15	338.68	1.16	0.02	-0.01	60.06	5.28
		16	-341.15	0.22	-0.07	0.01	-60.53	-3.12
	30	15	323.76	0.87	-0.11	0.06	79.81	3.09
		16	-326.23	0.51	0.06	-0.06	-79.08	-3.53
	31	15	334.41	1.12	0.14	-0.06	68.87	5.00
		16	-336.88	0.26	-0.19	0.06	-70.44	-3.18
	32	15	320.59	0.84	0.33	-0.13	111.97	2.88
		16	-323.05	0.54	-0.38	0.13	-115.29	-3.57
	33	15	269.89	0.05	0.03	-0.02	65.30	-3.22
		16	-272.36	1.33	-0.08	0.02	-65.90	-4.71
	34	15	341.36	0.05	0.18	-0.10	10.68	-3.26
		16	-343.83	1.34	-0.23	0.10	-12.65	-4.71

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	15	224.01	-2.05	0.53	-0.02	44.09	-10.50
		16	-225.98	3.15	-0.57	0.02	-49.17	-14.84
	36	15	293.77	-1.24	3.08	0.26	82.83	-7.45
		16	-295.74	2.35	-3.12	-0.26	-111.09	-10.58
	37	15	276.04	-1.24	3.00	0.30	111.17	-7.44
		16	-278.02	2.35	-3.04	-0.30	-138.73	-10.58
	38	15	271.04	-0.35	3.07	0.26	78.14	-0.61
		16	-273.02	1.46	-3.11	-0.26	-106.31	-9.30
	39	15	259.11	-0.58	2.96	0.32	93.93	-2.36
		16	-261.08	1.68	-3.00	-0.32	-121.16	-9.63
	40	15	267.63	-0.38	3.16	0.22	85.18	-0.83
		16	-269.60	1.49	-3.20	-0.22	-114.24	-9.35
	41	15	256.57	-0.60	3.32	0.16	119.67	-2.52
		16	-258.54	1.71	-3.36	-0.16	-150.12	-9.66
	42	15	216.01	-1.24	3.08	0.25	82.33	-7.41
		16	-217.99	2.34	-3.12	-0.25	-110.61	-10.57
	43	15	273.19	-1.24	3.20	0.19	38.63	-7.44
		16	-275.16	2.35	-3.24	-0.19	-68.01	-10.58
	44	15	292.72	-1.36	2.26	-0.01	61.40	-7.90
		16	-294.69	2.47	-2.30	0.01	-82.24	-11.24
	45	15	274.99	-1.36	2.18	0.04	89.75	-7.89
		16	-276.97	2.47	-2.22	-0.04	-109.88	-11.24
	46	15	269.99	-0.47	2.25	0.00	56.71	-1.06
		16	-271.96	1.58	-2.29	0.00	-77.46	-9.96
	47	15	258.05	-0.70	2.15	0.06	72.51	-2.80
		16	-260.03	1.81	-2.19	-0.06	-92.31	-10.29
	48	15	266.58	-0.50	2.35	-0.04	63.76	-1.28
		16	-268.55	1.61	-2.39	0.04	-85.40	-10.01
	49	15	255.52	-0.72	2.50	-0.10	98.24	-2.97
		16	-257.49	1.83	-2.54	0.10	-121.28	-10.33
	50	15	214.96	-1.36	2.26	-0.01	60.91	-7.86
		16	-216.93	2.46	-2.30	0.01	-81.76	-11.24
	51	15	272.13	-1.36	2.38	-0.07	17.21	-7.89
		16	-274.11	2.47	-2.42	0.07	-39.16	-11.24
	52	15	294.62	1.43	-2.21	-0.02	44.07	2.66
		16	-296.60	-0.33	2.17	0.02	-24.16	3.69
	53	15	276.90	1.44	-2.29	0.02	72.42	2.67
		16	-278.87	-0.33	2.25	-0.02	-51.79	3.69
	54	15	271.90	2.32	-2.22	-0.02	39.38	9.50
		16	-273.87	-1.22	2.18	0.02	-19.38	4.97
	55	15	259.96	2.10	-2.33	0.04	55.18	7.76
		16	-261.93	-0.99	2.29	-0.04	-34.22	4.64
	56	15	268.48	2.29	-2.12	-0.06	46.43	9.28
		16	-270.46	-1.19	2.09	0.06	-27.31	4.92
	57	15	257.42	2.07	-1.97	-0.12	80.91	7.59
		16	-259.40	-0.97	1.93	0.12	-63.19	4.61
	58	15	216.86	1.44	-2.21	-0.02	43.58	2.71
		16	-218.84	-0.33	2.17	0.02	-23.67	3.70

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	15	274.04	1.44	-2.09	-0.09	-0.12	2.67
		16	-276.01	-0.33	2.05	0.09	18.92	3.69
	60	15	200.75	-3.10	2.49	-0.01	47.48	-14.20
		16	-202.53	4.09	-2.53	0.01	-70.39	-20.08
	61	15	202.46	-0.58	-1.54	-0.02	31.89	-4.70
		16	-204.24	1.58	1.50	0.02	-18.11	-6.64
	62	15	263.53	-2.39	4.78	0.24	82.36	-11.49
		16	-265.31	3.38	-4.82	-0.24	-126.16	-16.29
	63	15	247.58	-2.39	4.71	0.28	107.87	-11.49
		16	-249.36	3.38	-4.75	-0.28	-151.03	-16.29
	64	15	243.08	-1.59	4.78	0.24	78.14	-5.34
		16	-244.86	2.58	-4.81	-0.24	-121.86	-15.15
	65	15	232.34	-1.79	4.68	0.29	92.35	-6.91
		16	-234.12	2.78	-4.72	-0.29	-135.22	-15.44
	66	15	240.01	-1.61	4.86	0.20	84.48	-5.54
		16	-241.79	2.61	-4.90	-0.20	-129.00	-15.19
	67	15	230.05	-1.81	5.00	0.15	115.52	-7.06
		16	-231.83	2.80	-5.04	-0.15	161.29	15.47
	68	15	193.55	-2.38	4.79	0.24	81.91	-11.46
		16	-195.33	3.38	-4.82	-0.24	-125.73	-16.29
	69	15	245.01	-2.39	4.90	0.18	42.58	-11.48
		16	-246.79	3.38	-4.93	-0.18	-87.39	-16.29
	70	15	265.25	0.13	0.76	0.22	66.76	-1.99
		16	-267.03	0.86	-0.79	-0.22	-73.88	-2.85
	71	15	249.30	0.13	0.69	0.26	92.28	-1.98
		16	-251.08	0.86	-0.72	-0.26	-98.75	-2.85
	72	15	244.80	0.93	0.75	0.23	62.54	4.17
		16	-246.57	0.06	-0.78	-0.23	-69.58	-1.71
	73	15	234.05	0.73	0.66	0.28	76.76	2.59
		16	-235.83	0.27	-0.69	-0.28	-82.94	-2.00
	74	15	241.72	0.91	0.84	0.19	68.88	3.96
		16	-243.50	0.09	-0.87	-0.19	-76.72	-1.75
	75	15	231.77	0.71	0.97	0.14	99.92	2.44
		16	-233.55	0.29	-1.01	-0.14	-109.01	-2.03
	76	15	195.27	0.14	0.76	0.22	66.32	-1.95
		16	-197.05	0.86	-0.79	-0.22	-73.45	-2.85
	77	15	246.73	0.13	0.87	0.16	26.99	-1.98
		16	-248.50	0.86	-0.90	-0.16	-35.11	-2.85
16	DL 1	16	277.99	0.04	0.04	-0.02	51.37	-0.05
		17	-277.99	-0.04	-0.04	0.02	-51.89	0.61
	DL 2	16	6.13	0.00	0.00	0.00	0.00	0.00
		17	-6.13	0.00	0.00	0.00	0.00	0.00
	DL 3	16	0.00	0.00	0.00	0.00	0.00	0.00
		17	-18.72	0.00	0.00	0.00	0.00	0.00
	PED LL 4	16	0.76	0.01	0.03	-0.02	1.87	-0.01
		17	-0.76	-0.01	-0.03	0.02	-2.22	0.14

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	16	66.46	0.00	-0.03	0.02	9.96	0.00
		17	-66.46	0.00	0.03	-0.02	-9.59	-0.05
	6	16	20.01	0.00	-0.01	0.00	3.02	0.00
		17	-20.01	0.00	0.01	0.00	-2.91	-0.02
	7	16	49.49	0.00	-0.10	0.06	36.50	0.00
		17	-49.49	0.00	0.10	-0.06	-35.16	-0.04
	8	16	14.83	0.00	-0.03	0.02	11.01	0.00
		17	-14.83	0.00	0.03	-0.02	-10.61	-0.01
	9	16	44.58	0.85	-0.04	0.02	5.35	-1.22
		17	-44.58	-0.85	0.04	-0.02	-4.86	12.28
	10	16	13.48	0.26	-0.01	0.01	1.64	-0.37
		17	-13.48	-0.26	0.01	-0.01	-1.49	3.71
	11	16	33.17	0.63	-0.14	0.08	19.65	-0.91
		17	-33.17	-0.63	0.14	-0.08	-17.85	9.14
	12	16	9.98	0.19	-0.04	0.02	5.90	-0.27
		17	-9.98	-0.19	0.04	-0.02	-5.36	2.75
	13	16	41.31	0.82	0.06	-0.02	12.94	-1.18
		17	-41.31	-0.82	-0.06	0.02	-13.66	11.86
	14	16	12.49	0.25	0.02	-0.01	3.97	-0.36
		17	-12.49	-0.25	-0.02	0.01	-4.19	3.59
LL	15	16	30.73	0.61	0.20	-0.07	47.50	-0.88
		17	-30.73	-0.61	-0.20	0.07	-50.13	8.83
LL	16	16	9.24	0.18	0.06	-0.02	14.26	-0.26
		17	-9.24	-0.18	-0.06	0.02	-15.06	2.65
	17	16	-8.22	0.00	-0.03	0.02	9.50	0.00
		17	8.22	0.00	0.03	-0.02	-9.15	0.01
	18	16	-2.50	0.00	-0.01	0.00	2.87	0.00
		17	2.50	0.00	0.01	0.00	-2.76	0.00
	19	16	46.81	0.00	0.09	-0.05	-31.53	0.00
		17	-46.81	0.00	-0.09	0.05	30.36	-0.04
	20	16	13.94	0.00	0.03	-0.01	-9.35	0.00
		17	-13.94	0.00	-0.03	0.01	9.01	-0.01
B	21	16	-1.82	0.00	0.00	0.00	0.00	0.00
		17	1.82	0.00	0.00	0.00	0.00	0.00
SF	22	16	0.02	-1.38	0.05	0.00	0.30	4.77
		17	-0.02	1.38	-0.05	0.00	-0.93	-22.77
W	23	16	0.16	-2.60	0.62	0.00	9.80	13.83
		17	-0.16	2.60	-0.62	0.00	-17.90	-47.57
WL	24	16	0.08	-0.82	0.35	0.03	6.77	4.36
		17	-0.08	0.82	-0.35	-0.03	-11.33	-14.99
LF	25	16	0.00	0.00	3.28	0.30	62.66	0.00
		17	0.00	0.00	-3.28	-0.30	-105.26	0.00
RST	26	16	-1.19	-1.75	2.80	0.01	36.30	9.33
		17	1.19	1.75	-2.80	-0.01	-72.66	-32.07
	27	16	369.55	-1.34	0.08	-0.02	66.50	4.72
		17	-388.27	1.34	-0.08	0.02	-67.54	-22.09
	28	16	347.40	-1.34	-0.02	0.04	101.04	4.71
		17	-366.12	1.34	0.02	-0.04	-100.81	-22.07

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	16	341.15	-0.22	0.07	-0.01	60.53	3.12
		17	-359.87	0.22	-0.07	0.01	-61.40	-6.02
	30	16	326.23	-0.51	-0.06	0.06	79.08	3.53
		17	-344.95	0.51	0.06	-0.06	-78.26	-10.13
	31	16	336.88	-0.26	0.19	-0.06	70.44	3.18
		17	-355.60	0.26	-0.19	0.06	-72.90	-6.57
	32	16	323.05	-0.54	0.38	-0.13	115.29	3.57
		17	-341.77	0.54	-0.38	0.13	-120.23	-10.54
	33	16	272.36	-1.33	0.08	-0.02	65.90	4.71
		17	-291.08	1.33	-0.08	0.02	-66.96	-22.01
	34	16	343.83	-1.34	0.23	-0.10	12.65	4.71
		17	-362.55	1.34	-0.23	0.10	-15.68	-22.07
	35	16	225.98	-3.15	0.57	-0.02	49.17	14.84
		17	-240.96	3.15	-0.57	0.02	-56.58	-55.78
	36	16	295.74	-2.35	3.12	0.26	111.09	10.58
		17	-310.72	2.35	-3.12	-0.26	-151.60	-41.08
	37	16	278.02	-2.35	3.04	0.30	138.73	10.58
		17	-293.00	2.35	-3.04	-0.30	-178.21	-41.07
	38	16	273.02	-1.46	3.11	0.26	106.31	9.30
		17	-287.99	1.46	-3.11	-0.26	-146.69	-28.23
	39	16	261.08	-1.68	3.00	0.32	121.16	9.63
		17	-276.06	1.68	-3.00	-0.32	-160.18	-31.51
	40	16	269.60	-1.49	3.20	0.22	114.24	9.35
		17	-284.58	1.49	-3.20	-0.22	-155.88	-28.66
	41	16	258.54	-1.71	3.36	0.16	150.12	9.66
		17	-273.52	1.71	-3.36	-0.16	-193.75	-31.84
	42	16	217.99	-2.34	3.12	0.25	110.61	10.57
		17	-232.96	2.34	-3.12	-0.25	-151.13	-41.02
	43	16	275.16	-2.35	3.24	0.19	68.01	10.58
		17	-290.14	2.35	-3.24	-0.19	-110.11	-41.06
	44	16	294.69	-2.47	2.30	-0.01	82.24	11.24
		17	-309.67	2.47	-2.30	0.01	-112.16	-43.33
	45	16	276.97	-2.47	2.22	0.04	109.88	11.24
		17	-291.94	2.47	-2.22	-0.04	-138.77	-43.32
	46	16	271.96	-1.58	2.29	0.00	77.46	9.96
		17	-286.94	1.58	-2.29	0.00	-107.25	-30.48
	47	16	260.03	-1.81	2.19	0.06	92.31	10.29
		17	-275.00	1.81	-2.19	-0.06	-120.73	-33.76
	48	16	268.55	-1.61	2.39	-0.04	85.40	10.01
		17	-283.53	1.61	-2.39	0.04	-116.44	-30.91
	49	16	257.49	-1.83	2.54	-0.10	121.28	10.33
		17	-272.47	1.83	-2.54	0.10	-154.31	-34.09
	50	16	216.93	-2.46	2.30	-0.01	81.76	11.24
		17	-231.91	2.46	-2.30	0.01	-111.69	-43.27
	51	16	274.11	-2.47	2.42	-0.07	39.16	11.24
		17	-289.08	2.47	-2.42	0.07	-70.67	-43.31
	52	16	296.60	0.33	-2.17	-0.02	24.16	-3.69
		17	-311.57	-0.33	2.17	0.02	4.09	7.98

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	16	278.87	0.33	-2.25	0.02	51.79	-3.69
		17	-293.85	-0.33	2.25	-0.02	-22.52	8.00
	54	16	273.87	1.22	-2.18	-0.02	19.38	-4.97
		17	-288.85	-1.22	2.18	0.02	9.00	20.84
	55	16	261.93	0.99	-2.29	0.04	34.22	-4.64
		17	-276.91	-0.99	2.29	-0.04	-4.48	17.55
	56	16	270.46	1.19	-2.09	-0.06	27.31	-4.92
		17	-285.43	-1.19	2.09	0.06	-0.19	20.40
	57	16	259.40	0.97	-1.93	-0.12	63.19	-4.61
		17	-274.37	-0.97	1.93	0.12	-38.06	17.22
	58	16	218.84	0.33	-2.17	-0.02	23.67	-3.70
		17	-233.82	-0.33	2.17	0.02	4.56	8.05
	59	16	276.01	0.33	-2.05	-0.09	-18.92	-3.69
		17	-290.99	-0.33	2.05	0.09	45.58	8.00
	60	16	202.53	-4.09	2.53	-0.01	70.39	20.08
		17	-216.01	4.09	-2.53	0.01	-103.23	-73.30
	61	16	204.24	-1.58	-1.50	-0.02	18.11	6.64
		17	-217.72	1.58	1.50	0.02	1.39	-27.12
	62	16	265.31	-3.38	4.82	0.24	126.16	16.29
		17	-278.79	3.38	-4.82	-0.24	-188.82	-60.25
	63	16	249.36	-3.38	4.75	0.28	151.03	16.29
		17	-262.84	3.38	-4.75	-0.28	-212.78	-60.24
	64	16	244.86	-2.58	4.81	0.24	121.86	15.15
		17	-258.34	2.58	-4.81	-0.24	-184.40	-48.68
	65	16	234.12	-2.78	4.72	0.29	135.22	15.44
		17	-247.59	2.78	-4.72	-0.29	-196.54	-51.64
	66	16	241.79	-2.61	4.90	0.20	129.00	15.19
		17	-255.26	2.61	-4.90	-0.20	-192.68	-49.08
	67	16	231.83	-2.80	5.04	0.15	161.29	15.47
		17	-245.31	2.80	-5.04	-0.15	-226.76	-51.93
	68	16	195.33	-3.38	4.82	0.24	125.73	16.29
		17	-208.81	3.38	-4.82	-0.24	-188.40	-60.19
	69	16	246.79	-3.38	4.93	0.18	87.39	16.29
		17	-260.27	3.38	-4.93	-0.18	-151.48	-60.24
	70	16	267.03	-0.86	0.79	0.22	73.88	2.85
		17	-280.51	0.86	-0.79	-0.22	-84.20	-14.07
	71	16	251.08	-0.86	0.72	0.26	98.75	2.85
		17	-264.55	0.86	-0.72	-0.26	-108.15	-14.06
	72	16	246.57	-0.06	0.78	0.23	69.58	1.71
		17	-260.05	0.06	-0.78	-0.23	-79.78	-2.50
	73	16	235.83	-0.27	0.69	0.28	82.94	2.00
		17	-249.31	0.27	-0.69	-0.28	-91.92	-5.46
	74	16	243.50	-0.09	0.87	0.19	76.72	1.75
		17	-256.98	0.09	-0.87	-0.19	-88.05	-2.90
	75	16	233.55	-0.29	1.01	0.14	109.01	2.03
		17	-247.03	0.29	-1.01	-0.14	-122.14	-5.75
	76	16	197.05	-0.86	0.79	0.22	73.45	2.85
		17	-210.53	0.86	-0.79	-0.22	-83.78	-14.01

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	16	248.50	-0.86	0.90	0.16	35.11	2.85
		17	-261.98	0.86	-0.90	-0.16	-46.86	-14.06
17	1	5	277.99	-0.04	0.04	0.02	50.84	-0.51
		18	-277.99	0.04	-0.04	-0.02	-51.00	0.34
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		18	-1.84	0.00	0.00	0.00	0.00	0.00
	3	5	0.00	0.00	0.00	0.00	0.00	0.00
		18	0.00	0.00	0.00	0.00	0.00	0.00
	4	5	0.76	-0.01	0.03	0.02	1.51	-0.12
		18	-0.76	0.01	-0.03	-0.02	-1.62	0.08
	5	5	66.46	0.00	-0.03	-0.02	10.32	0.05
		18	-66.46	0.00	0.03	0.02	-10.21	-0.04
	6	5	20.01	0.00	-0.01	0.00	3.13	0.02
		18	-20.01	0.00	0.01	0.00	-3.09	-0.01
	7	5	49.49	0.00	-0.10	-0.06	37.85	0.04
		18	-49.49	0.00	0.10	0.06	-37.45	-0.03
	8	5	14.83	0.00	-0.03	-0.02	11.42	0.01
		18	-14.83	0.00	0.03	0.02	-11.30	-0.01
	9	5	44.58	-0.85	-0.04	-0.02	5.84	-9.85
		18	-44.58	0.85	0.04	0.02	-5.70	6.53
	10	5	13.48	-0.26	-0.01	-0.01	1.79	-2.98
		18	-13.48	0.26	0.01	0.01	-1.75	1.97
	11	5	33.17	-0.63	-0.14	-0.08	21.45	-7.33
		18	-33.17	0.63	0.14	0.08	-20.91	4.86
	12	5	9.98	-0.19	-0.04	-0.02	6.44	-2.20
		18	-9.98	0.19	0.04	0.02	-6.28	1.46
	13	5	41.31	-0.82	0.06	0.02	12.22	-9.52
		18	-41.31	0.82	-0.06	-0.02	-12.44	6.31
	14	5	12.49	-0.25	0.02	0.01	3.75	-2.88
		18	-12.49	0.25	-0.02	-0.01	-3.82	1.91
	15	5	30.73	-0.61	0.20	0.07	44.86	-7.08
		18	-30.73	0.61	-0.20	-0.07	-45.65	4.70
	16	5	9.24	-0.18	0.06	0.02	13.47	-2.13
		18	-9.24	0.18	-0.06	-0.02	-13.71	1.41
	17	5	-8.22	0.00	-0.03	-0.02	9.85	-0.01
		18	8.22	0.00	0.03	0.02	-9.75	0.00
	18	5	-2.50	0.00	-0.01	0.00	2.97	0.00
		18	2.50	0.00	0.01	0.00	-2.94	0.00
	19	5	46.81	0.00	0.09	0.05	-32.69	0.04
		18	-46.81	0.00	-0.09	-0.05	32.34	-0.02
	20	5	13.94	0.00	0.03	0.01	-9.70	0.01
		18	-13.94	0.00	-0.03	-0.01	9.59	-0.01
	21	5	0.00	0.00	0.00	0.00	0.00	0.00
		18	0.00	0.00	0.00	0.00	0.00	0.00
	22	5	-0.02	0.00	0.00	0.00	0.00	-3.66
		18	0.02	0.00	0.00	0.00	0.00	3.65

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	-0.16	-2.60	0.62	0.00	1.69	-19.94
		18	0.16	2.60	-0.62	0.00	-4.12	9.82
	24	5	-0.08	-0.82	0.35	-0.03	2.20	-6.28
		18	0.08	0.82	-0.35	0.03	-3.57	3.09
	25	5	0.00	0.00	3.28	-0.30	20.02	0.00
		18	0.00	0.00	-3.28	0.30	-32.80	0.00
	26	5	-1.19	1.75	2.80	-0.01	-0.07	13.42
		18	1.19	-1.75	-2.80	0.01	-10.83	-6.60
	27	5	365.21	-0.05	0.03	0.02	65.80	-4.22
		18	-367.05	0.05	-0.03	-0.02	-65.92	4.02
	28	5	343.06	-0.05	-0.07	-0.04	101.62	-4.24
		18	-344.90	0.05	0.07	0.04	-101.36	4.03
	29	5	336.81	-1.17	0.02	0.01	59.98	-17.12
		18	-338.64	1.17	-0.02	-0.01	-60.06	12.57
	30	5	321.89	-0.88	-0.11	-0.06	80.24	-13.82
		18	-323.72	0.88	0.11	0.06	-79.81	10.39
	31	5	332.54	-1.13	0.14	0.06	68.32	-16.69
		18	-334.38	1.13	-0.14	-0.06	-68.87	12.29
	32	5	318.71	-0.85	0.33	0.13	110.68	-13.50
		18	-320.55	0.85	-0.33	-0.13	-111.97	10.18
	33	5	268.02	-0.06	0.03	0.02	65.17	-4.30
		18	-269.86	0.06	-0.03	-0.02	-65.30	4.07
	34	5	339.49	-0.05	0.18	0.10	9.96	-4.24
		18	-341.32	0.05	-0.18	-0.10	-10.68	4.04
	35	5	222.25	-2.11	0.53	0.02	42.02	-19.29
		18	-223.72	2.11	-0.53	-0.02	-44.09	11.05
	36	5	292.07	-1.32	3.08	-0.26	70.83	-13.19
		18	-293.54	1.32	-3.08	0.26	-82.83	8.05
	37	5	274.35	-1.32	3.00	-0.30	99.48	-13.20
		18	-275.82	1.32	-3.00	0.30	-111.17	8.06
	38	5	269.35	-2.21	3.07	-0.26	66.17	-23.50
		18	-270.81	2.21	-3.07	0.26	-78.14	14.89
	39	5	257.41	-1.98	2.96	-0.32	82.38	-20.87
		18	-258.88	1.98	-2.96	0.32	-93.93	13.14
	40	5	265.93	-2.18	3.16	-0.22	72.84	-23.16
		18	-267.40	2.18	-3.16	0.22	-85.18	14.66
	41	5	254.87	-1.96	3.32	-0.16	106.73	-20.61
		18	-256.34	1.96	-3.32	0.16	-119.67	12.97
	42	5	214.31	-1.32	3.08	-0.25	70.33	-13.25
		18	-215.78	1.32	-3.08	0.25	-82.33	8.09
	43	5	271.49	-1.32	3.20	-0.19	26.15	-13.21
		18	-272.96	1.32	-3.20	0.19	-38.63	8.06
	44	5	291.22	1.36	2.26	0.01	52.58	7.36
		18	-292.69	-1.36	-2.26	-0.01	-61.40	-2.06
	45	5	273.49	1.36	2.18	-0.04	81.23	7.34
		18	-274.96	-1.36	-2.18	0.04	-89.75	-2.05
	46	5	268.49	0.47	2.25	0.00	47.93	-2.96
		18	-269.96	-0.47	-2.25	0.00	-56.71	4.78

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	5	256.56	0.69	2.15	-0.06	64.13	-0.32
		18	-258.02	-0.69	-2.15	0.06	-72.51	3.03
	48	5	265.08	0.50	2.35	0.04	54.60	-2.61
		18	-266.55	-0.50	-2.35	-0.04	-63.76	4.55
	49	5	254.02	0.72	2.50	0.10	88.48	-0.07
		18	-255.49	-0.72	-2.50	-0.10	-98.24	2.86
	50	5	213.46	1.35	2.26	0.01	52.08	7.30
		18	-214.93	-1.35	-2.26	-0.01	-60.91	-2.02
	51	5	270.64	1.36	2.38	0.07	7.91	7.34
		18	-272.11	-1.36	-2.38	-0.07	-17.21	-2.05
	52	5	293.12	-1.44	-2.21	0.02	52.70	-14.12
		18	-294.59	1.44	2.21	-0.02	-44.07	8.50
	53	5	275.40	-1.44	-2.29	-0.02	81.35	-14.13
		18	-276.87	1.44	2.29	0.02	-72.42	8.51
	54	5	270.40	-2.33	-2.22	0.02	48.05	-24.43
		18	-271.87	2.33	2.22	-0.02	-39.38	15.34
	55	5	258.46	-2.10	-2.33	-0.04	64.25	-21.79
		18	-259.93	2.10	2.33	0.04	-55.18	13.59
	56	5	266.98	-2.30	-2.12	0.06	54.72	-24.09
		18	-268.45	2.30	2.12	-0.06	-46.43	15.11
	57	5	255.92	-2.08	-1.97	0.12	88.60	-21.54
		18	-257.39	2.08	1.97	-0.12	-80.91	13.42
	58	5	215.37	-1.45	-2.21	0.02	52.20	-14.18
		18	-216.84	1.45	2.21	-0.02	-43.58	8.54
	59	5	272.54	-1.44	-2.09	0.09	8.03	-14.13
		18	-274.01	1.44	2.09	-0.09	0.12	8.51
	60	5	199.17	-0.64	2.49	0.01	37.77	-7.70
		18	-200.49	0.64	-2.49	-0.01	-47.48	5.19
	61	5	200.88	-3.16	-1.54	0.02	37.88	-27.03
		18	-202.20	3.16	1.54	-0.02	-31.89	14.69
	62	5	262.01	0.06	4.78	-0.24	63.70	-2.29
		18	-263.33	-0.06	-4.78	0.24	-82.36	2.53
	63	5	246.05	0.06	4.71	-0.28	89.49	-2.30
		18	-247.38	-0.06	-4.71	0.28	-107.87	2.54
	64	5	241.55	-0.74	4.78	-0.24	59.51	-11.57
		18	-242.88	0.74	-4.78	0.24	-78.14	8.69
	65	5	230.81	-0.53	4.68	-0.29	74.09	-9.20
		18	-232.13	0.53	-4.68	0.29	-92.35	7.11
	66	5	238.48	-0.71	4.86	-0.20	65.51	-11.26
		18	-239.80	0.71	-4.86	0.20	-84.48	8.48
	67	5	228.53	-0.51	5.00	-0.15	96.01	-8.97
		18	-229.85	0.51	-5.00	0.15	-115.52	6.96
	68	5	192.03	0.06	4.79	-0.24	63.25	-2.34
		18	-193.35	-0.06	-4.79	0.24	-81.91	2.57
	69	5	243.48	0.06	4.90	-0.18	23.49	-2.30
		18	-244.80	-0.06	-4.90	0.18	-42.58	2.54
	70	5	263.72	-2.46	0.76	-0.22	63.80	-21.62
		18	-265.04	2.46	-0.76	0.22	-66.76	12.04

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	5	247.77	-2.46	0.69	-0.26	89.59	-21.63
		18	-249.09	2.46	-0.69	0.26	-92.28	12.04
	72	5	243.27	-3.26	0.75	-0.23	59.62	-30.90
		18	-244.59	3.26	-0.75	0.23	-62.54	18.19
	73	5	232.52	-3.05	0.66	-0.28	74.20	-28.52
		18	-233.85	3.05	-0.66	0.28	-76.76	16.62
	74	5	240.19	-3.23	0.84	-0.19	65.62	-30.59
		18	-241.52	3.23	-0.84	0.19	-68.88	17.99
	75	5	230.24	-3.03	0.97	-0.14	96.12	-28.30
		18	-231.56	3.03	-0.97	0.14	-99.92	16.47
	76	5	193.74	-2.46	0.76	-0.22	63.35	-21.67
		18	-195.06	2.46	-0.76	0.22	-66.32	12.07
	77	5	245.20	-2.46	0.87	-0.16	23.60	-21.63
		18	-246.52	2.46	-0.87	0.16	-26.99	12.05
18	1	18	277.99	-0.04	0.04	0.02	51.00	-0.34
		19	-277.99	0.04	-0.04	-0.02	-51.37	-0.05
	2	18	1.84	0.00	0.00	0.00	0.00	0.00
		19	-6.13	0.00	0.00	0.00	0.00	0.00
	3	18	0.00	0.00	0.00	0.00	0.00	0.00
		19	0.00	0.00	0.00	0.00	0.00	0.00
	4	18	0.76	-0.01	0.03	0.02	1.62	-0.08
		19	-0.76	0.01	-0.03	-0.02	-1.87	-0.01
	5	18	66.46	0.00	-0.03	-0.02	10.21	0.04
		19	-66.46	0.00	0.03	0.02	-9.96	0.00
	6	18	20.01	0.00	-0.01	0.00	3.09	0.01
		19	-20.01	0.00	0.01	0.00	-3.02	0.00
	7	18	49.49	0.00	-0.10	-0.06	37.45	0.03
		19	-49.49	0.00	0.10	0.06	-36.50	0.00
	8	18	14.83	0.00	-0.03	-0.02	11.30	0.01
		19	-14.83	0.00	0.03	0.02	-11.01	0.00
	9	18	44.58	-0.85	-0.04	-0.02	5.70	-6.53
		19	-44.58	0.85	0.04	0.02	-5.35	-1.22
	10	18	13.48	-0.26	-0.01	-0.01	1.75	-1.97
		19	-13.48	0.26	0.01	0.01	-1.64	-0.37
	11	18	33.17	-0.63	-0.14	-0.08	20.91	-4.86
		19	-33.17	0.63	0.14	0.08	-19.65	-0.91
	12	18	9.98	-0.19	-0.04	-0.02	6.28	-1.46
		19	-9.98	0.19	0.04	0.02	-5.90	-0.27
	13	18	41.31	-0.82	0.06	0.02	12.44	-6.31
		19	-41.31	0.82	-0.06	-0.02	-12.94	-1.18
	14	18	12.49	-0.25	0.02	0.01	3.82	-1.91
		19	-12.49	0.25	-0.02	-0.01	-3.97	-0.36
	15	18	30.73	-0.61	0.20	0.07	45.65	-4.70
		19	-30.73	0.61	-0.20	-0.07	-47.50	-0.88
	16	18	9.24	-0.18	0.06	0.02	13.71	-1.41
		19	-9.24	0.18	-0.06	-0.02	-14.26	-0.26

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	18	-8.22	0.00	-0.03	-0.02	9.75	0.00
		19	8.22	0.00	0.03	0.02	-9.50	0.00
	18	18	-2.50	0.00	-0.01	0.00	2.94	0.00
		19	2.50	0.00	0.01	0.00	-2.87	0.00
	19	18	46.81	0.00	0.09	0.05	-32.34	0.02
		19	-46.81	0.00	-0.09	-0.05	31.53	0.00
	20	18	13.94	0.00	0.03	0.01	-9.59	0.01
		19	-13.94	0.00	-0.03	-0.01	9.35	0.00
	21	18	0.00	0.00	0.00	0.00	0.00	0.00
		19	1.82	0.00	0.00	0.00	0.00	0.00
	22	18	-0.02	0.00	0.00	0.00	0.00	-3.65
		19	0.02	1.38	-0.05	0.00	-0.30	-4.77
	23	18	-0.16	-2.60	0.62	0.00	4.12	-9.82
		19	0.16	2.60	-0.62	0.00	-9.80	-13.83
	24	18	-0.08	-0.82	0.35	-0.03	3.57	-3.09
		19	0.08	0.82	-0.35	0.03	-6.77	-4.36
	25	18	0.00	0.00	3.28	-0.30	32.80	0.00
		19	0.00	0.00	-3.28	0.30	-62.66	0.00
	26	18	-1.19	1.75	2.80	-0.01	10.83	6.60
		19	1.19	-1.75	-2.80	0.01	-36.30	9.33
	27	18	367.05	-0.05	0.03	0.02	65.92	-4.02
		19	-369.52	1.43	-0.08	-0.02	-66.50	-4.83
	28	18	344.90	-0.05	-0.07	-0.04	101.36	-4.03
		19	-347.36	1.43	0.02	0.04	-101.04	-4.83
	29	18	338.64	-1.17	0.02	0.01	60.06	-12.57
		19	-341.11	2.55	-0.07	-0.01	-60.53	-6.43
	30	18	323.72	-0.88	-0.11	-0.06	79.81	-10.39
		19	-326.19	2.26	0.06	0.06	-79.08	-6.02
	31	18	334.38	-1.13	0.14	0.06	68.87	-12.29
		19	-336.84	2.51	-0.19	-0.06	-70.44	-6.37
	32	18	320.55	-0.85	0.33	0.13	111.97	-10.18
		19	-323.02	2.23	-0.38	-0.13	-115.29	-5.97
	33	18	269.86	-0.06	0.03	0.02	65.30	-4.07
		19	-272.32	1.44	-0.08	-0.02	-65.90	-4.84
	34	18	341.32	-0.05	0.18	0.10	10.68	-4.04
		19	-343.79	1.43	-0.23	-0.10	-12.65	-4.83
	35	18	223.72	-2.11	0.53	0.02	44.09	-11.05
		19	-225.69	3.22	-0.57	-0.02	-49.17	-14.92
	36	18	293.54	-1.32	3.08	-0.26	82.83	-8.05
		19	-295.52	2.42	-3.12	0.26	-111.09	-10.67
	37	18	275.82	-1.32	3.00	-0.30	111.17	-8.06
		19	-277.79	2.42	-3.04	0.30	-138.73	-10.67
	38	18	270.81	-2.21	3.07	-0.26	78.14	-14.89
		19	-272.79	3.31	-3.11	0.26	-106.31	-11.94
	39	18	258.88	-1.98	2.96	-0.32	93.93	-13.14
		19	-260.85	3.09	-3.00	0.32	-121.16	-11.62
	40	18	267.40	-2.18	3.16	-0.22	85.18	-14.66
		19	-269.38	3.28	-3.20	0.22	-114.24	-11.90

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	18	256.34	-1.96	3.32	-0.16	119.67	-12.97
		19	-258.32	3.06	-3.36	0.16	-150.12	-11.58
	42	18	215.78	-1.32	3.08	-0.25	82.33	-8.09
		19	-217.76	2.43	-3.12	0.25	-110.61	-10.67
	43	18	272.96	-1.32	3.20	-0.19	38.63	-8.06
		19	-274.93	2.42	-3.24	0.19	-68.01	-10.67
	44	18	292.69	1.36	2.26	0.01	61.40	2.06
		19	-294.66	-0.25	-2.30	-0.01	-82.24	3.60
	45	18	274.96	1.36	2.18	-0.04	89.75	2.05
		19	-276.94	-0.25	-2.22	0.04	-109.88	3.60
	46	18	269.96	0.47	2.25	0.00	56.71	-4.78
		19	-271.94	0.64	-2.29	0.00	-77.46	2.33
	47	18	258.02	0.69	2.15	-0.06	72.51	-3.03
		19	-260.00	0.41	-2.19	0.06	-92.31	2.65
	48	18	266.55	0.50	2.35	0.04	63.76	-4.55
		19	-268.52	0.61	-2.39	-0.04	-85.40	2.37
	49	18	255.49	0.72	2.50	0.10	98.24	-2.86
		19	-257.46	0.39	-2.54	-0.10	-121.28	2.69
	50	18	214.93	1.35	2.26	0.01	60.91	2.02
		19	-216.91	-0.25	-2.30	-0.01	-81.76	3.60
	51	18	272.11	1.36	2.38	0.07	17.21	2.05
		19	-274.08	-0.25	-2.42	-0.07	-39.16	3.60
	52	18	294.59	-1.44	-2.21	0.02	44.07	-8.50
		19	-296.57	2.54	2.17	-0.02	-24.16	-11.33
	53	18	276.87	-1.44	-2.29	-0.02	72.42	-8.51
		19	-278.84	2.55	2.25	0.02	-51.79	-11.33
	54	18	271.87	-2.33	-2.22	0.02	39.38	-15.34
		19	-273.84	3.44	2.18	-0.02	-19.38	-12.61
	55	18	259.93	-2.10	-2.33	-0.04	55.18	-13.59
		19	-261.91	3.21	2.29	0.04	-34.22	-12.28
	56	18	268.45	-2.30	-2.12	0.06	46.43	-15.11
		19	-270.43	3.41	2.09	-0.06	-27.31	-12.56
	57	18	257.39	-2.08	-1.97	0.12	80.91	-13.42
		19	-259.37	3.19	1.93	-0.12	-63.19	-12.25
	58	18	216.84	-1.45	-2.21	0.02	43.58	-8.54
		19	-218.81	2.55	2.17	-0.02	-23.67	-11.33
	59	18	274.01	-1.44	-2.09	0.09	-0.12	-8.51
		19	-275.99	2.55	2.05	-0.09	18.92	-11.33
	60	18	200.49	-0.64	2.49	0.01	47.48	-5.19
		19	-202.27	1.64	-2.53	-0.01	-70.39	-6.71
	61	18	202.20	-3.16	-1.54	0.02	31.89	-14.69
		19	-203.98	4.16	1.50	-0.02	-18.11	-20.15
	62	18	263.33	0.06	4.78	-0.24	82.36	-2.53
		19	-265.11	0.93	-4.82	0.24	-126.16	-2.94
	63	18	247.38	0.06	4.71	-0.28	107.87	-2.54
		19	-249.15	0.93	-4.75	0.28	-151.03	-2.94
	64	18	242.88	-0.74	4.78	-0.24	78.14	-8.69
		19	-244.65	1.73	-4.81	0.24	-121.86	-4.09

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	18	232.13	-0.53	4.68	-0.29	92.35	-7.11
		19	-233.91	1.53	-4.72	0.29	-135.22	-3.79
	66	18	239.80	-0.71	4.86	-0.20	84.48	-8.48
		19	-241.58	1.71	-4.90	0.20	-129.00	-4.04
	67	18	229.85	-0.51	5.00	-0.15	115.52	-6.96
		19	-231.63	1.51	-5.04	0.15	-161.29	-3.76
	68	18	193.35	0.06	4.79	-0.24	81.91	-2.57
		19	-195.13	0.94	-4.82	0.24	-125.73	-2.94
	69	18	244.80	0.06	4.90	-0.18	42.58	-2.54
		19	-246.58	0.93	-4.93	0.18	-87.39	-2.94
	70	18	265.04	-2.46	0.76	-0.22	66.76	-12.04
		19	-266.82	3.45	-0.79	0.22	-73.88	-16.38
	71	18	249.09	-2.46	0.69	-0.26	92.28	-12.04
		19	-250.87	3.45	-0.72	0.26	-98.75	-16.38
	72	18	244.59	-3.26	0.75	-0.23	62.54	-18.19
		19	-246.37	4.25	-0.78	0.23	-69.58	-17.52
	73	18	233.85	-3.05	0.66	-0.28	76.76	-16.62
		19	-235.62	4.05	-0.69	0.28	-82.94	-17.23
	74	18	241.52	-3.23	0.84	-0.19	68.88	-17.99
		19	-243.29	4.22	-0.87	0.19	-76.72	-17.48
	75	18	231.56	-3.03	0.97	-0.14	99.92	-16.47
		19	-233.34	4.03	-1.01	0.14	-109.01	-17.20
	76	18	195.06	-2.46	0.76	-0.22	66.32	-12.07
		19	-196.84	3.45	-0.79	0.22	-73.45	-16.38
	77	18	246.52	-2.46	0.87	-0.16	26.99	-12.05
		19	-248.30	3.45	-0.90	0.16	-35.11	-16.38
19	1	19	277.99	-0.04	0.04	0.02	51.37	0.05
		20	-277.99	0.04	-0.04	-0.02	-51.89	-0.61
	2	19	6.13	0.00	0.00	0.00	0.00	0.00
		20	-6.13	0.00	0.00	0.00	0.00	0.00
	3	19	0.00	0.00	0.00	0.00	0.00	0.00
		20	-18.72	0.00	0.00	0.00	0.00	0.00
	4	19	0.76	-0.01	0.03	0.02	1.87	0.01
		20	-0.76	0.01	-0.03	-0.02	-2.22	-0.14
	5	19	66.46	0.00	-0.03	-0.02	9.96	0.00
		20	-66.46	0.00	0.03	0.02	-9.59	0.05
	6	19	20.01	0.00	-0.01	0.00	3.02	0.00
		20	-20.01	0.00	0.01	0.00	-2.91	0.02
	7	19	49.49	0.00	-0.10	-0.06	36.50	0.00
		20	-49.49	0.00	0.10	0.06	-35.16	0.04
	8	19	14.83	0.00	-0.03	-0.02	11.01	0.00
		20	-14.83	0.00	0.03	0.02	-10.61	0.01
	9	19	44.58	-0.85	-0.04	-0.02	5.35	1.22
		20	-44.58	0.85	0.04	0.02	-4.86	-12.28
	10	19	13.48	-0.26	-0.01	-0.01	1.64	0.37
		20	-13.48	0.26	0.01	0.01	-1.49	-3.71

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	19	33.17	-0.63	-0.14	-0.08	19.65	0.91
		20	-33.17	0.63	0.14	0.08	-17.85	-9.14
	12	19	9.98	-0.19	-0.04	-0.02	5.90	0.27
		20	-9.98	0.19	0.04	0.02	-5.36	-2.75
	13	19	41.31	-0.82	0.06	0.02	12.94	1.18
		20	-41.31	0.82	-0.06	-0.02	-13.66	-11.86
	14	19	12.49	-0.25	0.02	0.01	3.97	0.36
		20	-12.49	0.25	-0.02	-0.01	-4.19	-3.59
	15	19	30.73	-0.61	0.20	0.07	47.50	0.88
		20	-30.73	0.61	-0.20	-0.07	-50.13	-8.83
	16	19	9.24	-0.18	0.06	0.02	14.26	0.26
		20	-9.24	0.18	-0.06	-0.02	-15.06	-2.65
	17	19	-8.22	0.00	-0.03	-0.02	9.50	0.00
		20	8.22	0.00	0.03	0.02	-9.15	-0.01
	18	19	-2.50	0.00	-0.01	0.00	2.87	0.00
		20	2.50	0.00	0.01	0.00	-2.76	0.00
	19	19	46.81	0.00	0.09	0.05	-31.53	0.00
		20	-46.81	0.00	-0.09	-0.05	30.36	0.04
	20	19	13.94	0.00	0.03	0.01	-9.35	0.00
		20	-13.94	0.00	-0.03	-0.01	9.01	0.01
	21	19	-1.82	0.00	0.00	0.00	0.00	0.00
		20	1.82	0.00	0.00	0.00	0.00	0.00
	22	19	-0.02	-1.38	0.05	0.00	0.30	4.77
		20	0.02	1.38	-0.05	0.00	-0.93	-22.77
	23	19	-0.16	-2.60	0.62	0.00	9.80	13.83
		20	0.16	2.60	-0.62	0.00	-17.90	-47.57
	24	19	-0.08	-0.82	0.35	-0.03	6.77	4.36
		20	0.08	0.82	-0.35	0.03	-11.33	-14.99
	25	19	0.00	0.00	3.28	-0.30	62.66	0.00
		20	0.00	0.00	-3.28	0.30	-105.26	0.00
	26	19	-1.19	1.75	2.80	-0.01	36.30	-9.33
		20	1.19	-1.75	-2.80	0.01	-72.66	32.07
	27	19	369.52	-1.43	0.08	0.02	66.50	4.83
		20	-388.24	1.43	-0.08	-0.02	-67.54	-23.45
	28	19	347.36	-1.43	-0.02	-0.04	101.04	4.83
		20	-366.08	1.43	0.02	0.04	-100.81	-23.47
	29	19	341.11	-2.55	0.07	0.01	60.53	6.43
		20	-359.83	2.55	-0.07	-0.01	-61.40	-39.52
	30	19	326.19	-2.26	-0.06	-0.06	79.08	6.02
		20	-344.91	2.26	0.06	0.06	-78.26	-35.41
	31	19	336.84	-2.51	0.19	0.06	70.44	6.37
		20	-355.56	2.51	-0.19	-0.06	-72.90	-38.97
	32	19	323.02	-2.23	0.38	0.13	115.29	5.97
		20	-341.74	2.23	-0.38	-0.13	-120.23	-35.00
	33	19	272.32	-1.44	0.08	0.02	65.90	4.84
		20	-291.04	1.44	-0.08	-0.02	-66.96	-23.53
	34	19	343.79	-1.43	0.23	0.10	12.65	4.83
		20	-362.51	1.43	-0.23	-0.10	-15.68	-23.47

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	19	225.69	-3.22	0.57	0.02	49.17	14.92
		20	-240.67	3.22	-0.57	-0.02	-56.58	-56.76
	36	19	295.52	-2.42	3.12	-0.26	111.09	10.67
		20	-310.49	2.42	-3.12	0.26	-151.60	-42.16
	37	19	277.79	-2.42	3.04	-0.30	138.73	10.67
		20	-292.77	2.42	-3.04	0.30	-178.21	-42.18
	38	19	272.79	-3.31	3.11	-0.26	106.31	11.94
		20	-287.77	3.31	-3.11	0.26	-146.69	-55.02
	39	19	260.85	-3.09	3.00	-0.32	121.16	11.62
		20	-275.83	3.09	-3.00	0.32	-160.18	-51.73
	40	19	269.38	-3.28	3.20	-0.22	114.24	11.90
		20	-284.35	3.28	-3.20	0.22	-155.88	-54.58
	41	19	258.32	-3.06	3.36	-0.16	150.12	11.58
		20	-273.29	3.06	-3.36	0.16	-193.75	-51.41
	42	19	217.76	-2.43	3.12	-0.25	110.61	10.67
		20	-232.74	2.43	-3.12	0.25	-151.13	-42.23
	43	19	274.93	-2.42	3.24	-0.19	68.01	10.67
		20	-289.91	2.42	-3.24	0.19	-110.11	-42.18
	44	19	294.66	0.25	2.30	0.01	82.24	-3.60
		20	-309.64	-0.25	-2.30	-0.01	-112.16	6.90
	45	19	276.94	0.25	2.22	-0.04	109.88	-3.60
		20	-291.91	-0.25	-2.22	0.04	-138.77	6.88
	46	19	271.94	-0.64	2.29	0.00	77.46	-2.33
		20	-286.91	0.64	-2.29	0.00	-107.25	-5.96
	47	19	260.00	-0.41	2.19	-0.06	92.31	-2.65
		20	-274.98	0.41	-2.19	0.06	-120.73	-2.67
	48	19	268.52	-0.61	2.39	0.04	85.40	-2.37
		20	-283.50	0.61	-2.39	-0.04	-116.44	-5.52
	49	19	257.46	-0.39	2.54	0.10	121.28	-2.69
		20	-272.44	0.39	-2.54	-0.10	-154.31	-2.34
	50	19	216.91	0.25	2.30	0.01	81.76	-3.60
		20	-231.88	-0.25	-2.30	-0.01	-111.69	6.83
	51	19	274.08	0.25	2.42	0.07	39.16	-3.60
		20	-289.06	-0.25	-2.42	-0.07	-70.67	6.88
	52	19	296.57	-2.54	-2.17	0.02	24.16	11.33
		20	-311.54	2.54	2.17	-0.02	4.09	-44.41
	53	19	278.84	-2.55	-2.25	-0.02	51.79	11.33
		20	-293.82	2.55	2.25	0.02	-22.52	-44.43
	54	19	273.84	-3.44	-2.18	0.02	19.38	12.61
		20	-288.82	3.44	2.18	-0.02	9.00	-57.27
	55	19	261.91	-3.21	-2.29	-0.04	34.22	12.28
		20	-276.88	3.21	2.29	0.04	-4.48	-53.98
	56	19	270.43	-3.41	-2.09	0.06	27.31	12.56
		20	-285.40	3.41	2.09	-0.06	-0.19	-56.83
	57	19	259.37	-3.19	-1.93	0.12	63.19	12.25
		20	-274.34	3.19	1.93	-0.12	-38.06	-53.66
	58	19	218.81	-2.55	-2.17	0.02	23.67	11.33
		20	-233.79	2.55	2.17	-0.02	4.56	-44.48

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	19	275.99	-2.55	-2.05	0.09	-18.92	11.33
		20	-290.96	2.55	2.05	-0.09	45.58	-44.43
	60	19	202.27	-1.64	2.53	0.01	70.39	6.71
		20	-215.74	1.64	-2.53	-0.01	-103.23	-28.00
	61	19	203.98	-4.16	-1.50	0.02	18.11	20.15
		20	-217.46	4.16	1.50	-0.02	1.39	-74.18
	62	19	265.11	-0.93	4.82	-0.24	126.16	2.94
		20	-278.58	0.93	-4.82	0.24	-188.82	-15.05
	63	19	249.15	-0.93	4.75	-0.28	151.03	2.94
		20	-262.63	0.93	-4.75	0.28	-212.78	-15.06
	64	19	244.65	-1.73	4.81	-0.24	121.86	4.09
		20	-258.13	1.73	-4.81	0.24	-184.40	-26.62
	65	19	233.91	-1.53	4.72	-0.29	135.22	3.79
		20	-247.39	1.53	-4.72	0.29	-196.54	-23.66
	66	19	241.58	-1.71	4.90	-0.20	129.00	4.04
		20	-255.06	1.71	-4.90	0.20	-192.68	-26.22
	67	19	231.63	-1.51	5.04	-0.15	161.29	3.76
		20	-245.10	1.51	-5.04	0.15	-226.76	-23.37
	68	19	195.13	-0.94	4.82	-0.24	125.73	2.94
		20	-208.60	0.94	-4.82	0.24	-188.40	-15.11
	69	19	246.58	-0.93	4.93	-0.18	87.39	2.94
		20	-260.06	0.93	-4.93	0.18	-151.48	-15.06
	70	19	266.82	-3.45	0.79	-0.22	73.88	16.38
		20	-280.30	3.45	-0.79	0.22	-84.20	-61.23
	71	19	250.87	-3.45	0.72	-0.26	98.75	16.38
		20	-264.35	3.45	-0.72	0.26	-108.15	-61.24
	72	19	246.37	-4.25	0.78	-0.23	69.58	17.52
		20	-259.85	4.25	-0.78	0.23	-79.78	-72.80
	73	19	235.62	-4.05	0.69	-0.28	82.94	17.23
		20	-249.10	4.05	-0.69	0.28	-91.92	-69.84
	74	19	243.29	-4.22	0.87	-0.19	76.72	17.48
		20	-256.77	4.22	-0.87	0.19	-88.05	-72.41
	75	19	233.34	-4.03	1.01	-0.14	109.01	17.20
		20	-246.82	4.03	-1.01	0.14	-122.14	-69.55
	76	19	196.84	-3.45	0.79	-0.22	73.45	16.38
		20	-210.32	3.45	-0.79	0.22	-83.78	-61.29
	77	19	248.30	-3.45	0.90	-0.16	35.11	16.38
		20	-261.77	3.45	-0.90	0.16	-46.86	-61.24
20	1	6	253.72	0.49	0.02	0.06	51.24	5.67
		21	-253.72	-0.49	-0.02	-0.06	-51.30	-3.75
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		21	-1.84	0.00	0.00	0.00	0.00	0.00
	3	6	0.00	0.00	0.00	0.00	0.00	0.00
		21	0.00	0.00	0.00	0.00	0.00	0.00
	4	6	-7.64	0.15	0.01	0.04	1.78	1.77
		21	7.64	-0.15	-0.01	-0.04	-1.82	-1.17

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	6	72.95	-0.11	-0.01	-0.04	10.04	-1.24
		21	-72.95	0.11	0.01	0.04	-10.00	0.82
	6	6	21.96	-0.03	0.00	-0.01	3.04	-0.37
		21	-21.96	0.03	0.00	0.01	-3.03	0.25
	7	6	54.32	-0.08	-0.04	-0.15	36.82	-0.92
		21	-54.32	0.08	0.04	0.15	-36.67	0.61
	8	6	16.28	-0.02	-0.01	-0.04	11.11	-0.28
		21	-16.28	0.02	0.01	0.04	-11.06	0.18
	9	6	48.28	0.81	-0.01	-0.05	5.47	9.41
		21	-48.28	-0.81	0.01	0.05	-5.41	-6.24
	10	6	14.60	0.25	0.00	-0.02	1.68	2.84
		21	-14.60	-0.25	0.00	0.02	-1.66	-1.89
	11	6	35.92	0.60	-0.05	-0.20	20.08	7.00
		21	-35.92	-0.60	0.05	0.20	-19.87	-4.64
	12	6	10.80	0.18	-0.02	-0.06	6.03	2.11
		21	-10.80	-0.18	0.02	0.06	-5.97	-1.40
	13	6	90.59	0.10	-0.02	0.05	13.25	1.20
		21	-90.59	-0.10	0.02	-0.05	-13.15	-0.79
	14	6	27.40	0.03	-0.01	0.01	4.06	0.36
		21	-27.40	-0.03	0.01	-0.01	-4.04	-0.24
	15	6	67.40	0.08	-0.09	0.17	48.63	0.89
		21	-67.40	-0.08	0.09	-0.17	-48.27	-0.59
	16	6	20.27	0.02	-0.03	0.05	14.60	0.27
		21	-20.27	-0.02	0.03	-0.05	-14.50	-0.18
	17	6	-9.02	0.01	-0.01	-0.04	9.59	0.15
		21	9.02	-0.01	0.01	0.04	-9.55	-0.10
	18	6	-2.75	0.00	0.00	-0.01	2.89	0.05
		21	2.75	0.00	0.00	0.01	-2.88	-0.03
	19	6	51.38	-0.08	0.03	0.13	-31.80	-0.87
		21	-51.38	0.08	-0.03	-0.13	31.67	0.58
	20	6	15.30	-0.02	0.01	0.04	-9.43	-0.26
		21	-15.30	0.02	-0.01	-0.04	9.39	0.17
	21	6	0.00	0.00	0.00	0.00	0.00	0.00
		21	0.00	0.00	0.00	0.00	0.00	0.00
	22	6	0.12	-0.01	0.00	0.00	0.00	-3.70
		21	-0.12	0.01	0.00	0.00	0.00	3.67
	23	6	0.45	-2.61	0.62	-0.01	1.70	-20.13
		21	-0.45	2.61	-0.62	0.01	-4.13	9.95
	24	6	0.07	-0.82	0.32	-0.09	2.36	-6.34
		21	-0.07	0.82	-0.32	0.09	-3.62	3.13
	25	6	0.00	0.00	3.01	-0.86	21.51	0.00
		21	0.00	0.00	-3.01	0.86	-33.25	0.00
	26	6	-4.04	5.32	2.79	-0.02	0.00	41.15
		21	4.04	-5.32	-2.79	0.02	-10.86	-20.38
	27	6	341.12	0.50	0.01	0.04	66.11	2.13
		21	-342.96	-0.50	-0.01	-0.04	-66.16	-0.18
	28	6	316.81	0.53	-0.03	-0.10	100.95	2.54
		21	-318.64	-0.53	0.03	0.10	-100.85	-0.46

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	6	309.09	1.70	0.01	0.03	60.17	15.99
		21	-310.92	-1.70	-0.01	-0.03	-60.20	-9.37
	30	6	292.93	1.43	-0.04	-0.16	79.13	12.85
		21	-294.76	-1.43	0.04	0.16	-78.96	-7.29
	31	6	364.20	0.77	-0.01	0.16	70.34	5.30
		21	-366.03	-0.77	0.01	-0.16	-70.31	-2.28
	32	6	333.88	0.74	-0.09	0.32	116.25	4.90
		21	-335.72	-0.74	0.09	-0.32	-115.89	-2.01
	33	6	234.44	0.66	0.01	0.05	65.50	3.94
		21	-236.28	-0.66	-0.01	-0.05	-65.55	-1.38
	34	6	312.88	0.54	0.07	0.26	11.79	2.61
		21	-314.72	-0.54	-0.07	-0.26	-12.06	-0.50
	35	6	203.44	-1.70	0.51	0.04	42.36	-14.53
		21	-204.91	1.70	-0.51	-0.04	-44.34	7.90
	36	6	273.06	-0.89	2.82	-0.72	72.39	-8.20
		21	-274.53	0.89	-2.82	0.72	-83.40	4.74
	37	6	253.61	-0.86	2.79	-0.84	100.27	-7.87
		21	-255.08	0.86	-2.79	0.84	-111.16	4.53
	38	6	247.43	0.07	2.82	-0.74	67.64	2.89
		21	-248.90	-0.07	-2.82	0.74	-78.64	-2.61
	39	6	234.51	-0.14	2.78	-0.89	82.81	0.37
		21	-235.98	0.14	-2.78	0.89	-93.65	-0.94
	40	6	291.52	-0.67	2.81	-0.63	75.77	-5.66
		21	-292.99	0.67	-2.81	0.63	-86.73	3.07
	41	6	267.27	-0.69	2.74	-0.50	112.51	-5.98
		21	-268.74	0.69	-2.74	0.50	-123.20	3.28
	42	6	187.72	-0.76	2.83	-0.72	71.90	-6.75
		21	-189.19	0.76	-2.83	0.72	-82.92	3.79
	43	6	250.47	-0.85	2.87	-0.55	28.93	-7.81
		21	-251.94	0.85	-2.87	0.55	-40.13	4.49
	44	6	269.67	4.66	2.24	0.02	52.88	34.62
		21	-271.14	-4.66	-2.24	-0.02	-61.62	-16.45
	45	6	250.22	4.69	2.21	-0.09	80.76	34.95
		21	-251.69	-4.69	-2.21	0.09	-89.37	-16.67
	46	6	244.04	5.62	2.23	0.00	48.14	45.71
		21	-245.51	-5.62	-2.23	0.00	-56.85	-23.81
	47	6	231.11	5.40	2.19	-0.15	63.30	43.20
		21	-232.58	-5.40	-2.19	0.15	-71.86	-22.13
	48	6	288.13	4.88	2.22	0.11	56.27	37.16
		21	-289.60	-4.88	-2.22	-0.11	-64.94	-18.13
	49	6	263.87	4.85	2.15	0.24	93.00	36.84
		21	-265.34	-4.85	-2.15	-0.24	-101.41	-17.92
	50	6	184.32	4.79	2.24	0.02	52.40	36.07
		21	-185.79	-4.79	-2.24	-0.02	-61.13	-17.41
	51	6	247.08	4.69	2.29	0.19	9.43	35.01
		21	-248.55	-4.69	-2.29	-0.19	-18.34	-16.71
	52	6	276.13	-3.86	-2.22	0.05	52.89	-31.21
		21	-277.60	3.86	2.22	-0.05	-44.23	16.16

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	6	256.67	-3.83	-2.25	-0.06	80.77	-30.88
		21	-258.14	3.83	2.25	0.06	-71.99	15.94
	54	6	250.50	-2.90	-2.22	0.04	48.14	-20.12
		21	-251.97	2.90	2.22	-0.04	-39.47	8.81
	55	6	237.57	-3.12	-2.26	-0.11	63.31	-22.64
		21	-239.04	3.12	2.26	0.11	-54.48	10.48
	56	6	294.59	-3.64	-2.23	0.14	56.27	-28.68
		21	-296.06	3.64	2.23	-0.14	-47.56	14.48
	57	6	270.33	-3.67	-2.30	0.27	93.01	-29.00
		21	-271.80	3.67	2.30	-0.27	-84.02	14.69
	58	6	190.78	-3.73	-2.22	0.05	52.40	-29.77
		21	-192.25	3.73	2.22	-0.05	-43.75	15.20
	59	6	253.53	-3.83	-2.17	0.23	9.43	-30.83
		21	-255.00	3.83	2.17	-0.23	-0.96	15.90
	60	6	180.19	2.30	2.46	0.02	38.12	16.55
		21	-181.51	-2.30	-2.46	-0.02	-47.73	-7.57
	61	6	186.00	-5.37	-1.55	0.05	38.12	-42.71
		21	-187.32	5.37	1.55	-0.05	-32.09	21.78
	62	6	242.85	3.03	4.55	-0.67	65.16	22.17
		21	-244.18	-3.03	-4.55	0.67	-82.90	-10.37
	63	6	225.34	3.05	4.52	-0.77	90.24	22.47
		21	-226.67	-3.05	-4.52	0.77	-107.88	-10.56
	64	6	219.79	3.89	4.55	-0.68	60.88	32.15
		21	-221.11	-3.89	-4.55	0.68	-78.61	-16.98
	65	6	208.15	3.69	4.51	-0.81	74.53	29.88
		21	-209.47	-3.69	-4.51	0.81	-92.12	-15.48
	66	6	259.47	3.22	4.54	-0.58	68.20	24.45
		21	-260.79	-3.22	-4.54	0.58	-85.89	-11.87
	67	6	237.64	3.20	4.48	-0.47	101.26	24.16
		21	-238.96	-3.20	-4.48	0.47	-118.71	-11.68
	68	6	166.04	3.14	4.55	-0.66	64.72	23.47
		21	-167.36	-3.14	-4.55	0.66	-82.47	-11.23
	69	6	222.52	3.06	4.59	-0.51	26.04	22.51
		21	-223.84	-3.06	-4.59	0.51	-43.96	-10.59
	70	6	248.66	-4.64	0.54	-0.64	65.16	-37.09
		21	-249.99	4.64	-0.54	0.64	-67.26	18.98
	71	6	231.15	-4.62	0.51	-0.74	90.25	-36.79
		21	-232.48	4.62	-0.51	0.74	-92.24	18.79
	72	6	225.60	-3.78	0.54	-0.65	60.88	-27.10
		21	-226.92	3.78	-0.54	0.65	-62.97	12.37
	73	6	213.96	-3.97	0.50	-0.78	74.54	-29.37
		21	-215.29	3.97	-0.50	0.78	-76.48	13.87
	74	6	265.28	-4.44	0.53	-0.55	68.20	-34.80
		21	-266.60	4.44	-0.53	0.55	-70.25	17.48
	75	6	243.45	-4.47	0.46	-0.44	101.26	-35.09
		21	-244.77	4.47	-0.46	0.44	-103.07	17.67
	76	6	171.85	-4.53	0.54	-0.63	64.72	-35.78
		21	-173.17	4.53	-0.54	0.63	-66.82	18.12

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	6	228.33	-4.61	0.58	-0.48	26.05	-36.74
		21	-229.65	4.61	-0.58	0.48	-28.31	18.76
21	1	21	253.72	0.49	0.02	0.06	51.30	3.75
		22	-253.72	-0.49	-0.02	-0.06	-51.45	0.74
	2	21	1.84	0.00	0.00	0.00	0.00	0.00
		22	-6.13	0.00	0.00	0.00	0.00	0.00
	3	21	0.00	0.00	0.00	0.00	0.00	0.00
		22	0.00	0.00	0.00	0.00	0.00	0.00
	4	21	-7.64	0.15	0.01	0.04	1.82	1.17
		22	7.64	-0.15	-0.01	-0.04	-1.92	0.23
	5	21	72.95	-0.11	-0.01	-0.04	10.00	-0.82
		22	-72.95	0.11	0.01	0.04	-9.90	-0.17
	6	21	21.96	-0.03	0.00	-0.01	3.03	-0.25
		22	-21.96	0.03	0.00	0.01	-3.00	-0.05
	7	21	54.32	-0.08	-0.04	-0.15	36.67	-0.61
		22	-54.32	0.08	0.04	0.15	-36.30	-0.12
	8	21	16.28	-0.02	-0.01	-0.04	11.06	-0.18
		22	-16.28	0.02	0.01	0.04	-10.95	-0.04
	9	21	48.28	0.81	-0.01	-0.05	5.41	6.24
		22	-48.28	-0.81	0.01	0.05	-5.28	1.16
	10	21	14.60	0.25	0.00	-0.02	1.66	1.89
		22	-14.60	-0.25	0.00	0.02	-1.62	0.35
	11	21	35.92	0.60	-0.05	-0.20	19.87	4.64
		22	-35.92	-0.60	0.05	0.20	-19.38	0.86
	12	21	10.80	0.18	-0.02	-0.06	5.97	1.40
		22	-10.80	-0.18	0.02	0.06	-5.82	0.26
	13	21	90.59	0.10	-0.02	0.05	13.15	0.79
		22	-90.59	-0.10	0.02	-0.05	-12.92	0.15
	14	21	27.40	0.03	-0.01	0.01	4.04	0.24
		22	-27.40	-0.03	0.01	-0.01	-3.97	0.05
	15	21	67.40	0.08	-0.09	0.17	48.27	0.59
		22	-67.40	-0.08	0.09	-0.17	-47.44	0.12
	16	21	20.27	0.02	-0.03	0.05	14.50	0.18
		22	-20.27	-0.02	0.03	-0.05	-14.25	0.03
	17	21	-9.02	0.01	-0.01	-0.04	9.55	0.10
		22	9.02	-0.01	0.01	0.04	-9.45	0.02
	18	21	-2.75	0.00	0.00	-0.01	2.88	0.03
		22	2.75	0.00	0.00	0.01	-2.85	0.01
	19	21	51.38	-0.08	0.03	0.13	-31.67	-0.58
		22	-51.38	0.08	-0.03	-0.13	31.35	-0.12
	20	21	15.30	-0.02	0.01	0.04	-9.39	-0.17
		22	-15.30	0.02	-0.01	-0.04	9.30	-0.03
	21	21	0.00	0.00	0.00	0.00	0.00	0.00
		22	1.82	0.00	0.00	0.00	0.00	0.00
	22	21	0.12	-0.01	0.00	0.00	0.00	-3.67
		22	-0.12	1.39	-0.05	0.00	-0.30	-4.78

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	21	0.45	-2.61	0.62	-0.01	4.13	-9.95
		22	-0.45	2.61	-0.62	0.01	-9.78	-13.85
	24	21	0.07	-0.82	0.32	-0.09	3.62	-3.13
		22	-0.07	0.82	-0.32	0.09	-6.55	-4.36
	25	21	0.00	0.00	3.01	-0.86	33.25	0.00
		22	0.00	0.00	-3.01	0.86	-60.67	0.00
	26	21	-4.04	5.32	2.79	-0.02	10.86	20.38
		22	4.04	-5.32	-2.79	0.02	-36.24	28.13
	27	21	342.96	0.50	0.01	0.04	66.16	0.18
		22	-345.43	0.88	-0.06	-0.04	-66.56	-4.02
	28	21	318.64	0.53	-0.03	-0.10	100.85	0.46
		22	-321.11	0.85	-0.02	0.10	-100.91	-3.97
	29	21	310.92	1.70	0.01	0.03	60.20	9.37
		22	-313.39	-0.32	-0.06	-0.03	-60.56	-2.29
	30	21	294.76	1.43	-0.04	-0.16	78.96	7.29
		22	-297.23	-0.05	-0.01	0.16	-78.86	-2.68
	31	21	366.03	0.77	-0.01	0.16	70.31	2.28
		22	-368.50	0.61	-0.04	-0.16	-70.55	-3.60
	32	21	335.72	0.74	-0.09	0.32	115.89	2.01
		22	-338.18	0.64	0.04	-0.32	-115.35	-3.65
	33	21	236.28	0.66	0.01	0.05	65.55	1.38
		22	-238.75	0.72	-0.06	-0.05	-65.96	-3.78
	34	21	314.72	0.54	0.07	0.26	12.06	0.50
		22	-317.19	0.84	-0.12	-0.26	-13.01	-3.96
	35	21	204.91	-1.70	0.51	0.04	44.34	-7.90
		22	-206.88	2.81	-0.55	-0.04	-49.22	-14.31
	36	21	274.53	-0.89	2.82	-0.72	83.40	-4.74
		22	-276.51	1.99	-2.86	0.72	-109.37	-10.03
	37	21	255.08	-0.86	2.79	-0.84	111.16	-4.53
		22	-257.05	1.96	-2.83	0.84	-136.85	-9.99
	38	21	248.90	0.07	2.82	-0.74	78.64	2.61
		22	-250.88	1.03	-2.86	0.74	-104.57	-8.65
	39	21	235.98	-0.14	2.78	-0.89	93.65	0.94
		22	-237.95	1.25	-2.82	0.89	-119.21	-8.96
	40	21	292.99	-0.67	2.81	-0.63	86.73	-3.07
		22	-294.97	1.77	-2.85	0.63	-112.57	-9.70
	41	21	268.74	-0.69	2.74	-0.50	123.20	-3.28
		22	-270.71	1.80	-2.78	0.50	-148.40	-9.74
	42	21	189.19	-0.76	2.83	-0.72	82.92	-3.79
		22	-191.16	1.86	-2.86	0.72	-108.89	-9.84
	43	21	251.94	-0.85	2.87	-0.55	40.13	-4.49
		22	-253.92	1.96	-2.91	0.55	-66.53	-9.98
	44	21	271.14	4.66	2.24	0.02	61.62	16.45
		22	-273.11	-3.55	-2.28	-0.02	-82.24	19.28
	45	21	251.69	4.69	2.21	-0.09	89.37	16.67
		22	-253.66	-3.58	-2.25	0.09	-109.72	19.33
	46	21	245.51	5.62	2.23	0.00	56.85	23.81
		22	-247.48	-4.51	-2.27	0.00	-77.44	20.67

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	21	232.58	5.40	2.19	-0.15	71.86	22.13
		22	-234.56	-4.30	-2.23	0.15	-92.08	20.36
	48	21	289.60	4.88	2.22	0.11	64.94	18.13
		22	-291.57	-3.78	-2.26	-0.11	-85.44	19.62
	49	21	265.34	4.85	2.15	0.24	101.41	17.92
		22	-267.32	-3.75	-2.19	-0.24	-121.27	19.58
	50	21	185.79	4.79	2.24	0.02	61.13	17.41
		22	-187.77	-3.68	-2.28	-0.02	-81.76	19.48
	51	21	248.55	4.69	2.29	0.19	18.34	16.71
		22	-250.52	-3.59	-2.33	-0.19	-39.41	19.34
	52	21	277.60	-3.86	-2.22	0.05	44.23	-16.16
		22	-279.57	4.96	2.18	-0.05	-24.25	-25.72
	53	21	258.14	-3.83	-2.25	-0.06	71.99	-15.94
		22	-260.12	4.94	2.21	0.06	-51.73	-25.67
	54	21	251.97	-2.90	-2.22	0.04	39.47	-8.81
		22	-253.94	4.01	2.18	-0.04	-19.45	-24.34
	55	21	239.04	-3.12	-2.26	-0.11	54.48	-10.48
		22	-241.01	4.22	2.22	0.11	-34.09	-24.65
	56	21	296.06	-3.64	-2.23	0.14	47.56	-14.48
		22	-298.03	4.74	2.19	-0.14	-27.45	-25.38
	57	21	271.80	-3.67	-2.30	0.27	84.02	-14.69
		22	-273.78	4.77	2.26	-0.27	-63.28	-25.42
	58	21	192.25	-3.73	-2.22	0.05	43.75	-15.20
		22	-194.23	4.84	2.18	-0.05	-23.77	-25.52
	59	21	255.00	-3.83	-2.17	0.23	0.96	-15.90
		22	-256.98	4.93	2.13	-0.23	18.58	-25.67
	60	21	181.51	2.30	2.46	0.02	47.73	7.57
		22	-183.29	-1.31	-2.50	-0.02	-70.39	7.37
	61	21	187.32	-5.37	-1.55	0.05	32.09	-21.78
		22	-189.10	6.36	1.51	-0.05	-18.20	-33.13
	62	21	244.18	3.03	4.55	-0.67	82.90	10.37
		22	-245.95	-2.03	-4.59	0.67	-124.57	11.17
	63	21	226.67	3.05	4.52	-0.77	107.88	10.56
		22	-228.44	-2.06	-4.56	0.77	-149.30	11.21
	64	21	221.11	3.89	4.55	-0.68	78.61	16.98
		22	-222.89	-2.90	-4.58	0.68	-120.25	12.41
	65	21	209.47	3.69	4.51	-0.81	92.12	15.48
		22	-211.25	-2.70	-4.55	0.81	-133.43	12.13
	66	21	260.79	3.22	4.54	-0.58	85.89	11.87
		22	-262.57	-2.23	-4.57	0.58	-127.44	11.47
	67	21	238.96	3.20	4.48	-0.47	118.71	11.68
		22	-240.74	-2.21	-4.51	0.47	-159.70	11.43
	68	21	167.36	3.14	4.55	-0.66	82.47	11.23
		22	-169.14	-2.15	-4.59	0.66	-124.14	11.34
	69	21	223.84	3.06	4.59	-0.51	43.96	10.59
		22	-225.62	-2.06	-4.63	0.51	-86.02	11.21
	70	21	249.99	-4.64	0.54	-0.64	67.26	-18.98
		22	-251.76	5.64	-0.57	0.64	-72.38	-29.33

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	21	232.48	-4.62	0.51	-0.74	92.24	-18.79
		22	-234.26	5.61	-0.55	0.74	-97.11	-29.29
	72	21	226.92	-3.78	0.54	-0.65	62.97	-12.37
		22	-228.70	4.77	-0.57	0.65	-68.06	-28.09
	73	21	215.29	-3.97	0.50	-0.78	76.48	-13.87
		22	-217.06	4.97	-0.53	0.78	-81.24	-28.37
	74	21	266.60	-4.44	0.53	-0.55	70.25	-17.48
		22	-268.38	5.44	-0.56	0.55	-75.25	-29.03
	75	21	244.77	-4.47	0.46	-0.44	103.07	-17.67
		22	-246.55	5.46	-0.50	0.44	-107.51	-29.07
	76	21	173.17	-4.53	0.54	-0.63	66.82	-18.12
		22	-174.95	5.52	-0.57	0.63	-71.95	-29.16
	77	21	229.65	-4.61	0.58	-0.48	28.31	-18.76
		22	-231.43	5.61	-0.62	0.48	-33.82	-29.29
22	1	22	253.72	0.49	0.02	0.06	51.45	-0.74
		23	-253.72	-0.49	-0.02	-0.06	-51.65	7.14
	2	22	6.13	0.00	0.00	0.00	0.00	0.00
		23	-6.13	0.00	0.00	0.00	0.00	0.00
	3	22	0.00	0.00	0.00	0.00	0.00	0.00
		23	-18.72	0.00	0.00	0.00	0.00	0.00
	4	22	-7.64	0.15	0.01	0.04	1.92	-0.23
		23	7.64	-0.15	-0.01	-0.04	-2.06	2.24
	5	22	72.95	-0.11	-0.01	-0.04	9.90	0.17
		23	-72.95	0.11	0.01	0.04	-9.76	-1.57
	6	22	21.96	-0.03	0.00	-0.01	3.00	0.05
		23	-21.96	0.03	0.00	0.01	-2.96	-0.47
	7	22	54.32	-0.08	-0.04	-0.15	36.30	0.12
		23	-54.32	0.08	0.04	0.15	-35.78	-1.17
	8	22	16.28	-0.02	-0.01	-0.04	10.95	0.04
		23	-16.28	0.02	0.01	0.04	-10.79	-0.35
	9	22	48.28	0.81	-0.01	-0.05	5.28	-1.16
		23	-48.28	-0.81	0.01	0.05	-5.09	11.72
	10	22	14.60	0.25	0.00	-0.02	1.62	-0.35
		23	-14.60	-0.25	0.00	0.02	-1.56	3.54
	11	22	35.92	0.60	-0.05	-0.20	19.38	-0.86
		23	-35.92	-0.60	0.05	0.20	-18.68	8.72
	12	22	10.80	0.18	-0.02	-0.06	5.82	-0.26
		23	-10.80	-0.18	0.02	0.06	-5.61	2.62
	13	22	90.59	0.10	-0.02	0.05	12.92	-0.15
		23	-90.59	-0.10	0.02	-0.05	-12.60	1.51
	14	22	27.40	0.03	-0.01	0.01	3.97	-0.05
		23	-27.40	-0.03	0.01	-0.01	-3.87	0.46
	15	22	67.40	0.08	-0.09	0.17	47.44	-0.12
		23	-67.40	-0.08	0.09	-0.17	-46.25	1.12
	16	22	20.27	0.02	-0.03	0.05	14.25	-0.03
		23	-20.27	-0.02	0.03	-0.05	-13.89	0.34

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	17	22	-9.02	0.01	-0.01	-0.04	9.45	-0.02
		23	9.02	-0.01	0.01	0.04	-9.31	0.19
	18	22	-2.75	0.00	0.00	-0.01	2.85	-0.01
		23	2.75	0.00	0.00	0.01	-2.81	0.06
	19	22	51.38	-0.08	0.03	0.13	-31.35	0.12
		23	-51.38	0.08	-0.03	-0.13	30.90	-1.11
	20	22	15.30	-0.02	0.01	0.04	-9.30	0.03
		23	-15.30	0.02	-0.01	-0.04	9.17	-0.33
	21	22	-1.82	0.00	0.00	0.00	0.00	0.00
		23	1.82	0.00	0.00	0.00	0.00	0.00
	22	22	0.12	-1.39	0.05	0.00	0.30	4.78
		23	-0.12	1.39	-0.05	0.00	-0.93	-22.81
	23	22	0.45	-2.61	0.62	-0.01	9.78	13.85
		23	-0.45	2.61	-0.62	0.01	-17.86	-47.81
	24	22	0.07	-0.82	0.32	-0.09	6.55	4.36
		23	-0.07	0.82	-0.32	0.09	-10.74	-15.05
	25	22	0.00	0.00	3.01	-0.86	60.67	0.00
		23	0.00	0.00	-3.01	0.86	-99.79	0.00
	26	22	-4.04	5.32	2.79	-0.02	36.24	-28.13
		23	4.04	-5.32	-2.79	0.02	-72.46	97.35
	27	22	345.43	-0.88	0.06	0.04	66.56	4.02
		23	-364.15	0.88	-0.06	-0.04	-67.35	-15.48
	28	22	321.11	-0.85	0.02	-0.10	100.91	3.97
		23	-339.83	0.85	-0.02	0.10	-101.21	-14.95
	29	22	313.39	0.32	0.06	0.03	60.56	2.29
		23	-332.11	-0.32	-0.06	-0.03	-61.29	1.83
	30	22	297.23	0.05	0.01	-0.16	78.86	2.68
		23	-315.95	-0.05	-0.01	0.16	-78.93	-2.09
	31	22	368.50	-0.61	0.04	0.16	70.55	3.60
		23	-387.22	0.61	-0.04	-0.16	-71.11	-11.47
	32	22	338.18	-0.64	-0.04	0.32	115.35	3.65
		23	-356.90	0.64	0.04	-0.32	-114.78	-11.98
	33	22	238.75	-0.72	0.06	0.05	65.96	3.78
		23	-257.47	0.72	-0.06	-0.05	-66.76	-13.18
	34	22	317.19	-0.84	0.12	0.26	13.01	3.96
		23	-335.91	0.84	-0.12	-0.26	-14.58	-14.87
	35	22	206.88	-2.81	0.55	0.04	49.22	14.31
		23	-221.86	2.81	-0.55	-0.04	-56.35	-50.79
	36	22	276.51	-1.99	2.86	-0.72	109.37	10.03
		23	-291.48	1.99	-2.86	0.72	-146.60	-35.90
	37	22	257.05	-1.96	2.83	-0.84	136.85	9.99
		23	-272.03	1.96	-2.83	0.84	-173.68	-35.48
	38	22	250.88	-1.03	2.86	-0.74	104.57	8.65
		23	-265.85	1.03	-2.86	0.74	-141.75	-22.05
	39	22	237.95	-1.25	2.82	-0.89	119.21	8.96
		23	-252.93	1.25	-2.82	0.89	-155.86	-25.19
	40	22	294.97	-1.77	2.85	-0.63	112.57	9.70
		23	-309.94	1.77	-2.85	0.63	-149.60	-32.70

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	41	22	270.71	-1.80	2.78	-0.50	148.40	9.74
		23	-285.69	1.80	-2.78	0.50	-184.54	-33.10
	42	22	191.16	-1.86	2.86	-0.72	108.89	9.84
		23	-206.14	1.86	-2.86	0.72	-146.13	-34.06
	43	22	253.92	-1.96	2.91	-0.55	66.53	9.98
		23	-268.89	1.96	-2.91	0.55	-104.38	-35.41
	44	22	273.11	3.55	2.28	0.02	82.24	-19.28
		23	-288.09	-3.55	-2.28	-0.02	-111.85	65.50
	45	22	253.66	3.58	2.25	-0.09	109.72	-19.33
		23	-268.64	-3.58	-2.25	0.09	-138.94	65.92
	46	22	247.48	4.51	2.27	0.00	77.44	-20.67
		23	-262.46	-4.51	-2.27	0.00	-107.00	79.34
	47	22	234.56	4.30	2.23	-0.15	92.08	-20.36
		23	-249.53	-4.30	-2.23	0.15	-121.11	76.21
	48	22	291.57	3.78	2.26	0.11	85.44	-19.62
		23	-306.55	-3.78	-2.26	-0.11	-114.86	68.70
	49	22	267.32	3.75	2.19	0.24	121.27	-19.58
		23	-282.30	-3.75	-2.19	-0.24	-149.79	68.30
	50	22	187.77	3.68	2.28	0.02	81.76	-19.48
		23	-202.75	-3.68	-2.28	-0.02	-111.38	67.34
	51	22	250.52	3.59	2.33	0.19	39.41	-19.34
		23	-265.50	-3.59	-2.33	-0.19	-69.63	65.98
	52	22	279.57	-4.96	-2.18	0.05	24.25	25.72
		23	-294.55	4.96	2.18	-0.05	4.09	-90.26
	53	22	260.12	-4.94	-2.21	-0.06	51.73	25.67
		23	-275.09	4.94	2.21	0.06	-23.00	-89.84
	54	22	253.94	-4.01	-2.18	0.04	19.45	24.34
		23	-268.92	4.01	2.18	-0.04	8.94	-76.41
	55	22	241.01	-4.22	-2.22	-0.11	34.09	24.65
		23	-255.99	4.22	2.22	0.11	-5.17	-79.55
	56	22	298.03	-4.74	-2.19	0.14	27.45	25.38
		23	-313.01	4.74	2.19	-0.14	1.08	-87.06
	57	22	273.78	-4.77	-2.26	0.27	63.28	25.42
		23	-288.75	4.77	2.26	-0.27	-33.85	-87.46
	58	22	194.23	-4.84	-2.18	0.05	23.77	25.52
		23	-209.20	4.84	2.18	-0.05	4.56	-88.42
	59	22	256.98	-4.93	-2.13	0.23	-18.58	25.67
		23	-271.96	4.93	2.13	-0.23	46.31	-89.77
	60	22	183.29	1.31	2.50	0.02	70.39	-7.37
		23	-196.77	-1.31	-2.50	-0.02	-102.89	24.38
	61	22	189.10	-6.36	-1.51	0.05	18.20	33.13
		23	-202.58	6.36	1.51	-0.05	1.46	-115.80
	62	22	245.95	2.03	4.59	-0.67	124.57	-11.17
		23	-259.43	-2.03	-4.59	0.67	-184.18	37.59
	63	22	228.44	2.06	4.56	-0.77	149.30	-11.21
		23	-241.92	-2.06	-4.56	0.77	-208.56	37.97
	64	22	222.89	2.90	4.58	-0.68	120.25	-12.41
		23	-236.36	-2.90	-4.58	0.68	-179.82	50.05

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	65	22	211.25	2.70	4.55	-0.81	133.43	-12.13
		23	-224.73	-2.70	-4.55	0.81	-192.52	47.23
	66	22	262.57	2.23	4.57	-0.58	127.44	-11.47
		23	-276.05	-2.23	-4.57	0.58	-186.89	40.47
	67	22	240.74	2.21	4.51	-0.47	159.70	-11.43
		23	-254.22	-2.21	-4.51	0.47	-218.33	40.11
	68	22	169.14	2.15	4.59	-0.66	124.14	-11.34
		23	-182.62	-2.15	-4.59	0.66	-183.76	39.24
	69	22	225.62	2.06	4.63	-0.51	86.02	-11.21
		23	-239.10	-2.06	-4.63	0.51	-146.18	38.03
	70	22	251.76	-5.64	0.57	-0.64	72.38	29.33
		23	-265.24	5.64	-0.57	0.64	-79.84	-102.59
	71	22	234.26	-5.61	0.55	-0.74	97.11	29.29
		23	-247.73	5.61	-0.55	0.74	-104.21	-102.21
	72	22	228.70	-4.77	0.57	-0.65	68.06	28.09
		23	-242.17	4.77	-0.57	0.65	-75.47	-90.13
	73	22	217.06	-4.97	0.53	-0.78	81.24	28.37
		23	-230.54	4.97	-0.53	0.78	-88.17	-92.95
	74	22	268.38	-5.44	0.56	-0.55	75.25	29.03
		23	-281.86	5.44	-0.56	0.55	-82.54	-99.71
	75	22	246.55	-5.46	0.50	-0.44	107.51	29.07
		23	-260.03	5.46	-0.50	0.44	-113.98	-100.07
	76	22	174.95	-5.52	0.57	-0.63	71.95	29.16
		23	-188.43	5.52	-0.57	0.63	-79.41	-100.94
	77	22	231.43	-5.61	0.62	-0.48	33.82	29.29
		23	-244.91	5.61	-0.62	0.48	-41.84	-102.15
23	1	7	336.94	-2.86	-0.06	0.07	52.26	-33.17
		24	-336.94	2.86	0.06	-0.07	-52.04	22.01
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		24	-1.84	0.00	0.00	0.00	0.00	0.00
	3	7	0.00	0.00	0.00	0.00	0.00	0.00
		24	0.00	0.00	0.00	0.00	0.00	0.00
	4	7	36.59	-1.13	-0.04	0.05	2.47	-13.11
		24	-36.59	1.13	0.04	-0.05	-2.32	8.70
	5	7	27.98	0.97	0.04	-0.05	9.33	11.27
		24	-27.98	-0.97	-0.04	0.05	-9.49	-7.48
	6	7	8.43	0.29	0.01	-0.01	2.83	3.39
		24	-8.43	-0.29	-0.01	0.01	-2.87	-2.25
	7	7	20.84	0.72	0.14	-0.18	34.22	8.39
		24	-20.84	-0.72	-0.14	0.18	-34.79	-5.57
	8	7	6.24	0.22	0.04	-0.05	10.32	2.51
		24	-6.24	-0.22	-0.04	0.05	-10.49	-1.67
	9	7	-3.58	-0.05	0.05	-0.07	4.52	-0.58
		24	3.58	0.05	-0.05	0.07	-4.73	0.38
	10	7	-1.08	-0.02	0.02	-0.02	1.39	-0.17
		24	1.08	0.02	-0.02	0.02	-1.45	0.12

