WIND-TUNNEL STUDY OF GATEWAY PROJECT TOWERS, SINGAPORE

for

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LIST OF SYMBOLS

Symbol	Definition
U	Local mean velocity
D	Characteristic dimension (building height, width, etc.)
ν, ρ	Kinematic viscosity and density of approach flow
$\frac{\text{UD}}{\text{v}}$	Reynolds number
E	Mean voltage
A, B, n	Constants
U rms	Root-mean-square of fluctuating velocity
E rms	Root-mean-square of fluctuating voltage
U _∞	Reference mean velocity outside the boundary layer
Х, Ү	Horizontal coordinates
Z	Height above surface
δ	Height of boundary layer
^T u	Turbulence intensity $\frac{V}{U_{\infty}}$ or $\frac{V}{U}$
C P _{mean}	Mean pressure coefficient, $\frac{(p-p_{\infty})_{mean}}{0.5 \rho U_{\infty}^2}$
C p _{rms}	Root-mean-square pressure coefficient, $\frac{((p-p_{\infty})-(p-p_{\infty})_{mean})_{mean}}{0.5 \rho U_{\infty}^2}$
C P _{max}	Peak maximum pressure coefficient, $\frac{(p-p_{\infty})_{max}}{0.5 \rho \ U_{\infty}^2}$
C pmin	Peak minimum pressure coefficient, $\frac{(p-p_{\omega})_{\min}}{0.5 \rho U_{\omega}^2}$
() _{min}	Minimum value during data record
() min	Maximum value during data record

<u>Symbol</u>	Definition		
Р	Fluctuating pressure at a pressure tape on the structure		
$\mathbf{p}_{\mathbf{\infty}}$	Static pressure in the wind tunnel above the model		
F _X , F _Y	Forces in X, Y direction		
A _R	Reference Area		
CFX	Force coefficient, X direction, $\frac{F_X}{A_R^0.5 \rho U_{\infty}^2}$		
CF _y	Force coefficient, Y direction, $\frac{F_y}{A_R 0.5 \rho U_{\infty}^2}$		
A _X , A _Y	Principal axes of building		
н	Building height		
I _X , I _Y , I	Z Building mass moment of inertia		
N _X , N _Y , M	N _Z Natural frequency (Hz)		
K _X , K _Y , H	Z Stiffness		
$\lambda_{\mathbf{L}}$	Length Scale		
λ _ρ	Air density scale		
$\lambda_{\mathbf{J}}$	Mass moment of inertia scale		
λ _K	Stiffness scale		
λ _ξ	Damping scale		
λ _N	Frequency scale		
$\lambda_{\mathbf{V}}$	Velocity scale		
^λ θ	Rotation scale		
λ _M	Response moment scale		
λ _D	Deflection scale		
$\lambda_{\mathbf{A}}$	Acceleration scale		
U P	Mean gradient wind speed for prototype building		

1. INTRODUCTION

1.1 General

A significant characteristic of modern building design is lighter cladding and more flexible frames. These features produce an increased vulnerability of glass and cladding to wind damage and result in larger deflections of the building frame. In addition, increased use of pedestrian plazas at the base of the buildings has brought about a need to consider the effects of wind and gustiness in the design of these areas.

The building geometry itself may increase or decrease wind loading on the structure. Wind forces may be modified by nearby structures which can produce beneficial shielding or adverse increases in loading. Overestimating loads results in uneconomical design; underestimating may result in cladding or window failures. Tall structures have historically produced unpleasant wind and turbulence conditions at their bases. The intensity and frequency of objectionable winds in pedestrian areas is influenced both by the structure shape and by the shape and position of adjacent structures. In flexible structures, wind induced motion may cause occupant discomfort if not anticipated during the design phase.

Techniques have been developed for wind tunnel modeling of proposed structures which allow the prediction of wind pressures on cladding and windows, overall structural loading, and also wind velocities and gusts in pedestrian areas adjacent to the building. Information on sidewalklevel gustiness allows plaza areas to be protected by design changes before the structure is constructed. Accurate knowledge of the intensity and distribution of the pressures on the structure permits adequate but economical selection of cladding strength to meet selected maximum design winds and overall wind loads for the design of the frame for flexural control. Modeling of the aerodynamic loading on a structure requires special consideration of flow conditions in order to guarantee similitude between model and prototype. A detailed discussion of the similarity requirements and their wind-tunnel implementation can be found in references (1), (2), and (3). In general, the requirements are that the model and prototype be geometrically similar, that the approach mean velocity at the building site have a vertical profile shape similar to the full-scale flow, that the turbulence characteristics of the flows be similar, and that the Reynolds number for the model and prototype be equal.

These criteria are satisfied by constructing a scale model of the structure and its surroundings and performing the wind tests in a wind tunnel specifically designed to model atmospheric boundary-layer flows. Reynolds number similarity requires that the quantity UD/ν be similar for model and prototype. Since ν , the kinematic viscosity of air, is identical for both, Reynolds numbers cannot be made precisely equal with reasonable wind velocities. To accomplish this the air velocity in the wind tunnel would have to be as large as the model scale factor times the prototype wind velocity, a velocity which would introduce unacceptable compressibility effects. However, for sufficiently high Reynolds numbers (>2x10⁴) the pressure coefficient at any location on the structure will be essentially constant for a large range of Reynolds numbers. Typical values encountered are 10^7-10^8 for the full-scale and 10^5-10^6 for the wind-tunnel model. In this range acceptable flow similarity is achieved without precise Reynolds number equality.

Modeling of the building's dynamic response required that aeroelastic tests of the structure be performed. A three degrees-of-freedom

model was assumed and scaled for the wind-tunnel conditions. Requirements for similarity between model and full-scale building are discussed in references (3), (4), and (5). Generally, for the three degrees-offreedom of interest, the ratio between the aerodynamic, inertia, damping and elastic forces should be the same for the model and the prototype. To simulate the building motion, a rigid model was elastically supported by springs at its base. The base permits rotation of the model around two orthogonal axes located in the horizontal plane, and about a vertical axis. The spring stiffnesses and mass moments of inertia of the model about these axes were selected to provide a ratio of the frequencies (for the assumed degrees-of-freedom) equivalent to the full scale while providing for a convenient range of wind-tunnel velocities to ensure equivalence of the reduced velocity between model and full scale. The model is provided with a damping mechanism to apply a range of damping to the model.

1.2 <u>The Wind-Tunnel Test</u>

The wind engineering study was performed on a building group modeled at a scale of 1:400. The rigid building model for pressure data acquisition was constructed of clear plastic fastened together with screws. The structure was modeled in detail to provide accurate flow patterns in the wind passing over the building surfaces. To achieve similarity in wind effects the area surrounding the test building was also modeled. A flow visualization study was first made (smoke is used to make the air currents visible) to define overall flow patterns and identify regions where local flow features might cause difficulties in building curtain-wall design or produce pedestrian discomfort.

The test model, equipped with pressure or "piezometer" taps, was exposed to an appropriately modeled atmospheric wind in the wind tunnel and the fluctuating pressure at each tap measured electronically. The model, and the modeled area, were rotated 10 degrees and another set of data recorded for each pressure tap.

Data were recorded, analyzed and processed by an on-line computerized data-acquisition system. Pressure coefficients of several types were calculated by the computer for each reading on each piezometer tap and were printed in tabular form as computer readout. Using wind data applicable to the building site, representative wind velocities were selected for combination with measured pressures on the building model. Integration of test data with wind data results in prediction of peak local wind pressures for design of glass or cladding. Also included are overall mean forces and moments on the structure obtained by integrating the mean pressures over the building's surface. Pressure contours were drawn on the developed building surfaces showing the intensity and distribution of peak wind loads on the building. These results may be used to divide the building into zones where lighter or heavier cladding or glass may be desirable.

Based on the visualization (smoke) tests and on a knowledge of heavy pedestrian use areas, locations were chosen at the base of the building where wind velocities were measured to determine the relative comfort or discomfort of pedestrians in plaza areas, near building entrances, near building corners, or on sidewalks. Usually a reference pedestrian position is also tested to determine whether the wind environment in the building area is better or worse than the environment a block or so away in an undisturbed area.

The dynamic response of the building was evaluated using the aeroelastic model, which was instrumented to sense base moments and accelerations at the top of the building. These measurements were made at one value of damping and approach wind velocity for each of 36 wind directions to determine building response sensitivity to different wind directions. Four wind directions, where response was large, were selected for further study. Response measurements were made at these directions for a range of reduced velocities and damping values.

The following pages discuss in greater detail the procedures followed and the equipment and data collecting and processing methods used. In addition, the data presentation format is explained and the implications of the data are discussed.

2.1 <u>Wind Tunnel</u>

Wind engineering studies are performed in the Fluid Dynamics and Diffusion Laboratory at Colorado State University (Figure 1). Three large wind tunnels are available for wind loading studies depending on the detailed requirements of the study. The wind tunnel used for this investigation is shown in Figure 2. The tunnel has a flexible roof adjustable in height to maintain a zero pressure gradient along the test section. The mean velocity can be adjusted continuously in the tunnel to the maximum velocity available.

2.2 Pressure Model

In order to obtain an accurate assessment of local pressures using piezometer taps, models are constructed to the largest scale that does not produce significant blockage in the wind-tunnel test section. The models are constructed of 1/2 in. (1.3 cm) thick acrylic plastic and fastened together with metal screws. Significant variations in the building surface, such as mullions, are machined into the plastic surface. Piezometer taps (1/16 in. (1.6 mm) diameter) are drilled normal to the exterior vertical surfaces in rows at several or more elevations between the bottom and top of the building. Similarly, taps are placed in the roof and on any sloping, protruding, or otherwise distinctive features of the building that might need investigation.

Pressure tap locations are chosen so that the entire surface of the building can be investigated for pressure loading and at the same time permit critical examination of areas where experience has shown that maximum wind effects may be expected to occur. Locations of the pressure taps for this study are shown in Figure 3. Dimensions are given both for full-scale building (in ft.) and for model (in in.). The pressure tap numbers are shown adjacent to the taps.

The pressure tests are sometimes made in two stages. In the first stage measurements are made on the initial distribution of pressure taps. If it becomes apparent from the data that the loading on the building is being influenced by some unsuspected geometry of the building or adjacent structures, additional pressure taps are installed in the critical areas. The locations of the taps are selected so that the maximum loading can be detected and the area over which this loading is acting can be defined. Any added taps are also shown in Figure 3.

2.3 <u>Aeroelastic Model</u>

The aeroelastic model was made from a thin aluminum sheet formed to the external shape of the structure and screwed to a light, rigid aluminum framework as shown in Figure 4. The model was mounted on an elastic, strain-gaged base system providing three degrees-of-freedom--two fundamental rectilinear modes in bending and a torsional mode. Details of the mounting are shown in Figure 5. The model was scaled according to the procedure outlined in reference (5). These results are summarized in Table 8, which gives numerical values for the dynamic properties-moment of inertia, natural frequency, and stiffness-of both the prototype and model. For each of these properties, the ratio of the (as built) model value to the prototype value determines the dimensionless scale λ , which is also shown in Table 8.

Determination of the remaining scale factors is summarized in Table 9. The first group of scales in this table are selected prior to, and are independent of, the design of the model. The "aeroelastic moment of inertia" λ_{JA} is the ideal moment of inertia of the model; i.e. it would result in model displacements in proper scale to the prototype displacements (according to the length scale λ_{T}).

The second group of scales are those determined by the dynamic properties of the model, and are taken from Table 8. Note that the actual moment of inertia scale is slightly lower than the ideal aeroelastic value. The reason for this is that it is important to maintain a constant freqency scale for all three components of motion, so that the resulting velocity scale is the same for all components. As long as the moment of inertia scale is reasonably close to the ideal "aeroelastic" value, the frequency requirement is given precedence, and is achieved by adjusting small "tuning" weights within the model.

The third group of scales are the principal ones required to interpret the model test results. Note that the rotation scale is slightly greater than unity, owing to the moment of inertia scale being slightly less than ideal. The rotation scale is considered a principal scale because both the deflection and acceleration scales are directly dependent on it, as shown in the fourth ("supplemental") scale group. Using the individual deflection and acceleration scales for each component of motion when reducing the model test results corrects for the discrepancy between the ideal and actual moments of inertia.

Three miniature accelerometers were installed at an elevation corresponding to the building's top floor to measure accelerations in each of two principal building axes and acceleration corresponding to the building response in torsion. Additional details of this system are given in Appendix B.

2.4 Model Environment

A circular area of 1600 ft. (490 m) in radius surrounding the building was modeled in detail. Structures within the modeled region were made from styrofoam and cut to the individual building geometries. The model and its surroundings were mounted on a turntable (Figure 2)

near the downwind end of the test section. Any significant buildings or terrain features which did not fit on the turntable were placed on removable pieces and placed upwind of the turntable for appropriate wind directions. A plan view of the building and its surroundings is shown in Figure 6. This environment was used for both the pressure model and the aeroelastic model.

The region upstream from the modeled area was covered with a randomized roughness constructed using various sized cubes placed on the floor of the wind tunnel. Spires were installed at the test-section entrance to provide a thicker boundary layer than would otherwise be available. The thicker boundary layer permitted a somewhat larger scale model than would otherwise be possible. The spires were approximately triangularly-shaped pieces of 1/2 in. (1.3 cm) thick plywood 6 in. (15 cm) wide at the base and 1 in. (2.5 cm) wide at the top, extending from the floor to the top of the test section. They were placed so that the broad side intercepted the flow. A barrier approximately 8 in. (20 cm) high was placed on the test-section floor downstream of the spires to aid in development of the boundary-layer flow.

The distribution of the roughness cubes and the spires in the roughened area was designed to provide a boundary-layer thickness of approximately 4 ft. (1.2 m), a velocity profile power-law exponent similar to that expected to occur in the region approaching the modeled area for each wind direction (a number of wind directions may have the same approach roughness). A photograph of the completed model in the wind tunnel is shown in Figure 7. The wind-tunnel ceiling is adjusted after placement of the model to obtain a zero pressure gradient along the test section.

3. INSTRUMENTATION AND DATA ACQUISITION

3.1 Flow Visualization

Making the air flow visible in the vicinity of the model is helpful (a) in understanding and interpreting mean and fluctuating pressures, (b) in defining zones of separated flow and reattachment and zones of vortex formation where pressure coefficients may be expected to be high, and (c) in indicating areas where pedestrian discomfort may be a problem. Titanium tetrachloride smoke is released from sources on and near the model to make the flow lines visible to the eye and to make it possible to obtain motion picture records of the tests. Conclusions obtained from these smoke studies are discussed in Sections 4.1 and 5.1.

3.2 Pressures

Mean and fluctuating pressures are measured at each of the pressure taps on the model structure. Data are obtained for 36 wind directions, rotating the entire model assembly in a complete circle. Up to 184 pieces of 1/16 in. I.D. plastic tubing are used to connect 184 pressure ports at a time to four 48 tap pressure switches mounted underneath the The switches were designed to minimize the attenuation of presmodel. sure fluctuation across the switch. Each of the 184 measurement ports was directed in turn by the switch to one of four pressure transducers mounted close to the switch. Four pressure input ports not used for transmitting building surface pressures were connected to a common tube leading to a pitot tube mounted inside the wind tunnel which provided a means of automatically monitoring the tunnel speed. The switch was operated under control of the data acquisition system. The other four input ports were used for monitoring of the transducer zero.

The pressure transducers used are Setra differential transducers (Model 237) with a 0.10 psid (690 Pad) range. Reference pressures were

obtained by connecting the reference sides of the four transducers, using plastic tubing, to the static side of a pitot-static tube mounted in the wind tunnel free stream above the model building. In this way the transducer measured the instantaneous difference between the local pressures on the surface of the building and the static pressure in the free stream above the model.

Output from the pressure transducers was fed to an on-line data acquisition system consisting of a Hewlett-Packard 21 MX computer, disk unit, card reader, printer, Digi-Data digital tape drive and a Preston Scientific analog-to-digital converter. The data were processed immediately into pressure coefficient form as described in Section 4.3 and stored for printout or further analysis.

All four transducers were recorded simultaneously for 16 seconds at a 250 sample per second rate. The results of an experiment to determine the length of record required to obtain stable mean and rms (root-meansquare) pressures and to determine the overall accuracy of the pressure data acquisition system is shown in Figure 8. A typical pressure port record was integrated for a number of different time periods to obtain the data shown. Examination of a large number of pressure taps showed that the overall accuracy for a 16 second period is, in pressure coefficient form, 0.03 for mean pressures, 0.1 for peak pressures, and 0.01 for rms pressures. Pressure coefficients are defined in Section 4.3.

3.3 <u>Wind Velocity</u>

Mean velocity and turbulence intensity profiles were measured upstream of the model, using a hot-film anemometer, to confirm that an approach boundary-layer flow appropriate to the site had been established. Tests were made at one wind velocity in the tunnel. This

velocity was well above that required to satisfy Reynolds number similarity between the model and the prototype as discussed in Section 1.1.

In addition, mean velocity and turbulence intensity measurements were made 5 to 7 ft. (1.5 to 2.1 m)(prototype) above the surface at a dozen or more locations near the building for 16 wind directions. The measurement locations are shown on Figure 6. The surface measurements are indicative of the wind environment to which a pedestrian at the measurement location should be subjected. The locations were chosen to determine the degree of pedestrian comfort or discomfort at the building corners where relatively severe conditions frequently are found, near building entrances and on adjacent sidewalks where pedestrian traffic is heavy, and in open plaza areas. Two reference pedestrian positions, located away from the building, were also tested. These data are helpful in evaluating the degree of pedestrian comfort or discomfort in the proposed plaza area in terms of the undisturbed environment in the immediate vicinity.

These pedestrian-level measurements were made with a single hotfilm anemometer mounted with its axis vertical. The instrumentation used is a Thermo Systems constant temperature anemometer (Model 1050) with a 0.001 in. (0.025 mm) diameter platinum film sensing element 0.020 in. (0.508 mm) long. Output is directed to the on-line data acquisition system for analysis.

Calibration of the hot-film anemometer was performed by comparing output with the pitot-static tube in the wind tunnel. The calibration data were fit to a variable exponent King's Law relationship of the form $E^2 = A + BU^n$

where E is the hot-film output voltage, U the velocity and A, B, and n are coefficients selected to fit the data. The above relationship was used to determine the mean velocity at measurement points using the measured mean voltage. The fluctuating velocity in the form U_{rms} (root-mean-square velocity) was obtained from

$$U_{\rm rms} = \frac{2 \ E \ E_{\rm rms}}{B \ n \ U^{n-1}}$$

where E_{rms} is the root-mean-square voltage output from the anemometer. For interpretation all turbulence measurements for pedestrian winds were divided by the mean velocity outside the boundary-layer U_{∞} . Turbulence intensity in velocity profile measurements, however, used the local mean velocity as a reference.

3.4 Base Moments

The strain gages monitoring the state of stress in the springs at the base of the aeroelastic model were formed into three bridge networks--one for each of the three degrees-of-freedom of the building motion. These bridges were conditioned and monitored by Honeywell Accudata 118 Gage Control/Amplifier units which provided excitation to the bridge and amplification of the bridge output. These signals were processed through the on-line data-acquisition system described earlier. The model spring stiffness was calibrated statically. A known static moment was applied to the model and its deflection was measured. Interactions between channels--e.g., voltage in channel y due to load in direction x, were determined to be negligible. The response of the force balance was therefore considered uncoupled for each of the three degrees-of-freedom.

During test runs data were taken at a sample rate of 300 samples per second on each channel. The sample duration time was selected on the basis of repeatability of sampling runs made early in the testing phase, and corresponds to about 1 hour at full scale. The data were processed immediately to determine mean, rms, and peak loads. The data were also stored on digital tape for further analysis.

3.5 **Building Acceleration**

The accelerometers used in the study were Vibra-Metrics Model 1001A, weighing 1.9 grams each. Prior to installation on the model, each accelerometer was calibrated on a shaker table with known frequency and amplitude. During each data run the outputs from the three accelerometers were directed to an analog processing circuit which provided three output signals corresponding to the three degrees-of-freedom of the model. These signals were continuously monitored by the dataacquisition system; mean, rms, and peak acceleration levels for each of the three components were determined by the on-line computer. Further details regarding the processing of acceleration data are given in Appendix B.

For all aeroelastic tests, the velocity in the wind tunnel was set to the value required by reduced velocity similarity using a pitotstatic tube connected to a pressure transducer. Output from the transducer was directed to the on-line data-acquisition system for immediate calculation of tunnel velocity.

