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================================================================================
OUTRIG - Torsion Resistor Analysis          (c)1997 Guymast Inc. 416-736-7453
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Weisman Consultants Inc.                          on: 24 sep 2004  at: 17:12:36
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[DEMOU] - ANALYSIS OF T.R. AT 280 FT - OCTOBER 2004


DESCRIPTION OF OUTRIGGER
------------------------

      GUY       GUY     NO OF   OUTRIGGER MEMBERS    TYPE
     ELEV    SPREAD      GUYS     UPPER     LOWER      OF
       ft        ft                in.sq     in.sq  REPORT

   280.00     14.00         6     3.125     3.125       1


 TYPE OF REPORT :  1.  Maximum values only
                   2.  All values including maximum


DESCRIPTION OF MAST
-------------------

PANEL.............GEOMETRY   MEMBER............PROPERTIES
 TYPE  TOP-ELEV  FACE-WIDTH        LEG      DIAG     HORIZ
             ft          ft      in.sq     in.sq     in.sq

    3    283.33        2.50      3.140     0.790     0.790
    3    281.67        2.50      3.140     0.790     0.790
    3    280.00        2.50      3.140     0.790     0.790
    3    278.33        2.50      3.140     0.790     0.790


    PANEL TYPES :  1.  One diagonal down to the right
                   2.  One diagonal down to the left
                   3.  Two diagonals crossed


================================================================================

LOADING NO    1

================================================================================

Bare tower 100 mph wind at azimuth 0 deg


GUY FORCES
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GUY     G U Y   F O R C E S (kip)
 NO     NORTH      EAST      DOWN

  1     11.52     -0.02     14.98
  2     -2.31      3.08      4.62
  3     -2.26      2.99      4.50
  4     -2.87     -4.06      6.01
  5     -3.44     -5.06      7.43
  6     10.54     -0.02     13.78
```

MAST FORCES

	TOTAL AXIAL kip	SHEAR N - S kip	SHEAR E - W kip	MOMENT N - S ft-kip	MOMENT E - W ft-kip	TORSION ft-kip
above	2.20	-4.43	0.60	35.28	-4.17	-0.54
below	54.43	5.72	-2.41	-44.82	6.45	14.86

S U M O F G U Y F O R C E S

TOTAL AXIAL kip	SHEAR N - S kip	SHEAR E - W kip	MOMENT N - S ft-kip	MOMENT E - W ft-kip	TORSION ft-kip
51.31	11.19	-3.08	-80.03	11.23	14.30

Compare these forces to Guy Reactions in GUYMAST

LOADING NO 2

Bare tower 100 mph wind at azimuth 90 deg

GUY FORCES

GUY NO	G U Y F O R C E S (kip) NORTH	EAST	DOWN
1	5.88	-0.54	7.50
2	-5.59	9.25	14.05
3	-5.78	9.58	14.53
4	-1.10	-2.38	2.94
5	-1.15	-2.47	3.07
6	6.92	-0.54	8.78

MAST FORCES

	TOTAL AXIAL kip	SHEAR N - S kip	SHEAR E - W kip	MOMENT N - S ft-kip	MOMENT E - W ft-kip	TORSION ft-kip
above	2.20	-0.02	-4.13	-1.04	33.75	7.70
below	53.99	-0.68	7.73	4.67	-33.78	3.20

```
!                    S U M    OF    G U Y    F O R C E S                    !
!                                                                            !
!       TOTAL        ......SHEAR......        ......MOMENT.....     TORSION    !
!       AXIAL       N - S       E - W       N - S       E - W                !
!         kip         kip         kip      ft-kip      ft-kip      ft-kip    !
!                                                                            !
!       50.88       -0.83       12.91        6.26      -67.93       -3.15    !
!                                                                            !
!                Compare these forces to Guy Reactions in GUYMAST            !
!                                                                            !
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LOADING NO 3

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Bare tower 100 mph wind at azimuth 180 deg

GUY FORCES

GUY NO	G U Y NORTH	F O R C E S (kip) EAST	DOWN
1	2.19	0.00	2.38
2	-3.49	6.95	10.15
3	-4.34	8.41	12.23
4	-3.87	-7.60	11.09
5	-2.97	-6.05	8.87
6	2.31	0.00	2.53

MAST FORCES

	TOTAL AXIAL kip	......SHEAR...... N - S kip	E - W kip	......MOMENT..... N - S ft-kip	E - W ft-kip	TORSION ft-kip
above	2.20	3.45	0.31	-30.85	-2.10	-7.39
below	50.36	-5.99	2.00	61.03	-10.25	-9.42