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	7	-2.67	-0.04	0.19	-0.24	16.61	-0.43
		24	2.67	0.04	-0.19	0.24	-17.36	0.28
	12	7	-0.80	-0.01	0.06	-0.07	4.99	-0.13
		24	0.80	0.01	-0.06	0.07	-5.21	0.09
	13	7	87.48	-0.25	-0.03	0.05	13.45	-2.89
		24	-87.48	0.25	0.03	-0.05	-13.33	1.92
	14	7	26.46	-0.08	-0.01	0.02	4.13	-0.88
		24	-26.46	0.08	0.01	-0.02	-4.09	0.58
	15	7	65.08	-0.19	-0.11	0.20	49.37	-2.15
		24	-65.08	0.19	0.11	-0.20	-48.94	1.43
	16	7	19.58	-0.06	-0.03	0.06	14.83	-0.65
		24	-19.58	0.06	0.03	-0.06	-14.70	0.43
	17	7	-3.46	-0.12	0.04	-0.05	8.91	-1.39
		24	3.46	0.12	-0.04	0.05	-9.06	0.92
	18	7	-1.05	-0.04	0.01	-0.01	2.69	-0.42
		24	1.05	0.04	-0.01	0.01	-2.73	0.28
	19	7	19.71	0.68	-0.12	0.16	-29.56	7.93
		24	-19.71	-0.68	0.12	-0.16	30.04	-5.27
	20	7	5.87	0.20	-0.04	0.05	-8.77	2.36
		24	-5.87	-0.20	0.04	-0.05	8.91	-1.57
	21	7	0.00	0.00	0.00	0.00	0.00	0.00
		24	0.00	0.00	0.00	0.00	0.00	0.00
	22	7	-0.31	0.01	0.00	0.00	0.00	-3.48
		24	0.31	-0.01	0.00	0.00	0.00	3.53
	23	7	-2.04	-2.51	0.62	0.00	1.71	-18.96
		24	2.04	2.51	-0.62	0.00	-4.13	9.17
	24	7	-0.76	-0.79	0.27	-0.13	2.64	-5.96
		24	0.76	0.79	-0.27	0.13	-3.70	2.88
	25	7	0.00	0.00	2.53	-1.17	24.17	0.00
		24	0.00	0.00	-2.53	1.17	-34.05	0.00
	26	7	5.23	8.46	2.77	-0.01	0.08	63.74
		24	-5.23	-8.46	-2.77	0.01	-10.90	-30.74
	27	7	409.62	-2.72	-0.04	0.05	66.89	-35.10
		24	-411.46	2.72	0.04	-0.05	-66.72	24.51
	28	7	400.29	-3.04	0.09	-0.12	99.28	-38.86
		24	-402.13	3.04	-0.09	0.12	-99.64	27.00
	29	7	368.55	-4.05	-0.03	0.03	60.64	-50.51
		24	-370.38	4.05	0.03	-0.03	-60.54	34.73
	30	7	369.75	-4.03	0.16	-0.19	76.33	-50.32
		24	-371.58	4.03	-0.16	0.19	-76.93	34.61
	31	7	487.15	-4.30	-0.13	0.19	72.31	-53.53
		24	-488.99	4.30	0.13	-0.19	-71.78	36.74
	32	7	457.87	-4.22	-0.24	0.37	118.93	-52.56
		24	-459.71	4.22	0.24	-0.37	-118.00	36.10
	33	7	368.70	-4.14	-0.05	0.06	66.33	-51.58
		24	-370.54	4.14	0.05	-0.06	-66.15	35.44
	34	7	398.79	-3.09	-0.26	0.32	16.40	-39.46
		24	-400.63	3.09	0.26	-0.32	-15.41	27.40

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	7	267.67	-4.29	0.45	0.05	43.18	-44.48
		24	-269.14	4.29	-0.45	-0.05	-44.93	27.76
	36	7	326.60	-3.41	2.36	-0.99	75.37	-37.40
		24	-328.07	3.41	-2.36	0.99	-84.57	24.11
	37	7	319.14	-3.67	2.47	-1.13	101.28	-40.41
		24	-320.61	3.67	-2.47	1.13	-110.90	26.11
	38	7	293.74	-4.47	2.37	-1.01	70.37	-49.73
		24	-295.21	4.47	-2.37	1.01	-79.62	32.29
	39	7	294.70	-4.46	2.52	-1.19	82.92	-49.57
		24	-296.17	4.46	-2.52	1.19	-92.73	32.19
	40	7	388.62	-4.68	2.29	-0.89	79.70	-52.14
		24	-390.09	4.68	-2.29	0.89	-88.62	33.90
	41	7	365.20	-4.61	2.20	-0.74	117.00	-51.37
		24	-366.67	4.61	-2.20	0.74	-125.59	33.38
	42	7	293.86	-4.54	2.36	-0.99	74.92	-50.58
		24	-295.33	4.54	-2.36	0.99	-84.11	32.86
	43	7	317.93	-3.71	2.19	-0.78	34.98	-40.89
		24	-319.40	3.71	-2.19	0.78	-43.51	26.43
	44	7	331.88	4.60	2.19	0.04	53.58	22.91
		24	-333.35	-4.60	-2.19	-0.04	-62.10	-4.99
	45	7	324.42	4.34	2.29	-0.10	79.48	19.90
		24	-325.89	-4.34	-2.29	0.10	-88.43	-2.99
	46	7	299.02	3.53	2.20	0.02	48.58	10.58
		24	-300.49	-3.53	-2.20	-0.02	-57.15	3.19
	47	7	299.98	3.55	2.34	-0.16	61.12	10.74
		24	-301.45	-3.55	-2.34	0.16	-70.26	3.09
	48	7	393.90	3.32	2.11	0.14	57.91	8.17
		24	-395.37	-3.32	-2.11	-0.14	-66.15	4.80
	49	7	370.48	3.39	2.03	0.29	95.21	8.94
		24	-371.95	-3.39	-2.03	-0.29	-103.12	4.29
	50	7	299.14	3.46	2.18	0.04	53.12	9.73
		24	-300.61	-3.46	-2.18	-0.04	-61.64	3.76
	51	7	323.21	4.29	2.02	0.25	13.19	19.42
		24	-324.68	-4.29	-2.02	-0.25	-21.05	-2.67
	52	7	323.52	-8.94	-2.25	0.05	53.45	-79.07
		24	-324.99	8.94	2.25	-0.05	-44.66	44.20
	53	7	316.06	-9.20	-2.15	-0.09	79.36	-82.08
		24	-317.52	9.20	2.15	0.09	-70.99	46.19
	54	7	290.66	-10.01	-2.24	0.03	48.45	-91.40
		24	-292.13	10.01	2.24	-0.03	-39.71	52.38
	55	7	291.62	-9.99	-2.10	-0.15	61.00	-91.24
		24	-293.09	9.99	2.10	0.15	-52.83	52.28
	56	7	385.54	-10.21	-2.33	0.16	57.78	-93.81
		24	-387.01	10.21	2.33	-0.16	-48.71	53.99
	57	7	362.12	-10.15	-2.41	0.30	95.08	-93.04
		24	-363.59	10.15	2.41	-0.30	-85.68	53.47
	58	7	290.78	-10.08	-2.26	0.05	53.00	-92.25
		24	-292.25	10.08	2.26	-0.05	-44.20	52.95

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	59	7	314.85	-9.24	-2.42	0.26	13.06	-82.56
		24	-316.32	9.24	2.42	-0.26	-3.61	46.52
	60	7	244.66	2.23	2.40	0.04	38.92	5.86
		24	-245.99	-2.23	-2.40	-0.04	-48.29	2.85
	61	7	237.14	-9.95	-1.59	0.06	38.81	-85.93
		24	-238.46	9.95	1.59	-0.06	-32.59	47.12
	62	7	297.69	3.02	4.12	-0.90	67.90	12.15
		24	-299.02	-3.02	-4.12	0.90	-83.97	-0.39
	63	7	290.98	2.78	4.22	-1.02	91.21	9.45
		24	-292.30	-2.78	-4.22	1.02	-107.67	1.40
	64	7	268.12	2.06	4.13	-0.92	63.40	1.06
		24	-269.44	-2.06	-4.13	0.92	-79.52	6.97
	65	7	268.98	2.07	4.27	-1.08	74.69	1.20
		24	-270.30	-2.07	-4.27	1.08	-91.32	6.87
	66	7	353.51	1.87	4.06	-0.80	71.80	-1.11
		24	-354.83	-1.87	-4.06	0.80	-87.62	8.41
	67	7	332.43	1.93	3.98	-0.67	105.36	-0.42
		24	-333.75	-1.93	-3.98	0.67	-120.89	7.95
	68	7	268.23	1.99	4.12	-0.90	67.49	0.29
		24	-269.55	-1.99	-4.12	0.90	-83.56	7.48
	69	7	289.89	2.74	3.97	-0.71	31.55	9.01
		24	-291.22	-2.74	-3.97	0.71	-47.03	1.69
	70	7	290.17	-9.17	0.13	-0.89	67.78	-79.63
		24	-291.49	9.17	-0.13	0.89	-68.28	43.87
	71	7	283.45	-9.40	0.22	-1.01	91.10	-82.33
		24	-284.77	9.40	-0.22	1.01	-91.98	45.67
	72	7	260.59	-10.13	0.14	-0.90	63.29	-90.72
		24	-261.92	10.13	-0.14	0.90	-63.83	51.23
	73	7	261.46	-10.11	0.27	-1.07	74.58	-90.58
		24	-262.78	10.11	-0.27	1.07	-75.63	51.14
	74	7	345.99	-10.31	0.06	-0.79	71.68	-92.90
		24	-347.31	10.31	-0.06	0.79	-71.92	52.68
	75	7	324.91	-10.25	-0.01	-0.66	105.25	-92.20
		24	-326.23	10.25	0.01	0.66	-105.20	52.22
	76	7	260.70	-10.19	0.12	-0.89	67.38	-91.49
		24	-262.03	10.19	-0.12	0.89	-67.86	51.75
	77	7	282.37	-9.44	-0.03	-0.70	31.43	-82.77
		24	-283.69	9.44	0.03	0.70	-31.33	45.96
24	1	24	336.94	-2.86	-0.06	0.07	52.04	-22.01
		25	-336.94	2.86	0.06	-0.07	-51.53	-4.05
	2	24	1.84	0.00	0.00	0.00	0.00	0.00
		25	-6.13	0.00	0.00	0.00	0.00	0.00
	3	24	0.00	0.00	0.00	0.00	0.00	0.00
		25	0.00	0.00	0.00	0.00	0.00	0.00
	4	24	36.59	-1.13	-0.04	0.05	2.32	-8.70
		25	-36.59	1.13	0.04	-0.05	-1.97	-1.60

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	5	24	27.98	0.97	0.04	-0.05	9.49	7.48
		25	-27.98	-0.97	-0.04	0.05	-9.84	1.38
	6	24	8.43	0.29	0.01	-0.01	2.87	2.25
		25	-8.43	-0.29	-0.01	0.01	-2.98	0.41
	7	24	20.84	0.72	0.14	-0.18	34.79	5.57
		25	-20.84	-0.72	-0.14	0.18	-36.10	1.02
	8	24	6.24	0.22	0.04	-0.05	10.49	1.67
		25	-6.24	-0.22	-0.04	0.05	-10.89	0.31
	9	24	-3.58	-0.05	0.05	-0.07	4.73	-0.38
		25	3.58	0.05	-0.05	0.07	-5.21	-0.08
	10	24	-1.08	-0.02	0.02	-0.02	1.45	-0.12
		25	1.08	0.02	-0.02	0.02	-1.60	-0.02
	11	24	-2.67	-0.04	0.19	-0.24	17.36	-0.28
		25	2.67	0.04	-0.19	0.24	-19.11	-0.06
	12	24	-0.80	-0.01	0.06	-0.07	5.21	-0.09
		25	0.80	0.01	-0.06	0.07	-5.74	-0.02
	13	24	87.48	-0.25	-0.03	0.05	13.33	-1.92
		25	-87.48	0.25	0.03	-0.05	-13.06	-0.35
	14	24	26.46	-0.08	-0.01	0.02	4.09	-0.58
		25	-26.46	0.08	0.01	-0.02	-4.01	-0.11
	15	24	65.08	-0.19	-0.11	0.20	48.94	-1.43
		25	-65.08	0.19	0.11	-0.20	-47.93	-0.26
	16	24	19.58	-0.06	-0.03	0.06	14.70	-0.43
		25	-19.58	0.06	0.03	-0.06	-14.39	-0.08
	17	24	-3.46	-0.12	0.04	-0.05	9.06	-0.92
		25	3.46	0.12	-0.04	0.05	-9.40	-0.17
	18	24	-1.05	-0.04	0.01	-0.01	2.73	-0.28
		25	1.05	0.04	-0.01	0.01	-2.83	-0.05
	19	24	19.71	0.68	-0.12	0.16	-30.04	5.27
		25	-19.71	-0.68	0.12	-0.16	31.17	0.97
	20	24	5.87	0.20	-0.04	0.05	-8.91	1.57
		25	-5.87	-0.20	0.04	-0.05	9.25	0.29
	21	24	0.00	0.00	0.00	0.00	0.00	0.00
		25	1.82	0.00	0.00	0.00	0.00	0.00
	22	24	-0.31	0.01	0.00	0.00	0.00	-3.53
		25	0.31	1.37	-0.05	0.00	-0.30	-4.75
	23	24	-2.04	-2.51	0.62	0.00	4.13	-9.17
		25	2.04	2.51	-0.62	0.00	-9.77	-13.70
	24	24	-0.76	-0.79	0.27	-0.13	3.70	-2.88
		25	0.76	0.79	-0.27	0.13	-6.17	-4.31
	25	24	0.00	0.00	2.53	-1.17	34.05	0.00
		25	0.00	0.00	-2.53	1.17	-57.12	0.00
	26	24	5.23	8.46	2.77	-0.01	10.90	30.74
		25	-5.23	-8.46	-2.77	0.01	-36.18	46.34
	27	24	411.46	-2.72	-0.04	0.05	66.72	-24.51
		25	-413.93	4.10	-0.01	-0.05	-66.62	-8.61
	28	24	402.13	-3.04	0.09	-0.12	99.64	-27.00
		25	-404.60	4.42	-0.14	0.12	-100.78	-9.07

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	29	24	370.38	-4.05	-0.03	0.03	60.54	-34.73
		25	-372.85	5.43	-0.02	-0.03	-60.60	-10.50
	30	24	371.58	-4.03	0.16	-0.19	76.93	-34.61
		25	-374.05	5.41	-0.20	0.19	-78.64	-10.48
	31	24	488.99	-4.30	-0.13	0.19	71.78	-36.74
		25	-491.45	5.69	0.09	-0.19	-70.86	-10.86
	32	24	459.71	-4.22	-0.24	0.37	118.00	-36.10
		25	-462.18	5.60	0.19	-0.37	-116.11	-10.74
	33	24	370.54	-4.14	-0.05	0.06	66.15	-35.44
		25	-373.01	5.52	0.00	-0.06	-66.03	-10.62
	34	24	400.63	-3.09	-0.26	0.32	15.41	-27.40
		25	-403.10	4.47	0.21	-0.32	-13.37	-9.15
	35	24	269.14	-4.29	0.45	0.05	44.93	-27.76
		25	-271.11	5.39	-0.49	-0.05	-49.27	-18.01
	36	24	328.07	-3.41	2.36	-0.99	84.57	-24.11
		25	-330.04	4.51	-2.40	0.99	-106.28	-13.63
	37	24	320.61	-3.67	2.47	-1.13	110.90	-26.11
		25	-322.58	4.77	-2.51	1.13	-133.61	-14.00
	38	24	295.21	-4.47	2.37	-1.01	79.62	-32.29
		25	-297.18	5.57	-2.41	1.01	-101.46	-15.14
	39	24	296.17	-4.46	2.52	-1.19	92.73	-32.19
		25	-298.14	5.56	-2.56	1.19	-115.90	-15.12
	40	24	390.09	-4.68	2.29	-0.89	88.62	-33.90
		25	-392.06	5.78	-2.32	0.89	-109.67	-15.43
	41	24	366.67	-4.61	2.20	-0.74	125.59	-33.38
		25	-368.64	5.72	-2.24	0.74	-145.87	-15.33
	42	24	295.33	-4.54	2.36	-0.99	84.11	-32.86
		25	-297.30	5.65	-2.39	0.99	-105.80	-15.24
	43	24	319.40	-3.71	2.19	-0.78	43.51	-26.43
		25	-321.38	4.81	-2.23	0.78	-63.68	-14.06
	44	24	333.35	4.60	2.19	0.04	62.10	4.99
		25	-335.32	-3.49	-2.22	-0.04	-82.24	30.18
	45	24	325.89	4.34	2.29	-0.10	88.43	2.99
		25	-327.86	-3.23	-2.33	0.10	-109.57	29.81
	46	24	300.49	3.53	2.20	0.02	57.15	-3.19
		25	-302.46	-2.43	-2.24	-0.02	-77.42	28.66
	47	24	301.45	3.55	2.34	-0.16	70.26	-3.09
		25	-303.42	-2.44	-2.38	0.16	-91.86	28.69
	48	24	395.37	3.32	2.11	0.14	66.15	-4.80
		25	-397.34	-2.22	-2.15	-0.14	-85.63	28.38
	49	24	371.95	3.39	2.03	0.29	103.12	-4.29
		25	-373.92	-2.29	-2.07	-0.29	-121.83	28.48
	50	24	300.61	3.46	2.18	0.04	61.64	-3.76
		25	-302.58	-2.36	-2.22	-0.04	-81.76	28.57
	51	24	324.68	4.29	2.02	0.25	21.05	2.67
		25	-326.66	-3.19	-2.05	-0.25	-39.64	29.75
	52	24	324.99	-8.94	-2.25	0.05	44.66	-44.20
		25	-326.96	10.05	2.22	-0.05	-24.36	-43.96

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	53	24	317.52	-9.20	-2.15	-0.09	70.99	-46.19
		25	-319.50	10.30	2.11	0.09	-51.68	-44.33
	54	24	292.13	-10.01	-2.24	0.03	39.71	-52.38
		25	-294.10	11.11	2.20	-0.03	-19.54	-45.47
	55	24	293.09	-9.99	-2.10	-0.15	52.83	-52.28
		25	-295.06	11.10	2.06	0.15	-33.97	-45.45
	56	24	387.01	-10.21	-2.33	0.16	48.71	-53.99
		25	-388.98	11.32	2.29	-0.16	-27.75	-45.76
	57	24	363.59	-10.15	-2.41	0.30	85.68	-53.47
		25	-365.56	11.25	2.37	-0.30	-63.95	-45.66
	58	24	292.25	-10.08	-2.26	0.05	44.20	-52.95
		25	-294.22	11.18	2.22	-0.05	-23.88	-45.57
	59	24	316.32	-9.24	-2.42	0.26	3.61	-46.52
		25	-318.30	10.35	2.39	-0.26	18.24	-44.39
	60	24	245.99	2.23	2.40	0.04	48.29	-2.85
		25	-247.76	-1.24	-2.44	-0.04	-70.39	17.16
	61	24	238.46	-9.95	-1.59	0.06	32.59	-47.12
		25	-240.24	10.94	1.56	-0.06	-18.30	-49.57
	62	24	299.02	3.02	4.12	-0.90	83.97	0.39
		25	-300.79	-2.02	-4.16	0.90	-121.74	21.04
	63	24	292.30	2.78	4.22	-1.02	107.67	-1.40
		25	-294.08	-1.79	-4.26	1.02	-146.33	20.71
	64	24	269.44	2.06	4.13	-0.92	79.52	-6.97
		25	-271.22	-1.06	-4.17	0.92	-117.40	19.68
	65	24	270.30	2.07	4.27	-1.08	91.32	-6.87
		25	-272.08	-1.08	-4.30	1.08	-130.39	19.70
	66	24	354.83	1.87	4.06	-0.80	87.62	-8.41
		25	-356.61	-0.88	-4.09	0.80	-124.79	19.42
	67	24	333.75	1.93	3.98	-0.67	120.89	-7.95
		25	-335.53	-0.94	-4.02	0.67	-157.37	19.51
	68	24	269.55	1.99	4.12	-0.90	83.56	-7.48
		25	-271.33	-1.00	-4.16	0.90	-121.31	19.59
	69	24	291.22	2.74	3.97	-0.71	47.03	-1.69
		25	-292.99	-1.75	-4.00	0.71	-83.40	20.66
	70	24	291.49	-9.17	0.13	-0.89	68.28	-43.87
		25	-293.27	10.16	-0.16	0.89	-69.64	-45.68
	71	24	284.77	-9.40	0.22	-1.01	91.98	-45.67
		25	-286.55	10.39	-0.26	1.01	-94.24	-46.01
	72	24	261.92	-10.13	0.14	-0.90	63.83	-51.23
		25	-263.69	11.12	-0.17	0.90	-65.31	-47.05
	73	24	262.78	-10.11	0.27	-1.07	75.63	-51.14
		25	-264.56	11.11	-0.30	1.07	-78.30	-47.03
	74	24	347.31	-10.31	0.06	-0.79	71.92	-52.68
		25	-349.09	11.31	-0.10	0.79	-72.69	-47.30
	75	24	326.23	-10.25	-0.01	-0.66	105.20	-52.22
		25	-328.01	11.25	-0.02	0.66	-105.28	-47.22
	76	24	262.03	-10.19	0.12	-0.89	67.86	-51.75
		25	-263.80	11.18	-0.16	0.89	-69.22	-47.13

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	77	24	283.69	-9.44	-0.03	-0.70	31.33	-45.96
		25	-285.47	10.43	-0.01	0.70	-31.30	-46.07
25	1	25	336.94	-2.86	-0.06	0.07	51.53	4.05
		26	-336.94	2.86	0.06	-0.07	-50.79	-41.24
	2	25	6.13	0.00	0.00	0.00	0.00	0.00
		26	-6.13	0.00	0.00	0.00	0.00	0.00
	3	25	0.00	0.00	0.00	0.00	0.00	0.00
		26	-18.72	0.00	0.00	0.00	0.00	0.00
	4	25	36.59	-1.13	-0.04	0.05	1.97	1.60
		26	-36.59	1.13	0.04	-0.05	-1.48	-16.30
	5	25	27.98	0.97	0.04	-0.05	9.84	-1.38
		26	-27.98	-0.97	-0.04	0.05	-10.35	14.01
	6	25	8.43	0.29	0.01	-0.01	2.98	-0.41
		26	-8.43	-0.29	-0.01	0.01	-3.14	4.22
	7	25	20.84	0.72	0.14	-0.18	36.10	-1.02
		26	-20.84	-0.72	-0.14	0.18	-37.97	10.43
	8	25	6.24	0.22	0.04	-0.05	10.89	-0.31
		26	-6.24	-0.22	-0.04	0.05	-11.45	3.13
	9	25	-3.58	-0.05	0.05	-0.07	5.21	0.08
		26	3.58	0.05	-0.05	0.07	-5.89	-0.73
	10	25	-1.08	-0.02	0.02	-0.02	1.60	0.02
		26	1.08	0.02	-0.02	0.02	-1.81	-0.22
	11	25	-2.67	-0.04	0.19	-0.24	19.11	0.06
		26	2.67	0.04	-0.19	0.24	-21.61	-0.55
	12	25	-0.80	-0.01	0.06	-0.07	5.74	0.02
		26	0.80	0.01	-0.06	0.07	-6.49	-0.16
	13	25	87.48	-0.25	-0.03	0.05	13.06	0.35
		26	-87.48	0.25	0.03	-0.05	-12.66	-3.59
	14	25	26.46	-0.08	-0.01	0.02	4.01	0.11
		26	-26.46	0.08	0.01	-0.02	-3.89	-1.09
	15	25	65.08	-0.19	-0.11	0.20	47.93	0.26
		26	-65.08	0.19	0.11	-0.20	-46.48	-2.67
	16	25	19.58	-0.06	-0.03	0.06	14.39	0.08
		26	-19.58	0.06	0.03	-0.06	-13.96	-0.80
	17	25	-3.46	-0.12	0.04	-0.05	9.40	0.17
		26	3.46	0.12	-0.04	0.05	-9.88	-1.73
	18	25	-1.05	-0.04	0.01	-0.01	2.83	0.05
		26	1.05	0.04	-0.01	0.01	-2.98	-0.53
	19	25	19.71	0.68	-0.12	0.16	-31.17	-0.97
		26	-19.71	-0.68	0.12	-0.16	32.79	9.86
	20	25	5.87	0.20	-0.04	0.05	-9.25	-0.29
		26	-5.87	-0.20	0.04	-0.05	9.73	2.94
	21	25	-1.82	0.00	0.00	0.00	0.00	0.00
		26	1.82	0.00	0.00	0.00	0.00	0.00
	22	25	-0.31	-1.37	0.05	0.00	0.30	4.75
		26	0.31	1.37	-0.05	0.00	-0.93	-22.55

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	25	-2.04	-2.51	0.62	0.00	9.77	13.70
		26	2.04	2.51	-0.62	0.00	-17.82	-46.34
	24	25	-0.76	-0.79	0.27	-0.13	6.17	4.31
		26	0.76	0.79	-0.27	0.13	-9.70	-14.58
	25	25	0.00	0.00	2.53	-1.17	57.12	0.00
		26	0.00	0.00	-2.53	1.17	-90.06	0.00
	26	25	5.23	8.46	2.77	-0.01	36.18	-46.34
		26	-5.23	-8.46	-2.77	0.01	-72.25	156.32
	27	25	413.93	-4.10	0.01	0.05	66.62	8.61
		26	-432.65	4.10	-0.01	-0.05	-66.69	-61.86
	28	25	404.60	-4.42	0.14	-0.12	100.78	9.07
		26	-423.32	4.42	-0.14	0.12	-102.62	-66.53
	29	25	372.85	-5.43	0.02	0.03	60.60	10.50
		26	-391.57	5.43	-0.02	-0.03	-60.89	-81.04
	30	25	374.05	-5.41	0.20	-0.19	78.64	10.48
		26	-392.77	5.41	-0.20	0.19	-81.30	-80.79
	31	25	491.45	-5.69	-0.09	0.19	70.86	10.86
		26	-510.17	5.69	0.09	-0.19	-69.75	-84.77
	32	25	462.18	-5.60	-0.19	0.37	116.11	10.74
		26	-480.90	5.60	0.19	-0.37	-113.64	-83.56
	33	25	373.01	-5.52	0.00	0.06	66.03	10.62
		26	-391.73	5.52	0.00	-0.06	-66.07	-82.34
	34	25	403.10	-4.47	-0.21	0.32	13.37	9.15
		26	-421.82	4.47	0.21	-0.32	-10.68	-67.28
	35	25	271.11	-5.39	0.49	0.05	49.27	18.01
		26	-286.09	5.39	-0.49	-0.05	-55.63	-88.10
	36	25	330.04	-4.51	2.40	-0.99	106.28	13.63
		26	-345.02	4.51	-2.40	0.99	-137.44	-72.28
	37	25	322.58	-4.77	2.51	-1.13	133.61	14.00
		26	-337.56	4.77	-2.51	1.13	-166.18	-76.01
	38	25	297.18	-5.57	2.41	-1.01	101.46	15.14
		26	-312.16	5.57	-2.41	1.01	-132.80	-87.62
	39	25	298.14	-5.56	2.56	-1.19	115.90	15.12
		26	-313.12	5.56	-2.56	1.19	-149.12	-87.42
	40	25	392.06	-5.78	2.32	-0.89	109.67	15.43
		26	-407.04	5.78	-2.32	0.89	-139.88	-90.60
	41	25	368.64	-5.72	2.24	-0.74	145.87	15.33
		26	-383.62	5.72	-2.24	0.74	-175.00	-89.64
	42	25	297.30	-5.65	2.39	-0.99	105.80	15.24
		26	-312.28	5.65	-2.39	0.99	-136.94	-88.66
	43	25	321.38	-4.81	2.23	-0.78	63.68	14.06
		26	-336.35	4.81	-2.23	0.78	-92.63	-76.61
	44	25	335.32	3.49	2.22	0.04	82.24	-30.18
		26	-350.30	-3.49	-2.22	-0.04	-111.16	75.57
	45	25	327.86	3.23	2.33	-0.10	109.57	-29.81
		26	-342.84	-3.23	-2.33	0.10	-139.90	71.84
	46	25	302.46	2.43	2.24	0.02	77.42	-28.66
		26	-317.44	-2.43	-2.24	-0.02	-106.51	60.23

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	47	25	303.42	2.44	2.38	-0.16	91.86	-28.69
		26	-318.40	-2.44	-2.38	0.16	-122.84	60.42
	48	25	397.34	2.22	2.15	0.14	85.63	-28.38
		26	-412.32	-2.22	-2.15	-0.14	-113.60	57.25
	49	25	373.92	2.29	2.07	0.29	121.83	-28.48
		26	-388.90	-2.29	-2.07	-0.29	-148.71	58.21
	50	25	302.58	2.36	2.22	0.04	81.76	-28.57
		26	-317.56	-2.36	-2.22	-0.04	-110.65	59.18
	51	25	326.66	3.19	2.05	0.25	39.64	-29.75
		26	-341.63	-3.19	-2.05	-0.25	-66.35	71.23
	52	25	326.96	-10.05	-2.22	0.05	24.36	43.96
		26	-341.94	10.05	2.22	-0.05	4.45	-174.55
	53	25	319.50	-10.30	-2.11	-0.09	51.68	44.33
		26	-334.48	10.30	2.11	0.09	-24.30	-178.28
	54	25	294.10	-11.11	-2.20	0.03	19.54	45.47
		26	-309.08	11.11	2.20	-0.03	9.09	-189.89
	55	25	295.06	-11.10	-2.06	-0.15	33.97	45.45
		26	-310.04	11.10	2.06	0.15	-7.24	-189.70
	56	25	388.98	-11.32	-2.29	0.16	27.75	45.76
		26	-403.96	11.32	2.29	-0.16	2.00	-192.87
	57	25	365.56	-11.25	-2.37	0.30	63.95	45.66
		26	-380.54	11.25	2.37	-0.30	-33.11	-191.91
	58	25	294.22	-11.18	-2.22	0.05	23.88	45.57
		26	-309.20	11.18	2.22	-0.05	4.95	-190.94
	59	25	318.30	-10.35	-2.39	0.26	-18.24	44.39
		26	-333.27	10.35	2.39	-0.26	49.25	-178.89
	60	25	247.76	1.24	2.44	0.04	70.39	-17.16
		26	-261.24	-1.24	-2.44	-0.04	-102.09	33.26
	61	25	240.24	-10.94	-1.56	0.06	18.30	49.57
		26	-253.72	10.94	1.56	-0.06	1.95	-191.84
	62	25	300.79	2.02	4.16	-0.90	121.74	-21.04
		26	-314.27	-2.02	-4.16	0.90	-175.79	47.32
	63	25	294.08	1.79	4.26	-1.02	146.33	-20.71
		26	-307.56	-1.79	-4.26	1.02	-201.66	43.96
	64	25	271.22	1.06	4.17	-0.92	117.40	-19.68
		26	-284.70	-1.06	-4.17	0.92	-171.61	33.51
	65	25	272.08	1.08	4.30	-1.08	130.39	-19.70
		26	-285.56	-1.08	-4.30	1.08	-186.30	33.69
	66	25	356.61	0.88	4.09	-0.80	124.79	-19.42
		26	-370.09	-0.88	-4.09	0.80	-177.99	30.83
	67	25	335.53	0.94	4.02	-0.67	157.37	-19.51
		26	-349.01	-0.94	-4.02	0.67	-209.59	31.70
	68	25	271.33	1.00	4.16	-0.90	121.31	-19.59
		26	-284.81	-1.00	-4.16	0.90	-175.34	32.57
	69	25	292.99	1.75	4.00	-0.71	83.40	-20.66
		26	-306.47	-1.75	-4.00	0.71	-135.46	43.42
	70	25	293.27	-10.16	0.16	-0.89	69.64	45.68
		26	-306.75	10.16	-0.16	0.89	-71.75	-177.79

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	71	25	286.55	-10.39	0.26	-1.01	94.24	46.01
		26	-300.03	10.39	-0.26	1.01	-97.62	-181.15
	72	25	263.69	-11.12	0.17	-0.90	65.31	47.05
		26	-277.17	11.12	-0.17	0.90	-67.57	-191.60
	73	25	264.56	-11.11	0.30	-1.07	78.30	47.03
		26	-278.04	11.11	-0.30	1.07	-82.26	-191.42
	74	25	349.09	-11.31	0.10	-0.79	72.69	47.30
		26	-362.56	11.31	-0.10	0.79	-73.95	-194.28
	75	25	328.01	-11.25	0.02	-0.66	105.28	47.22
		26	-341.48	11.25	-0.02	0.66	-105.55	-193.41
	76	25	263.80	-11.18	0.16	-0.89	69.22	47.13
		26	-277.28	11.18	-0.16	0.89	-71.30	-192.53
	77	25	285.47	-10.43	0.01	-0.70	31.30	46.07
		26	-298.95	10.43	-0.01	0.70	-31.42	-181.69

********** END OF LATEST ANALYSIS RESULT **********

278. PRINT FORCE ENVELOPE NSECTION 10 LIST 1 TO 25

MEMBER FORCE ENVELOPE

ALL UNITS ARE KIP FEET

MEMB	DISTANCE		FY	LD	MZ	LD	FZ	LD	MY	LD
1	0.00	MAX.	0.00	4	0.00	4	0.00	16	0.00	28
		MIN.	0.00	5	0.00	1	0.00	37	0.00	25
	0.82	MAX.	0.00	26	10.82	31	0.13	26	0.05	26
		MIN.	-26.30	31	0.00	26	-0.10	59	-0.04	59
	1.65	MAX.	0.00	26	43.29	31	0.26	26	0.21	26
		MIN.	-52.61	31	0.00	26	-0.21	59	-0.17	59
	2.47	MAX.	0.00	26	97.41	31	0.39	26	0.48	26
		MIN.	-78.91	31	0.00	26	-0.31	59	-0.38	59
	3.29	MAX.	0.00	26	173.18	31	0.52	26	0.85	26
		MIN.	-105.21	31	0.00	26	-0.41	59	-0.68	59
	4.11	MAX.	0.00	26	270.59	31	0.65	26	1.33	26
		MIN.	-131.52	31	0.00	26	-0.52	59	-1.06	59
	4.94	MAX.	0.00	26	389.65	31	0.78	26	1.91	26
		MIN.	-157.82	31	0.00	26	-0.62	59	-1.53	59
	5.76	MAX.	0.00	26	530.36	31	0.90	26	2.61	26
		MIN.	-184.12	31	0.00	26	-0.72	59	-2.08	59
	6.58	MAX.	0.00	26	692.72	31	1.03	26	3.40	26
		MIN.	-210.42	31	0.00	26	-0.83	59	-2.72	59
	7.41	MAX.	0.00	26	876.72	31	1.16	26	4.31	26
		MIN.	-236.73	31	0.00	26	-0.93	59	-3.45	59
	8.23	MAX.	0.00	26	1082.37	31	1.29	26	5.32	26
		MIN.	-263.03	31	0.00	26	-1.03	59	-4.25	59

652k-ft @ 6.37 f

MAX/MIN FORCES FOR MEMBER 1,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST	LD	MZ/ MY	DIST	LD	FX	DIST	LD
MAX.	0.00	0.00	4	1082.37	8.23	31			
	1.29	8.23	26	5.32	8.23	26	0.00	0.00	1
MIN.	-263.03	8.23	31	0.00	0.00	1			
	-1.03	8.23	59	-4.25	8.23	59	1.19 T	8.23	23

2	0.00	MAX.	224.74	31	1035.81	31	1.39	59	5.33	26
		MIN.	-3.58	9	-1.39	17	-3.27	65	-4.56	57
	1.80	MAX.	185.57	31	666.53	31	1.16	59	2.91	26
		MIN.	-3.58	9	-33.08	5	-2.77	65	-4.46	73
	3.60	MAX.	146.40	31	367.75	31	0.94	59	1.28	51
		MIN.	-3.58	9	-65.37	5	-2.27	65	-6.68	25
	5.40	MAX.	107.24	31	182.88	29	0.71	59	1.16	59
		MIN.	-3.58	9	-85.61	5	-1.78	65	-9.65	25

652 k-ft @ 1.89 ft

7.20	MAX.	68.07	31	76.60	46	0.49	59	2.24	59
	MIN.	-3.58	9	-93.80	5	-1.28	65	-11.99	25
9.00	MAX.	28.90	31	47.27	4	0.26	59	2.91	59
	MIN.	-5.50	5	-152.29	27	-0.81	39	-13.69	25
10.80	MAX.	6.87	4	- 38.11	9	0.37	51	3.18	59
	MIN.	-17.89	52	-154.08	27	-0.59	73	-14.76	25
12.60	MAX.	6.87	4	44.56	9	0.60	51	3.04	59
	MIN.	-53.38	27	-90.61	27	-0.52	55	-15.19	25
14.40	MAX.	6.87	4	112.38	29	1.01	69	3.36	34
	MIN.	-89.64	27	-11.52	26	-0.75	55	-14.99	25
16.20	MAX.	6.87	4	250.38	31	1.51	69	4.58	51
	MIN.	-127.77	31	-20.92	26	-0.97	55	-14.29	39
18.00	MAX.	6.87	4	515.62	31	2.01	69	6.68	51
	MIN.	-166.94	31	-30.33	26	-1.20	55	-14.71	73

MAX/MIN FORCES FOR MEMBER 2,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	224.74	0.00	31	1035.81	0.00	31			
	2.01	18.00	69	6.68	18.00	51	8.46 C	0.00	26
MIN.	-166.94	18.00	31	-154.08	10.80	27			
	-3.27	0.00	65	-15.19	12.60	25	10.23 T	18.00	56

3	0.00	MAX.	197.01	31	528.32	31	1.42	57	6.49	51
		MIN.	-4.20	17	-13.47	17	-2.80	65	-13.93	73
	1.80	MAX.	157.84	31	211.73	27	1.19	57	4.88	51
		MIN.	-3.37	17	-11.45	4	-2.30	65	-15.43	39
	3.60	MAX.	118.68	31	10.74	5	0.97	57	4.80	32
		MIN.	-2.55	17	-98.31	29	-1.80	65	-18.05	39
	5.40	MAX.	79.51	31	4.39	26	0.74	57	5.45	57
		MIN.	-1.72	17	-268.99	29	-1.30	65	-20.09	39
	7.20	MAX.	40.34	31	4.85	17	0.52	57	6.58	57
		MIN.	-0.89	17	-369.17	29	-0.80	65	-21.54	39
	9.00	MAX.	3.33	13	5.71	17	0.33	32	7.30	57
		MIN.	-3.55	58	-398.85	29	-0.31	39	-22.40	39
	10.80	MAX.	1.19	26	5.08	17	0.51	67	7.62	57
		MIN.	-42.26	29	-358.03	29	-0.29	55	-22.67	39
	12.60	MAX.	1.59	17	2.95	17	1.01	67	7.79	32
		MIN.	-81.43	29	-246.71	29	-0.52	55	-22.35	39
	14.40	MAX.	2.42	17	17.16	52	1.51	67	8.38	32
		MIN.	-120.60	29	-64.88	29	-0.74	55	-21.44	39
	16.20	MAX.	3.25	17	248.05	27	2.01	67	8.98	32
		MIN.	-159.77	29	-8.47	26	-0.97	55	-19.94	39
	18.00	MAX.	4.08	17	546.23	27	2.51	67	10.51	49
		MIN.	-198.94	29	-12.37	17	-1.20	55	-18.63	73

MAX/MIN FORCES FOR MEMBER 3,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	197.01	0.00	31	546.23	18.00	27			
	2.51	18.00	67	10.51	18.00	49	13.79 C	0.00	26
MIN.	-198.94	18.00	29	-398.85	9.00	29			
	-2.80	0.00	65	-22.67	10.80	39	13.86 T	18.00	56

4	0.00	MAX.	181.47	27	549.33	27	1.13	57	10.41	49
		MIN.	-4.14	17	-12.37	17	-2.49	69	-18.34	73
	1.80	MAX.	145.21	27	277.05	29	0.90	59	9.44	32
		MIN.	-3.31	17	-5.67	17	-1.99	69	-20.19	39
	3.60	MAX.	108.96	27	103.18	29	0.68	57	9.44	32
		MIN.	-2.48	17	-0.45	17	-1.50	69	-22.25	39
	5.40	MAX.	72.71	27	62.47	9	0.45	57	9.44	32
		MIN.	-1.66	17	-136.95	27	-1.00	69	-23.72	39
	7.20	MAX.	36.46	27	62.47	9	0.23	57	9.58	57
		MIN.	-0.83	17	-235.20	27	-0.50	69	-24.61	39
	9.00	MAX.	1.12	23	62.47	9	0.00	32	9.79	57
		MIN.	0.00	13	-268.20	27	0.00	19	-24.90	39
	10.80	MAX.	1.12	23	62.47	9	0.50	67	9.58	57
		MIN.	-36.05	27	-235.94	27	-0.23	59	-24.61	39
	12.60	MAX.	1.66	17	62.47	9	1.00	69	9.44	32
		MIN.	-72.30	27	-138.43	27	-0.45	59	-23.72	39
	14.40	MAX.	2.48	17	100.95	29	1.50	69	9.44	32
		MIN.	-108.55	27	-6.06	23	-0.68	59	-22.25	39
	16.20	MAX.	3.31	17	274.08	29	1.99	69	9.44	32
		MIN.	-144.80	27	-8.07	23	-0.90	59	-20.19	39
	18.00	MAX.	4.14	17	545.62	27	2.49	69	10.41	49
		MIN.	-181.05	27	-12.37	17	-1.13	59	-18.34	73

MAX/MIN FORCES FOR MEMBER 4,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	181.47	0.00	27	549.33	0.00	27			
	2.49	18.00	62	10.41	0.00	49	15.53 C	0.00	26
MIN.	-181.05	18.00	27	-268.20	9.00	27			
	-2.49	0.00	69	-24.90	9.00	39	16.15 T	18.00	56

5	0.00	MAX.	199.31	29	549.85	27	1.20	55	10.51	49
		MIN.	-4.08	17	-12.37	17	-2.51	67	-18.63	73
	1.80	MAX.	160.14	29	250.99	27	0.97	55	8.98	32
		MIN.	-3.25	17	-8.47	26	-2.01	67	-19.94	39
	3.60	MAX.	120.98	29	19.82	70	0.74	55	8.38	32
		MIN.	-2.42	17	-62.62	29	-1.51	67	-21.44	39

5.40	MAX.	81.81	29	4.30	23	0.52	55	7.79	32
	MIN.	-1.59	17	-245.12	29	-1.01	67	-22.35	39
7.20	MAX.	42.64	29	5.08	17	0.29	55	7.62	57
	MIN.	-1.19	26	-357.13	29	-0.51	67	-22.67	39
9.00	MAX.	3.93	76	5.71	17	0.31	39	7.30	57
	MIN.	-3.33	13	-398.63	29	-0.33	32	-22.40	39
10.80	MAX.	1.03	23	4.85	17	0.80	65	6.58	57
	MIN.	-39.96	31	-369.63	29	-0.52	57	-21.54	39
12.60	MAX.	1.72	17	4.39	26	1.30	65	5.45	57
	MIN.	-79.13	31	-270.13	29	-0.74	57	-20.09	39
14.40	MAX.	2.55	17	10.74	5	1.80	65	4.80	32
	MIN.	-118.30	31	-100.12	29	-0.97	57	-18.05	39
16.20	MAX.	3.37	17	209.24	27	2.30	65	4.88	51
	MIN.	-157.47	31	-11.45	4	-1.19	57	-15.43	39
18.00	MAX.	4.20	17	525.14	31	2.80	65	6.49	51
	MIN.	-196.64	31	-13.47	17	-1.42	57	-13.93	73

MAX/MIN FORCES FOR MEMBER 5,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	199.31	0.00	29	549.85	0.00	27			
	2.80	18.00	65	10.51	0.00	49	13.79 C	0.00	26
MIN.	-196.64	18.00	31	-398.63	9.00	29			
	-2.51	0.00	67	-22.67	7.20	39	13.85 T	18.00	56

6	0.00	MAX.	167.56	31	519.84	31	1.20	55	6.68	51
		MIN.	-6.87	4	-30.33	26	-2.01	69	-14.71	73
	1.80	MAX.	128.39	31	253.48	31	0.97	55	4.58	51
		MIN.	-6.87	4	-20.92	26	-1.51	69	-14.29	39
	3.60	MAX.	90.26	27	114.36	29	0.75	55	3.36	34
		MIN.	-6.87	4	-11.52	26	-1.01	69	-14.99	25
	5.40	MAX.	54.01	27	44.56	9	0.52	55	3.04	59
		MIN.	-6.87	4	-89.74	27	-0.60	51	-15.19	25
	7.20	MAX.	18.38	52	38.11	9	0.59	73	3.18	59
		MIN.	-6.87	4	-154.33	27	-0.37	51	-14.76	25
	9.00	MAX.	5.50	5	47.27	4	0.81	39	2.91	59
		MIN.	-28.28	31	-153.66	27	-0.26	59	-13.69	25
	10.80	MAX.	3.58	9	74.61	46	1.28	65	2.24	59
		MIN.	-67.45	31	-93.80	5	-0.49	59	-11.99	25
	12.60	MAX.	3.58	9	179.27	29	1.78	65	1.16	59
		MIN.	-106.61	31	-85.61	5	-0.71	59	-9.65	25
	14.40	MAX.	3.58	9	363.02	31	2.27	65	1.28	51
		MIN.	-145.78	31	-65.37	5	-0.94	59	-6.68	25
	16.20	MAX.	3.58	9	660.68	31	2.77	65	2.91	26
		MIN.	-184.95	31	-33.08	5	-1.16	59	-4.46	73
	18.00	MAX.	3.58	9	1028.84	31	3.27	65	5.33	26
		MIN.	-224.12	31	-18.96	23	-1.39	59	-4.56	57

MAX/MIN FORCES FOR MEMBER 6,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	167.56	0.00	31	1028.84	18.00	31			
	3.27	18.00	65	6.68	0.00	51	8.46 C	0.00	26
MIN.	-224.12	18.00	31	-154.33	7.20	27			
	-2.01	0.00	69	-15.19	5.40	25	10.21 T	18.00	56

7	0.00	MAX.	263.03	31	1082.37	31	1.03	59	5.32	26
		MIN.	0.00	23	0.00	17	-1.29	26	-4.25	59
	0.82	MAX.	236.73	31	876.72	31	0.93	59	4.31	26
		MIN.	0.00	23	0.00	17	-1.16	26	-3.45	59
	1.65	MAX.	210.42	31	692.72	31	0.83	59	3.40	26
		MIN.	0.00	23	0.00	17	-1.03	26	-2.72	59
	2.47	MAX.	184.12	31	530.36	31	0.72	59	2.61	26
		MIN.	0.00	23	0.00	17	-0.90	26	-2.08	59
	3.29	MAX.	157.82	31	389.65	31	0.62	59	1.91	26
		MIN.	0.00	23	0.00	26	-0.78	26	-1.53	59
	4.12	MAX.	131.52	31	270.59	31	0.52	59	1.33	26
		MIN.	0.00	23	0.00	26	-0.65	26	-1.06	59
	4.94	MAX.	105.21	31	173.18	31	0.41	59	0.85	26
		MIN.	0.00	23	0.00	26	-0.52	26	-0.68	59
	5.76	MAX.	78.91	31	97.41	31	0.31	59	0.48	26
		MIN.	0.00	23	0.00	26	-0.39	26	-0.38	59
	6.58	MAX.	52.61	31	43.29	31	0.21	59	0.21	26
		MIN.	0.00	23	0.00	26	-0.26	26	-0.17	59
	7.41	MAX.	26.30	31	10.82	31	0.10	59	0.05	26
		MIN.	0.00	23	0.00	26	-0.13	26	-0.04	59
	8.23	MAX.	0.00	13	0.00	1	0.00	51	0.00	60
		MIN.	0.00	27	0.00	4	0.00	41	0.00	75

MAX/MIN FORCES FOR MEMBER 7,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	263.03	0.00	31	1082.37	0.00	31			
	1.03	0.00	52	5.32	0.00	26	1.19 C	0.00	23
MIN.	0.00	8.23	27	0.00	7.41	26			
	-1.29	0.00	26	-4.25	0.00	59	0.00 T	8.23	52

8	0.00	MAX.	10.23	56	88.24	56	4.27	65	118.93	32
		MIN.	-8.46	26	-63.74	26	-2.42	59	-29.56	19
	0.39	MAX.	10.23	56	84.25	56	4.27	65	118.84	32
		MIN.	-8.46	26	-60.44	26	-2.42	59	-29.61	19
	0.78	MAX.	10.23	56	80.26	56	4.27	65	118.74	32
		MIN.	-8.46	26	-57.14	26	-2.42	59	-29.65	19

	1.17	MAX.	10.23	56	76.27	56	4.27	65	119.58	41
		MIN.	-8.46	26	-53.84	26	-2.42	59	-29.70	19
	1.56	MAX.	10.23	56	72.28	56	4.27	65	120.43	41
		MIN.	-8.46	26	-50.54	26	-2.42	59	-29.75	19
	1.95	MAX.	10.23	56	68.29	56	4.27	65	121.29	41
		MIN.	-8.46	26	-47.24	26	-2.42	59	-29.80	19
	2.34	MAX.	10.23	56	64.30	56	4.27	65	122.15	41
		MIN.	-8.46	26	-43.94	26	-2.42	59	-29.85	19
	2.73	MAX.	10.23	56	60.31	56	4.27	65	123.01	41
		MIN.	-8.46	26	-40.64	26	-2.42	59	-29.90	19
	3.12	MAX.	10.23	56	56.32	56	4.27	65	123.87	41
		MIN.	-8.46	26	-37.34	26	-2.42	59	-29.94	19
	3.51	MAX.	10.23	56	52.33	56	4.27	65	124.73	41
		MIN.	-8.46	26	-34.04	26	-2.42	59	-29.99	19
	3.90	MAX.	10.23	56	48.34	56	4.27	65	125.59	41
		MIN.	-8.46	26	-30.74	26	-2.42	59	-30.04	19

MAX/MIN FORCES FOR MEMBER 8,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	10.23	0.00	56	88.24	0.00	56			
	4.27	0.00	65	125.59	3.90	41	489.61 C	3.90	31
MIN.	-8.46	3.90	26	-63.74	0.00	26			
	-2.42	3.90	59	-30.04	3.90	19	3.58 T	3.90	9

9	0.00	MAX.	10.23	56	48.34	56	4.27	65	125.59	41
		MIN.	-8.46	26	-30.74	26	-2.42	59	-30.04	19
	0.91	MAX.	10.03	56	39.12	56	4.27	65	127.59	41
		MIN.	-8.46	26	-23.03	26	-2.42	59	-30.15	19
	1.82	MAX.	9.86	56	30.08	56	4.28	65	129.61	41
		MIN.	-8.46	26	-15.33	26	-2.41	59	-30.27	19
	2.73	MAX.	9.64	56	21.20	56	4.28	65	131.80	67
		MIN.	-8.46	26	-7.62	26	-2.40	59	-30.38	19
	3.64	MAX.	9.50	56	15.66	31	4.29	65	135.44	67
		MIN.	-8.46	26	-3.94	5	-2.40	59	-30.49	19
	4.56	MAX.	9.40	56	16.31	48	4.29	65	139.09	67
		MIN.	-8.46	26	-3.05	5	-2.40	59	-30.61	19
	5.47	MAX.	9.34	56	20.15	66	4.29	65	142.74	67
		MIN.	-8.46	26	-7.51	52	-2.39	59	-30.72	19
	6.38	MAX.	9.31	56	25.18	60	4.29	65	146.40	67
		MIN.	-8.46	26	-14.78	52	-2.39	59	-30.83	19
	7.29	MAX.	9.09	56	31.34	60	4.30	65	150.06	67
		MIN.	-8.46	26	-22.00	52	-2.38	59	-30.95	19
	8.20	MAX.	9.09	56	38.63	26	4.30	65	153.72	67
		MIN.	-8.46	26	-29.83	56	-2.38	59	-31.06	19
	9.11	MAX.	9.13	56	46.34	26	4.30	65	157.37	67
		MIN.	-8.46	26	-38.15	56	-2.39	59	-31.17	19

MAX/MIN FORCES FOR MEMBER 9,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	10.23	0.00	56	48.34	0.00	56			
	4.30	7.29	65	157.37	9.11	67	492.08 C	9.11	31
MIN.	-8.46	9.11	26	-38.15	9.11	56			
	-2.42	0.00	59	-31.17	9.11	19	3.58 T	9.11	9

10	0.00	MAX.	9.13	56	46.34	26	4.30	65	157.37	67
		MIN.	-8.46	26	-38.15	56	-2.39	59	-31.17	19
	1.30	MAX.	9.13	56	57.33	26	4.30	65	162.60	67
		MIN.	-8.46	26	-50.02	56	-2.39	59	-31.34	19
	2.60	MAX.	9.13	56	68.33	26	4.30	65	167.82	67
		MIN.	-8.46	26	-61.88	56	-2.39	59	-31.50	19
	3.90	MAX.	9.13	56	79.33	26	4.30	65	173.04	67
		MIN.	-8.46	26	-73.75	56	-2.39	59	-31.66	19
	5.20	MAX.	9.13	56	90.33	26	4.30	65	178.26	67
		MIN.	-8.46	26	-85.61	56	-2.39	59	-31.82	19
	6.50	MAX.	9.13	56	101.33	26	4.30	65	183.48	67
		MIN.	-8.46	26	-97.48	56	-2.39	59	-33.75	59
	7.80	MAX.	9.13	56	112.33	26	4.30	65	188.70	67
		MIN.	-8.46	26	-109.34	56	-2.39	59	-36.85	59
	9.10	MAX.	9.13	56	123.33	26	4.30	65	193.92	67
		MIN.	-8.46	26	-121.21	56	-2.39	59	-39.95	59
	10.40	MAX.	9.13	56	134.33	26	4.30	65	199.15	67
		MIN.	-8.46	26	-133.07	56	-2.39	59	-43.05	59
	11.70	MAX.	9.13	56	145.33	26	4.30	65	204.37	67
		MIN.	-8.46	26	-144.94	56	-2.39	59	-46.15	59
	13.00	MAX.	9.13	56	156.32	26	4.30	65	209.59	67
		MIN.	-8.46	26	-156.80	56	-2.39	59	-49.25	59

MAX/MIN FORCES FOR MEMBER 10,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	9.13	0.00	56	156.32	13.00	26			
	4.30	0.00	65	209.59	13.00	67	510.80 C	13.00	31
MIN.	-8.46	13.00	26	-156.80	13.00	56			
	-2.39	13.00	59	-49.25	13.00	59	3.58 T	13.00	9

11	0.00	MAX.	3.85	52	25.30	52	4.59	69	116.25	32
		MIN.	-6.23	64	-55.46	64	-2.30	57	-31.80	19
	0.39	MAX.	3.85	52	23.80	52	4.59	69	116.22	32
		MIN.	-6.23	64	-53.03	64	-2.30	57	-31.79	19
	0.78	MAX.	3.85	52	22.30	52	4.59	69	116.18	32
		MIN.	-6.23	64	-50.60	64	-2.30	57	-31.78	19

	1.17	MAX.	3.85	52	20.79	52	4.59	69	116.15	32
		MIN.	-6.23	64	-48.17	64	-2.30	57	-31.76	19
	1.56	MAX.	3.85	52	19.29	52	4.59	69	116.78	41
		MIN.	-6.23	64	-45.74	64	-2.30	57	-31.75	19
	1.95	MAX.	3.85	52	17.79	52	4.59	69	117.85	41
		MIN.	-6.23	64	-43.31	64	-2.30	57	-31.73	19
	2.34	MAX.	3.85	52	16.29	52	4.59	69	118.92	41
		MIN.	-6.23	64	-40.88	64	-2.30	57	-31.72	19
	2.73	MAX.	3.85	52	14.79	52	4.59	69	119.99	41
		MIN.	-6.23	64	-38.44	64	-2.30	57	-31.71	19
	3.12	MAX.	3.85	52	13.29	52	4.59	69	121.06	41
		MIN.	-6.23	64	-36.01	64	-2.30	57	-31.69	19
	3.51	MAX.	3.85	52	11.79	52	4.59	69	122.13	41
		MIN.	-6.23	64	-33.58	64	-2.30	57	-31.68	19
	3.90	MAX.	3.85	52	10.29	52	4.59	69	123.20	41
		MIN.	-6.23	64	-31.15	64	-2.30	57	-31.67	19

MAX/MIN FORCES FOR MEMBER 11,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	3.85	0.00	52	25.30	0.00	52			
	4.59	0.00	69	123.20	3.90	41	365.79 C	3.90	31
MIN.	-6.23	3.90	64	-55.46	0.00	64			
	-2.30	3.90	57	-31.80	0.00	19	9.02 T	3.90	17

12	0.00	MAX.	3.85	52	10.29	52	4.59	69	123.20	41
		MIN.	-6.23	64	-31.15	64	-2.30	57	-31.67	19
	0.91	MAX.	3.65	52	6.88	52	4.60	69	125.70	41
		MIN.	-6.42	64	-25.38	64	-2.30	57	-31.64	19
	1.82	MAX.	3.48	52	3.66	52	4.61	69	128.20	41
		MIN.	-6.57	64	-19.45	64	-2.29	57	-31.60	19
	2.73	MAX.	3.26	52	0.59	52	4.61	69	130.97	67
		MIN.	-6.77	64	-13.47	46	-2.28	57	-31.57	19
	3.64	MAX.	3.12	52	0.42	5	4.62	69	135.07	67
		MIN.	-6.89	64	-8.73	29	-2.28	57	-31.54	19
	4.56	MAX.	3.02	52	3.87	26	4.62	69	139.17	67
		MIN.	-6.98	64	-8.14	54	-2.27	57	-31.51	19
	5.47	MAX.	2.96	52	8.72	26	4.62	69	143.27	67
		MIN.	-7.04	64	-9.96	54	-2.27	57	-31.48	19
	6.38	MAX.	2.92	52	14.98	60	4.62	69	147.37	67
		MIN.	-7.07	64	-11.70	54	-2.27	57	-31.44	19
	7.29	MAX.	2.70	52	21.36	60	4.63	69	151.48	67
		MIN.	-7.26	64	-13.39	54	-2.26	57	-31.41	19
	8.20	MAX.	2.71	52	27.77	60	4.63	69	155.59	67
		MIN.	-7.26	64	-15.56	52	-2.26	57	-31.38	19
	9.11	MAX.	2.74	52	34.20	60	4.63	69	159.70	67
		MIN.	-7.23	64	-18.07	52	-2.26	57	-31.35	19

MAX/MIN FORCES FOR MEMBER 12,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	3.85	0.00	52	34.20	9.11	60			
	4.63	7.29	69	159.70	9.11	67	368.26 C	9.11	31
MIN.	-7.26	7.29	64	-31.15	0.00	64			
	-2.30	0.00	57	-31.67	0.00	19	9.02 T	9.11	17

13	0.00	MAX.	2.74	52	34.20	60	4.63	69	159.70	67
		MIN.	-7.23	64	-18.07	52	-2.26	57	-31.35	19
	1.30	MAX.	2.74	52	43.38	60	4.63	69	165.56	67
		MIN.	-7.23	64	-21.64	52	-2.26	57	-31.30	19
	2.60	MAX.	2.74	52	52.57	60	4.63	69	171.42	67
		MIN.	-7.23	64	-25.21	52	-2.26	57	-31.26	19
	3.90	MAX.	2.74	52	61.76	60	4.63	69	177.29	67
		MIN.	-7.23	64	-28.78	52	-2.26	57	-31.21	19
	5.20	MAX.	2.74	52	70.95	60	4.63	69	183.15	67
		MIN.	-7.23	64	-32.35	52	-2.26	57	-31.17	19
	6.50	MAX.	2.74	52	80.14	60	4.63	69	189.01	67
		MIN.	-7.23	64	-35.92	52	-2.26	57	-32.45	59
	7.80	MAX.	2.74	52	89.33	60	4.63	69	194.88	67
		MIN.	-7.23	64	-39.48	52	-2.26	57	-35.22	59
	9.10	MAX.	2.74	52	98.51	60	4.63	69	200.74	67
		MIN.	-7.23	64	-43.05	52	-2.26	57	-37.99	59
	10.40	MAX.	2.74	52	107.70	60	4.63	69	206.60	67
		MIN.	-7.23	64	-46.62	52	-2.26	57	-40.76	59
	11.70	MAX.	2.74	52	116.89	60	4.63	69	212.47	67
		MIN.	-7.23	64	-50.19	52	-2.26	57	-43.54	59
	13.00	MAX.	2.74	52	126.08	60	4.63	69	218.33	67
		MIN.	-7.23	64	-53.76	52	-2.26	57	-46.31	59

MAX/MIN FORCES FOR MEMBER 13,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	2.74	0.00	52	126.08	13.00	60			
	4.63	0.00	69	218.33	13.00	67	386.98 C	13.00	31
MIN.	-7.23	13.00	64	-53.76	13.00	52			
	-2.26	13.00	57	-46.31	13.00	59	9.02 T	13.00	17

14	0.00	MAX.	2.32	54	18.57	54	5.00	67	110.68	32
		MIN.	-3.10	60	-26.29	60	-2.33	55	-32.69	19
	0.39	MAX.	2.32	54	17.66	54	5.00	67	110.81	32
		MIN.	-3.10	60	-25.08	60	-2.33	55	-32.66	19
	0.78	MAX.	2.32	54	16.76	54	5.00	67	110.94	32
		MIN.	-3.10	60	-23.87	60	-2.33	55	-32.62	19

	1.17	MAX.	2.32	54	15.85	54	5.00	67	111.07	32
		MIN.	-3.10	60	-22.67	60	-2.33	55	-32.59	19
	1.56	MAX.	2.32	54	14.94	54	5.00	67	111.91	41
		MIN.	-3.10	60	-21.46	60	-2.33	55	-32.55	19
	1.95	MAX.	2.32	54	14.04	54	5.00	67	113.20	41
		MIN.	-3.10	60	-20.25	60	-2.33	55	-32.52	19
	2.34	MAX.	2.32	54	13.13	54	5.00	67	114.49	41
		MIN.	-3.10	60	-19.04	60	-2.33	55	-32.48	19
	2.73	MAX.	2.32	54	12.22	54	5.00	67	115.79	41
		MIN.	-3.10	60	-17.83	60	-2.33	55	-32.45	19
	3.12	MAX.	2.32	54	11.32	54	5.00	67	117.08	41
		MIN.	-3.10	60	-16.62	60	-2.33	55	-32.41	19
	3.51	MAX.	2.32	54	10.41	54	5.00	67	118.37	41
		MIN.	-3.10	60	-15.41	60	-2.33	55	-32.38	19
	3.90	MAX.	2.32	54	9.50	54	5.00	67	119.67	41
		MIN.	-3.10	60	-14.20	60	-2.33	55	-32.34	19

MAX/MIN FORCES FOR MEMBER 14,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	2.32	0.00	54	18.57	0.00	54			
	5.00	0.00	67	119.67	3.90	41	367.08 C	3.90	27
MIN.	-3.10	3.90	60	-26.29	0.00	60			
	-2.33	3.90	55	-32.69	0.00	19	8.22 T	3.90	17

15	0.00	MAX.	2.32	54	9.50	54	5.00	67	119.67	41
		MIN.	-3.10	60	-14.20	60	-2.33	55	-32.34	19
	0.91	MAX.	2.12	54	7.48	54	5.01	67	122.69	41
		MIN.	-3.28	60	-11.29	60	-2.32	55	-32.26	19
	1.82	MAX.	1.95	54	5.65	54	5.01	67	125.73	41
		MIN.	-3.44	60	-8.21	60	-2.31	55	-32.18	19
	2.73	MAX.	1.73	54	4.20	9	5.02	67	129.21	67
		MIN.	-3.63	60	-4.99	60	-2.31	55	-32.10	19
	3.64	MAX.	1.60	54	3.43	9	5.02	67	133.78	67
		MIN.	-3.76	60	-1.88	22	-2.30	55	-32.02	19
	4.56	MAX.	1.50	54	3.77	64	5.03	67	138.36	67
		MIN.	-3.85	60	-1.77	52	-2.30	55	-31.93	19
	5.47	MAX.	1.43	54	5.94	64	5.03	67	142.94	67
		MIN.	-3.90	60	-2.27	52	-2.29	55	-31.85	19
	6.38	MAX.	1.40	54	8.99	60	5.03	67	147.53	67
		MIN.	-3.93	60	-2.68	52	-2.29	55	-31.77	19
	7.29	MAX.	1.18	54	12.66	60	5.04	67	152.12	67
		MIN.	-4.13	60	-3.05	52	-2.29	55	-31.69	19
	8.20	MAX.	1.18	54	16.35	60	5.04	67	156.70	67
		MIN.	-4.13	60	-3.85	54	-2.29	55	-31.61	19
	9.11	MAX.	1.22	54	20.08	60	5.04	67	161.29	67
		MIN.	-4.09	60	-4.97	54	-2.29	55	-31.53	19

MAX/MIN FORCES FOR MEMBER 15,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	2.32	0.00	54	20.08	9.11	60			
	5.04	7.29	67	161.29	9.11	67	369.55 C	9.11	27
MIN.	-4.13	7.29	60	-14.20	0.00	60			
	-2.33	0.00	55	-32.34	0.00	19	8.22 T	9.11	17

16	0.00	MAX.	1.22	54	20.08	60	5.04	67	161.29	67
		MIN.	-4.09	60	-4.97	54	-2.29	55	-31.53	19
	1.30	MAX.	1.22	54	25.40	60	5.04	67	167.84	67
		MIN.	-4.09	60	-6.56	54	-2.29	55	-31.41	19
	2.60	MAX.	1.22	54	30.72	60	5.04	67	174.38	67
		MIN.	-4.09	60	-8.14	54	-2.29	55	-31.29	19
	3.90	MAX.	1.22	54	36.04	60	5.04	67	180.93	67
		MIN.	-4.09	60	-9.73	54	-2.29	55	-31.18	19
	5.20	MAX.	1.22	54	41.36	60	5.04	67	187.48	67
		MIN.	-4.09	60	-11.32	54	-2.29	55	-31.06	19
	6.50	MAX.	1.22	54	46.69	60	5.04	67	194.03	67
		MIN.	-4.09	60	-12.90	54	-2.29	55	-32.25	59
	7.80	MAX.	1.22	54	52.01	60	5.04	67	200.57	67
		MIN.	-4.09	60	-14.49	54	-2.29	55	-34.92	59
	9.10	MAX.	1.22	54	57.33	60	5.04	67	207.12	67
		MIN.	-4.09	60	-16.08	54	-2.29	55	-37.59	59
	10.40	MAX.	1.22	54	62.65	60	5.04	67	213.67	67
		MIN.	-4.09	60	-17.66	54	-2.29	55	-40.25	59
	11.70	MAX.	1.22	54	67.97	60	5.04	67	220.21	67
		MIN.	-4.09	60	-19.25	54	-2.29	55	-42.92	59
	13.00	MAX.	1.22	54	73.30	60	5.04	67	226.76	67
		MIN.	-4.09	60	-20.84	54	-2.29	55	-45.58	59

MAX/MIN FORCES FOR MEMBER 16,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	1.22	0.00	54	73.30	13.00	60			
	5.04	0.00	67	226.76	13.00	67	388.27 C	13.00	27
MIN.	-4.09	13.00	60	-20.84	13.00	54			
	-2.29	13.00	55	-45.58	13.00	59	8.22 T	13.00	17

17	0.00	MAX.	1.75	26	13.42	26	5.00	67	110.68	32
		MIN.	-3.26	72	-30.90	72	-2.33	55	-32.69	19
	0.39	MAX.	1.75	26	12.74	26	5.00	67	110.81	32
		MIN.	-3.26	72	-29.63	72	-2.33	55	-32.66	19
	0.78	MAX.	1.75	26	12.06	26	5.00	67	110.94	32
		MIN.	-3.26	72	-28.36	72	-2.33	55	-32.62	19

	1.17	MAX.	1.75	26	11.38	26	5.00	67	111.07	32
		MIN.	-3.26	72	-27.09	72	-2.33	55	-32.59	19
	1.56	MAX.	1.75	26	10.69	26	5.00	67	111.91	41
		MIN.	-3.26	72	-25.82	72	-2.33	55	-32.55	19
	1.95	MAX.	1.75	26	10.01	26	5.00	67	113.20	41
		MIN.	-3.26	72	-24.54	72	-2.33	55	-32.52	19
	2.34	MAX.	1.75	26	9.33	26	5.00	67	114.49	41
		MIN.	-3.26	72	-23.27	72	-2.33	55	-32.48	19
	2.73	MAX.	1.75	26	8.65	26	5.00	67	115.79	41
		MIN.	-3.26	72	-22.00	72	-2.33	55	-32.45	19
	3.12	MAX.	1.75	26	7.96	26	5.00	67	117.08	41
		MIN.	-3.26	72	-20.73	72	-2.33	55	-32.41	19
	3.51	MAX.	1.75	26	7.28	26	5.00	67	118.37	41
		MIN.	-3.26	72	-19.46	72	-2.33	55	-32.38	19
	3.90	MAX.	1.75	26	6.60	26	5.00	67	119.67	41
		MIN.	-3.26	72	-18.19	72	-2.33	55	-32.34	19

MAX/MIN FORCES FOR MEMBER 17,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	1.75	0.00	26	13.42	0.00	26			
	5.00	0.00	67	119.67	3.90	41	367.05 C	3.90	27
MIN.	-3.26	3.90	72	-30.90	0.00	72			
	-2.33	3.90	55	-32.69	0.00	19	8.22 T	3.90	17

18	0.00	MAX.	1.75	26	6.60	26	5.00	67	119.67	41
		MIN.	-3.26	72	-18.19	72	-2.33	55	-32.34	19
	0.91	MAX.	1.75	26	5.01	26	5.01	67	122.69	41
		MIN.	-3.44	72	-15.14	72	-2.32	55	-32.26	19
	1.82	MAX.	1.75	26	3.41	26	5.01	67	125.73	41
		MIN.	-3.59	72	-11.91	72	-2.31	55	-32.18	19
	2.73	MAX.	1.75	26	1.82	26	5.02	67	129.21	67
		MIN.	-3.79	72	-8.55	72	-2.31	55	-32.10	19
	3.64	MAX.	1.75	26	0.23	26	5.02	67	133.78	67
		MIN.	-3.91	72	-6.58	29	-2.30	55	-32.02	19
	4.56	MAX.	1.75	26	2.00	23	5.03	67	138.36	67
		MIN.	-4.00	72	-4.81	46	-2.30	55	-31.93	19
	5.47	MAX.	1.75	26	5.20	61	5.03	67	142.94	67
		MIN.	-4.06	72	-4.43	46	-2.29	55	-31.85	19
	6.38	MAX.	1.75	26	8.89	61	5.03	67	147.53	67
		MIN.	-4.09	72	-4.55	26	-2.29	55	-31.77	19
	7.29	MAX.	1.75	26	12.62	61	5.04	67	152.12	67
		MIN.	-4.29	72	-6.15	26	-2.29	55	-31.69	19
	8.20	MAX.	1.75	26	16.37	61	5.04	67	156.70	67
		MIN.	-4.29	72	-7.74	26	-2.29	55	-31.61	19
	9.11	MAX.	1.75	26	20.15	61	5.04	67	161.29	67
		MIN.	-4.25	72	-9.33	26	-2.29	55	-31.53	19

MAX/MIN FORCES FOR MEMBER 18,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	1.75	0.00	26	20.15	9.11	61			
	5.04	7.29	67	161.29	9.11	67	369.52 C	9.11	27
MIN.	-4.29	7.29	72	-18.19	0.00	72			
	-2.33	0.00	55	-32.34	0.00	19	8.22 T	9.11	17

19	0.00	MAX.	1.75	26	20.15	61	5.04	67	161.29	67
		MIN.	-4.25	72	-9.33	26	-2.29	55	-31.53	19
	1.30	MAX.	1.75	26	25.55	61	5.04	67	167.84	67
		MIN.	-4.25	72	-11.61	26	-2.29	55	-31.41	19
	2.60	MAX.	1.75	26	30.95	61	5.04	67	174.38	67
		MIN.	-4.25	72	-13.88	26	-2.29	55	-31.29	19
	3.90	MAX.	1.75	26	36.36	61	5.04	67	180.93	67
		MIN.	-4.25	72	-16.15	26	-2.29	55	-31.18	19
	5.20	MAX.	1.75	26	41.76	61	5.04	67	187.48	67
		MIN.	-4.25	72	-18.43	26	-2.29	55	-31.06	19
	6.50	MAX.	1.75	26	47.16	61	5.04	67	194.03	67
		MIN.	-4.25	72	-20.70	26	-2.29	55	-32.25	59
	7.80	MAX.	1.75	26	52.57	61	5.04	67	200.57	67
		MIN.	-4.25	72	-22.98	26	-2.29	55	-34.92	59
	9.10	MAX.	1.75	26	57.97	61	5.04	67	207.12	67
		MIN.	-4.25	72	-25.25	26	-2.29	55	-37.59	59
	10.40	MAX.	1.75	26	63.37	61	5.04	67	213.67	67
		MIN.	-4.25	72	-27.52	26	-2.29	55	-40.25	59
	11.70	MAX.	1.75	26	68.77	61	5.04	67	220.21	67
		MIN.	-4.25	72	-29.80	26	-2.29	55	-42.92	59
	13.00	MAX.	1.75	26	74.18	61	5.04	67	226.76	67
		MIN.	-4.25	72	-32.07	26	-2.29	55	-45.58	59

MAX/MIN FORCES FOR MEMBER 19,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	1.75	0.00	26	74.18	13.00	61			
	5.04	0.00	67	226.76	13.00	67	388.24 C	13.00	27
MIN.	-4.25	13.00	72	-32.07	13.00	26			
	-2.29	13.00	55	-45.58	13.00	59	8.22 T	13.00	17

20	0.00	MAX.	5.62	46	45.71	46	4.59	69	116.25	32
		MIN.	-5.37	61	-42.71	61	-2.30	57	-31.80	19
	0.39	MAX.	5.62	46	43.52	46	4.59	69	116.22	32
		MIN.	-5.37	61	-40.61	61	-2.30	57	-31.79	19
	0.78	MAX.	5.62	46	41.33	46	4.59	69	116.18	32
		MIN.	-5.37	61	-38.52	61	-2.30	57	-31.78	19

	1.17	MAX.	5.62	46	39.14	46	4.59	69	116.15	32
		MIN.	-5.37	61	-36.43	61	-2.30	57	-31.76	19
	1.56	MAX.	5.62	46	36.95	46	4.59	69	116.78	41
		MIN.	-5.37	61	-34.34	61	-2.30	57	-31.75	19
	1.95	MAX.	5.62	46	34.76	46	4.59	69	117.85	41
		MIN.	-5.37	61	-32.24	61	-2.30	57	-31.73	19
	2.34	MAX.	5.62	46	32.57	46	4.59	69	118.92	41
		MIN.	-5.37	61	-30.15	61	-2.30	57	-31.72	19
	2.73	MAX.	5.62	46	30.38	46	4.59	69	119.99	41
		MIN.	-5.37	61	-28.06	61	-2.30	57	-31.71	19
	3.12	MAX.	5.62	46	28.19	46	4.59	69	121.06	41
		MIN.	-5.37	61	-25.97	61	-2.30	57	-31.69	19
	3.51	MAX.	5.62	46	26.00	46	4.59	69	122.13	41
		MIN.	-5.37	61	-23.87	61	-2.30	57	-31.68	19
	3.90	MAX.	5.62	46	23.81	46	4.59	69	123.20	41
		MIN.	-5.37	61	-21.78	61	-2.30	57	-31.67	19

MAX/MIN FORCES FOR MEMBER 20,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	5.62	0.00	46	45.71	0.00	46			
	4.59	0.00	69	123.20	3.90	41	366.03 C	3.90	31
MIN.	-5.37	3.90	61	-42.71	0.00	61			
	-2.30	3.90	57	-31.80	0.00	19	9.02 T	3.90	17

21	0.00	MAX.	5.62	46	23.81	46	4.59	69	123.20	41
		MIN.	-5.37	61	-21.78	61	-2.30	57	-31.67	19
	0.91	MAX.	5.41	46	18.79	46	4.60	69	125.70	41
		MIN.	-5.55	61	-16.81	61	-2.30	57	-31.64	19
	1.82	MAX.	5.32	26	13.95	46	4.61	69	128.20	41
		MIN.	-5.70	61	-11.66	61	-2.29	57	-31.60	19
	2.73	MAX.	5.32	26	9.27	46	4.61	69	130.97	67
		MIN.	-5.90	61	-6.38	61	-2.28	57	-31.57	19
	3.64	MAX.	5.32	26	4.94	29	4.62	69	135.07	67
		MIN.	-6.02	61	-1.90	22	-2.28	57	-31.54	19
	4.56	MAX.	5.32	26	6.73	72	4.62	69	139.17	67
		MIN.	-6.11	61	-3.87	26	-2.27	57	-31.51	19
	5.47	MAX.	5.32	26	10.90	72	4.62	69	143.27	67
		MIN.	-6.17	61	-8.72	26	-2.27	57	-31.48	19
	6.38	MAX.	5.32	26	15.85	61	4.62	69	147.37	67
		MIN.	-6.20	61	-13.57	26	-2.27	57	-31.44	19
	7.29	MAX.	5.32	26	21.59	61	4.63	69	151.48	67
		MIN.	-6.40	61	-18.42	26	-2.26	57	-31.41	19
	8.20	MAX.	5.32	26	27.35	61	4.63	69	155.59	67
		MIN.	-6.39	61	-23.28	26	-2.26	57	-31.38	19
	9.11	MAX.	5.32	26	33.13	61	4.63	69	159.70	67
		MIN.	-6.36	61	-28.13	26	-2.26	57	-31.35	19

MAX/MIN FORCES FOR MEMBER 21,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	5.62	0.00	46	33.13	9.11	61			
	4.63	7.29	69	159.70	9.11	67	368.50 C	9.11	31
MIN.	-6.40	7.29	61	-28.13	9.11	26			
	-2.30	0.00	57	-31.67	0.00	19	9.02 T	9.11	17

22	0.00	MAX.	5.32	26	33.13	61	4.63	69	159.70	67
		MIN.	-6.36	61	-28.13	26	-2.26	57	-31.35	19
	1.30	MAX.	5.32	26	41.40	61	4.63	69	165.56	67
		MIN.	-6.36	61	-35.05	26	-2.26	57	-31.30	19
	2.60	MAX.	5.32	26	49.67	61	4.63	69	171.42	67
		MIN.	-6.36	61	-41.97	26	-2.26	57	-31.26	19
	3.90	MAX.	5.32	26	57.93	61	4.63	69	177.29	67
		MIN.	-6.36	61	-48.89	26	-2.26	57	-31.21	19
	5.20	MAX.	5.32	26	66.20	61	4.63	69	183.15	67
		MIN.	-6.36	61	-55.82	26	-2.26	57	-31.17	19
	6.50	MAX.	5.32	26	74.47	61	4.63	69	189.01	67
		MIN.	-6.36	61	-62.74	26	-2.26	57	-32.45	59
	7.80	MAX.	5.32	26	82.73	61	4.63	69	194.88	67
		MIN.	-6.36	61	-69.66	26	-2.26	57	-35.22	59
	9.10	MAX.	5.32	26	91.00	61	4.63	69	200.74	67
		MIN.	-6.36	61	-76.58	26	-2.26	57	-37.99	59
	10.40	MAX.	5.32	26	99.27	61	4.63	69	206.60	67
		MIN.	-6.36	61	-83.50	26	-2.26	57	-40.76	59
	11.70	MAX.	5.32	26	107.53	61	4.63	69	212.47	67
		MIN.	-6.36	61	-90.43	26	-2.26	57	-43.54	59
	13.00	MAX.	5.32	26	115.80	61	4.63	69	218.33	67
		MIN.	-6.36	61	-97.35	26	-2.26	57	-46.31	59

MAX/MIN FORCES FOR MEMBER 22,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	5.32	0.00	26	115.80	13.00	61			
	4.63	0.00	69	218.33	13.00	67	387.22 C	13.00	31
MIN.	-6.36	13.00	61	-97.35	13.00	26			
	-2.26	13.00	57	-46.31	13.00	59	9.02 T	13.00	17

23	0.00	MAX.	8.46	26	63.74	26	4.27	65	118.93	32
		MIN.	-10.31	74	-93.81	56	-2.42	59	-29.56	19
	0.39	MAX.	8.46	26	60.44	26	4.27	65	118.84	32
		MIN.	-10.31	74	-89.83	56	-2.42	59	-29.61	19
	0.78	MAX.	8.46	26	57.14	26	4.27	65	118.74	32
		MIN.	-10.31	74	-85.85	56	-2.42	59	-29.65	19

	1.17	MAX.	8.46	26	53.84	26	4.27	65	119.58	41
		MIN.	-10.31	74	-81.87	56	-2.42	59	-29.70	19
	1.56	MAX.	8.46	26	50.54	26	4.27	65	120.43	41
		MIN.	-10.31	74	-77.88	56	-2.42	59	-29.75	19
	1.95	MAX.	8.46	26	47.24	26	4.27	65	121.29	41
		MIN.	-10.31	74	-73.90	56	-2.42	59	-29.80	19
	2.34	MAX.	8.46	26	43.94	26	4.27	65	122.15	41
		MIN.	-10.31	74	-69.92	56	-2.42	59	-29.85	19
	2.73	MAX.	8.46	26	40.64	26	4.27	65	123.01	41
		MIN.	-10.31	74	-65.93	56	-2.42	59	-29.90	19
	3.12	MAX.	8.46	26	37.34	26	4.27	65	123.87	41
		MIN.	-10.31	74	-61.95	56	-2.42	59	-29.94	19
	3.51	MAX.	8.46	26	34.04	26	4.27	65	124.73	41
		MIN.	-10.31	74	-57.97	56	-2.42	59	-29.99	19
	3.90	MAX.	8.46	26	30.74	26	4.27	65	125.59	41
		MIN.	-10.31	74	-53.99	56	-2.42	59	-30.04	19

MAX/MIN FORCES FOR MEMBER 23,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	8.46	0.00	26	63.74	0.00	26			
	4.27	0.00	65	125.59	3.90	41	488.99 C	3.90	31
MIN.	-10.31	3.90	74	-93.81	0.00	56			
	-2.42	3.90	59	-30.04	3.90	19	3.58 T	3.90	9

24	0.00	MAX.	8.46	26	30.74	26	4.27	65	125.59	41
		MIN.	-10.31	74	-53.99	56	-2.42	59	-30.04	19
	0.91	MAX.	8.46	26	23.03	26	4.27	65	127.59	41
		MIN.	-10.50	74	-44.58	56	-2.42	59	-30.15	19
	1.82	MAX.	8.46	26	15.33	26	4.28	65	129.61	41
		MIN.	-10.65	74	-35.00	56	-2.41	59	-30.27	19
	2.73	MAX.	8.46	26	7.62	26	4.28	65	131.80	67
		MIN.	-10.85	74	-25.25	56	-2.40	59	-30.38	19
	3.64	MAX.	8.46	26	3.94	5	4.29	65	135.44	67
		MIN.	-10.97	74	-19.31	31	-2.40	59	-30.49	19
	4.56	MAX.	8.46	26	3.05	5	4.29	65	139.09	67
		MIN.	-11.06	74	-17.85	48	-2.40	59	-30.61	19
	5.47	MAX.	8.46	26	9.88	61	4.29	65	142.74	67
		MIN.	-11.12	74	-20.07	48	-2.39	59	-30.72	19
	6.38	MAX.	8.46	26	19.75	61	4.29	65	146.40	67
		MIN.	-11.14	74	-23.21	26	-2.39	59	-30.83	19
	7.29	MAX.	8.46	26	29.67	61	4.30	65	150.06	67
		MIN.	-11.36	56	-30.92	26	-2.38	59	-30.95	19
	8.20	MAX.	8.46	26	39.60	61	4.30	65	153.72	67
		MIN.	-11.35	56	-38.63	26	-2.38	59	-31.06	19
	9.11	MAX.	8.46	26	49.57	61	4.30	65	157.37	67
		MIN.	-11.32	56	-46.34	26	-2.39	59	-31.17	19

MAX/MIN FORCES FOR MEMBER 24,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	8.46	0.00	26	49.57	9.11	61			
	4.30	7.29	65	157.37	9.11	67	491.45 C	9.11	31
MIN.	-11.36	7.29	56	-53.99	0.00	56			
	-2.42	0.00	59	-31.17	9.11	19	3.58 T	9.11	9

25	0.00	MAX.	8.46	26	49.57	61	4.30	65	157.37	67
		MIN.	-11.32	56	-46.34	26	-2.39	59	-31.17	19
	1.30	MAX.	8.46	26	63.79	61	4.30	65	162.60	67
		MIN.	-11.32	56	-57.33	26	-2.39	59	-31.34	19
	2.60	MAX.	8.46	26	78.02	61	4.30	65	167.82	67
		MIN.	-11.32	56	-68.33	26	-2.39	59	-31.50	19
	3.90	MAX.	8.46	26	92.25	61	4.30	65	173.04	67
		MIN.	-11.32	56	-79.33	26	-2.39	59	-31.66	19
	5.20	MAX.	8.46	26	106.48	61	4.30	65	178.26	67
		MIN.	-11.32	56	-90.33	26	-2.39	59	-31.82	19
	6.50	MAX.	8.46	26	120.79	74	4.30	65	183.48	67
		MIN.	-11.32	56	-101.33	26	-2.39	59	-33.75	59
	7.80	MAX.	8.46	26	135.49	74	4.30	65	188.70	67
		MIN.	-11.32	56	-112.33	26	-2.39	59	-36.85	59
	9.10	MAX.	8.46	26	150.18	74	4.30	65	193.92	67
		MIN.	-11.32	56	-123.33	26	-2.39	59	-39.95	59
	10.40	MAX.	8.46	26	164.88	74	4.30	65	199.15	67
		MIN.	-11.32	56	-134.33	26	-2.39	59	-43.05	59
	11.70	MAX.	8.46	26	179.58	74	4.30	65	204.37	67
		MIN.	-11.32	56	-145.33	26	-2.39	59	-46.15	59
	13.00	MAX.	8.46	26	194.28	74	4.30	65	209.59	67
		MIN.	-11.32	56	-156.32	26	-2.39	59	-49.25	59

MAX/MIN FORCES FOR MEMBER 25,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	8.46	0.00	26	194.28	13.00	74			
	4.30	0.00	65	209.59	13.00	67	510.17 C	13.00	31
MIN.	-11.32	13.00	56	-156.32	13.00	26			
	-2.39	13.00	59	-49.25	13.00	59	3.58 T	13.00	9

********** END OF FORCE ENVELOPE FROM INTERNAL STORAGE **********

279. FINISH

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*********** END OF THE STAAD.Pro RUN ***********

**** DATE= JUL 28,2002   TIME= 17:54:47 ****

*******************************************************
*     For questions on STAAD.Pro, please contact :    *
*  By Email - North America  : support@ca.reiusa.com  *
*  By Email - International  : support@reiusa.com      *
*  Tel. (USA) : 714-974-2500 ; Fax (USA) : 714-974-4771 *
*******************************************************
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Licensed to: Sergio Oliden

KMS 8/02

DMJM+HARRIS

PROGRAM LPILE plus Version 3.0
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BHOC 91st Ave Bridge 42" Dia. Shafts at Piers - Revised

UNITS--ENGLISH UNITS

INPUT INFORMATION

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 480.00 IN
2 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	42.000	.153E+06	.139E+04	.320E+07
480.00	42.000	.153E+06	.139E+04	.320E+07

SOILS INFORMATION

X AT THE GROUND SURFACE = .00 IN

SLOPE ANGLE AT THE GROUND SURFACE = .00 DEG.