4. RESULTS

4.1 Flow Visualization

A film is included as part of this report showing the characteristics of flow about the structure using smoke to make the flow visible. A listing of the contents of the film is shown in Table 1. Several features can be noted from the visualization. As with all large structures, wind approaching the building is deflected down to the plaza level, up over the structure and around the sides. A description of the smoke test results emphasizing flow patterns of concern relative to possible high-wind load areas and pedestrian comfort is given in Section 5.1.

4.2 <u>Velocity</u>

Velocity and turbulence profiles are shown in Figure 9. Profiles were taken upstream from the model which are characteristic of the boundary layer approaching the model and sometimes at the building site with building removed. The boundary-layer thickness, δ , is shown in Figure 9. The corresponding prototype value of δ for this study is also shown in the figure. This value was established as a reasonable height for this study. The mean velocity profile approaching the modeled area has the form

$$\frac{\mathrm{U}}{\mathrm{U}_{\infty}} = \left(\frac{\mathrm{Z}}{\delta}\right)^{\mathrm{n}}.$$

The exponent n for the approach flow established for this study is shown in Figure 9.

Profiles of longitudinal turbulence intensity in the flow approaching the modeled area are also shown in Figure 9. The turbulence intensities are appropriate for the approach mean velocity profile selected. For the velocity profiles, turbulence intensity is defined as the rootmean-square about the mean of the longitudinal velocity fluctuations

divided by the local mean velocity U,

$$Tu = \frac{U}{U}$$

Velocity data obtained at each of the pedestrian measurement locations shown in Figure 6 are listed in Table 2 as mean velocity U/U_{∞} , turbulence intensity U_{rms}/U_{∞} , and largest effective gust

$$U_{pk} = \frac{U + 3U_{rms}}{U_{\infty}}$$

These data are plotted in polar form in Figure 10. Measurements were taken 5 to 7 ft. (1.5 to 2.1 m) above the ground surface. A site map is superimposed on the polar plots to aid in visualization of the effects of the nearby structures on the velocity and turbulence magnitudes. An analysis of these wind data is given in Section 5.2.

To enable a quantitative assessment of the wind environment, the wind-tunnel data are combined with wind frequency and direction information obtained at the local airport. Table 3 shows local wind frequency by direction and magnitude. These data, usually obtained at an elevation of about 30-40 ft. (9 to 12 m), were converted to velocities at the reference velocity height for the wind-tunnel measurements and combined with the wind-tunnel data to obtain cumulative probability distributions (percent time a given velocity is exceeded) for wind velocity at each measuring location. The percentage times were summed by wind direction to obtain a percent time exceeded at each measuring position independent of wind direction (but accounting for the fact that the wind blows from different directions with varying frequency). These results are plotted in Figure 11.

Interpretation of Figure 11 is aided by a description of the effects of wind of various magnitudes on people. The earliest quantitative description of wind effects was established by Sir Francis Beaufort in 1806 for use at sea and is still in use today. Several recent investigators have added to the knowledge of wind effects on pedestrians. These investigations along with suggested criteria for acceptance have been summarized by Penwarden and Wise (6) and Melbourne (7). The Beaufort scale (from ref.6), based on mean velocity only, is reproduced as Table 4 including qualitative descriptions of wind effects. Table 4 suggests that mean wind speeds below 12 mph (5.4 mps) are of minor concern and that mean speeds above 24 mph (10.8 mps) are definitely inconvenient. Quantitative criteria for acceptance from reference (7) are superimposed as dashed lines on Figure 11. The peak gust curves shown in Figure 11 are the percent of time during which a short gust of the stated magnitude could occur (say about one of these gust per hour). Implications of the data plotted in Figure 11 are presented in Section 5.2.

Because some pedestrian wind measuring positions are purposely chosen at sites where the smoke test showed large velocities of small spacial extent, the general wind environment about the structure may be less severe than one might infer from a strict analysis of Table 2 and Figure 11.

4.3 Pressures

For each of the pressure taps examined at each wind direction, the data record was analyzed to obtain four separate pressure coefficients. The first is the mean pressure coefficient

$$C_{p_{mean}} = \frac{(p-p_{\infty})_{mean}}{0.5 \rho U_{\infty}^2}$$

where the symbols are as defined in the List of Symbols. It represents the mean of the instantaneous pressure difference between the building pressure tap and the static pressure in the wind tunnel above the

building model, nondimensionalized by the dynamic pressure

$$0.5 \rho U_{2}^{2}$$

at the reference velocity position. This relationship produces a dimensionless coefficient which indicates that the mean pressure difference between building and ambient wind at a given point on the structure is some fraction less or some fraction greater than the undisturbed wind dynamic pressure near the upper edge of the boundary layer. Using the measured coefficient, prototype mean pressure values for any wind velocity may be calculated.

The magnitude of the fluctuating pressure is obtained by the rms pressure coefficient

$$C_{p_{rms}} = \frac{\left((p-p_{\infty}) - (p-p_{\infty})_{mean}\right)_{rms}}{0.5 \rho U_{\infty}^{2}}$$

in which the numerator is the root-mean-square of the instantaneous pressure difference about the mean.

If the pressure fluctuations followed a Gaussian probability distribution, no additional data would be required to predict the frequency with which any given pressure level would be observed. However, the pressure fluctuations do not, in general, follow a Gaussian probability distribution so that additional information is required to show the extreme values of pressure expected. The peak maximum and peak minimum pressure coefficients are used to determine these values:

$$C_{p_{max}} = \frac{(p - p_{\infty})_{max}}{0.5 \rho U_{\infty}^{2}}$$
$$C_{p_{min}} = \frac{(p - p_{\infty})_{min}}{0.5 \rho U_{\infty}^{2}}$$

The values of $p-p_{\infty}$ which were digitized at 250 samples per second for 16 seconds, representing about one hour of time in the full-scale, are examined individually by the computer to obtain the most positive and most negative values during the 16-second period. These are converted to C and C by nondimensionalizing with the free stream dynamic pressure.

The four pressure coefficients are calculated by the on-line data acquisition system computer and tabulated along with the approach wind azimuth in degrees from true north. The list of coefficients is included as Appendix A. The pressure tap code numbers used in the appendix are explained in Figure 3.

To determine the largest peak loads acting at any point on the structure for cladding design purposes, the pressure coefficients for all wind directions were searched to obtain, at each pressure tap, the largest value of peak pressure coefficient. Table 6 provides these pressure coefficients and associated wind directions. Included in Section 5.3 is an analysis of the coefficients of Table 6 including the maximum values obtained and where they occurred on the building.

The pressure coefficients of Table 6 can be converted to full-scale loads by multiplication by a suitable reference pressure selected for the field site. This reference pressure is represented in the equations for pressure coefficients by the $0.5 \rho U_{\infty}^2$ denominator. This value is the dynamic pressure associated with an hourly mean wind at the reference velocity measurement position at the edge of the boundary layer. In general, the method of arriving at a design reference pressure for a particular site involves selection of a design wind velocity, translation of the velocity to an hourly mean wind at the reference velocity location and conversion to a reference pressure. Selection of the design velocity can be made from statistical analysis of extreme wind data. The calculation of reference pressure for this study is shown in Table 5. The factor used in Table 5 to reduce gust winds to hourly mean winds is given in reference (9).

The reference pressure associated with the design hourly mean velocity at the reference velocity location can be used directly with the peak-pressure coefficients to obtain peak local design wind loads for cladding design. Local, instantaneous peak loads on the full-scale building suitable for cladding design were computed by multiplying the reference pressure of Table 5 by the peak coefficients of Table 6 and are listed as peak pressures in that table. The maximum psf load given at each tap location is the absolute value of the maximum value found in the tests, irrespective of its algebraic sign. For ease in visualizing the loads on the structure, contours of equal peak pressures for cladding loads shown in Table 6 have been plotted on developed elevation views of the structure, Figure 12. For control of water infiltration from outside to inside, the largest positive (inward-acting) pressure of each tap location is tabulated in Table 6.

For glass design pressures, a glass load factor is used to account for the different duration between measured peak pressures and the one minute loading commonly used in glass design charts. The design pressure used for glass is normally less than the peak pressures used for cladding design because of the static fatigue property of glass which can withstand higher pressures for short duration loads than for long duration loads. Recent research (10) indicates that the period of application of the peak pressures reported herein is about 5-10 seconds

or less. If a glass design is based on these peak-pressure values, then a glass strength associated with this duration load should be used. Because glass design charts are normally based on some alternate load duration--usually one minute--then some reduction in peak loads should be made. An estimate of a load reduction factor can be obtained from an empirical relation of glass strength as a function of load duration. Current glass selection charts showing glass strength as a function of load duration (11) and older references (12) indicate the following load reduction factors:

	ref 9	ref 10
annealed float	0.80	0.81
heat strengthened	0.94	
tempered	0.97	0.98

Loadings appropriate for glass design can be computed by multiplying the peak-pressure loads of Table 6 by these load factors.

4.4 Forces and Moments

4.4.1 <u>Method of Analysis</u>. The peak value of any fluctuating quantity Q (which may be either a shear force or moment) may be expressed in two ways:

$$Q_{p} = \overline{Q} G$$
(1)

or

$$Q_{p} = Q + k Q_{rms}$$

where Q_p , \overline{Q} , and Q_{rms} are the peak, mean, and fluctuating root mean square of Q, respectively. These two equations may be interpreted as the defining relations for G, the "dynamic response factor," and k, the "peak factor." The forces and moments determined in this study make use of both of these equations, and are based on data obtained from both the aeroelastic model and the pressure model.

Equation (2) is directly applicable to the aeroelastic response measurements, which consist only of moments M_p , \overline{M} , and M_{rms} , at the base of the building. Thus the peak factor k can be determined for each wind direction. These peak factors are then averaged, and the resulting single value of k is used to recompute the peak moments M_p . This smoothes out the variability inherent in the measurement of peak values.

Peak shear forces, and the distribution of peak shears and moments through the height of the building, are computed according to Equation (1). This becomes

The mean shear and moment as a function of height and wind direction, $\overline{V}(z,\alpha)$ and $\overline{M}(z,\alpha)$, are obtained from the pressure data. The dynamic response factor $G(\alpha)$ is obtained for each wind direction from the aeroelastic data. It is computed as the ratio of measured peak base moment (after being smoothed as discussed above) to measured mean base moment.

Details of this general procedure are given in the following two sections.

4.4.2 Base Moments from Aeroelastic Response. Base moment measurements on the aeroelastic model were taken in two groups. The first group includes all wind directions at 10 degree intervals, but at single constant values of wind velocity and structural damping. The hourly mean wind velocity at gradient height was 35.4 m/s, representing a mean 100 return period of years. The damping ratio (actual damping/critical damping) for motion about the three axes was ζ =

.007, $\zeta_y = .008$, $\zeta_z = .015$. This represents a low (conservative) estimate within the range normally assumed for tall steel-framed buildings.

Mean base moments corresponding to about a 1 hour average are plotted in Figure 15 as a function of wind direction, along with the mean base moments obtained from integrated pressure data (see following section). The agreement is good, and confirms the scaling and calibration of the aeroelastic model.

Measured mean, fluctuating rms, minimum and maximum base moments are plotted as a function of wind direction in Figure 16. In addition this figure indicates the corresponding deflection of the top floor computed using the stiffness of the prototype building (see Table 9). Displacements DX, DY, DZ corresponding to base moments MY, MX, MZ, respectively, are defined in Figure 14. Note that DX and DY are linear displacements, while DZ is the angular rotation about the z-axis in radians.

These data were used to compute a peak factor k for each component, using Equation (2). The peak factor is assumed to be independent of wind direction; thus the individual observations of k were averaged over all wind directions to obtain a single value for each component. These results are shown in Figure 17. Using Equation (2) again with the average peak factor for each component, "smoothed" values of the peak base moments were computed. These final results appear in Figure 18.

The second group of aeroelastic base measurements was taken to study their dependence on wind velocity and structural damping. Four wind directions were selected for this study, based on the results of the group 1 measurements. At each direction, base moments were measured at 5 different wind velocities and at two values of structural damping. A smoothed peak value was computed, as described above, for each one of these combinations. These results are presented in Figure 19.

A functionally correct relationship between peak moment M_p , and velocity u, and damping ratio ζ , for a given wind direction, could be expressed, based on Equation (2), as

$$M_{p}(u,\zeta) = C_{1}u^{2} + kC_{2}(\zeta)u^{\alpha}(\zeta)$$

It is much simpler, however, and nearly as accurate, to express the relationship as

$$M_{p}(u,\zeta) = C(\zeta)u^{\alpha(\zeta)}.$$

The continuous curve appearing in each of the graphs in Figure 19 is a regression line representing a least-squares fit of a curve of this form to the plotted data points.

All aeroelastic tests were conducted on Tower 1. The directional relationship between Tower 1 and Tower 2 is shown in Figure 3.

4.4.3 Forces and Moments as a Function of Height. The mean shear and moment at each floor of the building were computed from the data of building surface pressure. The force coefficient method is used to integrate this data and scale the results to a given reference pressure, or wind velocity.

Force coefficients were computed for each floor for each wind direction using the equations shown below.

$$CF_{X} = \frac{F_{X}}{A_{R} 0.5 \rho u_{\infty}^{2}} \qquad CF_{Y} = \frac{F_{Y}}{A_{R} 0.5 \rho u_{\infty}^{2}}$$

Terms and symbols used in the equations are defined in the List of Symbols and the axes are defined for the building in Figure 3. Force coefficients CF_{χ} and CF_{χ} were computed for the horizontal forces acting along with X and Y axes using the mean pressure coefficient at each

pressure tap. A represents a constant reference area for nondimensionalization of the forces and moments.

The total forces acting on the full-scale building for each floor and wind direction were computed by multiplying the above coefficients by the appropriate full-scale reference area, by the reference pressure of Table 5, and by a dynamic response factor corresponding to that wind direction.

The dynamic response factor (G in Equation (1)) was obtained from the aeroelastic data shown graphically in Figure 18. For each wind direction, it is simply the ratio of peak response (the larger absolute value of maximum or minimum response) to the mean response.

After applying these adjustment factors for wind velocity and dynamic response, the forces obtained at each floor were used to obtain load, shear, and moment diagrams for the building for each wind direc-Selected diagrams are given in Figure 13, and complete numerical tion. results are in Table 7. The shear diagram, in KN, was obtained by algebraic sum of all forces in each coordinate direction acting above the floor of interest. The load diagram, in Pa, was obtained by dividing the shear values by their contributing areas (listed in Table 7). The moment diagram, in MN-m, was obtained by integration of the shear values 80 that the moment due to forces acting above the floor level of interest was calculated. The sign of the moment was established by the right-hand rule about an X', Y' axis through the floor of interest. Moments about the Z axis were calculated by considering the displacement of forces in the X and Y directions from the Z axis shown in Figure 3. Load, shear, and moment diagrams are shown in Figure 13 for several wind directions.

4.5 Accelerations

Measurements of the top-floor acceleration were obtained directly from the aeroelastic model. In a manner similar to the base-moment study, measurements were first obtained over all wind directions at 10 degree increments, at constant wind velocity and structural damping. Based on these results, four wind directions were identified at which the total (vector sum of all components) acceleration might be significant. For each of these directions, additional tests were conducted at 3 wind velocities, ranging from approximately 13 mps to 26 mps (hourly mean at gradient height). The results of these tests are shown in Table 10.

The rms accelerations x, y, z were calculated by the on-line computer directly from accelerometer signals, as described in Section 3.4. The total rms acceleration is the square root of the sum of the squares of these three values; this relationship is derived in Appendix B.

5. DISCUSSION

5.1 Flow Visualization

Flow patterns identified with smoke showed that the highest pressures would occur near the corners of the buildings, particularly near the building roof level and near ground level. These pressures are due to flow separation phenomena and, near the roof and ground, due to vortex formation. Winds in the pedestrian environment about the base of the two buildings indicated that the highest winds were near the acute angle corners of each building. Wind speeds near building entrances appeared to be low.

5.2 <u>Pedestrian Winds</u>

Figure 4 shows the 21 locations selected for investigation of pedestrian wind comfort. Location 1 was selected as a reference location which would remain essentially undisturbed by presence of the two Gateway Towers in the current project. Table 2 and Figure 10 show that the largest values of mean velocity were measured at locations 19, 16, 8, 3 and 18 with values ranging from 73 to 79 percent of the mean velocity, U_{∞} , at the boundary layer height. Four of these locations are at the acute-angle vertices of the two towers. For comparison, the largest mean velocity measured at reference location 1 was 59 percent of U_{∞} ; an open-country environment might expect a mean velocity of 40 to 45 percent of U_{∞} .

The largest value of fluctuating velocity, U_{rms} , was measured at location 5 with a value of 27 percent of U_{∞} . All other locations had maximum values of 23 percent or less. An open-country environment might expect a value of 10-12 percent. Values up to 25 percent are common near tall buildings. The largest values of peak gust, represented by the mean plus three rms as discussed in Section 4.2, were measured at

locations 5, 8 and 21 with values ranging from 129 to 131 percent of U_{∞} . for comparison, the largest value at reference location 1 was 115 percent of U_{∞} while an open-country location might expect an effective peak gust of 75 to 85 percent of U_{∞} .

Velocity data of Table 2 integrated with local wind data listed in Table 3 are shown in Figure 11. Based on the data of this figure, the windiest locations are predicted to be locations 3, 16, 18, 19, and 20. Four of these five locations are at the acute-angle vertices of the two towers. The five locations are predicted to be uncomfortable for walking less than 5 to 7 percent of the time. Other areas about the buildings are generally less windy than the reference location 1. Wind speeds near the entrances to the towers (locations 6, 7, 12, 13) are predicted to be quite low.

The results of the pedestrian wind analysis showed that the pedestrian wind environment about the Gateway Towers should be generally acceptable and that wind speeds should be of minor concern to users of the building.

5.3 Pressures

Table 6 shows the largest peak pressure coefficients and corresponding loads measured on the building for each pressure tap location. Data identified as Configuration A in Table 6 and Appendix A represent data obtained at all tap locations for 36 wind directions. Configuration B represents data obtained at selected taps at 2-degree azimuthal increments near azimuths where large pressure peaks were observed in Configuration A to ensure that the largest peaks were obtained. The largest peak pressure coefficient measured on the building was - 3.66 measured at tap 1229 near the acute-angle corner on the west face of Tower 1. Other high-pressure taps were also located near the acute-angle corners on both towers. The largest pressure coefficient represented, using the 50-year recurrence wind reference pressure of Table 5, corresponds to a peak cladding pressure of - 2820 Pa. Data of Configuration B showed that repeat measurements of three of the high-pressure taps resulted in higher pressure loadings than were measured during the Configuration A data run. These differences were caused by the broad statistical distribution of the peak pressures and are within the natural variability to be expected in peak pressures near the acute-angle corners.

Figure 10 shows that most areas of the two towers had peak negative pressures (outward-acting) in the 1000 to 2000 Pa range. Most peak positive pressures were less than 1000 Pa. These rather modest wind loads were due to the relatively low wind speed selected for the design wind.

Figure 13 shows load, shear and moment distributions plotted from Table 7 for the largest loads in the X and Y directions. As is frequently the case, a base shear or moment maximum for one coordinate axis is accompanied by a substantial shear or moment for the orthogonal axis.

5.4 Forces and Moments

Base moments obtained from the aeroelastic model tests were presented in Figures 16, 18, and 19. The peak values in Figure 18 have been "smoothed" by removing the statistical variation inherent in the measurement of peak values (see Section 4.4). These data were obtained at a wind velocity corresponding to 35 m/s at full scale for all wind directions, and represent the best possible estimate of peak moments corresponding to this velocity.

To obtain the variation of moment and shear force with height, the integrated mean surface pressures were multiplied by dynamic response factors observed in the aeroelastic tests. This procedure was discussed in Section 4.4, and the results are given in Table 7. It must be noted that at certain wind directions the total mean force is near zero, and at these directions a large relative discrepancy may exist between the mean moment obtained by integrating the pressure data and that measured in the aeroelastic model. When the former is multiplied by an aeroelastically-determined dynamic response factor obtain to an estimated peak response, the same relative error exists between this estimated peak and aeroelastically-measured peak. Thus the estimated peak for these wind directions may be invalid and obviously misleading; such values have been lined out in the summary page of Table 7.

All of the results discussed thus far have been based on a wind velocity of 35 m/s, and a moderately low, damping ratio. The influence of velocity and damping for selected wind directions was presented in Figure 19.

Some general observations regarding the directional dependency of the building's dynamic response are of interest. It is a common procedure in building codes to design a tall frame based on an equivalent static load, which is computed as the actual mean, or static, load multiplied by a gust response factor. The mean load is by definition in a direction parallel to the wind, and the gust response factor is identi-

governing condition; in fact, the cross-wind response of a tall building is sometimes greater than the along-wind response.