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!                                                                            !
!                    S U M    OF    G U Y    F O R C E S                    !
!                                                                            !
!       TOTAL        ......SHEAR......        ......MOMENT.....     TORSION    !
!       AXIAL       N - S       E - W       N - S       E - W                !
!         kip         kip         kip      ft-kip      ft-kip      ft-kip    !
!                                                                            !
!       47.24      -10.17        1.71       91.90       -7.89       -1.66    !
!                                                                            !
!                Compare these forces to Guy Reactions in GUYMAST            !
!                                                                            !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
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MAXIMUM FORCES IN OUTRIGGER MEMBERS (kip)

FORCE TYPE	upper member	load case	lower member	load case
tension	30.87	2	0.61	3
compression	0.00	0	36.23	1
Length (in)	91.81		91.81	

MAXIMUM FORCES IN CONNECTION ON LEGS (kip)

ELEV	SHEAR DOWN	SHEAR HORIZ	SHEAR TOTAL	RADIAL PULL	RADIAL PUSH	
281.67	10.13	-18.21	20.37	15.76	0.00	
	2	2	2	2	0	load case
278.33	14.72	4.59	15.42	0.00	22.90	
	1	1	1	0	1	load case

MAXIMUM FORCES IN CONNECTION ON FACES (kip)

ELEV	SHEAR DOWN	SHEAR HORIZ	SHEAR TOTAL	PULL OFF	PUSH ON	
281.67	6.74	-5.04	8.42	29.70	0.00	
	2	2	2	2	0	load case
278.33	7.91	5.92	9.88	0.59	34.86	
	1	1	1	3	1	load case

MAXIMUM TENSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	load case	DIAG	load case	HORIZ	load case	LENGTHS (in) LEGS	DIAG	HORIZ
281.7	----------		----------		18.43	1			30.00
	0.00	0	11.56	3			20.04	36.08	
280.0	----------		----------		2.70	2			30.00
	7.20	3	7.36	3			20.04	36.08	
278.3	----------		----------		0.83	2			30.00
	16.12	3					20.04	36.08	
276.7	----------								

MAXIMUM COMPRESSION IN MAST MEMBERS (kip)

ELEV ft	LEGS	load case	DIAG	load case	HORIZ	load case	----LENGTHS (in)---- LEGS	DIAG	HORIZ
281.7					4.14	3			30.00
	21.36	2	7.25	1			20.04	36.08	
280.0					2.56	2			30.00
	18.50	3	10.84	3			20.04	36.08	
278.3					7.70	2			30.00
	37.05	1					20.04	36.08	
276.7									

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ELAPSED CPU TIME 0.03 SECONDS.

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ORIGINAL DATA FILE :

c:\Documents and Settings\sean\My Documents\Projects\Website\samples\working\de

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[DEMOU] - ANALYSIS OF T.R. AT 280 FT - OCTOBER 2004
280, 14, 6, 3.125, 3.125, 1
3, 283.33, 2.5, 3.14, 0.79, 0.79
3, 281.67, 2.5, 3.14, 0.79, 0.79
3, 280.00, 2.5, 3.14, 0.79, 0.79
3, 278.33, 2.5, 3.14, 0.79, 0.79
Bare tower 100 mph wind at azimuth 0 deg
11.522,  -.018, 14.982
-2.308,  3.075,  4.620
-2.259,  2.991,  4.496
-2.865, -4.057,  6.007
-3.436, -5.056,  7.431
10.540,  -.016, 13.776
2.202, -4.426, .604, 35.282, -4.168, -.535
54.426, 5.721, -2.415, -44.821, 6.452, 14.863
Bare tower 100 mph wind at azimuth 90 deg
 5.884,  -.540,  7.499
-5.591,  9.249, 14.054
-5.783,  9.582, 14.534
-1.101, -2.380,  2.942
-1.151, -2.467,  3.068
 6.916,  -.536,  8.781
2.202, -.022, -4.128, -1.044, 33.750, 7.704
53.993, -.682, 7.733, 4.671, -33.777, 3.201
Bare tower 100 mph wind at azimuth 180 deg
 2.187,   .001,  2.375
-3.492,  6.952, 10.147
-4.335,  8.406, 12.235
-3.872, -7.601, 11.093
-2.971, -6.049,  8.867
 2.310,   .001,  2.528
```

2.202, 3.451, .309, -30.853, -2.103, -7.395
50.358, -5.992, 1.997, 61.025, -10.247, -9.416

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END OF FILE