2 LAYER(S) OF SOIL

LAYER 1
THE SOIL IS A STIFF CLAY WITH NO FREE WATER
X AT THE TOP OF THE LAYER = .00 IN
X AT THE BOTTOM OF THE LAYER = 120.00 IN
MODULUS OF SUBGRADE REACTION = .300E+03 LBS/IN**3

LAYER 2
THE SOIL IS A SAND - P-Y CRITERIA BY REESE ET AL, 1974
X AT THE TOP OF THE LAYER = 120.00 IN

X AT THE BOTTOM OF THE LAYER = 1000.00 IN
MODULUS OF SUBGRADE REACTION = .225E+03 LBS/IN**3

DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
4 POINTS

X,IN	WEIGHT,LBS/IN**3
.00	.61E-01
120.00	.61E-01
120.00	.67E-01
1000.00	.67E-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
4 POINTS

X,IN	C,LBS/IN**2	PHI,DEGREES	E50
.00	.208E+01	.000	.900E-02
120.00	.208E+01	.000	.900E-02
120.00	.000E+00	.330E+02	-----
1000.00	.000E+00	.330E+02	-----

BOUNDARY AND LOADING CONDITIONS

LOADING NUMBER 1 (MEMBER 10, dt 10, LC No. 27)

BOUNDARY-CONDITION CODE = 1
LATERAL LOAD AT THE PILE HEAD = .100E+02 LBS (LONGITUDINAL LOAD ONLY
MOMENT AT THE PILE HEAD = .799E+06 IN-LBS (MY)
AXIAL LOAD AT THE PILE HEAD = .415E+06 LBS

FINITE-DIFFERENCE PARAMETERS
NUMBER OF PILE INCREMENTS = 80
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE = .100E-11 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS = 100
MAXIMUM ALLOWABLE DEFLECTION = .16E+03 IN

OUTPUT CODES
KOUTPT = 1
KPYOP = 1
INC = 1

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
246.00	42.00	33.0	.638E-01	.89	.52	.717E+04	.275E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.872E+03
.117E+00	.131E+04
.175E+00	.165E+04
.233E+00	.195E+04
.292E+00	.222E+04
.350E+00	.247E+04
.408E+00	.270E+04
.467E+00	.292E+04
.525E+00	.313E+04

.583E+00	.333E+04
.642E+00	.352E+04
.700E+00	.370E+04
.158E+01	.638E+04
.436E+02	.638E+04
.856E+02	.638E+04
.128E+03	.638E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
258.00	42.00	33.0	.639E-01	.88	.51	.803E+04	.289E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.927E+03
.117E+00	.140E+04
.175E+00	.178E+04
.233E+00	.212E+04
.292E+00	.242E+04
.350E+00	.269E+04
.408E+00	.295E+04
.467E+00	.320E+04
.525E+00	.343E+04
.583E+00	.365E+04
.642E+00	.386E+04
.700E+00	.407E+04
.158E+01	.710E+04
.436E+02	.710E+04
.856E+02	.710E+04
.128E+03	.710E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
270.00	42.00	33.0	.640E-01	.88	.50	.893E+04	.303E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.985E+03
.117E+00	.150E+04
.175E+00	.192E+04
.233E+00	.229E+04
.292E+00	.262E+04
.350E+00	.293E+04
.408E+00	.322E+04
.467E+00	.349E+04
.525E+00	.375E+04
.583E+00	.400E+04
.642E+00	.423E+04
.700E+00	.446E+04
.158E+01	.786E+04
.436E+02	.786E+04
.856E+02	.786E+04
.128E+03	.786E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
306.00	42.00	33.0	.643E-01	.88	.50	.119E+05	.345E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.132E+04
.117E+00	.201E+04
.175E+00	.257E+04
.233E+00	.306E+04
.292E+00	.350E+04
.350E+00	.391E+04
.408E+00	.430E+04
.467E+00	.466E+04
.525E+00	.501E+04
.583E+00	.534E+04
.642E+00	.566E+04
.700E+00	.596E+04
.158E+01	.105E+05
.436E+02	.105E+05
.856E+02	.105E+05
.128E+03	.105E+05

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
366.00	42.00	33.0	.647E-01	.88	.50	.179E+05	.415E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.197E+04
.117E+00	.301E+04
.175E+00	.385E+04
.233E+00	.458E+04
.292E+00	.525E+04
.350E+00	.586E+04
.408E+00	.644E+04
.467E+00	.698E+04
.525E+00	.750E+04
.583E+00	.800E+04
.642E+00	.848E+04
.700E+00	.894E+04
.158E+01	.157E+05
.436E+02	.157E+05
.856E+02	.157E+05
.128E+03	.157E+05

O U T P U T I N F O R M A T I O N

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*************************************************
* COMPUTE LOAD-DISTRIBUTION AND LOAD-DEFLECTION *
* CURVES FOR LATERAL LOADING                    *
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LOADING NUMBER 1

BOUNDARY CONDITION CODE = 1

STAAD PRO DEFLECTION = 0.02023
SAY STAAD PRO MODEL IS OK SINCE IT YIELDS CORRECT DEFLECTION AT TOP OF COLUMN FOR RIGHT LOADING

91st Pier.lpo

LATERAL LOAD AT THE PILE HEAD = .100E+02 LBS
MOMENT AT THE PILE HEAD = .799E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .415E+06 LBS

X IN	DEFLECTION IN	MOMENT LBS-IN	SHEAR LBS	SLOPE RAD.	TOTAL STRESS LBS/IN**2	FLEXURAL RIGIDITY LBS-IN**2	SOIL REACTION LBS/IN
*****	********	********	*********	*********	*********	*********	*********
.0	.125E-01	.799E+06	.100E+02	-.200E-03	.409E+03	.489E+12	-.445E+02
6.0	.113E-01	.799E+06	-.265E+03	-.190E-03	.409E+03	.489E+12	-.470E+02
12.0	.102E-01	.797E+06	-.554E+03	-.180E-03	.409E+03	.489E+12	-.493E+02
18.0	.919E-02	.793E+06	-.856E+03	-.170E-03	.408E+03	.489E+12	-.514E+02
24.0	.820E-02	.788E+06	-.117E+04	-.160E-03	.408E+03	.489E+12	-.532E+02
30.0	.726E-02	.780E+06	-.149E+04	-.151E-03	.407E+03	.489E+12	-.548E+02
36.0	.639E-02	.771E+06	-.183E+04	-.141E-03	.405E+03	.489E+12	-.562E+02
42.0	.557E-02	.759E+06	-.217E+04	-.132E-03	.404E+03	.489E+12	-.573E+02
48.0	.480E-02	.745E+06	-.251E+04	-.123E-03	.402E+03	.489E+12	-.581E+02
54.0	.410E-02	.729E+06	-.286E+04	-.114E-03	.400E+03	.489E+12	-.586E+02
60.0	.344E-02	.711E+06	-.321E+04	-.105E-03	.397E+03	.489E+12	-.587E+02
66.0	.284E-02	.691E+06	-.357E+04	-.962E-04	.394E+03	.489E+12	-.585E+02
72.0	.229E-02	.669E+06	-.392E+04	-.879E-04	.391E+03	.489E+12	-.578E+02
78.0	.178E-02	.645E+06	-.426E+04	-.798E-04	.388E+03	.489E+12	-.566E+02
84.0	.133E-02	.618E+06	-.459E+04	-.720E-04	.384E+03	.489E+12	-.547E+02
90.0	.919E-03	.590E+06	-.491E+04	-.646E-04	.380E+03	.489E+12	-.517E+02
96.0	.553E-03	.560E+06	-.521E+04	-.576E-04	.376E+03	.489E+12	-.473E+02
102.0	.229E-03	.528E+06	-.547E+04	-.509E-04	.372E+03	.489E+12	-.392E+02
108.0	-.572E-04	.494E+06	-.550E+04	-.446E-04	.367E+03	.489E+12	.287E+02
114.0	-.307E-03	.462E+06	-.528E+04	-.387E-04	.363E+03	.489E+12	.451E+02
120.0	-.522E-03	.431E+06	-.512E+04	-.333E-04	.359E+03	.489E+12	.727E+01
126.0	-.706E-03	.401E+06	-.507E+04	-.281E-04	.354E+03	.489E+12	.108E+02
132.0	-.860E-03	.371E+06	-.499E+04	-.234E-04	.350E+03	.489E+12	.143E+02
138.0	-.987E-03	.341E+06	-.490E+04	-.190E-04	.346E+03	.489E+12	.177E+02
144.0	-.109E-02	.312E+06	-.478E+04	-.150E-04	.342E+03	.489E+12	.210E+02
150.0	-.117E-02	.284E+06	-.464E+04	-.114E-04	.338E+03	.489E+12	.241E+02
156.0	-.122E-02	.256E+06	-.449E+04	-.806E-05	.335E+03	.489E+12	.270E+02
162.0	-.126E-02	.230E+06	-.432E+04	-.507E-05	.331E+03	.489E+12	.295E+02
168.0	-.129E-02	.205E+06	-.414E+04	-.241E-05	.327E+03	.489E+12	.318E+02
174.0	-.129E-02	.180E+06	-.394E+04	-.445E-07	.324E+03	.489E+12	.337E+02
180.0	-.129E-02	.157E+06	-.373E+04	.203E-05	.321E+03	.489E+12	.353E+02
186.0	-.127E-02	.136E+06	-.352E+04	.382E-05	.318E+03	.489E+12	.365E+02
192.0	-.124E-02	.115E+06	-.330E+04	.536E-05	.315E+03	.489E+12	.374E+02
198.0	-.120E-02	.959E+05	-.307E+04	.666E-05	.313E+03	.489E+12	.379E+02
204.0	-.116E-02	.782E+05	-.284E+04	.773E-05	.310E+03	.489E+12	.381E+02
210.0	-.111E-02	.618E+05	-.261E+04	.858E-05	.308E+03	.489E+12	.380E+02
216.0	-.106E-02	.468E+05	-.239E+04	.925E-05	.306E+03	.489E+12	.376E+02
222.0	-.100E-02	.331E+05	-.216E+04	.974E-05	.304E+03	.489E+12	.369E+02
228.0	-.940E-03	.207E+05	-.195E+04	.101E-04	.302E+03	.489E+12	.360E+02
234.0	-.879E-03	.970E+04	-.173E+04	.103E-04	.301E+03	.489E+12	.348E+02
240.0	-.817E-03	-.101E+03	-.153E+04	.103E-04	.299E+03	.489E+12	.335E+02
246.0	-.755E-03	-.869E+04	-.133E+04	.103E-04	.301E+03	.489E+12	.319E+02
252.0	-.694E-03	-.161E+05	-.115E+04	.101E-04	.302E+03	.489E+12	.303E+02
258.0	-.634E-03	-.225E+05	-.969E+03	.987E-05	.302E+03	.489E+12	.285E+02
264.0	-.576E-03	-.278E+05	-.803E+03	.957E-05	.303E+03	.489E+12	.267E+02
270.0	-.519E-03	-.322E+05	-.649E+03	.920E-05	.304E+03	.489E+12	.248E+02
276.0	-.465E-03	-.356E+05	-.506E+03	.878E-05	.304E+03	.489E+12	.228E+02
282.0	-.414E-03	-.383E+05	-.375E+03	.833E-05	.305E+03	.489E+12	.209E+02
288.0	-.365E-03	-.402E+05	-.256E+03	.784E-05	.305E+03	.489E+12	.189E+02
294.0	-.320E-03	-.414E+05	-.148E+03	.734E-05	.305E+03	.489E+12	.170E+02
300.0	-.277E-03	-.420E+05	-.522E+02	.683E-05	.305E+03	.489E+12	.151E+02

306.0	-.238E-03	-.421E+05	.329E+02	.632E-05	.305E+03	.489E+12	.133E+02
312.0	-.201E-03	-.416E+05	.107E+03	.580E-05	.305E+03	.489E+12	.115E+02
318.0	-.168E-03	-.408E+05	.171E+03	.530E-05	.305E+03	.489E+12	.984E+01
324.0	-.138E-03	-.396E+05	.226E+03	.480E-05	.305E+03	.489E+12	.825E+01
330.0	-.111E-03	-.381E+05	.271E+03	.433E-05	.305E+03	.489E+12	.677E+01
336.0	-.860E-04	-.364E+05	.307E+03	.387E-05	.304E+03	.489E+12	.538E+01
342.0	-.642E-04	-.345E+05	.335E+03	.343E-05	.304E+03	.489E+12	.410E+01
348.0	-.448E-04	-.324E+05	.357E+03	.302E-05	.304E+03	.489E+12	.292E+01
354.0	-.279E-04	-.302E+05	.371E+03	.264E-05	.303E+03	.489E+12	.186E+01
360.0	-.132E-04	-.279E+05	.379E+03	.228E-05	.303E+03	.489E+12	.895E+00
366.0	-.511E-06	-.257E+05	.382E+03	.195E-05	.303E+03	.489E+12	.354E-01
372.0	.103E-04	-.234E+05	.380E+03	.165E-05	.303E+03	.489E+12	-.725E+00
378.0	.193E-04	-.211E+05	.374E+03	.138E-05	.302E+03	.489E+12	-.139E+01
384.0	.268E-04	-.189E+05	.363E+03	.113E-05	.302E+03	.489E+12	-.197E+01
390.0	.329E-04	-.168E+05	.350E+03	.915E-06	.302E+03	.489E+12	-.246E+01
396.0	.378E-04	-.147E+05	.334E+03	.721E-06	.301E+03	.489E+12	-.287E+01
402.0	.416E-04	-.127E+05	.316E+03	.553E-06	.301E+03	.489E+12	-.322E+01
408.0	.444E-04	-.109E+05	.296E+03	.408E-06	.301E+03	.489E+12	-.350E+01
414.0	.465E-04	-.920E+04	.274E+03	.284E-06	.301E+03	.489E+12	-.372E+01
420.0	.478E-04	-.762E+04	.251E+03	.181E-06	.300E+03	.489E+12	-.390E+01
426.0	.486E-04	-.618E+04	.228E+03	.965E-07	.300E+03	.489E+12	-.403E+01
432.0	.490E-04	-.489E+04	.203E+03	.285E-07	.300E+03	.489E+12	-.412E+01
438.0	.490E-04	-.375E+04	.178E+03	-.245E-07	.300E+03	.489E+12	-.419E+01
444.0	.487E-04	-.275E+04	.153E+03	-.644E-07	.300E+03	.489E+12	-.423E+01
450.0	.482E-04	-.191E+04	.127E+03	-.930E-07	.300E+03	.489E+12	-.425E+01
456.0	.476E-04	-.122E+04	.102E+03	-.112E-06	.299E+03	.489E+12	-.426E+01
462.0	.469E-04	-.687E+03	.764E+02	-.124E-06	.299E+03	.489E+12	-.426E+01
468.0	.461E-04	-.305E+03	.509E+02	-.130E-06	.299E+03	.489E+12	-.425E+01
474.0	.453E-04	-.764E+02	.254E+02	-.132E-06	.299E+03	.489E+12	-.424E+01
480.0	.445E-04	.000E+00	.000E+00	-.133E-06	.299E+03	.489E+12	-.422E+01

OUTPUT VERIFICATION

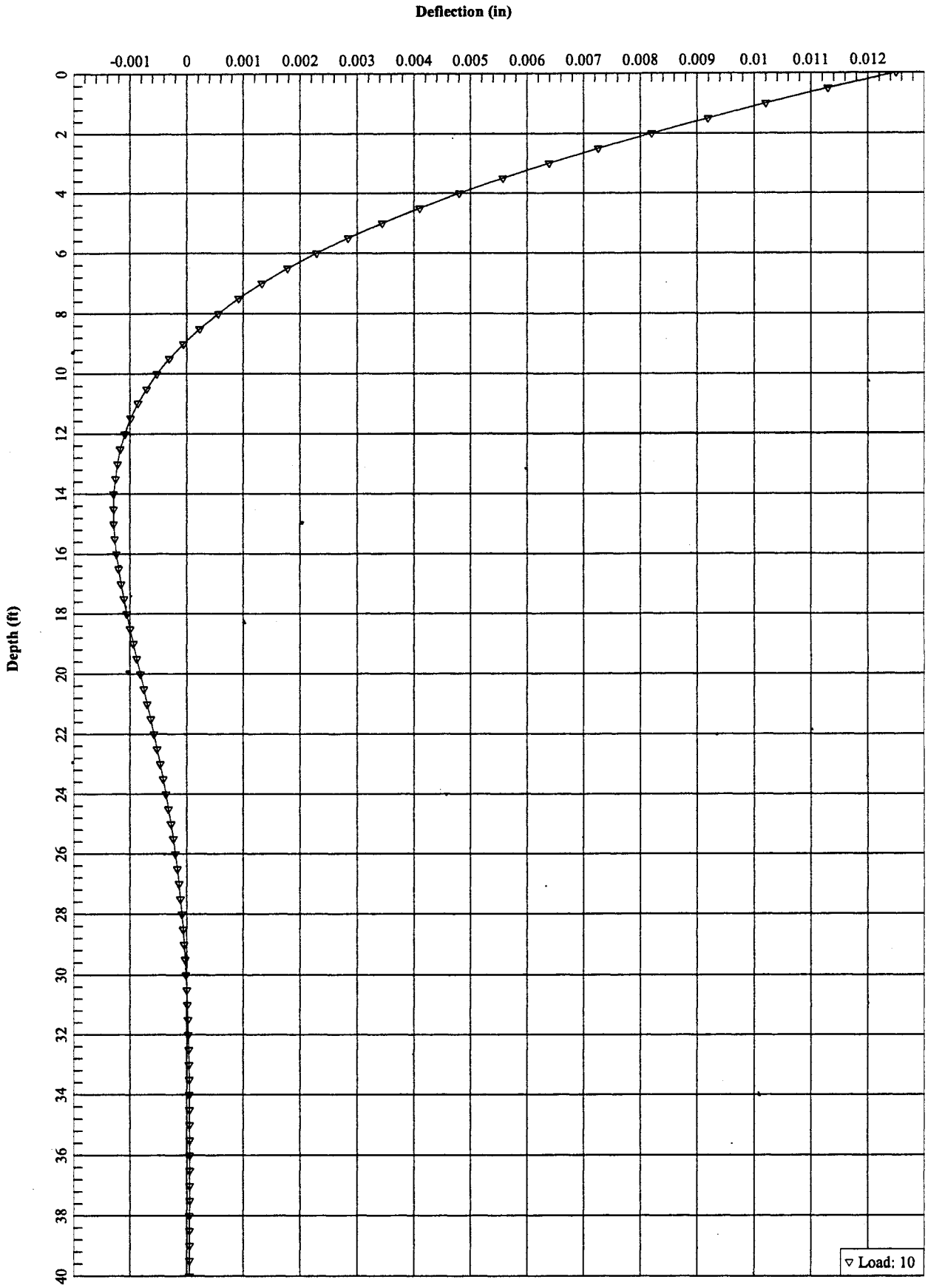
THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = -.785E-07 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = .806E-08 LBS

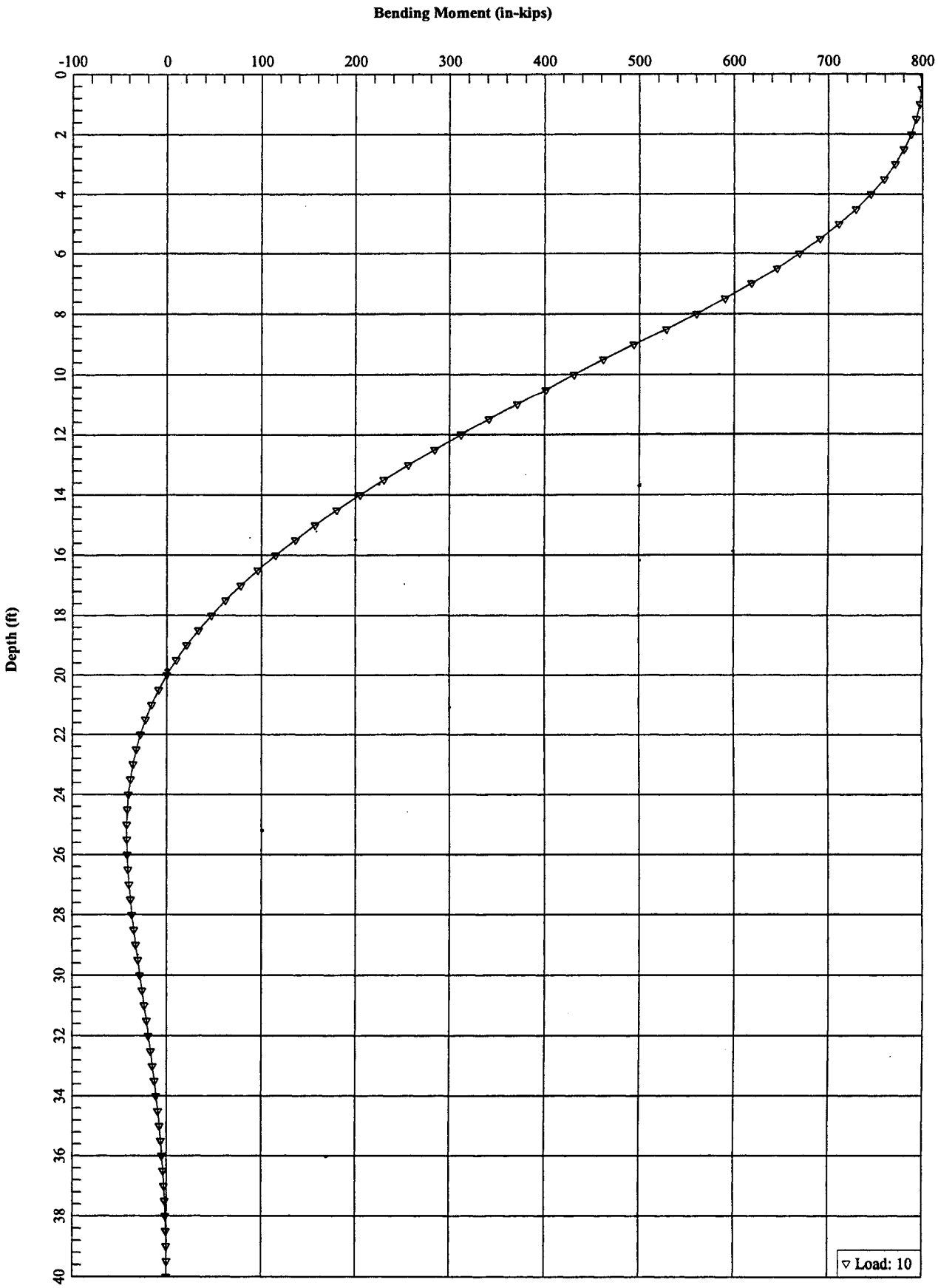
OUTPUT SUMMARY

PILE-HEAD DEFLECTION = .125E-01 IN
COMPUTED SLOPE AT PILE HEAD = -.200E-03
MAXIMUM BENDING MOMENT = .799E+06 LBS-IN
MAXIMUM SHEAR FORCE = -.550E+04 LBS
NO. OF ITERATIONS = 59
NO. OF ZERO DEFLECTION POINTS = 2

S U M M A R Y T A B L E
****

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
.1000E+02	.7994E+06	.4146E+06	.1252E-01	.7994E+06	-.5499E+04


Deflection (in)
-0.001
0
0.001
0.002
0.003
0.004
0.005
0.006
0.007
0.008
0.009
0.01
0.011
0.012
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: 10


Bending Moment (in-kips)
-100
0
100
200
300
400
500
600
700
800
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: 10

depth= 0 - 120; Stiff clay w/o free water

unit wt.= 0.0608
Ø= 0; c= 2.083

depth= 120 - 1000; Sand

unit wt.= 0.0666
Ø= 33; c= 0)83

COLUMN
DESIGN

DMJM HARRIS	PROJECT: B HO.C 91ST AVE	JOB NO. 6888	SHEET 1 of 3
		DESIGNED BY SEO	DATE MAR 02
SUBJECT: COLUMN DESIGN		CHECKED BY KMS	DATE 8/02

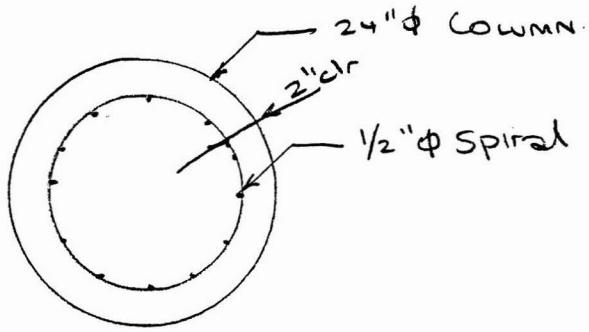
ANALYSIS

THE FRAME ANALYSIS WAS PERFORMED BY STAAD PRO. THE STAAD PRO ANALYSIS FOR COLUMNS DID NOT INCLUDE A P-DELTA ANALYSIS. THE COLUMNS WILL BE CHECKED WITH THE COMPUTER PROGRAM RECOL. THE COLUMNS WILL BE PINNED AT THE TOP AND FIXED AT THE BOTTOM.

DESIGN

MIN A_s = 1% , MAX A_s = 8%

LFD , f_y = 60,000 psi f'_c = 4000 psi



DIA OF COLUMN = 24"
AREA OF COLUMN = 452 in²
I = 16,286 in²
MIN AREA OF STL = 4.52 in²
NO OF BARS = 12 #6

CIRCUMFERENCE OF LONGITUDINAL BARS = $\pi(24" - (2)(2") - (2)(0.5") - 3/4") = 57.3"$

CENTER TO CENTER = 4.78"

CLEAR SPACING = 4.78" − 0.75" = 4.00" > $(1.5)(d_b)$ OK
> $(1.5(A_{gg})$ = 2.25" OK
> 1½" OK

NUMBER OF REBARS IN OUTER LOOP = 12 ea
OUTER LOOP RADIUS = $(1/2)(24" - (2)(2") - (2)(0.5") - 3/4") = 9"$

NUMBER OF COLUMNS IN BENT = 6 ea
C TO C SPACING OF COLUMNS = 18'-0"

COLUMN LENGTH = 13.01 ft

ACTUAL DISTRIBUTION FACTORS USED AT TOP (0.00 T & L) AND AT BOTTOM (0.00 T & L). (Fixed Condition @ Top and Bottom)

DUCTILITY FACTOR = 5

CENTER OF GRAVITY TO SUPERSTRUCTURE (TOP OF COLUMN) = 1.5 ft

DMJM HARRIS	PROJECT: B HOC 91ST AVE	JOB NO. 6888	SHEET 2 of 3
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: COLUMN DESIGN		CHECKED BY KMS	DATE 8/02

SPLICE LENGTH (CLASS C) (INTO DRILLED SHAFT)

L_D # 6 = (18")(1.4) = 25.2"

SPLICE # 6 = (25.2")(1.7) = 43" (DRILLED SHAFT CONTROLS)

SHEAR DESIGN

b_w = 24"

d = 24" - 2" - 0.5" - (1/2)(0.75") = 21"

FRAME ANALYSIS BY STAAD PRO: RESULTANT SHEAR = 5.77 K
(MEMBER 15, JT 16, LC No 47)

ASD, n = 8

f_s = 24,000 psi , f'_c = 4000 psi

$$v = \frac{V}{(b_w)(d)} = \frac{(5.77\,K)(1000)}{(24")(21")} = 11.45 \text{ psi}$$

$$(1/2)(V_c) = (1/2)(0.95)(4000\text{psi})^{1/2} = 30.04 \text{ psi} > 11.45 \text{ psi}$$

∴ NO MIN REINF IS REQUIRED

DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 3 of 3
		DESIGNED BY SEO	DATE 4/02
SUBJECT: COLUMN DESIGN		CHECKED BY KAS	DATE 8/02

LATERAL REINFORCEMENT

PROVIDE 1/2" SPIRAL WITH 3" PITCH

$$\rho_s = (0.45)\left(\frac{A_g}{A_c} - 1\right)\left(\frac{f'_c}{f_y}\right) = (0.45)\left(\frac{(24")^2}{(20")^2} - 1\right)\left(\frac{4.0}{60.0}\right)$$

$$\rho_s = 0.0132$$

ACTUAL RATIO = ρ

$$\rho = \frac{(\pi)(20")(0.20 in^2/ft)}{\pi(20")^2(1/4)(3")} = 0.0133 \approx 0.0132 \quad OK$$

DEVELOPMENT LENGTH

$$l_{d\,\#6} = 18"$$

$$(l_d)(1.4) = (18")(1.4) = 25.2" \text{ SAY } 26"$$

KMS 8/02

```
*************************************************************************
*                              IAI-RECOL                                *
*                       Reinforced Column Design                        *
*                                                                       *
*                                                                       *
*                   By: Imbsen and Associates, Inc.                     *
*                     Version 3.3.1     12-OCT-99                       *
*************************************************************************
```

********** Licensed to: DMJM - Phoenix, AZ **********

91PCB1.DOC

Project Title:91st Avenue Bridge Pier Column

```
COLUMN TYPE                    =  9  (CIRCULAR)
CONCRETE LOOPS                 =  1
TOTAL NO. OF CONCRETE COORD.   = 40
STEEL REBAR PATTERN            =  4  (CONCENTRIC LOOPS)
NUMBER OF STEEL REBAR LOOPS    =  1
TOTAL NO. OF STEEL REBARS      = 12
PLOT TYPE                      =  0  (NO PLOT)
DESIGN TYPE                    =  2  (CHECK)
PERCENT STEEL LIMITS           =     (1.00 % MIN.  8.00 % MAX.)
```

```
*************
* BENT DATA *
*****************************************************************************

NUMBER OF COLUMNS IN BENT                    =     6
OUT TO OUT DISTANCE (DIAMETER) OF SPIRAL     = 20.00 INCHES
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO
CENTER OF GRAVITY OF THE SUPERSTRUCTURE      =  1.50 FEET
CENTER TO CENTER SPACING OF COLUMNS          = 18.00 FEET
```

```
******************************
* MATERIAL PROPERTIES  (PSI) *
*****************************************************************************

ULTIMATE CONCRETE COMPRESSIVE STRESS - FC =     4000.
YOUNG'S MODULUS FOR CONCRETE         - EC =  3604997.
YOUNG'S MODULUS FOR STEEL BARS       - ES = 29000000.
ULTIMATE CONCRETE COMPRESSIVE STRAIN - EO =      .003
YIELDING STRESS FOR STEEL BARS       - FY =    60000.
```

CIRCULAR CROSS-SECTION

HX(IN)
24.00

CONCRETE COORDINATES (INCHES)

COORD	X	Y
1	12.00	0.00
2	11.85	1.88
3	11.41	3.71
4	10.69	5.45
5	9.71	7.05
6	8.49	8.49
7	7.05	9.71
8	5.45	10.69
9	3.71	11.41
10	1.88	11.85
11	0.00	12.00
12	-1.88	11.85
13	-3.71	11.41
14	-5.45	10.69
15	-7.05	9.71
16	-8.49	8.49
17	-9.71	7.05
18	-10.69	5.45
19	-11.41	3.71
20	-11.85	1.88
21	-12.00	0.00
22	-11.85	-1.88
23	-11.41	-3.71
24	-10.69	-5.45
25	-9.71	-7.05
26	-8.49	-8.49
27	-7.05	-9.71
28	-5.45	-10.69
29	-3.71	-11.41
30	-1.88	-11.85
31	0.00	-12.00
32	1.88	-11.85
33	3.71	-11.41
34	5.45	-10.69
35	7.05	-9.71
36	8.49	-8.49
37	9.71	-7.05
38	10.69	-5.45
39	11.41	-3.71
40	11.85	-1.88

CONCENTRIC CIRCLE PATTERN

LOOP	RADIUS (IN)	AREA (IN**2)	BARS
1	9.00	0.44	12

STEEL REBAR COORDINATES (INCHES)

COORD	X	Y
1	9.00	0.00
2	7.79	4.50
3	4.50	7.79
4	0.00	9.00
5	-4.50	7.79
6	-7.79	4.50
7	-9.00	0.00
8	-7.79	-4.50
9	-4.50	-7.79
10	0.00	-9.00
11	4.50	-7.79
12	7.79	-4.50

THE MAIN LONGITUDINAL STEEL IS ASSUMED TO BE # 6 BARS.

```
*************************
* INITIAL REFERENCE DATA *
*************************************************************************

TOTAL AREA OF THE SECTION                AG =      3.13 FT**2
NOMINAL AXIAL LOAD STRENGTH              PO =   1830.65 KIPS
TOTAL REINFORCEMENT AREA                AST =      5.28 IN**2
PERCENT STEEL                               =      1.17 %

GROSS MOMENT OF INERTIA ABOUT Y-AXIS   IYC =      0.78 FT**4
GROSS MOMENT OF INERTIA ABOUT X-AXIS   IXC =      0.78 FT**4

STEEL MOMENT OF INERTIA ABOUT Y-AXIS   IYS =    0.0103 FT**4
STEEL MOMENT OF INERTIA ABOUT X-AXIS   IXS =    0.0103 FT**4
```

```
**********************************
* COLUMN LOAD DATA (KIP, KIP-FT) *
**************************************************************************
```

LOAD NAME: bottom of pier column
FOOTING DATA FILE: NO
TYPE FOOTING:

SEISMIC ANALYSIS SPECIFICATIONS:
DESIGN CRITERIA PERFORMANCE CATEGORY
(SDC) (SPC)
CAL

MOMENT DISTRIBUTION FACT :---TOP---:---BOTTOM---: DAY	DAX	DBY	DBX	PERCENT IMPACT	COLUMN LENGTH (FEET)	STEEL TIE=1 SPIRAL=0	LOCATION TOP=1 BOTTOM=0	DUCTILITY FACTOR (Z)
0.00	0.00	0.00	0.00	30.00	13.01	0	0	5.00

COLUMN GROUP LOADS - SERVICE (KIP, KIP-FT)

	DEAD LOAD	PRE STRESS	:---- LL+IMPACT ---: CASE 1 TRANS MY-MAX	CASE 2 LONG MX-MAX	CASE 3 AXIAL N-MAX	WIND	WL	LF	CF-MY	TEMP	SF& BY
MY	0.	0.	0.	0.	-1.	13.	4.	0.	0.	9.	4.
MX	51.	0.	0.	0.	63.	9.	6.	62.	0.	36.	0.
P	284.	0.	0.	0.	40.	0.	0.	0.	0.	1.	-1.
PMY			0.	0.	0.				0.		
PMX			0.	0.	0.				0.		
P			0.	0.	0.				0.		

COLUMN SEISMIC AND ARBITRARY LOADS (KIP, KIP-FT)

(ARS)	UNREDUCED SEISMIC CASE 1 MAX TRAN	CASE 2 MAX LONG	ARBITRARY LOADS SERVICE AL1	SERVICE AL2	ARBITRARY LOADS FACTORED AL1	FACTORED AL2
MY TRAN	0.	0.	0.	0.	0.	0.
MX LONG	0.	0.	0.	0.	0.	0.
P AXIAL	0.	0.	0.	0.	0.	0.

```
*******************************************************
* FACTORED LOADS FOR COLUMN DESIGN CHECK (KIP, KIP-FT) *
*************************************************************************
```

APPLIED FACTORED MOMENTS ARE MAGNIFIED FOR SLENDERNESS IN ACCORDANCE WITH CALTRANS BRIDGE DESIGN SPECIFICATIONS. (ART 8.16.5)

LENGTH = 13.010 FT FC = 4.00 KSI FY = 60.00 KSI
STEEL = 1.17 % AST = 5.28 SQ IN

GROUP	CASE	:------ APPLIED FACTORED ------: TRANS MY	LONG MX	COMB M	AXIAL P	CAPACITY (PHI*MN) MU	PHI	RATIO MU/M	
IH	1	31.	53.	62.	275.	296.	0.75	4.81	OK
IH	2	31.	53.	62.	275.	296.	0.75	4.81	OK
IH	3	52.	218.	224.	455.	329.	0.75	1.47	OK
IP	1	31.	53.	62.	275.	296.	0.75	4.81	OK
IP	2	31.	53.	62.	275.	296.	0.75	4.81	OK
IP	3	42.	72.	83.	367.	317.	0.75	3.80	OK
II		31.	66.	73.	275.	296.	0.75	4.05	OK
III	1	31.	150.	153.	275.	296.	0.75	1.93	OK
III	2	31.	150.	153.	275.	296.	0.75	1.93	OK
III	3	48.	257.	262.	420.	326.	0.75	1.24	OK
IV	1	31.	102.	106.	276.	296.	0.75	2.78	OK ✓
IV	2	31.	102.	106.	276.	296.	0.75	2.78	OK
IV	3	48.	208.	214.	422.	326.	0.75	1.52	OK
V		36.	110.	116.	266.	293.	0.75	2.53	OK
VI	1	30.	190.	193.	266.	293.	0.75	1.52	OK
VI	2	30.	190.	193.	266.	293.	0.75	1.52	OK
VI	3	46.	294.	298.	405.	324.	0.75	1.09	OK
VII	1	31.	51.	60.	284.	367.	1.00	6.10	OK
VII	2	31.	51.	60.	284.	367.	1.00	6.10	OK

NOTE: FOR CALTRANS AND SPC-C AND SPC-D ONLY THE UNREDUCED SEISMIC MOMENTS ARE REDUCED BY THE Z OR R FACTOR. FOR SPC-B BOTH THE UNREDUCED SEISMIC AXIAL AND MOMENTS ARE REDUCED BY THE Z OR R FACTOR.

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*************************************************
* MOMENT MAGNIFICATION AND BUCKLING CALCULATIONS *
*************************************************************************

REFERENCE: "CALTRANS BRIDGE DESIGN SPECIFICATIONS" (ART 8.16.5)
          (COLUMN ASSUMED TO BE UNBRACED AGAINST SIDESWAY.)

MAGY   = MOMENT MAGNIFACTION FACTOR ABOUT Y-AXIS
MAGX   = MOMENT MAGNIFACTION FACTOR ABOUT X-AXIS

PCY    = CRITICAL BUCKLING LOAD ABOUT Y-AXIS
PCX    = CRITICAL BUCKLING LOAD ABOUT X-AXIS

KY     = EFFECTIVE LENGTH FACTOR ABOUT Y-AXIS =  1.00
KX     = EFFECTIVE LENGTH FACTOR ABOUT X-AXIS =  1.00

KY*L/R = SLENDERNESS RATIO ABOUT Y-AXIS       = 26.
KX*L/R = SLENDERNESS RATIO ABOUT X-AXIS       = 26.

IYS    = STEEL MOMENT OF INERTIA ABOUT Y-AXIS =   0.0103 FT**4
IXS    = STEEL MOMENT OF INERTIA ABOUT X-AXIS =   0.0103 FT**4
```

		MOMENT MAGNIFICATION			CRACKED TRANSFORMED SECTION		CRITICAL BUCKLING		AXIAL
GR	CA	TRAN MAGY	LONG MAGX	COMB MAG	E*IY	E*IX	TRAN PCY	LONG PCX	LOAD P
					(KIP-FT**2)	(KIP-FT**2)	(KIPS)	(KIPS)	(KIPS)
IH	1	1.027	1.055	1.048	231246.	116977.	13484.	6821.	269.
IH	2	1.027	1.055	1.048	231246.	116977.	13484.	6821.	269.
IH	3	1.047	1.062	1.061	229105.	175794.	13359.	10251.	447.
IP	1	1.027	1.055	1.048	231246.	116977.	13484.	6821.	269.
IP	2	1.027	1.055	1.048	231246.	116977.	13484.	6821.	269.
IP	3	1.037	1.076	1.065	230657.	116864.	13450.	6814.	359.
II		1.027	1.050	1.045	232582.	130029.	13562.	7582.	269.
III	1	1.027	1.037	1.036	232396.	173081.	13551.	10092.	269.
III	2	1.027	1.037	1.036	232396.	173081.	13551.	10092.	269.
III	3	1.042	1.054	1.054	232097.	182967.	13534.	10669.	412.
IV	1	1.027	1.042	1.041	232434.	154049.	13553.	8983.	270.
IV	2	1.027	1.042	1.041	232434.	154049.	13553.	8983.	270.
IV	3	1.042	1.057	1.057	232157.	174067.	13537.	10150.	414.
V		1.026	1.038	1.037	232738.	160321.	13571.	9348.	260.
VI	1	1.026	1.033	1.033	232665.	184783.	13567.	10775.	260.
VI	2	1.026	1.033	1.033	232665.	184783.	13567.	10775.	260.
VI	3	1.041	1.050	1.050	232510.	189570.	13558.	11054.	398.
VII	1	1.000	1.000	1.000	116525.	116525.	6795.	6795.	276.
VII	2	1.000	1.000	1.000	116525.	116525.	6795.	6795.	276.

Project Title:91st Avenue Bridge Pier Column

COLUMN SERVICE LOADS (KIP, K-FT) AND MAXIMUM WORKING STRESSES (PSI)

YOUNG S MODULUS FOR CONCRETE - EC = 3604997. PSI
MODULAR RATIO (ES/EC) - N = 8.0

		:--- SERVICE LOADS (KIP, K-FT) ---:				:--- MAX STRESS (PSI) ---:		
		TRANS	LONG	COMB	AXIAL	CONC	STEEL	STEEL
GP	CASE	MY	MX	M	P	COMP	TEN	COMP
IH	1	5.	52.	52.	282.	1001.	0.	7199.
IH	2	5.	52.	52.	282.	1001.	0.	7199.
IH	3	4.	115.	115.	323.	1637.	760.	11182.
II		15.	49.	51.	226.	882.	0.	6190.
III	1	11.	99.	100.	226.	1370.	2370.	9079.
III	2	11.	99.	100.	226.	1370.	2370.	9079.
III	3	10.	150.	150.	259.	2117.	8515.	13382.
IV	1	11.	70.	71.	227.	1054.	0.	7241.
IV	2	11.	70.	71.	227.	1054.	0.	7241.
IV	3	10.	121.	122.	259.	1668.	3638.	10974.
V		20.	70.	73.	203.	1030.	388.	6920.
VI	1	16.	115.	116.	203.	1624.	6170.	10225.
VI	2	16.	115.	116.	203.	1624.	6170.	10225.
VI	3	15.	160.	161.	232.	2364.	13523.	14326.
DL		0.	51.	51.	284.	1001.	0.	7214.

MATCHES STAAD PRO

****
* SERVICE LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	5.	52.	52.	282.
IH	2	5.	52.	52.	282.
IH	3	4.	101.	101.	314.
II		15.	49.	51.	226.
III	1	11.	99.	100.	226.
III	2	11.	99.	100.	226.
III	3	10.	138.	139.	251.
IV	1	11.	70.	71.	227.
IV	2	11.	70.	71.	227.
IV	3	11.	110.	110.	252.
V		20.	70.	73.	203.
VI	1	16.	115.	116.	203.
VI	2	16.	115.	116.	203.
VI	3	16.	149.	150.	225.

****
* FACTORED LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	6.	67.	67.	367.
IH	2	6.	67.	67.	367.
IH	3	4.	173.	173.	435.
IP	1	6.	67.	67.	367.
IP	2	6.	67.	67.	367.
IP	3	6.	67.	67.	367.
II		24.	80.	84.	367.
III	1	17.	161.	162.	367.
III	2	17.	161.	162.	367.
III	3	16.	225.	225.	408.
IV	1	18.	114.	116.	369.
IV	2	18.	114.	116.	369.
IV	3	17.	178.	179.	409.
V		35.	122.	127.	355.
VI	1	28.	200.	202.	355.
VI	2	28.	200.	202.	355.
VI	3	27.	262.	263.	394.

```
*****************************************************************
* PROBABLE PLASTIC MOMENT (1.3 X NOMINAL MOMENT) (KIP, KIP-FT) *
*****************************************************************
```

CODE (8.16.4.4) AND MEMO TO DESIGNERS 15-10

FC = 4.00 KSI FY = 60.00 KSI
EO = 0.0030 IN/IN AST = 5.28 SQ IN

ANGLE	TRANS MPY	LONG MPX	COMB MP	AXIAL P	P-BALANCE (APPROX)
90.0	502.2	0.0	502.2	1098.3	677.
	547.0	0.0	547.0	915.2	
	569.2	0.0	569.2	732.2	
	562.3	0.0	562.3	549.3	
	513.4	0.0	513.4	366.3	
	476.8	0.0	476.8	284.3	
	426.2	0.0	426.2	183.2	
	299.7	0.0	299.7	0.1	
	226.6	0.0	226.6	-91.4	
	141.4	0.0	141.4	-182.9	

DESIGN ASSUMPTIONS:

1. ALL COLUMNS ARE THE SAME I.E., PRISMATIC, EQUAL LENGTH, EQUAL SPACING.
2. PLASTIC HINGES FORM AT THE TOP AND BOTTOM OF THE COLUMNS.
3. THE DISTANCE BETWEEN THE PLASTIC HINGES IS TAKEN AS THE COLUMN LENGTH.
4. THE OVER-TURNING FORCE ACTS THROUGH THE C.G. OF THE SUPERSTRUCTURE AT A DISTANCE 'CGS' ABOVE THE TOP OF THE COLUMN.
5. THE COLUMNS ARE NUMBERED FROM LEFT TO RIGHT AND THE OVERTURNING FORCE ACTS TO THE RIGHT.

DETERMINATION OF COLUMN LATERAL REINFORCEMENT

NUMBER OF COLUMNS IN BENT		=	6	
OUT TO OUT DISTANCE (DIAMETER) OF LATERAL REINFORCEMENT		=	20.00	IN
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO CENTER OF GRAVITY OF SUPERSTURCTURE		=	1.50	FT
CENTER TO CENTER SPACING OF COLUMNS		=	18.00	FT
COMPRESSIVE STRENGTH OF CONCRETE	- FC	=	4.00	KSI
YIELD STRENGTH OF REINFORCEMENT	- FY	=	60.00	KSI
CONCRETE GROSS AREA (2" COVER)	- AG	=	3.14	FT**2
CONCRETE CORE AREA	- AC	=	2.18	FT**2
TRANSVERSE DIRECTION	- BW	=	20.00	IN
TRANSVERSE DIRECTION	- D	=	16.00	IN
LONGITUDINAL DIRECTION	- BW	=	20.00	IN
LONGITUDINAL DIRECTION	- D	=	16.00	IN

AMOUNT OF REINFORCEMENT CONFORMS TO THE FOLLOWING BRIDGE DESIGN SPECIFICATIONS:

CASE A - CONFINEMENT REINFORCEMENT - (CODE 8.18.2.2)

```
PS1 = .45 (AG/AC - 1) FC/FY (.5 + 1.25 P/(FC * AG))
PS2 =             .12 FC/FY (.5 + 1.25 P/(FC * AG))
PS3 = .45 (AG/AC - 1) FC/FY
```

CASE B - APPLIED SHEAR REINFORCEMENT - (CODE 8.16.6)

```
VU <= PHI * VN                (8-46)
VN  = VC + VS                 (8-47)
VC  = 2 * SQRT(FC) * BW * D   (8-51)
VS  = (AV * FY * D) / S       (8-53)
```

CASE C - MINIMUM SHEAR REINFORCEMENT - (CODE 8.19.1.1)

```
AV = (50 * BW * S)/FY         (8-63)
```

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	250.	KIPS
	PLASTIC MOMENT	MP =	460.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	256.	KIPS
	PLASTIC MOMENT	MP =	463.	K-FT

DESIGN SHEAR FORCE:	VU =	71.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	37.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.916	24.000	0.01320	3
5	4.535	13.819	37.200	0.01320	3
6	6.373	19.614	52.800	0.01320	3
7	8.636	26.747	72.000	0.01320	3
8	11.293	35.217	94.800	0.01320	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 2

TOP OF COLUMN	AXIAL FORCE	P =	261.	KIPS
	PLASTIC MOMENT	MP =	466.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	267.	KIPS
	PLASTIC MOMENT	MP =	469.	K-FT

DESIGN SHEAR FORCE:	VU =	72.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	37.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.720	24.000	0.01320	3
5	4.535	13.515	37.200	0.01320	3
6	6.373	19.183	52.800	0.01320	3
7	8.636	26.159	72.000	0.01320	3
8	11.293	34.442	94.800	0.01320	3

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 3

TOP OF COLUMN	AXIAL FORCE	P =	272.	KIPS
	PLASTIC MOMENT	MP =	471.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	279.	KIPS
	PLASTIC MOMENT	MP =	474.	K-FT

DESIGN SHEAR FORCE:	VU =	73.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	38.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.538	24.000	0.01320	3
5	4.535	13.234	37.200	0.01320	3
6	6.373	18.784	52.800	0.01320	3
7	8.636	25.615	72.000	0.01320	3
8	11.293	33.726	94.800	0.01320	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 4

TOP OF COLUMN	AXIAL FORCE	P =	284.	KIPS
	PLASTIC MOMENT	MP =	476.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	290.	KIPS
	PLASTIC MOMENT	MP =	479.	K-FT

DESIGN SHEAR FORCE:	VU =	73.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	39.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.357	24.000	0.01320	3
5	4.535	12.953	37.200	0.01320	3
6	6.373	18.385	52.800	0.01320	3
7	8.636	25.070	72.000	0.01320	3
8	11.293	33.009	94.800	0.01320	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 5

TOP OF COLUMN	AXIAL FORCE	P =	295.	KIPS
	PLASTIC MOMENT	MP =	482.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	301.	KIPS
	PLASTIC MOMENT	MP =	485.	K-FT

DESIGN SHEAR FORCE:	VU =	74.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	40.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.186	24.000	0.01320	3
5	4.535	12.688	37.200	0.01320	3
6	6.373	18.009	52.800	0.01320	3
7	8.636	24.557	72.000	0.01320	3
8	11.293	32.334	94.800	0.01320	3

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 6

TOP OF COLUMN	AXIAL FORCE	P =	306.	KIPS
	PLASTIC MOMENT	MP =	487.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	312.	KIPS
	PLASTIC MOMENT	MP =	490.	K-FT

DESIGN SHEAR FORCE:	VU =	75.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	41.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.026	24.000	0.01320	3
5	4.535	12.440	37.200	0.01320	3
6	6.373	17.656	52.800	0.01320	3
7	8.636	24.077	72.000	0.01320	3
8	11.293	31.701	94.800	0.01320	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (0. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (490. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	1.0" AGG MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	4.500	107.	2.000	172.
5	4.500	147.	2.125	172.
6	4.500	172.	2.250	172.
7	4.500	172.	2.375	172.
8	4.500	172.	2.500	172.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 34. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 126. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 34. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 172. KIPS

```
**************************
* LONGITUDINAL DIRECTION *
******************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	278.	KIPS
	PLASTIC MOMENT	MP =	474.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	284.	KIPS
	PLASTIC MOMENT	MP =	477.	K-FT

DESIGN SHEAR FORCE:	VU =	73.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	34.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	39.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	2.945	8.447	24.000	0.01320	3
5	4.535	13.093	37.200	0.01320	3
6	6.373	18.583	52.800	0.01320	3
7	8.636	25.341	72.000	0.01320	3
8	11.293	33.365	94.800	0.01320	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (51. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (477. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

			1.0" AGG	
BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	4.500	107.	2.000	172.
5	4.500	147.	2.125	172.
6	4.500	172.	2.250	172.
7	4.500	172.	2.375	172.
8	4.500	172.	2.500	172.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 34. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 126. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 34. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 172. KIPS

Members 9, 12, 15, 18, 21, 24 (4) (13) & (16)

COLUMN GROUP LOADS

CONDITION I: BOT OF COLUMN Member 15, Jt16 (23) (24) (25) (26) (2) & (22)

	(1) & (2) DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY (T)	0.05				-1.15	13.83	4.36	0		9.33	4.77
MX (L)	51.37				63.63	9.80	6.77	62.66		36.30	0.30
P	284.12				40.73	0.16	0.08	0		1.19	-1.80
PMY											
PMX											
P											
IV											

MAXIMUM MOMENT FOUND UNDER LOAD COMB. No. 67

COLUMN GROUP LOADS

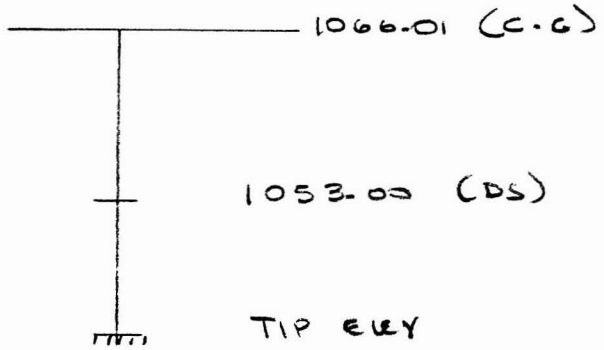
CONDITION I: BOT OF COLUMN Member

	DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY											
MX											
P											
PMY											
PMX											
P											
IV											

DRILLED SHAFT
DESIGN @ PIER

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 1 of 4
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: DRILLED SHAFTS DESIGN PIERS		CHECKED BY KMS	DATE 8/02

DESIGN FOR AXIAL LOADS



MAX REACTION AT BOTTOM OF SHAFT: 492.08^K
(MEMBER 9) (LC 31)
VALUES FOUND FROM STAAD PRO ANALYSIS.

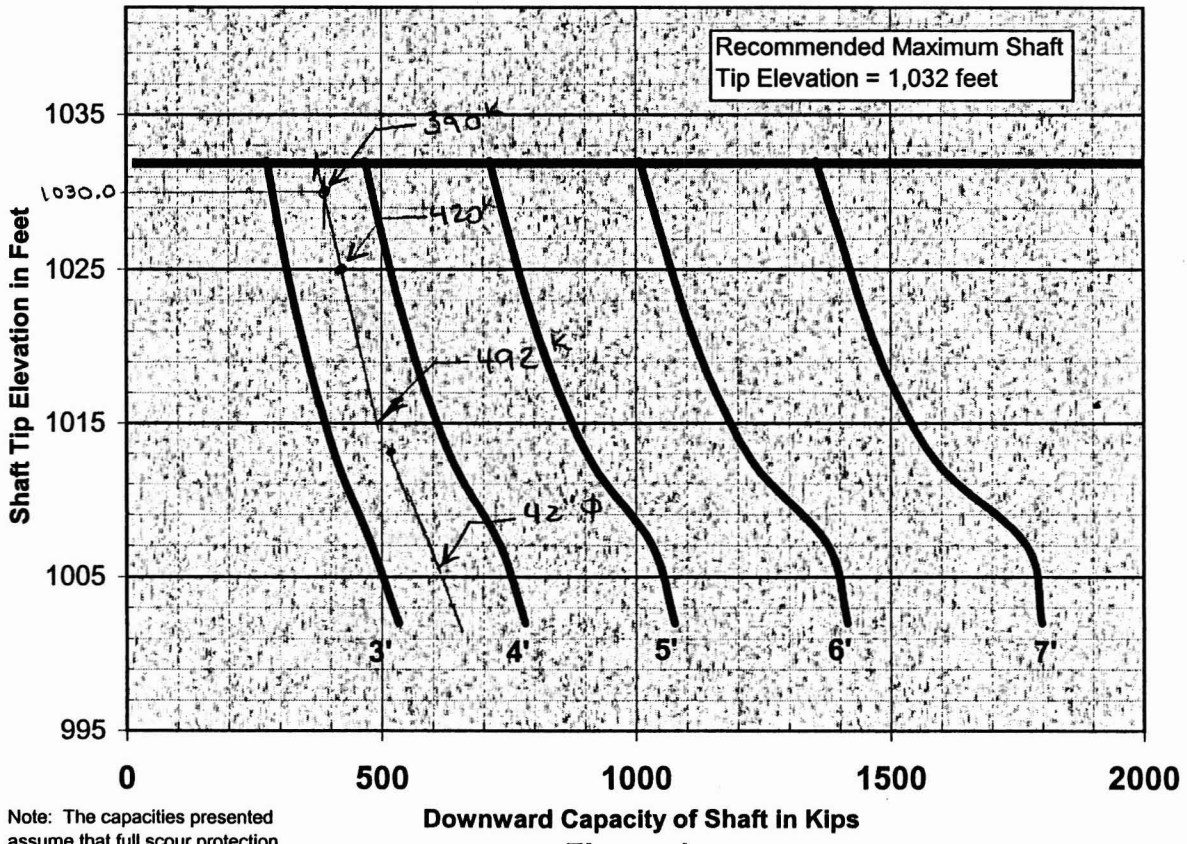
SPACING OF SHAFTS = 18'-0" = (5)(d) ∴ REDUCED CAPACITIES ARE NOT APPLICABLE.

TOP OF SHAFT ELEVATION = 1053.00
NON PLASTIC SAND FOUND AT 1036.50
RECOMMENDED MAX. SHAFT TIP ELEVATION = 1032.00 FT (PER GEOTECH REPORT)
SOIL STABILIZATION WILL BE REQUIRED. THEREFORE, USE 42"ϕ SHAFTS TO REDUCE SHAFT LENGTH.

MAX TIP ELEVATION = 1015.0 FOR AN ALLOWABLE DOWNWARD CAPACITY OF 492^K

USE 40.0 ft. TIP ELEVATION = 1013.0 CAPACITY = 505 K

Recommended Allowable Downward Capacity of Drilled Shafts - 91st Avenue Bridge



Note: The capacities presented assume that full scour protection will be provided.

Figure 4

KMS 8/02

DMJM HARRIS	PROJECT: B Hoc 91ST AVE	JOB NO. 6888	SHEET 3 of 4
		DESIGNED BY SEO	DATE MAR 02
SUBJECT: DRILLED SHAFT DESIGN - PIERS		CHECKED BY KMS	DATE 8/02

ANALYSIS

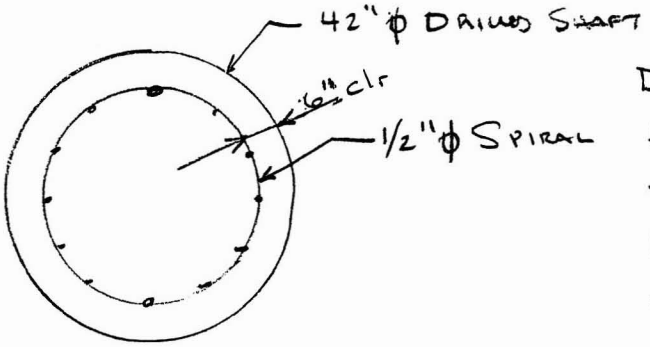
THE FRAME ANALYSIS WAS PERFORMED BY STAAD PRO AND THE LATERAL ANALYSIS IN THE SOILS WAS PERFORMED BY L-PILE.

THE DRILLED SHAFT WILL BE CHECKED WITH THE COMPUTER PROGRAM RECOL. THE DRILLED SHAFTS WILL BE PINNED AT THE TOP AND FIXED AT THE BOTTOM.

DESIGN

MIN A_s = 1%, MAX A_s = 3%.

LFD, f_y = 60,000 psi, f_c = 4000 psi



DIA OF SHAFT = 42"

AREA OF SHAFT = 1385 in²

I = 152,745 in⁴

MIN AREA OF STL = 13.85 in²

NO OF BARS = 12 ea #10 (15.24 in²)

CIRCUMFERENCE OF LONGITUDINAL BARS = π(42" − (2)(6") − (2)(0.5") − 1.27") = 87"

CENTER TO CENTER SPACING = 7.25"

CLEAR SPACING = 7.25" − 1.27" = 5.98" > (3)(1.27") = 3.81" OK

> (3)(A_{gs}) = 4.50" OK

NUMBER OF REBARS IN OUTER LOOP = 12 ea

OUTER LOOP RADIUS = (1/2)(42" − (2)(6") − (2)(0.5") − 1.27") = 13.86"

NUMBER OF SHAFTS IN BENT = 6 ea.

C TO C SPACING OF DS = 18'-0"

D.S. LENGTH = ~~28.0'~~ USE LENGTH TO POINT OF FIXITY = 13.0 ft

ACTUAL DISTRIBUTION FACTORS USED AT TOP (0.99 T & L) AND AT BOTTOM (0.00 T & L).

DUCTILITY FACTOR = 5

CENTER OF GRAVITY TO SUPERSTRUCTURE = 1.5 ft.

SECTION AND LOADS AT BOTTOM OF DS (SIMULATION FOR RECOL)

DMJM HARRIS	PROJECT: B HOC 91ST AVE	JOB NO. 6888	SHEET 4 of 4
		DESIGNED BY SED	DATE JUL 02
SUBJECT: DRILLED SHAFT DESIGN - PIERS		CHECKED BY KMS	DATE 8/02

SPLICE LENGTH (INTO COLUMN)

$L_{D\#10} = (48)(0.8)(1.4) = 54''$

SPLICE #10 = $(54'')(1.3) = 70''$. Area Stl Provided > Area Stl req.
∴ SAY 5'-0". OK. ∴ CLASS B SPLICE

SHEAR DESIGN:

$b_w = 42''$

$d = 42'' - 6'' - 0.5'' - (1/2)(1.27) = 35''$

FRAME ANALYSIS BY STAAD PRO: RESULTANT SHEAR = 5.77 K
MEMBER 16, LC 67, Jt 17

ASD, $n = 8$

$f_s = 24{,}000$ psi, $f'_c = 4000$ psi

$$v = \frac{V}{(b_w)(d)} = \frac{(5.77^K)(1000)}{(42'')(35'')} = 3.93 \text{ psi}$$

$(1/2)(V_c) = 30.04$ psi > 3.93 psi

∴ NO MIN REINF IS REQUIRED

LATERAL REINFORCING:

PROVIDE 1/2" SPIRAL @ 6" PITCH

KMS 8/02

```
*************************************************************************
*                              IAI-RECOL                                *
*                       Reinforced Column Design                        *
*                                                                       *
*                                                                       *
*                   By: Imbsen and Associates, Inc.                     *
*                     Version 3.3.1     12-OCT-99                       *
*************************************************************************
```

********** Licensed to: DMJM - Phoenix, AZ **********

91PDS1.DOC

Project Title:91st Avenue Bridge Pier Drilled Shaft

```
COLUMN TYPE                    =  9  (CIRCULAR)
CONCRETE LOOPS                 =  1
TOTAL NO. OF CONCRETE COORD.   = 40
STEEL REBAR PATTERN            =  4  (CONCENTRIC LOOPS)
NUMBER OF STEEL REBAR LOOPS    =  1
TOTAL NO. OF STEEL REBARS      = 12
PLOT TYPE                      =  0  (NO PLOT)
DESIGN TYPE                    =  2  (CHECK)
PERCENT STEEL LIMITS           =     (1.00 % MIN.  8.00 % MAX.)
```

```
*************
* BENT DATA *
*****************************************************************************

NUMBER OF COLUMNS IN BENT                    =     6
OUT TO OUT DISTANCE (DIAMETER) OF SPIRAL     = 30.00 INCHES
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO
CENTER OF GRAVITY OF THE SUPERSTRUCTURE      =  1.50 FEET
CENTER TO CENTER SPACING OF COLUMNS          = 18.00 FEET
```

```
******************************
* MATERIAL PROPERTIES  (PSI) *
*****************************************************************************

ULTIMATE CONCRETE COMPRESSIVE STRESS - FC =     4000.
YOUNG'S MODULUS FOR CONCRETE         - EC =  3604997.
YOUNG'S MODULUS FOR STEEL BARS       - ES = 29000000.
ULTIMATE CONCRETE COMPRESSIVE STRAIN - EO =      .003
YIELDING STRESS FOR STEEL BARS       - FY =    60000.
```

CIRCULAR CROSS-SECTION

HX(IN)
42.00

CONCRETE COORDINATES (INCHES)

COORD	X	Y
1	21.00	0.00
2	20.74	3.29
3	19.97	6.49
4	18.71	9.53
5	16.99	12.34
6	14.85	14.85
7	12.34	16.99
8	9.53	18.71
9	6.49	19.97
10	3.29	20.74
11	0.00	21.00
12	-3.29	20.74
13	-6.49	19.97
14	-9.53	18.71
15	-12.34	16.99
16	-14.85	14.85
17	-16.99	12.34
18	-18.71	9.53
19	-19.97	6.49
20	-20.74	3.29
21	-21.00	0.00
22	-20.74	-3.29
23	-19.97	-6.49
24	-18.71	-9.53
25	-16.99	-12.34
26	-14.85	-14.85
27	-12.34	-16.99
28	-9.53	-18.71
29	-6.49	-19.97
30	-3.29	-20.74
31	0.00	-21.00
32	3.29	-20.74
33	6.49	-19.97
34	9.53	-18.71
35	12.34	-16.99
36	14.85	-14.85
37	16.99	-12.34
38	18.71	-9.53
39	19.97	-6.49
40	20.74	-3.29

CONCENTRIC CIRCLE PATTERN

LOOP	RADIUS (IN)	AREA (IN**2)	BARS
1	13.86	1.27	12

STEEL REBAR COORDINATES (INCHES)

COORD	X	Y
1	13.86	0.00
2	12.00	6.93
3	6.93	12.00
4	0.00	13.86
5	-6.93	12.00
6	-12.00	6.93
7	-13.86	0.00
8	-12.00	-6.93
9	-6.93	-12.00
10	0.00	-13.86
11	6.93	-12.00
12	12.00	-6.93

THE MAIN LONGITUDINAL STEEL IS ASSUMED TO BE # 10 BARS.

***WARNING: THE CONCRETE COVER IS GREATER THAN 2 INCHES IN THE X-DIRECTION

***WARNING: THE CONCRETE COVER IS GREATER THAN 2 INCHES IN THE Y-DIRECTION

```
**************************
* INITIAL REFERENCE DATA *
**************************************************************************

TOTAL AREA OF THE SECTION                AG =      9.58 FT**2
NOMINAL AXIAL LOAD STRENGTH              PO =   5553.74 KIPS
TOTAL REINFORCEMENT AREA                AST =     15.24 IN**2
PERCENT STEEL                               =      1.10 %

GROSS MOMENT OF INERTIA ABOUT Y-AXIS   IYC =      7.31 FT**4
GROSS MOMENT OF INERTIA ABOUT X-AXIS   IXC =      7.31 FT**4

STEEL MOMENT OF INERTIA ABOUT Y-AXIS   IYS =    0.0706 FT**4
STEEL MOMENT OF INERTIA ABOUT X-AXIS   IXS =    0.0706 FT**4
```

****
* COLUMN LOAD DATA (KIP, KIP-FT) *
****

LOAD NAME: bottom of ds pier
FOOTING DATA FILE: NO
TYPE FOOTING:

SEISMIC ANALYSIS SPECIFICATIONS:
DESIGN CRITERIA PERFORMANCE CATEGORY
(SDC) (SPC)
CAL

MOMENT DISTRIBUTION FACT :---TOP---:		:---BOTTOM---:		PERCENT IMPACT	COLUMN LENGTH (FEET)	STEEL TIE=1 SPIRAL=0	LOCATION TOP=1 BOTTOM=0	DUCTILITY FACTOR (Z)
DAY	DAX	DBY	DBX					
0.00	0.00	0.00	0.00	30.00	13.00	0	0	5.00

COLUMN GROUP LOADS - SERVICE (KIP, KIP-FT)

				:---- LL+IMPACT ---: CASE 1	CASE 2	CASE 3					
	DEAD LOAD	PRE STRESS	TRANS MY-MAX	LONG MX-MAX	AXIAL N-MAX	WIND	WL	LF	CF-MY	TEMP	SF& BY
MY	0.	0.	0.	0.	-11.	47.	14.	0.	0.	32.	22.
MX	51.	0.	0.	0.	67.	17.	11.	105.	0.	72.	0.
P	302.	0.	0.	0.	40.	0.	0.	0.	0.	-1.	-1.
PMY			0.	0.	0.				0.		
PMX			0.	0.	0.				0.		
P			0.	0.	0.				0.		

COLUMN SEISMIC AND ARBITRARY LOADS (KIP, KIP-FT)

(ARS)	UNREDUCED SEISMIC CASE 1 MAX TRAN	CASE 2 MAX LONG	ARBITRARY LOADS SERVICE AL1	SERVICE AL2	ARBITRARY LOADS FACTORED AL1	FACTORED AL2
MY TRAN	0.	0.	0.	0.	0.	0.
MX LONG	0.	0.	0.	0.	0.	0.
P AXIAL	0.	0.	0.	0.	0.	0.

****
* FACTORED LOADS FOR COLUMN DESIGN CHECK (KIP, KIP-FT) *
****

APPLIED FACTORED MOMENTS ARE MAGNIFIED FOR SLENDERNESS IN ACCORDANCE WITH CALTRANS BRIDGE DESIGN SPECIFICATIONS. (ART 8.16.5)

LENGTH = 13.000 FT FC = 4.00 KSI FY = 60.00 KSI
STEEL = 1.10 % AST = 15.24 SQ IN

		:------ APPLIED FACTORED ------:				CAPACITY			
GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P	(PHI*MN) MU	PHI	RATIO MU/M	
IH	1	45.	52.	69.	293.	1198.	0.82	17.39	OK
IH	2	45.	52.	69.	293.	1198.	0.82	17.39	OK
IH	3	74.	215.	227.	480.	1285.	0.77	5.65	OK
IP	1	45.	52.	69.	293.	1198.	0.82	17.39	OK
IP	2	45.	52.	69.	293.	1198.	0.82	17.39	OK
IP	3	61.	69.	92.	391.	1245.	0.79	13.59	OK
II		92.	75.	119.	293.	1199.	0.82	10.09	OK
III	1	68.	210.	221.	293.	1197.	0.82	5.41	OK
III	2	68.	210.	221.	293.	1197.	0.82	5.41	OK
III	3	69.	315.	322.	444.	1269.	0.78	3.94	OK
IV	1	72.	146.	163.	291.	1201.	0.82	7.37	OK
IV	2	72.	146.	163.	291.	1201.	0.82	7.37	OK
IV	3	69.	251.	260.	443.	1268.	0.78	4.88	OK
V		129.	163.	208.	280.	1193.	0.82	5.75	OK ✓
VI	1	106.	293.	312.	280.	1192.	0.82	3.83	OK
VI	2	106.	293.	312.	280.	1192.	0.82	3.83	OK
VI	3	91.	394.	404.	426.	1261.	0.78	3.12	OK
VII	1	47.	52.	70.	303.	1520.	1.09	21.72	OK
VII	2	47.	52.	70.	303.	1520.	1.09	21.72	OK

NOTE: FOR CALTRANS AND SPC-C AND SPC-D ONLY THE UNREDUCED SEISMIC MOMENTS ARE REDUCED BY THE Z OR R FACTOR. FOR SPC-B BOTH THE UNREDUCED SEISMIC AXIAL AND MOMENTS ARE REDUCED BY THE Z OR R FACTOR.

Project Title:91st Avenue Bridge Pier Drilled Shaft

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*************************************************
* MOMENT MAGNIFICATION AND BUCKLING CALCULATIONS *
*************************************************************************
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REFERENCE: "CALTRANS BRIDGE DESIGN SPECIFICATIONS" (ART 8.16.5)
(COLUMN ASSUMED TO BE UNBRACED AGAINST SIDESWAY.)

MAGY = MOMENT MAGNIFACTION FACTOR ABOUT Y-AXIS
MAGX = MOMENT MAGNIFACTION FACTOR ABOUT X-AXIS

PCY = CRITICAL BUCKLING LOAD ABOUT Y-AXIS
PCX = CRITICAL BUCKLING LOAD ABOUT X-AXIS

KY = EFFECTIVE LENGTH FACTOR ABOUT Y-AXIS = 1.00
KX = EFFECTIVE LENGTH FACTOR ABOUT X-AXIS = 1.00

KY*L/R = SLENDERNESS RATIO ABOUT Y-AXIS = 15.
KX*L/R = SLENDERNESS RATIO ABOUT X-AXIS = 15.

IYS = STEEL MOMENT OF INERTIA ABOUT Y-AXIS = 0.0706 FT**4
IXS = STEEL MOMENT OF INERTIA ABOUT X-AXIS = 0.0706 FT**4

		MOMENT			CRACKED		CRITICAL		
		:-MAGNIFICATION-:			--TRANSFORMED SECTION--		:-----BUCKLING----:		AXIAL
GR	CA	TRAN MAGY	LONG MAGX	COMB MAG	E*IY	E*IX	TRAN PCY	LONG PCX	LOAD P
					(KIP-FT**2)	(KIP-FT**2)	(KIPS)	(KIPS)	(KIPS)
IH	1	1.000	1.000	1.000	1950292.	1006094.	113897.	58756.	275.
IH	2	1.000	1.000	1.000	1950292.	1006094.	113897.	58756.	275.
IH	3	1.000	1.000	1.000	1726317.	1513289.	100817.	88376.	455.
IP	1	1.000	1.000	1.000	1950292.	1006094.	113897.	58756.	275.
IP	2	1.000	1.000	1.000	1950292.	1006094.	113897.	58756.	275.
IP	3	1.000	1.000	1.000	1938138.	1003185.	113187.	58586.	367.
II		1.000	1.000	1.000	1975937.	1188050.	115395.	69382.	275.
III	1	1.000	1.000	1.000	1971521.	1603127.	115137.	93623.	275.
III	2	1.000	1.000	1.000	1971521.	1603127.	115137.	93623.	275.
III	3	1.000	1.000	1.000	1959566.	1637802.	114439.	95648.	420.
IV	1	1.000	1.000	1.000	1972387.	1477592.	115187.	86291.	273.
IV	2	1.000	1.000	1.000	1972387.	1477592.	115187.	86291.	273.
IV	3	1.000	1.000	1.000	1961408.	1567128.	114546.	91520.	418.
V		1.000	1.000	1.000	1979900.	1531624.	115626.	89447.	262.
VI	1	1.000	1.000	1.000	1978003.	1705606.	115515.	99607.	262.
VI	2	1.000	1.000	1.000	1978003.	1705606.	115515.	99607.	262.
VI	3	1.000	1.000	1.000	1972245.	1707324.	115179.	99708.	402.
VII	1	1.000	1.000	1.000	994353.	994353.	58070.	58070.	279.
VII	2	1.000	1.000	1.000	994353.	994353.	58070.	58070.	279.

Project Title:91st Avenue Bridge Pier Drilled Shaft

COLUMN SERVICE LOADS (KIP, K-FT) AND MAXIMUM WORKING STRESSES (PSI)

YOUNG S MODULUS FOR CONCRETE - EC = 3604997. PSI
MODULAR RATIO (ES/EC) - N = 8.0

		:--- SERVICE LOADS (KIP, K-FT) ---:			:--- MAX STRESS (PSI) ---:			
GP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P	CONC COMP	STEEL TEN	STEEL COMP
IH	1	23.	53.	58.	301.	292.	0.	2103.
IH	2	23.	53.	58.	301.	292.	0.	2103.
IH	3	12.	120.	121.	342.	418.	0.	2843.
II		57.	57.	80.	241.	287.	0.	1944.
III	1	42.	140.	146.	241.	398.	0.	2511.
III	2	42.	140.	146.	241.	398.	0.	2511.
III	3	33.	194.	197.	274.	520.	458.	3199.
IV	1	44.	100.	110.	240.	332.	0.	2200.
IV	2	44.	100.	110.	240.	332.	0.	2200.
IV	3	35.	154.	158.	272.	435.	0.	2776.
V		74.	102.	126.	214.	346.	0.	2221.
VI	1	61.	177.	187.	214.	497.	1128.	2904.
VI	2	61.	177.	187.	214.	497.	1128.	2904.
VI	3	52.	225.	231.	243.	623.	1853.	3530.
DL		1.	52.	52.	303.	284.	0.	2067.

≈ Results From STAAD Pro

****
* SERVICE LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	23.	53.	58.	301.
IH	2	23.	53.	58.	301.
IH	3	14.	105.	106.	332.
II		57.	57.	80.	241.
III	1	42.	140.	146.	241.
III	2	42.	140.	146.	241.
III	3	35.	181.	185.	266.
IV	1	44.	100.	110.	240.
IV	2	44.	100.	110.	240.
IV	3	37.	142.	147.	265.
V		74.	102.	126.	214.
VI	1	61.	177.	187.	214.
VI	2	61.	177.	187.	214.
VI	3	54.	214.	221.	237.

****
* FACTORED LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	30.	69.	75.	391.
IH	2	30.	69.	75.	391.
IH	3	11.	181.	181.	459.
IP	1	30.	69.	75.	391.
IP	2	30.	69.	75.	391.
IP	3	30.	69.	75.	391.
II		92.	92.	130.	392.
III	1	68.	227.	237.	392.
III	2	68.	227.	237.	392.
III	3	57.	295.	300.	432.
IV	1	72.	163.	178.	390.
IV	2	72.	163.	178.	390.
IV	3	60.	231.	238.	431.
V		129.	179.	221.	375.
VI	1	106.	309.	327.	375.
VI	2	106.	309.	327.	375.
VI	3	95.	374.	386.	414.

```
*****************************************************************
* PROBABLE PLASTIC MOMENT (1.3 X NOMINAL MOMENT) (KIP, KIP-FT) *
*****************************************************************
```

CODE (8.16.4.4) AND MEMO TO DESIGNERS 15-10

FC = 4.00 KSI FY = 60.00 KSI
EO = 0.0030 IN/IN AST = 15.24 SQ IN

ANGLE	TRANS MPY	LONG MPX	COMB MP	AXIAL P	P-BALANCE (APPROX)
90.0	2569.9	0.0	2569.9	3331.9	2054.
	2770.1	0.0	2770.1	2776.4	
	2844.9	0.0	2844.9	2221.2	
	2809.2	0.0	2809.2	1666.6	
	2561.7	0.0	2561.7	1111.2	
	2108.5	0.0	2108.5	555.7	
	1841.3	0.0	1841.3	303.3	
	1471.9	0.0	1471.9	0.5	
	1095.8	0.0	1095.8	-277.3	
	671.2	0.0	671.2	-554.8	

DESIGN ASSUMPTIONS:

1. ALL COLUMNS ARE THE SAME I.E., PRISMATIC, EQUAL LENGTH, EQUAL SPACING.
2. PLASTIC HINGES FORM AT THE TOP AND BOTTOM OF THE COLUMNS.
3. THE DISTANCE BETWEEN THE PLASTIC HINGES IS TAKEN AS THE COLUMN LENGTH.
4. THE OVER-TURNING FORCE ACTS THROUGH THE C.G. OF THE SUPERSTRUCTURE AT A DISTANCE 'CGS' ABOVE THE TOP OF THE COLUMN.
5. THE COLUMNS ARE NUMBERED FROM LEFT TO RIGHT AND THE OVERTURNING FORCE ACTS TO THE RIGHT.