For buildings not possessing radial symmetry, the maximum response - both mean and dynamic - generally occurs at some intermediate wind direction. This is indeed the case for the Gateway Towers, as shown by the aeroelastic response data of Tower 1.

Consider the response of Tower 1 about the x-axis (motion parallel to the short axis), referring to Figures 16 and 14. The maximum mean response occurs at wind direction (WD) 220°, and is generally largest from about 190° to 220°. This is nearly the along-wind direction, but is shifted counter-clockwise slightly so that the short oblique building face appears more nearly broadside. The fluctuating response is also fairly high at these wind directions due to gust buffetting, and the resulting peak moments represent governing conditions. Similar data would ordinarily be expected when the wind is exactly opposite this direction, i.e. 10° to 50°. Due to the shielding offered by Tower 2, however, which is directly upwind at these directions, the mean response is dramatically reduced. At WD 50°, in fact, Tower 1 lies directly in the wake of Tower 2, and is even drawn slightly towards Tower 2. The peak response is nearly as high as at WD 220°, however, in contrast to the mean; this is due to the large amount of turbulence in the wake. The net effect is that neither tower offers any real protection for the other; in fact the fluctuating response, and therefore acceleration, is maximum here. There is also a high fluctuating response at WD 270° to 300°, which is essentially a cross-wind response. The mean response is displaced somewhat from zero, because the building's shape acts as an airfoil with positive lift. The shape is not entirely streamlined, how-

ever, and the flow certainly separates from it as it rounds the lefthand corner. This results in an unstable lift force, an effect referred to as stall flutter in an airfoil. Thus the peak response, though not governing, is abnormally high at this wimd direction.

Response about the y-axis is similar, as can be seen in Figure 16. The maximum response, both mean and peak, occurs near WD 0° or 180° , which is shifted away from the along-wind direction. This is entirely due to the shape of the building, which is relatively streamlined in the along-wind direction. The y-response is determined almost entirely by the pressure on the short oblique building faces, which would be maximum when the wind direction is perpendicular to these faces. This occurs at WD 5° and 185° . When Tower 2 is upstream, at WD 50°, the y-response is affected just as the x-response was: near zero mean, due to shielding, but very high fluctuations, due to turbulent wake buffetting. The peak response, in fact, is equal to that at 0° and 180° .

The torsional response of Tower 1, shown in Figure 16, can be explained with the aid of Figure 20. Figure 20 (a) indicates the effect of a wind normally incident on a rectangular building. A zone of negative pressure, indicated by arrows, exists in the region of separated flow immediately behind the two windward corners. If the wind is now shifted a small amount as indicated in (b), the pressure in these two areas becomes unbalanced, with the high negative pressure occurring on the lower side as shown. This inbalance results in a positive tortional moment M_{τ} .

This negative pressure is a result of the flow's effort to "turn the corner"; the flow is separated and must eventually return to the building surface, or at least return to its original line of flow. It

is the negative pressure which causes the streamlines to bend and be drawn back towards the surface; in fact the magnitude of the pressure is proportional to the curvature of the streamlines.

If the shape of the building were a parallelogram, as shown in (c), this effect would be much reduced. The shape is now more streamlined for this wind direction, and the degree of separation is much less. Instead, the phenomena is more dominant if the wind were in its original direction as in (d), i.e. more nearly perpendicular to the windward face. In (d) the actual wind directions as they apply to Tower 1 are indicated, and it can be seen that this effect would occur at WD 140° just as at 320° , and also at 90° or 270° in which case the induced torsional moment would be negative. Referring to Figure 16, this is precisely what the data indicates.

5.5 <u>Accelerations</u>

It is generally agreed that acceleration provides the best measure of possible human discomfort due to motion in tall buildings; however, there is a very little data available by which this issue can be judged quantitatively. The best guidelines currently available are due to two research studies. Reed et al (15) measured the acceleration response of two buildings in two separate storms, and evaluated the corresponding human response through questionnaires and interviews with the building's Conclusions were drawn as to how often the measured levels occupants. of acceleration could occur with a given level of objection. In the second study, Chen and Robertson (16) simulated an office environment within a cubicle which could be moved horizontally. The intent of this program was to determine the minimum level of acceleration which could be sensed by humans. This "threshold of perception" was found to vary

with many factors, including inherent variation from person to person, whether the person had been previously conditioned to the type of motion, and the frequency of motion. A procedure was presented by which any desired threshold level--in terms of percentage of an average cross section of people responding--can be estimated, as a function of frequency.

To compare these results to the predicted motion levels of the Gateway Tower 1, the acceleration data of Table 10 has been plotted in Figure 21. These graphs show various levels of total rms acceleration on the top floor (as derived in Appendix B) plotted against the number of times per year that such a level is expected to occur, for four different wind directions. Two plots are given, corresponding to two different values of structural damping. The exact damping which will be present in the completed building cannot be predicted, but will almost certainly be between these two extreme values.

The horizontal dashed lines in the lower right-hand corner represent acceleration levels, computed for the average natural frequency of the building, representing the lower limit of perception by 2 percent and 10 percent of the average population. The figures indicate that, even at the lowest value of damping, 2 percent of the top floor occupants will be able to perceive the motion no more than one or two times per year.

The solid data points so indicated represent suggested design criteria based on reference (15). They represent top-floor acceleration levels at which 2 or 10 percent of the occupants in the top one-third of the building would find "objectionable" (as opposed to perceivable) if it occurred at the frequency indicated. According to this criteria, the

building's motion is expected to be within comfortable limits. In an extreme situation, 2 percent of the top-floor occupants might detect motion about once per year for winds with an azimuth of approximately 100 degrees.

At very low frequencies of occurrence (i.e., high acceleration levels) no data are available by which to judge the human response issue. It is generally agreed, however, that performance-type criteria such as occupant comfort should be based on events which occur relatively frequently, say at least once per year.

In conclusion, therefore, the building motion is expected to be generally acceptable, even at a very low value of damping. At a more probable value of damping, the motion level should be acceptable to more than 98 percent of the building's occupants. The motion should be perceivable, if at all, no more than once per year for 2 percent of the top floor occupants. Finally, it is cautioned that these conclusions are based on a very limited amount of research and field data, which nevertheless represent the best criteria available. It is expected that no problems should be experienced due to wind induced motion.

REFERENCES

- 1. Cermak, J. E., "Laboratory Simulation of the Atmospheric Boundary Layer," AIAA J1., Vol. 9, September 1981.
- Cermak, J. E., "Applications of Fluid Mechanics to Wind Engineering," A Freeman Scholar Lecture, ASME J1. of Fluids Engineering, Vol. 97, No. 1, March 1975.
- 3. Cermak, J. E., "Aerodynamics of Buildings," Annual Review of Fluid Mechanics, Vol. 8, 1976, pp. 75-106.
- Whitbread, R. E., "Model Simulation of Wind Effects on Structures," Proceedings of Symposium on Wind Effects on Buildings and Structures, Teddington, pp. 281-302, 1963.
- 5. Bienkiewicz, B., Cermak, J. E., and Peterka, J. A., "Scaling of Building Models for Wind-Tunnel Test," (to be published).
- 6. Penwarden, A. D. and Wise, A. F. E., "Wind Environment Around Buildings," Building Research Establishment Report, HMSO, 1975.
- 7. Melbourne, W. H., "Criteria for Environmental Wind Conditions," Jl. Industrial Aerodynamics, Vol. 3, 1978, pp. 241-247.
- 8. American National Standards Institute, "American National Standard Building Code Requirements for Minimum Design Loads in Buildings and Other Structures," ANSI Standard A58.1, 1972.
- Hollister, S. C., "The Engineering Interpretation of Weather Bureau Records for Wind Loading on Structures," Building Science Series 30--Wind Loads on Buildings and Structures, National Bureau of Standards, 1970, pp. 151-164.
- Peterka, J. A. and Cermak, J. E., "Peak-Pressure Duration in Separated Regions on a Structure," U.S.-Japan Research Seminar on Wind Effects on Structures, Kyoto, Japan, 9-13 September 1974; Report CEP74-75JAP-JEC8, Fluid Mechanics Program, Colorado State University, September 1974.
- 11. PPG Glass Thickness Recommendations to Meet Architect's Specified 1-Minute Wind Load, Pittsburgh Plate Glass Industries, April 1979.
- Shand, E. B., <u>Glass Engineering Handbook</u>, Second Edition, McGraw-Hill, New York, 1958, p. 51.
- 13. Batts, M. E., "Hurricane Wind Speeds in the United States," Building Science Series 124, National Bureau of Standards, 1980.
- Thom, H. C. S., "New Distributions of Extreme Winds in the United States," J1. of the Structural Division, ASCE, July 1968, pp. 1787-1801.

- 15. Hanson, R. J., Reed, J. W., and Vanmarcke, E. H., "Human Response to Wind-Induced Motion of Buildings," Jl. of the Structural Division, ASCE, Vol. 99, No. ST7, Proc. Paper 9868, July, 1973, pp. 1589-1605.
- 16. Chen, P. W. and Robertson, L. E., "Human Perception Thresholds of Horizontal Motion," Jl. of the Structural Division, ASCE, Vol. 98, No. ST8, Proc. Paper 9142, August, 1972, pp. 1681-1695.

FIGURES

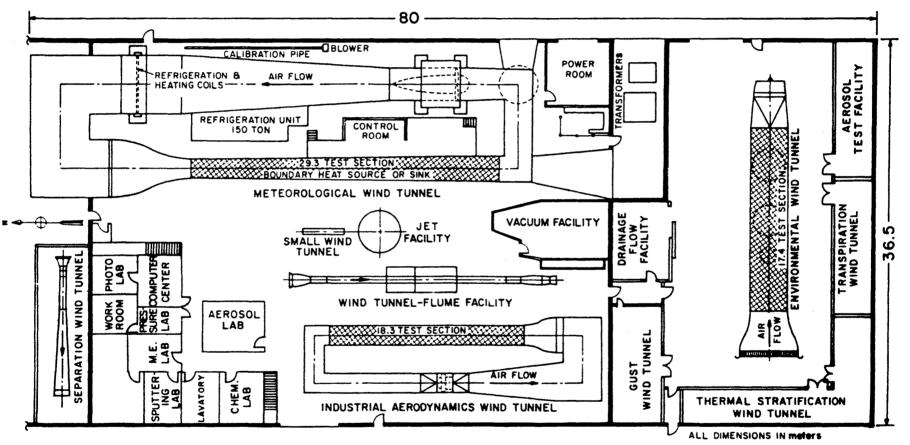
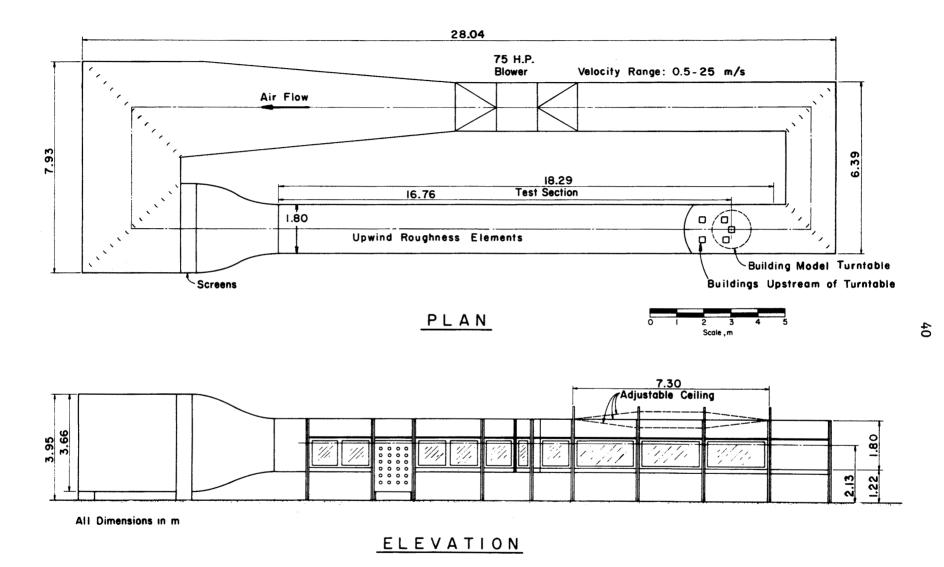
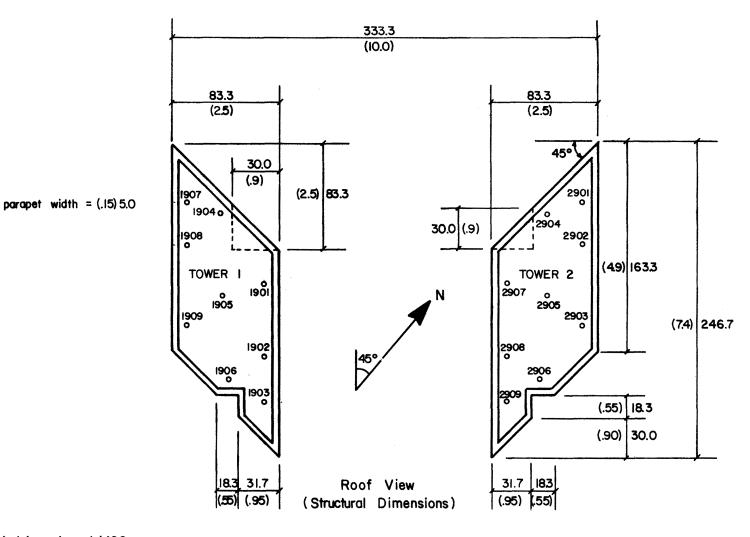


Figure 1. FLUID DYNAMICS AND DIFFUSION LABORATORY COLORADO STATE UNIVERSITY



INDUSTRIAL AERODYNAMICS WIND TUNNEL

Figure 2. Wind - Tunnel Configuration



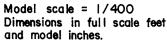


Figure 3a. Pressure Tap Locations

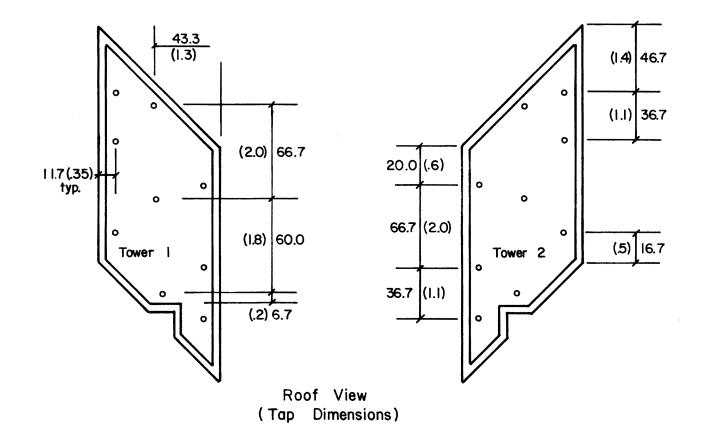
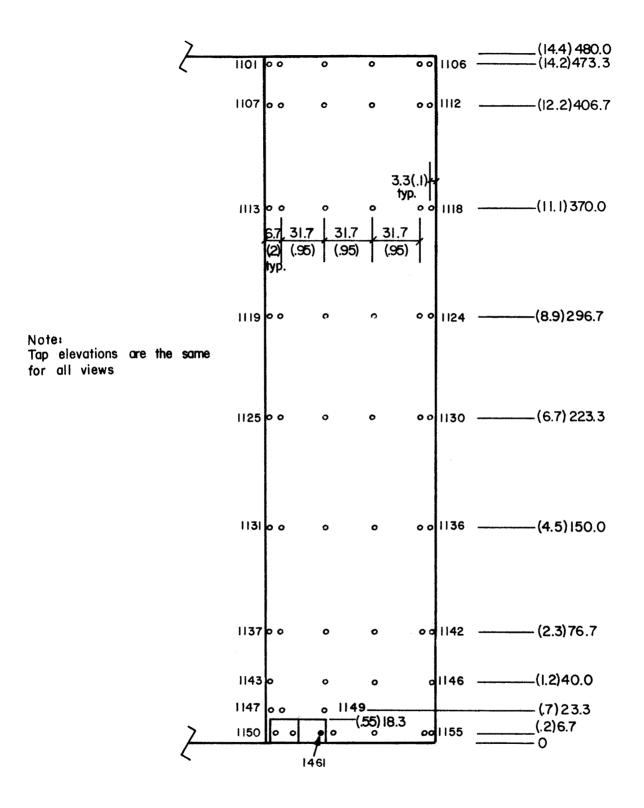
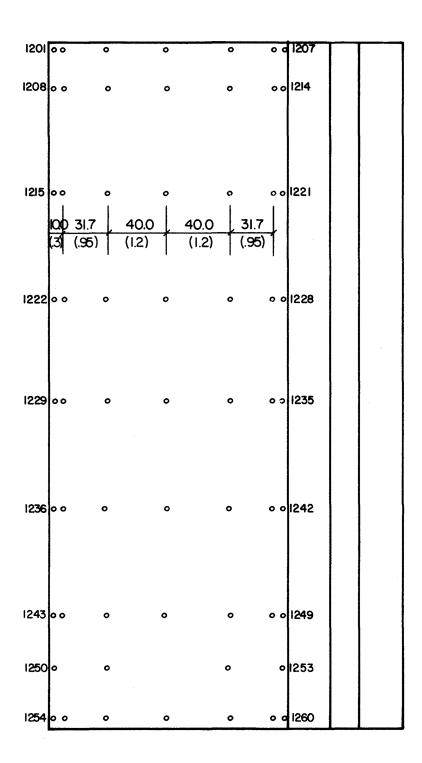