DETERMINATION OF COLUMN LATERAL REINFORCEMENT

NUMBER OF COLUMNS IN BENT		=	6	
OUT TO OUT DISTANCE (DIAMETER) OF LATERAL REINFORCEMENT		=	30.00	IN
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO CENTER OF GRAVITY OF SUPERSTURCTURE		=	1.50	FT
CENTER TO CENTER SPACING OF COLUMNS		=	18.00	FT
COMPRESSIVE STRENGTH OF CONCRETE	- FC	=	4.00	KSI
YIELD STRENGTH OF REINFORCEMENT	- FY	=	60.00	KSI
CONCRETE GROSS AREA (2" COVER)	- AG	=	6.31	FT**2
CONCRETE CORE AREA	- AC	=	4.91	FT**2
TRANSVERSE DIRECTION	- BW	=	30.00	IN
TRANSVERSE DIRECTION	- D	=	24.00	IN
LONGITUDINAL DIRECTION	- BW	=	30.00	IN
LONGITUDINAL DIRECTION	- D	=	24.00	IN

AMOUNT OF REINFORCEMENT CONFORMS TO THE FOLLOWING BRIDGE DESIGN SPECIFICATIONS:

CASE A - CONFINEMENT REINFORCEMENT - (CODE 8.18.2.2)

```
PS1 = .45 (AG/AC - 1) FC/FY (.5 + 1.25 P/(FC * AG))
PS2 =             .12 FC/FY (.5 + 1.25 P/(FC * AG))
PS3 = .45 (AG/AC - 1) FC/FY
```

CASE B - APPLIED SHEAR REINFORCEMENT - (CODE 8.16.6)

```
VU <= PHI * VN                (8-46)
VN  = VC + VS                 (8-47)
VC  = 2 * SQRT(FC) * BW * D   (8-51)
VS  = (AV * FY * D) / S       (8-53)
```

CASE C - MINIMUM SHEAR REINFORCEMENT - (CODE 8.19.1.1)

```
AV = (50 * BW * S)/FY         (8-63)
```

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	177.	KIPS
	PLASTIC MOMENT	MP =	1694.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	196.	KIPS
	PLASTIC MOMENT	MP =	1717.	K-FT

DESIGN SHEAR FORCE:	VU =	262.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	49.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	214.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.290	16.000	0.00853	3
5	4.732	3.550	24.800	0.00853	3
6	6.673	5.039	35.200	0.00853	3
7	9.063	6.871	48.000	0.00853	3
8	11.879	9.047	63.200	0.00853	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 2

TOP OF COLUMN	AXIAL FORCE	P =	220.	KIPS
	PLASTIC MOMENT	MP =	1745.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	239.	KIPS
	PLASTIC MOMENT	MP =	1767.	K-FT

DESIGN SHEAR FORCE:	VU =	270.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	60.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	210.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.333	16.000	0.00853	3
5	4.732	3.616	24.800	0.00853	3
6	6.673	5.132	35.200	0.00853	3
7	9.063	6.998	48.000	0.00853	3
8	11.879	9.214	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 3

TOP OF COLUMN	AXIAL FORCE	P =	263.	KIPS
	PLASTIC MOMENT	MP =	1795.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	282.	KIPS
	PLASTIC MOMENT	MP =	1816.	K-FT

DESIGN SHEAR FORCE:	VU =	278.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	72.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	206.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.378	16.000	0.00853	3
5	4.732	3.687	24.800	0.00853	3
6	6.673	5.233	35.200	0.00853	3
7	9.063	7.135	48.000	0.00853	3
8	11.879	9.395	63.200	0.00853	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 4

TOP OF COLUMN	AXIAL FORCE	P =	305.	KIPS
	PLASTIC MOMENT	MP =	1844.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	324.	KIPS
	PLASTIC MOMENT	MP =	1865.	K-FT

DESIGN SHEAR FORCE:	VU =	285.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	77.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	208.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.355	16.000	0.00853	3
5	4.732	3.651	24.800	0.00853	3
6	6.673	5.182	35.200	0.00853	3
7	9.063	7.066	48.000	0.00853	3
8	11.879	9.304	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 5

TOP OF COLUMN	AXIAL FORCE	P =	348.	KIPS
	PLASTIC MOMENT	MP =	1892.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	367.	KIPS
	PLASTIC MOMENT	MP =	1912.	K-FT

DESIGN SHEAR FORCE:	VU =	293.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	77.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	215.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.275	16.000	0.00853	3
5	4.732	3.527	24.800	0.00853	3
6	6.673	5.006	35.200	0.00853	3
7	9.063	6.826	48.000	0.00853	3
8	11.879	8.987	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 6

TOP OF COLUMN	AXIAL FORCE	P =	391.	KIPS
	PLASTIC MOMENT	MP =	1938.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	410.	KIPS
	PLASTIC MOMENT	MP =	1958.	K-FT

DESIGN SHEAR FORCE:	VU =	300.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	77.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	222.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.202	16.000	0.00853	3
5	4.732	3.413	24.800	0.00853	3
6	6.673	4.845	35.200	0.00853	3
7	9.063	6.606	48.000	0.00853	3
8	11.879	8.699	63.200	0.00853	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (1. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (1958. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	1.0" AGG MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	7.620	142.	2.000	322.
5	7.620	177.	2.125	387.
6	7.620	219.	2.250	387.
7	7.620	270.	2.375	387.
8	7.620	331.	2.500	387.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 77. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 283. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 77. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 387. KIPS

```
*************************
* LONGITUDINAL DIRECTION *
*************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	284.	KIPS
	PLASTIC MOMENT	MP =	1820.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	303.	KIPS
	PLASTIC MOMENT	MP =	1841.	K-FT

DESIGN SHEAR FORCE:	VU =	282.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	77.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	204.	KIPS

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	2.398	16.000	0.00853	3
5	4.732	3.717	24.800	0.00853	3
6	6.673	5.276	35.200	0.00853	3
7	9.063	7.195	48.000	0.00853	3
8	11.879	9.473	63.200	0.00853	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (52. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (1841. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

		1.0" AGG		
BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	7.620	142.	2.000	322.
5	7.620	177.	2.125	387.
6	7.620	219.	2.250	387.
7	7.620	270.	2.375	387.
8	7.620	331.	2.500	387.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 77. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 283. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 77. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 387. KIPS

MEMBERS 10, 13, 16, 19, 22 & 25

COLUMN GROUP LOADS (4) (15) & (16)

CONDITION I: BOT OF DS Member 16, & 17 (23) (24) (25) (26) (21) & (22)

	(1) (2) & (3) DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY (T)	0.61				-11.62	47.57	14.99	0.00		32.07	22.77
MX (L)	51.89				67.41	17.90	11.33	105.26		72.66	0.93
P	302.84				40.73	0.16	0.08	0.00		-1.19	-1.80
PMY											
PMX											
P											
IV											

LOADING TAKEN AT BOTTOM OF DS - CONSERVATIVE

COLUMN GROUP LOADS

CONDITION I: BOT OF DS Member

	DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY											
MX											
P											
PMY											
PMX											
P											
IV											

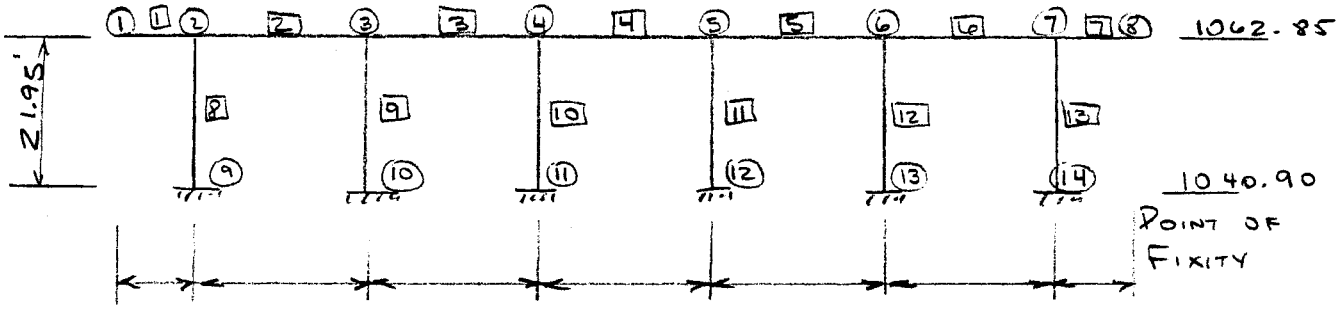
ABUTMENT
DESIGN

DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 1 of 15
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: ABUTMENT DESIGN		CHECKED BY KMS	DATE 8/02

SCOUR PROTECTION WILL BE PROVIDED, THEREBY, ELIMINATING THE ANALYSIS FOR SCOUR CONDITIONS.

ABUTMENT DESIGN. ABUTMENT CAP ANALYSIS PERFORMED BY STAAD PRO.
LONGITUDINAL FRAME ANALYSIS PERFORMED BY BDS.

DRILLED SHAFTS TO FIXITY: $[1064.85 - (1/2)(4.0') - (5.87)(3.5')] = 1042.30$



SECTION PROPERTIES

$A_{CAP} = (4'\text{-}6")(4'\text{-}0") = 18.0\ ft^2$

$I_{CAP\ z\text{-}z} = (4'\text{-}6")(4'\text{-}0")^3(1/12) = 24.0\ ft^4$

$I_{CAP\ y\text{-}y} = (4'\text{-}0")(4'\text{-}6")^3(1/12) = 30.38\ ft^4$

$A_{DS} = (\pi/4)(3'\text{-}6")^2 = 9.62\ ft^2$, $I_{DS} = (\pi/64)(3'\text{-}6")^4 = 7.37\ ft^4$

$I_{DS,\ CRACKED} = (I_{DS})(0.5) = (0.5)(7.37\ ft^4) = 3.69\ ft^4$

$E = (57{,}000)(4000\ psi)^{1/2} = 3{,}604{,}997\ psi$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 2 of 15
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: ABUTMENT DESIGN - DESIGN LOADS		CHECKED BY KMS	DATE 8/02

1. DEAD LOADS

DEAD LOADS FROM SUPERSTRUCTURE

SHEARS

MEMBERS 1 & 7: 2'-0" DECK (730.2 K)(1/106.46 ft) = 6.86 K/ft

SWLK + Parapet (3.7 K)(1121/1736) = 2.39 K/ft

9.25 K/ft ↓

MEMBERS 2~6: 2'-0" DECK 6.86 K/ft ↓

DEAD LOAD FROM SUBSTRUCTURE

P_{DL-CAP} (4.0 ft)(4'-6")(0.15 KCF) 2.70 K/ft ↓

✓ P_y WINGWALL (51.1 K)(1/4 ft) = 12.78 K/ft 51.1 K ↓

✓ P_x WINGWALL 19.8 K →x

✓ M_x 300.2 K-ft ↻x

✓ M_z 76.8 K ↻z

✓ M_y 235.1 K-ft ↻y

$P_{DL\ APP\ SLAB}$ (15'-0")(1/2)(1.0 ft)(0.15 KCF) 1.05 K/ft ↓

$M_{x\ APP\ SLAB}$ (1.05 K)(1.71 ft) = 1.80 K-ft ↻x

2. P_{DL-DS} : (9.62 ft²)(0.15 KCF) 1.44 K/ft ↓

3. LIVE LOADS - PEDESTRIAN TRAFFIC

MEMBERS 1 & 7: Ped Traffic (3.7 K)(615/1736) = 1.31 K/ft ↓

4 & 5 LIVE LOADS - MAXIMUM AXIAL

MEMBERS 2~6:

$HS20^+_P$ (344.8 K)(1/90.0 ft)(1/1.30) = 2.95 K/ft ↓

$HS20^+_{IMPACT\ P}$ 0.88 K/ft ↓

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 3 of 15
		DESIGNED BY SRD	DATE 4/02
SUBJECT: ABUTMENT DESIGN		CHECKED BY KMS	DATE 8/02

6 & 7 LL FOR MAXIMUM POSITIVE MOMENT ON ABUT CAP MEMBERS 3 & 5

$HS20^+_P$ $(2.95K)(1/0.75) =$ $3.93^K \downarrow$

$HS20^+_{IMPACT}$ $(0.88K)(1/0.75) =$ $1.17^K \downarrow$

8 & 9 LL FOR MAXIMUM NEGATIVE MOMENT ON ABUT CAP MEMBERS 2, 3, 5, 6

$HS20^+_P$ $=$ $3.93^K \downarrow$

$HS20^+_{IMPACT\,P}$ $=$ $1.17^K \downarrow$

11. WIND ON STRUCTURE, V_W

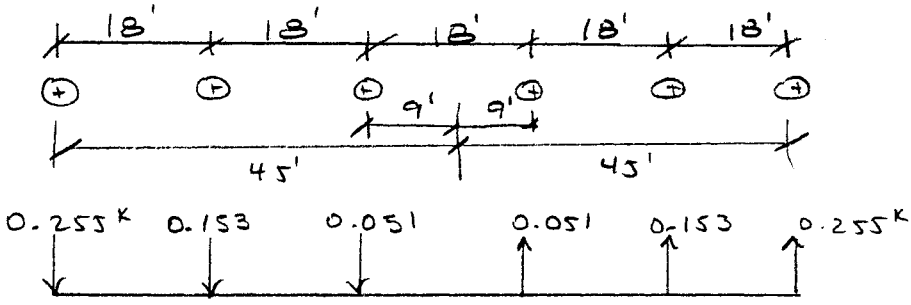
$$V_W = \left(\frac{4}{3}\right)(50lb/ft^2 + 12lb/ft^2)(44.0ft)(6.33ft)(1/2000)(1/106.46') = 0.0649 K/ft$$

OR $V_{W_X} = 0.0523\ K/ft \xrightarrow{x}$, $V_{W_Z} = 0.01258\ K/ft \xrightarrow{z}$

$h = (1'\text{-}6'')$ Railing + $3'\text{-}0''$ parapet + $1'\text{-}10''$ deck $= 6'\text{-}4''$

THE FORCE V_{WX} ACTS AT A DISTANCE OF $1'\text{-}4''$ ABOVE THE DECK AND WILL EXERT A MOMENT AROUND THE C.G. OF THE ABUT CAP OF:

$$M_{WZ} = [(1'\text{-}4'' + 2.44' \text{Avg} + (1/2)(4'\text{-}0'')](5.57K) = 32.16\ K\text{-}ft\ \overset{z}{\circlearrowleft}$$



$$I_{DS} = (6)(\pi)(3.5)^4(1/64) + [(2)(\pi)(3.5)^2(1/4)(9')^2 + (2)(\pi)(3.5)^2(1/4)(27)^2 + (2)(\pi)(3.5)^2(1/4)(45')^2]$$

$I_{DS} = 54{,}597\ ft^4$

$$\sigma = \frac{MC}{I} = \frac{(32.16\ K\text{-}ft)(45.0ft)}{54{,}597\ ft^4} = 0.0265\ ksf$$

$P_1 = (\sigma_1)(A) = (0.0265\ ksf)(\pi)(3.5')^2(1/4) = 0.255^K \downarrow$, $P_6 = 0.255K \uparrow$

$$M_{WX} = (0.01258K)[1'\text{-}4'' + 2.44' \text{Avg} + (1/2)(4'\text{-}0'')] = 0.073\ K\text{-}ft/ft\ \overset{x}{\circlearrowleft}$$

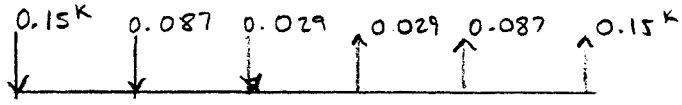
DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 4 of 15
		DESIGNED BY SEO	DATE 1/4/02
SUBJECT: ABUTMENT DESIGN		CHECKED BY KMS	DATE 8/02

12 WIND LOAD ON LIVE LOAD, V_{WL}

$$V_{WL} = (4/10)(100\,lb/ft + 40\,lb/ft)(44'0")(1/1000)(1/90.00\,ft) = 0.027\,K/ft$$

OR $V_{WL\,x} = 0.0196\,K \xrightarrow{x}$, $V_{WL\,z} = 0.0074\,K \xrightarrow{z}$

THE FORCE ACTS AT A DISTANCE OF 6.0 ft ABOVE THE DECK CAUSING A MOMENT OF $[6.0 + 2.44'\,Avg + (1/2)(4'0")](1.764\,K) = 18.42\,K\text{-}ft$



$P_1 = 0.15K \downarrow$, $P_6 = 0.15\,K \uparrow$

$$M_{WL\,x} = (0.0074\,K/ft)(6' + 2.44' + 2.0') = 0.077\,K\text{-}ft \; \circlearrowright x$$

13 LONGITUDINAL FORCE FROM LIVE LOAD, LF

$$V_{LF\,z} = (4/10)(0.05)(5\text{ Lanes})(1.00)[(640\,lb/ft)(44'0") + 18{,}000\,lb](1/1000)(1/90.0')$$

$$V_{LF\,z} = 0.0513\,K/ft \xrightarrow{z}$$

THIS FORCE ACTS AT A DISTANCE OF 6.0 ft ABOVE THE DECK CAUSING A MOMENT AROUND THE X-AXIS OF

$$M_{LF\,x} = (4.62\,K)(6.0 + 2.44'\,Avg + (1/2)(4'0"))(1/90.0\,ft) = 0.536\,K\text{-}ft/ft$$

10 EARTH PRESSURE

$$P = (\tfrac{1}{2})(35\,pcf)(7.0\,ft)^2 = 0.86\,K/ft \xrightarrow{z}$$

$$M = (0.86\,K/ft)(0.33\,ft) = 0.29\,K\text{-}ft/ft \; \circlearrowright x$$

$$arm = (7.0\,ft + 1)(1/3) - (4.0\,ft)(0.5) = 0.33\,ft$$

DMJM HARRIS	PROJECT: B Hoc 91ST Ave Bridge	JOB NO. 6888	SHEET 5 of 15
		DESIGNED BY SED	DATE Jul 02
SUBJECT: Abutment Design		CHECKED BY KMS	DATE 8/02

14. R+S+T

$V_{R+S+T} = (187,294\ \#)(1/1000)(1/106.96\ ft) = 1.75\ K/ft \xrightarrow{z}$

Note: Agrees w/ L-Pile calculated shear to move column 0.35"

R+S+T Along length of Cap (Transverse)

Movement at D.S. (Based on full temperature range of 40°F).

#1 = 0.0198 ft , #2 = 0.0119 ft , #3 = 0.004 ft

STAAD Pro will perform analysis.

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE - ABUT 1	JOB NO. 6888	SHEET 6 of 15
		DESIGNED BY SED	DATE JULY 02
SUBJECT: ABUT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

DESIGN

ASD, $f'_c = 4000$ psi, $n = 8$, $f_c = 1600$ psi

$f_y = 60{,}000$ psi $\qquad f_s = 24{,}000$ psi

MOMENTS AND SHEARS OVER SUPPORTS

$V_y = 215.72^K$, $V_z = 26.28^K$

$M_z^- = 1093.17^{K\text{-}ft}$ @ end support or $421.94^{K\text{-}ft}$ @ intermediate support

$M_z^+ = 291.27^{K\text{-}ft}$, $M_y = 266.02^{K\text{-}ft}$

TORSION = $315.46^{K\text{-}ft}$ @ end support or $102.53^{K\text{-}ft}$ @ intermediate supp

MOMENTS AND SHEARS CAN BE REDUCED TO THE FACE OF THE SUPPORT. THESE ARE:

$V_y = 185.93^K$, $V_z = 23.13^{K\text{-}ft}$

$M_z^- = 791.44^{K\text{-}ft}$ @ end support. or $269.72^{K\text{-}ft}$ @ intermediate support

$M_z^+ = 291.27^{K\text{-}ft}$, $M_y = 255.89^{K\text{-}ft}$

DMJM HARRIS	PROJECT: B Hoc 91ST AVE BRIDGE - ABUT 1	JOB NO. 6883	SHEET 7 of 15
		DESIGNED BY S ED	DATE JUL 02
SUBJECT: ABUT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

TORSION (ACI 11.6.1) (DESIGN FOR MEMBERS 1 & 7)

$T_{u\,factored} = 315.46$ K-ft ∴ PROVIDE TORSIONAL STEEL

TORSIONAL MOMENT STRENGTH:

$$\sqrt{\left[\frac{V_u}{(b_w)(d)}\right]^2 + \left[\frac{(T_u)(P_h)}{(1.7)(A_{oh}^2)}\right]^2} \le \phi\left[\frac{V_c}{(b_w)(d)} + 8\sqrt{f'_c}\right]$$

$A_{oh} = (50.38")(40.88") = 2060 \text{ in}^2$

$P_h = (40.88" + 50.38")(2 \text{ ea}) = 182.52"$

$V_u = 215.72^k$

$b_w = 54"$, $d = 48" - 2\tfrac{1}{2}" - 0.625 - 1.27" - (\tfrac{1}{2})(1.0") = 43.10"$

$V_c = (0.95)(4000)^{1/2} = 60.08$ psi

$\phi = 0.55$ (ACI APPENDIX A)

$$\sqrt{\left[\frac{(215.72^k)(1000)}{(54")(43.10")}\right]^2 + \left[\frac{(315.46 \text{ K-ft})(12000)(182.52")}{(1.7)(2060 \text{ in}^2)^2}\right]^2} \le 0.55\left[\frac{60.08}{(54")(43.10")} + (8)(4000)^{1/2}\right]$$

133.3 psi ≤ 278 psi ∴ CROSS SECTIONAL DIMENSIONS SEC

TRANSVERSE REINFORCING FOR TORSION:

$$T_n = \frac{(2)(A_o)(A_t)(f_{yv})(\cot\theta)}{s}$$

$$A_t = \frac{(315.46 \text{ K-ft})(12000)(12")}{(2)(0.85)(2060 \text{ in}^2)(60{,}000)} \tan 45° = 0.22 \text{ in}^2/\text{ft.}$$

$$A_v + (2)(A_t) \ge \frac{(50)(b_w)(s)}{f_{yv}}$$

where $V_v = \dfrac{(215.72 \text{ K})(1000)}{(54")(43.10")} = 92.68$ psi

$$A_v = \frac{(92.68 - 60.08)(54")(12")}{24{,}000 \text{ psi}} = 0.88 \text{ in}^2/\text{ft.}$$

$$0.88 \text{ in}^2 + (2)(0.22 \text{ in}^2/\text{ft}) \ge \frac{(50)(54")(12")}{60{,}000}$$

DMJM HARRIS	PROJECT: B HOC 91ST AVE BRIDGE - ABUT 1	JOB NO. 6888	SHEET 3 of 15
		DESIGNED BY SEO	DATE 1/4/02
SUBJECT: ABUT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 3/02

ADDITIONAL LONGITUDINAL REINFORCING FOR TORSION

$$A_\ell = \frac{(A_t)(P_h)}{S}\left(\frac{f_{yv}}{f_{y\ell}}\right)(\cot^2\theta) = \frac{(0.22\,in^2)(182.52'')}{12''}(1.0)(1.0) = 3.35\,in^2$$

$$A_{\ell,min} = \frac{(5)(\sqrt{f'_c})(A_{cp})}{f_{y\ell}} - \frac{(A_t)(P_h)}{S}(f_{yv}/f_{y\ell})$$

$$= \frac{(5)(4000)^{1/2}(2592\,in^2)}{60{,}000\,PSI} - \frac{(0.22\,in^2)(182.52'')}{12''} = 10.31\,in^2 \text{ (controls)}$$

SPACING OF TORSIONAL REINFORCING

TRANSVERSE < $P_h/8$ OR 12", 12" controls

LONG. BAR DIAMETER > (0.042)(6") = 0.25" #3 or bigger

LONG REINFORCING FOR TORSION

PROVIDE 4 #10 @ CORNERS. PROVIDE REMAINING STL EQUALLY ON ALL SIDES

$[10.31\,in^2 - (4)(1.27)](1/4) = 1.31\,in^2/side$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 9 of 15
		DESIGNED BY SEO	DATE July 02
SUBJECT: ABUT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

TORSION DESIGN (INTERMEDIATE MEMBERS)

$T_{unfactored} = 102.53\ K\text{-}ft$

$A_{oh} = 2060\ in^2$

$P_h = 182.52''$

$V_u = 112.12\ K$

$b_w = 54''$

$d = 48'' - 2\tfrac{1}{2}'' - 0.625'' - (1/2)(1.27'') = 44.24''$

$V_c = 60.08\ psi \qquad \phi = 0.55$

TRANSVERSE REINFORCING FOR TORSION

$$T_n = \frac{(2)(A_o)(A_t)(f_{yv})(\cot\theta)}{S}$$

$$A_t = \frac{(102.53\ K\text{-}ft)(12000)(12'')}{(2)(0.85)(2060)(60000)} \tan 45° = 0.07\ in^2/ft$$

$$A_v + (2)(A_t) \geq \frac{(50)(b_w)(s)}{f_{yv}}$$

where $V_y = \dfrac{(112.12K)(1000)}{(54'')(44.24'')} = 46.93\ psi$

$$A_{v\,min} = \frac{(50)(b_w)(12'')}{60{,}000} = 0.54\ in^2$$

$(0.54\ in^2) + (2)(0.07) \geq 0.54$ OK

ADDITIONAL LONGITUDINAL REINFORCING FOR TORSION

$$A_\ell = \frac{(A_t)\,P_h}{S}\left(\frac{f_{yv}}{f_{y\ell}}\right)(\cot^2\theta) = \frac{(0.07\ in^2)(182.52'')}{12''} = 1.06\ in^2$$

$$A_{\ell,min} = \frac{(5)(4000)^{1/2}(2592\ in^2)}{60{,}000\ psi} - \frac{(0.07\ in^2)}{12''}(182.52'')(1.0) = 12.60\ in^2$$

(CONTROLS)

TRANSVERSE SPACING < 12"

LONG. REINFORCING FOR TORSION:

PROVIDE 4 #10e CORNERS. DIVIDE REMAINING STL EQUALLY ON ALL SIDES.

$[12.60\ in^2 - (4)(1.27)](1/4) = 1.88\ in^2/side.$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE ABUT 1	JOB NO. 6888	SHEET 10 of 15
		DESIGNED BY SEO	DATE JULY 02
SUBJECT: ABUTMENT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

MOMENT, M_z^- END SUPPORTS

DESIGN MOMENT = 791.44 K-ft

$d = 48'' - 2\frac{1}{2}'' - 0.625'' - 1.27'' - (1/2)(1.0) = 43.10''$

A_s required = 9.95 in^2 , $f_s = 23{,}981$ psi , $f_c = 893$ psi

Add A_ℓ = 1.31 in^2

11.26 in^2

PROVIDE 10 #10, $A_s = 12.70$ in^2

MOMENT, M_z^- @ INTERMEDIATE SUPPORTS

DESIGN MOMENT = 269.72 K-ft

$d = 48'' - 2\frac{1}{2}'' - 0.625'' - (1/2)(1.27'') = 44.24''$

A_s required = 3.20 in^2 , $f_s = 23949$ psi , $f_c = 472$ psi

INCREASE AREA OF STL BY (1/3) TO MEET (1.2)(M_{cr}) CRITERIA

A_s required = (3.20)(1.333) = 4.27 in^2

Add A_ℓ = 1.88 in^2

6.15 in^2

PROVIDE 5 #10, $A_s = 6.35$ in^2

SPLICE LENGTH @ C.J.

$(\ell_d)(0.8)(1.4)(4.27/4.47)(1.7) = 7.31$ ft

SAY 7'-4"

MOMENT, M_z^+

DESIGN MOMENT = 291.27 K-ft

$d = 48'' - 4'' - 0.625'' - (1/2)(1.27) = 42.74''$

A_s required = 3.60 in^2 , $f_s = 23878$ psi , $f_c = 510$ psi

INCREASE AREA BY (1/3) TO MEET (1.2)(M_{cr}) CRITERIA

A_s required = (3.60 in^2)(1.333) = 4.80 in^2

Add A_ℓ = 1.88 in^2

6.68 in^2

PROVIDE 5 #10, $A_s = 6.35$ in^2

(ABOUT 5% UNDER, SAY OK)

SPLICE LENGTH @ C.J.

$(\ell_d)(0.8)(1.7) = 5.46$ ft SAY 7'-4"

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 11 of 15
		DESIGNED BY SCD	DATE 4/02
SUBJECT: ABUTMENT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

MOMENT, M_y

DESIGN MOMENT = 255.89 K-ft

$d = 54'' - 1\frac{1}{2}'' - 0.625'' - (1/2)(1.27'') = 51.24''$

A_s required = $2.65\ in^2$, $f_s = 23{,}581$ psi , $f_c = 413$ psi

INCREASE AREA BY 1/3 TO MEET (1.2)(M_{cr})

$A_s = (2.65\ in^2)(1.333) = 3.53\ in^2$

Add A_ℓ $\quad 1.88\ in^2$

$5.41\ in^2$ $\quad$ PROVIDE 5 #10, $A_s = 6.35\ in^2$

SPLICE LENGTH @ c.d. SAY 7'-4"

SHEAR, V_y (MEMBERS 1, 2, 6 & 7)

DESIGN SHEAR = 185.93 K

$$v_y = \frac{185.93\ K(1000)}{(54'')(42.74'')} = 80.56\ psi$$

$$A_v = \frac{(80.56\ psi - 60.08\ psi)(54'')(12'')}{24{,}000\ psi} = 0.55\ in^2/ft$$

Add A_t $(2)(0.22\ in^2/ft)$ $\quad = 0.44\ in^2/ft$

$0.99\ in^2/ft$

USE #5 @ 7"

$A_s = 1.06\ in^2$

SHEAR, V_y (MEMBERS, 3, 4 & 5)

DESIGN SHEAR = 144.34 K (OVER SUPPORT - NO REDUCTION OK).

$$v_y = \frac{(144.34\ K)(1000)}{(54'')(42.74'')} = 62.54\ psi$$

$$A_v = \frac{(62.54 - 60.08)(54)(12)}{24{,}000} = 0.07\ in^2$$

$A_{v,min} = 0.54\ in^2$

Add $A_t = (2)(0.07\ in^2/ft) = 0.14\ in^2$

$0.68\ in^2$

USE #5 @ 10"

$A_s = 0.74\ in^2$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE, ABUT 1	JOB NO. 6888	SHEET 12 of 15
		DESIGNED BY SED	DATE JUL 02
SUBJECT: ABUT CAP DESIGN - ABUT 1		CHECKED BY KMS	DATE 8/02

TERMINATION OF BOTTOM LAYER OF NEGATIVE MOMENT REINFORCING

A_s provided for flexure = $6.35 in^2 - 1.88 in^2 = 4.47 in^2$

A_s allows for a moment of 374 k-ft

This moment is located at a distance of 5.24 ft away from support. Extend bar beyond this point by a distance of (d) or $(12)(d_b)$. d governs. 44.24"

$\therefore$ 5.24 ft + (44.24")(1/12) = 8.93 ft from outside support. Say 9'-0

DMJM HARRIS	PROJECT: B Hoc 91ST AVE BRIDGE	JOB NO. 6888	SHEET 13 of 15
		DESIGNED BY SED	DATE JUL 02
SUBJECT: ABUTMENT CAP DESIGN - ABUT 2		CHECKED BY KMS	DATE 8/02

DESIGN

ASD, $f'_c = 4000$ psi $n = 8$ $f_c = 1600$ psi

$f_y = 60{,}000$ psi $f_s = 24000$ psi

MOMENTS AND SHEARS OVER SUPPORTS

$V_y = 164.60^K$, $V_z = 19.58^K$

$M_z^- = 800.80^{K\text{-}ft}$, $M_z^+ = 276.52^{K\text{-}ft}$

$M_y = 75.07^{K\text{-}ft}$, TORSION $= 19.38^{K\text{-}ft}$

MOMENTS AND SHEARS CAN BE REDUCED TO THE FACE OF THE SUPPORT
THESE ARE:

$V_y = 134.58^K$, $V_z = 16.43^K$

$M_z^- = 593.38^{K\text{-}ft}$, $M_z^+ = 276.52^{K\text{-}ft}$

$M_y = 50.30^{K\text{-}ft}$

DMJM HARRIS	PROJECT: B HOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 14 of 15
		DESIGNED BY SEO	DATE 4/02
SUBJECT: ABUTMENT CAP DESIGN - ABUT 2		CHECKED BY KMS	DATE 8/02

TORSION

$T_{unfactored} < \phi \sqrt{f'_c} \left(\frac{A_{cp}^2}{P_{cp}} \right)$

NEGLECT TORSION EFFECTS

MOMENT, M^-

DESIGN MOMENT = 593.38 k-ft

$d = 48'' - 2\tfrac{1}{2}'' - 0.625'' - (1/2)(1.27) = 44.24''$

A_s required = 7.18 in^2 , f_s = 23,989 psi , f_c = 734 psi

$A_s > A_s$ required to meet $(1.2)(M_{cr})$ OK.

PROVIDE 6 #10, $A_s = 7.62\ in^2$

MOMENT, M^+

DESIGN MOMENT = 276.52 k-ft

$d = 48'' - 4'' - 0.625'' - (1/2)(1.13'') = 42.81''$

A_s required = 3.40 in^2 , f_s = 23,931 psi , f_c = 495 psi

INCREASE AREA BY (1/3) TO MEET $(1.2)(M_{cr})$

A_s required = $(3.40\ in^2)(1.333) = 4.53\ in^2$

PROVIDE 6 #9, $A_s = 6.0\ in^2$

MOMENT, M_y

DESIGN MOMENT = 50.30 k-ft

$d = 54'' - 1\tfrac{1}{2}'' - 0.625'' - (1/2)(0.625) = 51.56''$

A_s required = 0.50 in^2

INCREASE AREA BY (1/3) TO MEET $(1.2)(M_{cr}) = 0.67\ in^2$

PROVIDE 3 #5, $A_s = 0.93\ in^2$

SPLICE LENGTH @ C.L.

$(l_{d\#10})(0.8)(1.4)(7.18/7.62)(1.7) = 7.21$ ft , SAY 7'4"

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 15 of 15
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: ABUTMENT CAP DESIGN - ABUT 2		CHECKED BY KMS	DATE 8/02

SHEAR, V_y

$$v_y = \frac{(134.58\,K)(1000)}{(54")(42.81")} = 58.22\ psi$$

PROVIDE $A_{MIN} = \frac{(50)(b_w)(s)}{f_y} = 0.54\ in^2/ft$.

PROVIDE #5 @ 12" [ ], $A_s = 0.62\ in^2$

KMS 8/02

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**************************************************
*                                                *
*           STAAD.Pro                            *
*           Version  2001    Build 1005          *
*           Proprietary Program of               *
*           RESEARCH ENGINEERS, Intl.            *
*           Date=    AUG  1, 2002                *
*           Time=    18:20: 1                    *
*                                                *
*      USER ID: Frederic R. Harris, Inc.         *
**************************************************
```

```
 1. STAAD SPACE ABUT 1 - 91ST AVE
 2. START JOB INFORMATION
 3. JOB NAME BHOC - 91ST AVE BRIDGE
 4. JOB CLIENT FCD
 5. JOB NO 046106888.0020
 6. JOB COMMENT ABUT 1 ANALYSIS - REVISED
 7. ENGINEER NAME SEO
 8. ENGINEER DATE 30JUL02
 9. END JOB INFORMATION
10. INPUT WIDTH 79
11. UNIT FEET KIP
12. JOINT COORDINATES
13. 1 0 1062.85 0; 2 8.48 1062.85 0; 3 26.48 1062.85 0; 4 44.48 1062.85 0
14. 5 62.48 1062.85 0; 6 80.48 1062.85 0; 7 98.48 1062.85 0; 8 106.96 1062.85 0
15. 9 8.48 1040.9 0; 10 26.48 1040.9 0; 11 44.48 1040.9 0; 12 62.48 1040.9 0
16. 13 80.48 1040.9 0; 14 98.48 1040.9 0
17. MEMBER INCIDENCES
18. 1 1 2; 2 2 3; 3 3 4; 4 4 5; 5 5 6; 6 6 7; 7 7 8; 8 2 9; 9 3 10; 10 4 11
19. 11 5 12; 12 6 13; 13 7 14
20. MEMBER PROPERTY AMERICAN
21. 1 TO 7 PRIS YD 4 ZD 4.5
22. 8 TO 13 PRIS YD 3.5
23. UNIT INCHES KIP
24. CONSTANTS
25. E 3605 MEMB 1 TO 13
26. POISSON 0.17 MEMB 1 TO 13
27. DENSITY 8.68E-005 MEMB 1 TO 13
28. ALPHA 6E-006 MEMB 1 TO 7
29. ALPHA 6.5E-006 MEMB 8 TO 13
30. UNIT FEET KIP
31. SUPPORTS
32. 9 TO 14 FIXED
33. LOAD 1 DL AND SDL
34. MEMBER LOAD
35. 1 7 UNI GY -9.25
36. 2 TO 6 UNI GY -6.86
37. 1 TO 7 UNI GY -3.75
38. 1 TO 7 UMOM GX 1.8
39. 1 UNI GY -12.78 0.25 4.25
40. 7 UNI GY -12.78 4.23 8.23
41. JOINT LOAD
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42. 1 FX -19.08
43. 8 FX 19.08
44. 1 8 MX 300.2
45. 1 MZ 76.8
46. 8 MZ -76.8
47. 1 MY -235.1
48. 8 MY 235.1
49. LOAD 2 DRILLED SHAFT WEIGHT
50. MEMBER LOAD
51. 8 TO 13 UNI GY -1.44
52. LOAD 3 PED LIVE LOAD
53. MEMBER LOAD
54. 1 7 UNI GY -1.31
55. LOAD 4 LL
56. MEMBER LOAD
57. 2 TO 6 UNI GY -2.95
58. LOAD 5 LL IMPACT
59. MEMBER LOAD
60. 2 TO 6 UNI GY -0.88
61. LOAD 6 LL FOR MAXIMUM POSITIVE MOMENT ON ABUT CAP
62. MEMBER LOAD
63. 3 5 UNI GY -3.93
64. LOAD 7 LL IMPACT FOR MAXIMUM POSITIVE MOMENT ON ABUT CAP
65. MEMBER LOAD
66. 3 5 UNI GY -1.17
67. LOAD 8 LL FOR MAXIMUM NEGATIVE MOMENT ON ABUT CAP
68. MEMBER LOAD
69. 1 TO 3 5 TO 7 UNI GY -3.93
70. LOAD 9 LL IMPACT FOR MAXIMUM NEGATIVE MOMENT ON ABUT CAP
71. MEMBER LOAD
72. 1 TO 3 5 TO 7 UNI GY -1.17
73. LOAD 10 EARTH PRESSURE
74. MEMBER LOAD
75. 1 TO 7 UNI GZ -0.86
76. 1 TO 7 UMOM GX -0.29
77. LOAD 11 WIND ON STRUCTURE
78. MEMBER LOAD
79. 1 TO 7 UNI GX -0.0523
80. 1 TO 7 UNI GZ 0.01258
81. 1 TO 7 UMOM GX 0.073
82. JOINT LOAD
83. 2 FY 0.255
84. 3 FY 0.153
85. 4 FY 0.051
86. 5 FY -0.051
87. 6 FY -0.153
88. 7 FY -0.255
89. LOAD 12 WIND LOAD ON LIVE LOAD
90. MEMBER LOAD
91. 2 TO 6 UNI GX -0.0196
92. 2 TO 6 UNI GZ 0.0074
93. 2 TO 6 UMOM GX 0.077
94. JOINT LOAD
95. 2 FY 0.15
96. 3 FY 0.087
97. 4 FY 0.029
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 98. 5 FY -0.029
 99. 6 FY -0.087
100. 7 FY -0.15
101. LOAD 13 LONGITUDINAL FORCE FROM LIVE LOAD
102. MEMBER LOAD
103. 2 TO 6 UNI GZ 0.0513
104. 2 TO 6 UMOM GX 0.536
105. LOAD 14 RST
106. MEMBER LOAD
107. 1 TO 7 UNI GZ 1.75
108. TEMPERATURE LOAD
109. 1 TO 7 TEMP 40
110. LOAD COMB 15 GR I LL
111. 1 1.0 2 1.0 3 1.0 4 1.0 5 1.0 10 1.0
112. LOAD COMB 16 GR I MAX POSITIVE MOMENT ON ABUT CAP
113. 1 1.0 2 1.0 3 1.0 6 1.0 7 1.0 10 1.0
114. LOAD COMB 17 GR I MAX NEGATIVE MOMENT ON ABUT CAP
115. 1 1.0 2 1.0 3 1.0 8 1.0 9 1.0 10 1.0
116. LOAD COMB 18 GR II
117. 1 0.8 2 0.8 10 0.8 11 0.8
118. LOAD COMB 19 GR III LL
119. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 11 0.24 12 0.8 13 0.8
120. LOAD COMB 20 GR III MAX POSITIVE MOMENT ON ABUT CAP
121. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 11 0.24 12 0.8 13 0.8
122. LOAD COMB 21 GR III MAX NEGATIVE MOMENT ON ABUT CAP
123. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 11 0.24 12 0.8 13 0.8
124. LOAD COMB 22 GR IV LL
125. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 14 0.8
126. LOAD COMB 23 GR IV MAX POSITIVE MOMENT ON ABUT CAP
127. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 14 0.8
128. LOAD COMB 24 GR IV MAX NEGATIVE MOMENT ON ABUT CAP
129. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 14 0.8
130. LOAD COMB 25 GR IV LL
131. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 14 -0.8
132. LOAD COMB 26 GR IV MAX POSITIVE MOMENT ON ABUT CAP
133. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 14 -0.8
134. LOAD COMB 27 GR IV MAX NEGATIVE MOMENT ON ABUT CAP
135. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 14 -0.8
136. LOAD COMB 28 GR V
137. 1 0.72 2 0.72 10 0.72 11 0.72 14 0.72
138. LOAD COMB 29 GR V
139. 1 0.72 2 0.72 10 0.72 11 0.72 14 -0.72
140. LOAD COMB 30 GR VI LL
141. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
142. LOAD COMB 31 GR VI MAX POSITIVE MOMENT ON ABUT CAP
143. 1 0.72 2 0.72 3 0.72 6 0.72 7 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
144. LOAD COMB 32 GR VI MAX NEGATIVE MOMENT ON ABUT CAP
145. 1 0.72 2 0.72 3 0.72 8 0.72 9 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
146. LOAD COMB 33 GR VI LL
147. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
148. LOAD COMB 34 GR VI MAX POSITIVE MOMENT ON ABUT CAP
149. 1 0.72 2 0.72 3 0.72 6 0.72 7 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
150. LOAD COMB 35 GR VI MAX NEGATIVE MOMENT ON ABUT CAP
151. 1 0.72 2 0.72 3 0.72 8 0.72 9 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
152. PERFORM ANALYSIS
```

P R O B L E M S T A T I S T I C S

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NUMBER OF JOINTS/MEMBER+ELEMENTS/SUPPORTS =    14/    13/     6
ORIGINAL/FINAL BAND-WIDTH=     7/     2/     12 DOF
TOTAL PRIMARY LOAD CASES =   14, TOTAL DEGREES OF FREEDOM =     48
SIZE OF STIFFNESS MATRIX =       1 DOUBLE  KILO-WORDS
REQRD/AVAIL. DISK SPACE  =    12.0/  1050.4 MB,  EXMEM =  877.0 MB

++ Processing Element Stiffness Matrix.              18:20: 1
++ Processing Global Stiffness Matrix.               18:20: 1
++ Processing Triangular Factorization.              18:20: 1
++ Calculating Joint Displacements.                  18:20: 1
++ Calculating Member  Forces.                       18:20: 1

 153. LOAD LIST ALL
 154. PRINT ANALYSIS RESULTS
```

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
1	1	-0.00182	-0.05804	0.06904	0.00114	-0.00029	0.00047
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00005	-0.00369	0.00000	0.00000	0.00000	0.00003
	4	0.00009	0.00236	0.00000	0.00000	0.00000	-0.00004
	5	0.00003	0.00070	0.00000	0.00000	0.00000	-0.00001
	6	0.00003	0.00015	0.00000	0.00000	0.00000	0.00000
	7	0.00001	0.00005	0.00000	0.00000	0.00000	0.00000
	8	-0.00004	-0.00789	0.00000	0.00000	0.00000	0.00004
	9	-0.00001	-0.00235	0.00000	0.00000	0.00000	0.00001
	10	0.00000	0.00000	-0.17669	-0.00100	-0.00001	0.00000
	11	-0.00297	-0.00038	0.00351	0.00002	0.00000	0.00000
	12	-0.00093	-0.00011	0.00184	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01280	0.00009	-0.00001	0.00000
	14	-0.15096	-0.01760	0.35161	0.00197	0.00002	0.00016
	15	-0.00175	-0.05951	-0.10764	0.00015	-0.00030	0.00045
	16	-0.00182	-0.06237	-0.10764	0.00015	-0.00030	0.00050
	17	-0.00192	-0.07281	-0.10764	0.00015	-0.00030	0.00056
	18	-0.00383	-0.04740	-0.08331	0.00013	-0.00024	0.00038
	19	-0.00286	-0.04779	-0.07356	0.00020	-0.00024	0.00036
	20	-0.00292	-0.05008	-0.07356	0.00020	-0.00024	0.00040
	21	-0.00299	-0.05843	-0.07356	0.00020	-0.00024	0.00045
	22	-0.12217	-0.06168	0.19517	0.00169	-0.00022	0.00049
	23	-0.12222	-0.06398	0.19517	0.00169	-0.00022	0.00052
	24	-0.12230	-0.07232	0.19517	0.00169	-0.00022	0.00057
	25	0.11936	-0.03353	-0.36740	-0.00146	-0.00025	0.00024
	26	0.11931	-0.03582	-0.36740	-0.00146	-0.00025	0.00027
	27	0.11923	-0.04417	-0.36740	-0.00146	-0.00025	0.00032
	28	-0.11213	-0.05533	0.17818	0.00154	-0.00020	0.00045
	29	0.10524	-0.02999	-0.32814	-0.00129	-0.00023	0.00023
	30	-0.11127	-0.05568	0.18697	0.00160	-0.00020	0.00044
	31	-0.11133	-0.05774	0.18697	0.00160	-0.00020	0.00047
	32	-0.11139	-0.06525	0.18697	0.00160	-0.00020	0.00052
	33	0.10610	-0.03034	-0.31934	-0.00123	-0.00023	0.00022
	34	0.10605	-0.03240	-0.31934	-0.00123	-0.00023	0.00025
	35	0.10598	-0.03992	-0.31934	-0.00123	-0.00023	0.00029
2	1	-0.00161	-0.01501	0.09167	0.00088	-0.00016	0.00023
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00005	-0.00070	0.00000	0.00000	0.00000	0.00002
	4	0.00009	-0.00122	0.00000	0.00000	0.00000	-0.00004
	5	0.00003	-0.00036	0.00000	0.00000	0.00000	-0.00001
	6	0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	7	0.00001	0.00004	0.00000	0.00000	0.00000	0.00000
	8	-0.00004	-0.00372	0.00000	0.00000	0.00000	0.00001
	9	-0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17573	-0.00100	0.00000	0.00000
	11	-0.00297	-0.00003	0.00350	0.00002	0.00000	0.00000
	12	-0.00093	-0.00001	0.00195	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01353	0.00009	-0.00001	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	14	-0.12653	-0.00164	0.34966	0.00197	0.00001	0.00016
	15	-0.00154	-0.01813	-0.08406	-0.00011	-0.00016	0.00020
	16	-0.00161	-0.01638	-0.08406	-0.00011	-0.00016	0.00025
	17	-0.00171	-0.02137	-0.08406	-0.00011	-0.00016	0.00026
	18	-0.00366	-0.01270	-0.06445	-0.00007	-0.00013	0.00019
	19	-0.00269	-0.01451	-0.05403	-0.00001	-0.00014	0.00016
	20	-0.00275	-0.01312	-0.05403	-0.00001	-0.00014	0.00020
	21	-0.00283	-0.01711	-0.05403	-0.00001	-0.00014	0.00021
	22	-0.10246	-0.01581	0.21248	0.00148	-0.00012	0.00029
	23	-0.10252	-0.01442	0.21248	0.00148	-0.00012	0.00032
	24	-0.10259	-0.01841	0.21248	0.00148	-0.00012	0.00034
	25	0.09999	-0.01319	-0.34697	-0.00166	-0.00014	0.00004
	26	0.09993	-0.01179	-0.34697	-0.00166	-0.00014	0.00007
	27	0.09986	-0.01579	-0.34697	-0.00166	-0.00014	0.00009
	28	-0.09440	-0.01261	0.19375	0.00135	-0.00011	0.00028
	29	0.08781	-0.01025	-0.30976	-0.00148	-0.00012	0.00005
	30	-0.09354	-0.01424	0.20314	0.00141	-0.00012	0.00026
	31	-0.09359	-0.01299	0.20314	0.00141	-0.00012	0.00029
	32	-0.09366	-0.01658	0.20314	0.00141	-0.00012	0.00030
	33	0.08867	-0.01188	-0.30036	-0.00142	-0.00013	0.00003
	34	0.08862	-0.01062	-0.30036	-0.00142	-0.00013	0.00007
	35	0.08855	-0.01422	-0.30036	-0.00142	-0.00013	0.00008
3	1	-0.00094	-0.00847	0.10566	0.00073	0.00000	-0.00003
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	4	0.00005	-0.00299	0.00000	0.00000	0.00000	0.00000
	5	0.00001	-0.00089	0.00000	0.00000	0.00000	0.00000
	6	0.00003	-0.00198	0.00000	0.00000	0.00000	-0.00003
	7	0.00001	-0.00059	0.00000	0.00000	0.00000	-0.00001
	8	-0.00003	-0.00374	0.00000	0.00000	0.00000	0.00000
	9	-0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17548	-0.00100	0.00000	0.00000
	11	-0.00297	0.00002	0.00349	0.00002	0.00000	0.00000
	12	-0.00093	0.00001	0.00215	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01491	0.00010	-0.00001	0.00000
	14	-0.07554	0.00119	0.34914	0.00196	0.00000	0.00002
	15	-0.00090	-0.01306	-0.06983	-0.00027	0.00000	-0.00003
	16	-0.00093	-0.01175	-0.06983	-0.00027	0.00000	-0.00007
	17	-0.00101	-0.01403	-0.06983	-0.00027	0.00000	-0.00004
	18	-0.00313	-0.00742	-0.05307	-0.00020	0.00000	-0.00002
	19	-0.00218	-0.01043	-0.04138	-0.00012	-0.00001	-0.00002
	20	-0.00220	-0.00939	-0.04138	-0.00012	-0.00001	-0.00006
	21	-0.00227	-0.01121	-0.04138	-0.00012	-0.00001	-0.00003
	22	-0.06115	-0.00949	0.22345	0.00136	0.00000	-0.00001
	23	-0.06117	-0.00845	0.22345	0.00136	0.00000	-0.00004
	24	-0.06123	-0.01027	0.22345	0.00136	0.00000	-0.00001
	25	0.05971	-0.01140	-0.33517	-0.00179	0.00000	-0.00004
	26	0.05969	-0.01036	-0.33517	-0.00179	0.00000	-0.00008

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	27	0.05962	-0.01218	-0.33517	-0.00179	0.00000	-0.00005
	28	-0.05720	-0.00582	0.20362	0.00124	0.00000	-0.00001
	29	0.05157	-0.00754	-0.29914	-0.00159	0.00000	-0.00004
	30	-0.05636	-0.00853	0.21415	0.00130	-0.00001	0.00000
	31	-0.05638	-0.00759	0.21415	0.00130	-0.00001	-0.00004
	32	-0.05644	-0.00923	0.21415	0.00130	-0.00001	-0.00001
	33	0.05241	-0.01025	-0.28860	-0.00153	-0.00001	-0.00004
	34	0.05239	-0.00931	-0.28860	-0.00153	-0.00001	-0.00007
	35	0.05234	-0.01095	-0.28860	-0.00153	-0.00001	-0.00004
4	1	-0.00031	-0.01021	0.10239	0.00067	0.00001	0.00000
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000
	4	0.00002	-0.00279	0.00000	0.00000	0.00000	0.00000
	5	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	6	0.00000	-0.00187	0.00000	0.00000	0.00000	0.00003
	7	0.00000	-0.00056	0.00000	0.00000	0.00000	0.00001
	8	-0.00002	-0.00176	0.00000	0.00000	0.00000	0.00003
	9	-0.00001	-0.00052	0.00000	0.00000	0.00000	0.00001
	10	0.00000	0.00000	-0.17567	-0.00100	0.00000	0.00000
	11	-0.00297	0.00000	0.00350	0.00002	0.00000	0.00000
	12	-0.00094	0.00000	0.00225	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01566	0.00010	0.00000	0.00000
	14	-0.02512	0.00045	0.34951	0.00197	0.00000	0.00001
	15	-0.00030	-0.01468	-0.07329	-0.00033	0.00002	0.00000
	16	-0.00032	-0.01348	-0.07329	-0.00033	0.00002	0.00004
	17	-0.00035	-0.01333	-0.07329	-0.00033	0.00002	0.00004
	18	-0.00262	-0.00884	-0.05583	-0.00024	0.00001	0.00000
	19	-0.00170	-0.01174	-0.04346	-0.00016	0.00001	0.00000
	20	-0.00172	-0.01078	-0.04346	-0.00016	0.00001	0.00003
	21	-0.00174	-0.01067	-0.04346	-0.00016	0.00001	0.00003
	22	-0.02033	-0.01139	0.22098	0.00131	0.00001	0.00001
	23	-0.02035	-0.01043	0.22098	0.00131	0.00001	0.00004
	24	-0.02037	-0.01031	0.22098	0.00131	0.00001	0.00004
	25	0.01985	-0.01210	-0.33824	-0.00183	0.00001	-0.00001
	26	0.01983	-0.01114	-0.33824	-0.00183	0.00001	0.00002
	27	0.01981	-0.01103	-0.33824	-0.00183	0.00001	0.00002
	28	-0.02044	-0.00763	0.20140	0.00120	0.00001	0.00001
	29	0.01572	-0.00827	-0.30189	-0.00163	0.00001	-0.00001
	30	-0.01963	-0.01025	0.21254	0.00127	0.00001	0.00001
	31	-0.01964	-0.00938	0.21254	0.00127	0.00001	0.00004
	32	-0.01966	-0.00928	0.21254	0.00127	0.00001	0.00004
	33	0.01654	-0.01089	-0.29075	-0.00156	0.00001	-0.00001
	34	0.01652	-0.01003	-0.29075	-0.00156	0.00001	0.00002
	35	0.01651	-0.00992	-0.29075	-0.00156	0.00001	0.00002
5	1	0.00031	-0.01021	0.10239	0.00067	-0.00001	0.00000
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000
	4	-0.00002	-0.00279	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	5	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	6	0.00000	-0.00187	0.00000	0.00000	0.00000	-0.00003
	7	0.00000	-0.00056	0.00000	0.00000	0.00000	-0.00001
	8	0.00002	-0.00176	0.00000	0.00000	0.00000	-0.00003
	9	0.00001	-0.00052	0.00000	0.00000	0.00000	-0.00001
	10	0.00000	0.00000	-0.17567	-0.00100	0.00000	0.00000
	11	-0.00297	0.00000	0.00350	0.00002	0.00000	0.00000
	12	-0.00094	0.00000	0.00225	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01566	0.00010	0.00000	0.00000
	14	0.02512	0.00045	0.34951	0.00197	0.00000	-0.00001
	15	0.00030	-0.01468	-0.07329	-0.00033	-0.00002	0.00000
	16	0.00032	-0.01348	-0.07329	-0.00033	-0.00002	-0.00004
	17	0.00035	-0.01333	-0.07329	-0.00033	-0.00002	-0.00004
	18	-0.00212	-0.00884	-0.05583	-0.00024	-0.00001	0.00000
	19	-0.00122	-0.01175	-0.04346	-0.00016	-0.00001	0.00000
	20	-0.00120	-0.01079	-0.04346	-0.00016	-0.00001	-0.00003
	21	-0.00118	-0.01067	-0.04346	-0.00016	-0.00001	-0.00003
	22	0.02033	-0.01139	0.22098	0.00131	-0.00001	-0.00001
	23	0.02035	-0.01043	0.22098	0.00131	-0.00001	-0.00004
	24	0.02037	-0.01031	0.22098	0.00131	-0.00001	-0.00004
	25	-0.01985	-0.01210	-0.33824	-0.00183	-0.00001	0.00001
	26	-0.01983	-0.01114	-0.33824	-0.00183	-0.00001	-0.00002
	27	-0.01981	-0.01103	-0.33824	-0.00183	-0.00001	-0.00002
	28	0.01617	-0.00763	0.20140	0.00120	-0.00001	-0.00001
	29	-0.01999	-0.00828	-0.30189	-0.00163	-0.00001	0.00001
	30	0.01697	-0.01025	0.21254	0.00127	-0.00001	-0.00001
	31	0.01699	-0.00939	0.21254	0.00127	-0.00001	-0.00004
	32	0.01701	-0.00928	0.21254	0.00127	-0.00001	-0.00004
	33	-0.01919	-0.01089	-0.29075	-0.00156	-0.00001	0.00001
	34	-0.01918	-0.01003	-0.29075	-0.00156	-0.00001	-0.00002
	35	-0.01916	-0.00992	-0.29075	-0.00156	-0.00001	-0.00002
6	1	0.00094	-0.00847	0.10566	0.00073	0.00000	0.00003
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	4	-0.00005	-0.00299	0.00000	0.00000	0.00000	0.00000
	5	-0.00001	-0.00089	0.00000	0.00000	0.00000	0.00000
	6	-0.00003	-0.00198	0.00000	0.00000	0.00000	0.00003
	7	-0.00001	-0.00059	0.00000	0.00000	0.00000	0.00001
	8	0.00003	-0.00374	0.00000	0.00000	0.00000	0.00000
	9	0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17548	-0.00100	0.00000	0.00000
	11	-0.00297	-0.00002	0.00349	0.00002	0.00000	0.00000
	12	-0.00093	-0.00001	0.00215	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01491	0.00010	0.00001	0.00000
	14	0.07554	0.00119	0.34914	0.00196	0.00000	-0.00002
	15	0.00090	-0.01306	-0.06983	-0.00027	0.00000	0.00003
	16	0.00093	-0.01175	-0.06983	-0.00027	0.00000	0.00007
	17	0.00101	-0.01403	-0.06983	-0.00027	0.00000	0.00004

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	18	-0.00162	-0.00746	-0.05307	-0.00020	0.00000	0.00003
	19	-0.00074	-0.01046	-0.04138	-0.00012	0.00001	0.00002
	20	-0.00072	-0.00942	-0.04138	-0.00012	0.00001	0.00006
	21	-0.00065	-0.01124	-0.04138	-0.00012	0.00001	0.00003
	22	0.06115	-0.00949	0.22345	0.00136	0.00000	0.00001
	23	0.06117	-0.00845	0.22345	0.00136	0.00000	0.00004
	24	0.06123	-0.01027	0.22345	0.00136	0.00000	0.00001
	25	-0.05971	-0.01140	-0.33517	-0.00179	0.00000	0.00004
	26	-0.05969	-0.01036	-0.33517	-0.00179	0.00000	0.00008
	27	-0.05962	-0.01218	-0.33517	-0.00179	0.00000	0.00005
	28	0.05293	-0.00585	0.20362	0.00124	0.00000	0.00001
	29	-0.05584	-0.00757	-0.29914	-0.00159	0.00000	0.00004
	30	0.05371	-0.00855	0.21415	0.00130	0.00001	0.00001
	31	0.05373	-0.00762	0.21415	0.00130	0.00001	0.00004
	32	0.05379	-0.00926	0.21415	0.00130	0.00001	0.00001
	33	-0.05506	-0.01027	-0.28860	-0.00153	0.00001	0.00004
	34	-0.05504	-0.00933	-0.28860	-0.00153	0.00001	0.00007
	35	-0.05499	-0.01097	-0.28860	-0.00153	0.00001	0.00004
7	1	0.00161	-0.01501	0.09167	0.00088	0.00016	-0.00023
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00005	-0.00070	0.00000	0.00000	0.00000	-0.00002
	4	-0.00009	-0.00122	0.00000	0.00000	0.00000	0.00004
	5	-0.00003	-0.00036	0.00000	0.00000	0.00000	0.00001
	6	-0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	7	-0.00001	0.00004	0.00000	0.00000	0.00000	0.00000
	8	0.00004	-0.00372	0.00000	0.00000	0.00000	-0.00001
	9	0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17573	-0.00100	0.00000	0.00000
	11	-0.00297	0.00003	0.00350	0.00002	0.00000	0.00000
	12	-0.00093	0.00001	0.00195	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01353	0.00009	0.00001	0.00000
	14	0.12653	-0.00164	0.34966	0.00197	-0.00001	-0.00016
	15	0.00154	-0.01813	-0.08406	-0.00011	0.00016	-0.00020
	16	0.00161	-0.01638	-0.08406	-0.00011	0.00016	-0.00025
	17	0.00171	-0.02137	-0.08406	-0.00011	0.00016	-0.00026
	18	-0.00109	-0.01265	-0.06445	-0.00007	0.00013	-0.00018
	19	-0.00022	-0.01449	-0.05403	-0.00001	0.00014	-0.00016
	20	-0.00017	-0.01309	-0.05403	-0.00001	0.00014	-0.00020
	21	-0.00009	-0.01709	-0.05403	-0.00001	0.00014	-0.00021
	22	0.10246	-0.01581	0.21248	0.00148	0.00012	-0.00029
	23	0.10252	-0.01442	0.21248	0.00148	0.00012	-0.00032
	24	0.10259	-0.01841	0.21248	0.00148	0.00012	-0.00034
	25	-0.09999	-0.01319	-0.34697	-0.00166	0.00014	-0.00004
	26	-0.09993	-0.01179	-0.34697	-0.00166	0.00014	-0.00007
	27	-0.09986	-0.01579	-0.34697	-0.00166	0.00014	-0.00009
	28	0.09013	-0.01257	0.19375	0.00135	0.00011	-0.00027
	29	-0.09208	-0.01021	-0.30976	-0.00148	0.00012	-0.00005
	30	0.09089	-0.01422	0.20314	0.00141	0.00012	-0.00026

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	31	0.09094	-0.01296	0.20314	0.00141	0.00012	-0.00029
	32	0.09101	-0.01656	0.20314	0.00141	0.00012	-0.00030
	33	-0.09132	-0.01186	-0.30036	-0.00142	0.00013	-0.00003
	34	-0.09127	-0.01060	-0.30036	-0.00142	0.00013	-0.00006
	35	-0.09120	-0.01420	-0.30036	-0.00142	0.00013	-0.00008
8	1	0.00182	-0.05804	0.06904	0.00114	0.00029	-0.00047
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00005	-0.00369	0.00000	0.00000	0.00000	-0.00003
	4	-0.00009	0.00236	0.00000	0.00000	0.00000	0.00004
	5	-0.00003	0.00070	0.00000	0.00000	0.00000	0.00001
	6	-0.00003	0.00015	0.00000	0.00000	0.00000	0.00000
	7	-0.00001	0.00005	0.00000	0.00000	0.00000	0.00000
	8	0.00004	-0.00789	0.00000	0.00000	0.00000	-0.00004
	9	0.00001	-0.00235	0.00000	0.00000	0.00000	-0.00001
	10	0.00000	0.00000	-0.17669	-0.00100	0.00001	0.00000
	11	-0.00297	0.00038	0.00351	0.00002	0.00000	0.00000
	12	-0.00093	0.00011	0.00184	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01280	0.00009	0.00001	0.00000
	14	0.15096	-0.01760	0.35161	0.00197	-0.00002	-0.00016
	15	0.00175	-0.05951	-0.10764	0.00015	0.00030	-0.00045
	16	0.00182	-0.06237	-0.10764	0.00015	0.00030	-0.00050
	17	0.00192	-0.07281	-0.10764	0.00015	0.00030	-0.00056
	18	-0.00092	-0.04680	-0.08331	0.00013	0.00024	-0.00037
	19	-0.00006	-0.04742	-0.07356	0.00020	0.00024	-0.00036
	20	0.00000	-0.04972	-0.07356	0.00020	0.00024	-0.00040
	21	0.00008	-0.05806	-0.07356	0.00020	0.00024	-0.00044
	22	0.12217	-0.06168	0.19517	0.00169	0.00022	-0.00049
	23	0.12222	-0.06398	0.19517	0.00169	0.00022	-0.00052
	24	0.12230	-0.07232	0.19517	0.00169	0.00022	-0.00057
	25	-0.11936	-0.03353	-0.36740	-0.00146	0.00025	-0.00024
	26	-0.11931	-0.03582	-0.36740	-0.00146	0.00025	-0.00027
	27	-0.11923	-0.04417	-0.36740	-0.00146	0.00025	-0.00032
	28	0.10786	-0.05479	0.17818	0.00154	0.00020	-0.00045
	29	-0.10952	-0.02945	-0.32814	-0.00129	0.00023	-0.00022
	30	0.10862	-0.05535	0.18697	0.00160	0.00020	-0.00044
	31	0.10868	-0.05741	0.18697	0.00160	0.00020	-0.00047
	32	0.10874	-0.06493	0.18697	0.00160	0.00020	-0.00051
	33	-0.10875	-0.03001	-0.31934	-0.00123	0.00023	-0.00021
	34	-0.10870	-0.03208	-0.31934	-0.00123	0.00023	-0.00024
	35	-0.10863	-0.03959	-0.31934	-0.00123	0.00023	-0.00029
9	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
14	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
9	1	-9.79	284.61	8.37	-61.54	23.70	67.70
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	-0.88	13.22	0.00	0.00	0.00	6.23
	4	1.57	23.18	0.00	0.00	0.00	-11.07
	5	0.47	6.91	0.00	0.00	0.00	-3.30
	6	0.00	-2.33	0.00	0.00	0.00	0.02
	7	0.00	-0.69	0.00	0.00	0.00	0.01
	8	-0.53	70.60	0.00	0.00	0.00	3.71
	9	-0.16	21.02	0.00	0.00	0.00	1.11
	10	0.00	0.00	15.36	342.02	0.62	0.00
	11	0.87	0.56	-0.23	-6.23	-0.01	-10.11
	12	0.27	0.11	-0.09	-3.22	0.15	-3.18
	13	0.00	0.00	-0.63	-22.37	1.06	0.00
	14	36.46	31.09	-31.25	-685.45	-1.27	-427.44
	15	-8.64	359.53	23.73	280.48	24.32	59.56
	16	-10.67	326.42	23.73	280.48	24.32	73.96
	17	-11.36	421.05	23.73	280.48	24.32	78.74
	18	-7.14	253.43	18.81	219.40	19.45	46.07
	19	-6.48	287.84	18.36	202.42	20.42	42.68
	20	-8.11	261.36	18.36	202.42	20.42	54.19
	21	-8.66	337.06	18.36	202.42	20.42	58.02
	22	22.26	312.50	-6.02	-323.98	18.44	-294.30
	23	20.63	286.01	-6.02	-323.98	18.44	-282.79
	24	20.08	361.72	-6.02	-323.98	18.44	-278.96
	25	-36.08	262.75	43.99	772.75	20.48	389.60
	26	-37.70	236.26	43.99	772.75	20.48	401.12
	27	-38.25	311.97	43.99	772.75	20.48	404.95
	28	19.83	250.47	-5.58	-296.06	16.59	-266.29
	29	-32.67	205.69	39.43	690.99	18.42	349.22
	30	20.42	281.45	-5.98	-311.37	17.46	-269.39
	31	18.96	257.61	-5.98	-311.37	17.46	-259.02
	32	18.46	325.75	-5.98	-311.37	17.46	-255.58
	33	-32.08	236.67	39.02	675.68	19.30	346.12
	34	-33.54	212.83	39.02	675.68	19.30	356.49
	35	-34.04	280.97	39.02	675.68	19.30	359.94
10	1	1.72	160.54	-3.49	-164.69	0.58	-13.52
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.09	-2.25	0.00	0.00	0.00	-0.71
	4	-0.12	56.60	0.00	0.00	0.00	0.93
	5	-0.04	16.88	0.00	0.00	0.00	0.28
	6	1.38	37.60	0.00	0.00	0.00	-9.80
	7	0.41	11.19	0.00	0.00	0.00	-2.92
	8	0.13	70.89	0.00	0.00	0.00	-1.00
	9	0.04	21.11	0.00	0.00	0.00	-0.30
	10	0.00	0.00	15.29	341.20	-0.09	0.00
	11	0.97	-0.42	-0.22	-6.22	0.00	-10.85
	12	0.31	-0.17	-0.11	-3.66	0.11	-3.42
	13	0.00	0.00	-0.80	-25.40	0.75	0.00

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	14	24.99	-22.60	-31.12	-683.80	0.16	-278.16
	15	1.66	263.38	11.80	176.52	0.49	-13.02
	16	3.60	238.69	11.80	176.52	0.49	-26.94
	17	1.99	281.89	11.80	176.52	0.49	-15.53
	18	2.15	153.38	9.26	136.24	0.40	-19.50
	19	1.80	210.47	8.66	116.47	1.08	-15.76
	20	3.36	190.71	8.66	116.47	1.08	-26.90
	21	2.07	225.28	8.66	116.47	1.08	-17.76
	22	21.32	192.62	-15.46	-405.82	0.52	-232.95
	23	22.87	172.87	-15.46	-405.82	0.52	-244.08
	24	21.58	207.43	-15.46	-405.82	0.52	-234.95
	25	-18.66	228.79	34.33	688.25	0.27	212.11
	26	-17.11	209.03	34.33	688.25	0.27	200.98
	27	-18.40	243.60	34.33	688.25	0.27	210.11
	28	19.93	121.77	-14.07	-369.72	0.47	-217.83
	29	-16.05	154.32	30.74	614.95	0.24	182.73
	30	19.62	173.15	-14.61	-387.53	1.09	-214.51
	31	21.02	155.36	-14.61	-387.53	1.09	-224.53
	32	19.86	186.47	-14.61	-387.53	1.09	-216.31
	33	-16.36	205.70	30.19	597.13	0.86	186.05
	34	-14.96	187.91	30.19	597.13	0.86	176.03
	35	-16.12	219.02	30.19	597.13	0.86	184.25
11	1	0.04	193.66	-4.88	-170.24	-2.17	-0.72
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.00	0.14	0.00	0.00	0.00	-0.03
	4	-0.01	52.97	0.00	0.00	0.00	0.10
	5	0.00	15.80	0.00	0.00	0.00	0.03
	6	-1.42	35.47	0.00	0.00	0.00	10.09
	7	-0.42	10.56	0.00	0.00	0.00	3.01
	8	-1.41	33.31	0.00	0.00	0.00	10.02
	9	-0.42	9.92	0.00	0.00	0.00	2.98
	10	0.00	0.00	15.34	341.82	-0.09	0.00
	11	0.96	-0.03	-0.22	-6.23	0.00	-10.76
	12	0.30	-0.02	-0.13	-3.89	0.04	-3.40
	13	0.00	0.00	-0.88	-27.02	0.25	0.00
	14	8.09	-8.49	-31.22	-685.04	0.19	-90.90
	15	0.03	294.18	10.46	171.58	-2.27	-0.61
	16	-1.79	271.44	10.46	171.58	-2.27	12.35
	17	-1.78	268.64	10.46	171.58	-2.27	12.25
	18	0.80	180.19	8.19	132.28	-1.81	-9.18
	19	0.50	235.32	7.51	111.04	-1.58	-5.79
	20	-0.96	217.13	7.51	111.04	-1.58	4.58
	21	-0.95	214.89	7.51	111.04	-1.58	4.50
	22	6.49	228.55	-16.61	-410.77	-1.66	-73.21
	23	5.04	210.36	-16.61	-410.77	-1.66	-62.84
	24	5.04	208.12	-16.61	-410.77	-1.66	-62.92
	25	-6.44	242.14	33.35	685.30	-1.96	72.23
	26	-7.90	223.94	33.35	685.30	-1.96	82.60

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	27	-7.89	221.71	33.35	685.30	-1.96	82.52
	28	6.54	156.06	-15.11	-374.17	-1.50	-73.71
	29	-5.10	168.29	29.85	612.29	-1.76	57.19
	30	6.27	205.68	-15.72	-393.32	-1.29	-70.70
	31	4.96	189.30	-15.72	-393.32	-1.29	-61.37
	32	4.97	187.29	-15.72	-393.32	-1.29	-61.44
	33	-5.37	217.90	29.23	593.14	-1.55	60.20
	34	-6.68	201.53	29.23	593.14	-1.55	69.53
	35	-6.68	199.51	29.23	593.14	-1.55	69.46
12	1	-0.04	193.66	-4.88	-170.24	2.17	0.72
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.00	0.14	0.00	0.00	0.00	0.03
	4	0.01	52.97	0.00	0.00	0.00	-0.10
	5	0.00	15.80	0.00	0.00	0.00	-0.03
	6	1.42	35.47	0.00	0.00	0.00	-10.09
	7	0.42	10.56	0.00	0.00	0.00	-3.01
	8	1.41	33.31	0.00	0.00	0.00	-10.02
	9	0.42	9.92	0.00	0.00	0.00	-2.98
	10	0.00	0.00	15.34	341.82	0.09	0.00
	11	0.96	0.03	-0.22	-6.23	0.00	-10.76
	12	0.30	0.02	-0.13	-3.89	-0.04	-3.40
	13	0.00	0.00	-0.88	-27.02	-0.25	0.00
	14	-8.09	-8.49	-31.22	-685.04	-0.19	90.90
	15	-0.03	294.18	10.46	171.58	2.27	0.61
	16	1.79	271.44	10.46	171.58	2.27	-12.35
	17	1.78	268.64	10.46	171.58	2.27	-12.25
	18	0.73	180.23	8.19	132.28	1.81	-8.03
	19	0.45	235.37	7.51	111.04	1.58	-4.81
	20	1.90	217.17	7.51	111.04	1.58	-15.18
	21	1.90	214.94	7.51	111.04	1.58	-15.10
	22	-6.49	228.55	-16.61	-410.77	1.66	73.21
	23	-5.04	210.36	-16.61	-410.77	1.66	62.84
	24	-5.04	208.12	-16.61	-410.77	1.66	62.92
	25	6.44	242.14	33.35	685.30	1.96	-72.23
	26	7.90	223.94	33.35	685.30	1.96	-82.60
	27	7.89	221.71	33.35	685.30	1.96	-82.52
	28	-5.16	156.10	-15.11	-374.17	1.50	58.22
	29	6.48	168.32	29.85	612.29	1.76	-72.68
	30	-5.42	205.72	-15.72	-393.32	1.29	61.08
	31	-4.10	189.34	-15.72	-393.32	1.29	51.75
	32	-4.11	187.33	-15.72	-393.32	1.29	51.82
	33	6.23	217.94	29.23	593.14	1.55	-69.82
	34	7.54	201.57	29.23	593.14	1.55	-79.15
	35	7.53	199.56	29.23	593.14	1.55	-79.08
13	1	-1.72	160.54	-3.49	-164.69	-0.58	13.52
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	-0.09	-2.25	0.00	0.00	0.00	0.71
	4	0.12	56.60	0.00	0.00	0.00	-0.93

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	5	0.04	16.88	0.00	0.00	0.00	-0.28
	6	-1.38	37.60	0.00	0.00	0.00	9.80
	7	-0.41	11.19	0.00	0.00	0.00	2.92
	8	-0.13	70.89	0.00	0.00	0.00	1.00
	9	-0.04	21.11	0.00	0.00	0.00	0.30
	10	0.00	0.00	15.29	341.20	0.09	0.00
	11	0.97	0.42	-0.22	-6.22	0.00	-10.85
	12	0.31	0.17	-0.11	-3.66	-0.11	-3.42
	13	0.00	0.00	-0.80	-25.40	-0.75	0.00
	14	-24.99	-22.60	-31.12	-683.80	-0.16	278.16
	15	-1.66	263.38	11.80	176.52	-0.49	13.02
	16	-3.60	238.69	11.80	176.52	-0.49	26.94
	17	-1.99	281.89	11.80	176.52	-0.49	15.53
	18	-0.60	154.06	9.26	136.24	-0.40	2.13
	19	-0.85	210.95	8.66	116.47	-1.08	5.08
	20	-2.41	191.19	8.66	116.47	-1.08	16.21
	21	-1.11	225.75	8.66	116.47	-1.08	7.08
	22	-21.32	192.62	-15.46	-405.82	-0.52	232.95
	23	-22.87	172.87	-15.46	-405.82	-0.52	244.08
	24	-21.58	207.43	-15.46	-405.82	-0.52	234.95
	25	18.66	228.79	34.33	688.25	-0.27	-212.11
	26	17.11	209.03	34.33	688.25	-0.27	-200.98
	27	18.40	243.60	34.33	688.25	-0.27	-210.11
	28	-18.53	122.37	-14.07	-369.72	-0.47	202.20
	29	17.45	154.92	30.74	614.95	-0.24	-198.36
	30	-18.75	173.58	-14.61	-387.53	-1.09	204.80
	31	-20.15	155.80	-14.61	-387.53	-1.09	214.82
	32	-18.99	186.91	-14.61	-387.53	-1.09	206.61
	33	17.23	206.13	30.19	597.13	-0.86	-195.75
	34	15.83	188.35	30.19	597.13	-0.86	-185.73
	35	16.99	219.46	30.19	597.13	-0.86	-193.95
14	1	9.79	284.61	8.37	-61.54	-23.70	-67.70
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.88	13.22	0.00	0.00	0.00	-6.23
	4	-1.57	23.18	0.00	0.00	0.00	11.07
	5	-0.47	6.91	0.00	0.00	0.00	3.30
	6	0.00	-2.33	0.00	0.00	0.00	-0.02
	7	0.00	-0.69	0.00	0.00	0.00	-0.01
	8	0.53	70.60	0.00	0.00	0.00	-3.71
	9	0.16	21.02	0.00	0.00	0.00	-1.11
	10	0.00	0.00	15.36	342.02	-0.62	0.00
	11	0.87	-0.56	-0.23	-6.23	0.01	-10.11
	12	0.27	-0.11	-0.09	-3.22	-0.15	-3.18
	13	0.00	0.00	-0.63	-22.37	-1.06	0.00
	14	-36.46	31.09	-31.25	-685.45	1.27	427.44
	15	8.64	359.53	23.73	280.48	-24.32	-59.56
	16	10.67	326.42	23.73	280.48	-24.32	-73.96
	17	11.36	421.05	23.73	280.48	-24.32	-78.74

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	18	8.53	252.53	18.81	219.40	-19.45	-62.25
	19	7.34	287.40	18.36	202.42	-20.42	-52.62
	20	8.96	260.91	18.36	202.42	-20.42	-64.14
	21	9.51	336.62	18.36	202.42	-20.42	-67.97
	22	-22.26	312.50	-6.02	-323.98	-18.44	294.30
	23	-20.63	286.01	-6.02	-323.98	-18.44	282.79
	24	-20.08	361.72	-6.02	-323.98	-18.44	278.96
	25	36.08	262.75	43.99	772.75	-20.48	-389.60
	26	37.70	236.26	43.99	772.75	-20.48	-401.12
	27	38.25	311.97	43.99	772.75	-20.48	-404.95
	28	-18.58	249.66	-5.58	-296.06	-16.59	251.73
	29	33.92	204.89	39.43	690.99	-18.42	-363.78
	30	-19.64	281.05	-5.98	-311.37	-17.46	260.36
	31	-18.18	257.21	-5.98	-311.37	-17.46	249.99
	32	-17.69	325.35	-5.98	-311.37	-17.46	246.54
	33	32.86	236.27	39.02	675.68	-19.30	-355.16
	34	34.32	212.43	39.02	675.68	-19.30	-365.52
	35	34.81	280.57	39.02	675.68	-19.30	-368.97

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
1	1	1	-19.08	0.00	0.00	300.20	-235.10	76.80
		2	19.08	161.36	0.00	-315.46	235.10	-862.70
	2	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	3	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	11.11	0.00	0.00	0.00	-47.10
	4	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	5	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	6	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	7	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	8	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	33.33	0.00	0.00	0.00	-141.30
	9	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	9.92	0.00	0.00	0.00	-42.07
	10	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	7.29	2.46	30.92	0.00
	11	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.44	0.00	-0.11	-0.62	-0.45	0.00
	12	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	13	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	14	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	-14.84	0.00	-62.92	0.00
	15	1	-19.08	0.00	0.00	300.20	-235.10	76.80
		2	19.08	172.47	7.29	-313.00	266.02	-909.80
	16	1	-19.08	0.00	0.00	300.20	-235.10	76.80
		2	19.08	172.47	7.29	-313.00	266.02	-909.80
	17	1	-19.08	0.00	0.00	300.20	-235.10	76.80
		2	19.08	215.72	7.29	-313.00	266.02	-1093.17
	18	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.62	129.09	5.75	-250.90	212.46	-690.16
	19	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.37	137.98	5.81	-250.55	212.71	-727.84
	20	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.37	137.98	5.81	-250.55	212.71	-727.84
	21	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.37	172.57	5.81	-250.55	212.71	-874.53
	22	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	137.98	-6.04	-250.40	162.48	-727.84

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	137.98	-6.04	-250.40	162.48	-727.84
	24	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	172.57	-6.04	-250.40	162.48	-874.53
	25	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	137.98	17.71	-250.40	263.15	-727.84
	26	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	137.98	17.71	-250.40	263.15	-727.84
	27	1	-15.26	0.00	0.00	240.16	-188.08	61.44
		2	15.26	172.57	17.71	-250.40	263.15	-874.53
	28	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	14.06	116.18	-5.51	-225.81	145.91	-621.14
	29	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	14.06	116.18	15.86	-225.81	236.51	-621.14
	30	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	124.18	-5.46	-225.50	146.13	-655.05
	31	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	124.18	-5.46	-225.50	146.13	-655.05
	32	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	155.32	-5.46	-225.50	146.13	-787.08
	33	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	124.18	15.91	-225.50	236.74	-655.05
	34	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	124.18	15.91	-225.50	236.74	-655.05
	35	1	-13.74	0.00	0.00	216.14	-169.27	55.30
		2	13.84	155.32	15.91	-225.50	236.74	-787.08
2	1	2	-28.87	123.25	8.37	70.13	-211.40	715.53
		3	28.87	67.73	-8.37	-102.53	60.68	-215.79
	2	2	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00
	3	2	-0.88	2.11	0.00	0.00	0.00	33.97
		3	0.88	-2.11	0.00	0.00	0.00	3.96
	4	2	1.57	23.18	0.00	0.00	0.00	23.34
		3	-1.57	29.92	0.00	0.00	0.00	-84.05
	5	2	0.47	6.91	0.00	0.00	0.00	6.96
		3	-0.47	8.93	0.00	0.00	0.00	-25.07
	6	2	0.00	-2.33	0.00	0.00	0.00	0.08
		3	0.00	2.33	0.00	0.00	0.00	-41.94
	7	2	0.00	-0.69	0.00	0.00	0.00	0.02
		3	0.00	0.69	0.00	0.00	0.00	-12.49
	8	2	-0.53	37.27	0.00	0.00	0.00	133.42
		3	0.53	33.47	0.00	0.00	0.00	-99.16
	9	2	-0.16	11.10	0.00	0.00	0.00	39.72
		3	0.16	9.96	0.00	0.00	0.00	-29.52
	10	2	0.00	0.00	8.07	2.42	-30.30	0.00
		3	0.00	0.00	7.41	2.80	24.42	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	2	0.42	0.82	-0.12	-0.67	0.44	8.93
		3	0.52	-0.82	-0.11	-0.64	-0.35	5.75
	12	2	0.27	0.26	-0.09	-1.24	0.15	2.81
		3	0.08	-0.26	-0.04	-0.15	0.28	1.82
	13	2	0.00	0.00	-0.63	-8.59	1.06	0.00
		3	0.00	0.00	-0.30	-1.05	1.93	0.00
	14	2	36.46	31.09	-16.41	0.53	61.65	372.81
		3	-36.46	-31.09	-15.09	-0.53	-49.73	186.90
	15	2	-27.72	155.45	16.44	72.55	-241.70	779.80
		3	27.72	104.47	-0.96	-99.73	85.10	-320.95
	16	2	-29.75	122.34	16.44	72.55	-241.70	749.60
		3	29.75	68.64	-0.96	-99.73	85.10	-266.26
	17	2	-30.44	173.73	16.44	72.55	-241.70	922.64
		3	30.44	109.05	-0.96	-99.73	85.10	-340.52
	18	2	-22.76	99.26	13.06	57.50	-193.00	579.57
		3	23.51	53.53	-0.85	-80.30	67.80	-168.03
	19	2	-21.85	124.76	12.55	50.02	-192.28	628.23
		3	22.36	83.17	-1.06	-80.90	69.76	-253.93
	20	2	-23.48	98.28	12.55	50.02	-192.28	604.07
		3	23.99	54.51	-1.06	-80.90	69.76	-210.18
	21	2	-24.03	139.39	12.55	50.02	-192.28	742.51
		3	24.54	86.84	-1.06	-80.90	69.76	-269.58
	22	2	6.99	149.24	0.02	58.46	-144.04	922.08
		3	-6.99	58.70	-12.84	-80.21	28.29	-107.24
	23	2	5.37	122.75	0.02	58.46	-144.04	897.93
		3	-5.37	30.03	-12.84	-80.21	28.29	-63.49
	24	2	4.82	163.86	0.02	58.46	-144.04	1036.36
		3	-4.82	62.36	-12.84	-80.21	28.29	-122.89
	25	2	-51.34	99.49	26.28	57.62	-242.68	325.59
		3	51.34	108.45	11.30	-79.36	107.86	-406.28
	26	2	-52.96	73.00	26.28	57.62	-242.68	301.44
		3	52.96	79.79	11.30	-79.36	107.86	-362.53
	27	2	-53.52	114.11	26.28	57.62	-242.68	439.87
		3	53.52	112.12	11.30	-79.36	107.86	-421.94
	28	2	5.77	111.72	-0.06	52.13	-129.32	790.03
		3	-5.09	25.79	-11.63	-72.65	25.21	-16.66
	29	2	-46.73	66.94	23.57	51.38	-218.09	253.19
		3	47.41	70.56	10.09	-71.89	96.82	-285.80
	30	2	6.58	134.68	-0.52	45.39	-128.67	833.86
		3	-6.12	52.46	-11.82	-73.19	26.97	-93.94
	31	2	5.12	110.84	-0.52	45.39	-128.67	812.12
		3	-4.66	26.67	-11.82	-73.19	26.97	-54.57
	32	2	4.63	147.84	-0.52	45.39	-128.67	936.71
		3	-4.16	55.76	-11.82	-73.19	26.97	-108.03
	33	2	-45.92	89.90	23.11	44.63	-217.44	297.02
		3	46.38	97.24	9.90	-72.44	98.59	-363.08
	34	2	-47.38	66.06	23.11	44.63	-217.44	275.28
		3	47.84	71.44	9.90	-72.44	98.59	-323.71

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	2	-47.87	103.06	23.11	44.63	-217.44	399.87
		3	48.34	100.54	9.90	-72.44	98.59	-377.17
3	1	3	-27.15	92.81	4.88	14.54	-60.10	240.04
		4	27.15	98.17	-4.88	-46.94	-27.73	-288.25
	2	3	0.00	0.00	0.00	0.00	0.00	0.00
		4	0.00	0.00	0.00	0.00	0.00	0.00
	3	3	-0.79	-0.14	0.00	0.00	0.00	-2.59
		4	0.79	0.14	0.00	0.00	0.00	0.02
	4	3	1.45	26.68	0.00	0.00	0.00	82.32
		4	-1.45	26.42	0.00	0.00	0.00	-79.97
	5	3	0.43	7.96	0.00	0.00	0.00	24.56
		4	-0.43	7.88	0.00	0.00	0.00	-23.86
	6	3	1.38	35.27	0.00	0.00	0.00	62.41
		4	-1.38	35.47	0.00	0.00	0.00	-64.17
	7	3	0.41	10.50	0.00	0.00	0.00	18.58
		4	-0.41	10.56	0.00	0.00	0.00	-19.10
	8	3	-0.39	37.43	0.00	0.00	0.00	101.11
		4	0.39	33.31	0.00	0.00	0.00	-64.10
	9	3	-0.12	11.14	0.00	0.00	0.00	30.10
		4	0.12	9.92	0.00	0.00	0.00	-19.08
	10	3	0.00	0.00	7.88	2.77	-24.51	0.00
		4	0.00	0.00	7.60	2.45	22.03	0.00
	11	3	0.45	0.55	-0.12	-0.67	0.36	4.71
		4	0.49	-0.55	-0.11	-0.65	-0.32	5.12
	12	3	0.23	0.17	-0.07	-0.99	-0.17	1.49
		4	0.13	-0.17	-0.06	-0.40	0.27	1.62
	13	3	0.00	0.00	-0.50	-6.88	-1.18	0.00
		4	0.00	0.00	-0.42	-2.77	1.87	0.00
	14	3	61.45	8.49	-16.03	-0.27	49.89	83.42
		4	-61.45	-8.49	-15.47	0.27	-44.89	69.42
	15	3	-26.06	127.31	12.76	17.31	-84.60	344.33
		4	26.06	132.61	2.72	-44.49	-5.70	-392.07
	16	3	-26.14	138.44	12.76	17.31	-84.60	318.45
		4	26.14	144.34	2.72	-44.49	-5.70	-371.51
	17	3	-28.45	141.24	12.76	17.31	-84.60	368.67
		4	28.45	141.54	2.72	-44.49	-5.70	-371.42
	18	3	-21.36	74.69	10.11	13.32	-67.40	195.81
		4	22.11	78.10	2.09	-36.11	-4.81	-226.51
	19	3	-20.56	102.12	9.72	7.40	-68.68	277.78
		4	21.06	105.82	1.76	-38.29	-2.92	-311.13
	20	3	-20.62	111.02	9.72	7.40	-68.68	257.08
		4	21.13	115.20	1.76	-38.29	-2.92	-294.69
	21	3	-22.47	113.26	9.72	7.40	-68.68	297.26
		4	22.97	112.97	1.76	-38.29	-2.92	-294.61
	22	3	28.31	108.64	-2.62	13.63	-27.77	342.20
		4	-28.31	99.30	-10.20	-35.38	-40.47	-258.12

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	3	28.24	117.55	-2.62	13.63	-27.77	321.49
		4	-28.24	108.68	-10.20	-35.38	-40.47	-241.68
	24	3	26.40	119.78	-2.62	13.63	-27.77	361.67
		4	-26.40	106.44	-10.20	-35.38	-40.47	-241.60
	25	3	-70.00	95.05	23.03	14.07	-107.60	208.73
		4	70.00	112.88	14.56	-35.81	31.35	-369.19
	26	3	-70.07	103.96	23.03	14.07	-107.60	188.03
		4	70.07	122.26	14.56	-35.81	31.35	-352.74
	27	3	-71.91	106.20	23.03	14.07	-107.60	228.20
		4	71.91	120.03	14.56	-35.81	31.35	-352.67
	28	3	25.02	73.33	-2.44	11.79	-24.74	236.29
		4	-24.34	64.17	-9.26	-32.30	-36.65	-153.88
	29	3	-63.46	61.10	20.64	12.18	-96.58	116.17
		4	64.14	76.40	13.02	-32.70	27.99	-253.84
	30	3	25.74	98.02	-2.79	6.46	-25.88	310.09
		4	-25.28	89.12	-9.55	-34.26	-34.95	-230.02
	31	3	25.68	106.04	-2.79	6.46	-25.88	291.45
		4	-25.22	97.57	-9.55	-34.26	-34.95	-215.22
	32	3	24.02	108.05	-2.79	6.46	-25.88	327.61
		4	-23.56	95.55	-9.55	-34.26	-34.95	-215.15
	33	3	-62.74	85.79	20.29	6.85	-97.73	189.97
		4	63.20	101.35	12.73	-34.66	29.69	-329.98
	34	3	-62.80	93.81	20.29	6.85	-97.73	171.33
		4	63.26	109.79	12.73	-34.66	29.69	-315.18
	35	3	-64.46	95.82	20.29	6.85	-97.73	207.49
		4	64.92	107.78	12.73	-34.66	29.69	-315.11
4	1	4	-27.11	95.49	0.00	-16.20	25.56	288.47
		5	27.11	95.49	0.00	-16.20	-25.56	-288.47
	2	4	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.00	0.00
	3	4	-0.78	0.00	0.00	0.00	0.00	0.01
		5	0.78	0.00	0.00	0.00	0.00	-0.01
	4	4	1.43	26.55	0.00	0.00	0.00	79.83
		5	-1.43	26.55	0.00	0.00	0.00	-79.83
	5	4	0.43	7.92	0.00	0.00	0.00	23.81
		5	-0.43	7.92	0.00	0.00	0.00	-23.81
	6	4	-0.03	0.00	0.00	0.00	0.00	43.20
		5	0.03	0.00	0.00	0.00	0.00	-43.20
	7	4	-0.01	0.00	0.00	0.00	0.00	12.86
		5	0.01	0.00	0.00	0.00	0.00	-12.86
	8	4	-1.80	0.00	0.00	0.00	0.00	43.21
		5	1.80	0.00	0.00	0.00	0.00	-43.21
	9	4	-0.54	0.00	0.00	0.00	0.00	12.86
		5	0.54	0.00	0.00	0.00	0.00	-12.86
	10	4	0.00	0.00	7.74	2.61	-22.12	0.00
		5	0.00	0.00	7.74	2.61	22.12	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	4	0.47	0.57	-0.11	-0.66	0.32	5.15
		5	0.47	-0.57	-0.11	-0.66	-0.32	5.15
	12	4	0.18	0.18	-0.07	-0.69	-0.23	1.63
		5	0.18	-0.18	-0.07	-0.69	0.23	1.63
	13	4	0.00	0.00	-0.46	-4.82	-1.62	0.00
		5	0.00	0.00	-0.46	-4.82	1.62	0.00
	14	4	69.53	0.00	-15.75	0.00	45.07	17.17
		5	-69.53	0.00	-15.75	0.00	-45.07	-17.17
	15	4	-26.03	129.96	7.74	-13.59	3.43	392.12
		5	26.03	129.96	7.74	-13.59	-3.43	-392.12
	16	4	-27.93	95.49	7.74	-13.59	3.43	344.54
		5	27.93	95.49	7.74	-13.59	-3.43	-344.54
	17	4	-30.23	95.49	7.74	-13.59	3.43	344.55
		5	30.23	95.49	7.74	-13.59	-3.43	-344.55
	18	4	-21.31	76.85	6.10	-11.40	3.00	234.89
		5	22.06	75.93	6.10	-11.40	-3.00	-226.66
	19	4	-20.57	104.25	5.74	-15.44	1.34	316.23
		5	21.08	103.69	5.74	-15.44	-1.34	-311.16
	20	4	-22.09	76.67	5.74	-15.44	1.34	278.17
		5	22.60	76.11	5.74	-15.44	-1.34	-273.10
	21	4	-23.93	76.67	5.74	-15.44	1.34	278.18
		5	24.44	76.11	5.74	-15.44	-1.34	-273.10
	22	4	34.80	103.97	-6.41	-10.87	38.80	327.43
		5	-34.80	103.97	-6.41	-10.87	-38.80	-327.43
	23	4	33.28	76.39	-6.41	-10.87	38.80	289.37
		5	-33.28	76.39	-6.41	-10.87	-38.80	-289.37
	24	4	31.44	76.39	-6.41	-10.87	38.80	289.37
		5	-31.44	76.39	-6.41	-10.87	-38.80	-289.37
	25	4	-76.45	103.97	18.79	-10.87	-33.31	299.96
		5	76.45	103.97	18.79	-10.87	33.31	-299.96
	26	4	-77.97	76.39	18.79	-10.87	-33.31	261.90
		5	77.97	76.39	18.79	-10.87	33.31	-261.90
	27	4	-79.81	76.39	18.79	-10.87	-33.31	261.91
		5	79.81	76.39	18.79	-10.87	33.31	-261.91
	28	4	30.89	69.16	-5.85	-10.26	35.15	223.76
		5	-30.21	68.34	-5.85	-10.26	-35.15	-216.35
	29	4	-69.24	69.16	16.83	-10.26	-29.75	199.05
		5	69.92	68.34	16.83	-10.26	29.75	-191.63
	30	4	31.55	93.83	-6.17	-13.90	33.66	296.99
		5	-31.09	93.32	-6.17	-13.90	-33.66	-292.38
	31	4	30.18	69.01	-6.17	-13.90	33.66	262.73
		5	-29.72	68.50	-6.17	-13.90	-33.66	-258.13
	32	4	28.53	69.01	-6.17	-13.90	33.66	262.74
		5	-28.07	68.50	-6.17	-13.90	-33.66	-258.13
	33	4	-68.57	93.83	16.51	-13.90	-31.24	272.27
		5	69.03	93.32	16.51	-13.90	31.24	-267.66
	34	4	-69.94	69.01	16.51	-13.90	-31.24	238.02
		5	70.41	68.50	16.51	-13.90	31.24	-233.41

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	4	-71.60	69.01	16.51	-13.90	-31.24	238.02
		5	72.06	68.50	16.51	-13.90	31.24	-233.41
5	1	5	-27.15	98.17	-4.88	-46.94	27.73	288.25
		6	27.15	92.81	4.88	14.54	60.10	-240.04
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	0.00	0.00
	3	5	-0.79	0.14	0.00	0.00	0.00	-0.02
		6	0.79	-0.14	0.00	0.00	0.00	2.59
	4	5	1.45	26.42	0.00	0.00	0.00	79.97
		6	-1.45	26.68	0.00	0.00	0.00	-82.32
	5	5	0.43	7.88	0.00	0.00	0.00	23.86
		6	-0.43	7.96	0.00	0.00	0.00	-24.56
	6	5	1.38	35.47	0.00	0.00	0.00	64.17
		6	-1.38	35.27	0.00	0.00	0.00	-62.41
	7	5	0.41	10.56	0.00	0.00	0.00	19.10
		6	-0.41	10.50	0.00	0.00	0.00	-18.58
	8	5	-0.39	33.31	0.00	0.00	0.00	64.10
		6	0.39	37.43	0.00	0.00	0.00	-101.11
	9	5	-0.12	9.92	0.00	0.00	0.00	19.08
		6	0.12	11.14	0.00	0.00	0.00	-30.10
	10	5	0.00	0.00	7.60	2.45	-22.03	0.00
		6	0.00	0.00	7.88	2.77	24.51	0.00
	11	5	0.49	0.55	-0.11	-0.65	0.32	5.12
		6	0.45	-0.55	-0.12	-0.67	-0.36	4.71
	12	5	0.13	0.17	-0.06	-0.40	-0.27	1.62
		6	0.23	-0.17	-0.07	-0.99	0.17	1.49
	13	5	0.00	0.00	-0.42	-2.77	-1.87	0.00
		6	0.00	0.00	-0.50	-6.88	1.18	0.00
	14	5	61.45	-8.49	-15.47	0.27	44.89	-69.42
		6	-61.45	8.49	-16.03	-0.27	-49.89	-83.42
	15	5	-26.06	132.61	2.72	-44.49	5.70	392.07
		6	26.06	127.31	12.76	17.31	84.60	-344.33
	16	5	-26.14	144.34	2.72	-44.49	5.70	371.51
		6	26.14	138.44	12.76	17.31	84.60	-318.45
	17	5	-28.45	141.54	2.72	-44.49	5.70	371.42
		6	28.45	141.24	12.76	17.31	84.60	-368.67
	18	5	-21.33	78.97	2.09	-36.11	4.81	234.70
		6	22.08	73.81	10.11	13.32	67.40	-188.26
	19	5	-20.63	106.36	1.76	-38.29	2.92	316.18
		6	21.14	101.58	9.72	7.40	68.68	-273.14
	20	5	-20.70	115.74	1.76	-38.29	2.92	299.73
		6	21.20	110.48	9.72	7.40	68.68	-252.44
	21	5	-22.54	113.50	1.76	-38.29	2.92	299.66
		6	23.05	112.72	9.72	7.40	68.68	-292.61
	22	5	28.31	99.30	-10.20	-35.38	40.47	258.12
		6	-28.31	108.64	-2.62	13.63	27.77	-342.20

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	28.24	108.68	-10.20	-35.38	40.47	241.68
		6	-28.24	117.55	-2.62	13.63	27.77	-321.49
	24	5	26.40	106.44	-10.20	-35.38	40.47	241.60
		6	-26.40	119.78	-2.62	13.63	27.77	-361.67
	25	5	-70.00	112.88	14.56	-35.81	-31.35	369.19
		6	70.00	95.05	23.03	14.07	107.60	-208.73
	26	5	-70.07	122.26	14.56	-35.81	-31.35	352.74
		6	70.07	103.96	23.03	14.07	107.60	-188.03
	27	5	-71.91	120.03	14.56	-35.81	-31.35	352.67
		6	71.91	106.20	23.03	14.07	107.60	-228.20
	28	5	25.05	64.96	-9.26	-32.30	36.65	161.25
		6	-24.37	72.54	-2.44	11.79	24.74	-229.50
	29	5	-63.44	77.19	13.02	-32.70	-27.99	261.21
		6	64.11	60.32	20.64	12.18	96.58	-109.38
	30	5	25.68	89.61	-9.55	-34.26	34.95	234.60
		6	-25.22	97.53	-2.79	6.46	25.88	-305.87
	31	5	25.62	98.05	-9.55	-34.26	34.95	219.80
		6	-25.16	105.55	-2.79	6.46	25.88	-287.24
	32	5	23.96	96.04	-9.55	-34.26	34.95	219.74
		6	-23.50	107.56	-2.79	6.46	25.88	-323.39
	33	5	-62.80	101.84	12.73	-34.66	-29.69	334.56
		6	63.27	85.30	20.29	6.85	97.73	-185.75
	34	5	-62.87	110.28	12.73	-34.66	-29.69	319.76
		6	63.33	93.32	20.29	6.85	97.73	-167.12
	35	5	-64.52	108.27	12.73	-34.66	-29.69	319.70
		6	64.99	95.33	20.29	6.85	97.73	-203.27
6	1	6	-28.87	67.73	-8.37	-102.53	-60.68	215.79
		7	28.87	123.25	8.37	70.13	211.40	-715.53
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		7	0.00	0.00	0.00	0.00	0.00	0.00
	3	6	-0.88	-2.11	0.00	0.00	0.00	-3.96
		7	0.88	2.11	0.00	0.00	0.00	-33.97
	4	6	1.57	29.92	0.00	0.00	0.00	84.05
		7	-1.57	23.18	0.00	0.00	0.00	-23.34
	5	6	0.47	8.93	0.00	0.00	0.00	25.07
		7	-0.47	6.91	0.00	0.00	0.00	-6.96
	6	6	0.00	2.33	0.00	0.00	0.00	41.94
		7	0.00	-2.33	0.00	0.00	0.00	-0.08
	7	6	0.00	0.69	0.00	0.00	0.00	12.49
		7	0.00	-0.69	0.00	0.00	0.00	-0.02
	8	6	-0.53	33.47	0.00	0.00	0.00	99.16
		7	0.53	37.27	0.00	0.00	0.00	-133.42
	9	6	-0.16	9.96	0.00	0.00	0.00	29.52
		7	0.16	11.10	0.00	0.00	0.00	-39.72
	10	6	0.00	0.00	7.41	2.80	-24.42	0.00
		7	0.00	0.00	8.07	2.42	30.30	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	6	0.52	0.82	-0.11	-0.64	0.35	5.75
		7	0.42	-0.82	-0.12	-0.67	-0.44	8.93
	12	6	0.08	0.26	-0.04	-0.15	-0.28	1.82
		7	0.27	-0.26	-0.09	-1.24	-0.15	2.81
	13	6	0.00	0.00	-0.30	-1.05	-1.93	0.00
		7	0.00	0.00	-0.63	-8.59	-1.06	0.00
	14	6	36.46	-31.09	-15.09	-0.53	49.73	-186.90
		7	-36.46	31.09	-16.41	0.53	-61.65	-372.81
	15	6	-27.72	104.47	-0.96	-99.73	-85.10	320.95
		7	27.72	155.45	16.44	72.55	241.70	-779.80
	16	6	-29.75	68.64	-0.96	-99.73	-85.10	266.26
		7	29.75	122.34	16.44	72.55	241.70	-749.60
	17	6	-30.44	109.05	-0.96	-99.73	-85.10	340.52
		7	30.44	173.73	16.44	72.55	241.70	-922.64
	18	6	-22.68	54.83	-0.85	-80.30	-67.80	177.24
		7	23.43	97.95	13.06	57.50	193.00	-565.28
	19	6	-21.98	83.98	-1.06	-80.90	-69.76	259.60
		7	22.49	123.96	12.55	50.02	192.28	-619.44
	20	6	-23.61	55.31	-1.06	-80.90	-69.76	215.84
		7	24.12	97.47	12.55	50.02	192.28	-595.29
	21	6	-24.16	87.64	-1.06	-80.90	-69.76	275.25
		7	24.67	138.58	12.55	50.02	192.28	-733.72
	22	6	6.99	58.70	-12.84	-80.21	-28.29	107.24
		7	-6.99	149.24	0.02	58.46	144.04	-922.08
	23	6	5.37	30.03	-12.84	-80.21	-28.29	63.49
		7	-5.37	122.75	0.02	58.46	144.04	-897.93
	24	6	4.82	62.36	-12.84	-80.21	-28.29	122.89
		7	-4.82	163.86	0.02	58.46	144.04	-1036.36
	25	6	-51.34	108.45	11.30	-79.36	-107.86	406.28
		7	51.34	99.49	26.28	57.62	242.68	-325.59
	26	6	-52.96	79.79	11.30	-79.36	-107.86	362.53
		7	52.96	73.00	26.28	57.62	242.68	-301.44
	27	6	-53.52	112.12	11.30	-79.36	-107.86	421.94
		7	53.52	114.11	26.28	57.62	242.68	-439.87
	28	6	5.84	26.96	-11.63	-72.65	-25.21	24.94
		7	-5.16	110.54	-0.06	52.13	129.32	-777.17
	29	6	-46.66	71.74	10.09	-71.89	-96.82	294.08
		7	47.34	65.77	23.57	51.38	218.09	-240.33
	30	6	6.47	53.19	-11.82	-73.19	-26.97	99.09
		7	-6.00	133.95	-0.52	45.39	128.67	-825.88
	31	6	5.00	27.40	-11.82	-73.19	-26.97	59.71
		7	-4.54	110.11	-0.52	45.39	128.67	-804.14
	32	6	4.51	56.49	-11.82	-73.19	-26.97	113.18
		7	-4.05	147.11	-0.52	45.39	128.67	-928.73
	33	6	-46.03	97.97	9.90	-72.44	-98.59	368.23
		7	46.50	89.17	23.11	44.63	217.44	-289.04
	34	6	-47.50	72.17	9.90	-72.44	-98.59	328.85
		7	47.96	65.33	23.11	44.63	217.44	-267.31

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	6	-47.99	101.27	9.90	-72.44	-98.59	382.32
		7	48.45	102.33	23.11	44.63	217.44	-391.89
7	1	7	-19.08	161.36	0.00	-315.46	-235.10	862.70
		8	19.08	0.00	0.00	300.20	235.10	-76.80
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	3	7	0.00	11.11	0.00	0.00	0.00	47.10
		8	0.00	0.00	0.00	0.00	0.00	0.00
	4	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	5	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	6	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	7	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	8	7	0.00	33.33	0.00	0.00	0.00	141.30
		8	0.00	0.00	0.00	0.00	0.00	0.00
	9	7	0.00	9.92	0.00	0.00	0.00	42.07
		8	0.00	0.00	0.00	0.00	0.00	0.00
	10	7	0.00	0.00	7.29	2.46	-30.92	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	11	7	0.44	0.00	-0.11	-0.62	0.45	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	12	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	13	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	14	7	0.00	0.00	-14.84	0.00	62.92	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	15	7	-19.08	172.47	7.29	-313.00	-266.02	909.80
		8	19.08	0.00	0.00	300.20	235.10	-76.80
	16	7	-19.08	172.47	7.29	-313.00	-266.02	909.80
		8	19.08	0.00	0.00	300.20	235.10	-76.80
	17	7	-19.08	215.72	7.29	-313.00	-266.02	1093.17
		8	19.08	0.00	0.00	300.20	235.10	-76.80
	18	7	-14.91	129.09	5.75	-250.90	-212.46	690.16
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	19	7	-15.16	137.98	5.81	-250.55	-212.71	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	20	7	-15.16	137.98	5.81	-250.55	-212.71	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	21	7	-15.16	172.57	5.81	-250.55	-212.71	874.53
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	22	7	-15.26	137.98	-6.04	-250.40	-162.48	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	7	-15.26	137.98	-6.04	-250.40	-162.48	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	24	7	-15.26	172.57	-6.04	-250.40	-162.48	874.53
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	25	7	-15.26	137.98	17.71	-250.40	-263.15	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	26	7	-15.26	137.98	17.71	-250.40	-263.15	727.84
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	27	7	-15.26	172.57	17.71	-250.40	-263.15	874.53
		8	15.26	0.00	0.00	240.16	188.08	-61.44
	28	7	-13.42	116.18	-5.51	-225.81	-145.91	621.14
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	29	7	-13.42	116.18	15.86	-225.81	-236.51	621.14
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	30	7	-13.64	124.18	-5.46	-225.50	-146.13	655.05
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	31	7	-13.64	124.18	-5.46	-225.50	-146.13	655.05
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	32	7	-13.64	155.32	-5.46	-225.50	-146.13	787.08
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	33	7	-13.64	124.18	15.91	-225.50	-236.74	655.05
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	34	7	-13.64	124.18	15.91	-225.50	-236.74	655.05
		8	13.74	0.00	0.00	216.14	169.27	-55.30
	35	7	-13.64	155.32	15.91	-225.50	-236.74	787.08
		8	13.74	0.00	0.00	216.14	169.27	-55.30
8	DL 1	2	284.61	9.79	-8.37	23.70	245.33	147.17
		9	-284.61	-9.79	8.37	-23.70	-61.54	67.70
	DL 2	2	0.00	0.00	0.00	0.00	0.00	0.00
		9	-31.61	0.00	0.00	0.00	0.00	0.00
	PED LL 3	2	13.22	0.88	0.00	0.00	0.00	13.13
		9	-13.22	-0.88	0.00	0.00	0.00	6.23
	LL 4	2	23.18	-1.57	0.00	0.00	0.00	-23.34
		9	-23.18	1.57	0.00	0.00	0.00	-11.07
	LL 5	2	6.91	-0.47	0.00	0.00	0.00	-6.96
		9	-6.91	0.47	0.00	0.00	0.00	-3.30
	6	2	-2.33	0.00	0.00	0.00	0.00	-0.08
		9	2.33	0.00	0.00	0.00	0.00	0.02
	7	2	-0.69	0.00	0.00	0.00	0.00	-0.02
		9	0.69	0.00	0.00	0.00	0.00	0.01
	8	2	70.60	0.53	0.00	0.00	0.00	7.88
		9	-70.60	-0.53	0.00	0.00	0.00	3.71
	9	2	21.02	0.16	0.00	0.00	0.00	2.35
		9	-21.02	-0.16	0.00	0.00	0.00	1.11
	℄ 10	2	0.00	0.00	-15.36	0.62	-4.88	0.00
		9	0.00	0.00	15.36	-0.62	342.02	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	MOVEMENTS LPILE	MOVEMENTS STAAD PRO
	11	2	0.56	-0.87	0.23	-0.01	1.29	-8.93		
		9	-0.56	0.87	-0.23	0.01	-6.23	-10.11		
	12	2	0.11	-0.27	0.09	0.15	1.24	-2.81		
		9	-0.11	0.27	-0.09	-0.15	-3.22	-3.18		
	13	2	0.00	0.00	0.63	1.06	8.59	0.00		
		9	0.00	0.00	-0.63	-1.06	-22.37	0.00		
NSY	14	2	31.09	-36.46	31.25	-1.27	-0.53	-372.81	0.228	0.34966
		9	-31.09	36.46	-31.25	1.27	-685.45	-427.44		
	15	2	327.92	8.64	-23.73	24.32	240.45	130.00		
		9	-359.53	-8.64	23.73	-24.32	280.48	59.56		
	16	2	294.81	10.67	-23.73	24.32	240.45	160.19		
		9	-326.42	-10.67	23.73	-24.32	280.48	73.96		
	17	2	389.45	11.36	-23.73	24.32	240.45	170.53	0.00177	0.02406
		9	-421.05	-11.36	23.73	-24.32	280.48	78.74		
	18	2	228.14	7.14	-18.81	19.45	193.39	110.59		
		9	-253.43	-7.14	18.81	-19.45	219.40	46.07		
	19	2	262.56	6.48	-18.36	20.42	200.54	99.61		
		9	-287.84	-6.48	18.36	-20.42	202.42	42.68		
	20	2	236.07	8.11	-18.36	20.42	200.54	123.76		
		9	-261.36	-8.11	18.36	-20.42	202.42	54.19		
	21	2	311.78	8.66	-18.36	20.42	200.54	132.03		
		9	-337.06	-8.66	18.36	-20.42	202.42	58.02		
	22	2	287.21	-22.26	6.02	18.44	191.94	-194.24		
		9	-312.50	22.26	-6.02	-18.44	-323.98	-294.30		
	23	2	260.72	-20.63	6.02	18.44	191.94	-170.09		
		9	-286.01	20.63	-6.02	-18.44	-323.98	-282.79		
	24	2	336.43	-20.08	6.02	18.44	191.94	-161.82		
		9	-361.72	20.08	-6.02	-18.44	-323.98	-278.96		
	25	2	237.46	36.08	-43.99	20.48	192.78	402.24		
		9	-262.75	-36.08	43.99	-20.48	772.75	389.60		
	26	2	210.97	37.70	-43.99	20.48	192.78	426.40		
		9	-236.26	-37.70	43.99	-20.48	772.75	401.12		
	27	2	286.68	38.25	-43.99	20.48	192.78	434.66		
		9	-311.97	-38.25	43.99	-20.48	772.75	404.95		
	28	2	227.71	-19.83	5.58	16.59	173.68	-168.89		
		9	-250.47	19.83	-5.58	-16.59	-296.06	-266.29		
	29	2	182.94	32.67	-39.43	18.42	174.43	367.95		
		9	-205.69	-32.67	39.43	-18.42	690.99	349.22		
	30	2	258.69	-20.42	5.98	17.46	180.11	-178.81		
		9	-281.45	20.42	-5.98	-17.46	-311.37	-269.39		
	31	2	234.85	-18.96	5.98	17.46	180.11	-157.07		
		9	-257.61	18.96	-5.98	-17.46	-311.37	-259.02		
	32	2	302.99	-18.46	5.98	17.46	180.11	-149.63		
		9	-325.75	18.46	-5.98	-17.46	-311.37	-255.58		
	33	2	213.91	32.08	-39.02	19.30	180.87	358.03		
		9	-236.67	-32.08	39.02	-19.30	675.68	346.12		
	34	2	190.08	33.54	-39.02	19.30	180.87	379.77		
		9	-212.83	-33.54	39.02	-19.30	675.68	356.49		

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	Movement: LPile	Movement: STAAD Pro
	35	2	258.21	34.04	-39.02	19.30	180.87	387.21		
		9	-280.97	-34.04	39.02	-19.30	675.68	359.94		
9	1	3	160.54	-1.72	3.49	0.58	87.99	-24.25	0.0330	0.10566
		10	-160.54	1.72	-3.49	-0.58	-164.69	-13.52		
	2	3	0.00	0.00	0.00	0.00	0.00	0.00		
		10	-31.61	0.00	0.00	0.00	0.00	0.00		
	3	3	-2.25	-0.09	0.00	0.00	0.00	-1.37		
		10	2.25	0.09	0.00	0.00	0.00	-0.71		
	4	3	56.60	0.12	0.00	0.00	0.00	1.73		
		10	-56.60	-0.12	0.00	0.00	0.00	0.93		
	5	3	16.88	0.04	0.00	0.00	0.00	0.52		
		10	-16.88	-0.04	0.00	0.00	0.00	0.28		
	6	3	37.60	-1.38	0.00	0.00	0.00	-20.47		
		10	-37.60	1.38	0.00	0.00	0.00	-9.80		
	7	3	11.19	-0.41	0.00	0.00	0.00	-6.10		
		10	-11.19	0.41	0.00	0.00	0.00	-2.92		
	8	3	70.89	-0.13	0.00	0.00	0.00	-1.95		
		10	-70.89	0.13	0.00	0.00	0.00	-1.00		
	9	3	21.11	-0.04	0.00	0.00	0.00	-0.58		
		10	-21.11	0.04	0.00	0.00	0.00	-0.30		
EAST	10	3	0.00	0.00	-15.29	-0.09	-5.57	0.00	0.0664	0.17548
		10	0.00	0.00	15.29	0.09	341.20	0.00		
	11	3	-0.42	-0.97	0.22	0.00	1.31	-10.47		
		10	0.42	0.97	-0.22	0.00	-6.22	-10.85		
	12	3	-0.17	-0.31	0.11	0.11	1.14	-3.30		
		10	0.17	0.31	-0.11	-0.11	-3.66	-3.42		
	13	3	0.00	0.00	0.80	0.75	7.93	0.00		
		10	0.00	0.00	-0.80	-0.75	-25.40	0.00		
RST	14	3	-22.60	-24.99	31.12	0.16	0.80	-270.32	0.228	0.3491
		10	22.60	24.99	-31.12	-0.16	-683.80	-278.16		
	15	3	231.78	-1.66	-11.80	0.49	82.42	-23.38		
		10	-263.38	1.66	11.80	-0.49	176.52	-13.02		
	16	3	207.08	-3.60	-11.80	0.49	82.42	-52.19		
		10	-238.69	3.60	11.80	-0.49	176.52	-26.94		
	17	3	250.29	-1.99	-11.80	0.49	82.42	-28.15	0.00304	0.01491
		10	-281.89	1.99	11.80	-0.49	176.52	-15.53		
	18	3	128.09	-2.15	-9.26	0.40	66.98	-27.78		
		10	-153.38	2.15	9.26	-0.40	136.24	-19.50		
	19	3	185.18	-1.80	-8.66	1.08	73.50	-23.86		
		10	-210.47	1.80	8.66	-1.08	116.47	-15.76		
	20	3	165.43	-3.36	-8.66	1.08	73.50	-46.90		
		10	-190.71	3.36	8.66	-1.08	116.47	-26.90		
	21	3	199.99	-2.07	-8.66	1.08	73.50	-27.68		
		10	-225.28	2.07	8.66	-1.08	116.47	-17.76		
	22	3	167.34	-21.32	15.46	0.52	66.57	-234.96		
		10	-192.62	21.32	-15.46	-0.52	-405.82	-232.95		

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	DISPLACEMENTS LPILE	STAADPRO
	23	3	147.58	-22.87	15.46	0.52	66.57	-258.01		
		10	-172.87	22.87	-15.46	-0.52	-405.82	-244.08		
	24	3	182.15	-21.58	15.46	0.52	66.57	-238.78		
		10	-207.43	21.58	-15.46	-0.52	-405.82	-234.95		
	25	3	203.50	18.66	-34.33	0.27	65.29	197.56	0.216	0.33517
		10	-228.79	-18.66	34.33	-0.27	688.25	212.11		
	26	3	183.75	17.11	-34.33	0.27	65.29	174.51		
		10	-209.03	-17.11	34.33	-0.27	688.25	200.98		
	27	3	218.31	18.40	-34.33	0.27	65.29	193.73		
		10	-243.60	-18.40	34.33	-0.27	688.25	210.11		
	28	3	99.01	-19.93	14.07	0.47	60.86	-219.63		
		10	-121.77	19.93	-14.07	-0.47	-369.72	-217.83		
	29	3	131.56	16.05	-30.74	0.24	59.71	169.63		
		10	-154.32	-16.05	30.74	-0.24	614.95	182.73		
	30	3	150.39	-19.62	14.61	1.09	66.73	-216.14		
		10	-173.15	19.62	-14.61	-1.09	-387.53	-214.51		
	31	3	132.61	-21.02	14.61	1.09	66.73	-236.89		
		10	-155.36	21.02	-14.61	-1.09	-387.53	-224.53		
	32	3	163.72	-19.86	14.61	1.09	66.73	-219.58		
		10	-186.47	19.86	-14.61	-1.09	-387.53	-216.31		
	33	3	182.94	16.36	-30.19	0.86	65.58	173.12		
		10	-205.70	-16.36	30.19	-0.86	597.13	186.05		
	34	3	165.16	14.96	-30.19	0.86	65.58	152.37		
		10	-187.91	-14.96	30.19	-0.86	597.13	176.03		
	35	3	196.27	16.12	-30.19	0.86	65.58	169.68		
		10	-219.02	-16.12	30.19	-0.86	597.13	184.25		
10	1	4	193.66	-0.04	4.88	-2.17	63.14	-0.21		
		11	-193.66	0.04	-4.88	2.17	-170.24	-0.72		
	2	4	0.00	0.00	0.00	0.00	0.00	0.00		
		11	-31.61	0.00	0.00	0.00	0.00	0.00		
	3	4	0.14	0.00	0.00	0.00	0.00	-0.03		
		11	-0.14	0.00	0.00	0.00	0.00	-0.03		
	4	4	52.97	0.01	0.00	0.00	0.00	0.15		
		11	-52.97	-0.01	0.00	0.00	0.00	0.10		
	5	4	15.80	0.00	0.00	0.00	0.00	0.04		
		11	-15.80	0.00	0.00	0.00	0.00	0.03		
	6	4	35.47	1.42	0.00	0.00	0.00	20.97		
		11	-35.47	-1.42	0.00	0.00	0.00	10.09		
	7	4	10.56	0.42	0.00	0.00	0.00	6.24		
		11	-10.56	-0.42	0.00	0.00	0.00	3.01		
	8	4	33.31	1.41	0.00	0.00	0.00	20.89		
		11	-33.31	-1.41	0.00	0.00	0.00	10.02		
	9	4	9.92	0.42	0.00	0.00	0.00	6.22		
		11	-9.92	-0.42	0.00	0.00	0.00	2.98		
	10	4	0.00	0.00	-15.34	-0.09	-5.06	0.00		
		11	0.00	0.00	15.34	0.09	341.82	0.00		

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	4	-0.03	-0.96	0.22	0.00	1.30	-10.27
		11	0.03	0.96	-0.22	0.00	-6.23	-10.76
	12	4	-0.02	-0.30	0.13	0.04	1.09	-3.24
		11	0.02	0.30	-0.13	-0.04	-3.89	-3.40
	13	4	0.00	0.00	0.88	0.25	7.60	0.00
		11	0.00	0.00	-0.88	-0.25	-27.02	0.00
	14	4	-8.49	-8.09	31.22	0.19	-0.27	-86.58
		11	8.49	8.09	-31.22	-0.19	-685.04	-90.90
	15	4	262.57	-0.03	-10.46	-2.27	58.08	-0.05
		11	-294.18	0.03	10.46	2.27	171.58	-0.61
	16	4	239.83	1.79	-10.46	-2.27	58.08	26.97
		11	-271.44	-1.79	10.46	2.27	171.58	12.35
	17	4	237.03	1.78	-10.46	-2.27	58.08	26.87
		11	-268.64	-1.78	10.46	2.27	171.58	12.25
	18	4	154.91	-0.80	-8.19	-1.81	47.51	-8.39
		11	-180.19	0.80	8.19	1.81	132.28	-9.18
	19	4	210.03	-0.50	-7.51	-1.58	53.73	-5.10
		11	-235.32	0.50	7.51	1.58	111.04	-5.79
	20	4	191.84	0.96	-7.51	-1.58	53.73	16.51
		11	-217.13	-0.96	7.51	1.58	111.04	4.58
	21	4	189.60	0.95	-7.51	-1.58	53.73	16.44
		11	-214.89	-0.95	7.51	1.58	111.04	4.50
	22	4	203.27	-6.49	16.61	-1.66	46.25	-69.31
		11	-228.55	6.49	-16.61	1.66	-410.77	-73.21
	23	4	185.07	-5.04	16.61	-1.66	46.25	-47.69
		11	-210.36	5.04	-16.61	1.66	-410.77	-62.84
	24	4	182.83	-5.04	16.61	-1.66	46.25	-47.77
		11	-208.12	5.04	-16.61	1.66	-410.77	-62.92
	25	4	216.85	6.44	-33.35	-1.96	46.69	69.22
		11	-242.14	-6.44	33.35	1.96	685.30	72.23
	26	4	198.65	7.90	-33.35	-1.96	46.69	90.84
		11	-223.94	-7.90	33.35	1.96	685.30	82.60
	27	4	196.42	7.89	-33.35	-1.96	46.69	90.76
		11	-221.71	-7.89	33.35	1.96	685.30	82.52
	28	4	133.30	-6.54	15.11	-1.50	42.56	-69.89
		11	-156.06	6.54	-15.11	1.50	-374.17	-73.71
	29	4	145.53	5.10	-29.85	-1.76	42.96	54.79
		11	-168.29	-5.10	29.85	1.76	612.29	57.19
	30	4	182.92	-6.27	15.72	-1.29	48.16	-66.97
		11	-205.68	6.27	-15.72	1.29	-393.32	-70.70
	31	4	166.54	-4.96	15.72	-1.29	48.16	-47.52
		11	-189.30	4.96	-15.72	1.29	-393.32	-61.37
	32	4	164.53	-4.97	15.72	-1.29	48.16	-47.59
		11	-187.29	4.97	-15.72	1.29	-393.32	-61.44
	33	4	195.14	5.37	-29.23	-1.55	48.56	57.71
		11	-217.90	-5.37	29.23	1.55	593.14	60.20
	34	4	178.77	6.68	-29.23	-1.55	48.56	77.16
		11	-201.53	-6.68	29.23	1.55	593.14	69.53

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	4	176.76	6.68	-29.23	-1.55	48.56	77.09
		11	-199.51	-6.68	29.23	1.55	593.14	69.46
11	1	5	193.66	0.04	4.88	2.17	63.14	0.21
		12	-193.66	-0.04	-4.88	-2.17	-170.24	0.72
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		12	-31.61	0.00	0.00	0.00	0.00	0.00
	3	5	0.14	0.00	0.00	0.00	0.00	0.03
		12	-0.14	0.00	0.00	0.00	0.00	0.03
	4	5	52.97	-0.01	0.00	0.00	0.00	-0.15
		12	-52.97	0.01	0.00	0.00	0.00	-0.10
	5	5	15.80	0.00	0.00	0.00	0.00	-0.04
		12	-15.80	0.00	0.00	0.00	0.00	-0.03
	6	5	35.47	-1.42	0.00	0.00	0.00	-20.97
		12	-35.47	1.42	0.00	0.00	0.00	-10.09
	7	5	10.56	-0.42	0.00	0.00	0.00	-6.24
		12	-10.56	0.42	0.00	0.00	0.00	-3.01
	8	5	33.31	-1.41	0.00	0.00	0.00	-20.89
		12	-33.31	1.41	0.00	0.00	0.00	-10.02
	9	5	9.92	-0.42	0.00	0.00	0.00	-6.22
		12	-9.92	0.42	0.00	0.00	0.00	-2.98
	10	5	0.00	0.00	-15.34	0.09	-5.06	0.00
		12	0.00	0.00	15.34	-0.09	341.82	0.00
	11	5	0.03	-0.96	0.22	0.00	1.30	-10.27
		12	-0.03	0.96	-0.22	0.00	-6.23	-10.76
	12	5	0.02	-0.30	0.13	-0.04	1.09	-3.24
		12	-0.02	0.30	-0.13	0.04	-3.89	-3.40
	13	5	0.00	0.00	0.88	-0.25	7.60	0.00
		12	0.00	0.00	-0.88	0.25	-27.02	0.00
	14	5	-8.49	8.09	31.22	-0.19	-0.27	86.58
		12	8.49	-8.09	-31.22	0.19	-685.04	90.90
	15	5	262.57	0.03	-10.46	2.27	58.08	0.05
		12	-294.18	-0.03	10.46	-2.27	171.58	0.61
	16	5	239.83	-1.79	-10.46	2.27	58.08	-26.97
		12	-271.44	1.79	10.46	-2.27	171.58	-12.35
	17	5	237.03	-1.78	-10.46	2.27	58.08	-26.87
		12	-268.64	1.78	10.46	-2.27	171.58	-12.25
	18	5	154.95	-0.73	-8.19	1.81	47.51	-8.04
		12	-180.23	0.73	8.19	-1.81	132.28	-8.03
	19	5	210.08	-0.45	-7.51	1.58	53.73	-5.02
		12	-235.37	0.45	7.51	-1.58	111.04	-4.81
	20	5	191.89	-1.90	-7.51	1.58	53.73	-26.63
		12	-217.17	1.90	7.51	-1.58	111.04	-15.18
	21	5	189.65	-1.90	-7.51	1.58	53.73	-26.56
		12	-214.94	1.90	7.51	-1.58	111.04	-15.10
	22	5	203.27	6.49	16.61	1.66	46.25	69.31
		12	-228.55	-6.49	-16.61	-1.66	-410.77	73.21

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	185.07	5.04	16.61	1.66	46.25	47.69
		12	-210.36	-5.04	-16.61	-1.66	-410.77	62.84
	24	5	182.83	5.04	16.61	1.66	46.25	47.77
		12	-208.12	-5.04	-16.61	-1.66	-410.77	62.92
	25	5	216.85	-6.44	-33.35	1.96	46.69	-69.22
		12	-242.14	6.44	33.35	-1.96	685.30	-72.23
	26	5	198.65	-7.90	-33.35	1.96	46.69	-90.84
		12	-223.94	7.90	33.35	-1.96	685.30	-82.60
	27	5	196.42	-7.89	-33.35	1.96	46.69	-90.76
		12	-221.71	7.89	33.35	-1.96	685.30	-82.52
	28	5	133.34	5.16	15.11	1.50	42.56	55.10
		12	-156.10	-5.16	-15.11	-1.50	-374.17	58.22
	29	5	145.57	-6.48	-29.85	1.76	42.96	-69.58
		12	-168.32	6.48	29.85	-1.76	612.29	-72.68
	30	5	182.96	5.42	15.72	1.29	48.16	57.78
		12	-205.72	-5.42	-15.72	-1.29	-393.32	61.08
	31	5	166.58	4.10	15.72	1.29	48.16	38.33
		12	-189.34	-4.10	-15.72	-1.29	-393.32	51.75
	32	5	164.57	4.11	15.72	1.29	48.16	38.40
		12	-187.33	-4.11	-15.72	-1.29	-393.32	51.82
	33	5	195.19	-6.23	-29.23	1.55	48.56	-66.90
		12	-217.94	6.23	29.23	-1.55	593.14	-69.82
	34	5	178.81	-7.54	-29.23	1.55	48.56	-86.35
		12	-201.57	7.54	29.23	-1.55	593.14	-79.15
	35	5	176.80	-7.53	-29.23	1.55	48.56	-86.28
		12	-199.56	7.53	29.23	-1.55	593.14	-79.08
12	1	6	160.54	1.72	3.49	-0.58	87.99	24.25
		13	-160.54	-1.72	-3.49	0.58	-164.69	13.52
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		13	-31.61	0.00	0.00	0.00	0.00	0.00
	3	6	-2.25	0.09	0.00	0.00	0.00	1.37
		13	2.25	-0.09	0.00	0.00	0.00	0.71
	4	6	56.60	-0.12	0.00	0.00	0.00	-1.73
		13	-56.60	0.12	0.00	0.00	0.00	-0.93
	5	6	16.88	-0.04	0.00	0.00	0.00	-0.52
		13	-16.88	0.04	0.00	0.00	0.00	-0.28
	6	6	37.60	1.38	0.00	0.00	0.00	20.47
		13	-37.60	-1.38	0.00	0.00	0.00	9.80
	7	6	11.19	0.41	0.00	0.00	0.00	6.10
		13	-11.19	-0.41	0.00	0.00	0.00	2.92
	8	6	70.89	0.13	0.00	0.00	0.00	1.95
		13	-70.89	-0.13	0.00	0.00	0.00	1.00
	9	6	21.11	0.04	0.00	0.00	0.00	0.58
		13	-21.11	-0.04	0.00	0.00	0.00	0.30
	10	6	0.00	0.00	-15.29	0.09	-5.57	0.00
		13	0.00	0.00	15.29	-0.09	341.20	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	6	0.42	-0.97	0.22	0.00	1.31	-10.47
		13	-0.42	0.97	-0.22	0.00	-6.22	-10.85
	12	6	0.17	-0.31	0.11	-0.11	1.14	-3.30
		13	-0.17	0.31	-0.11	0.11	-3.66	-3.42
	13	6	0.00	0.00	0.80	-0.75	7.93	0.00
		13	0.00	0.00	-0.80	0.75	-25.40	0.00
	14	6	-22.60	24.99	31.12	-0.16	0.80	270.32
		13	22.60	-24.99	-31.12	0.16	-683.80	278.16
	15	6	231.78	1.66	-11.80	-0.49	82.42	23.38
		13	-263.38	-1.66	11.80	0.49	176.52	13.02
	16	6	207.08	3.60	-11.80	-0.49	82.42	52.19
		13	-238.69	-3.60	11.80	0.49	176.52	26.94
	17	6	250.29	1.99	-11.80	-0.49	82.42	28.15
		13	-281.89	-1.99	11.80	0.49	176.52	15.53
	18	6	128.77	0.60	-9.26	-0.40	66.98	11.03
		13	-154.06	-0.60	9.26	0.40	136.24	2.13
	19	6	185.66	0.85	-8.66	-1.08	73.50	13.55
		13	-210.95	-0.85	8.66	1.08	116.47	5.08
	20	6	165.90	2.41	-8.66	-1.08	73.50	36.59
		13	-191.19	-2.41	8.66	1.08	116.47	16.21
	21	6	200.47	1.11	-8.66	-1.08	73.50	17.37
		13	-225.75	-1.11	8.66	1.08	116.47	7.08
	22	6	167.34	21.32	15.46	-0.52	66.57	234.96
		13	-192.62	-21.32	-15.46	0.52	-405.82	232.95
	23	6	147.58	22.87	15.46	-0.52	66.57	258.01
		13	-172.87	-22.87	-15.46	0.52	-405.82	244.08
	24	6	182.15	21.58	15.46	-0.52	66.57	238.78
		13	-207.43	-21.58	-15.46	0.52	-405.82	234.95
	25	6	203.50	-18.66	-34.33	-0.27	65.29	-197.56
		13	-228.79	18.66	34.33	0.27	688.25	-212.11
	26	6	183.75	-17.11	-34.33	-0.27	65.29	-174.51
		13	-209.03	17.11	34.33	0.27	688.25	-200.98
	27	6	218.31	-18.40	-34.33	-0.27	65.29	-193.73
		13	-243.60	18.40	34.33	0.27	688.25	-210.11
	28	6	99.62	18.53	14.07	-0.47	60.86	204.55
		13	-122.37	-18.53	-14.07	0.47	-369.72	202.20
	29	6	132.17	-17.45	-30.74	-0.24	59.71	-184.71
		13	-154.92	17.45	30.74	0.24	614.95	-198.36
	30	6	150.82	18.75	14.61	-1.09	66.73	206.78
		13	-173.58	-18.75	-14.61	1.09	-387.53	204.80
	31	6	133.04	20.15	14.61	-1.09	66.73	227.52
		13	-155.80	-20.15	-14.61	1.09	-387.53	214.82
	32	6	164.15	18.99	14.61	-1.09	66.73	210.22
		13	-186.91	-18.99	-14.61	1.09	-387.53	206.61
	33	6	183.37	-17.23	-30.19	-0.86	65.58	-182.48
		13	-206.13	17.23	30.19	0.86	597.13	-195.75
	34	6	165.59	-15.83	-30.19	-0.86	65.58	-161.74
		13	-188.35	15.83	30.19	0.86	597.13	-185.73

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	6	196.70	-16.99	-30.19	-0.86	65.58	-179.04
		13	-219.46	16.99	30.19	0.86	597.13	-193.95
13	1	7	284.61	-9.79	-8.37	-23.70	245.33	-147.17
		14	-284.61	9.79	8.37	23.70	-61.54	-67.70
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		14	-31.61	0.00	0.00	0.00	0.00	0.00
	3	7	13.22	-0.88	0.00	0.00	0.00	-13.13
		14	-13.22	0.88	0.00	0.00	0.00	-6.23
	4	7	23.18	1.57	0.00	0.00	0.00	23.34
		14	-23.18	-1.57	0.00	0.00	0.00	11.07
	5	7	6.91	0.47	0.00	0.00	0.00	6.96
		14	-6.91	-0.47	0.00	0.00	0.00	3.30
	6	7	-2.33	0.00	0.00	0.00	0.00	0.08
		14	2.33	0.00	0.00	0.00	0.00	-0.02
	7	7	-0.69	0.00	0.00	0.00	0.00	0.02
		14	0.69	0.00	0.00	0.00	0.00	-0.01
	8	7	70.60	-0.53	0.00	0.00	0.00	-7.88
		14	-70.60	0.53	0.00	0.00	0.00	-3.71
	9	7	21.02	-0.16	0.00	0.00	0.00	-2.35
		14	-21.02	0.16	0.00	0.00	0.00	-1.11
	10	7	0.00	0.00	-15.36	-0.62	-4.88	0.00
		14	0.00	0.00	15.36	0.62	342.02	0.00
	11	7	-0.56	-0.87	0.23	0.01	1.29	-8.93
		14	0.56	0.87	-0.23	-0.01	-6.23	-10.11
	12	7	-0.11	-0.27	0.09	-0.15	1.24	-2.81
		14	0.11	0.27	-0.09	0.15	-3.22	-3.18
	13	7	0.00	0.00	0.63	-1.06	8.59	0.00
		14	0.00	0.00	-0.63	1.06	-22.37	0.00
	14	7	31.09	36.46	31.25	1.27	-0.53	372.81
		14	-31.09	-36.46	-31.25	-1.27	-685.45	427.44
	15	7	327.92	-8.64	-23.73	-24.32	240.45	-130.00
		14	-359.53	8.64	23.73	24.32	280.48	-59.56
	16	7	294.81	-10.67	-23.73	-24.32	240.45	-160.19
		14	-326.42	10.67	23.73	24.32	280.48	-73.96
	17	7	389.45	-11.36	-23.73	-24.32	240.45	-170.53
		14	-421.05	11.36	23.73	24.32	280.48	-78.74
	18	7	227.24	-8.53	-18.81	-19.45	193.39	-124.88
		14	-252.53	8.53	18.81	19.45	219.40	-62.25
	19	7	262.12	-7.34	-18.36	-20.42	200.54	-108.39
		14	-287.40	7.34	18.36	20.42	202.42	-52.62
	20	7	235.63	-8.96	-18.36	-20.42	200.54	-132.55
		14	-260.91	8.96	18.36	20.42	202.42	-64.14
	21	7	311.34	-9.51	-18.36	-20.42	200.54	-140.81
		14	-336.62	9.51	18.36	20.42	202.42	-67.97
	22	7	287.21	22.26	6.02	-18.44	191.94	194.24
		14	-312.50	-22.26	-6.02	18.44	-323.98	294.30

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	7	260.72	20.63	6.02	-18.44	191.94	170.09
		14	-286.01	-20.63	-6.02	18.44	-323.98	282.79
	24	7	336.43	20.08	6.02	-18.44	191.94	161.82
		14	-361.72	-20.08	-6.02	18.44	-323.98	278.96
	25	7	237.46	-36.08	-43.99	-20.48	192.78	-402.24
		14	-262.75	36.08	43.99	20.48	772.75	-389.60
	26	7	210.97	-37.70	-43.99	-20.48	192.78	-426.40
		14	-236.26	37.70	43.99	20.48	772.75	-401.12
	27	7	286.68	-38.25	-43.99	-20.48	192.78	-434.66
		14	-311.97	38.25	43.99	20.48	772.75	-404.95
	28	7	226.91	18.58	5.58	-16.59	173.68	156.03
		14	-249.66	-18.58	-5.58	16.59	-296.06	251.73
	29	7	182.13	-33.92	-39.43	-18.42	174.43	-380.81
		14	-204.89	33.92	39.43	18.42	690.99	-363.78
	30	7	258.29	19.64	5.98	-17.46	180.11	170.83
		14	-281.05	-19.64	-5.98	17.46	-311.37	260.36
	31	7	234.45	18.18	5.98	-17.46	180.11	149.09
		14	-257.21	-18.18	-5.98	17.46	-311.37	249.99
	32	7	302.59	17.69	5.98	-17.46	180.11	141.65
		14	-325.35	-17.69	-5.98	17.46	-311.37	246.54
	33	7	213.51	-32.86	-39.02	-19.30	180.87	-366.01
		14	-236.27	32.86	39.02	19.30	675.68	-355.16
	34	7	189.68	-34.32	-39.02	-19.30	180.87	-387.75
		14	-212.43	34.32	39.02	19.30	675.68	-365.52
	35	7	257.81	-34.81	-39.02	-19.30	180.87	-395.19
		14	-280.57	34.81	39.02	19.30	675.68	-368.97

********** END OF LATEST ANALYSIS RESULT **********

155. PRINT FORCE ENVELOPE NSECTION 10 LIST 1 TO 13

MEMBER FORCE ENVELOPE

ALL UNITS ARE KIP FEET

MEMB	DISTANCE		FY	LD	MZ	LD	FZ	LD	MY	LD
1	0.00	MAX.	0.00	27	76.80	17	0.00	27	0.00	14
		MIN.	0.00	23	0.00	14	0.00	14	-235.10	17
	0.85	MAX.	0.00	5	86.06	17	1.48	14	0.63	14
		MIN.	-24.10	17	0.00	14	-1.77	27	-235.41	17
	1.70	MAX.	0.00	5	118.08	17	2.97	14	2.52	14
		MIN.	-51.40	17	0.00	14	-3.54	27	-236.34	17
	2.54	MAX.	0.00	5	173.24	17	4.45	14	5.66	14
		MIN.	-78.70	17	0.00	14	-5.31	27	-237.88	17
	3.39	MAX.	0.00	5	251.55	17	5.94	14	10.07	14
		MIN.	-105.99	17	0.00	14	-7.08	27	-240.05	17
	4.24	MAX.	0.00	5	353.00	17	7.42	14	15.73	14
		MIN.	-133.29	17	0.00	5	-8.85	27	-242.83	17
	5.09	MAX.	0.00	5	473.12	17	8.90	14	22.65	14
		MIN.	-149.88	17	0.00	5	-10.62	27	-246.23	17
	5.94	MAX.	0.00	5	607.19	17	10.39	14	30.83	14
		MIN.	-166.34	17	0.00	5	-12.39	27	-250.25	17
	6.78	MAX.	0.00	5	755.23	17	11.87	14	40.27	14
		MIN.	-182.80	17	0.00	5	-14.16	27	-254.89	17
	7.63	MAX.	0.00	5	917.22	17	13.36	14	50.97	14
		MIN.	-199.26	17	0.00	5	-15.94	27	-260.15	17
	8.48	MAX.	0.00	5	1093.17	17	14.84	14	62.92	14
		MIN.	-215.72	17	0.00	14	-17.71	27	-266.02	17

@ 6.97 ft
FY = 185.93 K
Mz = 791.44 K-ft
My = 255.89 K-ft

MAX/MIN FORCES FOR MEMBER 1,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST	LD	MZ/ MY	DIST	LD	FX	DIST	LD
MAX.	0.00	0.00	27	1093.17	8.48	17			
	14.84	8.48	14	62.92	8.48	14	0.00 C	0.00	14
MIN.	-215.72	8.48	17	0.00	8.48	14			
	-17.71	8.48	27	-266.02	8.48	17	19.08 T	8.48	17

@ 1.51 ft
Fz = 23.13 K-ft

2	0.00	MAX.	173.73	17	1036.36	24	26.28	27	61.65	14
		MIN.	-2.33	6	0.00	13	-16.41	14	-242.68	27
	1.80	MAX.	145.45	17	761.77	24	22.52	27	34.94	14
		MIN.	-2.33	6	-13.60	4	-13.26	14	-213.50	17
	3.60	MAX.	118.62	24	527.90	24	18.76	27	13.91	14
		MIN.	-2.33	6	-40.99	4	-10.11	14	-188.09	17
	5.40	MAX.	95.99	24	358.83	23	15.01	27	0.72	10
		MIN.	-2.33	6	-58.81	4	-6.96	14	-166.18	1

374 K-ft found @ 5.24 ft

7.20	MAX.	73.37	24	234.14	23	11.25	27	5.49	10
	MIN.	-2.33	6	-91.27	25	-3.81	14	-151.11	1
9.00	MAX.	50.75	24	136.94	23	8.70	17	7.47	10
	MIN.	-4.48	25	-101.92	25	-0.66	14	-136.04	1
10.80	MAX.	31.09	14	67.25	23	8.37	1	6.66	10
	MIN.	-25.28	25	-75.13	25	-1.22	10	-120.97	1
12.60	MAX.	31.09	14	55.44	26	8.99	24	3.07	10
	MIN.	-46.07	25	-41.31	22	-2.77	10	-105.89	1
14.40	MAX.	31.09	14	130.31	26	10.28	24	6.76	14
	MIN.	-66.87	27	-74.96	14	-4.32	10	-94.13	17
16.20	MAX.	31.09	14	240.49	27	11.94	14	25.41	14
	MIN.	-89.49	27	-130.93	14	-7.54	27	-90.90	27
18.00	MAX.	31.09	14	421.94	27	15.09	14	49.73	14
	MIN.	-112.12	27	-186.90	14	-11.30	27	-107.86	27

@ 16.49'

$M_z = 269.72^{k \cdot ft}$

MAX/MIN FORCES FOR MEMBER 2,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST	LD	MZ/ MY	DIST	LD	FX	DIST	LD
MAX.	173.73	0.00	17	1036.36	0.00	24			
	26.28	0.00	25	61.65	0.00	14	36.46 C	0.00	14
MIN.	-112.12	18.00	27	-186.90	18.00	14			
	-16.41	0.00	14	-242.68	0.00	27	53.52 T	18.00	27

3	0.00	MAX.	141.24	17	368.67	17	23.03	27	49.89	14
		MIN.	-0.14	3	-2.59	3	-16.03	14	-107.60	27
	1.80	MAX.	112.96	17	166.42	24	19.27	27	23.88	14
		MIN.	-0.14	3	-2.33	3	-12.88	14	-69.53	27
	3.60	MAX.	84.68	17	52.85	14	15.51	27	3.53	14
		MIN.	-0.14	3	-104.79	26	-9.73	14	-44.25	17
	5.40	MAX.	56.40	17	37.57	14	11.75	27	5.49	10
		MIN.	-0.14	3	-200.09	16	-6.58	14	-33.75	1
	7.20	MAX.	29.29	24	22.28	14	7.99	27	9.92	10
		MIN.	-0.14	3	-271.13	16	-3.43	14	-28.22	32
	9.00	MAX.	8.49	14	7.00	14	5.02	17	15.09	27
		MIN.	-9.15	26	-291.27	16	-0.28	14	-23.49	14
	10.80	MAX.	8.49	14	0.00	13	5.07	24	19.33	27
		MIN.	-31.77	26	-260.52	16	-1.41	10	-21.15	14
	12.60	MAX.	8.49	14	0.00	13	6.35	24	16.81	27
		MIN.	-59.50	16	-178.86	16	-3.28	27	-13.15	14
	14.40	MAX.	8.49	14	37.67	25	9.17	14	10.16	1
		MIN.	-87.78	16	-68.12	23	-7.04	27	-3.06	13
	16.20	MAX.	8.49	14	184.71	25	12.32	14	23.26	24
		MIN.	-116.06	16	-54.13	14	-10.80	27	-9.75	35
	18.00	MAX.	8.49	14	392.07	15	15.47	14	44.89	14
		MIN.	-144.34	16	-69.42	14	-14.56	27	-31.35	27

MAX/MIN FORCES FOR MEMBER 3,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	141.24	0.00	17	392.07	18.00	15			
	23.03	0.00	25	49.89	0.00	14	61.45 C	0.00	14
MIN.	-144.34	18.00	16	-291.27	9.00	16			
	-16.03	0.00	14	-107.60	0.00	27	71.91 T	18.00	27

4	0.00	MAX.	129.96	15	392.12	15	18.79	27	45.07	14
		MIN.	0.00	8	0.00	2	-15.75	14	-33.31	27
	1.80	MAX.	103.97	15	189.86	17	15.03	27	28.42	24
		MIN.	0.00	8	0.00	2	-12.60	14	-9.58	10
	3.60	MAX.	77.98	15	69.54	17	11.28	27	25.72	17
		MIN.	0.00	8	-0.45	29	-9.45	14	-2.94	13
	5.40	MAX.	51.98	15	43.21	8	7.52	27	37.72	27
		MIN.	0.00	8	-99.13	15	-6.30	14	-14.46	14
	7.20	MAX.	25.99	15	43.21	8	3.76	27	47.87	27
		MIN.	0.00	8	-169.31	15	-3.15	14	-22.97	14
	9.00	MAX.	0.57	11	43.21	8	0.00	14	51.25	27
		MIN.	0.00	24	-192.70	15	0.00	17	-25.80	14
	10.80	MAX.	0.57	11	43.21	8	3.15	14	47.87	27
		MIN.	-25.99	15	-169.31	15	-3.76	27	-22.97	14
	12.60	MAX.	0.57	11	43.21	8	6.30	14	37.72	27
		MIN.	-51.98	15	-99.13	15	-7.52	27	-14.46	14
	14.40	MAX.	0.57	11	69.54	17	9.45	14	25.72	17
		MIN.	-77.98	15	-4.89	29	-11.28	27	-2.94	13
	16.20	MAX.	0.57	11	189.86	17	12.60	14	28.42	24
		MIN.	-103.97	15	-4.12	11	-15.03	27	-9.58	10
	18.00	MAX.	0.57	11	392.12	15	15.75	14	45.07	14
		MIN.	-129.96	15	-5.15	11	-18.79	27	-33.31	27

MAX/MIN FORCES FOR MEMBER 4,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	129.96	0.00	15	392.12	0.00	15			
	18.79	0.00	25	51.25	9.00	25	69.53 C	0.00	14
MIN.	-129.96	18.00	15	-192.70	9.00	15			
	-18.79	18.00	27	-33.31	18.00	27	79.81 T	18.00	27

5	0.00	MAX.	144.34	16	392.07	15	14.56	27	44.89	14
		MIN.	-8.49	14	-69.42	14	-15.47	14	-31.35	27
	1.80	MAX.	116.06	16	184.71	25	10.80	27	23.26	24
		MIN.	-8.49	14	-54.13	14	-12.32	14	-9.75	35
	3.60	MAX.	87.78	16	37.67	25	7.04	27	10.16	1
		MIN.	-8.49	14	-68.12	23	-9.17	14	-3.06	13

5.40	MAX.	59.50	16	2.17	11	3.28	27	16.81	27
	MIN.	-8.49	14	-178.86	16	-6.35	24	-13.15	14
7.20	MAX.	31.77	26	1.19	11	1.41	10	19.33	27
	MIN.	-8.49	14	-260.52	16	-5.07	24	-21.15	14
9.00	MAX.	9.15	26	7.00	14	0.28	14	15.09	27
	MIN.	-8.49	14	-291.27	16	-5.02	17	-23.49	14
10.80	MAX.	0.55	11	22.28	14	3.43	14	9.92	10
	MIN.	-29.29	24	-271.13	16	-7.99	27	-28.22	32
12.60	MAX.	0.55	11	37.57	14	6.58	14	5.49	10
	MIN.	-56.40	17	-200.09	16	-11.75	27	-33.75	1
14.40	MAX.	0.55	11	52.85	14	9.73	14	3.53	14
	MIN.	-84.68	17	-104.79	26	-15.51	27	-44.25	17
16.20	MAX.	0.55	11	166.42	24	12.88	14	23.88	14
	MIN.	-112.96	17	-3.73	11	-19.27	27	-69.53	27
18.00	MAX.	0.55	11	368.67	17	16.03	14	49.89	14
	MIN.	-141.24	17	-4.71	11	-23.03	27	-107.60	27

MAX/MIN FORCES FOR MEMBER 5,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	144.34	0.00	16	392.07	0.00	15			
	16.03	18.00	14	49.89	18.00	14	61.45 C	0.00	14
MIN.	-141.24	18.00	17	-291.27	9.00	16			
	-23.03	18.00	27	-107.60	18.00	27	71.91 T	18.00	27

6	0.00	MAX.	112.12	27	421.94	27	11.30	27	49.73	14
		MIN.	-31.09	14	-186.90	14	-15.09	14	-107.86	27
	1.80	MAX.	89.49	27	240.49	27	7.54	27	25.41	14
		MIN.	-31.09	14	-130.93	14	-11.94	14	-90.90	27
	3.60	MAX.	66.87	27	130.31	26	4.32	10	6.76	14
		MIN.	-31.09	14	-74.96	14	-10.28	24	-94.13	17
	5.40	MAX.	46.07	25	55.44	26	2.77	10	3.07	10
		MIN.	-31.09	14	-41.31	22	-8.99	24	-105.89	1
	7.20	MAX.	25.28	25	67.25	23	1.22	10	6.66	10
		MIN.	-31.09	14	-75.13	25	-8.37	1	-120.97	1
	9.00	MAX.	4.48	25	136.94	23	0.66	14	7.47	10
		MIN.	-50.75	24	-101.92	25	-8.70	17	-136.04	1
	10.80	MAX.	2.33	6	234.14	23	3.81	14	5.49	10
		MIN.	-73.37	24	-91.27	25	-11.25	27	-151.11	1
	12.60	MAX.	2.33	6	358.83	23	6.96	14	0.72	10
		MIN.	-95.99	24	-58.81	4	-15.01	27	-166.18	1
	14.40	MAX.	2.33	6	527.90	24	10.11	14	13.91	14
		MIN.	-118.62	24	-40.99	4	-18.76	27	-188.09	17
	16.20	MAX.	2.33	6	761.77	24	13.26	14	34.94	14
		MIN.	-145.45	17	-13.60	4	-22.52	27	-213.50	17
	18.00	MAX.	2.33	6	1036.36	24	16.41	14	61.65	14
		MIN.	-173.73	17	-8.93	11	-26.28	27	-242.68	27

MAX/MIN FORCES FOR MEMBER 6,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	112.12	0.00	27	1036.36	18.00	24			
	16.41	18.00	14	61.65	18.00	14	36.46 C	0.00	14
MIN.	-173.73	18.00	17	-186.90	0.00	14			
	-26.28	18.00	27	-242.68	18.00	27	53.52 T	18.00	27

7	0.00	MAX.	215.72	17	1093.17	17	17.71	27	62.92	14
		MIN.	0.00	14	0.00	4	-14.84	14	-266.02	17
	0.85	MAX.	199.26	17	917.22	17	15.94	27	50.97	14
		MIN.	0.00	14	0.00	4	-13.36	14	-260.15	17
	1.70	MAX.	182.80	17	755.23	17	14.16	27	40.27	14
		MIN.	0.00	14	0.00	4	-11.87	14	-254.89	17
	2.54	MAX.	166.34	17	607.19	17	12.39	27	30.83	14
		MIN.	0.00	14	0.00	4	-10.39	14	-250.25	17
	3.39	MAX.	149.88	17	473.12	17	10.62	27	22.65	14
		MIN.	0.00	14	0.00	4	-8.90	14	-246.23	17
	4.24	MAX.	133.29	17	353.00	17	8.85	27	15.73	14
		MIN.	0.00	14	0.00	4	-7.42	14	-242.83	17
	5.09	MAX.	105.99	17	251.55	17	7.08	27	10.07	14
		MIN.	0.00	14	0.00	4	-5.94	14	-240.05	17
	5.94	MAX.	78.70	17	173.24	17	5.31	27	5.66	14
		MIN.	0.00	14	0.00	4	-4.45	14	-237.88	17
	6.78	MAX.	51.40	17	118.08	17	3.54	27	2.52	14
		MIN.	0.00	14	0.00	4	-2.97	14	-236.34	17
	7.63	MAX.	24.10	17	86.06	17	1.77	27	0.63	14
		MIN.	0.00	14	0.00	4	-1.48	14	-235.41	17
	8.48	MAX.	0.00	25	76.80	17	0.00	14	0.00	14
		MIN.	0.00	14	0.00	9	0.00	27	-235.10	17

MAX/MIN FORCES FOR MEMBER 7,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	215.72	0.00	17	1093.17	0.00	17			
	17.71	0.00	25	62.92	0.00	14	0.44 C	0.00	11
MIN.	0.00	8.48	14	0.00	7.63	4			
	-14.84	0.00	14	-266.02	0.00	17	19.08 T	8.48	17

8	0.00	MAX.	38.25	27	434.66	27	31.25	14	245.33	1
		MIN.	-36.46	14	-372.81	14	-43.99	27	-4.88	10
	2.19	MAX.	38.25	27	350.70	27	31.25	14	226.95	1
		MIN.	-36.46	14	-292.78	14	-43.99	27	-38.59	10
	4.39	MAX.	38.25	27	266.74	27	31.25	14	218.35	24
		MIN.	-36.46	14	-212.76	14	-43.99	27	-72.31	10

6.58	MAX.	38.25	27	182.78	27	31.25	14	231.55	24
	MIN.	-36.46	14	-132.73	14	-43.99	27	-106.02	10
8.78	MAX.	38.25	27	98.82	27	31.25	14	273.87	14
	MIN.	-36.46	14	-52.71	14	-43.99	27	-193.43	27
10.97	MAX.	38.25	27	58.57	24	31.25	14	342.46	14
	MIN.	-36.46	14	-6.14	4	-43.99	27	-289.98	27
13.17	MAX.	38.25	27	107.34	14	31.25	14	411.06	14
	MIN.	-36.46	14	-72.86	25	-43.99	27	-386.53	27
15.36	MAX.	38.25	27	187.37	14	31.25	14	479.66	14
	MIN.	-36.46	14	-153.06	27	-43.99	27	-483.09	27
17.56	MAX.	38.25	27	267.39	14	31.25	14	548.26	14
	MIN.	-36.46	14	-237.02	27	-43.99	27	-579.64	27
19.75	MAX.	38.25	27	347.42	14	31.25	14	616.85	14
	MIN.	-36.46	14	-320.99	27	-43.99	27	-676.19	27
21.95	MAX.	38.25	27	427.44	14	31.25	14	685.45	14
	MIN.	-36.46	14	-404.95	27	-43.99	27	-772.75	27

MAX/MIN FORCES FOR MEMBER 8,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	38.25	0.00	27	434.66	0.00	27			
	31.25	0.00	14	685.45	21.95	14	421.05 C	21.95	17
MIN.	-36.46	21.95	14	-404.95	21.95	27			
	-43.99	21.95	27	-772.75	21.95	27	2.33 T	21.95	6

9	0.00	MAX.	18.66	25	197.56	25	31.12	14	87.99	1
		MIN.	-24.99	14	-270.32	14	-34.33	27	-5.57	10
	2.19	MAX.	18.66	25	156.59	25	31.12	14	100.50	24
		MIN.	-24.99	14	-215.47	14	-34.33	27	-39.14	10
	4.39	MAX.	18.66	25	115.62	25	31.12	14	137.40	14
		MIN.	-24.99	14	-160.62	14	-34.33	27	-85.41	27
	6.58	MAX.	18.66	25	74.66	25	31.12	14	205.70	14
		MIN.	-24.99	14	-107.38	23	-34.33	27	-160.77	27
	8.78	MAX.	18.66	25	33.69	25	31.12	14	274.00	14
		MIN.	-24.99	14	-57.17	23	-34.33	27	-236.12	27
	10.97	MAX.	18.66	25	3.92	14	31.12	14	342.30	14
		MIN.	-24.99	14	-13.24	26	-34.33	27	-311.48	27
	13.17	MAX.	18.66	25	58.77	14	31.12	14	410.60	14
		MIN.	-24.99	14	-50.78	26	-34.33	27	-386.83	27
	15.36	MAX.	18.66	25	113.62	14	31.12	14	478.90	14
		MIN.	-24.99	14	-89.21	25	-34.33	27	-462.19	27
	17.56	MAX.	18.66	25	168.47	14	31.12	14	547.20	14
		MIN.	-24.99	14	-130.18	25	-34.33	27	-537.54	27
	19.75	MAX.	18.66	25	223.32	14	31.12	14	615.50	14
		MIN.	-24.99	14	-171.15	25	-34.33	27	-612.90	27
	21.95	MAX.	18.66	25	278.16	14	31.12	14	683.80	14
		MIN.	-24.99	14	-212.11	25	-34.33	27	-688.25	27

MAX/MIN FORCES FOR MEMBER 9,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	18.66	0.00	25	278.16	21.95	14			
	31.12	0.00	14	683.80	21.95	14	281.89 C	21.95	17
MIN.	-24.99	21.95	14	-270.32	0.00	14			
	-34.33	21.95	27	-688.25	21.95	27	22.60 T	21.95	14

10	0.00	MAX.	7.90	26	90.84	26	31.22	14	63.14	1
		MIN.	-8.09	14	-86.58	14	-33.35	27	-5.06	10
	2.19	MAX.	7.90	26	73.50	26	31.22	14	82.70	24
		MIN.	-8.09	14	-68.83	14	-33.35	27	-38.73	10
	4.39	MAX.	7.90	26	56.15	26	31.22	14	136.79	14
		MIN.	-8.09	14	-51.09	14	-33.35	27	-99.71	27
	6.58	MAX.	7.90	26	38.81	26	31.22	14	205.32	14
		MIN.	-8.09	14	-33.34	14	-33.35	27	-172.91	27
	8.78	MAX.	7.90	26	21.46	26	31.22	14	273.85	14
		MIN.	-8.09	14	-15.59	14	-33.35	27	-246.11	27
	10.97	MAX.	7.90	26	7.58	24	31.22	14	342.38	14
		MIN.	-8.09	14	-1.50	25	-33.35	27	-319.31	27
	13.17	MAX.	7.90	26	19.91	14	31.22	14	410.92	14
		MIN.	-8.09	14	-15.65	25	-33.35	27	-392.50	27
	15.36	MAX.	7.90	26	37.66	14	31.22	14	479.45	14
		MIN.	-8.09	14	-30.57	26	-33.35	27	-465.70	27
	17.56	MAX.	7.90	26	55.41	14	31.22	14	547.98	14
		MIN.	-8.09	14	-47.91	26	-33.35	27	-538.90	27
	19.75	MAX.	7.90	26	73.15	14	31.22	14	616.51	14
		MIN.	-8.09	14	-65.26	26	-33.35	27	-612.10	27
	21.95	MAX.	7.90	26	90.90	14	31.22	14	685.04	14
		MIN.	-8.09	14	-82.60	26	-33.35	27	-685.30	27

MAX/MIN FORCES FOR MEMBER 10,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	7.90	0.00	26	90.90	21.95	14			
	31.22	0.00	14	685.04	21.95	14	294.18 C	21.95	15
MIN.	-8.09	21.95	14	-86.58	0.00	14			
	-33.35	21.95	27	-685.30	21.95	27	8.49 T	21.95	14

11	0.00	MAX.	8.09	14	86.58	14	31.22	14	63.14	1
		MIN.	-7.90	26	-90.84	26	-33.35	27	-5.06	10
	2.19	MAX.	8.09	14	68.83	14	31.22	14	82.70	24
		MIN.	-7.90	26	-73.50	26	-33.35	27	-38.73	10
	4.39	MAX.	8.09	14	51.09	14	31.22	14	136.79	14
		MIN.	-7.90	26	-56.15	26	-33.35	27	-99.71	27

6.58	MAX.	8.09	14	33.34	14	31.22	14	205.32	14
	MIN.	-7.90	26	-38.81	26	-33.35	27	-172.91	27
8.78	MAX.	8.09	14	15.59	14	31.22	14	273.85	14
	MIN.	-7.90	26	-21.46	26	-33.35	27	-246.11	27
10.97	MAX.	8.09	14	1.55	29	31.22	14	342.38	14
	MIN.	-7.90	26	-7.58	24	-33.35	27	-319.31	27
13.17	MAX.	8.09	14	15.77	29	31.22	14	410.92	14
	MIN.	-7.90	26	-19.91	14	-33.35	27	-392.50	27
15.36	MAX.	8.09	14	30.57	26	31.22	14	479.45	14
	MIN.	-7.90	26	-37.66	14	-33.35	27	-465.70	27
17.56	MAX.	8.09	14	47.91	26	31.22	14	547.98	14
	MIN.	-7.90	26	-55.41	14	-33.35	27	-538.90	27
19.75	MAX.	8.09	14	65.26	26	31.22	14	616.51	14
	MIN.	-7.90	26	-73.15	14	-33.35	27	-612.10	27
21.95	MAX.	8.09	14	82.60	26	31.22	14	685.04	14
	MIN.	-7.90	26	-90.90	14	-33.35	27	-685.30	27

MAX/MIN FORCES FOR MEMBER 11,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	8.09	0.00	14	86.58	0.00	14			
	31.22	0.00	14	685.04	21.95	14	294.18 C	21.95	15
MIN.	-7.90	21.95	26	-90.90	21.95	14			
	-33.35	21.95	27	-685.30	21.95	27	8.49 T	21.95	14

12	0.00	MAX.	24.99	14	270.32	14	31.12	14	87.99	1
		MIN.	-18.66	25	-197.56	25	-34.33	27	-5.57	10
	2.19	MAX.	24.99	14	215.47	14	31.12	14	100.50	24
		MIN.	-18.66	25	-156.59	25	-34.33	27	-39.14	10
	4.39	MAX.	24.99	14	160.62	14	31.12	14	137.40	14
		MIN.	-18.66	25	-115.62	25	-34.33	27	-85.41	27
	6.58	MAX.	24.99	14	107.38	23	31.12	14	205.70	14
		MIN.	-18.66	25	-74.66	25	-34.33	27	-160.77	27
	8.78	MAX.	24.99	14	57.17	23	31.12	14	274.00	14
		MIN.	-18.66	25	-33.69	25	-34.33	27	-236.12	27
	10.97	MAX.	24.99	14	13.24	26	31.12	14	342.30	14
		MIN.	-18.66	25	-3.92	14	-34.33	27	-311.48	27
	13.17	MAX.	24.99	14	50.78	26	31.12	14	410.60	14
		MIN.	-18.66	25	-58.77	14	-34.33	27	-386.83	27
	15.36	MAX.	24.99	14	89.21	25	31.12	14	478.90	14
		MIN.	-18.66	25	-113.62	14	-34.33	27	-462.19	27
	17.56	MAX.	24.99	14	130.18	25	31.12	14	547.20	14
		MIN.	-18.66	25	-168.47	14	-34.33	27	-537.54	27
	19.75	MAX.	24.99	14	171.15	25	31.12	14	615.50	14
		MIN.	-18.66	25	-223.32	14	-34.33	27	-612.90	27
	21.95	MAX.	24.99	14	212.11	25	31.12	14	683.80	14
		MIN.	-18.66	25	-278.16	14	-34.33	27	-688.25	27

MAX/MIN FORCES FOR MEMBER 12,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	24.99	0.00	14	270.32	0.00	14			
	31.12	0.00	14	683.80	21.95	14	281.89 C	21.95	17
MIN.	-18.66	21.95	25	-278.16	21.95	14			
	-34.33	21.95	27	-688.25	21.95	27	22.60 T	21.95	14

13	0.00	MAX.	36.46	14	372.81	14	31.25	14	245.33	1
		MIN.	-38.25	27	-434.66	27	-43.99	27	-4.88	10
	2.19	MAX.	36.46	14	292.78	14	31.25	14	226.95	1
		MIN.	-38.25	27	-350.70	27	-43.99	27	-38.59	10
	4.39	MAX.	36.46	14	212.76	14	31.25	14	218.35	24
		MIN.	-38.25	27	-266.74	27	-43.99	27	-72.31	10
	6.58	MAX.	36.46	14	132.73	14	31.25	14	231.55	24
		MIN.	-38.25	27	-182.78	27	-43.99	27	-106.02	10
	8.78	MAX.	36.46	14	52.71	14	31.25	14	273.87	14
		MIN.	-38.25	27	-98.82	27	-43.99	27	-193.43	27
	10.97	MAX.	36.46	14	6.14	4	31.25	14	342.46	14
		MIN.	-38.25	27	-58.57	24	-43.99	27	-289.98	27
	13.17	MAX.	36.46	14	72.86	25	31.25	14	411.06	14
		MIN.	-38.25	27	-107.34	14	-43.99	27	-386.53	27
	15.36	MAX.	36.46	14	153.06	27	31.25	14	479.66	14
		MIN.	-38.25	27	-187.37	14	-43.99	27	-483.09	27
	17.56	MAX.	36.46	14	237.02	27	31.25	14	548.26	14
		MIN.	-38.25	27	-267.39	14	-43.99	27	-579.64	27
	19.75	MAX.	36.46	14	320.99	27	31.25	14	616.85	14
		MIN.	-38.25	27	-347.42	14	-43.99	27	-676.19	27
	21.95	MAX.	36.46	14	404.95	27	31.25	14	685.45	14
		MIN.	-38.25	27	-427.44	14	-43.99	27	-772.75	27

MAX/MIN FORCES FOR MEMBER 13,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	36.46	0.00	14	404.95	21.95	27			
	31.25	0.00	14	685.45	21.95	14	421.05 C	21.95	17
MIN.	-38.25	21.95	27	-434.66	0.00	27			
	-43.99	21.95	27	-772.75	21.95	27	2.33 T	21.95	6

********** END OF FORCE ENVELOPE FROM INTERNAL STORAGE **********

156. FINISH

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*********** END OF THE STAAD.Pro RUN ***********

  **** DATE= AUG  1,2002   TIME= 18:20: 2 ****

*********************************************************
*     For questions on STAAD.Pro, please contact :      *
*  By Email - North America  : support@ca.reiusa.com    *
*  By Email - International  : support@reiusa.com       *
*  Tel. (USA) : 714-974-2500 ; Fax (USA) : 714-974-4771 *
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KMS 8/02

91st Abut1.lpo

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DMJM+HARRIS

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BHOC 91st Ave Bridge 42" Dia. Shafts at Abutment 1 - REVISED

UNITS--ENGLISH UNITS

INPUT INFORMATION

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 480.00 IN
2 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	42.000	.153E+06	.139E+04	.320E+07
480.00	42.000	.153E+06	.139E+04	.320E+07

SOILS INFORMATION

X AT THE GROUND SURFACE = 30.00 IN

SLOPE ANGLE AT THE GROUND SURFACE = .00 DEG.

2 LAYER(S) OF SOIL

LAYER 1
THE SOIL IS A STIFF CLAY WITH NO FREE WATER
X AT THE TOP OF THE LAYER = 30.00 IN
X AT THE BOTTOM OF THE LAYER = 184.00 IN
MODULUS OF SUBGRADE REACTION = .300E+03 LBS/IN**3

LAYER 2
THE SOIL IS A SAND - P-Y CRITERIA BY REESE ET AL, 1974
X AT THE TOP OF THE LAYER = 184.00 IN

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X AT THE BOTTOM OF THE LAYER      =    1000.00 IN
MODULUS OF SUBGRADE REACTION      =   .225E+03 LBS/IN**3
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DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
4 POINTS

X,IN	WEIGHT,LBS/IN**3
.00	.61E-01
184.00	.61E-01
184.00	.67E-01
1000.00	.67E-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
4 POINTS

X,IN	C,LBS/IN**2	PHI,DEGREES	E50
.00	.208E+01	.000	.900E-02
184.00	.208E+01	.000	.900E-02
184.00	.000E+00	.330E+02	-----
1000.00	.000E+00	.330E+02	-----

BOUNDARY AND LOADING CONDITIONS

LOADING NUMBER 1 member 9, Jt 3 LC 17

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BOUNDARY-CONDITION CODE                  =          1
LATERAL LOAD AT THE PILE HEAD            =   .114E+05 LBS
MOMENT AT THE PILE HEAD                  =   .968E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD              =   .250E+06 LBS
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FINITE-DIFFERENCE PARAMETERS

```
NUMBER OF PILE INCREMENTS                                  =         80
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE           =   .100E-11 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS     =        100
MAXIMUM ALLOWABLE DEFLECTION                               =    .16E+03 IN
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OUTPUT CODES

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KOUTPT =  1
KPYOP  =  1
INC    =  1
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DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
216.00	42.00	33.0	.709E-01	1.00	.64	.489E+04	.268E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.103E+04
.117E+00	.140E+04
.175E+00	.168E+04
.233E+00	.192E+04
.292E+00	.212E+04
.350E+00	.230E+04
.408E+00	.246E+04
.467E+00	.261E+04
.525E+00	.275E+04

.583E+00	.288E+04
.642E+00	.301E+04
.700E+00	.313E+04
.158E+01	.488E+04
.436E+02	.488E+04
.856E+02	.488E+04
.128E+03	.488E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
228.00	42.00	33.0	.707E-01	.95	.59	.561E+04	.282E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.968E+03
.117E+00	.136E+04
.175E+00	.167E+04
.233E+00	.192E+04
.292E+00	.214E+04
.350E+00	.235E+04
.408E+00	.253E+04
.467E+00	.270E+04
.525E+00	.287E+04
.583E+00	.302E+04
.642E+00	.316E+04
.700E+00	.330E+04
.158E+01	.534E+04
.436E+02	.534E+04
.856E+02	.534E+04
.128E+03	.534E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
240.00	42.00	33.0	.705E-01	.91	.54	.638E+04	.296E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.875E+03
.117E+00	.128E+04
.175E+00	.160E+04
.233E+00	.187E+04
.292E+00	.212E+04
.350E+00	.234E+04
.408E+00	.255E+04
.467E+00	.274E+04
.525E+00	.293E+04
.583E+00	.310E+04
.642E+00	.327E+04
.700E+00	.343E+04
.158E+01	.578E+04
.436E+02	.578E+04
.856E+02	.578E+04
.128E+03	.578E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
276.00	42.00	33.0	.700E-01	.88	.51	.897E+04	.338E+05

91st Abut1.lpo

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.103E+04
.117E+00	.155E+04
.175E+00	.198E+04
.233E+00	.235E+04
.292E+00	.269E+04
.350E+00	.300E+04
.408E+00	.329E+04
.467E+00	.356E+04
.525E+00	.382E+04
.583E+00	.407E+04
.642E+00	.431E+04
.700E+00	.454E+04
.158E+01	.793E+04
.436E+02	.793E+04
.856E+02	.793E+04
.128E+03	.793E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
336.00	42.00	33.0	.694E-01	.88	.50	.143E+05	.408E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.157E+04
.117E+00	.240E+04
.175E+00	.307E+04
.233E+00	.365E+04
.292E+00	.419E+04
.350E+00	.468E+04
.408E+00	.514E+04
.467E+00	.557E+04
.525E+00	.598E+04
.583E+00	.638E+04
.642E+00	.676E+04
.700E+00	.713E+04
.158E+01	.125E+05
.436E+02	.125E+05
.856E+02	.125E+05
.128E+03	.125E+05

O U T P U T I N F O R M A T I O N
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*************************************************
* COMPUTE LOAD-DISTRIBUTION AND LOAD-DEFLECTION *
* CURVES FOR LATERAL LOADING                    *
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LOADING NUMBER 1

BOUNDARY CONDITION CODE = 1

LATERAL LOAD AT THE PILE HEAD = .114E+05 LBS
MOMENT AT THE PILE HEAD = .968E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .250E+06 LBS

X IN	DEFLECTION IN	MOMENT LBS-IN	SHEAR LBS	SLOPE RAD.	TOTAL STRESS LBS/IN**2	FLEXURAL RIGIDITY LBS-IN**2	SOIL REACTION LBS/IN
*****	*********	*********	*********	*********	*********	*********	*********
.0	.794E-01	.968E+06	.114E+05	-.690E-03	.314E+03	.489E+12	.000E+00
6.0	.753E-01	.104E+07	.114E+05	-.678E-03	.323E+03	.489E+12	.000E+00
12.0	.713E-01	.111E+07	.114E+05	-.665E-03	.333E+03	.489E+12	.000E+00
18.0	.673E-01	.118E+07	.114E+05	-.651E-03	.343E+03	.489E+12	.000E+00
24.0	.634E-01	.125E+07	.114E+05	-.636E-03	.352E+03	.489E+12	.000E+00
30.0	.597E-01	.131E+07	.112E+05	-.620E-03	.362E+03	.489E+12	-.658E+02
36.0	.560E-01	.138E+07	.104E+05	-.603E-03	.371E+03	.489E+12	-.194E+03
42.0	.524E-01	.144E+07	.927E+04	-.586E-03	.379E+03	.489E+12	-.191E+03
48.0	.490E-01	.149E+07	.813E+04	-.568E-03	.386E+03	.489E+12	-.188E+03
54.0	.456E-01	.154E+07	.701E+04	-.549E-03	.393E+03	.489E+12	-.184E+03
60.0	.424E-01	.158E+07	.595E+04	-.530E-03	.398E+03	.489E+12	-.170E+03
66.0	.393E-01	.161E+07	.495E+04	-.511E-03	.403E+03	.489E+12	-.162E+03
72.0	.363E-01	.164E+07	.400E+04	-.491E-03	.407E+03	.489E+12	-.157E+03
78.0	.334E-01	.166E+07	.307E+04	-.470E-03	.410E+03	.489E+12	-.153E+03
84.0	.306E-01	.168E+07	.216E+04	-.450E-03	.412E+03	.489E+12	-.151E+03
90.0	.280E-01	.169E+07	.126E+04	-.429E-03	.413E+03	.489E+12	-.149E+03
96.0	.255E-01	.170E+07	.369E+03	-.408E-03	.414E+03	.489E+12	-.147E+03
102.0	.231E-01	.170E+07	-.511E+03	-.388E-03	.414E+03	.489E+12	-.146E+03
108.0	.208E-01	.169E+07	-.138E+04	-.367E-03	.413E+03	.489E+12	-.145E+03
114.0	.187E-01	.168E+07	-.225E+04	-.346E-03	.412E+03	.489E+12	-.144E+03
120.0	.167E-01	.167E+07	-.311E+04	-.326E-03	.410E+03	.489E+12	-.142E+03
126.0	.148E-01	.164E+07	-.395E+04	-.305E-03	.407E+03	.489E+12	-.139E+03
132.0	.130E-01	.162E+07	-.477E+04	-.285E-03	.403E+03	.489E+12	-.135E+03
138.0	.113E-01	.159E+07	-.557E+04	-.266E-03	.399E+03	.489E+12	-.130E+03
144.0	.980E-02	.155E+07	-.634E+04	-.246E-03	.394E+03	.489E+12	-.126E+03
150.0	.838E-02	.151E+07	-.707E+04	-.227E-03	.389E+03	.489E+12	-.121E+03
156.0	.707E-02	.147E+07	-.778E+04	-.209E-03	.383E+03	.489E+12	-.116E+03
162.0	.587E-02	.142E+07	-.846E+04	-.191E-03	.376E+03	.489E+12	-.111E+03
168.0	.478E-02	.137E+07	-.911E+04	-.174E-03	.369E+03	.489E+12	-.105E+03
174.0	.378E-02	.131E+07	-.972E+04	-.158E-03	.361E+03	.489E+12	-.990E+02
180.0	.288E-02	.125E+07	-.103E+05	-.142E-03	.353E+03	.489E+12	-.925E+02
186.0	.208E-02	.119E+07	-.107E+05	-.127E-03	.344E+03	.489E+12	-.384E+02
192.0	.136E-02	.112E+07	-.109E+05	-.113E-03	.335E+03	.489E+12	-.270E+02
198.0	.721E-03	.106E+07	-.110E+05	-.995E-04	.326E+03	.489E+12	-.153E+02
204.0	.163E-03	.992E+06	-.111E+05	-.870E-04	.317E+03	.489E+12	-.368E+01
210.0	-.322E-03	.925E+06	-.111E+05	-.752E-04	.308E+03	.489E+12	.770E+01
216.0	-.739E-03	.859E+06	-.110E+05	-.642E-04	.299E+03	.489E+12	.187E+02
222.0	-.109E-02	.794E+06	-.108E+05	-.541E-04	.290E+03	.489E+12	.291E+02
228.0	-.139E-02	.729E+06	-.106E+05	-.447E-04	.281E+03	.489E+12	.388E+02
234.0	-.163E-02	.666E+06	-.104E+05	-.362E-04	.272E+03	.489E+12	.478E+02
240.0	-.182E-02	.605E+06	-.101E+05	-.284E-04	.264E+03	.489E+12	.559E+02
246.0	-.197E-02	.546E+06	-.970E+04	-.213E-04	.256E+03	.489E+12	.631E+02
252.0	-.208E-02	.489E+06	-.931E+04	-.150E-04	.248E+03	.489E+12	.693E+02
258.0	-.215E-02	.434E+06	-.887E+04	-.930E-05	.241E+03	.489E+12	.746E+02
264.0	-.219E-02	.382E+06	-.841E+04	-.429E-05	.233E+03	.489E+12	.790E+02
270.0	-.220E-02	.333E+06	-.793E+04	.104E-06	.227E+03	.489E+12	.824E+02
276.0	-.219E-02	.287E+06	-.743E+04	.391E-05	.220E+03	.489E+12	.848E+02
282.0	-.215E-02	.244E+06	-.691E+04	.717E-05	.214E+03	.489E+12	.864E+02
288.0	-.210E-02	.204E+06	-.639E+04	.992E-05	.209E+03	.489E+12	.872E+02
294.0	-.204E-02	.167E+06	-.587E+04	.122E-04	.204E+03	.489E+12	.871E+02
300.0	-.196E-02	.134E+06	-.535E+04	.140E-04	.199E+03	.489E+12	.864E+02

306.0	-.187E-02	.103E+06	-.484E+04	.155E-04	.195E+03	.489E+12	.850E+02
312.0	-.177E-02	.756E+05	-.433E+04	.166E-04	.191E+03	.489E+12	.830E+02
318.0	-.167E-02	.510E+05	-.384E+04	.174E-04	.188E+03	.489E+12	.804E+02
324.0	-.156E-02	.294E+05	-.337E+04	.179E-04	.185E+03	.489E+12	.774E+02
330.0	-.145E-02	.106E+05	-.291E+04	.181E-04	.182E+03	.489E+12	.740E+02
336.0	-.134E-02	-.561E+04	-.248E+04	.181E-04	.182E+03	.489E+12	.703E+02
342.0	-.124E-02	-.193E+05	-.207E+04	.180E-04	.184E+03	.489E+12	.662E+02
348.0	-.113E-02	-.305E+05	-.169E+04	.177E-04	.185E+03	.489E+12	.620E+02
354.0	-.102E-02	-.396E+05	-.133E+04	.173E-04	.186E+03	.489E+12	.576E+02
360.0	-.921E-03	-.465E+05	-.996E+03	.167E-04	.187E+03	.489E+12	.531E+02
366.0	-.823E-03	-.516E+05	-.691E+03	.161E-04	.188E+03	.489E+12	.485E+02
372.0	-.728E-03	-.549E+05	-.414E+03	.155E-04	.188E+03	.489E+12	.439E+02
378.0	-.637E-03	-.566E+05	-.164E+03	.148E-04	.189E+03	.489E+12	.393E+02
384.0	-.550E-03	-.569E+05	.581E+02	.141E-04	.189E+03	.489E+12	.347E+02
390.0	-.468E-03	-.559E+05	.253E+03	.134E-04	.189E+03	.489E+12	.301E+02
396.0	-.389E-03	-.539E+05	.420E+03	.127E-04	.188E+03	.489E+12	.256E+02
402.0	-.315E-03	-.509E+05	.560E+03	.121E-04	.188E+03	.489E+12	.211E+02
408.0	-.244E-03	-.472E+05	.674E+03	.115E-04	.187E+03	.489E+12	.167E+02
414.0	-.177E-03	-.429E+05	.761E+03	.109E-04	.187E+03	.489E+12	.124E+02
420.0	-.113E-03	-.381E+05	.822E+03	.104E-04	.186E+03	.489E+12	.806E+01
426.0	-.521E-04	-.330E+05	.858E+03	.100E-04	.185E+03	.489E+12	.378E+01
432.0	.669E-05	-.278E+05	.868E+03	.962E-05	.185E+03	.489E+12	-.494E+00
438.0	.634E-04	-.226E+05	.852E+03	.931E-05	.184E+03	.489E+12	-.477E+01
444.0	.118E-03	-.176E+05	.810E+03	.907E-05	.183E+03	.489E+12	-.907E+01
450.0	.172E-03	-.130E+05	.743E+03	.888E-05	.183E+03	.489E+12	-.134E+02
456.0	.225E-03	-.875E+04	.649E+03	.874E-05	.182E+03	.489E+12	-.178E+02
462.0	.277E-03	-.519E+04	.529E+03	.866E-05	.182E+03	.489E+12	-.223E+02
468.0	.329E-03	-.243E+04	.381E+03	.861E-05	.181E+03	.489E+12	-.270E+02
474.0	.380E-03	-.645E+03	.205E+03	.859E-05	.181E+03	.489E+12	-.317E+02
480.0	.432E-03	.000E+00	.000E+00	.859E-05	.181E+03	.489E+12	-.366E+02

OUTPUT VERIFICATION

THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = -.252E-05 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = -.244E-06 LBS

OUTPUT SUMMARY

PILE-HEAD DEFLECTION	=	.794E-01	IN
COMPUTED SLOPE AT PILE HEAD	=	-.690E-03	
MAXIMUM BENDING MOMENT	=	.170E+07	LBS-IN
MAXIMUM SHEAR FORCE	=	.114E+05	LBS
NO. OF ITERATIONS	=	53	
NO. OF ZERO DEFLECTION POINTS	=	2	

S U M M A R Y T A B L E
****

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
.1140E+05	.9680E+06	.2505E+06	.7938E-01	.1696E+07	.1140E+05