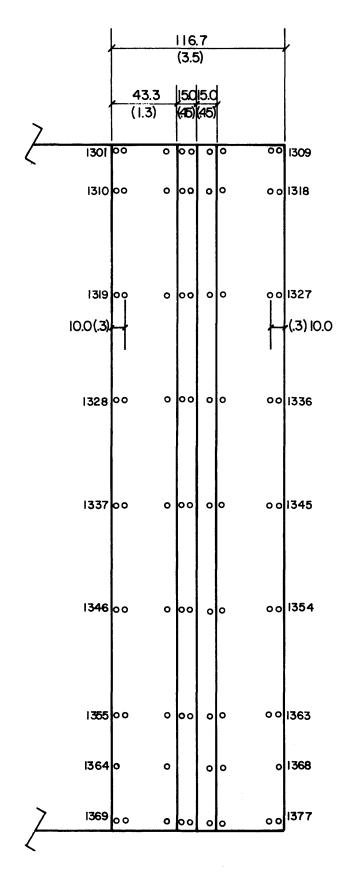
Figure 3b. Pressure Tap Locations



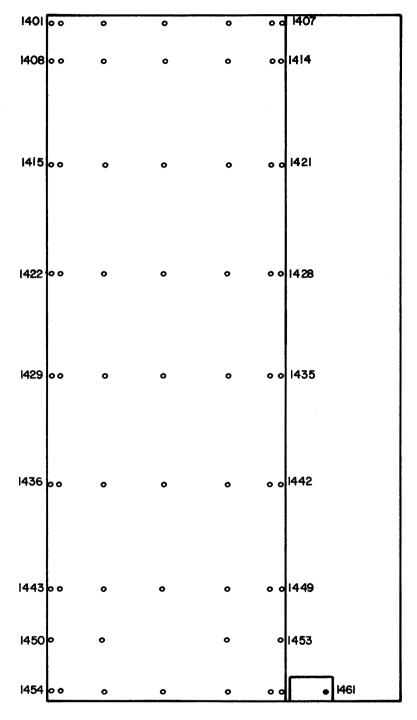
Tower I - North Elevation



Tower I - West Elevation

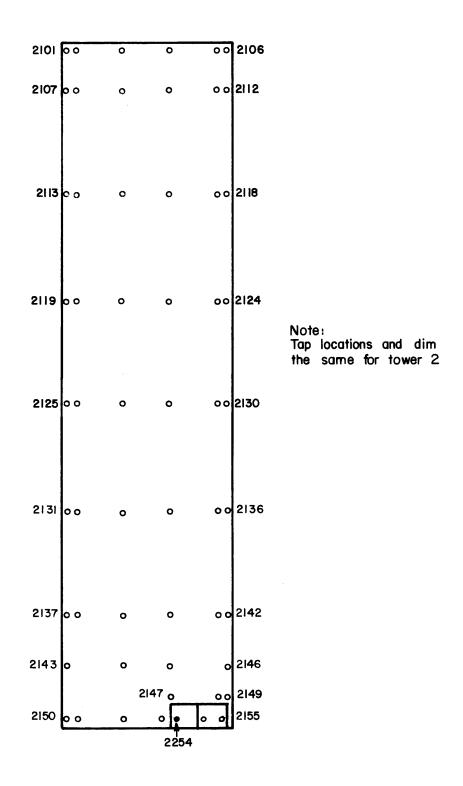


Tower I – South Elevation



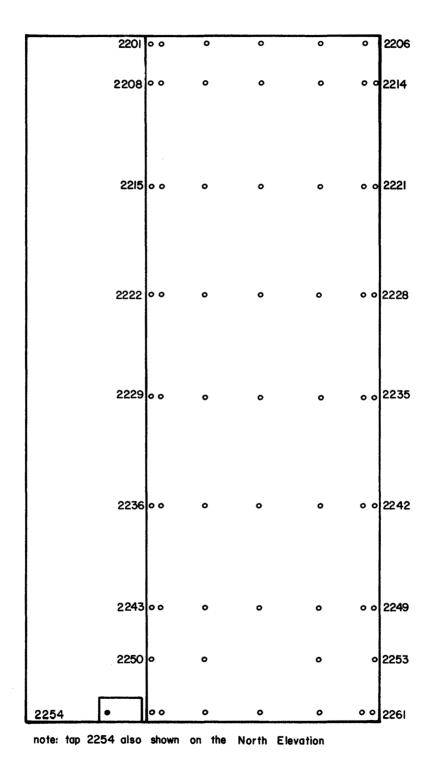


Tower I - East Elevation



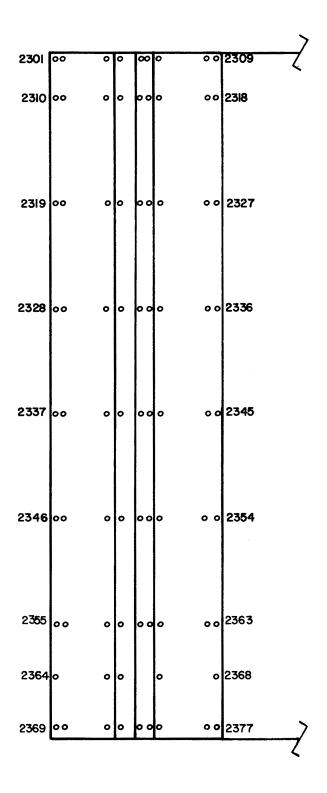
Tower 2 - North Elevation

Figure 3g. Pressure Tap Locations



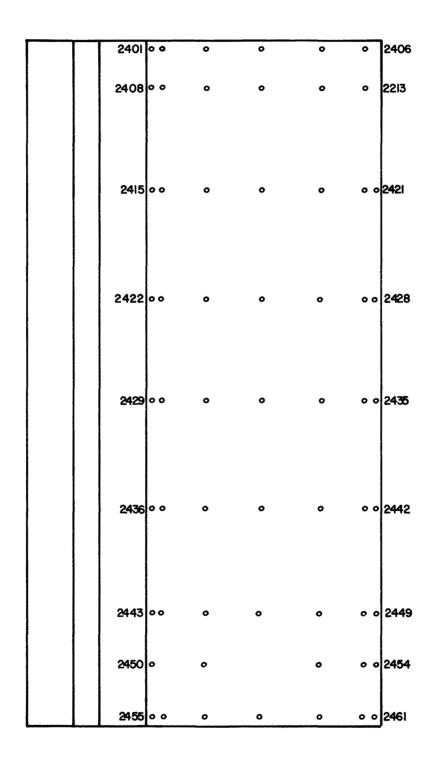
Tower 2 - West Elevation

Figure 3h. Pressure Tap Locations



Tower 2 - South Elevation

Figure 3i. Pressure Tap Locations



Tower 2 - East Elevation

Figure 3j. Pressure Tap Locations

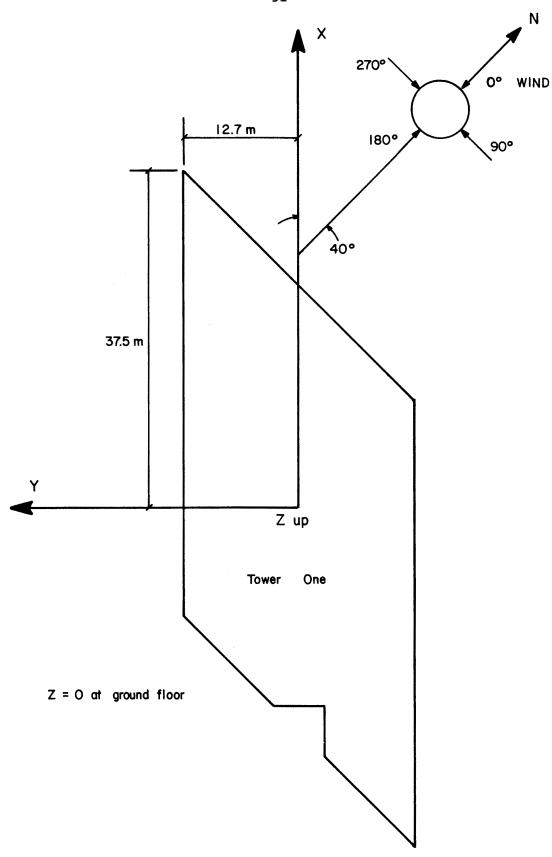


Figure 3k. Pressure Tap Locations

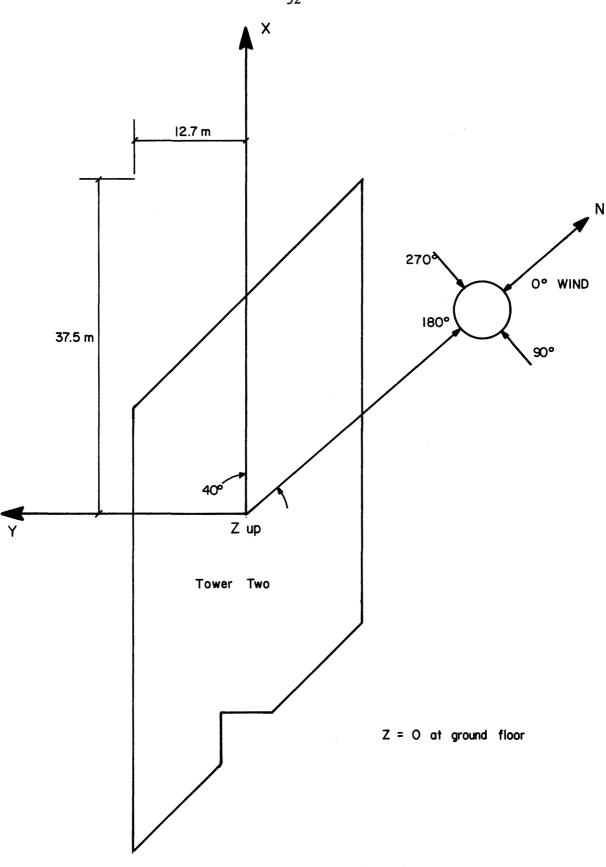


Figure 31. Pressure Tap Locations

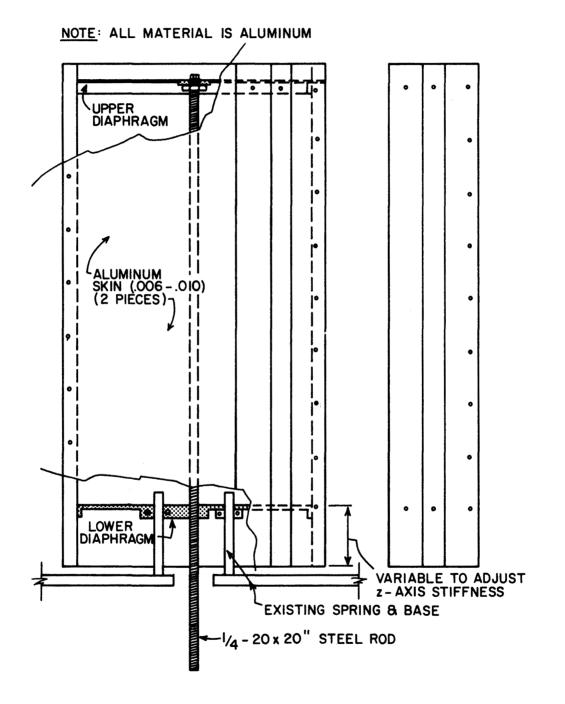
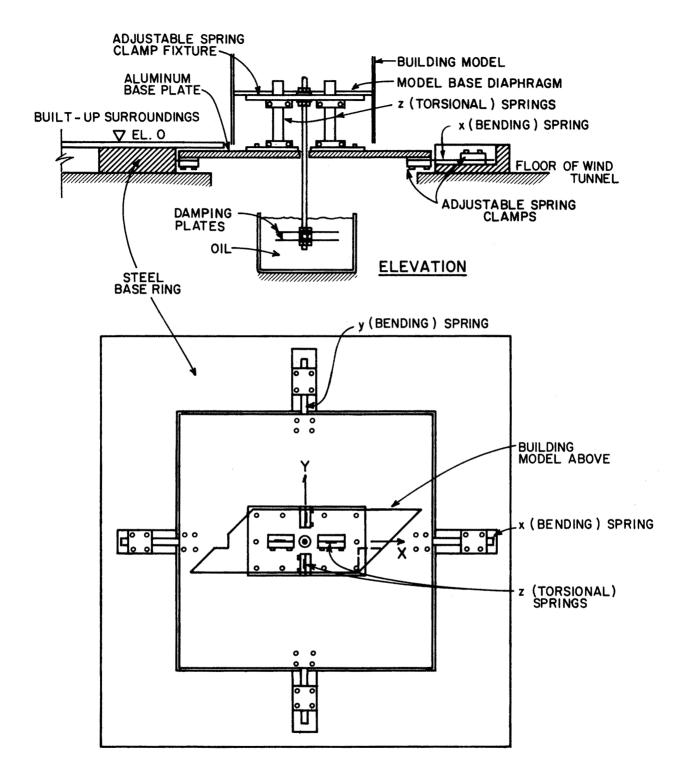


Figure 4. Aeroelastic Model



TOP VIEW

Figure 5. Base Fixture for Aeroelastic Model

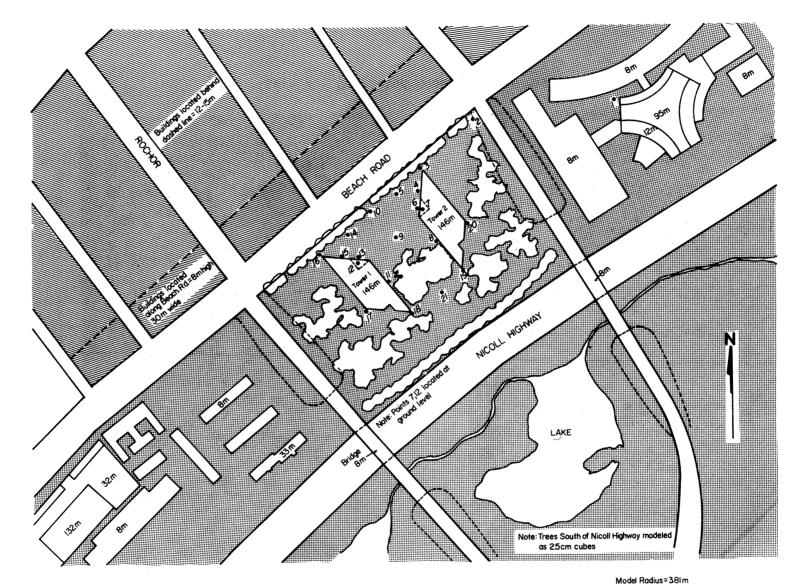
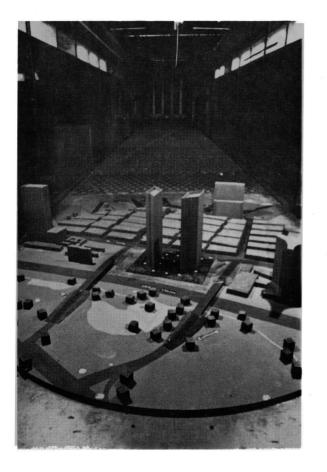


Figure 6. Building Location and Pedestrian Wind Velocity Measuring Positions



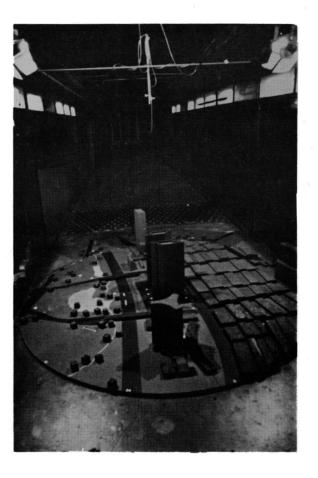


Figure 7. Completed Model in Wind Tunnel

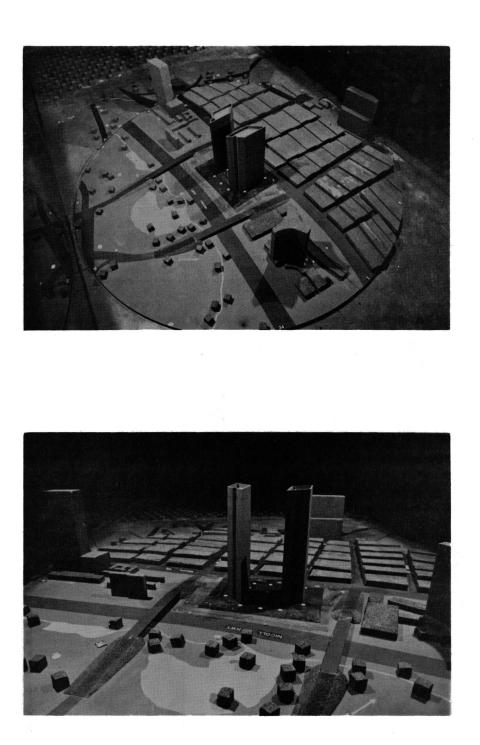


Figure 7. Completed Model in Wind Tunnel

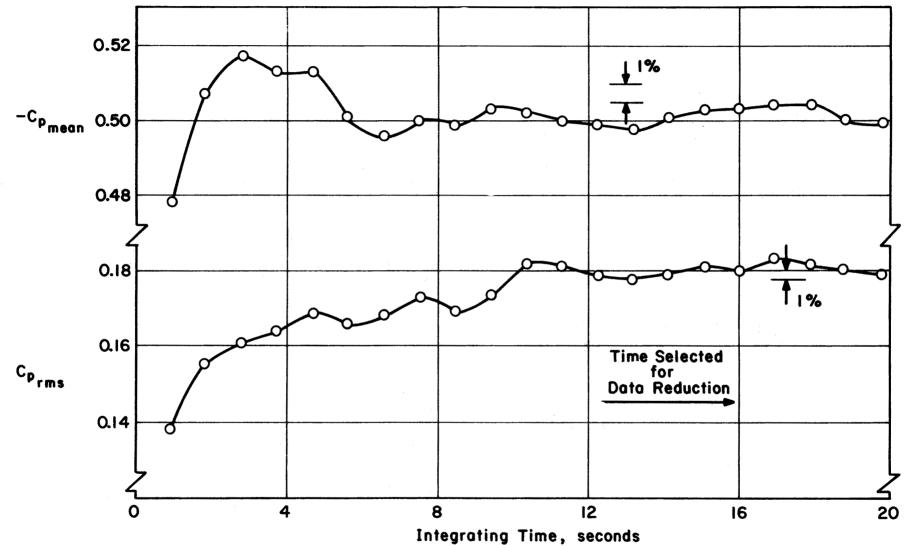


Figure 8. Data Sampling Time Verification

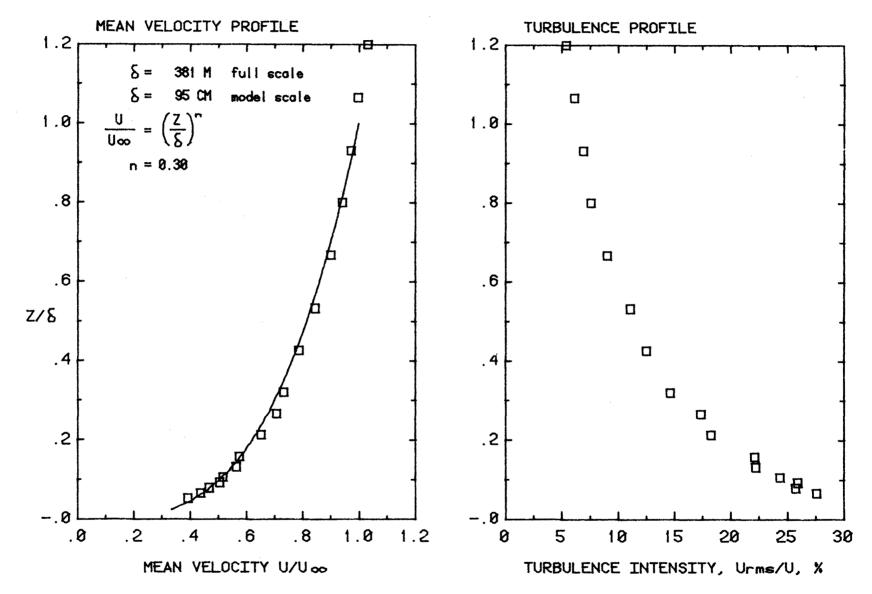
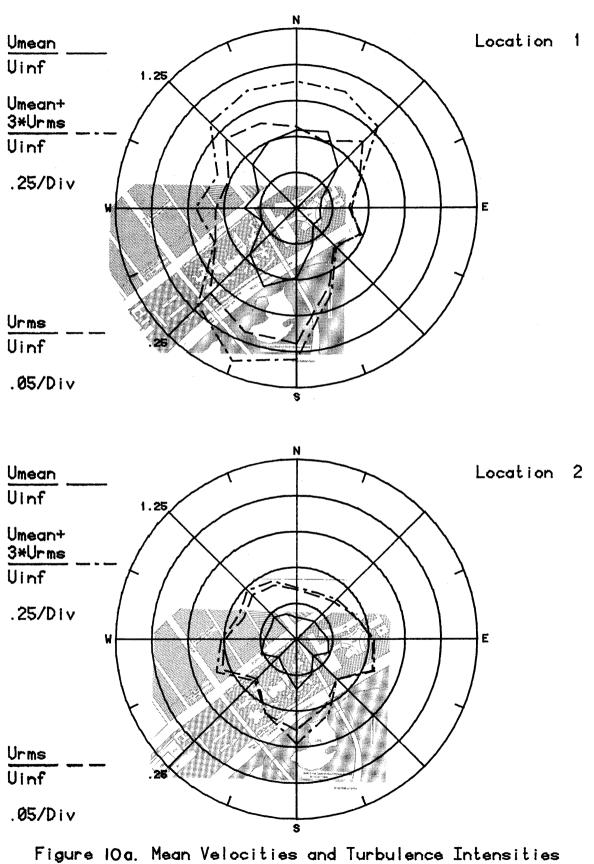
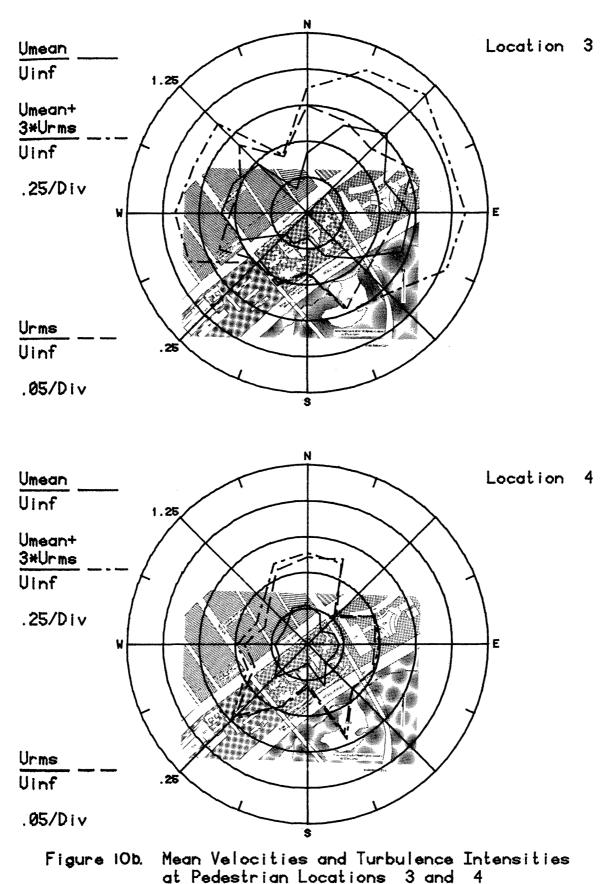
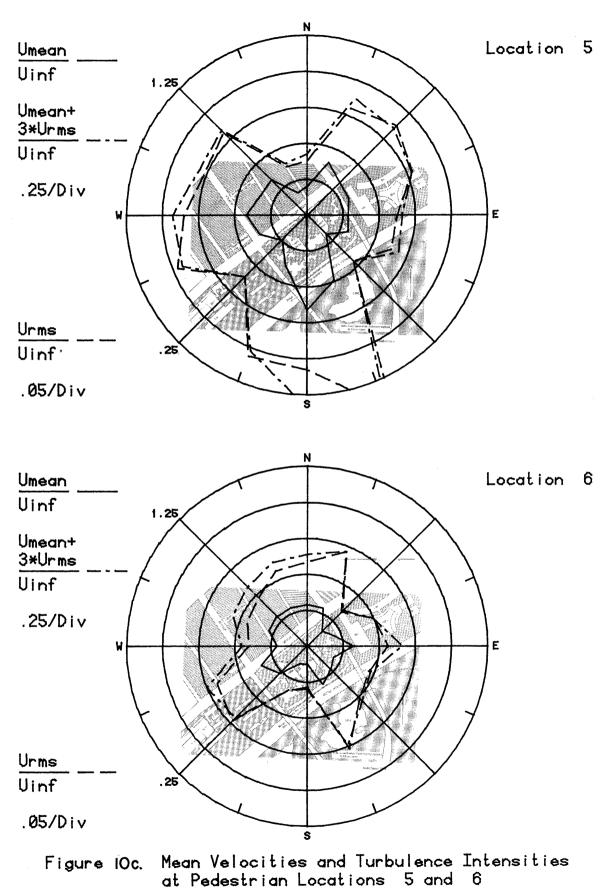