KMS 8/02

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**************************************************
*                                                *
*           STAAD.Pro                            *
*           Version  2001    Build 1005          *
*           Proprietary Program of               *
*           RESEARCH ENGINEERS, Intl.            *
*           Date=    AUG  1, 2002                *
*           Time=    18:36:31                    *
*                                                *
*      USER ID: Frederic R. Harris, Inc.         *
**************************************************
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STAAD SPACE ABUT 2 - 91ST AVE
START JOB INFORMATION
JOB NAME BHOC - 91ST AVE BRIDGE
JOB CLIENT FCD
JOB NO 046106888.0020
JOB COMMENT ABUT 2 ANALYSIS - REVISED
ENGINEER NAME SEO
ENGINEER DATE 30JUL02
END JOB INFORMATION
INPUT WIDTH 79
UNIT FEET KIP
JOINT COORDINATES
1 0 1062.85 0; 2 8.48 1062.85 0; 3 26.48 1062.85 0; 4 44.48 1062.85 0
5 62.48 1062.85 0; 6 80.48 1062.85 0; 7 98.48 1062.85 0; 8 106.96 1062.85 0
9 8.48 1040.9 0; 10 26.48 1040.9 0; 11 44.48 1040.9 0; 12 62.48 1040.9 0
13 80.48 1040.9 0; 14 98.48 1040.9 0
MEMBER INCIDENCES
1 1 2; 2 2 3; 3 3 4; 4 4 5; 5 5 6; 6 6 7; 7 7 8; 8 2 9; 9 3 10; 10 4 11
11 5 12; 12 6 13; 13 7 14
MEMBER PROPERTY AMERICAN
1 TO 7 PRIS YD 4 ZD 4.5
8 TO 13 PRIS YD 3.5
UNIT INCHES KIP
CONSTANTS
E 3605 MEMB 1 TO 13
POISSON 0.17 MEMB 1 TO 13
DENSITY 8.68E-005 MEMB 1 TO 13
ALPHA 6E-006 MEMB 1 TO 7
ALPHA 6.5E-006 MEMB 8 TO 13
UNIT FEET KIP
SUPPORTS
9 TO 14 FIXED
LOAD 1 DL AND SDL
MEMBER LOAD
1 7 UNI GY -9.25
2 TO 6 UNI GY -6.86
1 TO 7 UNI GY -3.75
1 TO 7 UMOM GX 1.8
LOAD 2 DRILLED SHAFT WEIGHT
MEMBER LOAD
8 TO 13 UNI GY -1.44
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42. LOAD 3 PED LIVE LOAD
43. MEMBER LOAD
44. 1 7 UNI GY -1.31
45. LOAD 4 LL
46. MEMBER LOAD
47. 2 TO 6 UNI GY -2.95
48. LOAD 5 LL IMPACT
49. MEMBER LOAD
50. 2 TO 6 UNI GY -0.88
51. LOAD 6 LL FOR MAXIMUM POSITIVE MOMENT ON ABUT CAP
52. MEMBER LOAD
53. 3 5 UNI GY -3.93
54. LOAD 7 LL IMPACT FOR MAXIMUM POSITIVE MOMENT ON ABUT CAP
55. MEMBER LOAD
56. 3 5 UNI GY -1.17
57. LOAD 8 LL FOR MAXIMUM NEGATIVE MOMENT ON ABUT CAP
58. MEMBER LOAD
59. 1 TO 3 5 TO 7 UNI GY -3.93
60. LOAD 9 LL IMPACT FOR MAXIMUM NEGATIVE MOMENT ON ABUT CAP
61. MEMBER LOAD
62. 1 TO 3 5 TO 7 UNI GY -1.17
63. LOAD 10 EARTH PRESSURE
64. MEMBER LOAD
65. 1 TO 7 UNI GZ -0.86
66. 1 TO 7 UMOM GX -0.29
67. LOAD 11 WIND ON STRUCTURE
68. MEMBER LOAD
69. 1 TO 7 UNI GX -0.0523
70. 1 TO 7 UNI GZ 0.01258
71. 1 TO 7 UMOM GX 0.073
72. JOINT LOAD
73. 2 FY 0.255
74. 3 FY 0.153
75. 4 FY 0.051
76. 5 FY -0.051
77. 6 FY -0.153
78. 7 FY -0.255
79. LOAD 12 WIND LOAD ON LIVE LOAD
80. MEMBER LOAD
81. 2 TO 6 UNI GX -0.0196
82. 2 TO 6 UNI GZ 0.0074
83. 2 TO 6 UMOM GX 0.077
84. JOINT LOAD
85. 2 FY 0.15
86. 3 FY 0.087
87. 4 FY 0.029
88. 5 FY -0.029
89. 6 FY -0.087
90. 7 FY -0.15
91. LOAD 13 LONGITUDINAL FORCE FROM LIVE LOAD
92. MEMBER LOAD
93. 2 TO 6 UNI GZ 0.0513
94. 2 TO 6 UMOM GX 0.536
95. LOAD 14 RST
96. MEMBER LOAD
97. 1 TO 7 UNI GZ 1.75
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 98. TEMPERATURE LOAD
 99. 1 TO 7 TEMP 40
100. LOAD COMB 15 GR I LL
101. 1 1.0 2 1.0 3 1.0 4 1.0 5 1.0 10 1.0
102. LOAD COMB 16 GR I MAX POSITIVE MOMENT ON ABUT CAP
103. 1 1.0 2 1.0 3 1.0 6 1.0 7 1.0 10 1.0
104. LOAD COMB 17 GR I MAX NEGATIVE MOMENT ON ABUT CAP
105. 1 1.0 2 1.0 3 1.0 8 1.0 9 1.0 10 1.0
106. LOAD COMB 18 GR II
107. 1 0.8 2 0.8 10 0.8 11 0.8
108. LOAD COMB 19 GR III LL
109. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 11 0.24 12 0.8 13 0.8
110. LOAD COMB 20 GR III MAX POSITIVE MOMENT ON ABUT CAP
111. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 11 0.24 12 0.8 13 0.8
112. LOAD COMB 21 GR III MAX NEGATIVE MOMENT ON ABUT CAP
113. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 11 0.24 12 0.8 13 0.8
114. LOAD COMB 22 GR IV LL
115. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 14 0.8
116. LOAD COMB 23 GR IV MAX POSITIVE MOMENT ON ABUT CAP
117. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 14 0.8
118. LOAD COMB 24 GR IV MAX NEGATIVE MOMENT ON ABUT CAP
119. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 14 0.8
120. LOAD COMB 25 GR IV LL
121. 1 0.8 2 0.8 3 0.8 4 0.8 5 0.8 10 0.8 14 -0.8
122. LOAD COMB 26 GR IV MAX POSITIVE MOMENT ON ABUT CAP
123. 1 0.8 2 0.8 3 0.8 6 0.8 7 0.8 10 0.8 14 -0.8
124. LOAD COMB 27 GR IV MAX NEGATIVE MOMENT ON ABUT CAP
125. 1 0.8 2 0.8 3 0.8 8 0.8 9 0.8 10 0.8 14 -0.8
126. LOAD COMB 28 GR V
127. 1 0.72 2 0.72 10 0.72 11 0.72 14 0.72
128. LOAD COMB 29 GR V
129. 1 0.72 2 0.72 10 0.72 11 0.72 14 -0.72
130. LOAD COMB 30 GR VI LL
131. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
132. LOAD COMB 31 GR VI MAX POSITIVE MOMENT ON ABUT CAP
133. 1 0.72 2 0.72 3 0.72 6 0.72 7 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
134. LOAD COMB 32 GR VI MAX NEGATIVE MOMENT ON ABUT CAP
135. 1 0.72 2 0.72 3 0.72 8 0.72 9 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 0.72
136. LOAD COMB 33 GR VI LL
137. 1 0.72 2 0.72 3 0.72 4 0.72 5 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
138. LOAD COMB 34 GR VI MAX POSITIVE MOMENT ON ABUT CAP
139. 1 0.72 2 0.72 3 0.72 6 0.72 7 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
140. LOAD COMB 35 GR VI MAX NEGATIVE MOMENT ON ABUT CAP
141. 1 0.72 2 0.72 3 0.72 8 0.72 9 0.72 10 0.72 11 0.22 12 0.72 13 0.72 14 -0.72
142. PERFORM ANALYSIS
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          P R O B L E M   S T A T I S T I C S
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   NUMBER OF JOINTS/MEMBER+ELEMENTS/SUPPORTS =    14/    13/     6
   ORIGINAL/FINAL BAND-WIDTH=      7/     2/     12 DOF
   TOTAL PRIMARY LOAD CASES =    14, TOTAL DEGREES OF FREEDOM =     48
   SIZE OF STIFFNESS MATRIX =        1 DOUBLE  KILO-WORDS
   REQRD/AVAIL. DISK SPACE  =     12.0/  1050.8 MB,  EXMEM =  873.9 MB

++ Processing Element Stiffness Matrix.                18:36:32
++ Processing Global Stiffness Matrix.                 18:36:32
++ Processing Triangular Factorization.                18:36:32
++ Calculating Joint Displacements.                    18:36:32
++ Calculating Member  Forces.                         18:36:32

 143. LOAD LIST ALL
 144. PRINT ANALYSIS RESULTS
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JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
1	1	-0.00016	-0.02817	0.02417	0.00019	0.00000	0.00018
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00005	-0.00369	0.00000	0.00000	0.00000	0.00003
	4	0.00009	0.00236	0.00000	0.00000	0.00000	-0.00004
	5	0.00003	0.00070	0.00000	0.00000	0.00000	-0.00001
	6	0.00003	0.00015	0.00000	0.00000	0.00000	0.00000
	7	0.00001	0.00005	0.00000	0.00000	0.00000	0.00000
	8	-0.00004	-0.00789	0.00000	0.00000	0.00000	0.00004
	9	-0.00001	-0.00235	0.00000	0.00000	0.00000	0.00001
	10	0.00000	0.00000	-0.17669	-0.00100	-0.00001	0.00000
	11	-0.00297	-0.00038	0.00351	0.00002	0.00000	0.00000
	12	-0.00093	-0.00011	0.00184	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01280	0.00009	-0.00001	0.00000
	14	-0.15096	-0.01760	0.35161	0.00197	0.00002	0.00016
	15	-0.00010	-0.02963	-0.15251	-0.00081	-0.00001	0.00016
	16	-0.00017	-0.03250	-0.15251	-0.00081	-0.00001	0.00021
	17	-0.00026	-0.04293	-0.15251	-0.00081	-0.00001	0.00026
	18	-0.00251	-0.02350	-0.11920	-0.00063	-0.00001	0.00014
	19	-0.00154	-0.02389	-0.10945	-0.00056	-0.00001	0.00013
	20	-0.00159	-0.02618	-0.10945	-0.00056	-0.00001	0.00017
	21	-0.00167	-0.03453	-0.10945	-0.00056	-0.00001	0.00021
	22	-0.12084	-0.03778	0.15928	0.00093	0.00001	0.00025
	23	-0.12090	-0.04008	0.15928	0.00093	0.00001	0.00029
	24	-0.12098	-0.04842	0.15928	0.00093	0.00001	0.00034
	25	0.12069	-0.00963	-0.40330	-0.00222	-0.00002	0.00000
	26	0.12063	-0.01192	-0.40330	-0.00222	-0.00002	0.00004
	27	0.12055	-0.02027	-0.40330	-0.00222	-0.00002	0.00009
	28	-0.11094	-0.03382	0.14588	0.00085	0.00001	0.00024
	29	0.10643	-0.00848	-0.36044	-0.00198	-0.00002	0.00002
	30	-0.11008	-0.03417	0.15467	0.00091	0.00000	0.00023
	31	-0.11013	-0.03623	0.15467	0.00091	0.00000	0.00026
	32	-0.11020	-0.04375	0.15467	0.00091	0.00000	0.00030
	33	0.10729	-0.00883	-0.35165	-0.00192	-0.00003	0.00000
	34	0.10724	-0.01090	-0.35165	-0.00192	-0.00003	0.00004
	35	0.10717	-0.01841	-0.35165	-0.00192	-0.00003	0.00008
2	1	-0.00016	-0.01131	0.02420	0.00018	0.00000	0.00007
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00005	-0.00070	0.00000	0.00000	0.00000	0.00002
	4	0.00009	-0.00122	0.00000	0.00000	0.00000	-0.00004
	5	0.00003	-0.00036	0.00000	0.00000	0.00000	-0.00001
	6	0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	7	0.00001	0.00004	0.00000	0.00000	0.00000	0.00000
	8	-0.00004	-0.00372	0.00000	0.00000	0.00000	0.00001
	9	-0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17573	-0.00100	0.00000	0.00000
	11	-0.00297	-0.00003	0.00350	0.00002	0.00000	0.00000
	12	-0.00093	-0.00001	0.00195	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01353	0.00009	-0.00001	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	14	-0.12653	-0.00164	0.34966	0.00197	0.00001	0.00016
	15	-0.00010	-0.01443	-0.15153	-0.00081	0.00000	0.00004
	16	-0.00017	-0.01268	-0.15153	-0.00081	0.00000	0.00009
	17	-0.00026	-0.01767	-0.15153	-0.00081	0.00000	0.00011
	18	-0.00250	-0.00974	-0.11842	-0.00063	0.00000	0.00006
	19	-0.00154	-0.01156	-0.10800	-0.00056	-0.00001	0.00004
	20	-0.00159	-0.01016	-0.10800	-0.00056	-0.00001	0.00007
	21	-0.00167	-0.01415	-0.10800	-0.00056	-0.00001	0.00009
	22	-0.10131	-0.01286	0.15850	0.00092	0.00000	0.00016
	23	-0.10136	-0.01146	0.15850	0.00092	0.00000	0.00020
	24	-0.10144	-0.01545	0.15850	0.00092	0.00000	0.00021
	25	0.10115	-0.01023	-0.40095	-0.00222	-0.00001	-0.00009
	26	0.10109	-0.00884	-0.40095	-0.00222	-0.00001	-0.00005
	27	0.10101	-0.01283	-0.40095	-0.00222	-0.00001	-0.00004
	28	-0.09336	-0.00995	0.14517	0.00085	0.00000	0.00017
	29	0.08885	-0.00759	-0.35833	-0.00198	-0.00001	-0.00006
	30	-0.09250	-0.01158	0.15456	0.00091	0.00000	0.00015
	31	-0.09255	-0.01032	0.15456	0.00091	0.00000	0.00018
	32	-0.09262	-0.01392	0.15456	0.00091	0.00000	0.00019
	33	0.08971	-0.00922	-0.34894	-0.00192	-0.00002	-0.00008
	34	0.08966	-0.00796	-0.34894	-0.00192	-0.00002	-0.00005
	35	0.08959	-0.01156	-0.34894	-0.00192	-0.00002	-0.00004
3	1	-0.00009	-0.00956	0.02427	0.00018	0.00000	-0.00001
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	4	0.00005	-0.00299	0.00000	0.00000	0.00000	0.00000
	5	0.00001	-0.00089	0.00000	0.00000	0.00000	0.00000
	6	0.00003	-0.00198	0.00000	0.00000	0.00000	-0.00003
	7	0.00001	-0.00059	0.00000	0.00000	0.00000	-0.00001
	8	-0.00003	-0.00374	0.00000	0.00000	0.00000	0.00000
	9	-0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17548	-0.00100	0.00000	0.00000
	11	-0.00297	0.00002	0.00349	0.00002	0.00000	0.00000
	12	-0.00093	0.00001	0.00215	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01491	0.00010	-0.00001	0.00000
	14	-0.07554	0.00119	0.34914	0.00196	0.00000	0.00002
	15	-0.00005	-0.01415	-0.15122	-0.00081	0.00000	-0.00001
	16	-0.00008	-0.01285	-0.15122	-0.00081	0.00000	-0.00005
	17	-0.00016	-0.01513	-0.15122	-0.00081	0.00000	-0.00002
	18	-0.00245	-0.00830	-0.11818	-0.00063	0.00000	-0.00001
	19	-0.00150	-0.01131	-0.10649	-0.00056	0.00000	-0.00001
	20	-0.00152	-0.01026	-0.10649	-0.00056	0.00000	-0.00004
	21	-0.00159	-0.01209	-0.10649	-0.00056	0.00000	-0.00001
	22	-0.06047	-0.01037	0.15833	0.00092	0.00000	0.00001
	23	-0.06049	-0.00932	0.15833	0.00092	0.00000	-0.00002
	24	-0.06055	-0.01115	0.15833	0.00092	0.00000	0.00001
	25	0.06039	-0.01227	-0.40028	-0.00222	0.00000	-0.00003
	26	0.06037	-0.01123	-0.40028	-0.00222	0.00000	-0.00006

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	27	0.06030	-0.01305	-0.40028	-0.00222	0.00000	-0.00003
	28	-0.05659	-0.00661	0.14502	0.00085	0.00000	0.00001
	29	0.05218	-0.00832	-0.35774	-0.00198	0.00000	-0.00002
	30	-0.05575	-0.00932	0.15555	0.00091	0.00000	0.00001
	31	-0.05577	-0.00838	0.15555	0.00091	0.00000	-0.00002
	32	-0.05582	-0.01002	0.15555	0.00091	0.00000	0.00001
	33	0.05302	-0.01103	-0.34721	-0.00192	0.00000	-0.00002
	34	0.05300	-0.01010	-0.34721	-0.00192	0.00000	-0.00005
	35	0.05295	-0.01174	-0.34721	-0.00192	0.00000	-0.00003
4	1	-0.00003	-0.01012	0.02430	0.00018	0.00000	0.00000
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	-0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000
	4	0.00002	-0.00279	0.00000	0.00000	0.00000	0.00000
	5	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	6	0.00000	-0.00187	0.00000	0.00000	0.00000	0.00003
	7	0.00000	-0.00056	0.00000	0.00000	0.00000	0.00001
	8	-0.00002	-0.00176	0.00000	0.00000	0.00000	0.00003
	9	-0.00001	-0.00052	0.00000	0.00000	0.00000	0.00001
	10	0.00000	0.00000	-0.17567	-0.00100	0.00000	0.00000
	11	-0.00297	0.00000	0.00350	0.00002	0.00000	0.00000
	12	-0.00094	0.00000	0.00225	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01566	0.00010	0.00000	0.00000
	14	-0.02512	0.00045	0.34951	0.00197	0.00000	0.00001
	15	-0.00002	-0.01459	-0.15137	-0.00081	0.00000	0.00000
	16	-0.00004	-0.01339	-0.15137	-0.00081	0.00000	0.00004
	17	-0.00007	-0.01324	-0.15137	-0.00081	0.00000	0.00004
	18	-0.00240	-0.00876	-0.11830	-0.00063	0.00000	0.00000
	19	-0.00147	-0.01167	-0.10593	-0.00055	0.00000	0.00000
	20	-0.00149	-0.01071	-0.10593	-0.00055	0.00000	0.00003
	21	-0.00151	-0.01059	-0.10593	-0.00055	0.00000	0.00003
	22	-0.02011	-0.01131	0.15851	0.00092	0.00000	0.00001
	23	-0.02012	-0.01035	0.15851	0.00092	0.00000	0.00004
	24	-0.02015	-0.01024	0.15851	0.00092	0.00000	0.00004
	25	0.02008	-0.01203	-0.40070	-0.00222	0.00000	-0.00001
	26	0.02006	-0.01107	-0.40070	-0.00222	0.00000	0.00002
	27	0.02004	-0.01095	-0.40070	-0.00222	0.00000	0.00002
	28	-0.02024	-0.00756	0.14518	0.00085	0.00000	0.00001
	29	0.01593	-0.00821	-0.35811	-0.00198	0.00000	-0.00001
	30	-0.01942	-0.01018	0.15632	0.00092	0.00000	0.00001
	31	-0.01944	-0.00932	0.15632	0.00092	0.00000	0.00004
	32	-0.01946	-0.00921	0.15632	0.00092	0.00000	0.00004
	33	0.01674	-0.01083	-0.34697	-0.00191	0.00000	-0.00001
	34	0.01673	-0.00996	-0.34697	-0.00191	0.00000	0.00002
	35	0.01671	-0.00986	-0.34697	-0.00191	0.00000	0.00002
5	1	0.00003	-0.01012	0.02430	0.00018	0.00000	0.00000
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000
	4	-0.00002	-0.00279	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	5	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	6	0.00000	-0.00187	0.00000	0.00000	0.00000	-0.00003
	7	0.00000	-0.00056	0.00000	0.00000	0.00000	-0.00001
	8	0.00002	-0.00176	0.00000	0.00000	0.00000	-0.00003
	9	0.00001	-0.00052	0.00000	0.00000	0.00000	-0.00001
	10	0.00000	0.00000	-0.17567	-0.00100	0.00000	0.00000
	11	-0.00297	0.00000	0.00350	0.00002	0.00000	0.00000
	12	-0.00094	0.00000	0.00225	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01566	0.00010	0.00000	0.00000
	14	0.02512	0.00045	0.34951	0.00197	0.00000	-0.00001
	15	0.00002	-0.01459	-0.15137	-0.00081	0.00000	0.00000
	16	0.00004	-0.01339	-0.15137	-0.00081	0.00000	-0.00004
	17	0.00007	-0.01324	-0.15137	-0.00081	0.00000	-0.00004
	18	-0.00235	-0.00877	-0.11830	-0.00063	0.00000	0.00000
	19	-0.00145	-0.01167	-0.10593	-0.00055	0.00000	0.00000
	20	-0.00143	-0.01071	-0.10593	-0.00055	0.00000	-0.00003
	21	-0.00141	-0.01060	-0.10593	-0.00055	0.00000	-0.00003
	22	0.02011	-0.01131	0.15851	0.00092	0.00000	-0.00001
	23	0.02012	-0.01035	0.15851	0.00092	0.00000	-0.00004
	24	0.02015	-0.01024	0.15851	0.00092	0.00000	-0.00004
	25	-0.02008	-0.01203	-0.40070	-0.00222	0.00000	0.00001
	26	-0.02006	-0.01107	-0.40070	-0.00222	0.00000	-0.00002
	27	-0.02004	-0.01095	-0.40070	-0.00222	0.00000	-0.00002
	28	0.01597	-0.00757	0.14518	0.00085	0.00000	-0.00001
	29	-0.02020	-0.00821	-0.35811	-0.00198	0.00000	0.00001
	30	0.01677	-0.01018	0.15632	0.00092	0.00000	-0.00001
	31	0.01679	-0.00932	0.15632	0.00092	0.00000	-0.00004
	32	0.01681	-0.00921	0.15632	0.00092	0.00000	-0.00004
	33	-0.01940	-0.01083	-0.34697	-0.00191	0.00000	0.00001
	34	-0.01938	-0.00996	-0.34697	-0.00191	0.00000	-0.00002
	35	-0.01936	-0.00986	-0.34697	-0.00191	0.00000	-0.00002
6	1	0.00009	-0.00956	0.02427	0.00018	0.00000	0.00001
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	4	-0.00005	-0.00299	0.00000	0.00000	0.00000	0.00000
	5	-0.00001	-0.00089	0.00000	0.00000	0.00000	0.00000
	6	-0.00003	-0.00198	0.00000	0.00000	0.00000	0.00003
	7	-0.00001	-0.00059	0.00000	0.00000	0.00000	0.00001
	8	0.00003	-0.00374	0.00000	0.00000	0.00000	0.00000
	9	0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17548	-0.00100	0.00000	0.00000
	11	-0.00297	-0.00002	0.00349	0.00002	0.00000	0.00000
	12	-0.00093	-0.00001	0.00215	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01491	0.00010	0.00001	0.00000
	14	0.07554	0.00119	0.34914	0.00196	0.00000	-0.00002
	15	0.00005	-0.01415	-0.15122	-0.00081	0.00000	0.00001
	16	0.00008	-0.01285	-0.15122	-0.00081	0.00000	0.00005
	17	0.00016	-0.01513	-0.15122	-0.00081	0.00000	0.00002

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	18	-0.00230	-0.00833	-0.11818	-0.00063	0.00000	0.00001
	19	-0.00142	-0.01133	-0.10649	-0.00056	0.00000	0.00001
	20	-0.00140	-0.01029	-0.10649	-0.00056	0.00000	0.00004
	21	-0.00133	-0.01211	-0.10649	-0.00056	0.00000	0.00001
	22	0.06047	-0.01037	0.15833	0.00092	0.00000	-0.00001
	23	0.06049	-0.00932	0.15833	0.00092	0.00000	0.00002
	24	0.06055	-0.01115	0.15833	0.00092	0.00000	-0.00001
	25	-0.06039	-0.01227	-0.40028	-0.00222	0.00000	0.00003
	26	-0.06037	-0.01123	-0.40028	-0.00222	0.00000	0.00006
	27	-0.06030	-0.01305	-0.40028	-0.00222	0.00000	0.00003
	28	0.05232	-0.00664	0.14502	0.00085	0.00000	-0.00001
	29	-0.05646	-0.00836	-0.35774	-0.00198	0.00000	0.00002
	30	0.05310	-0.00934	0.15555	0.00091	0.00000	-0.00001
	31	0.05312	-0.00840	0.15555	0.00091	0.00000	0.00002
	32	0.05317	-0.01004	0.15555	0.00091	0.00000	0.00000
	33	-0.05567	-0.01106	-0.34721	-0.00192	0.00000	0.00002
	34	-0.05566	-0.01012	-0.34721	-0.00192	0.00000	0.00005
	35	-0.05560	-0.01176	-0.34721	-0.00192	0.00000	0.00003
7	1	0.00016	-0.01131	0.02420	0.00018	0.00000	-0.00007
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00005	-0.00070	0.00000	0.00000	0.00000	-0.00002
	4	-0.00009	-0.00122	0.00000	0.00000	0.00000	0.00004
	5	-0.00003	-0.00036	0.00000	0.00000	0.00000	0.00001
	6	-0.00003	0.00012	0.00000	0.00000	0.00000	0.00000
	7	-0.00001	0.00004	0.00000	0.00000	0.00000	0.00000
	8	0.00004	-0.00372	0.00000	0.00000	0.00000	-0.00001
	9	0.00001	-0.00111	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	-0.17573	-0.00100	0.00000	0.00000
	11	-0.00297	0.00003	0.00350	0.00002	0.00000	0.00000
	12	-0.00093	0.00001	0.00195	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01353	0.00009	0.00001	0.00000
	14	0.12653	-0.00164	0.34966	0.00197	-0.00001	-0.00016
	15	0.00010	-0.01443	-0.15153	-0.00081	0.00000	-0.00004
	16	0.00017	-0.01268	-0.15153	-0.00081	0.00000	-0.00009
	17	0.00026	-0.01767	-0.15153	-0.00081	0.00000	-0.00011
	18	-0.00224	-0.00969	-0.11842	-0.00063	0.00000	-0.00005
	19	-0.00138	-0.01153	-0.10800	-0.00056	0.00001	-0.00003
	20	-0.00132	-0.01014	-0.10800	-0.00056	0.00001	-0.00007
	21	-0.00125	-0.01413	-0.10800	-0.00056	0.00001	-0.00008
	22	0.10131	-0.01286	0.15850	0.00092	0.00000	-0.00016
	23	0.10136	-0.01146	0.15850	0.00092	0.00000	-0.00020
	24	0.10144	-0.01545	0.15850	0.00092	0.00000	-0.00021
	25	-0.10115	-0.01023	-0.40095	-0.00222	0.00001	0.00009
	26	-0.10109	-0.00884	-0.40095	-0.00222	0.00001	0.00005
	27	-0.10101	-0.01283	-0.40095	-0.00222	0.00001	0.00004
	28	0.08908	-0.00990	0.14517	0.00085	0.00000	-0.00016
	29	-0.09312	-0.00754	-0.35833	-0.00198	0.00001	0.00007
	30	0.08985	-0.01156	0.15456	0.00091	0.00000	-0.00014

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	31	0.08990	-0.01030	0.15456	0.00091	0.00000	-0.00018
	32	0.08997	-0.01390	0.15456	0.00091	0.00000	-0.00019
	33	-0.09236	-0.00920	-0.34894	-0.00192	0.00002	0.00008
	34	-0.09231	-0.00794	-0.34894	-0.00192	0.00002	0.00005
	35	-0.09224	-0.01153	-0.34894	-0.00192	0.00002	0.00004
8	1	0.00016	-0.02817	0.02417	0.00019	0.00000	-0.00018
	2	0.00000	-0.00083	0.00000	0.00000	0.00000	0.00000
	3	0.00005	-0.00369	0.00000	0.00000	0.00000	-0.00003
	4	-0.00009	0.00236	0.00000	0.00000	0.00000	0.00004
	5	-0.00003	0.00070	0.00000	0.00000	0.00000	0.00001
	6	-0.00003	0.00015	0.00000	0.00000	0.00000	0.00000
	7	-0.00001	0.00005	0.00000	0.00000	0.00000	0.00000
	8	0.00004	-0.00789	0.00000	0.00000	0.00000	-0.00004
	9	0.00001	-0.00235	0.00000	0.00000	0.00000	-0.00001
	10	0.00000	0.00000	-0.17669	-0.00100	0.00001	0.00000
	11	-0.00297	0.00038	0.00351	0.00002	0.00000	0.00000
	12	-0.00093	0.00011	0.00184	0.00001	0.00000	0.00000
	13	0.00000	0.00000	0.01280	0.00009	0.00001	0.00000
	14	0.15096	-0.01760	0.35161	0.00197	-0.00002	-0.00016
	15	0.00010	-0.02963	-0.15251	-0.00081	0.00001	-0.00016
	16	0.00017	-0.03250	-0.15251	-0.00081	0.00001	-0.00021
	17	0.00026	-0.04293	-0.15251	-0.00081	0.00001	-0.00026
	18	-0.00225	-0.02290	-0.11920	-0.00063	0.00001	-0.00014
	19	-0.00138	-0.02353	-0.10945	-0.00056	0.00001	-0.00013
	20	-0.00132	-0.02582	-0.10945	-0.00056	0.00001	-0.00016
	21	-0.00125	-0.03417	-0.10945	-0.00056	0.00001	-0.00021
	22	0.12084	-0.03778	0.15928	0.00093	-0.00001	-0.00025
	23	0.12090	-0.04008	0.15928	0.00093	-0.00001	-0.00029
	24	0.12098	-0.04842	0.15928	0.00093	-0.00001	-0.00034
	25	-0.12069	-0.00963	-0.40330	-0.00222	0.00002	0.00000
	26	-0.12063	-0.01192	-0.40330	-0.00222	0.00002	-0.00004
	27	-0.12055	-0.02027	-0.40330	-0.00222	0.00002	-0.00009
	28	0.10667	-0.03328	0.14588	0.00085	-0.00001	-0.00024
	29	-0.11071	-0.00794	-0.36044	-0.00198	0.00002	-0.00001
	30	0.10743	-0.03384	0.15467	0.00091	0.00000	-0.00023
	31	0.10749	-0.03591	0.15467	0.00091	0.00000	-0.00026
	32	0.10755	-0.04342	0.15467	0.00091	0.00000	-0.00030
	33	-0.10994	-0.00850	-0.35165	-0.00192	0.00003	0.00000
	34	-0.10989	-0.01057	-0.35165	-0.00192	0.00003	-0.00003
	35	-0.10982	-0.01808	-0.35165	-0.00192	0.00003	-0.00008
9	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
13	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
14	1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	7	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	11	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	16	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	21	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	22	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	25	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

JOINT DISPLACEMENT (INCH RADIANS) STRUCTURE TYPE = SPACE

JOINT	LOAD	X-TRANS	Y-TRANS	Z-TRANS	X-ROTAN	Y-ROTAN	Z-ROTAN
	26	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	27	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	28	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	31	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	32	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	33	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	34	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	35	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
9	1	-3.11	214.51	-0.01	-32.08	0.04	21.99
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	-0.88	13.22	0.00	0.00	0.00	6.23
	4	1.57	23.18	0.00	0.00	0.00	-11.07
	5	0.47	6.91	0.00	0.00	0.00	-3.30
	6	0.00	-2.33	0.00	0.00	0.00	0.02
	7	0.00	-0.69	0.00	0.00	0.00	0.01
	8	-0.53	70.60	0.00	0.00	0.00	3.71
	9	-0.16	21.02	0.00	0.00	0.00	1.11
	10	0.00	0.00	15.36	342.02	0.62	0.00
	11	0.87	0.56	-0.23	-6.23	-0.01	-10.11
	12	0.27	0.11	-0.09	-3.22	0.15	-3.18
	13	0.00	0.00	-0.63	-22.37	1.06	0.00
	14	36.46	31.09	-31.25	-685.45	-1.27	-427.44
	15	-1.96	289.43	15.35	309.94	0.66	13.85
	16	-3.99	256.32	15.35	309.94	0.66	28.25
	17	-4.68	350.95	15.35	309.94	0.66	33.04
	18	-1.80	197.34	12.10	242.97	0.52	9.50
	19	-1.14	231.76	11.65	225.98	1.50	6.11
	20	-2.77	205.27	11.65	225.98	1.50	17.63
	21	-3.32	280.98	11.65	225.98	1.50	21.46
	22	27.60	256.42	-12.72	-300.41	-0.49	-330.87
	23	25.97	229.93	-12.72	-300.41	-0.49	-319.35
	24	25.42	305.64	-12.72	-300.41	-0.49	-315.52
	25	-30.73	206.66	37.28	796.31	1.55	353.03
	26	-32.36	180.18	37.28	796.31	1.55	364.55
	27	-32.91	255.89	37.28	796.31	1.55	368.38
	28	24.63	200.00	-11.61	-274.85	-0.45	-299.21
	29	-27.87	155.22	33.39	712.20	1.39	316.31
	30	25.23	230.98	-12.02	-290.17	0.43	-302.30
	31	23.76	207.14	-12.02	-290.17	0.43	-291.93
	32	23.27	275.27	-12.02	-290.17	0.43	-288.49
	33	-27.27	186.20	32.99	696.88	2.26	313.21
	34	-28.74	162.36	32.99	696.88	2.26	323.58
	35	-29.23	230.50	32.99	696.88	2.26	327.03
10	1	0.50	181.25	0.00	-32.07	0.04	-3.71
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.09	-2.25	0.00	0.00	0.00	-0.71
	4	-0.12	56.60	0.00	0.00	0.00	0.93
	5	-0.04	16.88	0.00	0.00	0.00	0.28
	6	1.38	37.60	0.00	0.00	0.00	-9.80
	7	0.41	11.19	0.00	0.00	0.00	-2.92
	8	0.13	70.89	0.00	0.00	0.00	-1.00
	9	0.04	21.11	0.00	0.00	0.00	-0.30
	10	0.00	0.00	15.29	341.20	-0.09	0.00
	11	0.97	-0.42	-0.22	-6.22	0.00	-10.85
	12	0.31	-0.17	-0.11	-3.66	0.11	-3.42
	13	0.00	0.00	-0.80	-25.40	0.75	0.00

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	14	24.99	-22.60	-31.12	-683.80	0.16	-278.16
	15	0.44	284.10	15.29	309.13	-0.05	-3.21
	16	2.39	259.40	15.29	309.13	-0.05	-17.13
	17	0.77	302.61	15.29	309.13	-0.05	-5.72
	18	1.18	169.95	12.06	242.33	-0.04	-11.65
	19	0.83	227.04	11.45	222.57	0.65	-7.91
	20	2.39	207.28	11.45	222.57	0.65	-19.05
	21	1.10	241.85	11.45	222.57	0.65	-9.92
	22	20.34	209.19	-12.66	-299.73	0.09	-225.10
	23	21.90	189.44	-12.66	-299.73	0.09	-236.24
	24	20.61	224.00	-12.66	-299.73	0.09	-227.11
	25	-19.64	245.36	37.13	794.34	-0.17	219.96
	26	-18.08	225.60	37.13	794.34	-0.17	208.82
	27	-19.37	260.17	37.13	794.34	-0.17	217.96
	28	19.05	136.68	-11.55	-274.23	0.08	-210.76
	29	-16.93	169.23	33.25	710.43	-0.15	189.79
	30	18.74	188.06	-12.10	-292.05	0.70	-207.44
	31	20.14	170.28	-12.10	-292.05	0.70	-217.46
	32	18.98	201.39	-12.10	-292.05	0.70	-209.25
	33	-17.24	220.61	32.71	692.62	0.47	193.11
	34	-15.84	202.83	32.71	692.62	0.47	183.09
	35	-17.00	233.94	32.71	692.62	0.47	191.31
11	1	-0.01	191.93	0.01	-32.11	0.01	0.06
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.00	0.14	0.00	0.00	0.00	-0.03
	4	-0.01	52.97	0.00	0.00	0.00	0.10
	5	0.00	15.80	0.00	0.00	0.00	0.03
	6	-1.42	35.47	0.00	0.00	0.00	10.09
	7	-0.42	10.56	0.00	0.00	0.00	3.01
	8	-1.41	33.31	0.00	0.00	0.00	10.02
	9	-0.42	9.92	0.00	0.00	0.00	2.98
	10	0.00	0.00	15.34	341.82	-0.09	0.00
	11	0.96	-0.03	-0.22	-6.23	0.00	-10.76
	12	0.30	-0.02	-0.13	-3.89	0.04	-3.40
	13	0.00	0.00	-0.88	-27.02	0.25	0.00
	14	8.09	-8.49	-31.22	-685.04	0.19	-90.90
	15	-0.03	292.45	15.35	309.71	-0.08	0.16
	16	-1.85	269.71	15.35	309.71	-0.08	13.12
	17	-1.84	266.91	15.35	309.71	-0.08	13.02
	18	0.76	178.81	12.10	242.79	-0.06	-8.56
	19	0.45	233.94	11.41	221.54	0.17	-5.17
	20	-1.01	215.74	11.41	221.54	0.17	5.20
	21	-1.00	213.51	11.41	221.54	0.17	5.12
	22	6.45	227.17	-12.70	-300.26	0.08	-72.60
	23	4.99	208.97	-12.70	-300.26	0.08	-62.22
	24	5.00	206.74	-12.70	-300.26	0.08	-62.30
	25	-6.49	240.75	37.26	795.80	-0.21	72.85
	26	-7.95	222.56	37.26	795.80	-0.21	83.22

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	27	-7.94	220.32	37.26	795.80	-0.21	83.14
	28	6.50	154.81	-11.59	-274.72	0.08	-73.15
	29	-5.14	167.04	33.37	711.74	-0.19	57.75
	30	6.23	204.43	-12.21	-293.87	0.29	-70.15
	31	4.92	188.05	-12.21	-293.87	0.29	-60.81
	32	4.93	186.04	-12.21	-293.87	0.29	-60.88
	33	-5.41	216.66	32.75	692.59	0.02	60.75
	34	-6.72	200.28	32.75	692.59	0.02	70.09
	35	-6.72	198.27	32.75	692.59	0.02	70.02
12	1	0.01	191.93	0.01	-32.11	-0.01	-0.06
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.00	0.14	0.00	0.00	0.00	0.03
	4	0.01	52.97	0.00	0.00	0.00	-0.10
	5	0.00	15.80	0.00	0.00	0.00	-0.03
	6	1.42	35.47	0.00	0.00	0.00	-10.09
	7	0.42	10.56	0.00	0.00	0.00	-3.01
	8	1.41	33.31	0.00	0.00	0.00	-10.02
	9	0.42	9.92	0.00	0.00	0.00	-2.98
	10	0.00	0.00	15.34	341.82	0.09	0.00
	11	0.96	0.03	-0.22	-6.23	0.00	-10.76
	12	0.30	0.02	-0.13	-3.89	-0.04	-3.40
	13	0.00	0.00	-0.88	-27.02	-0.25	0.00
	14	-8.09	-8.49	-31.22	-685.04	-0.19	90.90
	15	0.03	292.45	15.35	309.71	0.08	-0.16
	16	1.85	269.71	15.35	309.71	0.08	-13.12
	17	1.84	266.91	15.35	309.71	0.08	-13.02
	18	0.78	178.85	12.10	242.79	0.06	-8.65
	19	0.49	233.98	11.41	221.54	-0.17	-5.43
	20	1.95	215.79	11.41	221.54	-0.17	-15.80
	21	1.94	213.55	11.41	221.54	-0.17	-15.72
	22	-6.45	227.17	-12.70	-300.26	-0.08	72.60
	23	-4.99	208.97	-12.70	-300.26	-0.08	62.22
	24	-5.00	206.74	-12.70	-300.26	-0.08	62.30
	25	6.49	240.75	37.26	795.80	0.21	-72.85
	26	7.95	222.56	37.26	795.80	0.21	-83.22
	27	7.94	220.32	37.26	795.80	0.21	-83.14
	28	-5.12	154.85	-11.59	-274.72	-0.08	57.67
	29	6.52	167.08	33.37	711.74	0.19	-73.23
	30	-5.37	204.47	-12.21	-293.87	-0.29	60.52
	31	-4.06	188.10	-12.21	-293.87	-0.29	51.19
	32	-4.07	186.08	-12.21	-293.87	-0.29	51.26
	33	6.27	216.70	32.75	692.59	-0.02	-70.38
	34	7.58	200.32	32.75	692.59	-0.02	-79.71
	35	7.57	198.31	32.75	692.59	-0.02	-79.64
13	1	-0.50	181.25	0.00	-32.07	-0.04	3.71
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	-0.09	-2.25	0.00	0.00	0.00	0.71
	4	0.12	56.60	0.00	0.00	0.00	-0.93

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	5	0.04	16.88	0.00	0.00	0.00	-0.28
	6	-1.38	37.60	0.00	0.00	0.00	9.80
	7	-0.41	11.19	0.00	0.00	0.00	2.92
	8	-0.13	70.89	0.00	0.00	0.00	1.00
	9	-0.04	21.11	0.00	0.00	0.00	0.30
	10	0.00	0.00	15.29	341.20	0.09	0.00
	11	0.97	0.42	-0.22	-6.22	0.00	-10.85
	12	0.31	0.17	-0.11	-3.66	-0.11	-3.42
	13	0.00	0.00	-0.80	-25.40	-0.75	0.00
	14	-24.99	-22.60	-31.12	-683.80	-0.16	278.16
	15	-0.44	284.10	15.29	309.13	0.05	3.21
	16	-2.39	259.40	15.29	309.13	0.05	17.13
	17	-0.77	302.61	15.29	309.13	0.05	5.72
	18	0.37	170.62	12.06	242.33	0.04	-5.71
	19	0.13	227.52	11.45	222.57	-0.65	-2.77
	20	-1.43	207.76	11.45	222.57	-0.65	8.36
	21	-0.14	242.32	11.45	222.57	-0.65	-0.77
	22	-20.34	209.19	-12.66	-299.73	-0.09	225.10
	23	-21.90	189.44	-12.66	-299.73	-0.09	236.24
	24	-20.61	224.00	-12.66	-299.73	-0.09	227.11
	25	19.64	245.36	37.13	794.34	0.17	-219.96
	26	18.08	225.60	37.13	794.34	0.17	-208.82
	27	19.37	260.17	37.13	794.34	0.17	-217.96
	28	-17.65	137.29	-11.55	-274.23	-0.08	195.14
	29	18.33	169.84	33.25	710.43	0.15	-205.42
	30	-17.87	188.49	-12.10	-292.05	-0.70	197.74
	31	-19.28	170.71	-12.10	-292.05	-0.70	207.76
	32	-18.11	201.82	-12.10	-292.05	-0.70	199.54
	33	18.11	221.04	32.71	692.62	-0.47	-202.81
	34	16.71	203.26	32.71	692.62	-0.47	-192.79
	35	17.87	234.37	32.71	692.62	-0.47	-201.01
14	1	3.11	214.51	-0.01	-32.08	-0.04	-21.99
	2	0.00	31.61	0.00	0.00	0.00	0.00
	3	0.88	13.22	0.00	0.00	0.00	-6.23
	4	-1.57	23.18	0.00	0.00	0.00	11.07
	5	-0.47	6.91	0.00	0.00	0.00	3.30
	6	0.00	-2.33	0.00	0.00	0.00	-0.02
	7	0.00	-0.69	0.00	0.00	0.00	-0.01
	8	0.53	70.60	0.00	0.00	0.00	-3.71
	9	0.16	21.02	0.00	0.00	0.00	-1.11
	10	0.00	0.00	15.36	342.02	-0.62	0.00
	11	0.87	-0.56	-0.23	-6.23	0.01	-10.11
	12	0.27	-0.11	-0.09	-3.22	-0.15	-3.18
	13	0.00	0.00	-0.63	-22.37	-1.06	0.00
	14	-36.46	31.09	-31.25	-685.45	1.27	427.44
	15	1.96	289.43	15.35	309.94	-0.66	-13.85
	16	3.99	256.32	15.35	309.94	-0.66	-28.25
	17	4.68	350.95	15.35	309.94	-0.66	-33.04

SUPPORT REACTIONS -UNIT KIP FEET STRUCTURE TYPE = SPACE

JOINT	LOAD	FORCE-X	FORCE-Y	FORCE-Z	MOM-X	MOM-Y	MOM Z
	18	3.18	196.45	12.10	242.97	-0.52	-25.68
	19	1.99	231.32	11.65	225.98	-1.50	-16.05
	20	3.62	204.83	11.65	225.98	-1.50	-27.57
	21	4.17	280.54	11.65	225.98	-1.50	-31.40
	22	-27.60	256.42	-12.72	-300.41	0.49	330.87
	23	-25.97	229.93	-12.72	-300.41	0.49	319.35
	24	-25.42	305.64	-12.72	-300.41	0.49	315.52
	25	30.73	206.66	37.28	796.31	-1.55	-353.03
	26	32.36	180.18	37.28	796.31	-1.55	-364.55
	27	32.91	255.89	37.28	796.31	-1.55	-368.38
	28	-23.38	199.19	-11.61	-274.85	0.45	284.64
	29	29.12	154.41	33.39	712.20	-1.39	-330.87
	30	-24.45	230.57	-12.02	-290.17	-0.43	293.27
	31	-22.99	206.74	-12.02	-290.17	-0.43	282.90
	32	-22.49	274.87	-12.02	-290.17	-0.43	279.46
	33	28.05	185.80	32.99	696.88	-2.26	-322.25
	34	29.51	161.96	32.99	696.88	-2.26	-332.61
	35	30.01	230.10	32.99	696.88	-2.26	-336.06

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
1	1	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	110.24	0.00	-15.26	0.00	-467.42
	2	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	3	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	11.11	0.00	0.00	0.00	-47.10
	4	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	5	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	6	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	7	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	8	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	33.33	0.00	0.00	0.00	-141.30
	9	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	9.92	0.00	0.00	0.00	-42.07
	10	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	7.29	2.46	30.92	0.00
	11	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.44	0.00	-0.11	-0.62	-0.45	0.00
	12	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	13	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00
	14	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	-14.84	0.00	-62.92	0.00
	15	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	121.35	7.29	-12.80	30.92	-514.52
	16	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	121.35	7.29	-12.80	30.92	-514.52
	17	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	164.60	7.29	-12.80	30.92	-697.89
	18	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.35	88.19	5.75	-10.74	24.38	-373.93
	19	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.11	97.08	5.81	-10.39	24.63	-411.62
	20	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.11	97.08	5.81	-10.39	24.63	-411.62
	21	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.11	131.68	5.81	-10.39	24.63	-558.31
	22	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	97.08	-6.04	-10.24	-25.60	-411.62

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	97.08	-6.04	-10.24	-25.60	-411.62
	24	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	131.68	-6.04	-10.24	-25.60	-558.31
	25	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	97.08	17.71	-10.24	75.07	-411.62
	26	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	97.08	17.71	-10.24	75.07	-411.62
	27	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	131.68	17.71	-10.24	75.07	-558.31
	28	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.32	79.37	-5.51	-9.67	-23.37	-336.54
	29	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.32	79.37	15.86	-9.67	67.24	-336.54
	30	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	87.37	-5.46	-9.36	-23.14	-370.45
	31	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	87.37	-5.46	-9.36	-23.14	-370.45
	32	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	118.51	-5.46	-9.36	-23.14	-502.48
	33	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	87.37	15.91	-9.36	67.47	-370.45
	34	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	87.37	15.91	-9.36	67.47	-370.45
	35	1	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.10	118.51	15.91	-9.36	67.47	-502.48
2	1	2	-3.11	104.27	-0.01	-16.62	0.04	421.08
		3	3.11	86.71	0.01	-15.78	0.12	-263.02
	2	2	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00
	3	2	-0.88	2.11	0.00	0.00	0.00	33.97
		3	0.88	-2.11	0.00	0.00	0.00	3.96
	4	2	1.57	23.18	0.00	0.00	0.00	23.34
		3	-1.57	29.92	0.00	0.00	0.00	-84.05
	5	2	0.47	6.91	0.00	0.00	0.00	6.96
		3	-0.47	8.93	0.00	0.00	0.00	-25.07
	6	2	0.00	-2.33	0.00	0.00	0.00	0.08
		3	0.00	2.33	0.00	0.00	0.00	-41.94
	7	2	0.00	-0.69	0.00	0.00	0.00	0.02
		3	0.00	0.69	0.00	0.00	0.00	-12.49
	8	2	-0.53	37.27	0.00	0.00	0.00	133.42
		3	0.53	33.47	0.00	0.00	0.00	-99.16
	9	2	-0.16	11.10	0.00	0.00	0.00	39.72
		3	0.16	9.96	0.00	0.00	0.00	-29.52
	10	2	0.00	0.00	8.07	2.42	-30.30	0.00
		3	0.00	0.00	7.41	2.80	24.42	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	2	0.42	0.82	-0.12	-0.67	0.44	8.93
		3	0.52	-0.82	-0.11	-0.64	-0.35	5.75
	12	2	0.27	0.26	-0.09	-1.24	0.15	2.81
		3	0.08	-0.26	-0.04	-0.15	0.28	1.82
	13	2	0.00	0.00	-0.63	-8.59	1.06	0.00
		3	0.00	0.00	-0.30	-1.05	1.93	0.00
	14	2	36.46	31.09	-16.41	0.53	61.65	372.81
		3	-36.46	-31.09	-15.09	-0.53	-49.73	186.90
	15	2	-1.96	136.47	8.06	-14.20	-30.26	485.35
		3	1.96	123.45	7.42	-12.98	24.54	-368.18
	16	2	-3.99	103.36	8.06	-14.20	-30.26	455.15
		3	3.99	87.62	7.42	-12.98	24.54	-313.49
	17	2	-4.68	154.75	8.06	-14.20	-30.26	628.19
		3	4.68	128.03	7.42	-12.98	24.54	-387.75
	18	2	-2.15	84.07	6.35	-11.90	-23.85	344.01
		3	2.90	68.71	5.85	-10.90	19.35	-205.81
	19	2	-1.25	109.58	5.84	-19.38	-23.13	392.67
		3	1.76	98.36	5.64	-11.50	21.31	-291.71
	20	2	-2.87	83.09	5.84	-19.38	-23.13	368.52
		3	3.38	69.69	5.64	-11.50	21.31	-247.96
	21	2	-3.42	124.20	5.84	-19.38	-23.13	506.95
		3	3.93	102.02	5.64	-11.50	21.31	-307.36
	22	2	27.60	134.05	-6.68	-10.94	25.11	686.52
		3	-27.60	73.88	-6.13	-10.81	-20.15	-145.02
	23	2	25.97	107.56	-6.68	-10.94	25.11	662.37
		3	-25.97	45.22	-6.13	-10.81	-20.15	-101.27
	24	2	25.42	148.67	-6.68	-10.94	25.11	800.80
		3	-25.42	77.55	-6.13	-10.81	-20.15	-160.67
	25	2	-30.73	84.30	19.58	-11.78	-73.53	90.03
		3	30.73	123.64	18.01	-9.96	59.42	-444.07
	26	2	-32.36	57.81	19.58	-11.78	-73.53	65.88
		3	32.36	94.97	18.01	-9.96	59.42	-400.32
	27	2	-32.91	98.92	19.58	-11.78	-73.53	204.31
		3	32.91	127.30	18.01	-9.96	59.42	-459.72
	28	2	24.31	98.05	-6.10	-10.33	22.92	578.03
		3	-23.64	39.45	-5.60	-10.19	-18.39	-50.66
	29	2	-28.19	53.27	17.53	-11.08	-65.85	41.19
		3	28.86	84.23	16.13	-9.43	53.22	-319.80
	30	2	25.13	121.01	-6.56	-17.07	23.57	621.86
		3	-24.67	66.13	-5.79	-10.73	-16.63	-127.95
	31	2	23.67	97.17	-6.56	-17.07	23.57	600.12
		3	-23.20	40.33	-5.79	-10.73	-16.63	-88.57
	32	2	23.17	134.17	-6.56	-17.07	23.57	724.71
		3	-22.71	69.43	-5.79	-10.73	-16.63	-142.03
	33	2	-27.37	76.23	17.08	-17.83	-65.20	85.02
		3	27.83	110.91	15.94	-9.98	54.99	-397.09
	34	2	-28.83	52.40	17.08	-17.83	-65.20	63.28
		3	29.29	85.11	15.94	-9.98	54.99	-357.71

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	2	-29.33	89.39	17.08	-17.83	-65.20	187.87
		3	29.79	114.21	15.94	-9.98	54.99	-411.17
3	1	3	-2.61	94.54	-0.01	-16.38	-0.09	270.36
		4	2.61	96.44	0.01	-16.02	0.18	-287.44
	2	3	0.00	0.00	0.00	0.00	0.00	0.00
		4	0.00	0.00	0.00	0.00	0.00	0.00
	3	3	-0.79	-0.14	0.00	0.00	0.00	-2.59
		4	0.79	0.14	0.00	0.00	0.00	0.02
	4	3	1.45	26.68	0.00	0.00	0.00	82.32
		4	-1.45	26.42	0.00	0.00	0.00	-79.97
	5	3	0.43	7.96	0.00	0.00	0.00	24.56
		4	-0.43	7.88	0.00	0.00	0.00	-23.86
	6	3	1.38	35.27	0.00	0.00	0.00	62.41
		4	-1.38	35.47	0.00	0.00	0.00	-64.17
	7	3	0.41	10.50	0.00	0.00	0.00	18.58
		4	-0.41	10.56	0.00	0.00	0.00	-19.10
	8	3	-0.39	37.43	0.00	0.00	0.00	101.11
		4	0.39	33.31	0.00	0.00	0.00	-64.10
	9	3	-0.12	11.14	0.00	0.00	0.00	30.10
		4	0.12	9.92	0.00	0.00	0.00	-19.08
	10	3	0.00	0.00	7.88	2.77	-24.51	0.00
		4	0.00	0.00	7.60	2.45	22.03	0.00
	11	3	0.45	0.55	-0.12	-0.67	0.36	4.71
		4	0.49	-0.55	-0.11	-0.65	-0.32	5.12
	12	3	0.23	0.17	-0.07	-0.99	-0.17	1.49
		4	0.13	-0.17	-0.06	-0.40	0.27	1.62
	13	3	0.00	0.00	-0.50	-6.88	-1.18	0.00
		4	0.00	0.00	-0.42	-2.77	1.87	0.00
	14	3	61.45	8.49	-16.03	-0.27	49.89	83.42
		4	-61.45	-8.49	-15.47	0.27	-44.89	69.42
	15	3	-1.52	129.04	7.87	-13.60	-24.59	374.64
		4	1.52	130.88	7.61	-13.58	22.21	-391.25
	16	3	-1.60	140.17	7.87	-13.60	-24.59	348.77
		4	1.60	142.61	7.61	-13.58	22.21	-370.69
	17	3	-3.91	142.97	7.87	-13.60	-24.59	398.99
		4	3.91	139.81	7.61	-13.58	22.21	-370.61
	18	3	-1.72	76.07	6.21	-11.41	-19.39	220.06
		4	2.48	76.71	6.00	-11.38	17.51	-225.85
	19	3	-0.93	103.50	5.81	-17.33	-20.67	302.04
		4	1.43	104.44	5.67	-13.55	19.40	-310.48
	20	3	-0.99	112.41	5.81	-17.33	-20.67	281.33
		4	1.50	113.82	5.67	-13.55	19.40	-294.03
	21	3	-2.84	114.64	5.81	-17.33	-20.67	321.51
		4	3.34	111.58	5.67	-13.55	19.40	-293.96
	22	3	47.94	110.02	-6.52	-11.10	20.24	366.45
		4	-47.94	97.91	-6.29	-10.64	-18.14	-257.47

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	3	47.87	118.93	-6.52	-11.10	20.24	345.75
		4	-47.87	107.29	-6.29	-10.64	-18.14	-241.02
	24	3	46.03	121.17	-6.52	-11.10	20.24	385.92
		4	-46.03	105.06	-6.29	-10.64	-18.14	-240.95
	25	3	-50.37	96.44	19.12	-10.66	-59.59	232.98
		4	50.37	111.50	18.46	-11.08	53.67	-368.53
	26	3	-50.44	105.34	19.12	-10.66	-59.59	212.28
		4	50.44	120.88	18.46	-11.08	53.67	-352.09
	27	3	-52.28	107.58	19.12	-10.66	-59.59	252.46
		4	52.28	118.64	18.46	-11.08	53.67	-352.02
	28	3	42.69	74.58	-5.96	-10.47	18.47	258.11
		4	-42.01	62.93	-5.74	-10.04	-16.56	-153.29
	29	3	-45.79	62.35	17.13	-10.08	-53.37	137.99
		4	46.47	75.16	16.54	-10.44	48.08	-253.25
	30	3	43.41	99.26	-6.31	-15.80	17.33	331.91
		4	-42.95	87.88	-6.04	-12.00	-14.86	-229.43
	31	3	43.35	107.28	-6.31	-15.80	17.33	313.28
		4	-42.89	96.32	-6.04	-12.00	-14.86	-214.63
	32	3	41.69	109.29	-6.31	-15.80	17.33	349.44
		4	-41.23	94.31	-6.04	-12.00	-14.86	-214.56
	33	3	-45.07	87.04	16.77	-15.41	-54.52	211.79
		4	45.53	100.10	16.24	-12.40	49.78	-329.39
	34	3	-45.13	95.05	16.77	-15.41	-54.52	193.16
		4	45.59	108.55	16.24	-12.40	49.78	-314.59
	35	3	-46.79	97.07	16.77	-15.41	-54.52	229.32
		4	47.25	106.53	16.24	-12.40	49.78	-314.52
4	1	4	-2.62	95.49	0.00	-16.20	-0.16	287.20
		5	2.62	95.49	0.00	-16.20	0.16	-287.20
	2	4	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.00	0.00
	3	4	-0.78	0.00	0.00	0.00	0.00	0.01
		5	0.78	0.00	0.00	0.00	0.00	-0.01
	4	4	1.43	26.55	0.00	0.00	0.00	79.83
		5	-1.43	26.55	0.00	0.00	0.00	-79.83
	5	4	0.43	7.92	0.00	0.00	0.00	23.81
		5	-0.43	7.92	0.00	0.00	0.00	-23.81
	6	4	-0.03	0.00	0.00	0.00	0.00	43.20
		5	0.03	0.00	0.00	0.00	0.00	-43.20
	7	4	-0.01	0.00	0.00	0.00	0.00	12.86
		5	0.01	0.00	0.00	0.00	0.00	-12.86
	8	4	-1.80	0.00	0.00	0.00	0.00	43.21
		5	1.80	0.00	0.00	0.00	0.00	-43.21
	9	4	-0.54	0.00	0.00	0.00	0.00	12.86
		5	0.54	0.00	0.00	0.00	0.00	-12.86
	10	4	0.00	0.00	7.74	2.61	-22.12	0.00
		5	0.00	0.00	7.74	2.61	22.12	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	4	0.47	0.57	-0.11	-0.66	0.32	5.15
		5	0.47	-0.57	-0.11	-0.66	-0.32	5.15
	12	4	0.18	0.18	-0.07	-0.69	-0.23	1.63
		5	0.18	-0.18	-0.07	-0.69	0.23	1.63
	13	4	0.00	0.00	-0.46	-4.82	-1.62	0.00
		5	0.00	0.00	-0.46	-4.82	1.62	0.00
	14	4	69.53	0.00	-15.75	0.00	45.07	17.17
		5	-69.53	0.00	-15.75	0.00	-45.07	-17.17
	15	4	-1.54	129.96	7.74	-13.59	-22.29	390.85
		5	1.54	129.96	7.74	-13.59	22.29	-390.85
	16	4	-3.45	95.49	7.74	-13.59	-22.29	343.27
		5	3.45	95.49	7.74	-13.59	22.29	-343.27
	17	4	-5.75	95.49	7.74	-13.59	-22.29	343.28
		5	5.75	95.49	7.74	-13.59	22.29	-343.28
	18	4	-1.72	76.85	6.10	-11.40	-17.58	233.88
		5	2.48	75.93	6.10	-11.40	17.58	-225.64
	19	4	-0.98	104.25	5.74	-15.44	-19.23	315.21
		5	1.49	103.69	5.74	-15.44	19.23	-310.14
	20	4	-2.51	76.67	5.74	-15.44	-19.23	277.16
		5	3.01	76.11	5.74	-15.44	19.23	-272.08
	21	4	-4.34	76.67	5.74	-15.44	-19.23	277.16
		5	4.85	76.11	5.74	-15.44	19.23	-272.09
	22	4	54.39	103.97	-6.41	-10.87	18.23	326.41
		5	-54.39	103.97	-6.41	-10.87	-18.23	-326.41
	23	4	52.86	76.39	-6.41	-10.87	18.23	288.35
		5	-52.86	76.39	-6.41	-10.87	-18.23	-288.35
	24	4	51.03	76.39	-6.41	-10.87	18.23	288.36
		5	-51.03	76.39	-6.41	-10.87	-18.23	-288.36
	25	4	-56.86	103.97	18.79	-10.87	-53.89	298.95
		5	56.86	103.97	18.79	-10.87	53.89	-298.95
	26	4	-58.39	76.39	18.79	-10.87	-53.89	260.89
		5	58.39	76.39	18.79	-10.87	53.89	-260.89
	27	4	-60.22	76.39	18.79	-10.87	-53.89	260.89
		5	60.22	76.39	18.79	-10.87	53.89	-260.89
	28	4	48.51	69.16	-5.85	-10.26	16.63	222.85
		5	-47.84	68.34	-5.85	-10.26	-16.63	-215.44
	29	4	-51.61	69.16	16.83	-10.26	-48.27	198.13
		5	52.29	68.34	16.83	-10.26	48.27	-190.72
	30	4	49.18	93.83	-6.17	-13.90	15.14	296.07
		5	-48.72	93.32	-6.17	-13.90	-15.14	-291.46
	31	4	47.81	69.01	-6.17	-13.90	15.14	261.82
		5	-47.35	68.50	-6.17	-13.90	-15.14	-257.21
	32	4	46.16	69.01	-6.17	-13.90	15.14	261.83
		5	-45.70	68.50	-6.17	-13.90	-15.14	-257.22
	33	4	-50.94	93.83	16.51	-13.90	-49.76	271.35
		5	51.41	93.32	16.51	-13.90	49.76	-266.75
	34	4	-52.32	69.01	16.51	-13.90	-49.76	237.10
		5	52.78	68.50	16.51	-13.90	49.76	-232.49

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	4	-53.97	69.01	16.51	-13.90	-49.76	237.11
		5	54.43	68.50	16.51	-13.90	49.76	-232.50
5	1	5	-2.61	96.44	0.01	-16.02	-0.18	287.44
		6	2.61	94.54	-0.01	-16.38	0.09	-270.36
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	0.00	0.00
	3	5	-0.79	0.14	0.00	0.00	0.00	-0.02
		6	0.79	-0.14	0.00	0.00	0.00	2.59
	4	5	1.45	26.42	0.00	0.00	0.00	79.97
		6	-1.45	26.68	0.00	0.00	0.00	-82.32
	5	5	0.43	7.88	0.00	0.00	0.00	23.86
		6	-0.43	7.96	0.00	0.00	0.00	-24.56
	6	5	1.38	35.47	0.00	0.00	0.00	64.17
		6	-1.38	35.27	0.00	0.00	0.00	-62.41
	7	5	0.41	10.56	0.00	0.00	0.00	19.10
		6	-0.41	10.50	0.00	0.00	0.00	-18.58
	8	5	-0.39	33.31	0.00	0.00	0.00	64.10
		6	0.39	37.43	0.00	0.00	0.00	-101.11
	9	5	-0.12	9.92	0.00	0.00	0.00	19.08
		6	0.12	11.14	0.00	0.00	0.00	-30.10
	10	5	0.00	0.00	7.60	2.45	-22.03	0.00
		6	0.00	0.00	7.88	2.77	24.51	0.00
	11	5	0.49	0.55	-0.11	-0.65	0.32	5.12
		6	0.45	-0.55	-0.12	-0.67	-0.36	4.71
	12	5	0.13	0.17	-0.06	-0.40	-0.27	1.62
		6	0.23	-0.17	-0.07	-0.99	0.17	1.49
	13	5	0.00	0.00	-0.42	-2.77	-1.87	0.00
		6	0.00	0.00	-0.50	-6.88	1.18	0.00
	14	5	61.45	-8.49	-15.47	0.27	44.89	-69.42
		6	-61.45	8.49	-16.03	-0.27	-49.89	-83.42
	15	5	-1.52	130.88	7.61	-13.58	-22.21	391.25
		6	1.52	129.04	7.87	-13.60	24.59	-374.64
	16	5	-1.60	142.61	7.61	-13.58	-22.21	370.69
		6	1.60	140.17	7.87	-13.60	24.59	-348.77
	17	5	-3.91	139.81	7.61	-13.58	-22.21	370.61
		6	3.91	142.97	7.87	-13.60	24.59	-398.99
	18	5	-1.70	77.59	6.00	-11.38	-17.51	234.05
		6	2.45	75.20	6.21	-11.41	19.39	-212.52
	19	5	-1.00	104.98	5.67	-13.55	-19.40	315.52
		6	1.51	102.96	5.81	-17.33	20.67	-297.39
	20	5	-1.07	114.36	5.67	-13.55	-19.40	299.08
		6	1.57	111.87	5.81	-17.33	20.67	-276.69
	21	5	-2.91	112.12	5.67	-13.55	-19.40	299.01
		6	3.42	114.10	5.81	-17.33	20.67	-316.87
	22	5	47.94	97.91	-6.29	-10.64	18.14	257.47
		6	-47.94	110.02	-6.52	-11.10	-20.24	-366.45

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	47.87	107.29	-6.29	-10.64	18.14	241.02
		6	-47.87	118.93	-6.52	-11.10	-20.24	-345.75
	24	5	46.03	105.06	-6.29	-10.64	18.14	240.95
		6	-46.03	121.17	-6.52	-11.10	-20.24	-385.92
	25	5	-50.37	111.50	18.46	-11.08	-53.67	368.53
		6	50.37	96.44	19.12	-10.66	59.59	-232.98
	26	5	-50.44	120.88	18.46	-11.08	-53.67	352.09
		6	50.44	105.34	19.12	-10.66	59.59	-212.28
	27	5	-52.28	118.64	18.46	-11.08	-53.67	352.02
		6	52.28	107.58	19.12	-10.66	59.59	-252.46
	28	5	42.71	63.72	-5.74	-10.04	16.56	160.66
		6	-42.03	73.79	-5.96	-10.47	-18.47	-251.32
	29	5	-45.77	75.94	16.54	-10.44	-48.08	260.62
		6	46.45	61.56	17.13	-10.08	53.37	-131.20
	30	5	43.35	88.37	-6.04	-12.00	14.86	234.01
		6	-42.88	98.78	-6.31	-15.80	-17.33	-327.70
	31	5	43.28	96.81	-6.04	-12.00	14.86	219.21
		6	-42.82	106.79	-6.31	-15.80	-17.33	-309.06
	32	5	41.63	94.80	-6.04	-12.00	14.86	219.15
		6	-41.16	108.80	-6.31	-15.80	-17.33	-345.22
	33	5	-45.14	100.59	16.24	-12.40	-49.78	333.97
		6	45.60	86.55	16.77	-15.41	54.52	-207.58
	34	5	-45.20	109.04	16.24	-12.40	-49.78	319.17
		6	45.66	94.57	16.77	-15.41	54.52	-188.94
	35	5	-46.86	107.02	16.24	-12.40	-49.78	319.11
		6	47.32	96.58	16.77	-15.41	54.52	-225.10
6	1	6	-3.11	86.71	0.01	-15.78	-0.12	263.02
		7	3.11	104.27	-0.01	-16.62	-0.04	-421.08
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		7	0.00	0.00	0.00	0.00	0.00	0.00
	3	6	-0.88	-2.11	0.00	0.00	0.00	-3.96
		7	0.88	2.11	0.00	0.00	0.00	-33.97
	4	6	1.57	29.92	0.00	0.00	0.00	84.05
		7	-1.57	23.18	0.00	0.00	0.00	-23.34
	5	6	0.47	8.93	0.00	0.00	0.00	25.07
		7	-0.47	6.91	0.00	0.00	0.00	-6.96
	6	6	0.00	2.33	0.00	0.00	0.00	41.94
		7	0.00	-2.33	0.00	0.00	0.00	-0.08
	7	6	0.00	0.69	0.00	0.00	0.00	12.49
		7	0.00	-0.69	0.00	0.00	0.00	-0.02
	8	6	-0.53	33.47	0.00	0.00	0.00	99.16
		7	0.53	37.27	0.00	0.00	0.00	-133.42
	9	6	-0.16	9.96	0.00	0.00	0.00	29.52
		7	0.16	11.10	0.00	0.00	0.00	-39.72
	10	6	0.00	0.00	7.41	2.80	-24.42	0.00
		7	0.00	0.00	8.07	2.42	30.30	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	6	0.52	0.82	-0.11	-0.64	0.35	5.75
		7	0.42	-0.82	-0.12	-0.67	-0.44	8.93
	12	6	0.08	0.26	-0.04	-0.15	-0.28	1.82
		7	0.27	-0.26	-0.09	-1.24	-0.15	2.81
	13	6	0.00	0.00	-0.30	-1.05	-1.93	0.00
		7	0.00	0.00	-0.63	-8.59	-1.06	0.00
	14	6	36.46	-31.09	-15.09	-0.53	49.73	-186.90
		7	-36.46	31.09	-16.41	0.53	-61.65	-372.81
	15	6	-1.96	123.45	7.42	-12.98	-24.54	368.18
		7	1.96	136.47	8.06	-14.20	30.26	-485.35
	16	6	-3.99	87.62	7.42	-12.98	-24.54	313.49
		7	3.99	103.36	8.06	-14.20	30.26	-455.15
	17	6	-4.68	128.03	7.42	-12.98	-24.54	387.75
		7	4.68	154.75	8.06	-14.20	30.26	-628.19
	18	6	-2.08	70.02	5.85	-10.90	-19.35	215.02
		7	2.83	82.76	6.35	-11.90	23.85	-329.72
	19	6	-1.38	99.16	5.64	-11.50	-21.31	297.38
		7	1.89	108.77	5.84	-19.38	23.13	-383.89
	20	6	-3.01	70.50	5.64	-11.50	-21.31	253.63
		7	3.51	82.29	5.84	-19.38	23.13	-359.73
	21	6	-3.56	102.83	5.64	-11.50	-21.31	313.03
		7	4.06	123.40	5.84	-19.38	23.13	-498.16
	22	6	27.60	73.88	-6.13	-10.81	20.15	145.02
		7	-27.60	134.05	-6.68	-10.94	-25.11	-686.52
	23	6	25.97	45.22	-6.13	-10.81	20.15	101.27
		7	-25.97	107.56	-6.68	-10.94	-25.11	-662.37
	24	6	25.42	77.55	-6.13	-10.81	20.15	160.67
		7	-25.42	148.67	-6.68	-10.94	-25.11	-800.80
	25	6	-30.73	123.64	18.01	-9.96	-59.42	444.07
		7	30.73	84.30	19.58	-11.78	73.53	-90.03
	26	6	-32.36	94.97	18.01	-9.96	-59.42	400.32
		7	32.36	57.81	19.58	-11.78	73.53	-65.88
	27	6	-32.91	127.30	18.01	-9.96	-59.42	459.72
		7	32.91	98.92	19.58	-11.78	73.53	-204.31
	28	6	24.38	40.63	-5.60	-10.19	18.39	58.95
		7	-23.70	96.88	-6.10	-10.33	-22.92	-565.16
	29	6	-28.12	85.41	16.13	-9.43	-53.22	328.09
		7	28.80	52.10	17.53	-11.08	65.85	-28.32
	30	6	25.01	66.86	-5.79	-10.73	16.63	133.09
		7	-24.55	120.28	-6.56	-17.07	-23.57	-613.88
	31	6	23.55	41.06	-5.79	-10.73	16.63	93.72
		7	-23.09	96.44	-6.56	-17.07	-23.57	-592.14
	32	6	23.05	70.16	-5.79	-10.73	16.63	147.18
		7	-22.59	133.44	-6.56	-17.07	-23.57	-716.73
	33	6	-27.49	111.64	15.94	-9.98	-54.99	402.23
		7	27.95	75.50	17.08	-17.83	65.20	-77.04
	34	6	-28.95	85.84	15.94	-9.98	-54.99	362.86
		7	29.41	51.67	17.08	-17.83	65.20	-55.30

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	6	-29.45	114.94	15.94	-9.98	-54.99	416.32
		7	29.91	88.67	17.08	-17.83	65.20	-179.89
7	1	7	0.00	110.24	0.00	-15.26	0.00	467.42
		8	0.00	0.00	0.00	0.00	0.00	0.00
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	3	7	0.00	11.11	0.00	0.00	0.00	47.10
		8	0.00	0.00	0.00	0.00	0.00	0.00
	4	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	5	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	6	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	7	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	8	7	0.00	33.33	0.00	0.00	0.00	141.30
		8	0.00	0.00	0.00	0.00	0.00	0.00
	9	7	0.00	9.92	0.00	0.00	0.00	42.07
		8	0.00	0.00	0.00	0.00	0.00	0.00
	10	7	0.00	0.00	7.29	2.46	-30.92	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	11	7	0.44	0.00	-0.11	-0.62	0.45	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	12	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	13	7	0.00	0.00	0.00	0.00	0.00	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	14	7	0.00	0.00	-14.84	0.00	62.92	0.00
		8	0.00	0.00	0.00	0.00	0.00	0.00
	15	7	0.00	121.35	7.29	-12.80	-30.92	514.52
		8	0.00	0.00	0.00	0.00	0.00	0.00
	16	7	0.00	121.35	7.29	-12.80	-30.92	514.52
		8	0.00	0.00	0.00	0.00	0.00	0.00
	17	7	0.00	164.60	7.29	-12.80	-30.92	697.89
		8	0.00	0.00	0.00	0.00	0.00	0.00
	18	7	0.35	88.19	5.75	-10.74	-24.38	373.93
		8	0.00	0.00	0.00	0.00	0.00	0.00
	19	7	0.11	97.08	5.81	-10.39	-24.63	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00
	20	7	0.11	97.08	5.81	-10.39	-24.63	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00
	21	7	0.11	131.68	5.81	-10.39	-24.63	558.31
		8	0.00	0.00	0.00	0.00	0.00	0.00
	22	7	0.00	97.08	-6.04	-10.24	25.60	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	7	0.00	97.08	-6.04	-10.24	25.60	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00
	24	7	0.00	131.68	-6.04	-10.24	25.60	558.31
		8	0.00	0.00	0.00	0.00	0.00	0.00
	25	7	0.00	97.08	17.71	-10.24	-75.07	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00
	26	7	0.00	97.08	17.71	-10.24	-75.07	411.62
		8	0.00	0.00	0.00	0.00	0.00	0.00
	27	7	0.00	131.68	17.71	-10.24	-75.07	558.31
		8	0.00	0.00	0.00	0.00	0.00	0.00
	28	7	0.32	79.37	-5.51	-9.67	23.37	336.54
		8	0.00	0.00	0.00	0.00	0.00	0.00
	29	7	0.32	79.37	15.86	-9.67	-67.24	336.54
		8	0.00	0.00	0.00	0.00	0.00	0.00
	30	7	0.10	87.37	-5.46	-9.36	23.14	370.45
		8	0.00	0.00	0.00	0.00	0.00	0.00
	31	7	0.10	87.37	-5.46	-9.36	23.14	370.45
		8	0.00	0.00	0.00	0.00	0.00	0.00
	32	7	0.10	118.51	-5.46	-9.36	23.14	502.48
		8	0.00	0.00	0.00	0.00	0.00	0.00
	33	7	0.10	87.37	15.91	-9.36	-67.47	370.45
		8	0.00	0.00	0.00	0.00	0.00	0.00
	34	7	0.10	87.37	15.91	-9.36	-67.47	370.45
		8	0.00	0.00	0.00	0.00	0.00	0.00
	35	7	0.10	118.51	15.91	-9.36	-67.47	502.48
		8	0.00	0.00	0.00	0.00	0.00	0.00
	8 DL 1	2	214.51	3.11	0.01	0.04	31.88	46.34
		9	-214.51	-3.11	-0.01	-0.04	-32.08	21.99
	DS DL 2	2	0.00	0.00	0.00	0.00	0.00	0.00
		9	-31.61	0.00	0.00	0.00	0.00	0.00
	PED LL 3	2	13.22	0.88	0.00	0.00	0.00	13.13
		9	-13.22	-0.88	0.00	0.00	0.00	6.23
	LL 4	2	23.18	-1.57	0.00	0.00	0.00	-23.34
		9	-23.18	1.57	0.00	0.00	0.00	-11.07
	LL 5	2	6.91	-0.47	0.00	0.00	0.00	-6.96
		9	-6.91	0.47	0.00	0.00	0.00	-3.30
	6	2	-2.33	0.00	0.00	0.00	0.00	-0.08
		9	2.33	0.00	0.00	0.00	0.00	0.02
	7	2	-0.69	0.00	0.00	0.00	0.00	-0.02
		9	0.69	0.00	0.00	0.00	0.00	0.01
	8	2	70.60	0.53	0.00	0.00	0.00	7.88
		9	-70.60	-0.53	0.00	0.00	0.00	3.71
	9	2	21.02	0.16	0.00	0.00	0.00	2.35
		9	-21.02	-0.16	0.00	0.00	0.00	1.11
	E 10	2	0.00	0.00	-15.36	0.62	-4.88	0.00
		9	0.00	0.00	15.36	-0.62	342.02	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	2	0.56	-0.87	0.23	-0.01	1.29	-8.93
		9	-0.56	0.87	-0.23	0.01	-6.23	-10.11
	12	2	0.11	-0.27	0.09	0.15	1.24	-2.81
		9	-0.11	0.27	-0.09	-0.15	-3.22	-3.18
	13	2	0.00	0.00	0.63	1.06	8.59	0.00
		9	0.00	0.00	-0.63	-1.06	-22.37	0.00
- RST	14	2	31.09	-36.46	31.25	-1.27	-0.53	-372.81
		9	-31.09	36.46	-31.25	1.27	-685.45	-427.44
	15	2	257.82	1.96	-15.35	0.66	27.00	29.17
		9	-289.43	-1.96	15.35	-0.66	309.94	13.85
	16	2	224.71	3.99	-15.35	0.66	27.00	59.37
		9	-256.32	-3.99 16.05	15.35	-0.66	309.94 74.75	28.25
	17	2	319.34	4.68	-15.35	0.66	27.00	69.70
		9	-350.95	-4.68	15.35	-0.66	309.94	33.04
	18	2	172.06	1.80	-12.10	0.52	22.63	29.93
		9	-197.34	-1.80	12.10	-0.52	242.97	9.50
	19	2	206.47	1.14	-11.65	1.50	29.78	18.94
		9	-231.76	-1.14	11.65	-1.50	225.98	6.11
	20	2	179.99	2.77	-11.65	1.50	29.78	43.10
		9	-205.27	-2.77	11.65	-1.50	225.98	17.63
	21	2	255.70	3.32	-11.65	1.50	29.78	51.37
		9	-280.98	-3.32	11.65	-1.50	225.98	21.46
	22	2	231.13	-27.60	12.72	-0.49	21.18	-274.91
		9	-256.42	27.60	-12.72	0.49	-300.41	-330.87
	23	2	204.64	-25.97	12.72	-0.49	21.18	-250.75
		9	-229.93	25.97	-12.72	0.49	-300.41	-319.35
	24	2	280.35	-25.42	12.72	-0.49	21.18	-242.49
		9	-305.64	25.42	-12.72	0.49	-300.41	-315.52
	25	2	181.38	30.73	-37.28	1.55	22.02	321.58
		9	-206.66	-30.73	37.28	-1.55	796.31	353.03
	26	2	154.89	32.36	-37.28	1.55	22.02	345.74
		9	-180.18	-32.36	37.28	-1.55	796.31	364.55
	27	2	230.60	32.91	-37.28	1.55	22.02	354.00
		9	-255.89	-32.91	37.28	-1.55	796.31	368.38
	28	2	177.24	-24.63	11.61	-0.45	19.99	-241.48
		9	-200.00	24.63	-11.61	0.45	-274.85	-299.21
	29	2	132.46	27.87	-33.39	1.39	20.75	295.35
		9	-155.22	-27.87	33.39	-1.39	712.20	316.31
	30	2	208.22	-25.23	12.02	0.43	26.43	-251.41
		9	-230.98	25.23	-12.02	-0.43	-290.17	-302.30
	31	2	184.38	-23.76	12.02	0.43	26.43	-229.67
		9	-207.14	23.76	-12.02	-0.43	-290.17	-291.93
	32	2	252.52	-23.27	12.02	0.43	26.43	-222.23
		9	-275.27	23.27	-12.02	-0.43	-290.17	-288.49
	33	2	163.44	27.27	-32.99	2.26	27.18	285.43
		9	-186.20	-27.27	32.99	-2.26	696.88	313.21
	34	2	139.60	28.74	-32.99	2.26	27.18	307.17
		9	-162.36	-28.74	32.99	-2.26	696.88	323.58

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	2	207.74	29.23	-32.99	2.26	27.18	314.61
		9	-230.50	-29.23	32.99	-2.26	696.88	327.03
9	1	3	181.25	-0.50	0.00	0.04	32.16	-7.34
		10	-181.25	0.50	0.00	-0.04	-32.07	-3.71
	2	3	0.00	0.00	0.00	0.00	0.00	0.00
		10	-31.61	0.00	0.00	0.00	0.00	0.00
	3	3	-2.25	-0.09	0.00	0.00	0.00	-1.37
		10	2.25	0.09	0.00	0.00	0.00	-0.71
	4	3	56.60	0.12	0.00	0.00	0.00	1.73
		10	-56.60	-0.12	0.00	0.00	0.00	0.93
	5	3	16.88	0.04	0.00	0.00	0.00	0.52
		10	-16.88	-0.04	0.00	0.00	0.00	0.28
	6	3	37.60	-1.38	0.00	0.00	0.00	-20.47
		10	-37.60	1.38	0.00	0.00	0.00	-9.80
	7	3	11.19	-0.41	0.00	0.00	0.00	-6.10
		10	-11.19	0.41	0.00	0.00	0.00	-2.92
	8	3	70.89	-0.13	0.00	0.00	0.00	-1.95
		10	-70.89	0.13	0.00	0.00	0.00	-1.00
	9	3	21.11	-0.04	0.00	0.00	0.00	-0.58
		10	-21.11	0.04	0.00	0.00	0.00	-0.30
	10	3	0.00	0.00	-15.29	-0.09	-5.57	0.00
		10	0.00	0.00	15.29	0.09	341.20	0.00
	11	3	-0.42	-0.97	0.22	0.00	1.31	-10.47
		10	0.42	0.97	-0.22	0.00	-6.22	-10.85
	12	3	-0.17	-0.31	0.11	0.11	1.14	-3.30
		10	0.17	0.31	-0.11	-0.11	-3.66	-3.42
	13	3	0.00	0.00	0.80	0.75	7.93	0.00
		10	0.00	0.00	-0.80	-0.75	-25.40	0.00
	14	3	-22.60	-24.99	31.12	0.16	0.80	-270.32
		10	22.60	24.99	-31.12	-0.16	-683.80	-278.16
	15	3	252.49	-0.44	-15.29	-0.05	26.58	-6.46
		10	-284.10	0.44	15.29	0.05	309.13	-3.21
	16	3	227.79	-2.39	-15.29	-0.05	26.58	-35.27
		10	-259.40	2.39	15.29	0.05	309.13	-17.13
	17	3	271.00	-0.77	-15.29	-0.05	26.58	-11.24
		10	-302.61	0.77	15.29	0.05	309.13	-5.72
	18	3	144.66	-1.18	-12.06	-0.04	22.31	-14.25
		10	-169.95	1.18	12.06	0.04	242.33	-11.65
	19	3	201.75	-0.83	-11.45	0.65	28.84	-10.32
		10	-227.04	0.83	11.45	-0.65	222.57	-7.91
	20	3	181.99	-2.39	-11.45	0.65	28.84	-33.37
		10	-207.28	2.39	11.45	-0.65	222.57	-19.05
	21	3	216.56	-1.10	-11.45	0.65	28.84	-14.15
		10	-241.85	1.10	11.45	-0.65	222.57	-9.92
	22	3	183.91	-20.34	12.66	0.09	21.91	-221.43
		10	-209.19	20.34	-12.66	-0.09	-299.73	-225.10

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z	DISPLACEMENTS LFIVE	STAADPRO
	23	3	164.15	-21.90	12.66	0.09	21.91	-244.47		
		10	-189.44	21.90	-12.66	-0.09	-299.73	-236.24		
	24	3	198.72	-20.61	12.66	0.09	21.91	-225.25		
		10	-224.00	20.61	-12.66	-0.09	-299.73	-227.11		
	25	3	220.07	19.64	-37.13	-0.17	20.63	211.09	0.285	0.4008
		10	-245.36	-19.64	37.13	0.17	794.34	219.96		
	26	3	200.32	18.08	-37.13	-0.17	20.63	188.04		
		10	-225.60	-18.08	37.13	0.17	794.34	208.82		
	27	3	234.88	19.37	-37.13	-0.17	20.63	207.26		
		10	-260.17	-19.37	37.13	0.17	794.34	217.96		
	28	3	113.92	-19.05	11.55	0.08	20.66	-207.45		
		10	-136.68	19.05	-11.55	-0.08	-274.23	-210.76		
	29	3	146.47	16.93	-33.25	-0.15	19.51	181.81		
		10	-169.23	-16.93	33.25	0.15	710.43	189.79		
	30	3	165.30	-18.74	12.10	0.70	26.53	-203.96		
		10	-188.06	18.74	-12.10	-0.70	-292.05	-207.44		
	31	3	147.52	-20.14	12.10	0.70	26.53	-224.71		
		10	-170.28	20.14	-12.10	-0.70	-292.05	-217.46		
	32	3	178.63	-18.98	12.10	0.70	26.53	-207.40		
		10	-201.39	18.98	-12.10	-0.70	-292.05	-209.25		
	33	3	197.85	17.24	-32.71	0.47	25.38	185.30		
		10	-220.61	-17.24	32.71	-0.47	692.62	193.11		
	34	3	180.07	15.84	-32.71	0.47	25.38	164.55		
		10	-202.83	-15.84	32.71	-0.47	692.62	183.09		
	35	3	211.18	17.00	-32.71	0.47	25.38	181.86		
		10	-233.94	-17.00	32.71	-0.47	692.62	191.31		
10	1	4	191.93	0.01	-0.01	0.01	32.22	0.24		
		11	-191.93	-0.01	0.01	-0.01	-32.11	0.06		
	2	4	0.00	0.00	0.00	0.00	0.00	0.00		
		11	-31.61	0.00	0.00	0.00	0.00	0.00		
	3	4	0.14	0.00	0.00	0.00	0.00	-0.03		
		11	-0.14	0.00	0.00	0.00	0.00	-0.03		
	4	4	52.97	0.01	0.00	0.00	0.00	0.15		
		11	-52.97	-0.01	0.00	0.00	0.00	0.10		
	5	4	15.80	0.00	0.00	0.00	0.00	0.04		
		11	-15.80	0.00	0.00	0.00	0.00	0.03		
	6	4	35.47	1.42	0.00	0.00	0.00	20.97		
		11	-35.47	-1.42	0.00	0.00	0.00	10.09		
	7	4	10.56	0.42	0.00	0.00	0.00	6.24		
		11	-10.56	-0.42	0.00	0.00	0.00	3.01		
	8	4	33.31	1.41	0.00	0.00	0.00	20.89		
		11	-33.31	-1.41	0.00	0.00	0.00	10.02		
	9	4	9.92	0.42	0.00	0.00	0.00	6.22		
		11	-9.92	-0.42	0.00	0.00	0.00	2.98		
	10	4	0.00	0.00	-15.34	-0.09	-5.06	0.00		
		11	0.00	0.00	15.34	0.09	341.82	0.00		

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	4	-0.03	-0.96	0.22	0.00	1.30	-10.27
		11	0.03	0.96	-0.22	0.00	-6.23	-10.76
	12	4	-0.02	-0.30	0.13	0.04	1.09	-3.24
		11	0.02	0.30	-0.13	-0.04	-3.89	-3.40
	13	4	0.00	0.00	0.88	0.25	7.60	0.00
		11	0.00	0.00	-0.88	-0.25	-27.02	0.00
	14	4	-8.49	-8.09	31.22	0.19	-0.27	-86.58
		11	8.49	8.09	-31.22	-0.19	-685.04	-90.90
	15	4	260.84	0.03	-15.35	-0.08	27.17	0.40
		11	-292.45	-0.03	15.35	0.08	309.71	0.16
	16	4	238.10	1.85	-15.35	-0.08	27.17	27.42
		11	-269.71	-1.85	15.35	0.08	309.71	13.12
	17	4	235.30	1.84	-15.35	-0.08	27.17	27.32
		11	-266.91	-1.84	15.35	0.08	309.71	13.02
	18	4	153.52	-0.76	-12.10	-0.06	22.78	-8.02
		11	-178.81	0.76	12.10	0.06	242.79	-8.56
	19	4	208.65	-0.45	-11.41	0.17	29.00	-4.74
		11	-233.94	0.45	11.41	-0.17	221.54	-5.17
	20	4	190.46	1.01	-11.41	0.17	29.00	16.88
		11	-215.74	-1.01	11.41	-0.17	221.54	5.20
	21	4	188.22	1.00	-11.41	0.17	29.00	16.80
		11	-213.51	-1.00	11.41	-0.17	221.54	5.12
	22	4	201.88	-6.45	12.70	0.08	21.51	-68.94
		11	-227.17	6.45	-12.70	-0.08	-300.26	-72.60
	23	4	183.69	-4.99	12.70	0.08	21.51	-47.33
		11	-208.97	4.99	-12.70	-0.08	-300.26	-62.22
	24	4	181.45	-5.00	12.70	0.08	21.51	-47.41
		11	-206.74	5.00	-12.70	-0.08	-300.26	-62.30
	25	4	215.47	6.49	-37.26	-0.21	21.95	69.59
		11	-240.75	-6.49	37.26	0.21	795.80	72.85
	26	4	197.27	7.95	-37.26	-0.21	21.95	91.20
		11	-222.56	-7.95	37.26	0.21	795.80	83.22
	27	4	195.04	7.94	-37.26	-0.21	21.95	91.12
		11	-220.32	-7.94	37.26	0.21	795.80	83.14
	28	4	132.06	-6.50	11.59	0.08	20.30	-69.56
		11	-154.81	6.50	-11.59	-0.08	-274.72	-73.15
	29	4	144.28	5.14	-33.37	-0.19	20.70	55.12
		11	-167.04	-5.14	33.37	0.19	711.74	57.75
	30	4	181.67	-6.23	12.21	0.29	25.91	-66.65
		11	-204.43	6.23	-12.21	-0.29	-293.87	-70.15
	31	4	165.30	-4.92	12.21	0.29	25.91	-47.19
		11	-188.05	4.92	-12.21	-0.29	-293.87	-60.81
	32	4	163.28	-4.93	12.21	0.29	25.91	-47.26
		11	-186.04	4.93	-12.21	-0.29	-293.87	-60.88
	33	4	193.90	5.41	-32.75	0.02	26.30	58.03
		11	-216.66	-5.41	32.75	-0.02	692.59	60.75
	34	4	177.52	6.72	-32.75	0.02	26.30	77.49
		11	-200.28	-6.72	32.75	-0.02	692.59	70.09