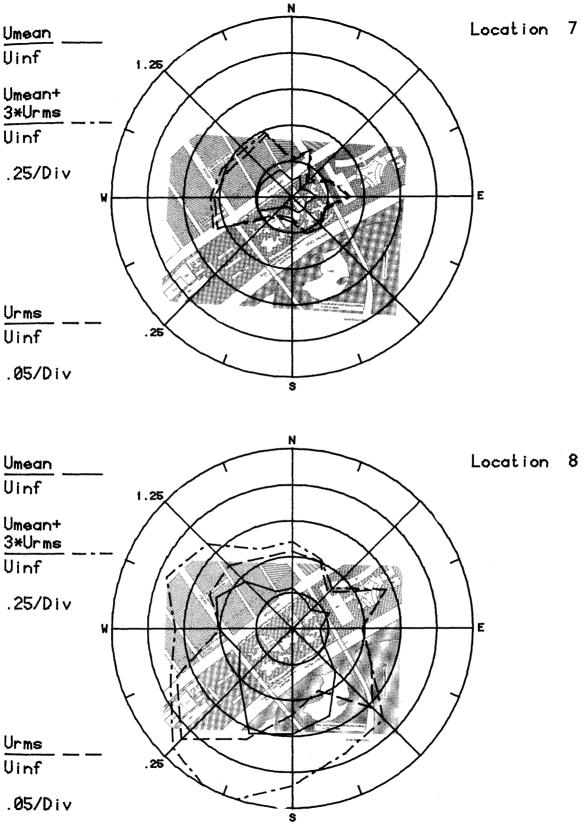
Figure 9. Mean Velocity and Turbulence Profiles Approaching the Model

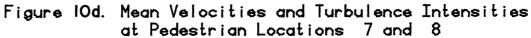


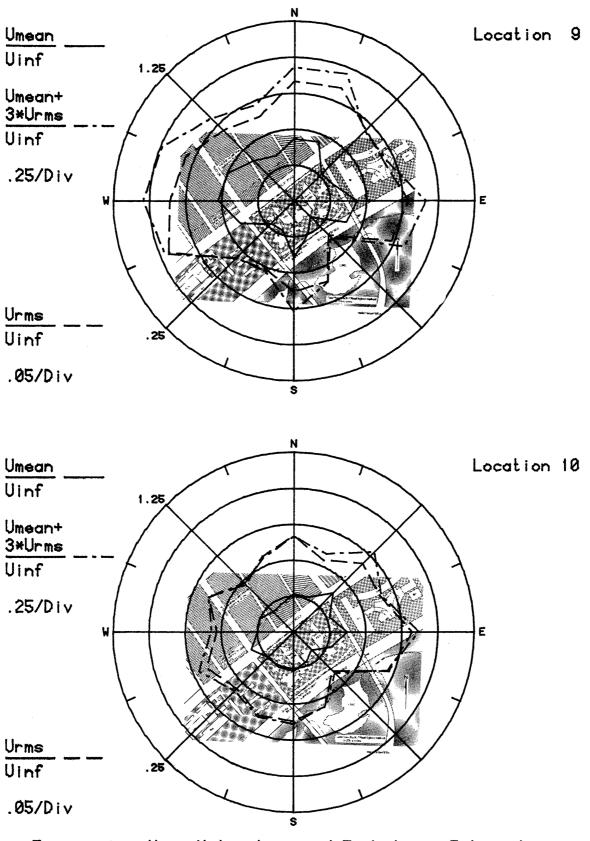
at Pedestrian Locations 1 and 2













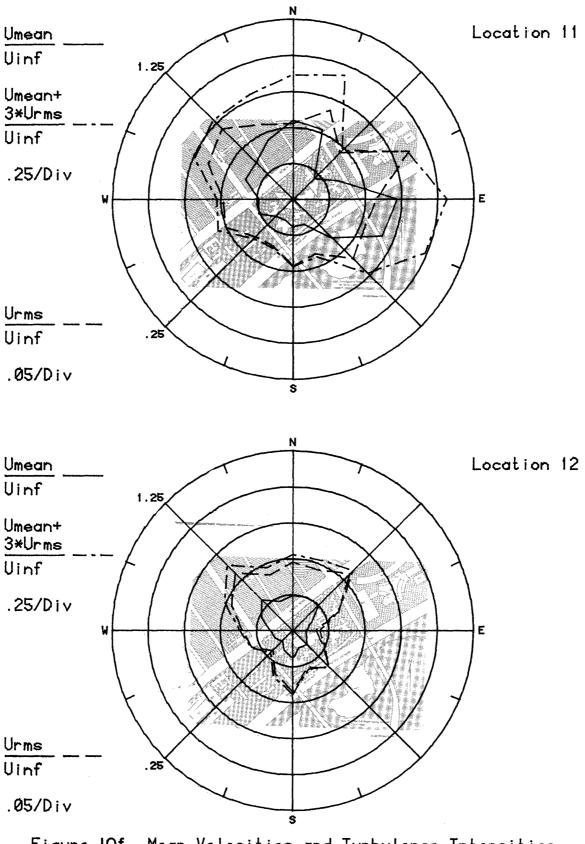
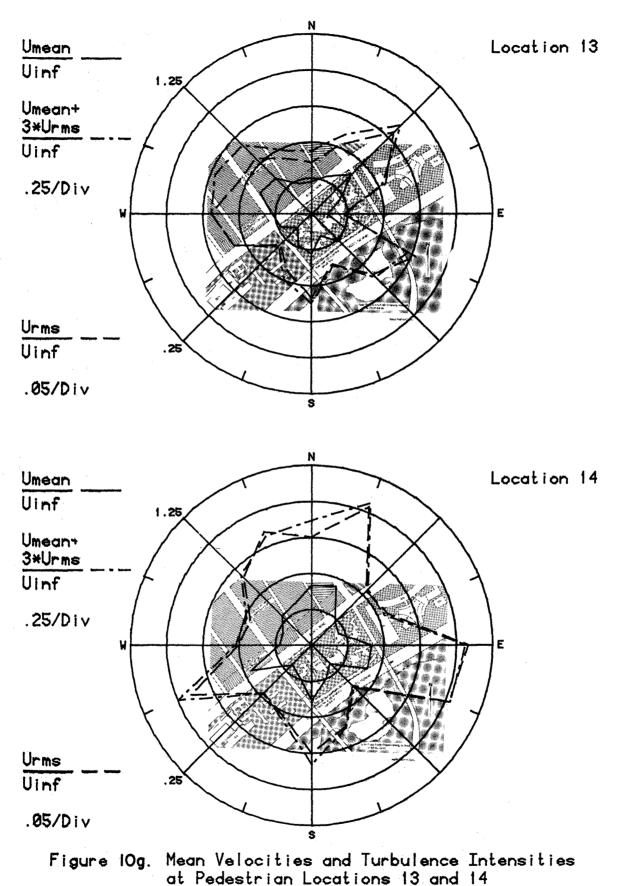


Figure 10f. Mean Velocities and Turbulence Intensities at Pedestrian Locations 11 and 12



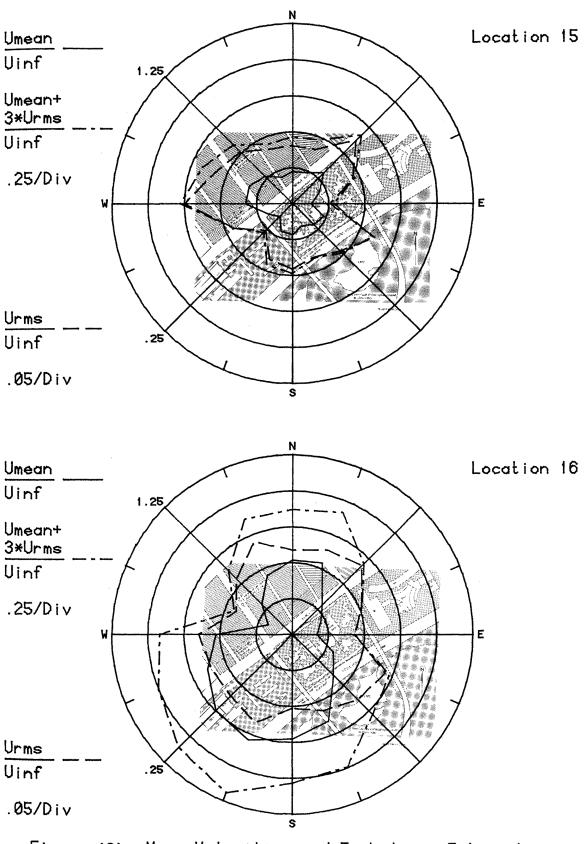


Figure 10h. Mean Velocities and Turbulence Intensities at Pedestrian Locations 15 and 16

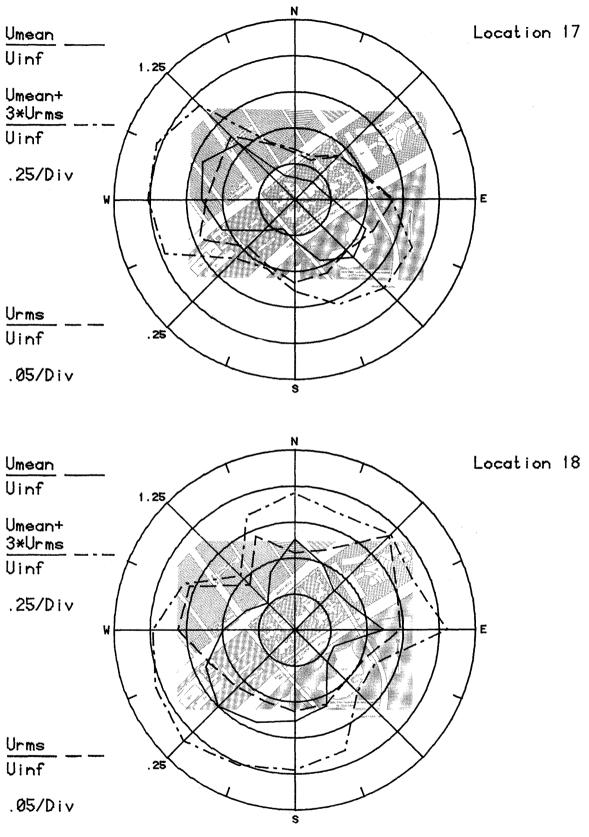


Figure 10i. Mean Velocities and Turbulence Intensities at Pedestrian Locations 17 and 18

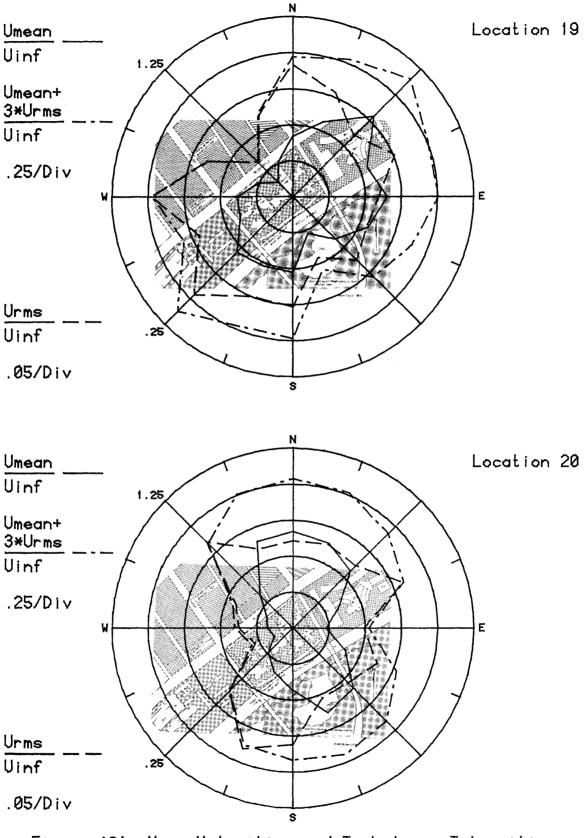


Figure 10j. Mean Velocities and Turbulence Intensities at Pedestrian Locations 19 and 20

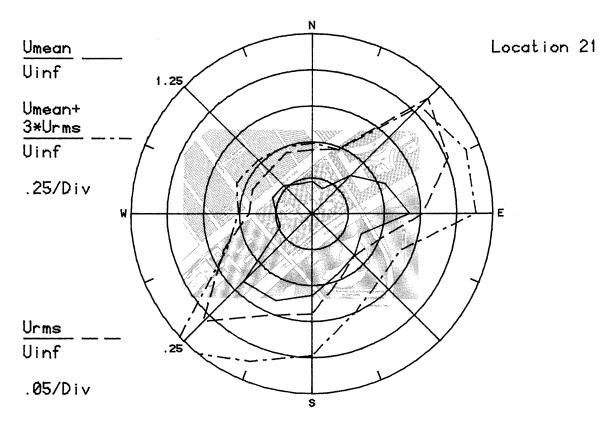


Figure IOk. Mean Velocities and Turbulence Intensities at Pedestrian Location 21

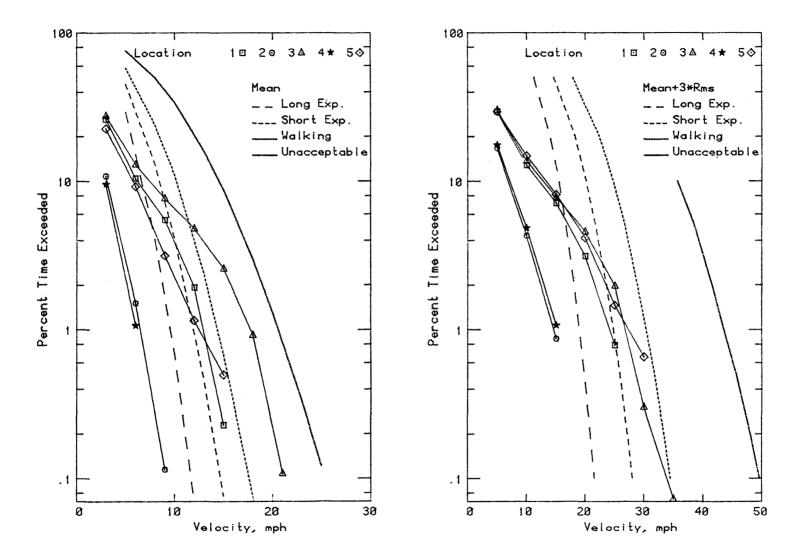


Figure 11a. Wind Velocity Probabilities for Pedestrian Locations

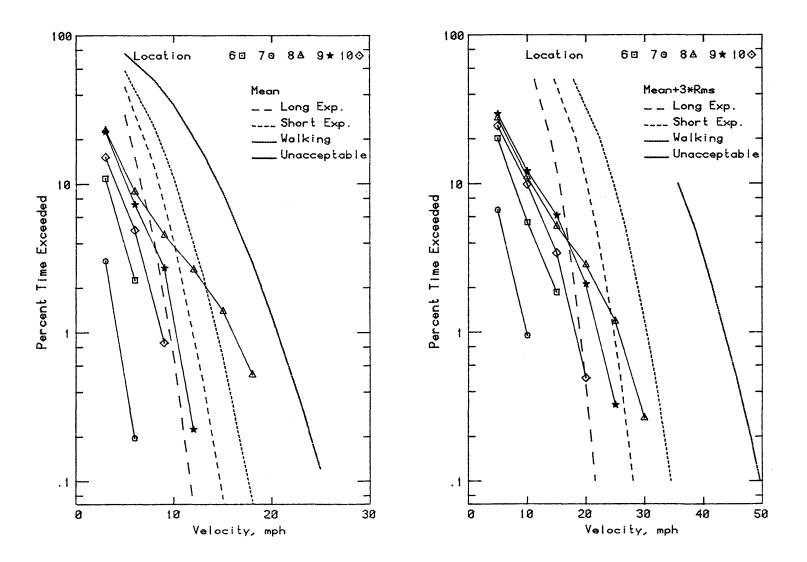


Figure 11b. Wind Velocity Probabilities for Pedestrian Locations

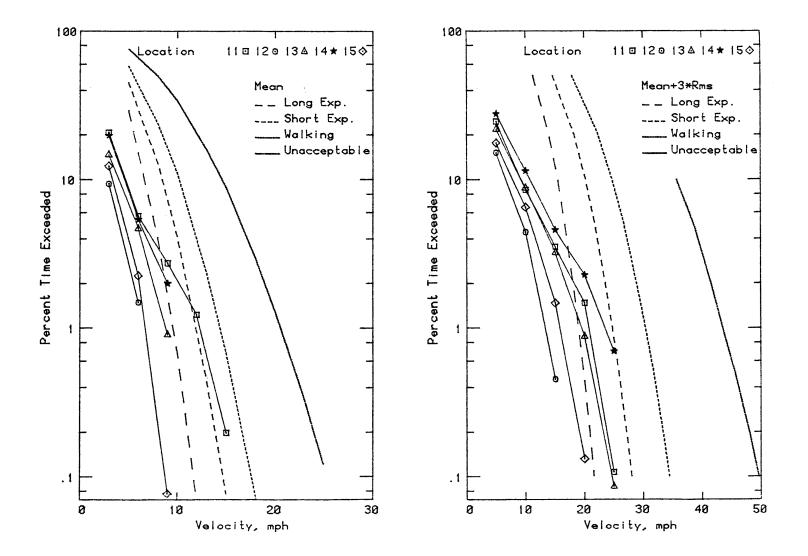


Figure 11c. Wind Velocity Probabilities for Pedestrian Locations

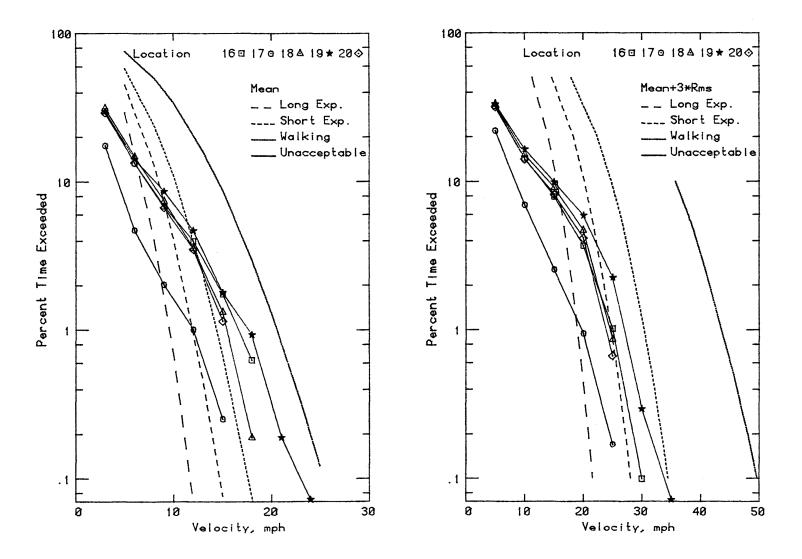


Figure 11d. Wind Velocity Probabilities for Pedestrian Locations

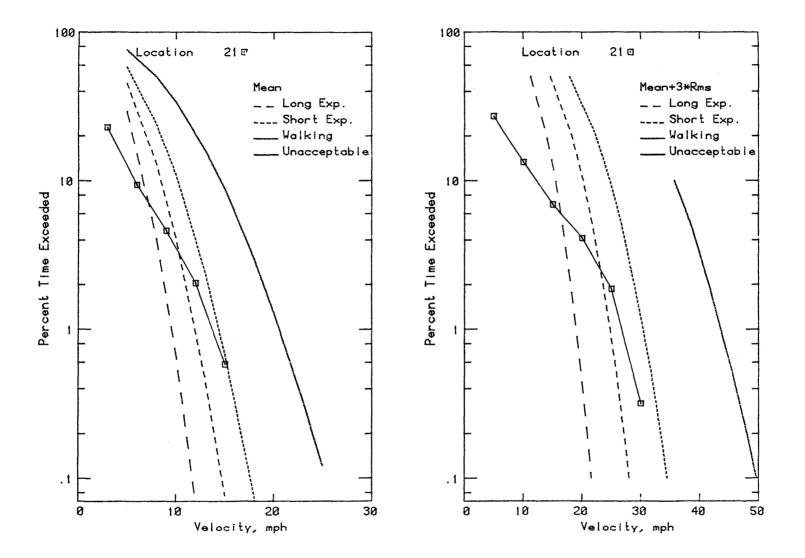
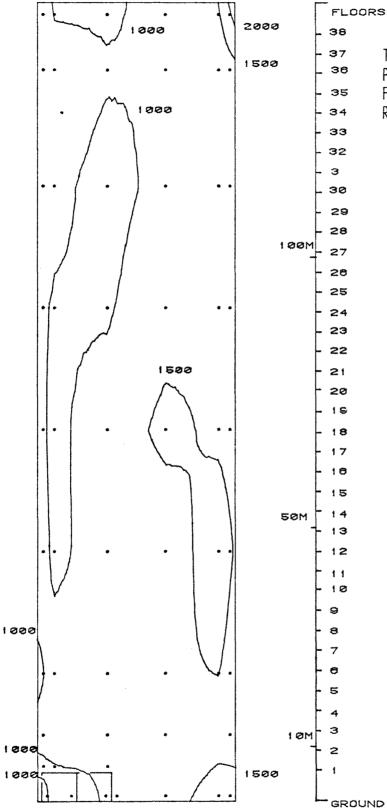