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	4	175.51	6.72	-32.75	0.02	26.30	77.42
		11	-198.27	-6.72	32.75	-0.02	692.59	70.02
11	1	5	191.93	-0.01	-0.01	-0.01	32.22	-0.24
		12	-191.93	0.01	0.01	0.01	-32.11	-0.06
	2	5	0.00	0.00	0.00	0.00	0.00	0.00
		12	-31.61	0.00	0.00	0.00	0.00	0.00
	3	5	0.14	0.00	0.00	0.00	0.00	0.03
		12	-0.14	0.00	0.00	0.00	0.00	0.03
	4	5	52.97	-0.01	0.00	0.00	0.00	-0.15
		12	-52.97	0.01	0.00	0.00	0.00	-0.10
	5	5	15.80	0.00	0.00	0.00	0.00	-0.04
		12	-15.80	0.00	0.00	0.00	0.00	-0.03
	6	5	35.47	-1.42	0.00	0.00	0.00	-20.97
		12	-35.47	1.42	0.00	0.00	0.00	-10.09
	7	5	10.56	-0.42	0.00	0.00	0.00	-6.24
		12	-10.56	0.42	0.00	0.00	0.00	-3.01
	8	5	33.31	-1.41	0.00	0.00	0.00	-20.89
		12	-33.31	1.41	0.00	0.00	0.00	-10.02
	9	5	9.92	-0.42	0.00	0.00	0.00	-6.22
		12	-9.92	0.42	0.00	0.00	0.00	-2.98
	10	5	0.00	0.00	-15.34	0.09	-5.06	0.00
		12	0.00	0.00	15.34	-0.09	341.82	0.00
	11	5	0.03	-0.96	0.22	0.00	1.30	-10.27
		12	-0.03	0.96	-0.22	0.00	-6.23	-10.76
	12	5	0.02	-0.30	0.13	-0.04	1.09	-3.24
		12	-0.02	0.30	-0.13	0.04	-3.89	-3.40
	13	5	0.00	0.00	0.88	-0.25	7.60	0.00
		12	0.00	0.00	-0.88	0.25	-27.02	0.00
	14	5	-8.49	8.09	31.22	-0.19	-0.27	86.58
		12	8.49	-8.09	-31.22	0.19	-685.04	90.90
	15	5	260.84	-0.03	-15.35	0.08	27.17	-0.40
		12	-292.45	0.03	15.35	-0.08	309.71	-0.16
	16	5	238.10	-1.85	-15.35	0.08	27.17	-27.42
		12	-269.71	1.85	15.35	-0.08	309.71	-13.12
	17	5	235.30	-1.84	-15.35	0.08	27.17	-27.32
		12	-266.91	1.84	15.35	-0.08	309.71	-13.02
	18	5	153.56	-0.78	-12.10	0.06	22.78	-8.41
		12	-178.85	0.78	12.10	-0.06	242.79	-8.65
	19	5	208.70	-0.49	-11.41	-0.17	29.00	-5.38
		12	-233.98	0.49	11.41	0.17	221.54	-5.43
	20	5	190.50	-1.95	-11.41	-0.17	29.00	-27.00
		12	-215.79	1.95	11.41	0.17	221.54	-15.80
	21	5	188.27	-1.94	-11.41	-0.17	29.00	-26.92
		12	-213.55	1.94	11.41	0.17	221.54	-15.72
	22	5	201.88	6.45	12.70	-0.08	21.51	68.94
		12	-227.17	-6.45	-12.70	0.08	-300.26	72.60

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	5	183.69	4.99	12.70	-0.08	21.51	47.33
		12	-208.97	-4.99	-12.70	0.08	-300.26	62.22
	24	5	181.45	5.00	12.70	-0.08	21.51	47.41
		12	-206.74	-5.00	-12.70	0.08	-300.26	62.30
	25	5	215.47	-6.49	-37.26	0.21	21.95	-69.59
		12	-240.75	6.49	37.26	-0.21	795.80	-72.85
	26	5	197.27	-7.95	-37.26	0.21	21.95	-91.20
		12	-222.56	7.95	37.26	-0.21	795.80	-83.22
	27	5	195.04	-7.94	-37.26	0.21	21.95	-91.12
		12	-220.32	7.94	37.26	-0.21	795.80	-83.14
	28	5	132.09	5.12	11.59	-0.08	20.30	54.77
		12	-154.85	-5.12	-11.59	0.08	-274.72	57.67
	29	5	144.32	-6.52	-33.37	0.19	20.70	-69.91
		12	-167.08	6.52	33.37	-0.19	711.74	-73.23
	30	5	181.71	5.37	12.21	-0.29	25.91	57.45
		12	-204.47	-5.37	-12.21	0.29	-293.87	60.52
	31	5	165.34	4.06	12.21	-0.29	25.91	38.00
		12	-188.10	-4.06	-12.21	0.29	-293.87	51.19
	32	5	163.33	4.07	12.21	-0.29	25.91	38.07
		12	-186.08	-4.07	-12.21	0.29	-293.87	51.26
	33	5	193.94	-6.27	-32.75	-0.02	26.30	-67.22
		12	-216.70	6.27	32.75	0.02	692.59	-70.38
	34	5	177.56	-7.58	-32.75	-0.02	26.30	-86.68
		12	-200.32	7.58	32.75	0.02	692.59	-79.71
	35	5	175.55	-7.57	-32.75	-0.02	26.30	-86.61
		12	-198.31	7.57	32.75	0.02	692.59	-79.64
12	1	6	181.25	0.50	0.00	-0.04	32.16	7.34
		13	-181.25	-0.50	0.00	0.04	-32.07	3.71
	2	6	0.00	0.00	0.00	0.00	0.00	0.00
		13	-31.61	0.00	0.00	0.00	0.00	0.00
	3	6	-2.25	0.09	0.00	0.00	0.00	1.37
		13	2.25	-0.09	0.00	0.00	0.00	0.71
	4	6	56.60	-0.12	0.00	0.00	0.00	-1.73
		13	-56.60	0.12	0.00	0.00	0.00	-0.93
	5	6	16.88	-0.04	0.00	0.00	0.00	-0.52
		13	-16.88	0.04	0.00	0.00	0.00	-0.28
	6	6	37.60	1.38	0.00	0.00	0.00	20.47
		13	-37.60	-1.38	0.00	0.00	0.00	9.80
	7	6	11.19	0.41	0.00	0.00	0.00	6.10
		13	-11.19	-0.41	0.00	0.00	0.00	2.92
	8	6	70.89	0.13	0.00	0.00	0.00	1.95
		13	-70.89	-0.13	0.00	0.00	0.00	1.00
	9	6	21.11	0.04	0.00	0.00	0.00	0.58
		13	-21.11	-0.04	0.00	0.00	0.00	0.30
	10	6	0.00	0.00	-15.29	0.09	-5.57	0.00
		13	0.00	0.00	15.29	-0.09	341.20	0.00

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	11	6	0.42	-0.97	0.22	0.00	1.31	-10.47
		13	-0.42	0.97	-0.22	0.00	-6.22	-10.85
	12	6	0.17	-0.31	0.11	-0.11	1.14	-3.30
		13	-0.17	0.31	-0.11	0.11	-3.66	-3.42
	13	6	0.00	0.00	0.80	-0.75	7.93	0.00
		13	0.00	0.00	-0.80	0.75	-25.40	0.00
	14	6	-22.60	24.99	31.12	-0.16	0.80	270.32
		13	22.60	-24.99	-31.12	0.16	-683.80	278.16
	15	6	252.49	0.44	-15.29	0.05	26.58	6.46
		13	-284.10	-0.44	15.29	-0.05	309.13	3.21
	16	6	227.79	2.39	-15.29	0.05	26.58	35.27
		13	-259.40	-2.39	15.29	-0.05	309.13	17.13
	17	6	271.00	0.77	-15.29	0.05	26.58	11.24
		13	-302.61	-0.77	15.29	-0.05	309.13	5.72
	18	6	145.34	-0.37	-12.06	0.04	22.31	-2.50
		13	-170.62	0.37	12.06	-0.04	242.33	-5.71
	19	6	202.23	-0.13	-11.45	-0.65	28.84	0.01
		13	-227.52	0.13	11.45	0.65	222.57	-2.77
	20	6	182.47	1.43	-11.45	-0.65	28.84	23.06
		13	-207.76	-1.43	11.45	0.65	222.57	8.36
	21	6	217.04	0.14	-11.45	-0.65	28.84	3.84
		13	-242.32	-0.14	11.45	0.65	222.57	-0.77
	22	6	183.91	20.34	12.66	-0.09	21.91	221.43
		13	-209.19	-20.34	-12.66	0.09	-299.73	225.10
	23	6	164.15	21.90	12.66	-0.09	21.91	244.47
		13	-189.44	-21.90	-12.66	0.09	-299.73	236.24
	24	6	198.72	20.61	12.66	-0.09	21.91	225.25
		13	-224.00	-20.61	-12.66	0.09	-299.73	227.11
	25	6	220.07	-19.64	-37.13	0.17	20.63	-211.09
		13	-245.36	19.64	37.13	-0.17	794.34	-219.96
	26	6	200.32	-18.08	-37.13	0.17	20.63	-188.04
		13	-225.60	18.08	37.13	-0.17	794.34	-208.82
	27	6	234.88	-19.37	-37.13	0.17	20.63	-207.26
		13	-260.17	19.37	37.13	-0.17	794.34	-217.96
	28	6	114.53	17.65	11.55	-0.08	20.66	192.38
		13	-137.29	-17.65	-11.55	0.08	-274.23	195.14
	29	6	147.08	-18.33	-33.25	0.15	19.51	-196.88
		13	-169.84	18.33	33.25	-0.15	710.43	-205.42
	30	6	165.73	17.87	12.10	-0.70	26.53	194.60
		13	-188.49	-17.87	-12.10	0.70	-292.05	197.74
	31	6	147.95	19.28	12.10	-0.70	26.53	215.35
		13	-170.71	-19.28	-12.10	0.70	-292.05	207.76
	32	6	179.06	18.11	12.10	-0.70	26.53	198.04
		13	-201.82	-18.11	-12.10	0.70	-292.05	199.54
	33	6	198.28	-18.11	-32.71	-0.47	25.38	-194.66
		13	-221.04	18.11	32.71	0.47	692.62	-202.81
	34	6	180.50	-16.71	-32.71	-0.47	25.38	-173.92
		13	-203.26	16.71	32.71	0.47	692.62	-192.79

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	35	6	211.61	-17.87	-32.71	-0.47	25.38	-191.22
		13	-234.37	17.87	32.71	0.47	692.62	-201.01
13	1	7	214.51	-3.11	0.01	-0.04	31.88	-46.34
		14	-214.51	3.11	-0.01	0.04	-32.08	-21.99
	2	7	0.00	0.00	0.00	0.00	0.00	0.00
		14	-31.61	0.00	0.00	0.00	0.00	0.00
	3	7	13.22	-0.88	0.00	0.00	0.00	-13.13
		14	-13.22	0.88	0.00	0.00	0.00	-6.23
	4	7	23.18	1.57	0.00	0.00	0.00	23.34
		14	-23.18	-1.57	0.00	0.00	0.00	11.07
	5	7	6.91	0.47	0.00	0.00	0.00	6.96
		14	-6.91	-0.47	0.00	0.00	0.00	3.30
	6	7	-2.33	0.00	0.00	0.00	0.00	0.08
		14	2.33	0.00	0.00	0.00	0.00	-0.02
	7	7	-0.69	0.00	0.00	0.00	0.00	0.02
		14	0.69	0.00	0.00	0.00	0.00	-0.01
	8	7	70.60	-0.53	0.00	0.00	0.00	-7.88
		14	-70.60	0.53	0.00	0.00	0.00	-3.71
	9	7	21.02	-0.16	0.00	0.00	0.00	-2.35
		14	-21.02	0.16	0.00	0.00	0.00	-1.11
	10	7	0.00	0.00	-15.36	-0.62	-4.88	0.00
		14	0.00	0.00	15.36	0.62	342.02	0.00
	11	7	-0.56	-0.87	0.23	0.01	1.29	-8.93
		14	0.56	0.87	-0.23	-0.01	-6.23	-10.11
	12	7	-0.11	-0.27	0.09	-0.15	1.24	-2.81
		14	0.11	0.27	-0.09	0.15	-3.22	-3.18
	13	7	0.00	0.00	0.63	-1.06	8.59	0.00
		14	0.00	0.00	-0.63	1.06	-22.37	0.00
	14	7	31.09	36.46	31.25	1.27	-0.53	372.81
		14	-31.09	-36.46	-31.25	-1.27	-685.45	427.44
	15	7	257.82	-1.96	-15.35	-0.66	27.00	-29.17
		14	-289.43	1.96	15.35	0.66	309.94	-13.85
	16	7	224.71	-3.99	-15.35	-0.66	27.00	-59.37
		14	-256.32	3.99	15.35	0.66	309.94	-28.25
	17	7	319.34	-4.68	-15.35	-0.66	27.00	-69.70
		14	-350.95	4.68	15.35	0.66	309.94	-33.04
	18	7	171.16	-3.18	-12.10	-0.52	22.63	-44.22
		14	-196.45	3.18	12.10	0.52	242.97	-25.68
	19	7	206.03	-1.99	-11.65	-1.50	29.78	-27.73
		14	-231.32	1.99	11.65	1.50	225.98	-16.05
	20	7	179.55	-3.62	-11.65	-1.50	29.78	-51.89
		14	-204.83	3.62	11.65	1.50	225.98	-27.57
	21	7	255.26	-4.17	-11.65	-1.50	29.78	-60.15
		14	-280.54	4.17	11.65	1.50	225.98	-31.40
	22	7	231.13	27.60	12.72	0.49	21.18	274.91
		14	-256.42	-27.60	-12.72	-0.49	-300.41	330.87

MEMBER END FORCES STRUCTURE TYPE = SPACE

ALL UNITS ARE -- KIP FEET

MEMBER	LOAD	JT	AXIAL	SHEAR-Y	SHEAR-Z	TORSION	MOM-Y	MOM-Z
	23	7	204.64	25.97	12.72	0.49	21.18	250.75
		14	-229.93	-25.97	-12.72	-0.49	-300.41	319.35
	24	7	280.35	25.42	12.72	0.49	21.18	242.49
		14	-305.64	-25.42	-12.72	-0.49	-300.41	315.52
	25	7	181.38	-30.73	-37.28	-1.55	22.02	-321.58
		14	-206.66	30.73	37.28	1.55	796.31	-353.03
	26	7	154.89	-32.36	-37.28	-1.55	22.02	-345.74
		14	-180.18	32.36	37.28	1.55	796.31	-364.55
	27	7	230.60	-32.91	-37.28	-1.55	22.02	-354.00
		14	-255.89	32.91	37.28	1.55	796.31	-368.38
	28	7	176.43	23.38	11.61	0.45	19.99	228.62
		14	-199.19	-23.38	-11.61	-0.45	-274.85	284.64
	29	7	131.66	-29.12	-33.39	-1.39	20.75	-308.22
		14	-154.41	29.12	33.39	1.39	712.20	-330.87
	30	7	207.82	24.45	12.02	-0.43	26.43	243.43
		14	-230.57	-24.45	-12.02	0.43	-290.17	293.27
	31	7	183.98	22.99	12.02	-0.43	26.43	221.69
		14	-206.74	-22.99	-12.02	0.43	-290.17	282.90
	32	7	252.12	22.49	12.02	-0.43	26.43	214.25
		14	-274.87	-22.49	-12.02	0.43	-290.17	279.46
	33	7	163.04	-28.05	-32.99	-2.26	27.18	-293.41
		14	-185.80	28.05	32.99	2.26	696.88	-322.25
	34	7	139.20	-29.51	-32.99	-2.26	27.18	-315.15
		14	-161.96	29.51	32.99	2.26	696.88	-332.61
	35	7	207.34	-30.01	-32.99	-2.26	27.18	-322.59
		14	-230.10	30.01	32.99	2.26	696.88	-336.06

********** END OF LATEST ANALYSIS RESULT **********

145. PRINT FORCE ENVELOPE NSECTION 10 LIST 1 TO 13

MEMBER FORCE ENVELOPE

ALL UNITS ARE KIP FEET

MEMB	DISTANCE		FY	LD	MZ	LD	FZ	LD	MY	LD
1	0.00	MAX.	0.00	27	0.00	27	0.00	27	0.00	14
		MIN.	0.00	14	0.00	14	0.00	24	0.00	27
	0.85	MAX.	0.00	5	6.98	17	1.48	14	0.63	14
		MIN.	-16.46	17	0.00	14	-1.77	27	-0.75	27
	1.70	MAX.	0.00	5	27.92	17	2.97	14	2.52	14
		MIN.	-32.92	17	0.00	14	-3.54	27	-3.00	27
	2.54	MAX.	0.00	5	62.81	17	4.45	14	5.66	14
		MIN.	-49.38	17	0.00	14	-5.31	27	-6.76	27
	3.39	MAX.	0.00	5	111.66	17	5.94	14	10.07	14
		MIN.	-65.84	17	0.00	14	-7.08	27	-12.01	27
	4.24	MAX.	0.00	5	174.47	17	7.42	14	15.73	14
		MIN.	-82.30	17	0.00	5	-8.85	27	-18.77	27
	5.09	MAX.	0.00	5	251.24	17	8.90	14	22.65	14
		MIN.	-98.76	17	0.00	5	-10.62	27	-27.03	27
	5.94	MAX.	0.00	5	341.97	17	10.39	14	30.83	14
		MIN.	-115.22	17	0.00	5	-12.39	27	-36.79	27
	6.78	MAX.	0.00	5	446.65	17	11.87	14	40.27	14
		MIN.	-131.68	17	0.00	5	-14.16	27	-48.05	27
	7.63	MAX.	0.00	5	565.29	17	13.36	14	50.97	14
		MIN.	-148.14	17	0.00	5	-15.94	27	-60.81	27
	8.48	MAX.	0.00	5	697.89	17	14.84	14	62.92	14
		MIN.	-164.60	17	0.00	14	-17.71	27	-75.07	27

e 6.93 ft
FY = 134.58 K
MY = 50.30 K-ft.

MAX/MIN FORCES FOR MEMBER 1,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST	LD	MZ/ MY	DIST	LD	FX	DIST	LD
MAX.	0.00	0.00	27	697.89	8.48	17			
	14.84	8.48	14	62.92	8.48	14	0.00 C	0.00	14
MIN.	-164.60	8.48	17	0.00	8.48	14			
	-17.71	8.48	27	-75.07	8.48	27	0.44 T	8.48	11

2	0.00	MAX.	154.75	17	800.80	24	19.58	27	61.65	14
		MIN.	-2.33	6	0.00	13	-16.41	14	-73.53	27
	1.80	MAX.	126.47	17	553.54	24	15.82	27	34.94	14
		MIN.	-2.33	6	-42.99	25	-13.26	14	-41.67	27
	3.60	MAX.	103.43	24	347.01	24	12.06	27	13.91	14
		MIN.	-2.33	6	-138.59	25	-10.11	14	-16.58	27
	5.40	MAX.	80.81	24	205.28	23	8.30	27	1.74	27
		MIN.	-2.33	6	-196.76	25	-6.96	14	-1.85	32

e 1.51 ft.
MZ = 593.38 K-ft
FZ = 16.43 K

	7.20	MAX.	58.18	24	148.92	14	4.54	27	13.30	27
		MIN.	-3.30	26	-217.49	25	-3.81	14	-11.16	14
	9.00	MAX.	35.56	24	92.95	14	0.78	27	18.09	27
		MIN.	-19.67	25	-200.81	25	-0.66	14	-15.18	14
	10.80	MAX.	31.09	14	36.98	14	2.49	14	16.12	27
		MIN.	-40.46	25	-146.69	25	-2.97	27	-13.54	14
	12.60	MAX.	31.09	14	29.38	6	5.64	14	7.38	27
		MIN.	-61.26	25	-87.92	15	-6.73	27	-6.23	14
	14.40	MAX.	31.09	14	113.42	26	8.79	14	6.76	14
		MIN.	-82.06	27	-74.96	14	-10.49	27	-9.49	35
	16.20	MAX.	31.09	14	250.94	27	11.94	14	25.41	14
		MIN.	-104.68	27	-130.93	14	-14.25	27	-30.39	27
	18.00	MAX.	31.09	14	459.72	27	15.09	14	49.73	14
		MIN.	-128.03	17	-186.90	14	-18.01	27	-59.42	27

MAX/MIN FORCES FOR MEMBER 2,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	154.75	0.00	17	800.80	0.00	24			
	19.58	0.00	25	61.65	0.00	14	36.46 C	0.00	14
MIN.	-128.03	18.00	17	-217.49	7.20	25			
	-18.01	18.00	27	-73.53	0.00	27	32.91 T	18.00	27

3	0.00	MAX.	142.97	17	398.99	17	19.12	27	49.89	14
		MIN.	-0.14	3	-2.59	3	-16.03	14	-59.59	27
	1.80	MAX.	114.69	17	188.18	24	15.36	27	23.88	14
		MIN.	-0.14	3	-2.33	3	-12.88	14	-28.55	27
	3.60	MAX.	86.41	17	52.85	14	11.60	27	3.53	14
		MIN.	-0.14	3	-85.52	26	-9.73	14	-6.03	35
	5.40	MAX.	58.13	17	37.57	14	7.85	27	13.22	27
		MIN.	-0.14	3	-179.11	16	-6.58	14	-11.14	14
	7.20	MAX.	30.68	24	22.28	14	4.09	27	23.96	27
		MIN.	-0.14	3	-253.27	16	-3.43	14	-20.15	14
	9.00	MAX.	8.49	14	7.00	14	0.33	27	27.93	27
		MIN.	-7.77	26	-276.52	16	-0.28	14	-23.49	14
	10.80	MAX.	8.49	14	0.00	13	2.87	14	25.14	27
		MIN.	-30.39	26	-248.88	16	-3.43	27	-21.15	14
	12.60	MAX.	8.49	14	0.00	13	6.02	14	15.59	27
		MIN.	-57.77	16	-170.34	16	-7.19	27	-13.15	14
	14.40	MAX.	8.49	14	41.99	25	9.17	14	0.53	14
		MIN.	-86.05	16	-63.80	23	-10.95	27	-3.18	35
	16.20	MAX.	8.49	14	186.55	25	12.32	14	19.87	14
		MIN.	-114.33	16	-54.13	14	-14.71	27	-23.82	27
	18.00	MAX.	8.49	14	391.25	15	15.47	14	44.89	14
		MIN.	-142.61	16	-69.42	14	-18.46	27	-53.67	27

MAX/MIN FORCES FOR MEMBER 3,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	142.97	0.00	17	398.99	0.00	17			
	19.12	0.00	25	49.89	0.00	14	61.45 C	0.00	14
MIN.	-142.61	18.00	16	-276.52	9.00	16			
	-18.46	18.00	27	-59.59	0.00	27	52.28 T	18.00	27

4	0.00	MAX.	129.96	15	390.85	15	18.79	27	45.07	14
		MIN.	0.00	8	0.00	2	-15.75	14	-53.89	27
	1.80	MAX.	103.97	15	188.59	17	15.03	27	19.56	14
		MIN.	0.00	8	0.00	2	-12.60	14	-23.44	27
	3.60	MAX.	77.98	15	68.35	24	11.28	27	0.23	27
		MIN.	0.00	8	-1.36	29	-9.45	14	-2.94	13
	5.40	MAX.	51.98	15	43.21	8	7.52	27	17.15	27
		MIN.	0.00	8	-100.40	15	-6.30	14	-14.46	14
	7.20	MAX.	25.99	15	43.21	8	3.76	27	27.30	27
		MIN.	0.00	8	-170.58	15	-3.15	14	-22.97	14
	9.00	MAX.	0.57	11	43.21	8	0.00	14	30.68	27
		MIN.	0.00	24	-193.97	15	0.00	17	-25.80	14
	10.80	MAX.	0.57	11	43.21	8	3.15	14	27.30	27
		MIN.	-25.99	15	-170.58	15	-3.76	27	-22.97	14
	12.60	MAX.	0.57	11	43.21	8	6.30	14	17.15	27
		MIN.	-51.98	15	-100.40	15	-7.52	27	-14.46	14
	14.40	MAX.	0.57	11	68.35	24	9.45	14	0.23	27
		MIN.	-77.98	15	-5.81	29	-11.28	27	-2.94	13
	16.20	MAX.	0.57	11	188.59	17	12.60	14	19.56	14
		MIN.	-103.97	15	-4.12	11	-15.03	27	-23.44	27
	18.00	MAX.	0.57	11	390.85	15	15.75	14	45.07	14
		MIN.	-129.96	15	-5.15	11	-18.79	27	-53.89	27

MAX/MIN FORCES FOR MEMBER 4,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	129.96	0.00	15	390.85	18.00	15			
	18.79	0.00	25	45.07	18.00	14	69.53 C	0.00	14
MIN.	-129.96	18.00	15	-193.97	9.00	15			
	-18.79	18.00	27	-53.89	18.00	27	60.22 T	18.00	27

5	0.00	MAX.	142.61	16	391.25	15	18.46	27	44.89	14
		MIN.	-8.49	14	-69.42	14	-15.47	14	-53.67	27
	1.80	MAX.	114.33	16	186.55	25	14.71	27	19.87	14
		MIN.	-8.49	14	-54.13	14	-12.32	14	-23.82	27
	3.60	MAX.	86.05	16	41.99	25	10.95	27	0.53	14
		MIN.	-8.49	14	-63.80	23	-9.17	14	-3.18	35

5.40	MAX.	57.77	16	2.17	11	7.19	27	15.59	27
	MIN.	-8.49	14	-170.34	16	-6.02	14	-13.15	14
7.20	MAX.	30.39	26	1.19	11	3.43	27	25.14	27
	MIN.	-8.49	14	-248.88	16	-2.87	14	-21.15	14
9.00	MAX.	7.77	26	7.00	14	0.28	14	27.93	27
	MIN.	-8.49	14	-276.52	16	-0.33	27	-23.49	14
10.80	MAX.	0.55	11	22.28	14	3.43	14	23.96	27
	MIN.	-30.68	24	-253.27	16	-4.09	27	-20.15	14
12.60	MAX.	0.55	11	37.57	14	6.58	14	13.22	27
	MIN.	-58.13	17	-179.11	16	-7.85	27	-11.14	14
14.40	MAX.	0.55	11	52.85	14	9.73	14	3.53	14
	MIN.	-86.41	17	-85.52	26	-11.60	27	-6.03	35
16.20	MAX.	0.55	11	188.18	24	12.88	14	23.88	14
	MIN.	-114.69	17	-3.73	11	-15.36	27	-28.55	27
18.00	MAX.	0.55	11	398.99	17	16.03	14	49.89	14
	MIN.	-142.97	17	-4.71	11	-19.12	27	-59.59	27

MAX/MIN FORCES FOR MEMBER 5,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	142.61	0.00	16	398.99	18.00	17			
	18.46	0.00	25	49.89	18.00	14	61.45 C	0.00	14
MIN.	-142.97	18.00	17	-276.52	9.00	16			
	-19.12	18.00	27	-59.59	18.00	27	52.28 T	18.00	27

6	0.00	MAX.	128.03	17	459.72	27	18.01	27	49.73	14
		MIN.	-31.09	14	-186.90	14	-15.09	14	-59.42	27
	1.80	MAX.	104.68	27	250.94	27	14.25	27	25.41	14
		MIN.	-31.09	14	-130.93	14	-11.94	14	-30.39	27
	3.60	MAX.	82.06	27	113.42	26	10.49	27	6.76	14
		MIN.	-31.09	14	-74.96	14	-8.79	14	-9.49	35
	5.40	MAX.	61.26	25	29.38	6	6.73	27	7.38	27
		MIN.	-31.09	14	-87.92	15	-5.64	14	-6.23	14
	7.20	MAX.	40.46	25	36.98	14	2.97	27	16.12	27
		MIN.	-31.09	14	-146.69	25	-2.49	14	-13.54	14
	9.00	MAX.	19.67	25	92.95	14	0.66	14	18.09	27
		MIN.	-35.56	24	-200.81	25	-0.78	27	-15.18	14
	10.80	MAX.	3.34	34	148.92	14	3.81	14	13.30	27
		MIN.	-58.18	24	-217.49	25	-4.54	27	-11.16	14
	12.60	MAX.	2.33	6	205.28	23	6.96	14	1.74	27
		MIN.	-80.81	24	-196.76	25	-8.30	27	-1.85	32
	14.40	MAX.	2.33	6	347.01	24	10.11	14	13.91	14
		MIN.	-103.43	24	-138.59	25	-12.06	27	-16.58	27
	16.20	MAX.	2.33	6	553.54	24	13.26	14	34.94	14
		MIN.	-126.47	17	-53.08	29	-15.82	27	-41.67	27
	18.00	MAX.	2.33	6	800.80	24	16.41	14	61.65	14
		MIN.	-154.75	17	-8.93	11	-19.58	27	-73.53	27

MAX/MIN FORCES FOR MEMBER 6,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	128.03	0.00	17	800.80	18.00	24			
	18.01	0.00	25	61.65	18.00	14	36.46 C	0.00	14
MIN.	-154.75	18.00	17	-217.49	10.80	25			
	-19.58	18.00	27	-73.53	18.00	27	32.91 T	18.00	27

7	0.00	MAX.	164.60	17	697.89	17	17.71	27	62.92	14
		MIN.	0.00	14	0.00	4	-14.84	14	-75.07	27
	0.85	MAX.	148.14	17	565.29	17	15.94	27	50.97	14
		MIN.	0.00	14	0.00	4	-13.36	14	-60.81	27
	1.70	MAX.	131.68	17	446.65	17	14.16	27	40.27	14
		MIN.	0.00	14	0.00	4	-11.87	14	-48.05	27
	2.54	MAX.	115.22	17	341.97	17	12.39	27	30.83	14
		MIN.	0.00	14	0.00	4	-10.39	14	-36.79	27
	3.39	MAX.	98.76	17	251.24	17	10.62	27	22.65	14
		MIN.	0.00	14	0.00	4	-8.90	14	-27.03	27
	4.24	MAX.	82.30	17	174.47	17	8.85	27	15.73	14
		MIN.	0.00	14	0.00	4	-7.42	14	-18.77	27
	5.09	MAX.	65.84	17	111.66	17	7.08	27	10.07	14
		MIN.	0.00	14	0.00	4	-5.94	14	-12.01	27
	5.94	MAX.	49.38	17	62.81	17	5.31	27	5.66	14
		MIN.	0.00	14	0.00	4	-4.45	14	-6.76	27
	6.78	MAX.	32.92	17	27.92	17	3.54	27	2.52	14
		MIN.	0.00	14	0.00	4	-2.97	14	-3.00	27
	7.63	MAX.	16.46	17	6.98	17	1.77	27	0.63	14
		MIN.	0.00	14	0.00	4	-1.48	14	-0.75	27
	8.48	MAX.	0.00	4	0.00	14	0.00	14	0.00	14
		MIN.	0.00	23	0.00	27	0.00	27	0.00	27

MAX/MIN FORCES FOR MEMBER 7,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	164.60	0.00	17	697.89	0.00	17			
	17.71	0.00	25	62.92	0.00	14	0.44 C	0.00	11
MIN.	0.00	8.48	23	0.00	8.48	27			
	-14.84	0.00	14	-75.07	0.00	27	0.00 T	8.48	11

8	0.00	MAX.	32.91	27	354.00	27	31.25	14	31.88	1
		MIN.	-36.46	14	-372.81	14	-37.28	27	-4.88	10
	2.19	MAX.	32.91	27	281.76	27	31.25	14	68.07	14
		MIN.	-36.46	14	-292.78	14	-37.28	27	-59.81	27
	4.39	MAX.	32.91	27	209.53	27	31.25	14	136.67	14
		MIN.	-36.46	14	-212.76	14	-37.28	27	-141.64	27

6.58	MAX.	32.91	27	137.29	27	31.25	14	205.27	14
	MIN.	-36.46	14	-132.73	14	-37.28	27	-223.48	27
8.78	MAX.	32.91	27	65.05	27	31.25	14	273.87	14
	MIN.	-36.46	14	-52.71	14	-37.28	27	-305.31	27
10.97	MAX.	32.91	27	36.52	24	31.25	14	342.46	14
	MIN.	-36.46	14	-15.73	25	-37.28	27	-387.14	27
13.17	MAX.	32.91	27	107.34	14	31.25	14	411.06	14
	MIN.	-36.46	14	-83.19	25	-37.28	27	-468.98	27
15.36	MAX.	32.91	27	187.37	14	31.25	14	479.66	14
	MIN.	-36.46	14	-151.67	27	-37.28	27	-550.81	27
17.56	MAX.	32.91	27	267.39	14	31.25	14	548.26	14
	MIN.	-36.46	14	-223.90	27	-37.28	27	-632.64	27
19.75	MAX.	32.91	27	347.42	14	31.25	14	616.85	14
	MIN.	-36.46	14	-296.14	27	-37.28	27	-714.48	27
21.95	MAX.	32.91	27	427.44	14	31.25	14	685.45	14
	MIN.	-36.46	14	-368.38	27	-37.28	27	-796.31	27

MAX/MIN FORCES FOR MEMBER 8,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	32.91	0.00	27	427.44	21.95	14			
	31.25	0.00	14	685.45	21.95	14	350.95 C	21.95	17
MIN.	-36.46	21.95	14	-372.81	0.00	14			
	-37.28	21.95	27	-796.31	21.95	27	2.33 T	21.95	6

9	0.00	MAX.	19.64	25	211.09	25	31.12	14	32.16	1
		MIN.	-24.99	14	-270.32	14	-37.13	27	-5.57	10
	2.19	MAX.	19.64	25	167.98	25	31.12	14	69.10	14
		MIN.	-24.99	14	-215.47	14	-37.13	27	-60.87	27
	4.39	MAX.	19.64	25	124.88	25	31.12	14	137.40	14
		MIN.	-24.99	14	-160.62	14	-37.13	27	-142.37	27
	6.58	MAX.	19.64	25	81.77	25	31.12	14	205.70	14
		MIN.	-24.99	14	-105.77	14	-37.13	27	-223.86	27
	8.78	MAX.	19.64	25	38.67	25	31.12	14	274.00	14
		MIN.	-24.99	14	-52.19	23	-37.13	27	-305.36	27
	10.97	MAX.	19.64	25	3.92	14	31.12	14	342.30	14
		MIN.	-24.99	14	-10.39	26	-37.13	27	-386.86	27
	13.17	MAX.	19.64	25	58.77	14	31.12	14	410.60	14
		MIN.	-24.99	14	-50.08	26	-37.13	27	-468.36	27
	15.36	MAX.	19.64	25	113.62	14	31.12	14	478.90	14
		MIN.	-24.99	14	-90.65	25	-37.13	27	-549.85	27
	17.56	MAX.	19.64	25	168.47	14	31.12	14	547.20	14
		MIN.	-24.99	14	-133.75	25	-37.13	27	-631.35	27
	19.75	MAX.	19.64	25	223.32	14	31.12	14	615.50	14
		MIN.	-24.99	14	-176.85	25	-37.13	27	-712.85	27
	21.95	MAX.	19.64	25	278.16	14	31.12	14	683.80	14
		MIN.	-24.99	14	-219.96	25	-37.13	27	-794.34	27

MAX/MIN FORCES FOR MEMBER 9,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	19.64	0.00	25	278.16	21.95	14			
	31.12	0.00	14	683.80	21.95	14	302.61 C	21.95	17
MIN.	-24.99	21.95	14	-270.32	0.00	14			
	-37.13	21.95	27	-794.34	21.95	27	22.60 T	21.95	14

10	0.00	MAX.	7.95	26	91.20	26	31.22	14	32.22	1
		MIN.	-8.09	14	-86.58	14	-37.26	27	-5.06	10
	2.19	MAX.	7.95	26	73.76	26	31.22	14	68.26	14
		MIN.	-8.09	14	-68.83	14	-37.26	27	-59.82	27
	4.39	MAX.	7.95	26	56.32	26	31.22	14	136.79	14
		MIN.	-8.09	14	-51.09	14	-37.26	27	-141.60	27
	6.58	MAX.	7.95	26	38.88	26	31.22	14	205.32	14
		MIN.	-8.09	14	-33.34	14	-37.26	27	-223.37	27
	8.78	MAX.	7.95	26	21.43	26	31.22	14	273.85	14
		MIN.	-8.09	14	-15.59	14	-37.26	27	-305.15	27
	10.97	MAX.	7.95	26	7.45	24	31.22	14	342.38	14
		MIN.	-8.09	14	-1.63	25	-37.26	27	-386.92	27
	13.17	MAX.	7.95	26	19.91	14	31.22	14	410.92	14
		MIN.	-8.09	14	-15.87	25	-37.26	27	-468.70	27
	15.36	MAX.	7.95	26	37.66	14	31.22	14	479.45	14
		MIN.	-8.09	14	-30.89	26	-37.26	27	-550.47	27
	17.56	MAX.	7.95	26	55.41	14	31.22	14	547.98	14
		MIN.	-8.09	14	-48.34	26	-37.26	27	-632.25	27
	19.75	MAX.	7.95	26	73.15	14	31.22	14	616.51	14
		MIN.	-8.09	14	-65.78	26	-37.26	27	-714.03	27
	21.95	MAX.	7.95	26	90.90	14	31.22	14	685.04	14
		MIN.	-8.09	14	-83.22	26	-37.26	27	-795.80	27

MAX/MIN FORCES FOR MEMBER 10,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	7.95	0.00	26	91.20	0.00	26			
	31.22	0.00	14	685.04	21.95	14	292.45 C	21.95	15
MIN.	-8.09	21.95	14	-86.58	0.00	14			
	-37.26	21.95	27	-795.80	21.95	27	8.49 T	21.95	14

11	0.00	MAX.	8.09	14	86.58	14	31.22	14	32.22	1
		MIN.	-7.95	26	-91.20	26	-37.26	27	-5.06	10
	2.19	MAX.	8.09	14	68.83	14	31.22	14	68.26	14
		MIN.	-7.95	26	-73.76	26	-37.26	27	-59.82	27
	4.39	MAX.	8.09	14	51.09	14	31.22	14	136.79	14
		MIN.	-7.95	26	-56.32	26	-37.26	27	-141.60	27

	6.58	MAX.	8.09	14	33.34	14	31.22	14	205.32	14
		MIN.	-7.95	26	-38.88	26	-37.26	27	-223.37	27
	8.78	MAX.	8.09	14	15.59	14	31.22	14	273.85	14
		MIN.	-7.95	26	-21.43	26	-37.26	27	-305.15	27
	10.97	MAX.	8.09	14	1.66	29	31.22	14	342.38	14
		MIN.	-7.95	26	-7.45	24	-37.26	27	-386.92	27
	13.17	MAX.	8.09	14	15.98	29	31.22	14	410.92	14
		MIN.	-7.95	26	-19.91	14	-37.26	27	-468.70	27
	15.36	MAX.	8.09	14	30.89	26	31.22	14	479.45	14
		MIN.	-7.95	26	-37.66	14	-37.26	27	-550.47	27
	17.56	MAX.	8.09	14	48.34	26	31.22	14	547.98	14
		MIN.	-7.95	26	-55.41	14	-37.26	27	-632.25	27
	19.75	MAX.	8.09	14	65.78	26	31.22	14	616.51	14
		MIN.	-7.95	26	-73.15	14	-37.26	27	-714.03	27
	21.95	MAX.	8.09	14	83.22	26	31.22	14	685.04	14
		MIN.	-7.95	26	-90.90	14	-37.26	27	-795.80	27

MAX/MIN FORCES FOR MEMBER 11,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	8.09	0.00	14	86.58	0.00	14			
	31.22	0.00	14	685.04	21.95	14	292.45 C	21.95	15
MIN.	-7.95	21.95	26	-91.20	0.00	26			
	-37.26	21.95	27	-795.80	21.95	27	8.49 T	21.95	14

12	0.00	MAX.	24.99	14	270.32	14	31.12	14	32.16	1
		MIN.	-19.64	25	-211.09	25	-37.13	27	-5.57	10
	2.19	MAX.	24.99	14	215.47	14	31.12	14	69.10	14
		MIN.	-19.64	25	-167.98	25	-37.13	27	-60.87	27
	4.39	MAX.	24.99	14	160.62	14	31.12	14	137.40	14
		MIN.	-19.64	25	-124.88	25	-37.13	27	-142.37	27
	6.58	MAX.	24.99	14	105.77	14	31.12	14	205.70	14
		MIN.	-19.64	25	-81.77	25	-37.13	27	-223.86	27
	8.78	MAX.	24.99	14	52.19	23	31.12	14	274.00	14
		MIN.	-19.64	25	-38.67	25	-37.13	27	-305.36	27
	10.97	MAX.	24.99	14	10.39	26	31.12	14	342.30	14
		MIN.	-19.64	25	-3.92	14	-37.13	27	-386.86	27
	13.17	MAX.	24.99	14	50.08	26	31.12	14	410.60	14
		MIN.	-19.64	25	-58.77	14	-37.13	27	-468.36	27
	15.36	MAX.	24.99	14	90.65	25	31.12	14	478.90	14
		MIN.	-19.64	25	-113.62	14	-37.13	27	-549.85	27
	17.56	MAX.	24.99	14	133.75	25	31.12	14	547.20	14
		MIN.	-19.64	25	-168.47	14	-37.13	27	-631.35	27
	19.75	MAX.	24.99	14	176.85	25	31.12	14	615.50	14
		MIN.	-19.64	25	-223.32	14	-37.13	27	-712.85	27
	21.95	MAX.	24.99	14	219.96	25	31.12	14	683.80	14
		MIN.	-19.64	25	-278.16	14	-37.13	27	-794.34	27

MAX/MIN FORCES FOR MEMBER 12,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	24.99	0.00	14	270.32	0.00	14			
	31.12	0.00	14	683.80	21.95	14	302.61 C	21.95	17
MIN.	-19.64	21.95	25	-278.16	21.95	14			
	-37.13	21.95	27	-794.34	21.95	27	22.60 T	21.95	14

13	0.00	MAX.	36.46	14	372.81	14	31.25	14	31.88	1
		MIN.	-32.91	27	-354.00	27	-37.28	27	-4.88	10
	2.19	MAX.	36.46	14	292.78	14	31.25	14	68.07	14
		MIN.	-32.91	27	-281.76	27	-37.28	27	-59.81	27
	4.39	MAX.	36.46	14	212.76	14	31.25	14	136.67	14
		MIN.	-32.91	27	-209.53	27	-37.28	27	-141.64	27
	6.58	MAX.	36.46	14	132.73	14	31.25	14	205.27	14
		MIN.	-32.91	27	-137.29	27	-37.28	27	-223.48	27
	8.78	MAX.	36.46	14	52.71	14	31.25	14	273.87	14
		MIN.	-32.91	27	-65.05	27	-37.28	27	-305.31	27
	10.97	MAX.	36.46	14	15.73	25	31.25	14	342.46	14
		MIN.	-32.91	27	-36.52	24	-37.28	27	-387.14	27
	13.17	MAX.	36.46	14	83.19	25	31.25	14	411.06	14
		MIN.	-32.91	27	-107.34	14	-37.28	27	-468.98	27
	15.36	MAX.	36.46	14	151.67	27	31.25	14	479.66	14
		MIN.	-32.91	27	-187.37	14	-37.28	27	-550.81	27
	17.56	MAX.	36.46	14	223.90	27	31.25	14	548.26	14
		MIN.	-32.91	27	-267.39	14	-37.28	27	-632.64	27
	19.75	MAX.	36.46	14	296.14	27	31.25	14	616.85	14
		MIN.	-32.91	27	-347.42	14	-37.28	27	-714.48	27
	21.95	MAX.	36.46	14	368.38	27	31.25	14	685.45	14
		MIN.	-32.91	27	-427.44	14	-37.28	27	-796.31	27

MAX/MIN FORCES FOR MEMBER 13,AMONGST ALL SECT LOCATIONS

	FY/ FZ	DIST DIST	LD LD	MZ/ MY	DIST DIST	LD LD	FX	DIST	LD
MAX.	36.46	0.00	14	372.81	0.00	14			
	31.25	0.00	14	685.45	21.95	14	350.95 C	21.95	17
MIN.	-32.91	21.95	27	-427.44	21.95	14			
	-37.28	21.95	27	-796.31	21.95	27	2.33 T	21.95	6

********** END OF FORCE ENVELOPE FROM INTERNAL STORAGE **********

146. FINISH

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*********** END OF THE STAAD.Pro RUN ***********

  **** DATE= AUG  1,2002   TIME= 18:36:33 ****

*********************************************************
*     For questions on STAAD.Pro, please contact :      *
*  By Email - North America  : support@ca.reiusa.com    *
*  By Email - International  : support@reiusa.com       *
*  Tel. (USA) : 714-974-2500 ; Fax (USA) : 714-974-4771 *
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DRILLED SHAFTS
& ABUTMENTS

DMJM HARRIS	PROJECT: B HOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 1 of 5
		DESIGNED BY SEO	DATE JULO2
SUBJECT: DRILLED SHAFT DESIGN - ABUT 5		CHECKED BY KMS	DATE 8/02

ANALYSIS

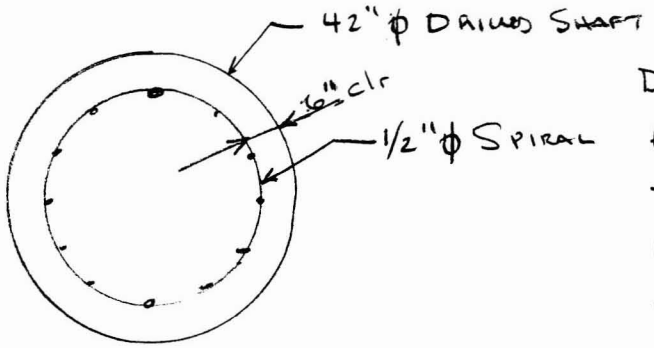
THE FRAME ANALYSIS WAS PERFORMED BY STAAD PRO AND THE LATERAL ANALYSIS IN THE SOILS WAS PERFORMED BY L-PILE.

THE DRILLED SHAFT WILL BE CHECKED WITH THE COMPUTER PROGRAM RECOL. THE DRILLED SHAFTS WILL BE FIXED AT THE TOP AND FIXED AT THE BOTTOM.

DESIGN

MIN A_s = 1%, MAX A_s = 8%.

LFD, f_y = 60,000 psi, f_c = 4000 psi



DIA OF SHAFT = 42"

AREA OF SHAFT = 1385 in^2

I = 152,745 in^4

MIN AREA OF STL = 13.85 in^2

NO OF BARS = 14 #11 (A_s = 21.84 in^2)

CIRCUMFERENCE OF LONGITUDINAL BARS = $\pi(42" - (2)(6") - (2)(0.5") - 1.41") = 86.68$

CENTER TO CENTER SPACING = 6.19

CLEAR SPACING = 6.19" − 1.41" = 4.78" > (3)(1.27") = 3.81" OK

> (3)(A_{gg}) = 4.50" OK

NUMBER OF REBARS IN OUTER LOOP = 14 EA

OUTER LOOP RADIUS = (1/2)(42" − (2)(6") − (2)(0.5") − 1.41") = 13.80"

NUMBER OF SHAFTS IN BENT = 6 EA

C TO C SPACING OF DS = 18'-0"

D.S. LENGTH = 21.95 ft (LENGTH TO POINT OF FIXITY)

ACTUAL DISTRIBUTION FACTORS USED AT TOP (0.00 T/L) AND AT BOTTOM (0.00 T/L).

DUCTILITY FACTOR = 5

CENTER OF GRAVITY TO SUPERSTRUCTURE = 1.5 ft.

SECTION AND LOADS AT BOTTOM OF DS (SIMULATION FOR RECOL)

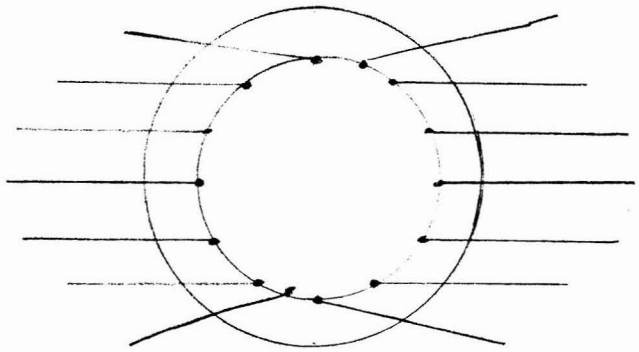
DMJM HARRIS	PROJECT: BHOC AVE	JOB NO. 6888	SHEET 2 of 5
		DESIGNED BY CEN	DATE JUL 02
SUBJECT: DRILLED SHAFT DESIGN - PIERS		CHECKED BY KMS	DATE 8/02

DEVELOPMENT LENGTH OF HOOKS

$$l_{dh} = (1200)(d_b)(1/\sqrt{f'_c})$$

$$= (1200)(1.41")(1/\sqrt{4000}) = 26.75" \text{ SAY } 2'\text{-}3"$$

BAR LAYOUT



SHEAR DESIGN:

$b_w = 42"$

$d = 42" - 6" - 0.5 - (1/2)(1.27") = 35"$

FRAME ANALYSIS PERFORMED BY STAAD PRO: RESULTANT SHEAR = 43.03 K

ASD, $n = 8$

$f_s = 24{,}000$ psi, $f'_c = 4000$ psi

$$v = \frac{V}{(b_w)(d)} = \frac{(43.99^K)(1000)}{(42")(35")} = 29.92 \text{ psi}$$

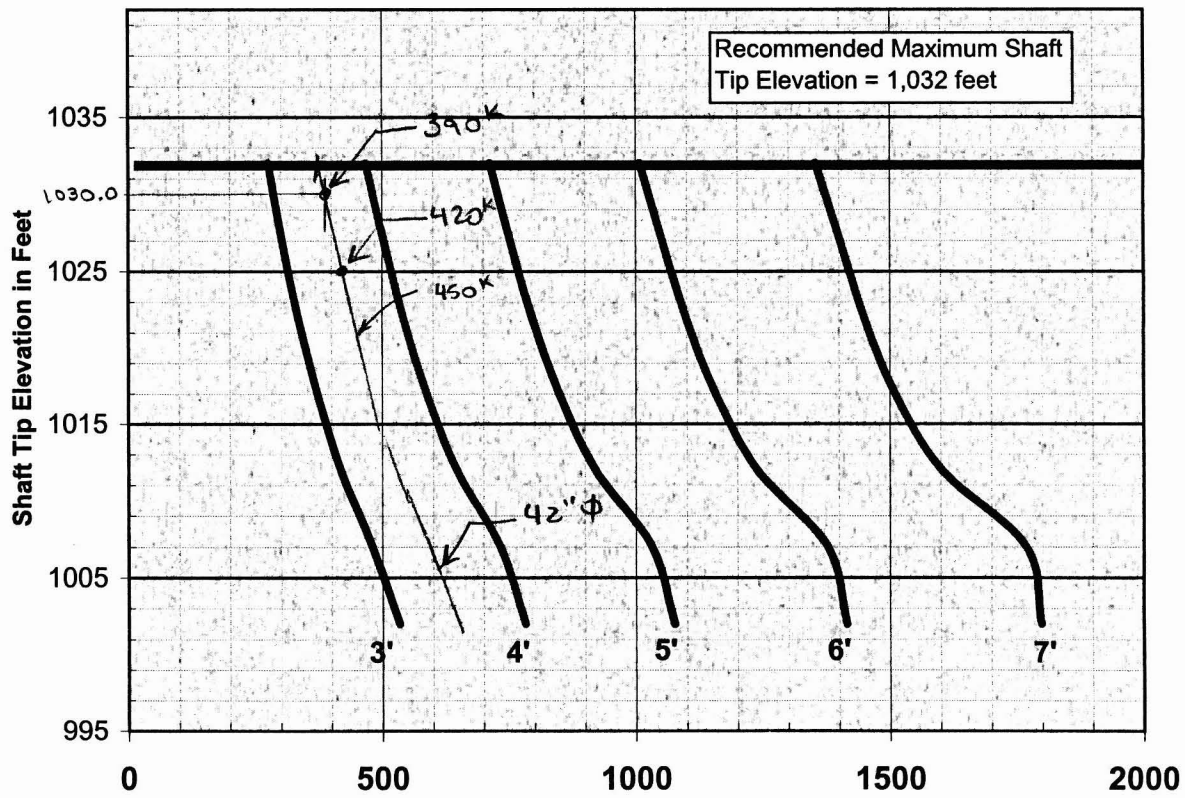
$(1/2)(V_c) = 30.04$ psi > 29.03 psi

∴ NO MIN REINF. IS REQUIRED.

LATERAL REINFORCEMENT

PROVIDE 1/2" SPIRAL @ 6" PITCH

Recommended Allowable Downward Capacity of Drilled Shafts - 91st Avenue Bridge

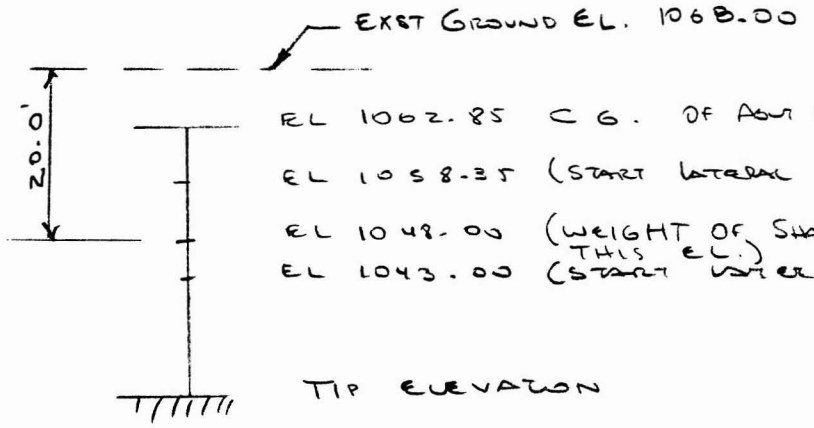


Note: The capacities presented assume that full scour protection will be provided.

Figure 4

KMS 8/02

DMJM HARRIS	PROJECT: B HOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 4 of 5
		DESIGNED BY SEA	DATE JUL 02
SUBJECT: DRILLED SHAFT AT ABUTMENT 1		CHECKED BY KMS	DATE 8/02



MAX REACTION AT BOTTOM OF SHAFT = 389.45^K (MEMBER 8, JT 2)(LC17)

ADD WEIGHT OF SHAFT FROM 1060.85 TO 1048.00 = (1.44K/ft)(12.85) = 18.50

TOTAL LOAD = 408.00 K

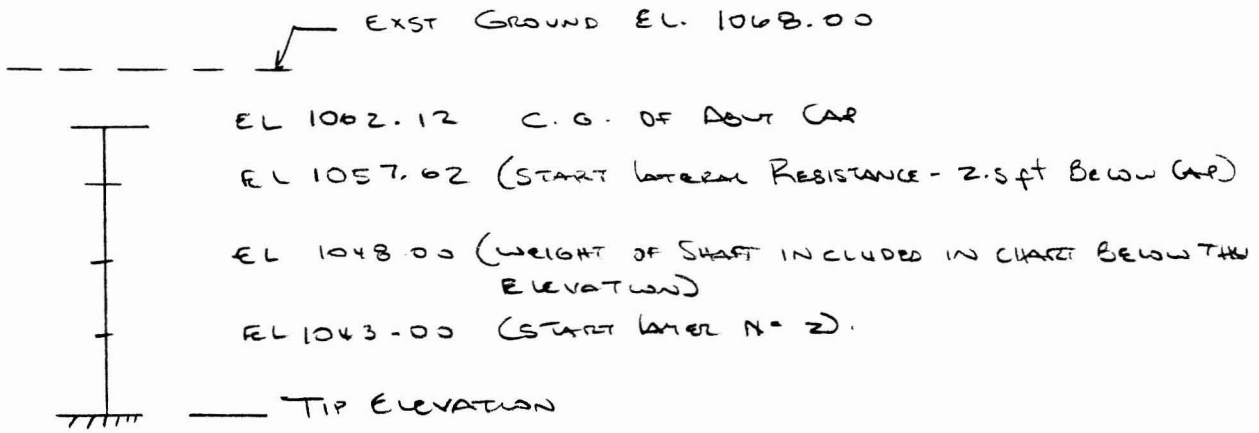
SPACING OF SHAFTS = 18'-0" ∴ REDUCED CAPACITIES ARE NOT APPLICABLE.

TIP ELEVATION REQUIRED FOR AXIAL LOADING = 1025.00 ft FOR AN ALLOWABLE DOWNWARD CAPACITY OF 420.0 K.

SAY D.S. LENGTH = 40.00 ft

TIP ELEVATION = 1021.10 ft , L = 40.00ft , CAPACITY = 450.0^K

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 5 of 5
		DESIGNED BY SED	DATE JUL 02
SUBJECT: DRILLED SHAFTS AT ABUTMENT 2		CHECKED BY KMS	DATE 8/02



MAX REACTION AT BOTTOM OF SHAFT = 319.34^K (MEMBER 8, Jt 2)(LC 17)

ADD WEIGHT OF SHAFT FROM 1060.37 TO 1048.00 = (1.44 K/ft)(12.37 ft) = 17.81^K

TOTAL LOAD = 337.15^K

TIP ELEVATION REQUIRED FOR AXIAL LOADING = 1032.00 FOR AN ALLOWABLE DOWNWARD CAPACITY OF 370.0 K

SAY D.S. LENGTH = 35.00 ft

TIP ELEVATION = 1025.37 , L = 35.00 ft, CAPACITY = 420.0 K

Licensed to: Sergio Oliden

DMJM+HARRIS

PROGRAM LPILE plus Version 3.0
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BHOC 91st Ave Bridge 42" Dia. Shafts at Abutment 1 - REVISED

UNITS--ENGLISH UNITS

INPUT INFORMATION

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 480.00 IN
2 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	42.000	.153E+06	.139E+04	.320E+07
480.00	42.000	.153E+06	.139E+04	.320E+07

SOILS INFORMATION

X AT THE GROUND SURFACE = 30.00 IN

SLOPE ANGLE AT THE GROUND SURFACE = .00 DEG.

2 LAYER(S) OF SOIL

LAYER 1
THE SOIL IS A STIFF CLAY WITH NO FREE WATER
X AT THE TOP OF THE LAYER = 30.00 IN
X AT THE BOTTOM OF THE LAYER = 184.00 IN
MODULUS OF SUBGRADE REACTION = .300E+03 LBS/IN**3

LAYER 2
THE SOIL IS A SAND - P-Y CRITERIA BY REESE ET AL, 1974
X AT THE TOP OF THE LAYER = 184.00 IN

```
X AT THE BOTTOM OF THE LAYER      =    1000.00 IN
MODULUS OF SUBGRADE REACTION      =   .225E+03 LBS/IN**3


DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
                    4 POINTS
            X,IN     WEIGHT,LBS/IN**3
             .00        .61E-01
          184.00        .61E-01
          184.00        .67E-01
         1000.00        .67E-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
                    4 POINTS
            X,IN       C,LBS/IN**2     PHI,DEGREES     E50
             .00       .208E+01           .000       .900E-02
          184.00       .208E+01           .000       .900E-02
          184.00       .000E+00       .330E+02       -----
         1000.00       .000E+00       .330E+02       -----


BOUNDARY AND LOADING CONDITIONS
-------------------------------


LOADING NUMBER   1   member 9, at 3, LC 25

BOUNDARY-CONDITION CODE                =          1
LATERAL LOAD AT THE PILE HEAD          =  -.343E+05 LBS
MOMENT AT THE PILE HEAD                =   .783E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD            =   .204E+06 LBS


FINITE-DIFFERENCE PARAMETERS
NUMBER OF PILE INCREMENTS                                  =         80
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE           =   .100E-11 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS =        100
MAXIMUM ALLOWABLE DEFLECTION                               =    .16E+03 IN


OUTPUT CODES
KOUTPT =  1
KPYOP  =  1
INC    =  1


DEPTH      DIAM      PHI  GAMMA AVG       A         B      PST       PSD
  IN        IN            LBS/IN**3
216.00    42.00      33.0  .709E-01     1.00       .64  .489E+04  .268E+05

                                Y                P
                               IN              LBS/IN
                            .000E+00          .000E+00
                            .583E-01          .103E+04
                            .117E+00          .140E+04
                            .175E+00          .168E+04
                            .233E+00          .192E+04
                            .292E+00          .212E+04
                            .350E+00          .230E+04
                            .408E+00          .246E+04
                            .467E+00          .261E+04
                            .525E+00          .275E+04
```

.583E+00	.288E+04
.642E+00	.301E+04
.700E+00	.313E+04
.158E+01	.488E+04
.436E+02	.488E+04
.856E+02	.488E+04
.128E+03	.488E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
228.00	42.00	33.0	.707E-01	.95	.59	.561E+04	.282E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.968E+03
.117E+00	.136E+04
.175E+00	.167E+04
.233E+00	.192E+04
.292E+00	.214E+04
.350E+00	.235E+04
.408E+00	.253E+04
.467E+00	.270E+04
.525E+00	.287E+04
.583E+00	.302E+04
.642E+00	.316E+04
.700E+00	.330E+04
.158E+01	.534E+04
.436E+02	.534E+04
.856E+02	.534E+04
.128E+03	.534E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
240.00	42.00	33.0	.705E-01	.91	.54	.638E+04	.296E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.875E+03
.117E+00	.128E+04
.175E+00	.160E+04
.233E+00	.187E+04
.292E+00	.212E+04
.350E+00	.234E+04
.408E+00	.255E+04
.467E+00	.274E+04
.525E+00	.293E+04
.583E+00	.310E+04
.642E+00	.327E+04
.700E+00	.343E+04
.158E+01	.578E+04
.436E+02	.578E+04
.856E+02	.578E+04
.128E+03	.578E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
276.00	42.00	33.0	.700E-01	.88	.51	.897E+04	.338E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.103E+04
.117E+00	.155E+04
.175E+00	.198E+04
.233E+00	.235E+04
.292E+00	.269E+04
.350E+00	.300E+04
.408E+00	.329E+04
.467E+00	.356E+04
.525E+00	.382E+04
.583E+00	.407E+04
.642E+00	.431E+04
.700E+00	.454E+04
.158E+01	.793E+04
.436E+02	.793E+04
.856E+02	.793E+04
.128E+03	.793E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
336.00	42.00	33.0	.694E-01	.88	.50	.143E+05	.408E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.157E+04
.117E+00	.240E+04
.175E+00	.307E+04
.233E+00	.365E+04
.292E+00	.419E+04
.350E+00	.468E+04
.408E+00	.514E+04
.467E+00	.557E+04
.525E+00	.598E+04
.583E+00	.638E+04
.642E+00	.676E+04
.700E+00	.713E+04
.158E+01	.125E+05
.436E+02	.125E+05
.856E+02	.125E+05
.128E+03	.125E+05

O U T P U T I N F O R M A T I O N

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*************************************************
* COMPUTE LOAD-DISTRIBUTION AND LOAD-DEFLECTION *
* CURVES FOR LATERAL LOADING                    *
*************************************************
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LOADING NUMBER 1

BOUNDARY CONDITION CODE = 1

STAADPRO = 0.33517
SAT OK

91st Abut1.lpo

LATERAL LOAD AT THE PILE HEAD = -.343E+05 LBS
MOMENT AT THE PILE HEAD = .783E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .204E+06 LBS

X IN	DEFLECTION IN	MOMENT LBS-IN	SHEAR LBS	SLOPE RAD.	TOTAL STRESS LBS/IN**2	FLEXURAL RIGIDITY LBS-IN**2	SOIL REACTION LBS/IN
*****	*********	*********	*********	*********	*********	*********	*********
.0	-.216E+00	.783E+06	-.343E+05	.121E-02	.255E+03	.489E+12	.000E+00
6.0	-.209E+00	.576E+06	-.343E+05	.121E-02	.226E+03	.489E+12	.000E+00
12.0	-.202E+00	.369E+06	-.343E+05	.122E-02	.198E+03	.489E+12	.000E+00
18.0	-.194E+00	.161E+06	-.343E+05	.122E-02	.169E+03	.489E+12	.000E+00
24.0	-.187E+00	-.464E+05	-.343E+05	.122E-02	.153E+03	.489E+12	.000E+00
30.0	-.180E+00	-.254E+06	-.341E+05	.122E-02	.182E+03	.489E+12	.866E+02
36.0	-.172E+00	-.458E+06	-.330E+05	.122E-02	.210E+03	.489E+12	.257E+03
42.0	-.165E+00	-.653E+06	-.315E+05	.121E-02	.237E+03	.489E+12	.254E+03
48.0	-.158E+00	-.839E+06	-.300E+05	.120E-02	.262E+03	.489E+12	.252E+03
54.0	-.151E+00	-.102E+07	-.285E+05	.119E-02	.287E+03	.489E+12	.248E+03
60.0	-.143E+00	-.118E+07	-.270E+05	.118E-02	.310E+03	.489E+12	.231E+03
66.0	-.136E+00	-.134E+07	-.257E+05	.116E-02	.332E+03	.489E+12	.221E+03
72.0	-.130E+00	-.150E+07	-.244E+05	.114E-02	.352E+03	.489E+12	.216E+03
78.0	-.123E+00	-.164E+07	-.231E+05	.112E-02	.372E+03	.489E+12	.212E+03
84.0	-.116E+00	-.177E+07	-.218E+05	.110E-02	.391E+03	.489E+12	.210E+03
90.0	-.109E+00	-.190E+07	-.206E+05	.108E-02	.409E+03	.489E+12	.209E+03
96.0	-.103E+00	-.202E+07	-.193E+05	.106E-02	.425E+03	.489E+12	.209E+03
102.0	-.968E-01	-.214E+07	-.181E+05	.103E-02	.441E+03	.489E+12	.209E+03
108.0	-.907E-01	-.224E+07	-.168E+05	.100E-02	.455E+03	.489E+12	.209E+03
114.0	-.848E-01	-.234E+07	-.156E+05	.976E-03	.469E+03	.489E+12	.210E+03
120.0	-.790E-01	-.243E+07	-.143E+05	.947E-03	.481E+03	.489E+12	.210E+03
126.0	-.734E-01	-.252E+07	-.130E+05	.916E-03	.493E+03	.489E+12	.208E+03
132.0	-.680E-01	-.259E+07	-.118E+05	.885E-03	.503E+03	.489E+12	.204E+03
138.0	-.628E-01	-.266E+07	-.106E+05	.853E-03	.513E+03	.489E+12	.200E+03
144.0	-.578E-01	-.272E+07	-.941E+04	.820E-03	.521E+03	.489E+12	.196E+03
150.0	-.529E-01	-.277E+07	-.825E+04	.786E-03	.528E+03	.489E+12	.192E+03
156.0	-.483E-01	-.282E+07	-.711E+04	.752E-03	.535E+03	.489E+12	.187E+03
162.0	-.439E-01	-.286E+07	-.600E+04	.717E-03	.540E+03	.489E+12	.183E+03
168.0	-.397E-01	-.290E+07	-.492E+04	.681E-03	.545E+03	.489E+12	.178E+03
174.0	-.357E-01	-.292E+07	-.386E+04	.646E-03	.549E+03	.489E+12	.174E+03
180.0	-.320E-01	-.294E+07	-.283E+04	.610E-03	.552E+03	.489E+12	.169E+03
186.0	-.284E-01	-.296E+07	-.747E+03	.573E-03	.554E+03	.489E+12	.526E+03
192.0	-.251E-01	-.295E+07	.233E+04	.537E-03	.553E+03	.489E+12	.498E+03
198.0	-.220E-01	-.293E+07	.522E+04	.501E-03	.550E+03	.489E+12	.466E+03
204.0	-.191E-01	-.289E+07	.791E+04	.465E-03	.545E+03	.489E+12	.431E+03
210.0	-.164E-01	-.284E+07	.104E+05	.430E-03	.537E+03	.489E+12	.392E+03
216.0	-.139E-01	-.277E+07	.126E+05	.396E-03	.528E+03	.489E+12	.352E+03
222.0	-.117E-01	-.269E+07	.146E+05	.362E-03	.516E+03	.489E+12	.310E+03
228.0	-.958E-02	-.259E+07	.163E+05	.330E-03	.504E+03	.489E+12	.268E+03
234.0	-.770E-02	-.249E+07	.178E+05	.299E-03	.490E+03	.489E+12	.226E+03
240.0	-.600E-02	-.238E+07	.190E+05	.269E-03	.474E+03	.489E+12	.184E+03
246.0	-.447E-02	-.226E+07	.200E+05	.240E-03	.458E+03	.489E+12	.143E+03
252.0	-.311E-02	-.214E+07	.208E+05	.213E-03	.441E+03	.489E+12	.104E+03
258.0	-.191E-02	-.202E+07	.213E+05	.188E-03	.424E+03	.489E+12	.664E+02
264.0	-.862E-03	-.189E+07	.216E+05	.164E-03	.406E+03	.489E+12	.311E+02
270.0	.508E-04	-.176E+07	.217E+05	.141E-03	.389E+03	.489E+12	-.190E+01
276.0	.834E-03	-.163E+07	.215E+05	.121E-03	.371E+03	.489E+12	-.323E+02
282.0	.150E-02	-.150E+07	.213E+05	.101E-03	.353E+03	.489E+12	-.600E+02
288.0	.205E-02	-.137E+07	.208E+05	.837E-04	.336E+03	.489E+12	-.850E+02
294.0	.250E-02	-.125E+07	.203E+05	.676E-04	.319E+03	.489E+12	-.107E+03
300.0	.286E-02	-.113E+07	.196E+05	.530E-04	.302E+03	.489E+12	-.126E+03

306.0	.314E-02	-.101E+07	.188E+05	.399E-04	.286E+03	.489E+12	-.143E+03
312.0	.334E-02	-.904E+06	.179E+05	.281E-04	.271E+03	.489E+12	-.157E+03
318.0	.348E-02	-.800E+06	.169E+05	.176E-04	.257E+03	.489E+12	-.168E+03
324.0	.355E-02	-.702E+06	.159E+05	.841E-05	.243E+03	.489E+12	-.176E+03
330.0	.358E-02	-.610E+06	.148E+05	.362E-06	.231E+03	.489E+12	-.182E+03
336.0	.356E-02	-.525E+06	.137E+05	-.660E-05	.219E+03	.489E+12	-.186E+03
342.0	.350E-02	-.446E+06	.126E+05	-.126E-04	.208E+03	.489E+12	-.187E+03
348.0	.341E-02	-.374E+06	.114E+05	-.176E-04	.198E+03	.489E+12	-.187E+03
354.0	.329E-02	-.309E+06	.103E+05	-.218E-04	.189E+03	.489E+12	-.185E+03
360.0	.314E-02	-.250E+06	.922E+04	-.252E-04	.181E+03	.489E+12	-.181E+03
366.0	.298E-02	-.198E+06	.814E+04	-.280E-04	.174E+03	.489E+12	-.176E+03
372.0	.281E-02	-.152E+06	.711E+04	-.301E-04	.168E+03	.489E+12	-.170E+03
378.0	.262E-02	-.113E+06	.611E+04	-.317E-04	.162E+03	.489E+12	-.162E+03
384.0	.243E-02	-.789E+05	.517E+04	-.329E-04	.158E+03	.489E+12	-.153E+03
390.0	.223E-02	-.506E+05	.428E+04	-.337E-04	.154E+03	.489E+12	-.143E+03
396.0	.202E-02	-.274E+05	.345E+04	-.342E-04	.151E+03	.489E+12	-.133E+03
402.0	.182E-02	-.910E+04	.268E+04	-.344E-04	.148E+03	.489E+12	-.122E+03
408.0	.161E-02	.485E+04	.199E+04	-.344E-04	.148E+03	.489E+12	-.110E+03
414.0	.140E-02	.148E+05	.136E+04	-.343E-04	.149E+03	.489E+12	-.980E+02
420.0	.120E-02	.213E+05	.813E+03	-.341E-04	.150E+03	.489E+12	-.853E+02
426.0	.995E-03	.247E+05	.340E+03	-.338E-04	.150E+03	.489E+12	-.721E+02
432.0	.793E-03	.254E+05	-.516E+02	-.335E-04	.150E+03	.489E+12	-.586E+02
438.0	.593E-03	.241E+05	-.361E+03	-.332E-04	.150E+03	.489E+12	-.446E+02
444.0	.394E-03	.212E+05	-.585E+03	-.329E-04	.150E+03	.489E+12	-.302E+02
450.0	.198E-03	.172E+05	-.722E+03	-.327E-04	.149E+03	.489E+12	-.154E+02
456.0	.219E-05	.126E+05	-.769E+03	-.325E-04	.149E+03	.489E+12	-.173E+00
462.0	-.192E-03	.804E+04	-.723E+03	-.324E-04	.148E+03	.489E+12	.155E+02
468.0	-.386E-03	.402E+04	-.581E+03	-.323E-04	.147E+03	.489E+12	.317E+02
474.0	-.580E-03	.114E+04	-.341E+03	-.323E-04	.147E+03	.489E+12	.483E+02
480.0	-.774E-03	.000E+00	.000E+00	-.323E-04	.147E+03	.489E+12	.655E+02

OUTPUT VERIFICATION

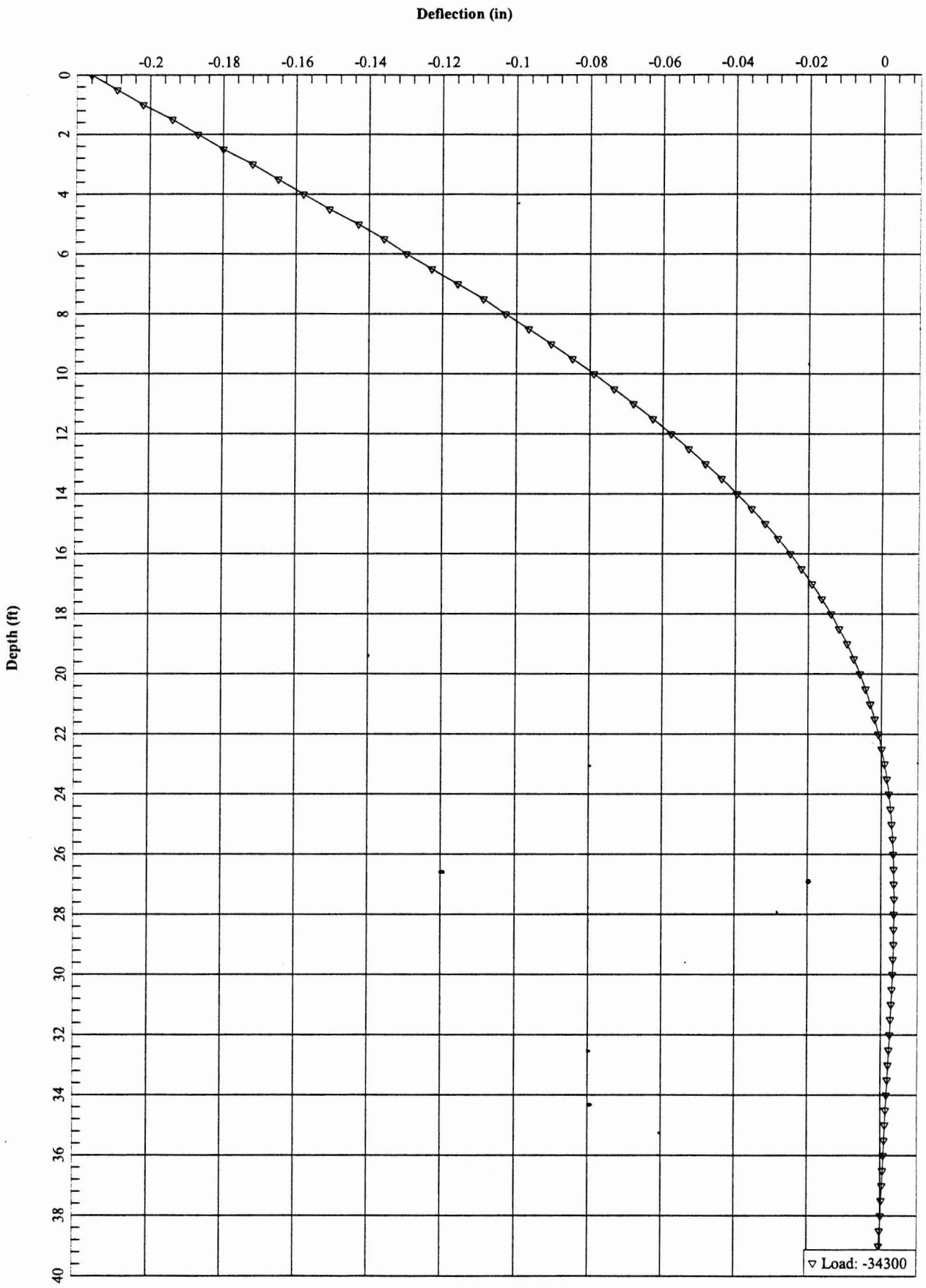
THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = .672E-05 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = .658E-06 LBS

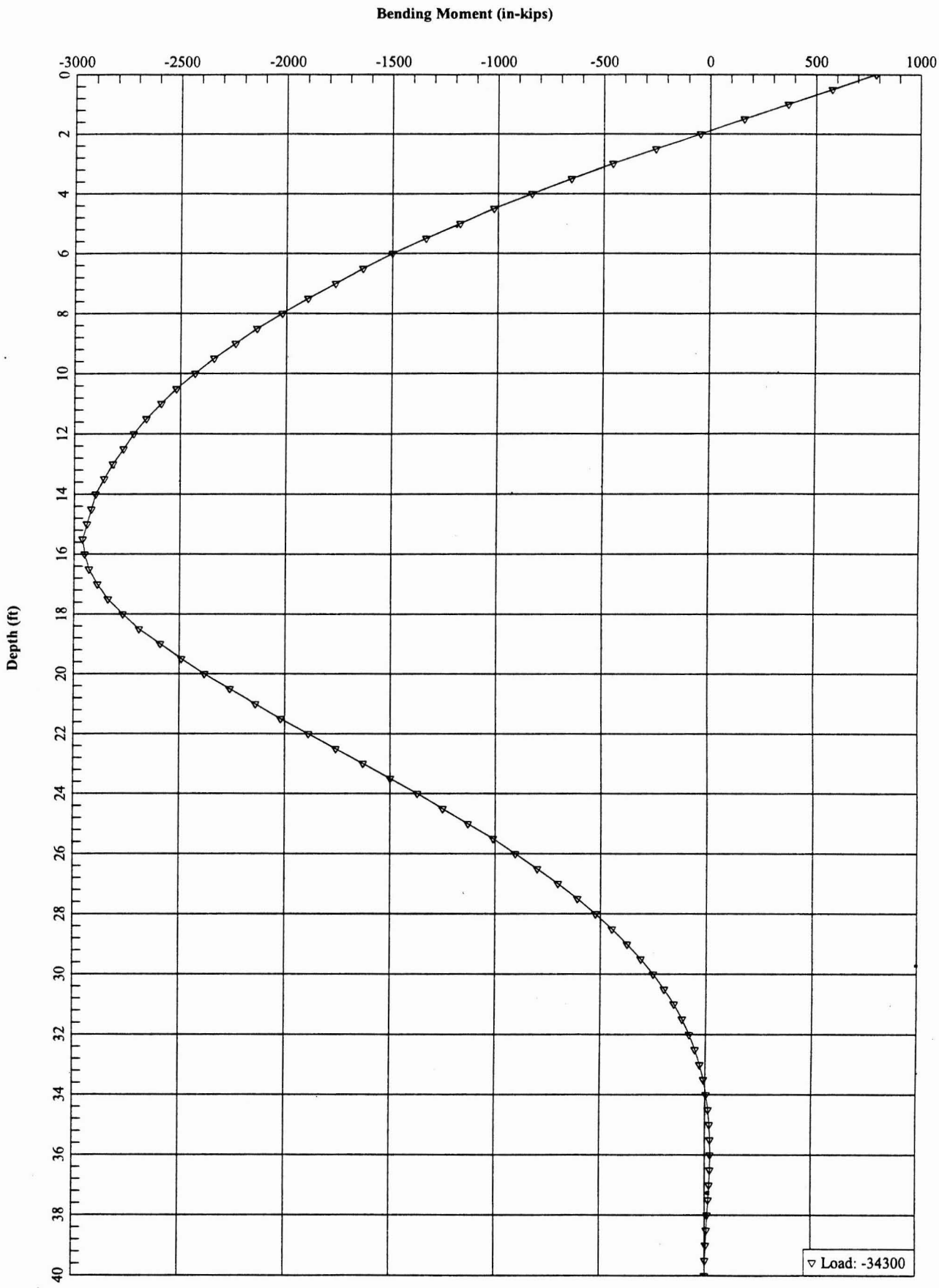
OUTPUT SUMMARY

PILE-HEAD DEFLECTION = -.216E+00 IN
COMPUTED SLOPE AT PILE HEAD = .121E-02
MAXIMUM BENDING MOMENT = -.296E+07 LBS-IN 246.67 K-ft
MAXIMUM SHEAR FORCE = -.343E+05 LBS
NO. OF ITERATIONS = 36
NO. OF ZERO DEFLECTION POINTS = 2

S U M M A R Y T A B L E
****

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
-.3433E+05	.7835E+06	.2035E+06	-.2162E+00	-.2958E+07	-.3433E+05


Deflection (in)
-0.2
-0.18
-0.16
-0.14
-0.12
-0.1
-0.08
-0.06
-0.04
-0.02
0
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: -34300


Bending Moment (in-kips)
-3000
-2500
-2000
-1500
-1000
-500
0
500
1000
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: -34300

KMS 8/02

Licensed to: Sergio Oliden

DMJM+HARRIS

PROGRAM LPILE plus Version 3.0
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BHOC 91st Ave Bridge 42" Dia. Shafts at Abutment 2- REVISED

UNITS--ENGLISH UNITS

I N P U T I N F O R M A T I O N

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 420.00 IN
2 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	42.000	.153E+06	.139E+04	.320E+07
420.00	42.000	.153E+06	.139E+04	.320E+07

SOILS INFORMATION

X AT THE GROUND SURFACE = 30.00 IN

SLOPE ANGLE AT THE GROUND SURFACE = .00 DEG.