Figure 11e. Wind Velocity Probabilities for Pedestrian Locations



Tower 1, North Elevation Peak Negative Cladding Loads (Pa) For ~ 100-Year Recurrence Wind Reference Pressure = 770 Pa

Figure 12a. Peak Pressure Contours on the Building for Cladding Loads

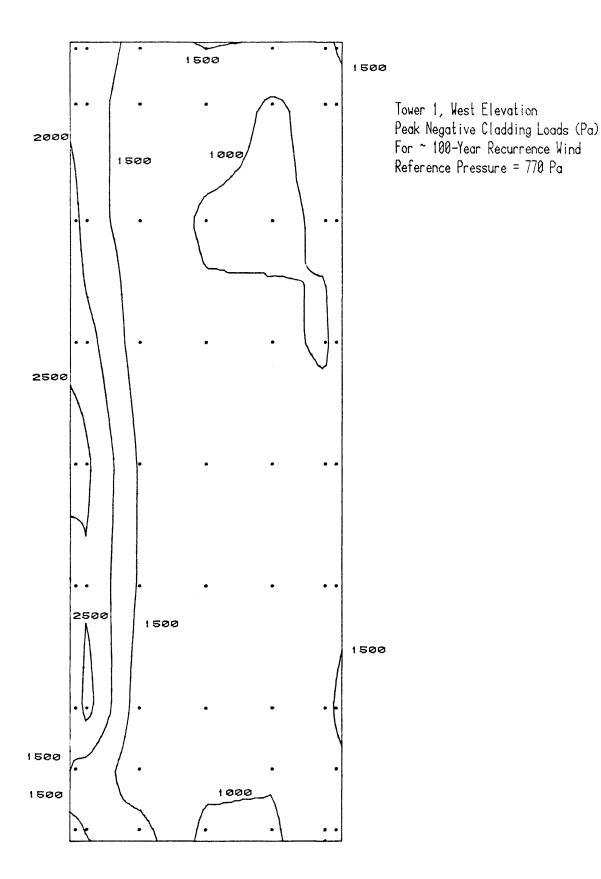
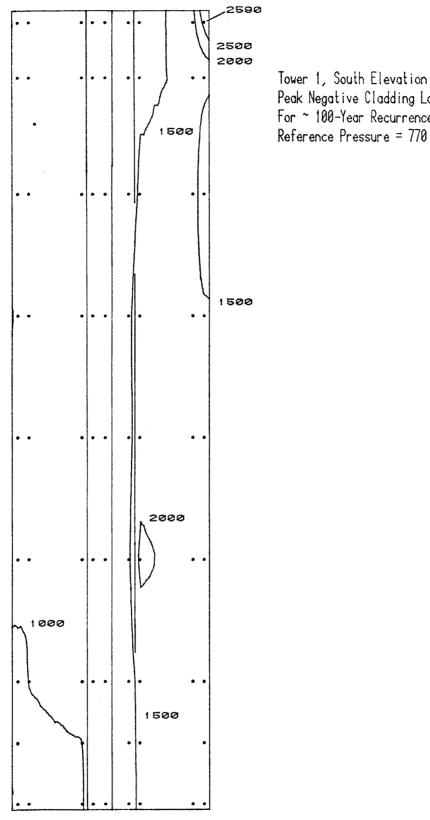


Figure 12b. Peak Pressure Contours on the Building for Cladding Loads



Peak Negative Cladding Loads (Pa) For ~ 100-Year Recurrence Wind Reference Pressure = 770 Pa

Figure 12c. Peak Pressure Contours on the Building for Cladding Loads

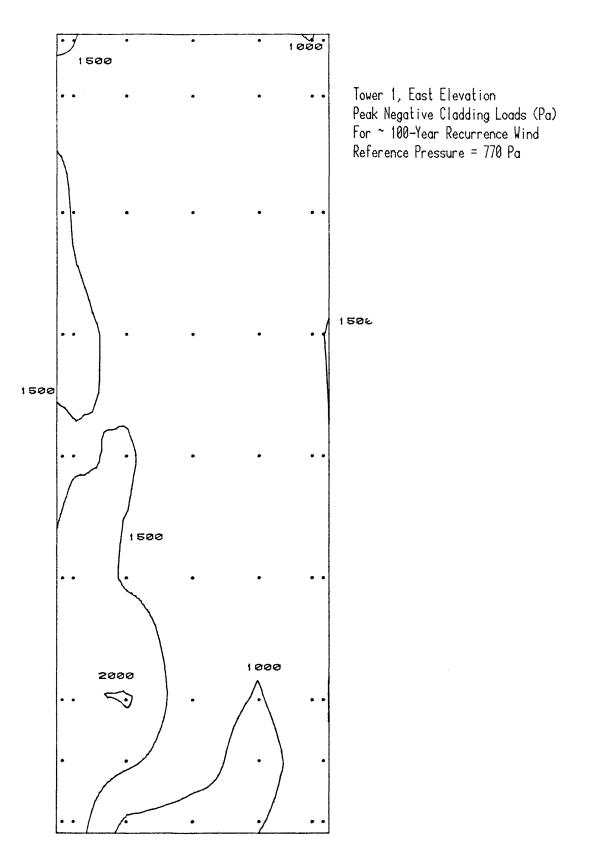
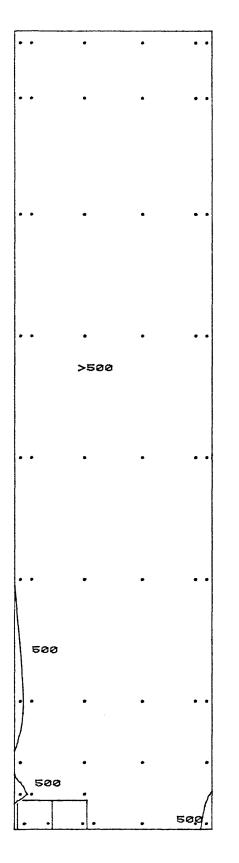
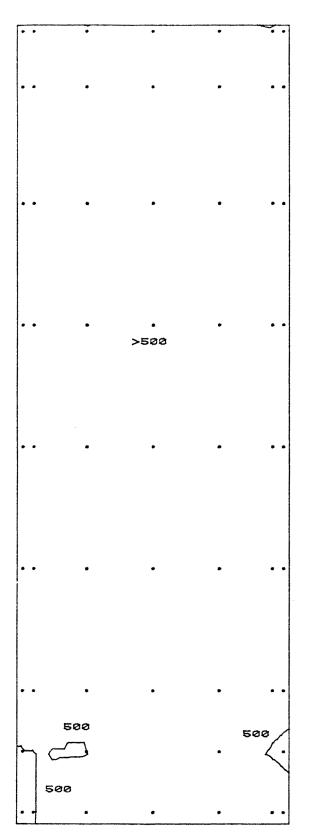


Figure 12d. Peak Pressure Contours on the Building for Cladding Loads



Tower 1, North Elevation Peak Positive Cladding Loads (Pa) For ~ 100-Year Recurrence Wind Reference Pressure = 770 Pa

Figure 12e. Peak Pressure Contours on the Building for Cladding Loads



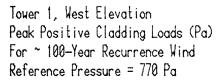
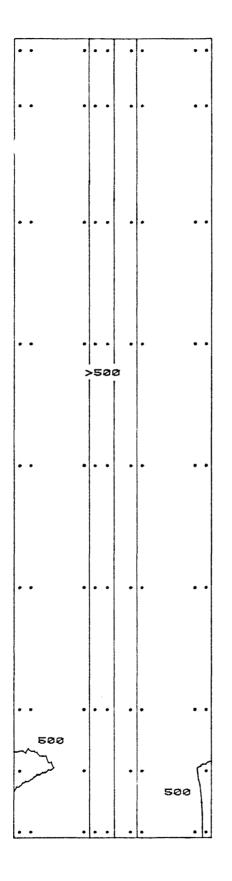


Figure 12f. Peak Pressure Contours on the Building for Cladding Loads



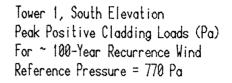
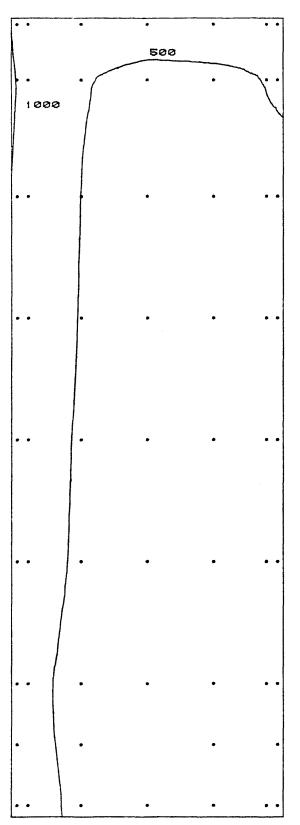
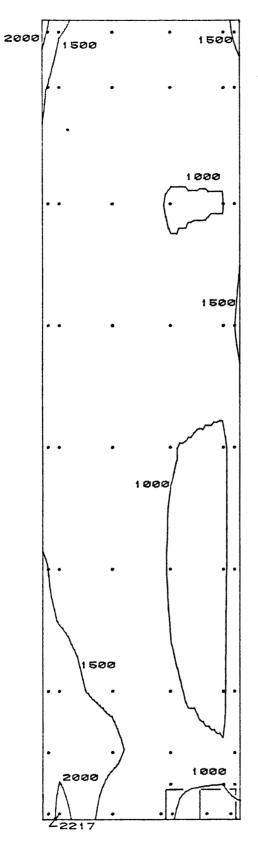


Figure 12g. Peak Pressure Contours on the Building for Cladding Loads



Tower 1, East Elevation Peak Positive Cladding Loads (Pa) For ~ 100-Year Recurrence Wind Reference Pressure = 770 Pa

Figure 12h. Peak Pressure Contours on the Building for Cladding Loads



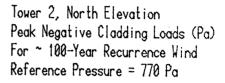
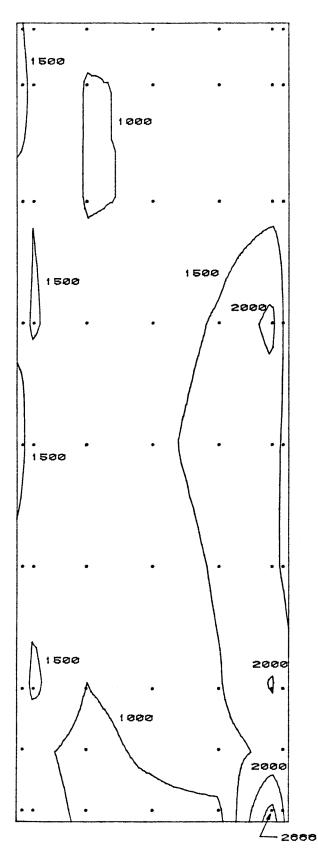


Figure 12i. Peak Pressure Contours on the Building for Cladding Loads



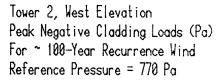
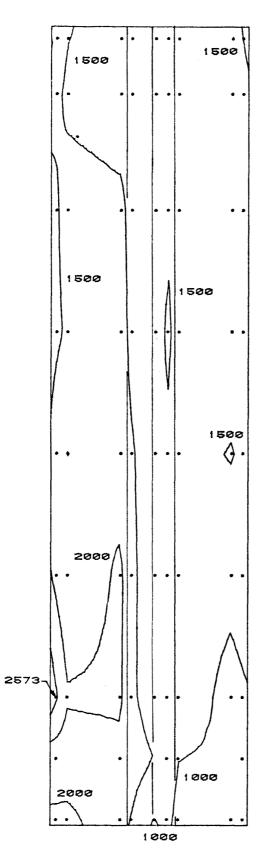


Figure 12j. Peak Pressure Contours on the Building for Cladding Loads



Tower 2, South Elevation Peak Negative Cladding Loads (Pa) For ~ 100-Year Recurrence Wind Reference Pressure = 770 Pa

Figure 12k. Peak Pressure Contours one Building for Cladding Loads

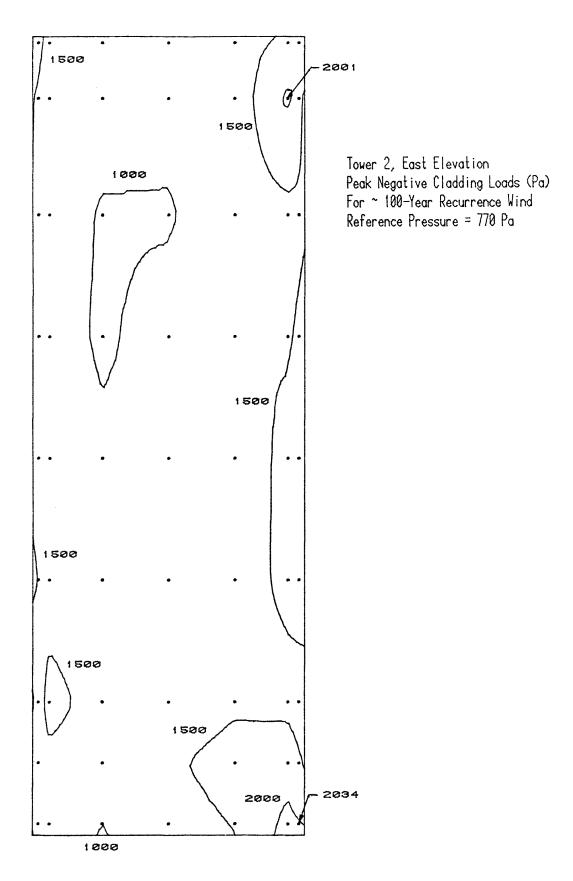
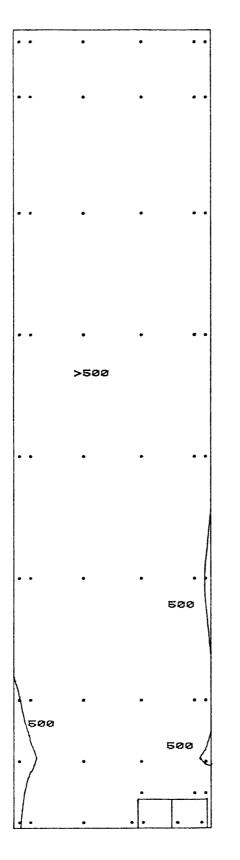


Figure 121. Peak Pressure Contours on the Building for Cladding Loads



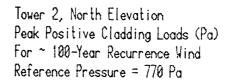
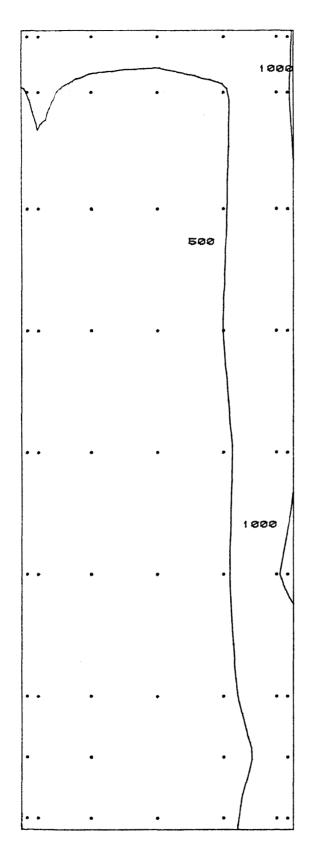


Figure 12m. Peak Pressure Contours on the Building for Cladding Loads



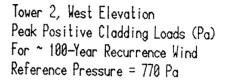
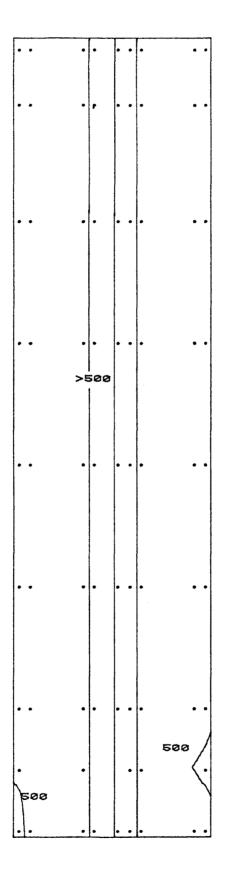


Figure 12n. Peak Pressure Contours on the Building for Cladding Loads



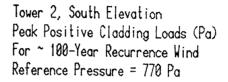


Figure 120. Peak Pressure Concours on the Building for Cladding Loads

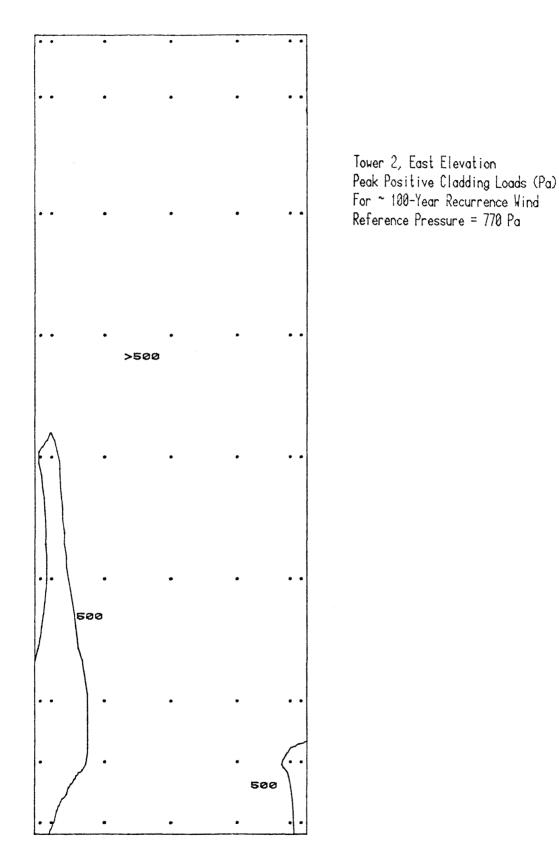
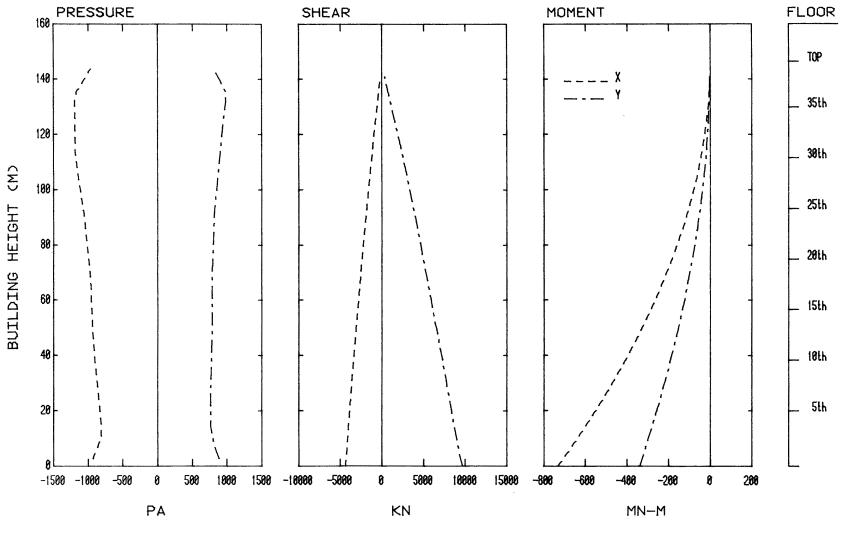


Figure 12p. Peak Pressure Contours on the Building for Cladding Loads

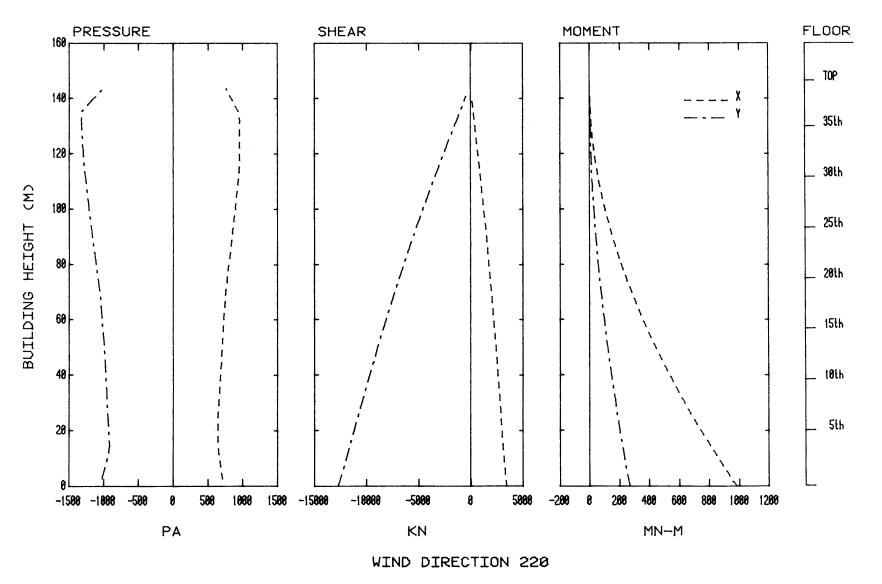
GATEWAY PROJECT TOWER ONE



WIND DIRECTION 0

Figure 13. Load, Shear, and Moment Diagrams for Selected Wind Directions

GATEWAY PROJECT TOWER ONE





GATEWAY PROJECT TOWER TWO

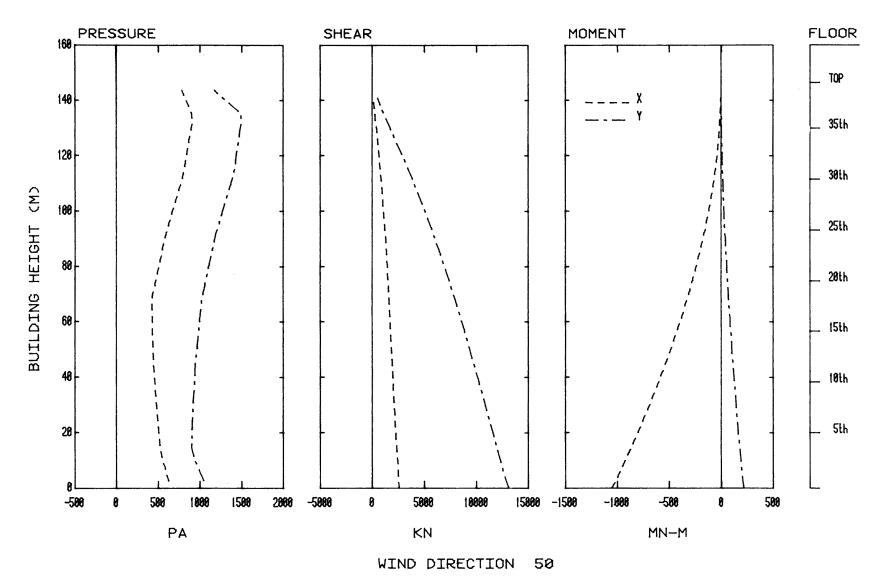
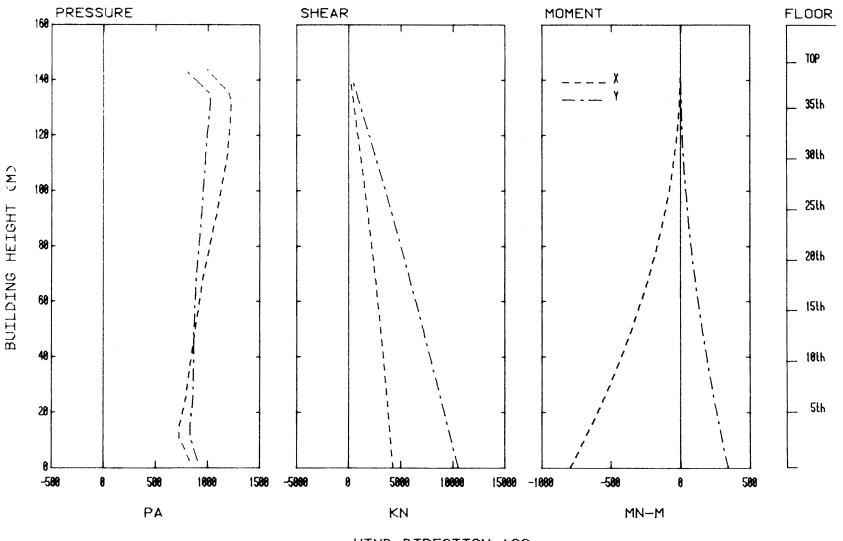


Figure 13. Load, Shear, and Moment Diagrams for Selected Wind Directions

GATEWAY PROJECT TOWER TWO



WIND DIRECTION 100

Figure 13. Load, Shear, and Moment Diagrams for Selected Wind Directions

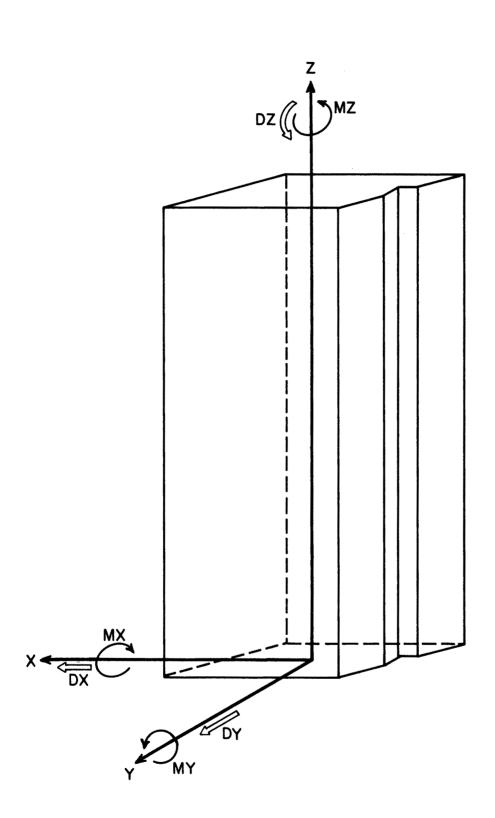


Figure 14. Sign Convention for Base Moments and Top Floor Deflection

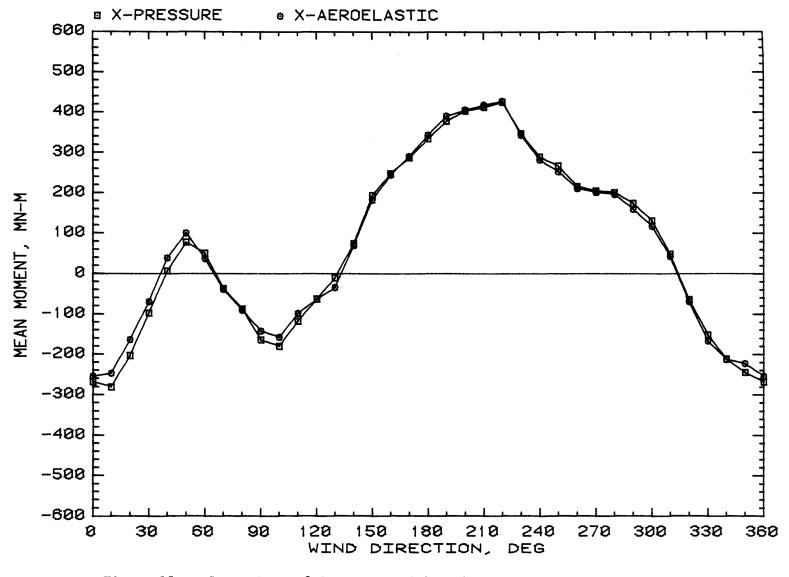
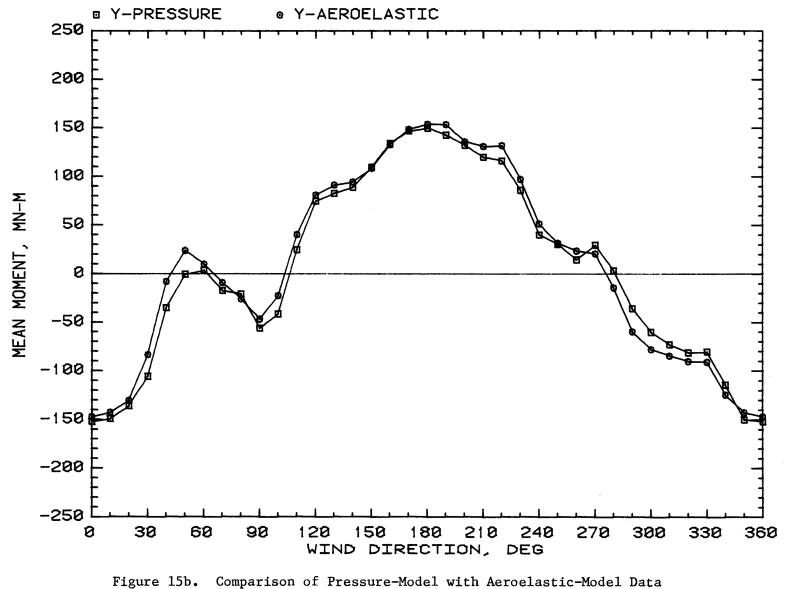


Figure 15a. Comparison of Pressure-Model with Aeroelastic-Model Data (mean gradient ht. velocity = 35 m/s)



(mean gradient ht. velocity = 35 m/s)

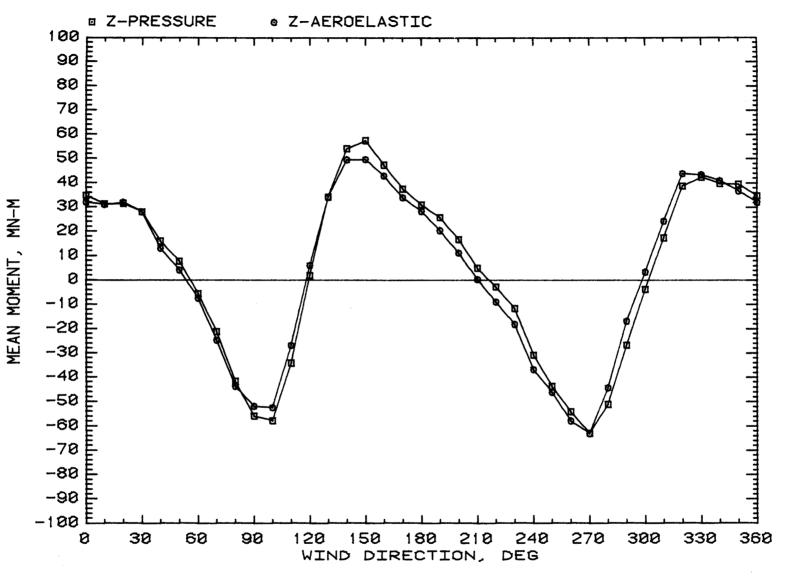
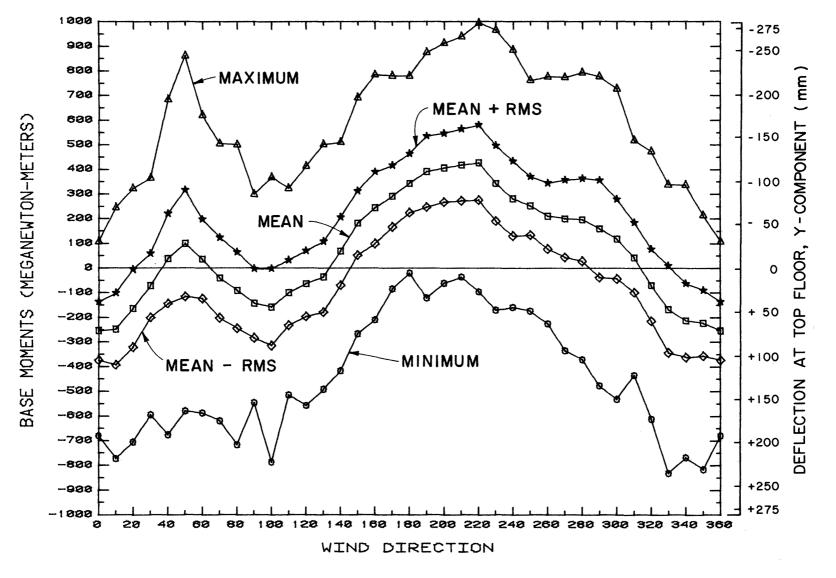


Figure 15c. Comparison of Pressure-Model with Aeroelastic-Model Data (mean gradient ht. velocity = 35 m/s)



BASE MOMENTS VS. WIND DIRECTION; X-COMPONENT Figure 16a. Base Moments and Corresponding Top Floor Deflection

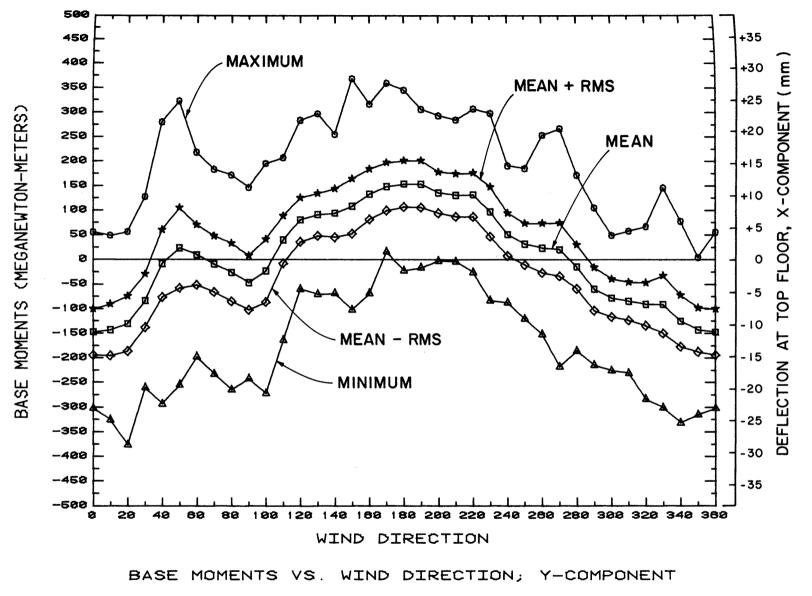
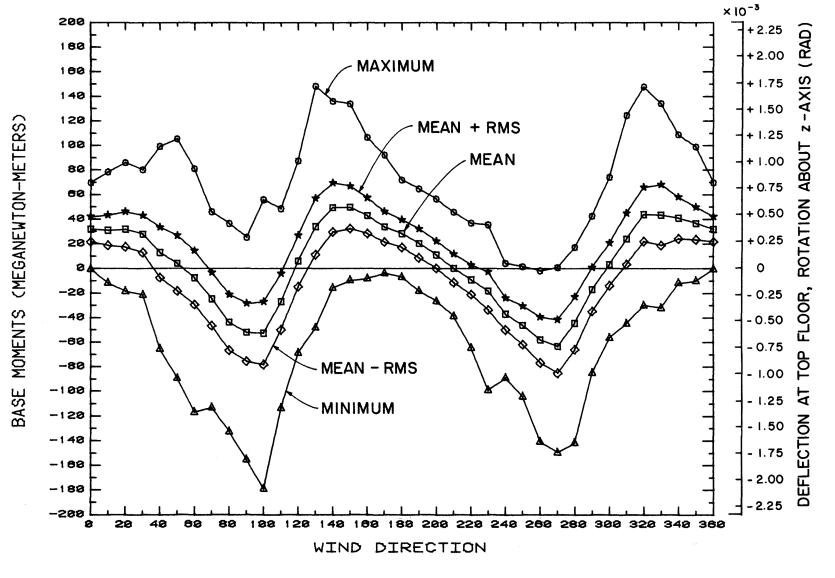
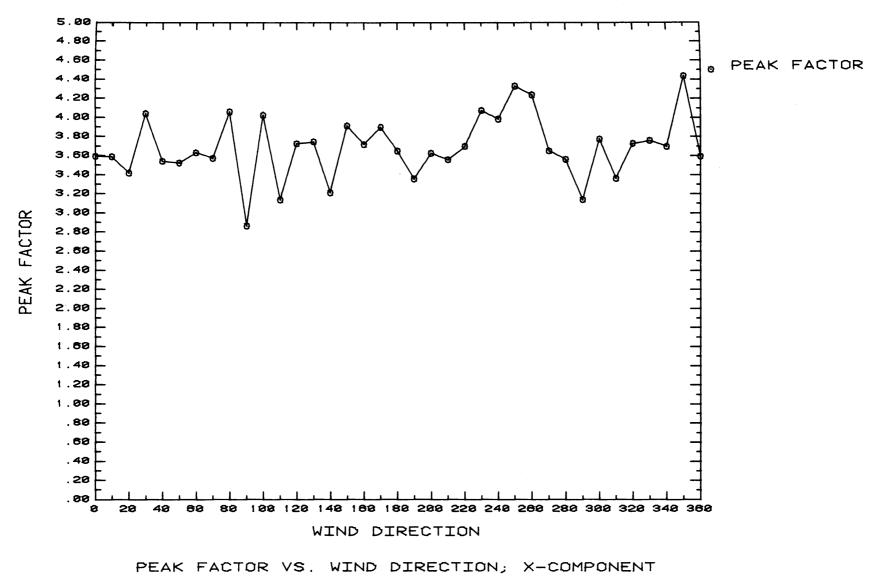


Figure 16b. Base Moments and Corresponding Top Floor Deflection



BASE MOMENTS VS. WIND DIRECTION; Z-COMPONENT Figure 16c. Base Moments and Corresponding Top Floor Deflection