2 LAYER(S) OF SOIL

LAYER 1
THE SOIL IS A STIFF CLAY WITH NO FREE WATER
X AT THE TOP OF THE LAYER = 30.00 IN
X AT THE BOTTOM OF THE LAYER = 184.00 IN
MODULUS OF SUBGRADE REACTION = .300E+03 LBS/IN**3

LAYER 2
THE SOIL IS A SAND - P-Y CRITERIA BY REESE ET AL, 1974
X AT THE TOP OF THE LAYER = 184.00 IN

```
X AT THE BOTTOM OF THE LAYER      =    1000.00 IN
MODULUS OF SUBGRADE REACTION      =   .225E+03 LBS/IN**3


DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
                    4 POINTS
            X,IN     WEIGHT,LBS/IN**3
             .00        .61E-01
          184.00        .61E-01
          184.00        .67E-01
         1000.00        .67E-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
                    4 POINTS
            X,IN       C,LBS/IN**2     PHI,DEGREES     E50
             .00       .208E+01           .000       .900E-02
          184.00       .208E+01           .000       .900E-02
          184.00       .000E+00       .330E+02       -----
         1000.00       .000E+00       .330E+02       -----


BOUNDARY AND LOADING CONDITIONS
-------------------------------

LOADING NUMBER   1        member 9, dt 3, LC 25

BOUNDARY-CONDITION CODE                =          1
LATERAL LOAD AT THE PILE HEAD          =  -.371E+05 LBS     FZ ONLY (LONGITUDINAL
MOMENT AT THE PILE HEAD                =   .248E+06 IN-LBS  MY ONLY
AXIAL LOAD AT THE PILE HEAD            =   .220E+06 LBS


FINITE-DIFFERENCE PARAMETERS
NUMBER OF PILE INCREMENTS                                  =         70
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE           =   .100E-11 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS     =        100
MAXIMUM ALLOWABLE DEFLECTION                               =    .16E+03 IN


OUTPUT CODES
KOUTPT =  1
KPYOP  =  1
INC    =  1


DEPTH      DIAM      PHI  GAMMA AVG       A         B      PST       PSD
  IN        IN            LBS/IN**3
216.00    42.00     33.0  .709E-01     1.00       .64  .489E+04  .268E+05

                                Y                P
                               IN             LBS/IN
                            .000E+00         .000E+00
                            .583E-01         .103E+04
                            .117E+00         .140E+04
                            .175E+00         .168E+04
                            .233E+00         .192E+04
                            .292E+00         .212E+04
                            .350E+00         .230E+04
                            .408E+00         .246E+04
                            .467E+00         .261E+04
                            .525E+00         .275E+04
```

.583E+00	.288E+04
.642E+00	.301E+04
.700E+00	.313E+04
.158E+01	.488E+04
.436E+02	.488E+04
.856E+02	.488E+04
.128E+03	.488E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
228.00	42.00	33.0	.707E-01	.95	.59	.561E+04	.282E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.968E+03
.117E+00	.136E+04
.175E+00	.167E+04
.233E+00	.192E+04
.292E+00	.214E+04
.350E+00	.235E+04
.408E+00	.253E+04
.467E+00	.270E+04
.525E+00	.287E+04
.583E+00	.302E+04
.642E+00	.316E+04
.700E+00	.330E+04
.158E+01	.534E+04
.436E+02	.534E+04
.856E+02	.534E+04
.128E+03	.534E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
240.00	42.00	33.0	.705E-01	.91	.54	.638E+04	.296E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.875E+03
.117E+00	.128E+04
.175E+00	.160E+04
.233E+00	.187E+04
.292E+00	.212E+04
.350E+00	.234E+04
.408E+00	.255E+04
.467E+00	.274E+04
.525E+00	.293E+04
.583E+00	.310E+04
.642E+00	.327E+04
.700E+00	.343E+04
.158E+01	.578E+04
.436E+02	.578E+04
.856E+02	.578E+04
.128E+03	.578E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
276.00	42.00	33.0	.700E-01	.88	.51	.897E+04	.338E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.103E+04
.117E+00	.155E+04
.175E+00	.198E+04
.233E+00	.235E+04
.292E+00	.269E+04
.350E+00	.300E+04
.408E+00	.329E+04
.467E+00	.356E+04
.525E+00	.382E+04
.583E+00	.407E+04
.642E+00	.431E+04
.700E+00	.454E+04
.158E+01	.793E+04
.436E+02	.793E+04
.856E+02	.793E+04
.128E+03	.793E+04

DEPTH IN	DIAM IN	PHI	GAMMA AVG LBS/IN**3	A	B	PST	PSD
336.00	42.00	33.0	.694E-01	.88	.50	.143E+05	.408E+05

Y IN	P LBS/IN
.000E+00	.000E+00
.583E-01	.157E+04
.117E+00	.240E+04
.175E+00	.307E+04
.233E+00	.365E+04
.292E+00	.419E+04
.350E+00	.468E+04
.408E+00	.514E+04
.467E+00	.557E+04
.525E+00	.598E+04
.583E+00	.638E+04
.642E+00	.676E+04
.700E+00	.713E+04
.158E+01	.125E+05
.436E+02	.125E+05
.856E+02	.125E+05
.128E+03	.125E+05

O U T P U T I N F O R M A T I O N

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*************************************************
* COMPUTE LOAD-DISTRIBUTION AND LOAD-DEFLECTION *
* CURVES FOR LATERAL LOADING                    *
*************************************************
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LOADING NUMBER 1

BOUNDARY CONDITION CODE = 1

STAND PILE = 0.40035
SAY OK

91st Abut2.lpo

LATERAL LOAD AT THE PILE HEAD = -.371E+05 LBS
MOMENT AT THE PILE HEAD = .248E+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .220E+06 LBS

X IN	DEFLECTION IN	MOMENT LBS-IN	SHEAR LBS	SLOPE RAD.	TOTAL STRESS LBS/IN**2	FLEXURAL RIGIDITY LBS-IN**2	SOIL REACTION LBS/IN
*****	*********	*********	*********	*********	*********	*********	*********
.0	-.285E+00	.248E+06	-.371E+05	.166E-02	.193E+03	.489E+12	.000E+00
6.0	-.275E+00	.226E+05	-.371E+05	.167E-02	.162E+03	.489E+12	.000E+00
12.0	-.265E+00	-.202E+06	-.371E+05	.166E-02	.187E+03	.489E+12	.000E+00
18.0	-.255E+00	-.427E+06	-.371E+05	.166E-02	.218E+03	.489E+12	.000E+00
24.0	-.246E+00	-.652E+06	-.371E+05	.165E-02	.249E+03	.489E+12	.000E+00
30.0	-.236E+00	-.877E+06	-.369E+05	.164E-02	.280E+03	.489E+12	.927E+02
36.0	-.226E+00	-.110E+07	-.357E+05	.163E-02	.310E+03	.489E+12	.275E+03
42.0	-.216E+00	-.131E+07	-.341E+05	.162E-02	.339E+03	.489E+12	.272E+03
48.0	-.206E+00	-.151E+07	-.325E+05	.160E-02	.367E+03	.489E+12	.269E+03
54.0	-.197E+00	-.170E+07	-.309E+05	.158E-02	.393E+03	.489E+12	.265E+03
60.0	-.187E+00	-.189E+07	-.293E+05	.156E-02	.418E+03	.489E+12	.247E+03
66.0	-.178E+00	-.206E+07	-.279E+05	.153E-02	.442E+03	.489E+12	.237E+03
72.0	-.169E+00	-.223E+07	-.265E+05	.151E-02	.465E+03	.489E+12	.230E+03
78.0	-.160E+00	-.238E+07	-.251E+05	.148E-02	.486E+03	.489E+12	.227E+03
84.0	-.151E+00	-.253E+07	-.238E+05	.145E-02	.507E+03	.489E+12	.225E+03
90.0	-.143E+00	-.267E+07	-.224E+05	.142E-02	.526E+03	.489E+12	.224E+03
96.0	-.134E+00	-.280E+07	-.211E+05	.138E-02	.544E+03	.489E+12	.223E+03
102.0	-.126E+00	-.293E+07	-.197E+05	.135E-02	.561E+03	.489E+12	.223E+03
108.0	-.118E+00	-.304E+07	-.184E+05	.131E-02	.577E+03	.489E+12	.223E+03
114.0	-.110E+00	-.315E+07	-.171E+05	.127E-02	.592E+03	.489E+12	.224E+03
120.0	-.103E+00	-.325E+07	-.157E+05	.123E-02	.606E+03	.489E+12	.224E+03
126.0	-.955E-01	-.334E+07	-.144E+05	.119E-02	.619E+03	.489E+12	.222E+03
132.0	-.884E-01	-.343E+07	-.131E+05	.115E-02	.630E+03	.489E+12	.218E+03
138.0	-.817E-01	-.350E+07	-.118E+05	.111E-02	.641E+03	.489E+12	.213E+03
144.0	-.751E-01	-.357E+07	-.105E+05	.107E-02	.650E+03	.489E+12	.209E+03
150.0	-.689E-01	-.363E+07	-.925E+04	.102E-02	.658E+03	.489E+12	.205E+03
156.0	-.629E-01	-.369E+07	-.804E+04	.978E-03	.666E+03	.489E+12	.200E+03
162.0	-.571E-01	-.373E+07	-.685E+04	.932E-03	.672E+03	.489E+12	.195E+03
168.0	-.517E-01	-.377E+07	-.570E+04	.886E-03	.677E+03	.489E+12	.190E+03
174.0	-.465E-01	-.380E+07	-.457E+04	.840E-03	.682E+03	.489E+12	.185E+03
180.0	-.416E-01	-.383E+07	-.347E+04	.793E-03	.685E+03	.489E+12	.180E+03
186.0	-.370E-01	-.385E+07	-.879E+03	.746E-03	.688E+03	.489E+12	.684E+03
192.0	-.326E-01	-.384E+07	.312E+04	.699E-03	.687E+03	.489E+12	.648E+03
198.0	-.286E-01	-.381E+07	.688E+04	.652E-03	.683E+03	.489E+12	.606E+03
204.0	-.248E-01	-.376E+07	.104E+05	.605E-03	.676E+03	.489E+12	.560E+03
210.0	-.213E-01	-.369E+07	.136E+05	.559E-03	.666E+03	.489E+12	.510E+03
216.0	-.181E-01	-.360E+07	.165E+05	.515E-03	.654E+03	.489E+12	.457E+03
222.0	-.152E-01	-.349E+07	.191E+05	.471E-03	.639E+03	.489E+12	.403E+03
228.0	-.125E-01	-.337E+07	.213E+05	.429E-03	.622E+03	.489E+12	.348E+03
234.0	-.100E-01	-.324E+07	.233E+05	.388E-03	.604E+03	.489E+12	.293E+03
240.0	-.780E-02	-.309E+07	.249E+05	.350E-03	.584E+03	.489E+12	.239E+03
246.0	-.581E-02	-.294E+07	.261E+05	.313E-03	.563E+03	.489E+12	.186E+03
252.0	-.404E-02	-.278E+07	.271E+05	.278E-03	.541E+03	.489E+12	.135E+03
258.0	-.248E-02	-.261E+07	.278E+05	.244E-03	.518E+03	.489E+12	.861E+02
264.0	-.111E-02	-.245E+07	.281E+05	.213E-03	.495E+03	.489E+12	.400E+02
270.0	.797E-04	-.228E+07	.282E+05	.184E-03	.472E+03	.489E+12	-.298E+01
276.0	.110E-02	-.211E+07	.281E+05	.157E-03	.449E+03	.489E+12	-.427E+02
282.0	.197E-02	-.194E+07	.277E+05	.133E-03	.426E+03	.489E+12	-.790E+02
288.0	.269E-02	-.178E+07	.272E+05	.110E-03	.403E+03	.489E+12	-.112E+03
294.0	.329E-02	-.161E+07	.264E+05	.890E-04	.381E+03	.489E+12	-.141E+03
300.0	.376E-02	-.146E+07	.255E+05	.701E-04	.360E+03	.489E+12	-.166E+03

306.0	.413E-02	-.131E+07	.244E+05	.531E-04	.339E+03	.489E+12	-.188E+03
312.0	.440E-02	-.117E+07	.232E+05	.379E-04	.319E+03	.489E+12	-.206E+03
318.0	.458E-02	-.103E+07	.220E+05	.244E-04	.301E+03	.489E+12	-.221E+03
324.0	.469E-02	-.903E+06	.206E+05	.126E-04	.283E+03	.489E+12	-.233E+03
330.0	.473E-02	-.783E+06	.192E+05	.223E-05	.267E+03	.489E+12	-.241E+03
336.0	.472E-02	-.672E+06	.177E+05	-.671E-05	.251E+03	.489E+12	-.247E+03
342.0	.465E-02	-.570E+06	.162E+05	-.143E-04	.237E+03	.489E+12	-.249E+03
348.0	.455E-02	-.477E+06	.147E+05	-.208E-04	.225E+03	.489E+12	-.250E+03
354.0	.440E-02	-.393E+06	.132E+05	-.261E-04	.213E+03	.489E+12	-.248E+03
360.0	.423E-02	-.318E+06	.118E+05	-.305E-04	.203E+03	.489E+12	-.244E+03
366.0	.404E-02	-.252E+06	.103E+05	-.340E-04	.194E+03	.489E+12	-.238E+03
372.0	.382E-02	-.194E+06	.891E+04	-.367E-04	.186E+03	.489E+12	-.231E+03
378.0	.360E-02	-.145E+06	.756E+04	-.388E-04	.179E+03	.489E+12	-.222E+03
384.0	.336E-02	-.104E+06	.625E+04	-.403E-04	.173E+03	.489E+12	-.212E+03
390.0	.311E-02	-.699E+05	.502E+04	-.414E-04	.169E+03	.489E+12	-.201E+03
396.0	.286E-02	-.433E+05	.385E+04	-.421E-04	.165E+03	.489E+12	-.188E+03
402.0	.261E-02	-.236E+05	.276E+04	-.425E-04	.162E+03	.489E+12	-.175E+03
408.0	.235E-02	-.101E+05	.175E+04	-.427E-04	.160E+03	.489E+12	-.161E+03
414.0	.210E-02	-.241E+04	.831E+03	-.428E-04	.159E+03	.489E+12	-.146E+03
420.0	.184E-02	.000E+00	.000E+00	-.428E-04	.159E+03	.489E+12	-.131E+03

OUTPUT VERIFICATION

THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = -.389E-05 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = -.329E-06 LBS

OUTPUT SUMMARY

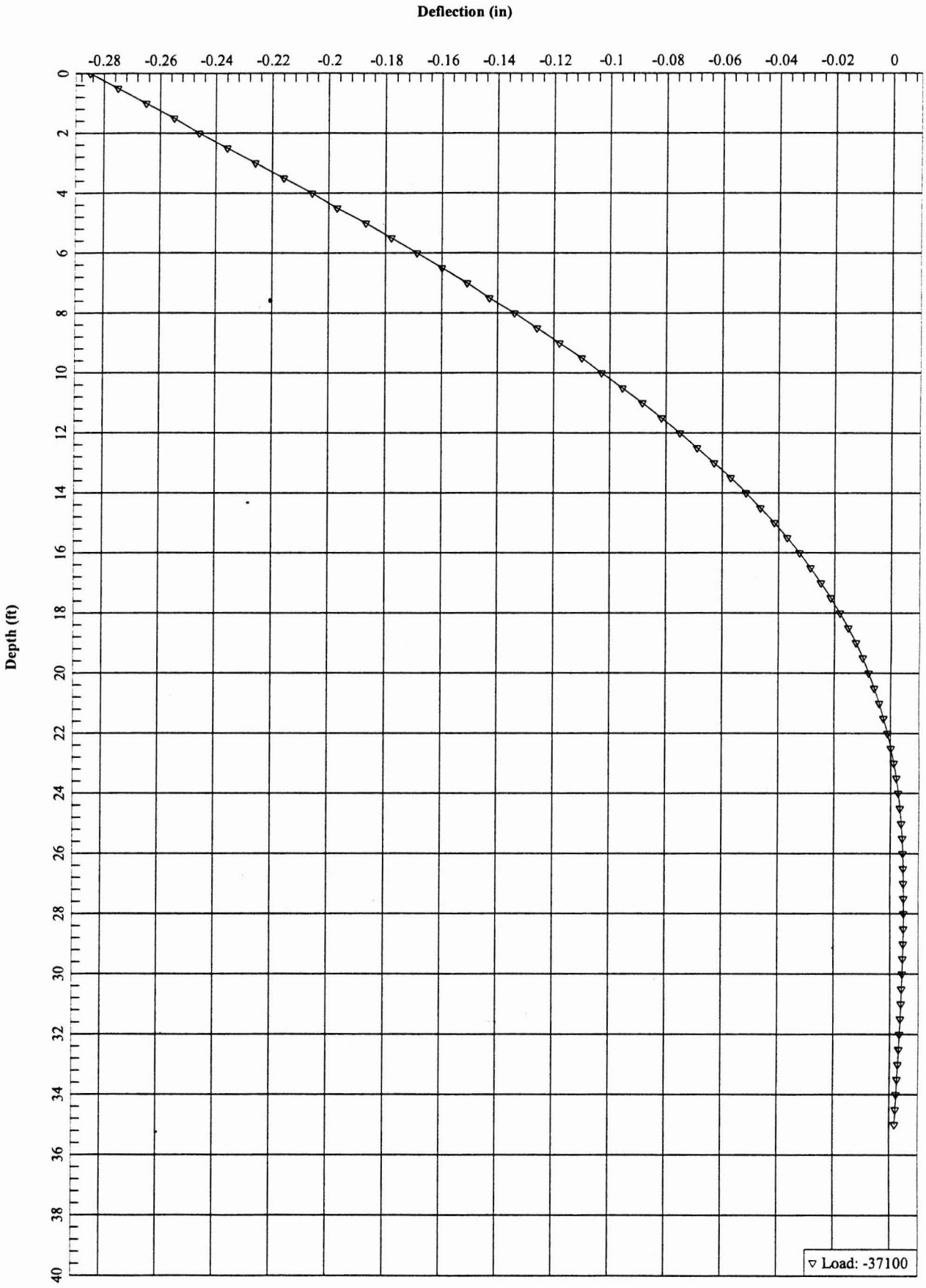
PILE-HEAD DEFLECTION = -.285E+00 IN
COMPUTED SLOPE AT PILE HEAD = .166E-02
MAXIMUM BENDING MOMENT = -.385E+07 LBS-IN 320.83 K-ft (LONGITUDINAL)
MAXIMUM SHEAR FORCE = -.371E+05 LBS
NO. OF ITERATIONS = 31
NO. OF ZERO DEFLECTION POINTS = 1

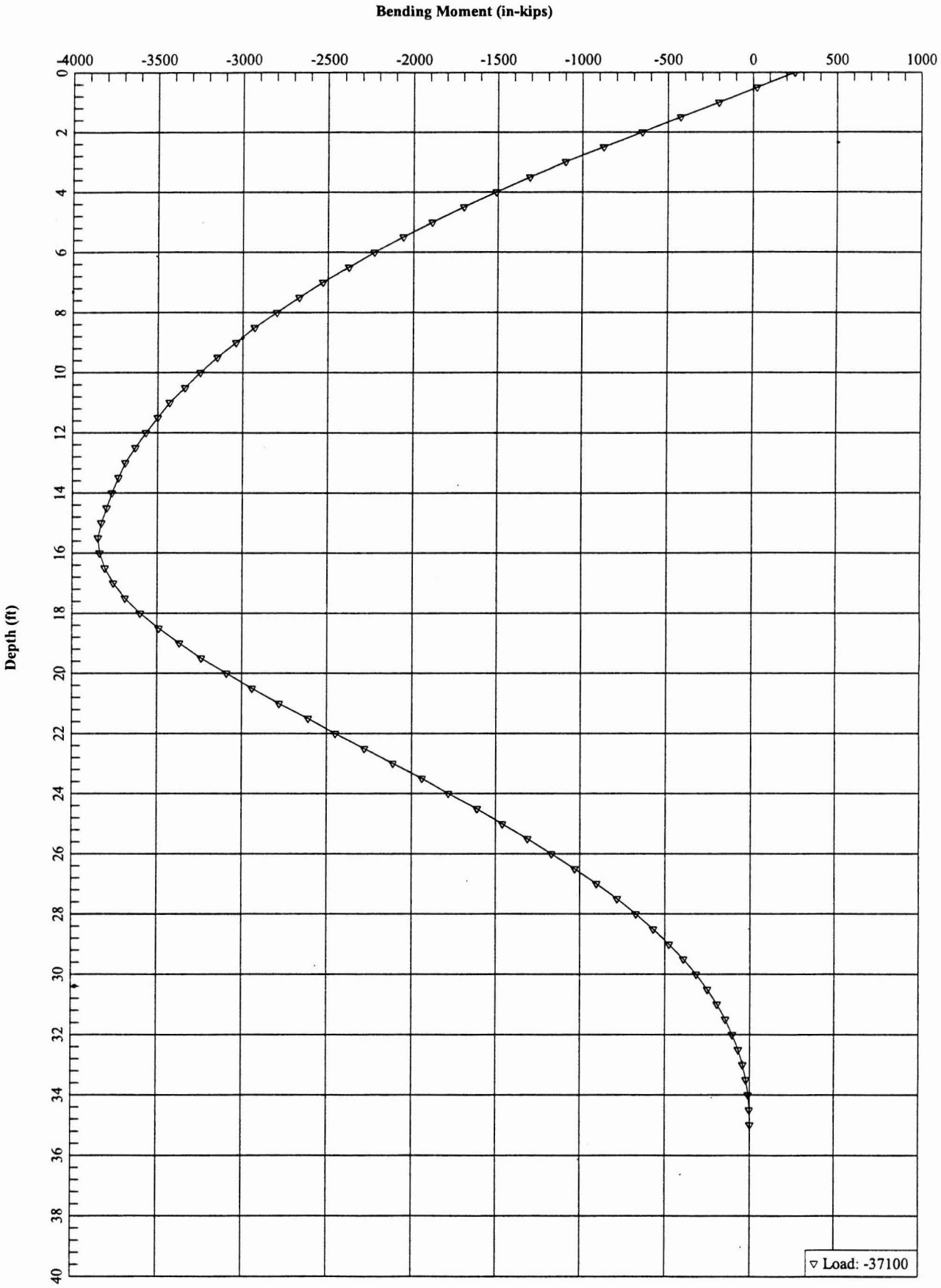
Max Mom lateral = 210.83 K-ft

S U M M A R Y T A B L E
****

∴ Resultant = 383.90 K-ft

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
-.3713E+05	.2476E+06	.2201E+06	-.2855E+00	-.3846E+07	-.3713E+05


Deflection (in)
-0.28
-0.26
-0.24
-0.22
-0.2
-0.18
-0.16
-0.14
-0.12
-0.1
-0.08
-0.06
-0.04
-0.02
0
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: -37100


Bending Moment (in-kips)
-4000
-3500
-3000
-2500
-2000
-1500
-1000
-500
0
500
1000
Depth (ft)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
Load: -37100

ABUTMENT GROUP LOADS — Abutment 2

CONDITION I: BOT OF DS — Member 8, Joint 9, LC 25

	DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY (T)	21.99				-8.14					190.563	
MX (L)	-32.08									305.5901	152.4807
P	-246.12				-43.31					13.86067	
PMY											
PMX											
P											
IV											

ABUTMENT GROUP LOADS

CONDITION I: BOT OF DS — Member , Jt , Abut

	DL	P	LIVE LOAD PLUS IMPACT MY-MAX	MX-MAX	N-MAX	WIND	WL	LF	CF-MY	TEMP	B + SF
MY (T)											
MX (L)											
P											
PMY											
PMX											
P											
IV											

Note: L-Pile calculated the maximum moment within the drilled shaft for two conditions: lateral loading, and longitudinal loading. The resultant from these two loadings was calculated at 383.90 k-ft. This is the design load to be used for column design. The values for earth pressure and temperature were reduced by a factor of 0.46 so that the RECOL model yields the resultant moment in the drilled shaft as discussed.

KMS 8/02

```
*************************************************************************
*                              IAI-RECOL                                *
*                        Reinforced Column Design                       *
*                                                                       *
*                                                                       *
*                    By: Imbsen and Associates, Inc.                    *
*                      Version 3.3.1    12-OCT-99                       *
*************************************************************************
```

********** Licensed to: DMJM - Phoenix, AZ **********

91ADS1.doc

Project Title:91st Ave Bridge Abutment DS (Revised)

```
COLUMN TYPE                    =  9  (CIRCULAR)
CONCRETE LOOPS                 =  1
TOTAL NO. OF CONCRETE COORD.   = 40
STEEL REBAR PATTERN            =  4  (CONCENTRIC LOOPS)
NUMBER OF STEEL REBAR LOOPS    =  1
TOTAL NO. OF STEEL REBARS      = 12
PLOT TYPE                      =  0  (NO PLOT)
DESIGN TYPE                    =  2  (CHECK)
PERCENT STEEL LIMITS           =     (1.00 % MIN.  8.00 % MAX.)
```

```
*************
* BENT DATA *
*****************************************************************************

NUMBER OF COLUMNS IN BENT                    =     6
OUT TO OUT DISTANCE (DIAMETER) OF SPIRAL     = 30.00 INCHES
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO
CENTER OF GRAVITY OF THE SUPERSTRUCTURE      =  1.50 FEET
CENTER TO CENTER SPACING OF COLUMNS          = 18.00 FEET
```

```
******************************
* MATERIAL PROPERTIES  (PSI) *
*****************************************************************************

ULTIMATE CONCRETE COMPRESSIVE STRESS - FC =     4000.
YOUNG'S MODULUS FOR CONCRETE         - EC =  3604997.
YOUNG'S MODULUS FOR STEEL BARS       - ES = 29000000.
ULTIMATE CONCRETE COMPRESSIVE STRAIN - EO =      .003
YIELDING STRESS FOR STEEL BARS       - FY =    60000.
```

CIRCULAR CROSS-SECTION

HX(IN)
42.00

CONCRETE COORDINATES (INCHES)

COORD	X	Y
1	21.00	0.00
2	20.74	3.29
3	19.97	6.49
4	18.71	9.53
5	16.99	12.34
6	14.85	14.85
7	12.34	16.99
8	9.53	18.71
9	6.49	19.97
10	3.29	20.74
11	0.00	21.00
12	-3.29	20.74
13	-6.49	19.97
14	-9.53	18.71
15	-12.34	16.99
16	-14.85	14.85
17	-16.99	12.34
18	-18.71	9.53
19	-19.97	6.49
20	-20.74	3.29
21	-21.00	0.00
22	-20.74	-3.29
23	-19.97	-6.49
24	-18.71	-9.53
25	-16.99	-12.34
26	-14.85	-14.85
27	-12.34	-16.99
28	-9.53	-18.71
29	-6.49	-19.97
30	-3.29	-20.74
31	0.00	-21.00
32	3.29	-20.74
33	6.49	-19.97
34	9.53	-18.71
35	12.34	-16.99
36	14.85	-14.85
37	16.99	-12.34
38	18.71	-9.53
39	19.97	-6.49
40	20.74	-3.29

CONCENTRIC CIRCLE PATTERN

LOOP	RADIUS (IN)	AREA (IN**2)	BARS
1	13.86	1.56	12

STEEL REBAR COORDINATES (INCHES)

COORD	X	Y
1	13.86	0.00
2	12.00	6.93
3	6.93	12.00
4	0.00	13.86
5	-6.93	12.00
6	-12.00	6.93
7	-13.86	0.00
8	-12.00	-6.93
9	-6.93	-12.00
10	0.00	-13.86
11	6.93	-12.00
12	12.00	-6.93

THE MAIN LONGITUDINAL STEEL IS ASSUMED TO BE # 11 BARS.

***WARNING: THE CONCRETE COVER IS GREATER THAN 2 INCHES IN THE X-DIRECTION

***WARNING: THE CONCRETE COVER IS GREATER THAN 2 INCHES IN THE Y-DIRECTION

```
*************************
* INITIAL REFERENCE DATA *
***************************************************************************

TOTAL AREA OF THE SECTION                AG =      9.58 FT**2
NOMINAL AXIAL LOAD STRENGTH              PO =   5750.71 KIPS
TOTAL REINFORCEMENT AREA                AST =     18.72 IN**2
PERCENT STEEL                               =      1.36 %

GROSS MOMENT OF INERTIA ABOUT Y-AXIS   IYC =      7.31 FT**4
GROSS MOMENT OF INERTIA ABOUT X-AXIS   IXC =      7.31 FT**4

STEEL MOMENT OF INERTIA ABOUT Y-AXIS   IYS =    0.0867 FT**4
STEEL MOMENT OF INERTIA ABOUT X-AXIS   IXS =    0.0867 FT**4
```

****
* COLUMN LOAD DATA (KIP, KIP-FT) *
****

LOAD NAME: bottom of ds abutment
FOOTING DATA FILE: NO
TYPE FOOTING:

SEISMIC ANALYSIS SPECIFICATIONS:
DESIGN CRITERIA (SDC) CAL
PERFORMANCE CATEGORY (SPC)

MOMENT DISTRIBUTION FACT :---TOP---:---BOTTOM---: DAY	DAX	DBY	DBX	PERCENT IMPACT	COLUMN LENGTH (FEET)	STEEL TIE=1 SPIRAL=0	LOCATION TOP=1 BOTTOM=0	DUCTILITY FACTOR (Z)
0.00	0.00	0.00	0.00	30.00	21.95	0	0	5.00

COLUMN GROUP LOADS - SERVICE (KIP, KIP-FT)

	DEAD LOAD	PRE STRESS	TRANS MY-MAX	LONG MX-MAX	AXIAL N-MAX	:---- LL+IMPACT ---: CASE 1 WIND	CASE 2 WL	CASE 3 LF	CF-MY	TEMP	SF& BY
MY	21.	0.	0.	0.	-8.	0.	0.	0.	0.	190.	0.
MX	-32.	0.	0.	0.	0.	0.	0.	0.	0.	305.	152.
P	-246.	0.	0.	0.	-43.	0.	0.	0.	0.	13.	0.
PMY			0.	0.	0.				0.		
PMX			0.	0.	0.				0.		
P			0.	0.	0.				0.		

COLUMN SEISMIC AND ARBITRARY LOADS (KIP, KIP-FT)

(ARS)	UNREDUCED SEISMIC CASE 1 MAX TRAN	CASE 2 MAX LONG	ARBITRARY LOADS SERVICE AL1	SERVICE AL2	ARBITRARY LOADS FACTORED AL1	FACTORED AL2
MY TRAN	0.	0.	0.	0.	0.	0.
MX LONG	0.	0.	0.	0.	0.	0.
P AXIAL	0.	0.	0.	0.	0.	0.

```
*******************************************************
* FACTORED LOADS FOR COLUMN DESIGN CHECK (KIP, KIP-FT) *
*************************************************************************
```

APPLIED FACTORED MOMENTS ARE MAGNIFIED FOR SLENDERNESS IN ACCORDANCE WITH CALTRANS BRIDGE DESIGN SPECIFICATIONS. (ART 8.16.5)

LENGTH = 21.950 FT FC = 4.00 KSI FY = 60.00 KSI
STEEL = 1.36 % AST = 18.72 SQ IN

		:------ APPLIED FACTORED ------:				CAPACITY		
GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P	(PHI*MN) MU	PHI	RATIO MU/M
IH	1	21.	167.	168.	-240.	968.	0.90	5.75 OK
IH	2	21.	167.	168.	-240.	968.	0.90	5.75 OK
IH	3	11.	157.	157.	-414.	784.	0.90	4.99 OK
IP	1	21.	167.	168.	-240.	968.	0.90	5.75 OK
IP	2	21.	167.	168.	-240.	968.	0.90	5.75 OK
IP	3	29.	157.	159.	-320.	882.	0.90	5.54 OK
II		21.	167.	168.	-240.	968.	0.90	5.75 OK
III	1	21.	167.	168.	-240.	968.	0.90	5.75 OK
III	2	21.	167.	168.	-240.	968.	0.90	5.75 OK
III	3	18.	157.	158.	-376.	824.	0.90	5.23 OK
IV	1	269.	564.	625.	-222.	989.	0.90	1.58 OK
IV	2	269.	564.	625.	-222.	989.	0.90	1.58 OK
IV	3	266.	554.	614.	-358.	846.	0.90	1.38 OK
V		259.	543.	601.	-213.	998.	0.90	1.66 OK
VI	1	259.	543.	601.	-213.	998.	0.90	1.66 OK
VI	2	259.	543.	601.	-213.	998.	0.90	1.66 OK
VI	3	256.	532.	591.	-344.	861.	0.90	1.46 OK
VII	1	22.	32.	39.	-246.	1368.	1.20	35.17 OK
VII	2	22.	32.	39.	-246.	1368.	1.20	35.17 OK

NOTE: FOR CALTRANS AND SPC-C AND SPC-D ONLY THE UNREDUCED SEISMIC MOMENTS ARE REDUCED BY THE Z OR R FACTOR. FOR SPC-B BOTH THE UNREDUCED SEISMIC AXIAL AND MOMENTS ARE REDUCED BY THE Z OR R FACTOR.

```
*************************************************
* MOMENT MAGNIFICATION AND BUCKLING CALCULATIONS *
*************************************************************************

REFERENCE: "CALTRANS BRIDGE DESIGN SPECIFICATIONS" (ART 8.16.5)
          (COLUMN ASSUMED TO BE UNBRACED AGAINST SIDESWAY.)

MAGY   = MOMENT MAGNIFACTION FACTOR ABOUT Y-AXIS
MAGX   = MOMENT MAGNIFACTION FACTOR ABOUT X-AXIS

PCY    = CRITICAL BUCKLING LOAD ABOUT Y-AXIS
PCX    = CRITICAL BUCKLING LOAD ABOUT X-AXIS

KY     = EFFECTIVE LENGTH FACTOR ABOUT Y-AXIS =  1.00
KX     = EFFECTIVE LENGTH FACTOR ABOUT X-AXIS =  1.00

KY*L/R = SLENDERNESS RATIO ABOUT Y-AXIS       = 25.
KX*L/R = SLENDERNESS RATIO ABOUT X-AXIS       = 25.

IYS    = STEEL MOMENT OF INERTIA ABOUT Y-AXIS =   0.0867 FT**4
IXS    = STEEL MOMENT OF INERTIA ABOUT X-AXIS =   0.0867 FT**4
```

GR	CA	MOMENT MAGNIFICATION TRAN MAGY	LONG MAGX	COMB MAG	CRACKED TRANSFORMED SECTION E*IY (KIP-FT**2)	E*IX (KIP-FT**2)	CRITICAL BUCKLING TRAN PCY (KIPS)	LONG PCX (KIPS)	AXIAL LOAD P (KIPS)
IH	1	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
IH	2	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
IH	3	1.000	1.000	1.000	1041749.	1645155.	21340.	33701.	-455.
IP	1	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
IP	2	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
IP	3	1.000	1.000	1.000	1041749.	1645155.	21340.	33701.	-361.
II		1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
III	1	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
III	2	1.000	1.000	1.000	1041749.	1754741.	21340.	35945.	-271.
III	3	1.000	1.000	1.000	1041749.	1645155.	21340.	33701.	-417.
IV	1	1.000	1.000	1.000	1929783.	1974063.	39531.	40438.	-253.
IV	2	1.000	1.000	1.000	1929783.	1974063.	39531.	40438.	-253.
IV	3	1.000	1.000	1.000	1881129.	1937585.	38534.	39691.	-399.
V		1.000	1.000	1.000	1929783.	1974063.	39531.	40438.	-244.
VI	1	1.000	1.000	1.000	1929783.	1974063.	39531.	40438.	-244.
VI	2	1.000	1.000	1.000	1929783.	1974063.	39531.	40438.	-244.
VI	3	1.000	1.000	1.000	1881129.	1937585.	38534.	39691.	-385.
VII	1	1.000	1.000	1.000	1041749.	1041749.	21340.	21340.	-287.
VII	2	1.000	1.000	1.000	1041749.	1041749.	21340.	21340.	-287.

COLUMN SERVICE LOADS (KIP, K-FT) AND MAXIMUM WORKING STRESSES (PSI)

YOUNG S MODULUS FOR CONCRETE - EC = 3604997. PSI
MODULAR RATIO (ES/EC) - N = 8.0

		:--- SERVICE LOADS (KIP, K-FT) ---:				:--- MAX STRESS (PSI) ---:		
GP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P	CONC COMP	STEEL TEN	STEEL COMP
IH	1	22.	120.	122.	-246.	300.	23748.	0.
IH	2	22.	120.	122.	-246.	300.	23748.	0.
IH	3	14.	120.	121.	-289.	153.	26500.	0.
II		18.	96.	98.	-197.	240.	18998.	0.
III	1	18.	96.	98.	-197.	240.	18998.	0.
III	2	18.	96.	98.	-197.	240.	18998.	0.
III	3	11.	96.	97.	-232.	122.	21200.	0.
IV	1	170.	341.	381.	-186.	1472.	35236.	2159.
IV	2	170.	341.	381.	-186.	1472.	35236.	2159.
IV	3	164.	341.	378.	-220.	1462.	37399.	1628.
V		152.	304.	340.	-166.	1314.	31461.	1928.
VI	1	152.	304.	340.	-166.	1314.	31461.	1928.
VI	2	152.	304.	340.	-166.	1314.	31461.	1928.
VI	3	146.	304.	337.	-197.	1305.	33392.	1453.
DL		22.	32.	39.	-246.	-957.	16734.	0.

****
* SERVICE LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	22.	120.	122.	-246.
IH	2	22.	120.	122.	-246.
IH	3	16.	120.	121.	-279.
II		18.	96.	98.	-197.
III	1	18.	96.	98.	-197.
III	2	18.	96.	98.	-197.
III	3	13.	96.	97.	-224.
IV	1	170.	341.	381.	-186.
IV	2	170.	341.	381.	-186.
IV	3	165.	341.	379.	-212.
V		152.	304.	340.	-166.
VI	1	152.	304.	340.	-166.
VI	2	152.	304.	340.	-166.
VI	3	147.	304.	338.	-190.

****
* FACTORED LOADS FOR FOOTING DESIGN (UNITS KIP, KIP-FT) *
****

GROUP	CASE	TRANS MY	LONG MX	COMB M	AXIAL P
IH	1	29.	157.	159.	-320.
IH	2	29.	157.	159.	-320.
IH	3	15.	157.	157.	-392.
IP	1	29.	157.	159.	-320.
IP	2	29.	157.	159.	-320.
IP	3	29.	157.	159.	-320.
II		29.	157.	159.	-320.
III	1	29.	157.	159.	-320.
III	2	29.	157.	159.	-320.
III	3	20.	157.	158.	-363.
IV	1	276.	554.	619.	-302.
IV	2	276.	554.	619.	-302.
IV	3	268.	554.	615.	-345.
V		266.	532.	595.	-290.
VI	1	266.	532.	595.	-290.
VI	2	266.	532.	595.	-290.
VI	3	258.	532.	592.	-332.

```
*****************************************************************
* PROBABLE PLASTIC MOMENT (1.3 X NOMINAL MOMENT) (KIP, KIP-FT) *
*****************************************************************
```

CODE (8.16.4.4) AND MEMO TO DESIGNERS 15-10

FC = 4.00 KSI FY = 60.00 KSI
EO = 0.0030 IN/IN AST = 18.72 SQ IN

ANGLE	TRANS MPY	LONG MPX	COMB MP	AXIAL P	P-BALANCE (APPROX)
90.0	2656.2	0.0	2656.2	3450.0	2012.
	2878.8	0.1	2878.8	2874.8	
	2979.0	0.1	2979.0	2299.9	
	2977.0	0.1	2977.0	1725.5	
	2766.3	0.0	2766.3	1150.5	
	2339.4	0.0	2339.4	575.4	
	1732.7	0.0	1732.7	0.4	
	1428.6	0.0	1428.6	-245.8	
	1376.8	0.0	1376.8	-287.2	
	957.3	0.0	957.3	-574.8	

DESIGN ASSUMPTIONS:

1. ALL COLUMNS ARE THE SAME I.E., PRISMATIC, EQUAL LENGTH, EQUAL SPACING.
2. PLASTIC HINGES FORM AT THE TOP AND BOTTOM OF THE COLUMNS.
3. THE DISTANCE BETWEEN THE PLASTIC HINGES IS TAKEN AS THE COLUMN LENGTH.
4. THE OVER-TURNING FORCE ACTS THROUGH THE C.G. OF THE SUPERSTRUCTURE AT A DISTANCE 'CGS' ABOVE THE TOP OF THE COLUMN.
5. THE COLUMNS ARE NUMBERED FROM LEFT TO RIGHT AND THE OVERTURNING FORCE ACTS TO THE RIGHT.

DETERMINATION OF COLUMN LATERAL REINFORCEMENT

NUMBER OF COLUMNS IN BENT		=	6	
OUT TO OUT DISTANCE (DIAMETER) OF LATERAL REINFORCEMENT		=	30.00	IN
DISTANCE FROM TOP COLUMN PLASTIC HINGE TO CENTER OF GRAVITY OF SUPERSTURCTURE		=	1.50	FT
CENTER TO CENTER SPACING OF COLUMNS		=	18.00	FT
COMPRESSIVE STRENGTH OF CONCRETE	- FC	=	4.00	KSI
YIELD STRENGTH OF REINFORCEMENT	- FY	=	60.00	KSI
CONCRETE GROSS AREA (2" COVER)	- AG	=	6.31	FT**2
CONCRETE CORE AREA	- AC	=	4.91	FT**2
TRANSVERSE DIRECTION	- BW	=	30.00	IN
TRANSVERSE DIRECTION	- D	=	24.00	IN
LONGITUDINAL DIRECTION	- BW	=	30.00	IN
LONGITUDINAL DIRECTION	- D	=	24.00	IN

AMOUNT OF REINFORCEMENT CONFORMS TO THE FOLLOWING BRIDGE DESIGN SPECIFICATIONS:

CASE A - CONFINEMENT REINFORCEMENT - (CODE 8.18.2.2)

```
PS1 = .45 (AG/AC - 1) FC/FY (.5 + 1.25 P/(FC * AG))
PS2 =             .12 FC/FY (.5 + 1.25 P/(FC * AG))
PS3 = .45 (AG/AC - 1) FC/FY
```

CASE B - APPLIED SHEAR REINFORCEMENT - (CODE 8.16.6)

```
VU <= PHI * VN                (8-46)
VN  = VC + VS                 (8-47)
VC  = 2 * SQRT(FC) * BW * D   (8-51)
VS  = (AV * FY * D) / S       (8-53)
```

CASE C - MINIMUM SHEAR REINFORCEMENT - (CODE 8.19.1.1)

```
AV = (50 * BW * S)/FY         (8-63)
```

```
************************
* TRANSVERSE DIRECTION *
****************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	-353. KIPS
	PLASTIC MOMENT	MP =	1293. K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-321. KIPS
	PLASTIC MOMENT	MP =	1334. K-FT

DESIGN SHEAR FORCE:	VU =	120. KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0. KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	120. KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	4.091	16.000	0.00853	3
5	4.732	6.342	24.800	0.00853	3
6	6.673	9.001	35.200	0.00853	3
7	9.063	12.274	48.000	0.00853	3
8	11.879	16.161	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
*************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 2

TOP OF COLUMN	AXIAL FORCE	P =	-323.	KIPS
	PLASTIC MOMENT	MP =	1332.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-291.	KIPS
	PLASTIC MOMENT	MP =	1372.	K-FT

DESIGN SHEAR FORCE:	VU =	123.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	123.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	3.975	16.000	0.00853	3
5	4.732	6.162	24.800	0.00853	3
6	6.673	8.746	35.200	0.00853	3
7	9.063	11.926	48.000	0.00853	3
8	11.879	15.702	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
*************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 3

TOP OF COLUMN	AXIAL FORCE	P =	-293.	KIPS
	PLASTIC MOMENT	MP =	1370.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-261.	KIPS
	PLASTIC MOMENT	MP =	1409.	K-FT

DESIGN SHEAR FORCE:	VU =	127.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	127.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	CONFINEMENT EQUATION
4	3.067	3.867	16.000	0.00853	3
5	4.732	5.994	24.800	0.00853	3
6	6.673	8.507	35.200	0.00853	3
7	9.063	11.600	48.000	0.00853	3
8	11.879	15.274	63.200	0.00853	3

****
* TRANSVERSE DIRECTION *
****

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 4

TOP OF COLUMN	AXIAL FORCE	P =	-263.	KIPS
	PLASTIC MOMENT	MP =	1408.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-231.	KIPS
	PLASTIC MOMENT	MP =	1447.	K-FT

DESIGN SHEAR FORCE:	VU =	130.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	130.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	3.765	16.000	0.00853	3
5	4.732	5.835	24.800	0.00853	3
6	6.673	8.282	35.200	0.00853	3
7	9.063	11.294	48.000	0.00853	3
8	11.879	14.871	63.200	0.00853	3

```
************************
* TRANSVERSE DIRECTION *
************************************************************************
```

LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 5

TOP OF COLUMN	AXIAL FORCE	P =	-233.	KIPS
	PLASTIC MOMENT	MP =	1445.	K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-201.	KIPS
	PLASTIC MOMENT	MP =	1484.	K-FT

DESIGN SHEAR FORCE:	VU =	133.	KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0.	KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	133.	KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	3.668	16.000	0.00853	3
5	4.732	5.686	24.800	0.00853	3
6	6.673	8.070	35.200	0.00853	3
7	9.063	11.005	48.000	0.00853	3
8	11.879	14.490	63.200	0.00853	3

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* TRANSVERSE DIRECTION *
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LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 6

TOP OF COLUMN	AXIAL FORCE	P =	-202. KIPS
	PLASTIC MOMENT	MP =	1483. K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-171. KIPS
	PLASTIC MOMENT	MP =	1523. K-FT

DESIGN SHEAR FORCE:	VU =	137. KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0. KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	137. KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	3.576	16.000	0.00853	3
5	4.732	5.543	24.800	0.00853	3
6	6.673	7.867	35.200	0.00853	3
7	9.063	10.728	48.000	0.00853	3
8	11.879	14.125	63.200	0.00853	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (22. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (1523. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	1.0" AGG MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	8.000	139.	2.000	322.
5	8.000	172.	2.125	387.
6	8.000	212.	2.250	387.
7	8.000	261.	2.375	387.
8	8.000	319.	2.500	387.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 77. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 283. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 77. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 387. KIPS

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*************************
* LONGITUDINAL DIRECTION *
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LOADS RESULTING FROM PLASTIC HINGING OF COLUMN NO. 1

TOP OF COLUMN	AXIAL FORCE	P =	-278. KIPS
	PLASTIC MOMENT	MP =	1389. K-FT
BOTTOM OF COLUMN	AXIAL FORCE	P =	-246. KIPS
	PLASTIC MOMENT	MP =	1428. K-FT

DESIGN SHEAR FORCE:	VU =	128. KIPS
CONCRETE FACTORED SHEAR STRENGTH:	.85 * VC =	0. KIPS
STEEL FACTORED SHEAR STRENGTH:	.85 * VS =	128. KIPS

NOTE: THE AVERAGE COMPRESSIVE STRESS (P/AC) IS LESS THAN .10 * FC.
THEREFORE, VC IS LESS THAN 2 * SQRT(FC) * B * D (CODE 8.16.6.11.4(A))

MAXIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT. (IN)

BAR SIZE	CASE A CONFINEMENT	CASE B APP SHEAR	CASE C MIN SHEAR	CONFINEMENT RATIO	EQUATION
4	3.067	3.815	16.000	0.00853	3
5	4.732	5.913	24.800	0.00853	3
6	6.673	8.393	35.200	0.00853	3
7	9.063	11.445	48.000	0.00853	3
8	11.879	15.069	63.200	0.00853	3

NOTE:

THE UNREDUCED ELASTIC ARS + DEAD LOAD MOMENT (32. K-FT)
IS LESS THAN THE PROBABLE PLASTIC MOMENT (1428. K-FT)
THEREFORE, PLASTIC HINGING DOES NOT CONTROL.
(CODE 8.16.6.11.1)

THE DESIGNER MUST CHECK THE SHEAR REINFORCEMENT (CASE B)
FOR GROUP LOADS I TO VII
(USE UNREDUCED ELASTIC ARS + DEAD LOAD SHEAR FOR GROUP VII)

THE MAXIMUM SPACING OF LATERAL REINFORCEMENT SHALL NOT EXCEED ONE-FIFTH OF THE LEAST DIMENSION OF THE COLUMN, 6 TIMES THE NOMINAL DIAMETER OF THE LONGITUDINAL REINFORCEMENT, OR 8 INCHES. (8.21.1.1)

THE MINIMUM SPACING SHALL NOT BE LESS THAN 1.5 BAR DIAMETERS, 1.5 TIMES THE MAXIMUM SIZE COARSE AGGREGATE, OR 1.5 INCHES. (8.21.1)

FACTORED SHEAR STRENGTH .85 * (VS + VC) BASED ON MAXIMUM AND MINIMUM CENTER TO CENTER SPACING (PITCH) OF LATERAL REINFORCEMENT:

BAR SIZE	MAX PITCH (IN)	SHEAR STRENGTH (KIPS)	1.0" AGG MIN PITCH (IN)	SHEAR STRENGTH (KIPS)
4	8.000	139.	2.000	322.
5	8.000	172.	2.125	387.
6	8.000	212.	2.250	387.
7	8.000	261.	2.375	387.
8	8.000	319.	2.500	387.

NOTE:

THE ABOVE FACTORED SHEAR STRENGTH VALUES ARE BASED ON A FACTORED CONCRETE SHEAR STRENGTH (.85 * VC) OF 77. KIPS.

IF THE APPLIED AXIAL LOAD IS LESS THAN 283. KIPS, THEN THE FACTORED CONCRETE SHEAR STRENGTH DECREASES FROM 77. KIPS TO 0. KIPS AND THE VALUES IN THE ABOVE TABLE MUST BE APPROPRIATELY ADJUSTED.

IF THE DESIGNER SELECTS A LATERAL BAR SIZE DIFFERENT THAN THE ONE ASSUMED, HE SHOULD CONSIDER ADJUSTING THE RADIUS OF THE MAIN STEEL BAR LOOP AND RE-RUN THE PROBLEM.

MAXIMUM SHEAR CAPACITY OF THE SECTION:
VMAX = .85 * 10 * SQRT(FC) * B * D = 387. KIPS

WINGWAN
DESIGN

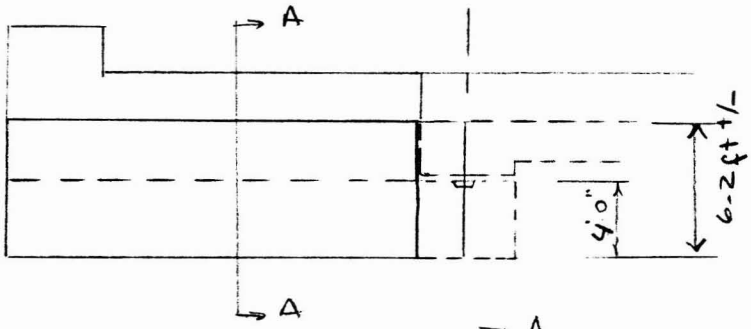
DMJM HARRIS	PROJECT: B HOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 1 of 6
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: WINGWALL DESIGN		CHECKED BY KMS	DATE 8/02

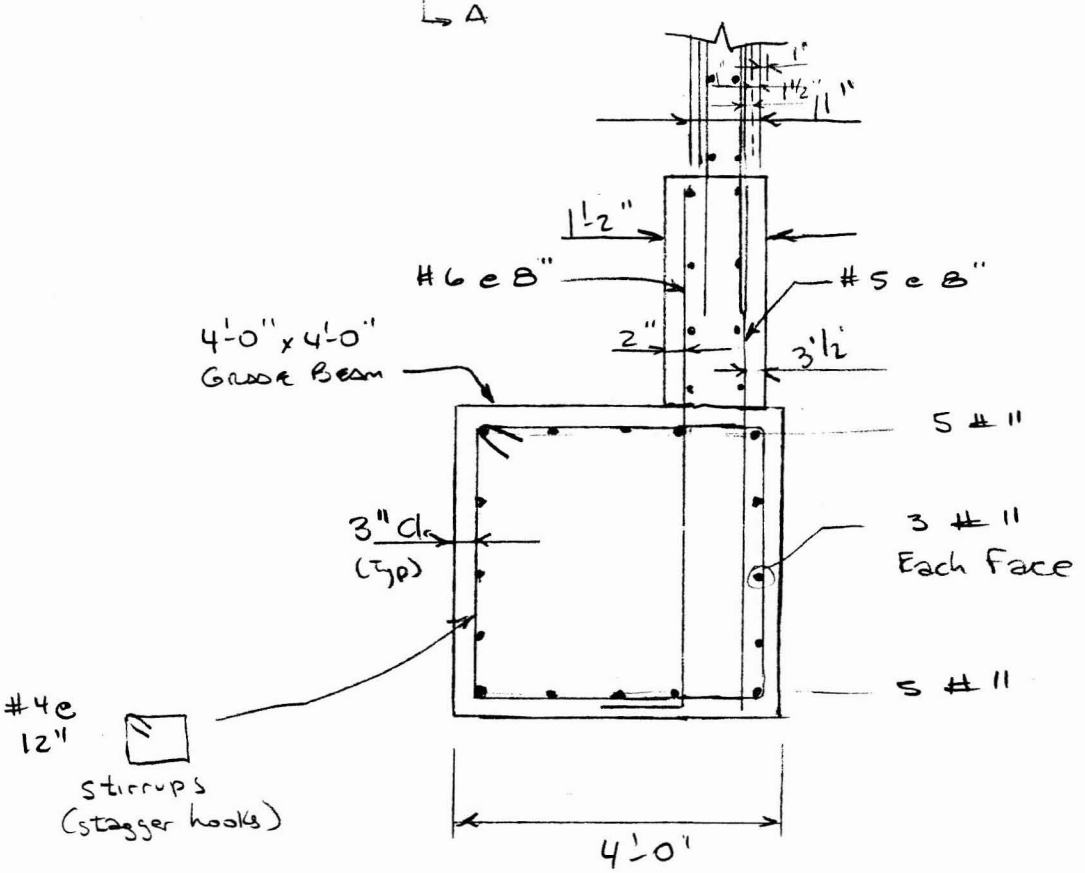
ANALYSIS

ASD , $f'_c = 4000$ psi , $f_c = 1600$ psi , $n = 8$

$f_s = 24000$ psi $E = 3,604,997$ psi

DESIGN LENGTH = 14'-0" - (2'-3") = 11.75 ft

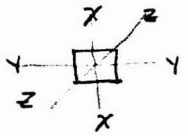




DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 2 of 6
		DESIGNED BY SEO	DATE 4/4/02
SUBJECT: WINGWALL DESIGN		CHECKED BY KMS	DATE 8/02

WINGWALL IS ASSUMED CANTILEVERED FROM ABUT CAP

DEAD LOAD



$P_{DL\ GRADE\ BEAM} = (11.75\ ft)(4'-0")(4'-0")(0.15\ KCF) =$ 28.2 K

$P_{DL\ WALL} = (1'-2")(2.2\ ft)(11.75\ ft)(0.15\ KCF) =$ 4.6 K

$P_{DL\ PARAPET/DADO + RAILING} = (2'-8\tfrac{3}{8}")(10\tfrac{3}{4}")(11.75\ ft)(0.15\ KCF)$
$+ (4'-2\tfrac{3}{8}" - 2'-8\tfrac{3}{8}")(5'-0")(10\tfrac{3}{4}")(0.15\ KCF)$
$+ (0.1K/ft)(11.75' - 5'-0") =$ 6.0 K

$P_{FILL + APP\ SLAB + SWK} = (1'-0" + 0'-8\tfrac{3}{8}")(2'-7")(11.75\ ft)(0.15\ KCF)$
$+ (2.2\ ft - 1.0\ ft)(2'-7")(11.75\ ft)(0.125\ KCF)$ 12.3 K

51.1 K ↓ z

$M_Y = (51.1\ K)(11.75\ ft)(0.5) =$ 300.2 K-ft ↻ Y

M_Z (TORQUE) = INCLUDES EFFECTS FROM CONSTRUCTION OF WALL PRIOR TO BACKFILL. SAY SYSTEM IS BALANCED AFTER BACKFILL)

$= (2.2\ ft)(1'-2")(11.75\ ft)(0.15\ KCF)(1'-2") =$ 5.3 K-ft ↻ Z

EARTH PRESSURE AND LL (2' OF SURCHARGE)

LOAD ON GRADE BEAM:

$V_Y = (1/2)(35\ pcf)(5.2\ ft)^2 + [(35\ pcf)(2.0\ ft) + (1'-8\tfrac{3}{8}")(150\ pcf)(0.28)](5.2\ ft)$
$= (1.2\ K/ft)(11.75\ ft) = 14.1\ K \longrightarrow$

$M_X = (14.1\ K)(11.75\ ft)(0.5) = 82.9\ K\text{-}ft$ ↻ X

LOAD ON WALL:

$V_Y = (1/2)(35\ pcf)(1.2\ ft)^2 + [(35\ pcf)(2.0\ ft) + (1'-8\tfrac{3}{8}")(150\ pcf)(0.28)](1.2\ ft)$
$= 0.20\ K/ft.$

$M_Z = (0.20\ K/ft)(1/2)(1.2\ ft) = 0.12\ K\text{-}ft/ft.$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6883	SHEET 3 of 6
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: WINGWALL DESIGN		CHECKED BY KMS	DATE 8/02

LIVE LOAD - IMPACT ON RAILING

LOAD ON GRADE BEAM

$V_Y = 10.0\ K$

$M_{RAILING\ X} = (10.0\ K)(11.75\ ft) = 177.5\ K\text{-}ft$

$M_{RAILING\ Z} = (10.0\ K)(2.0\ ft + 2.2\ ft + 8^3/8'' + 2'\text{-}3''\ Min) = 71.5\ K\text{-}ft$ (TORSION)

GRADE BEAM DESIGN

LOAD CASE No 1: DL + EARTH PRESSURE + LL

$V_X = 51.1\ K$, $V_Y = 14.1\ K$

$M_Y = 300.2\ K\text{-}ft$, $M_Z = 82.9\ K\text{-}ft$

LOAD CASE No 2: DL + EARTH PRESSURE + IMPACT ON RAILING

$V_X = 51.1\ K$, $V_Y = 14.1K - 4.3\ K + 10.0\ K = 19.8K$

$M_Y = 300.2\ K\text{-}ft$, $M_Z = 76.8\ K\text{-}ft$ (TORSION)

$M_X = (14.1K - 4.3K)(11.75\ ft)(0.5) + 177.5\ K\text{-}ft = 235.1\ K\text{-}ft$

LOAD CASE No 2 CONTROLS

CONTINUES →

DMJM HARRIS	PROJECT: B Hoc 9157 Ave Bridge	JOB NO. 6888	SHEET 4 of 6
		DESIGNED BY SEO	DATE 4/1/02
SUBJECT: Wingwall Design		CHECKED BY KMS	DATE 8/02

TORSION

$T_{calc} = M_z = 76.8$ K-ft

$$T_{calc} < (1.0)(f'_c)^{1/2}\left(\frac{A_{cp}^2}{P_{cp}}\right)(0.55)$$

where $A_{cp} = (4'\text{-}0")(4'\text{-}0")(144\ in^2/ft) = 2304\ in^2$

$P_{cp} = (4'\text{-}0")(12"/ft)(4) = 192$ in

$$T_{calc} < (1.0)(4000)^{1/2}\left(\frac{(2304)^2}{192}\right)(0.55)$$

$T_{calc} < 80.15$ K-ft ∴ IGNORE TORSIONAL EFFECTS

BENDING, M_y

$d = 48" - 3" - 1/2" - (1/2)(1.0") = 44.0"$, $M_y = 300.2$ K-ft

$A_{s\ required} = 3.6\ in^2$: $f_s = 23{,}957$ psi , $f_c = 537$ psi

$A_{s\ provided} = 7.8\ in^2$ (5 #11)

DEVELOP BARS w/ 2'-0" HOOK

BENDING, M_x

$d = 48" - 3" - 1/2" - (1/2)(1.41") = 43.80"$, $M_x = 235.1$ K-ft

$A_{s\ required} = 2.9\ in^2$: $f_s = 23{,}281$ psi , $f_c = 466$ psi

$A_{s\ provided} = 4.68\ in^2$ (3 #11)

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 5 of 6
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: WINGWALL DESIGN		CHECKED BY KMS	DATE 8/02

SHEAR

$d = 43\text{-}8''$

$$v = \frac{(51.1K)(1000)}{(48'')(43.8'')} = 24.3\,psi$$

$(1/2)(V_c) = 30.04\,psi > 24.3\,psi$. MIN SHEAR REINF IS NOT REQUIRED

PROVIDE #5 @ 12" ☐

CHECK 1.2 M_{cr} (M_x)

$$(1.2)(M_{cr}) = (1.2)(7.5)(4000)^{1/2}\frac{(48'')(48'')^3}{(2)(1/2)(48'')}(1/12000) = 874.3\,K\text{-}ft$$

$\phi M_n > 1.2\,M_{cr}$.

$$\phi M_n = (0.9)\left[(A_s)(f_y)(d)\left(1 - (0.6)(\rho)\frac{(f_y)}{f_c'}\right)\right]$$

$$\rho = \frac{4.68\,in^2}{(48'')(43.8'')} = 0.00222$$

$$\phi M_n = (0.9)\left[(4.68)(60000)(43.80')\left(1 - (0.6)(0.00222)\left(\frac{60000}{4000}\right)\right)\right]$$

$= 904\,K\text{-}ft > 874.3\,K\text{-}ft$ OK.

DMJM HARRIS	PROJECT: B Hoc 91ST AVE BRIDGE	JOB NO. 6888	SHEET 6 of 6
		DESIGNED BY SEO	DATE JUL 02
SUBJECT: WINGWALL DESIGN		CHECKED BY KMS	DATE 8/02

WALL DESIGN

LOAD CASE No. 1: EARTH PRESSURE + LL

$V_y = 0.20\ K/ft$

$M_z = 0.12\ K\text{-}ft/ft$

LOAD CASE No. 2: EARTH PRESSURE + IMPACT ON RAILING

$V_y = 0.20\ K - 0.084\ K + (10.0\ K)\left(\frac{1}{2.2ft + 0'\text{-}8\tfrac{7}{8}'' + 2'\text{-}0''}\right) = 2.16\ K$

$M = (0.20K - 0.084K)(1.2\ ft)(0.5) + (2.16\ K)(2.2' + 0'\text{-}8\tfrac{7}{8}'' + 2'\text{-}0'') = 10.65\ K\text{-}ft$

SHEAR:

$v = \frac{(2.16K)(1000)}{(12'')(11.62'')} = 15.49\ psi < 30.04\ psi$ OK

$d = 14'' - 2'' - (1/2)(0.75'') = 11.62''$

MOMENT, M_z

$d = 11.62''$, $M_z = 10.65\ K\text{-}ft$

$A_{s\ required} = 0.501\ in^2/ft$: $f_s = 23{,}674\ psi$, $f_c = 799\ psi$

$A_{s\ provided} = 0.66\ in^2/ft$ (#6 @ 8" TO MATCH SPACING FROM PARAPET)

EXTEND BAR TO BOTTOM OF CAP AND PROVIDE A HOOK x 1'-6".

CHECK 1.2 M_{cr}:

$(1.2)(M_{cr}) = (1.2)(7.5)(4000\ psi)^{1/2}\frac{(12'')(14'')^3}{(12)(1/2)(14'')}(1/12000) = 18.60\ K\text{-}ft$

$\phi M_n > 1.2\ M_{cr}$

$\phi M_n = (0.9)\left[(0.66)(60{,}000)(11.62'')\left(1 - (0.6)(0.0047)\frac{(60.0)}{4.0}\right)\right]$

$= 33.04\ K\text{-}ft > 1.2\ M_{cr}$ OK

ABUTMENT
CONNECTION

DMJM HARRIS	PROJECT: BHOC 91st Ave Bridge	JOB NO. 6888	SHEET 1 of 2
		DESIGNED BY SEO	DATE JUN 02
SUBJECT: Abutment Connection Design		CHECKED BY KMS	DATE 8/02

Approach Slab to Abutment:

The movements of the superstructure due to thermal effects will tend to drag or push the approach slab. The connection needs to be designed to withstand frictional forces between approach slab and subgrade.

ADOT STD DWG B-18.10: ϕ for existing ground = 30.96°

$$\mu_{cs} = (2/3)\tan(30.96°) = 0.40$$

$$V = (0.40)(15'\text{-}0")(1'\text{-}0")(150\#/cf) = 900 \text{ lb/ft-width}$$

Shear Friction:

$$A_{vf} = \frac{V}{(f_s)(\mu)} = \frac{900 \text{ lb}}{(24{,}000 \text{ psi})(0.40)(0.6)} = 0.060 \text{ in}^2/\text{ft}$$

Use #5 @ 12" c/c, $A_s = 0.31 \text{ in}^2/\text{ft}$ (std. connection)

$$l_d = (0.04)(A_b)(f_y)/(f'_c)^{1/2} = 7.6"$$

or

$$l_d > (0.0004)(d_b)(f_y) = 12" \text{ (controls)}$$

or

$$(12")\left(\frac{A_s \text{ required}}{A_s \text{ provided}}\right) = 12"\left(\frac{0.06 \text{ in}^2}{0.31 \text{ in}^2}\right) = 2.3"$$

Use #5 @ 12" w/ 9" extension.

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 2 of 2
		DESIGNED BY SGO	DATE JUN 02
SUBJECT: ABUTMENT CONNECTION DESIGN		CHECKED BY KMS	DATE 8/02

SUPERSTRUCTURE TO SUBSTRUCTURE CONNECTION

SEE DECK DESIGN : DECK REINFORCING FOR RISKT EFFECTS.

AREA OF STL REQUIRED FOR SHEAR FRICTION CONNECTING SUPERSTRUCTURE TO SUBSTRUCTURE:

$V_{RST} = 1760\# + 900\# = 2660\#/ft$ (CONTROLS)

OR

$V_{eq} = (0.2)(458.1^k + 280.5^k)(1/106.4\,ft) = 1388\#/ft$

$$A_{vf} = \frac{2660\#/ft}{(24000\,psi)(0.6)} = 0.19\,in^2/ft$$

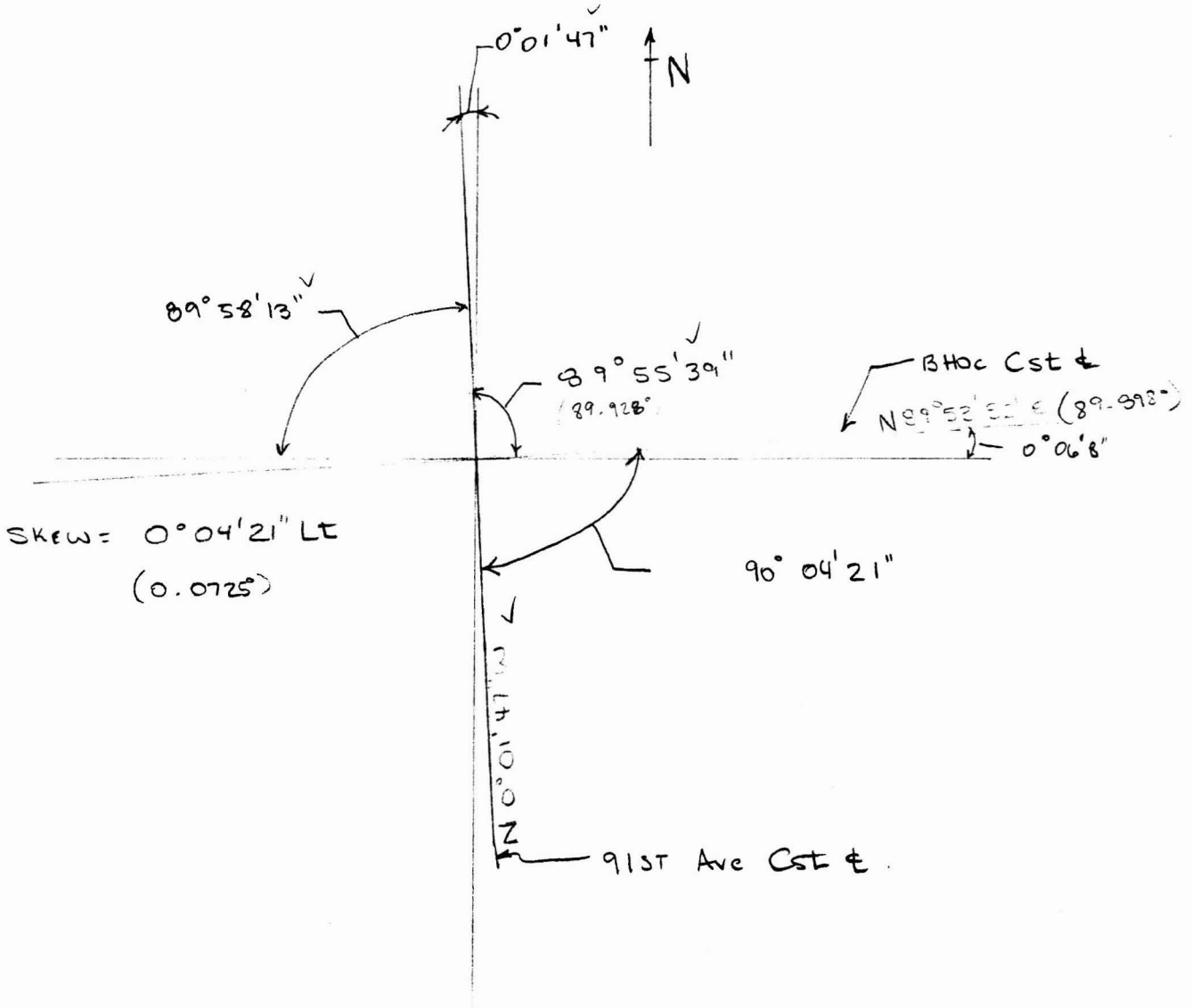
HOWEVER, USE #7 @ 6" AND PROVIDE 2" x 1'-0" KEYWAY.

$l_{dH7} = (23")(0.8) = 19"$ EMBEDMENT (MIN).

2" x 1'-0" SHEAR KEY MEETS SHEAR AND BEARING REQUIREMENTS BY INSPECTION.

GEOMETRY

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 1 of 5
		DESIGNED BY SEO	DATE MAR 02
SUBJECT: BRIDGE GEOMETRY		CHECKED BY KMS	DATE 8/02



DMJM HARRIS	PROJECT: BHOC 91ST AVE	JOB NO. 6888	SHEET 2 of 5
		DESIGNED BY SEO	DATE MARO2
SUBJECT: MIN. VERTICAL CLEARANCE & FREEBOARD		CHECKED BY KMS	DATE 8/02

POINT OF MIN. VERTICAL CLEARANCE IS LOCATED AT INTERSECTION OF:

BHOC sta: 55 + 87.83 Elev 1054.43

91ST Ave Sta: 11 + 88.50 Elev 1067.24

THE MIN. CLEARANCE IS LOCATED AT AN OFFSET OF 53.23 ft FROM THE 91ST Ave Cst ℄, AND AN OFFSET OF 13.50 ft from BHOC

$$\left[1067.24 - (53.23)(0.015) - (1'\text{-}10'')\right] - \left[1054.43 + (13.50)(0.01)\right] = 10.04\text{ ft}$$

$> 10.0'$ OK

FREEBOARD CALCULATION

BHOC sta: 55 + 87.83 W.S.E = 1062.11 +/-

91ST Ave Sta: 12+39.00 Elev = 1066.96

$$1066.96 - (53.23'')(0.015) - (1'\text{-}10'') - 1062.11 = 2.22\text{ ft} > 2.0 \text{ OK}$$

DMJM HARRIS	PROJECT: BHOC 91ST AVE BRIDGE	JOB NO. 6888	SHEET 3 of 5
		DESIGNED BY SEO	DATE MAR 03
SUBJECT: GEOMETRY		CHECKED BY KMS	DATE 8/02

ABUTMENT LENGTH:

SKEW = 89° 55' 39" = (89.93°)

BRIDGE WIDTH = 106.46 ft

ABUTMENT LENGTH ON SKEW = 106.46(1/cos 0.07°) = 106.46

SKEW DOES NOT MEASURABLY CHANGE THE LENGTH OF THE ABUTMENT.

DECK THICKNESS AT EDGE OF DECK AT ABUTMENT:

ASSUME MIN. BUILD UP OF 2" INCLUDING THE 1/2" POLYSTYRENE + HARDBOARD

DECK THICKNESS = 1'-10"

MISC. ALLOWANCE = 3/8"

TOTAL DEPTH = 2'-0 3/8" = 2.03 ft

DECK THICKNESS AT ℄ BRG AT ABUTMENT

ADD (1 1/2%)(106.46 ft)(1/2) = 0.80 ft

TOTAL DEPTH = 2.83 ft = 2'-10"

DMJM HARRIS	PROJECT: BHO C 91ST AVE BRIDGE	JOB NO. 6888	SHEET 4 of 5
		DESIGNED BY SEO	DATE MAR 02
SUBJECT: GEOMETRY		CHECKED BY KMS	DATE 8/02

END OF WINGWALL ELEVATION

EAST SIDE, ABUTMENT 1:

Sta (11+09.48) − (13'-6") + 0.07 = 10+96.05

Elev = 1067.75 − (1/2)(106.46)(0.015) = 1066.95

WEST SIDE, ABUTMENT 1:

Sta (11+09.48) − (14'-0") − 0.07 = 10+95.41

Elev = 1067.76 − (1/2)(106.46)(0.015) = 1066.96

DMJM HARRIS	PROJECT: B Hoc 91ST AVE BRIDGE	JOB NO. 6888	SHEET 5 of 5
		DESIGNED BY SEO	DATE MAR 02
SUBJECT: GEOMETRY		CHECKED BY KMS	DATE 8/02

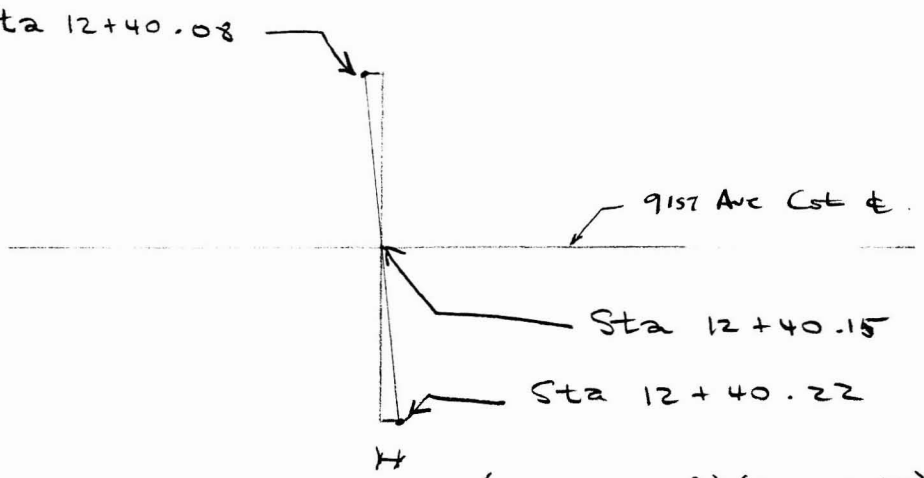
END OF DADO STATIONS:

DISTANCE FROM PIER 2 TO END OF DADO ALONG 91ST AVE CST ℄ = 42
(44'-0" - (2'-3") + 0'-11") = 42'-8"

STATION OF END OF DADO ALONG 91ST CST ℄ = 12+40.15

SKEW = 0° 04' 21" LT = 0.0725°

DISTANCE TO FRONT FACE OF DADO = 52' 2 3/4" = 52.23 ft



$x = (\sin 0.0725°)(52.23\,ft) = 0.066\,ft$

QUANTITIES

General Unit Definitions

$kips := 1000lbf$ $\quad pcf := \frac{lbf}{ft^3}$ $\quad CY := 27ft^3$ $\quad lf := ft$

$kcf := 1000pcf$ $\quad ksi := 1000psi$ $\quad sqft := ft^2$ $\quad sqyd := 9ft^2$

$wconc := 150pcf$ weight of concrete

Structural Quantities (f'c = 4000 psi) - CLASS AA

For BHOC, all 4000 psi shall include:

- Columns
- Abutment caps
- Pier caps
- Wingwalls
- Superstructure deck
- Concrete parapets
- Sidewalks

It does NOT include approach slabs nor retaining walls which shall be quantitied as class A concrete.

Superstructure Deck

$Length := 3 \cdot 44ft - 2 \cdot 2.25ft$ $\quad Length = 127.5\,ft$ — Length of deck based on CL abut to CL abut with the abutment caps at the end taken out.

$Deckarea := 195.18ft^2$ — 1'-10" deck cross-sectional area

$lighting := 4 \cdot (2.7ft) \cdot (1ft) \cdot \left[2ft + \frac{1}{2}(1ft + 1ft)\right]$ — Lighting support blisters (4 total)

$Superdeck := Length \cdot Deckarea + lighting$ $\quad Superdeck = 922.9\,CY$

Columns

$ncolumns := 6$ — Number of columns

$npier := 2$ — Number of piers

$$Colvol := npier\left[ncolumns \cdot \frac{\pi \cdot (2 \cdot ft)^2}{4}\right] \cdot \left(\left(\frac{1067.43ft + 1067.19ft}{2} - 2.83 \cdot ft - 1052.75ft\right)\right)$$

Average PGL used, 2'-10" pier cap thickness, top of shaft elevation = bottom of column elevation

$Colvol = 16.4\,CY$ ✓

Checked by: CAL
Date: 8/8/02

Sidewalk

$nsdwlk := 2$ Number of swlks

$sdwlkarea := 4.27ft^2$ Cross-sectional area of swlk

$sdwlklength := 164.5ft$

$vol32 := nsdwlk \cdot sdwlkarea \cdot sdwlklength$ $vol32 = 52\,CY$

Pedestrian Parapet/Dado

$nped := 1$

$pedarea := 2.7ft \cdot 0.896ft$

$pedlength := (132.0 \cdot ft + 14 \cdot ft - 2.25 \cdot ft + 0.916 \cdot ft - 10 \cdot ft) \cdot 2$

$dado := 4 \cdot 0.7 \cdot CY$

$volped := nped \cdot pedarea \cdot pedlength + dado$ $volped = 26.9\,CY$

Pier Cap

$pierdeckvol := 2 \cdot 5ft \cdot \left(106.46ft^2\right)$ Volume of deck below superstructure at piers (2 total)

$piervol := pierdeckvol$ $piervol = 39.4\,CY$

"Super Cap" on top of Abutment Cap

$$Supercap := 2 \cdot \left[\left[\frac{2.79ft + (1.99ft)}{2}\right] \cdot (106.45ft) \cdot 4.5ft - 1ft \cdot (1ft + 0.5in) \cdot 106.45ft\right]$$

Notch in abutment cap where approach slab meets is taken out.

$Supercap = 76.6\,CY$

Abutment Cap on top of drilled shafts

$Abutcap := 2 \cdot (106.45ft) \cdot 4ft \cdot 4.5ft$ $Abutcap = 141.9\,CY$

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Date: 8/8/02

Wingwalls (Retaining walls are 3000 psi only!)

$wingabutonewestvol := 0CY$

$wingabutoneeastvol := 0CY$

$wingabuttwowestlength := 14ft - (2ft + 3in)$

$wingabuttwoeastlength := 14ft - (2ft + 3in)$

$wingabuttwowestvol := wingabuttwowestlength \cdot 18.32 \cdot ft^2$

$wingabuttwowestvol = 8\ CY$

$wingabuttwoeastvol := wingabuttwowestlength \cdot 18.32 \cdot ft^2$

$wingabuttwoeastvol = 8\ CY$

$wingvol := wingabutonewestvol + wingabutoneeastvol + wingabuttwowestvol + wingabuttwoeastvol$

$wingvol = 15.9\ CY$

Class AA TOTAL

$classAA := Superdeck + Colvol + vol32 + volped + piervol + Supercap + Abutcap + wingvol$

$\boxed{classAA = 1292.1\ CY}$

Structural Quantities (f'c = 3000 psi) - CLASS A

Approach Slab

$apprslab := [\,106.46 \cdot ft \cdot 15 \cdot ft + (106.46 \cdot ft - 2 \cdot 1.17 \cdot ft) \cdot 15 \cdot ft\,] \cdot 1 \cdot ft$ $\boxed{apprslab = 117\ CY}$

Checked by: CAL
Date: 8/8/02

Retaining walls

Length of radial retaining walls at abutment two were measured in Microstation on outside face (conservative).

$wingabutonewestlength := 0 \cdot ft$

$wingabutoneeastlength := 0 ft$

$wingabut2westretwall := 32.5 \cdot ft + 1 \cdot 3 \cdot ft$

$wingabut2eastretwall := 32.5 ft + 1 \cdot 3 \cdot ft$

$wingabutonewestarea := 0 \cdot sqft$ cross-sectional area of retaining wall

$wingabutoneeastarea := wingabutonewestarea$

$wingabuttwowestarea := 10.75 \cdot in \cdot 7.17 \cdot ft + (4 \cdot ft + 6 \cdot in) \cdot 1 \cdot ft + (1 \cdot ft + 3 \cdot in) \cdot (1 \cdot ft + 6 \cdot in)$

cross-sectional area of retaining wall only

$wingabuttwoeastarea := wingabuttwowestarea$

$wingabutonewestvol := wingabutonewestarea \cdot wingabutonewestlength$ $wingabutonewestvol = 0\ CY$

$wingabutoneeastvol := wingabutoneeastarea \cdot wingabutoneeastlength$ $wingabutoneeastvol = 0\ CY$

$wingabuttwowestvol := wingabut2westretwall \cdot wingabuttwowestarea$

$wingabuttwowestvol = 16.8\ CY$

$wingabuttwoeastvol := wingabut2eastretwall \cdot wingabuttwoeastarea$

$wingabuttwoeastvol = 16.8\ CY$

$retwallabut1 := wingabutonewestvol + wingabutoneeastvol$ $retwallabut1 = 0\ CY$

$retwallabut2 := wingabuttwowestvol + wingabuttwoeastvol$ $retwallabut2 = 33.7\ CY$

$retwallvol := retwallabut1 + retwallabut2$

$retwallvol = 33.7\ CY$

Checked by: CAL
Date: 8/8/02

Drilled Shafts

Abutment Drilled Shafts - 42" ϕ

$Abut1shaft := 6 \cdot (1061.09ft - 1021.09ft)$ $\quad Abut1shaft = 240\,lf$

$Abut2shaft := 6 \cdot (1060.37ft - 1025.37ft)$ $\quad Abut2shaft = 210\,lf$

Pier Drilled Shafts - 42" ϕ

$Pier1shaft := 6 \cdot (1053ft - 1013ft)$ $\quad Pier1shaft = 240\,ft$

$Pier2shaft := 6 \cdot (1052.50ft - 1012.5ft)$ $\quad Pier2shaft = 240\,ft$

$Total42abut := Abut1shaft + Abut2shaft$ $\quad Total42abut = 450\,ft$

$Total42pier := Pier1shaft + Pier2shaft$ $\quad Total42pier = 480\,ft$

Reinforcing Steel - by location

Calculated Separately

Total Reinforcing = ~~291,779 lb~~

287,[illegible]

[illegible]

Railing

$Railing := 1 \cdot pedlength$ $\quad Railing = 269.3\,ft$

Excavation - Abutment 1

Excavation to include abutment cap, and wingwalls)

Abutments

$abut1excv := (106.45 \cdot ft) \cdot (2.5ft) \cdot (7.5ft)$

From berm to bottom of abutment, approximately 2'-6" to 7-6" wide per standard ADOT (4'-6" plus 1'-6" plus 1'-6")

$abut1excv = 73.9\,CY$

Wingwalls

$wing1excv := 2 \cdot (1066.88ft - 1060.84ft) \cdot [14ft + 1.5 \cdot ft - (2ft + 3in)] \cdot 7ft$

1.5' + 1.5' + 4' wide

$wing1excv = 41.5\,CY$

Checked by: CAL
Date: 6/8/02

(6) 05 19

Retaining walls

$ret1excv := 0 \cdot CY$

Total length included - assume full height of wall for excavation

$ret1excv = 0\,CY$

$Total1EXCV := abut1excv + wing1excv + ret1excv$

$\boxed{Total1EXCV = 115.4\,CY}$

Excavation - Abutment 2

Excavation to include abutment cap, and retaining walls.

Abutments

$abut2excv := (106.46ft) \cdot (2.5ft) \cdot (7.5ft)$

From berm to bottom of abutment, approximately 2'-6" to 7'-0" wide per standard ADOT (4.5' plus 1'-6" plus 1'-6")

$abut2excv = 73.9\,CY$

Wingwalls

$wing2excv := 0 \cdot CY$

1.5' + 1.5' + 4' wide

$wing2excv = 0\,CY$

Retaining walls

$ret2excv := (7.17ft + 1ft) \cdot (4.5 \cdot ft + 1.5ft + 1.5ft) \cdot (32.5 \cdot ft + 32.5 \cdot ft + 2 \cdot 3 \cdot ft)$

Total length included - assume full height of wall for excavation

$ret2excv = 161.1\,CY$

$Total2EXCV := abut2excv + wing2excv + ret2excv$

$\boxed{Total2EXCV = 235.1\,CY}$

Checked by: CAL
Date: 8/8/02

Backfill - Abutment 1

Abutments

$abut1back := (106.46 \cdot ft - 2 \cdot 3.0 \cdot ft) \cdot (3ft) \cdot (6.5ft)$

$abut1back = 72.6\,CY$

Wingwalls

$wing1back := 2 \cdot (1066.88ft - 1060.84ft) \cdot [14ft - (2ft + 3in)] \cdot 3ft$

$wing1back = 15.8\,CY$

Approach Slab

$approachslab := apprslab \cdot 0.5$ $\quad$ $approachslab = 58.5\,CY$

Retaining walls

$ret1back := 0 \cdot CY$

Total length included - assume full height of wall for excavation

$ret1back = 0\,CY$

$Total1back := abut1back + wing1back + approachslab + ret1back$

$\boxed{Total1back = 146.8\,CY}$

Backfill - Abutment 2

Abutments

$abut2back := (106.46ft - 2 \cdot 3.0ft) \cdot (3ft) \cdot (6.5ft)$

Wingwalls subtracted out from tally; 2 * 1.5 ft = 3ft

$abut2back = 72.6\,CY$

Wingwalls

$wing2back := 0 \cdot CY$

$wing2back = 0\,CY$

Approach Slab

$approachslab := apprslab \cdot 0.5$ $\quad$ $approachslab = 58.5\,CY$

Retaining walls

$ret2back := (2 \cdot 32.5 \cdot ft + 2 \cdot 3 \cdot ft) \cdot (3.0ft) \cdot (7.17ft + 1.0 \cdot ft)$

$ret2back = 64.5\,CY$

$Total2back := abut2back + wing2back + approachslab + ret2back$

$\boxed{Total2back = 195.5\,CY}$

Checked by: GAL
Date: 8/8/02

CAL

Superstructure Steel

Sheet Description	Reinforcement (lbs)
Abutment and Pier Caps	17679
Deck-Swlk	204912
Parapet	5799
TOTAL	**228390 lb**

Abutment 1 Steel

Sheet Description	Reinforcement (lbs)
Abutment Cap 1	16423
WingsAbut 1	4326
TOTAL	**20749 lb**

Abutment 2 Steel

Sheet Description	Reinforcement (lbs)
Abutment Cap 2	8764
RWAbut 2	2837
TOTAL	**11601 lb**

Pier Steel

Sheet Description	Reinforcement (lbs)
Columns	6008
TOTAL	**6008 lb**

Approach Slabs

Sheet Description	Reinforcement (lbs)
Approach Slab 1	10286
Approach Slab 2	10448
TOTAL	**20735 lb**

Total Weight for Bridge	**287483 lb**

S-1.05 Abutment 1 Plan, Elevation & Section

Abutment Length = 106.960 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system								Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
			Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length				
5	English	Closed Stirrups	4.250	4.250	3.460	3.460	0.460	0.460				126	1.043	2147
10	English	Bottom cont Positive Mom Reinf	106.630						1	7.333		7	4.303	3433
10	English	Sides	106.630						1	7.333		10	4.303	4904
10	English	Top Layer Neg Mom reinf.	106.630						1	7.333		7	4.303	3433
10	English	Bottom Layer Neg Mom reinf.	17.333									10	4.303	746
5	English	Divider Bar	4.250									6	2.670	68
7	English	Dowel connection to superstructure	4.000									207	2.044	1692
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	16423

S-1.06 Abutment 2 Plan, Elevation & Section

Abutment Length = 106.460 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
5	English	Open Stirrups	4.250	0.500	0.500	3.460	3.460					60	1.043	1130
9	English	Bottom cont Positive Mom Reinf	106.130						1	7.250		6	3.400	2313
5	English	Sides	106.130						1	7.250		6	1.043	710
10	English	Top Layer Neg Mom reinf.	106.130						1	7.250		6	4.303	2927
7	English	Dowel connection to superstructure	4.000									206	2.044	1684
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	8764

S-1.07 Wingwalls Abutment 1

Wingwall Length = 11.750 ft

			Bar Lengths - Enter in ft. or meters depending on unit system											
Bar Size	Metric or English?	Description	Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length	Bar Space (in)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
5	English	Closed Stirrups	3.500	3.500	3.500	3.500	0.460	0.460				26	1.043	405
11	English	Long. Bars Grade Beam	14.583	2.000								32	5.313	2819
6	English	Verts (FF)	5.783	1.500								36	1.602	394
5	English	Verts (NF)	5.783									36	1.043	217
5	English	Dowels to Parapet	4.000									72	1.043	300
5	English	Longitudinal bars at wingwall	11.420									16	1.043	191
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	4326

S-1.06 Retaining Walls Abutment2

RW Length = 70.930 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system								Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
			Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length				
N/A	English	ADOT STd Wall H=7 ft, Case II, L=70.93	70.930									1	40.000	2837
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													TOTAL	2837

S-1.11 Approach Slab 1

Approach Slab Lengt 15.000 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
5	English	Transverse Bottom	104.130						1	2.000		16	1.043	1771
5	English	Transverse Top	104.130						1	2.000		16	1.043	1771
6	English	Longitudinal Bottom	14.670									140	2.670	5484
4	English	Longitudinal Top	14.670									71	0.668	696
5	English	Dowel Connection from Superstructure	1.750									106	1.043	193
4	English	U bars at beginning of App. Slab	1.000	0.540	1.000							71	0.668	120
4	English	U bars at end of App. Slab	4.000	0.540	0.750							71	0.668	251
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	10286

S-1.11 Approach Slab 2

Approach Slab Lengt 15.000 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Legs	Lap length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
5	English	Transverse Bottom	106.130						1	2.000		16	1.043	1804
5	English	Transverse Top	106.130						1	2.000		16	1.043	1804
6	English	Longitudinal Bottom	14.670									142	2.670	5562
4	English	Longitudinal Top	14.670									72	0.668	706
5	English	Dowel Connection from Superstructure	1.750									107	1.043	195
4	English	U bars at beginning of App. Slab	1.000	0.540	1.000							72	0.668	122
4	English	U bars at end of App. Slab	4.000	0.540	0.750							72	0.668	254
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													TOTAL	10448

(14) of (15)

S-1.04 Columns

Column Length 11.330 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
6	English	Longitudinal Bars	11.330	2.167	5.000							144	1.502	4001
4	English	1/2" Spiral @ 3"	5.110									588	0.668	2007
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
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													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	6008

S-1.09 Abutment and Pier Caps

Abut/Pier Cap Length 106.460 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system								Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
			Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length				
Abut Caps														
5	English	Stirrups	2.150	1.150	4.250	3.250	0.670	0.670				214	1.043	2710
6	English	Longitudinal bars	106.130						1	1.000		14	1.502	2253
													#N/A	0
Pier caps														
4	English	Stirrups	2.583	2.583	4.000	0.375	0.375					628	0.668	4160
10	English	Bottom Longitudinal Positive Mom Reinforcing	106.130						1	5.250		12	2.044	2732
10	English	Top Layer Negative Mom Reinforcing	106.130						1	7.000		20	2.044	4625
10	English	Bottom Layer Negative Mom Reinforcing	13.083									40	2.044	1070
8	English	Spacer Bar	5.333									12	2.044	131
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	17679

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S-1.10 Deck and Sidewalk

Sidewalk Length = 329.000 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Laps	Lap length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
Top Of Slab Reinforcing													#N/A	0
8	English	Longitudinal Reinforcing Exterior Span	1.333	34.083								214	2.670	20236
10	English	Longitudinal Reinforcing Over Piers (1)	30.670									214	4.303	28242
10	English	Longitudinal Reinforcing Over Piers (2)	18.000									214	4.303	16575
8	English	Longitudinal Reinforcing Interior Span	19.333									107	2.670	5523
5	English	Transverse Reinforcing	106.130						2	2.000		120	1.043	13784
													#N/A	0
Bottom Of Slab Reinforcing													#N/A	0
8	English	Longitudinal Reinforcing Ending at Abutments	10.083	0.67								426	1.502	6878
10	English	Longitudinal Reinforcing Exterior Spans (1)	36.083									214	4.303	33227
10	English	Longitudinal Reinforcing Exterior Spans (2)	43.420									214	4.303	39983
8	English	Longitudinal Reinforcing Interior Span (1)	22.000									107	2.670	6285
8	English	Longitudinal Reinforcing Interior Span (2)	47.333									107	2.670	13523
6	English	Transverse Reinforcing Exterior Spans	106.130						3	2.000		80	1.502	13474
5	English	Transverse Reinforcing Interior Span	106.130						3	2.000		40	1.043	4678
													#N/A	0
													#N/A	0
Sidewalk													#N/A	0
4	English	Transverse Bars	6.980	0.500	0.333							222	0.668	1159
4	English	Longitudinal Bars	328.330						4	1.833		6	0.668	1345
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	204912

S-1.12 Parapet / Dado

Parapet Length = 269.500 ft

Bar Size	Metric or English?	Description	Bar Lengths - Enter in ft. or meters depending on unit system: Bend 1	Bend 2	Bend 3	Bend 4	Bend 5	Bend 6	# Bends	Leg length	Bar Space (ft)	# bars	Bar Wt. per ft. or m	Total Wt. lb or kg.
Parapet		Length = 269.50 ft											#N/A	0
4	English	Verts Outside Face	4.083	0.500								406	0.668	1243
4	English	Verts Inside Face	0.500	4.083	0.750							406	0.668	1446
4	English	Horizontal Continuous	269.170						4	1.833		8	0.668	1478
													#N/A	0
Dado		4 Each at 5'-0"											#N/A	0
5	English	Verts	0.50	4.00								64	1.043	300
4	English	Horizontals	4.67									48	0.668	150
5	English	Dowels into Deck (1)	4.00	0.83								32	1.043	161
5	English	Dowels into Deck (2)	4.00									32	1.043	134
													#N/A	0
													#N/A	0
													#N/A	0
Light Blisters		4 each											#N/A	0
4	English	Horizontals	1.000	2.000	1.830	2.000	1.000					28	0.668	146
6	English	Bottom Portion of Tie	4.200	4.200	1.650							36	1.502	543
6	English	Top Portion of Tie	1.650	1.000	1.000							36	1.502	197
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													#N/A	0
													TOTAL	5799

DMJM HARRIS	PROJECT: BHOC 9157 Ave Bridge	JOB NO.	SHEET 19 of 19
		DESIGNED BY SEO	DATE MAR 07
SUBJECT: Concrete Painting		CHECKED BY	DATE

Abutment 1:

(1.55')(106.46') + (2)(13.75')(3.75' Avg) = 268 SF

Abutment 2:

(1.62')(106.46') + (2)(32.46')(3.00' Avg) = 369 SF

Columns:

(12)(π)(2.0')(10.00 ft) = 754 SF

Superstructure

Parapets [(2'-8 3/8") + (11"/12") + 2'-0"][134.67 ft][2] = 1512 SF

Doors: (4)(5 ft)(4'-4 3/8" + 3.67' + 11") = 179 SF

Edge of Deck: (1'-10")(132')(2 ea) = 484 SF

Underdeck (106.46')[132' − (2)(2'-3")] = 13574 SF

Pier Cap (2)(1.0 ft)(2 ea)(106.46 ft) = 426 SF

16,175 SF

Total 17566 SF