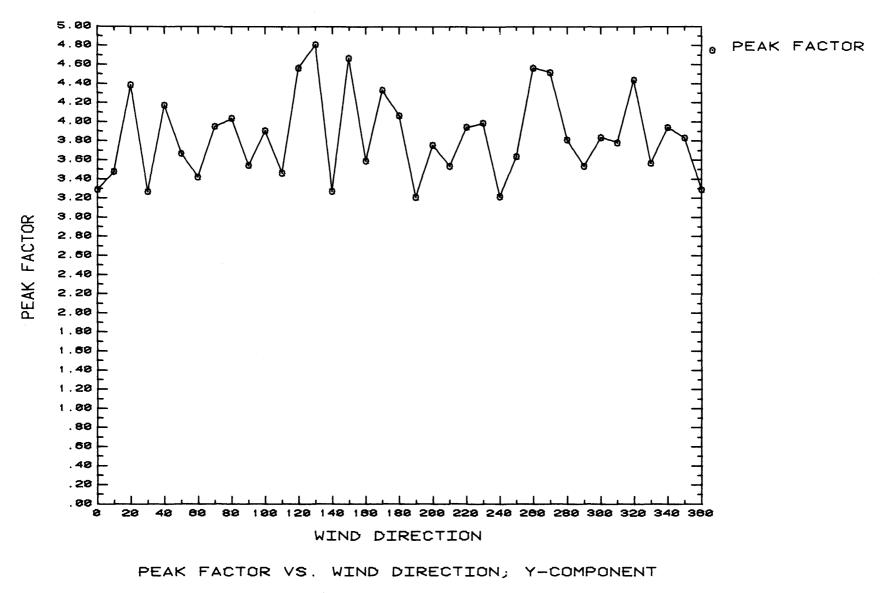


Figure 17b. Peak Factor for Base Moments

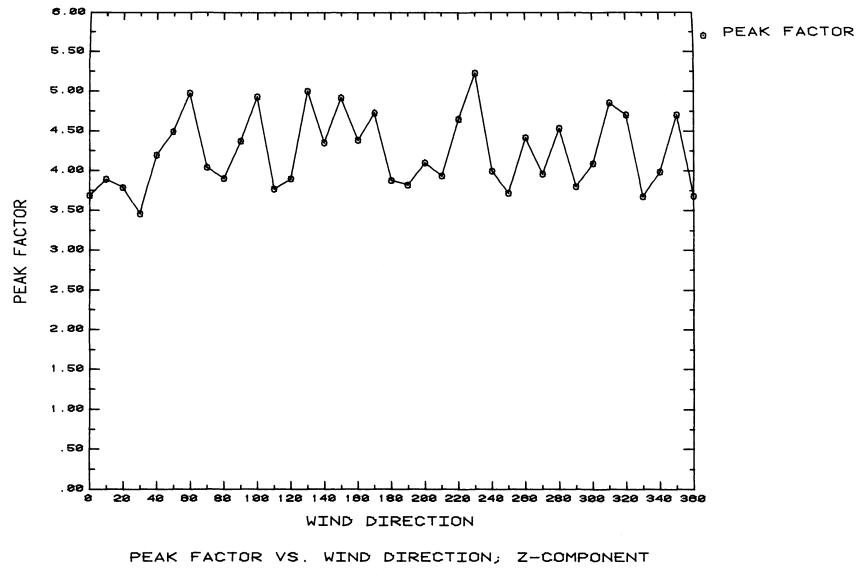
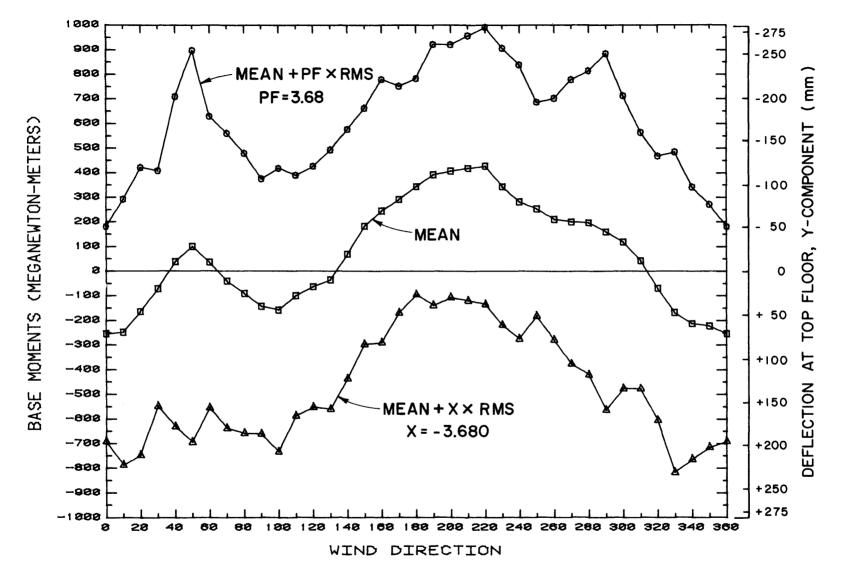
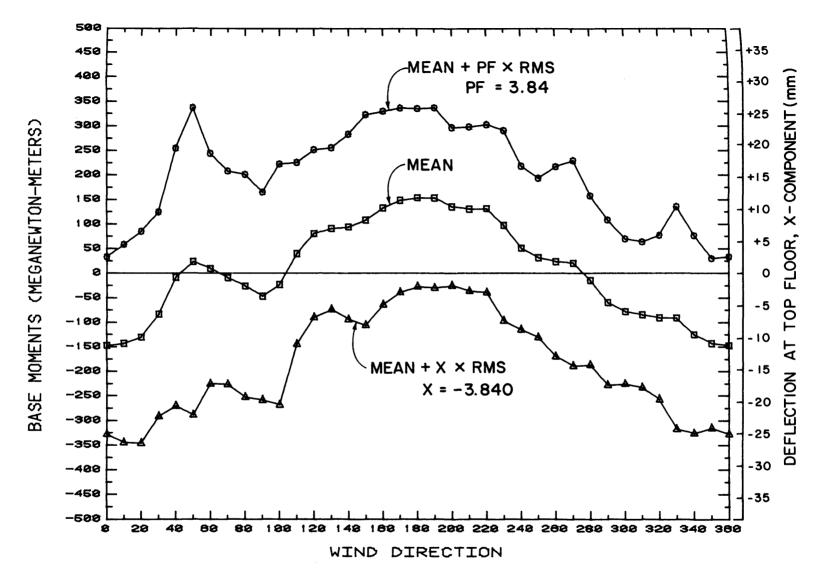


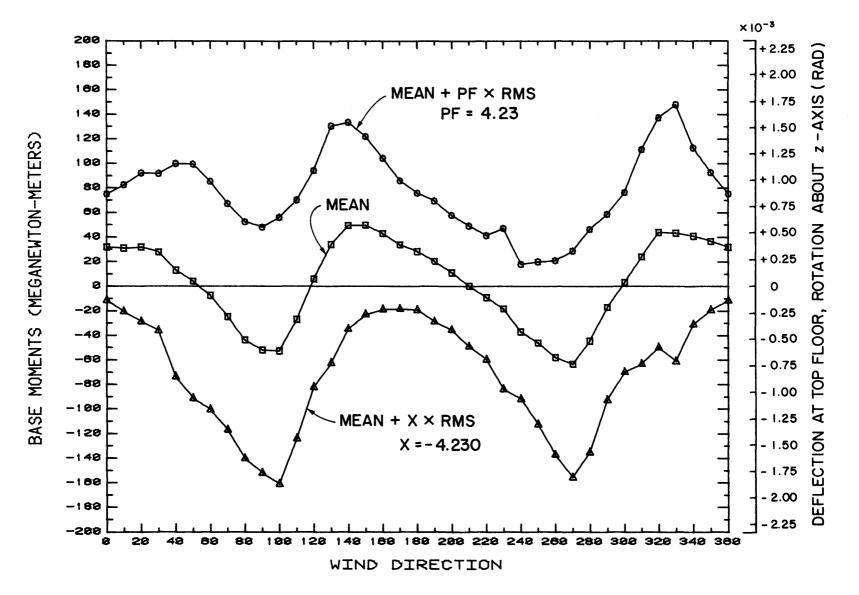
Figure 17c. Peak Factor for Base Moments



SMOOTHED EXTREME BASE MOMENTS VS. WIND DIRECTION; X-COMPONENT Figure 18a. Corrected Base Moments and Corresponding Top Floor Deflection



SMOOTHED EXTREME BASE MOMENTS VS. WIND DIRECTION; Y-COMPONENT Figure 18b. Corrected Base Moments and Corresponding Top Floor Deflection



SMOOTHED EXTREME BASE MOMENTS VS. WIND DIRECTION; Z-COMPONENT Figure 18c. Corrected Base Moments and Corresponding Top Floor Deflection

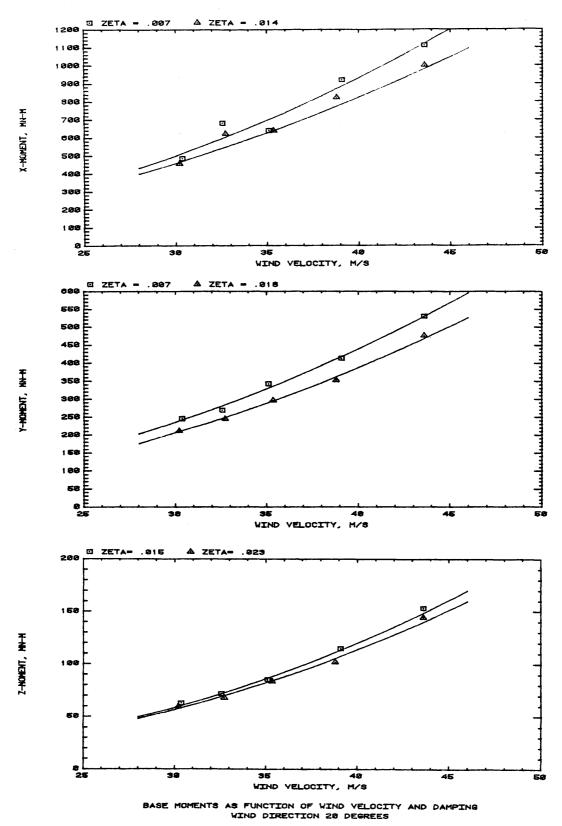


Figure 19a. Influence of Wind Velocity and Structural Damping on Peak Base Moments (wind velocity is hourly mean value at gradient height)

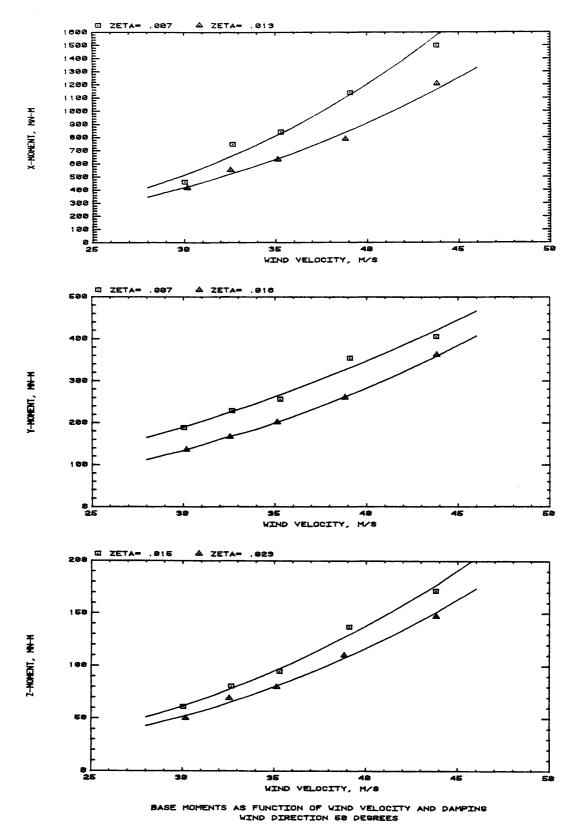


Figure 19b. Influence of Wind Velocity and Structural Damping on Peak Base Moments (wind velocity is hourly mean value at gradient height)

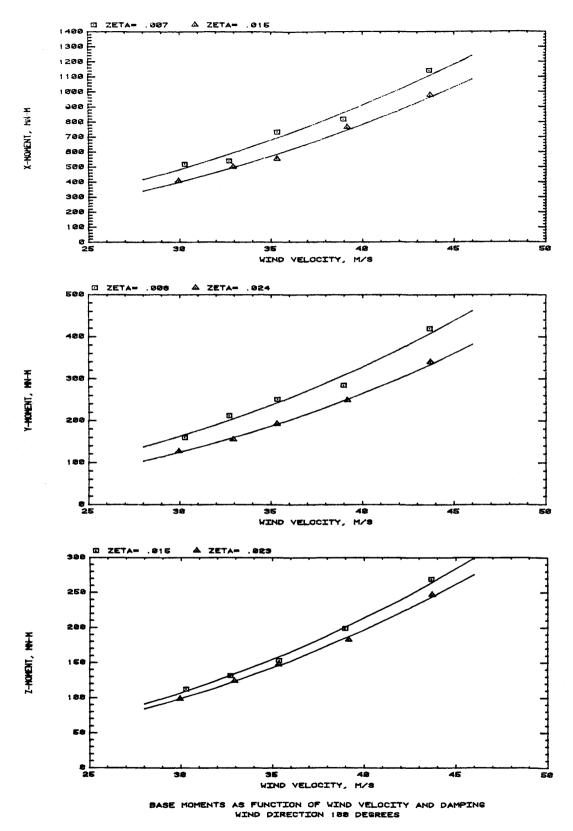
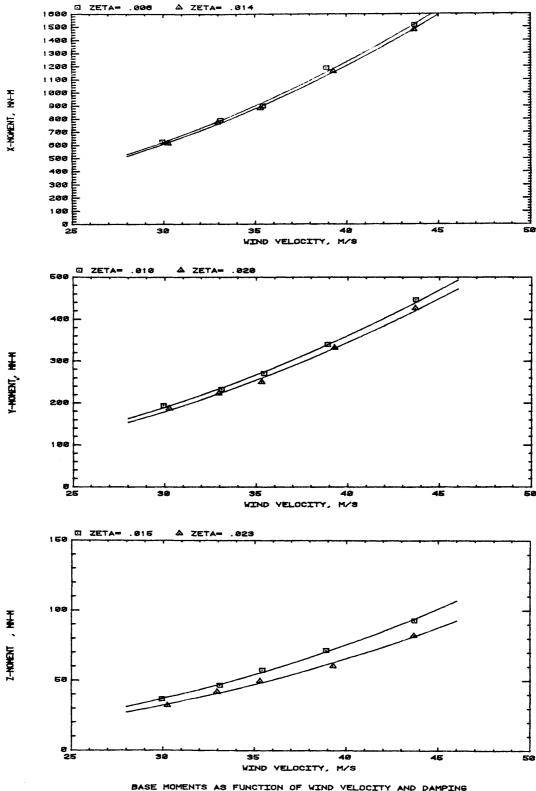


Figure 19c. Influence of Wind Velocity and Structural Damping on Peak Base Moments (wind velocity is hourly mean value at gradient height)

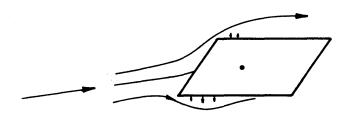


BASE MOMENTS AS FUNCTION OF WIND VELOCITY AND DAMPING WIND DIRECTION 220 DEGREES

Figure 19d. Influence of Wind Velocity and Structural Damping on Peak Base Moments (wind velocity is hourly mean value at gradient height)

a)

b)



c)

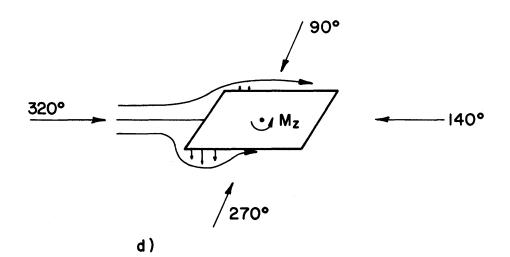


Figure 20. Influence of Reduced Velocity and Damping on Building Response

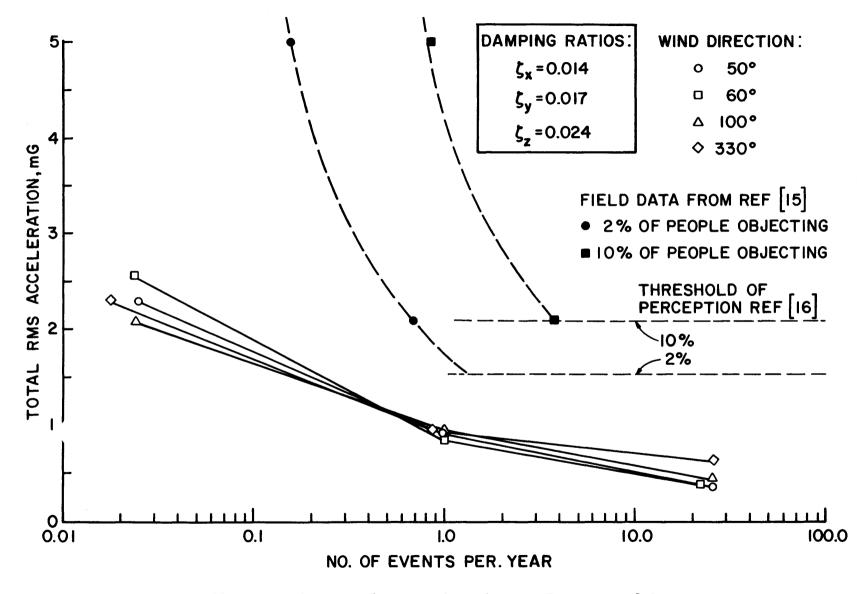


Figure 21a. Top Floor Acceleration According to Frequency of Occurrence

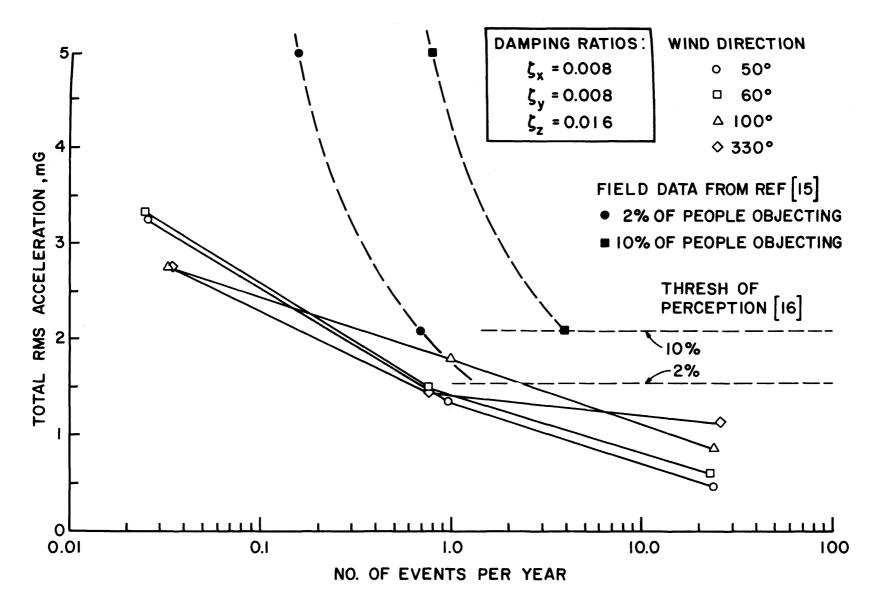


Figure 21b. Top Floor Acceleration According to Frequency of Occurrence

TABLES

Table 1

MOTION PICTURE SCENE GUIDE

- 1. Introduction
- 2. Purposes for model testing
- 3. Procedures for conducting tests
- 4. Specific flow visualization scenes for <u>Gateway Towers</u>

Run	Pressure Tap	Azimuth, °
1	1229, 1244	330
2	2260	130
3	2260	140

High Pressure Areas

High Pedestrian Wind Velocities

Run	Pedestrian Location	Azimuth, °
4	19	45
5	16, 8	202.5

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES Gateway project towers

LOCATION 1				LOCATION	2		
WIND Azimuth	UNEAN/UINF (PERCENT)	URMS/UINF (PERCENT)	UMEAN+3+URMS/UINF (PERCENT)	WIND Azimuth	UNEAN/UINF (PERCENT)	URMS/UINF (PERCENT)	UMEAN+3*URMS/UINF (PERCENT)
0 00 22 50 45 050 90 50 112 50 112 50 1157 50 1802 50 225 00 225 00 225 00 2270 00 225 50 200 2315 50 2315 50 2315 50	54.4 547.0 16.1 188.5 55.1 188.5 55.1 288.6 168.3 24.5 45.1 26.0 1.1 28.6 1.2 2.6 0.1 1.2 2.6 0.1 2.6 0.1 1.2 2.6 0.1 1.6 0.1 1.6 0.5 0.1 1.6 0.5 0.1 1.6 0.5 0.1 1.6 0.5 0.5 0.1 1.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	11.3 10.1 13.3 7.2 9.5 7.5 7.5 11.7 9.5 11.7 9.5 11.7 9.6 16.8 11.1 10.2 7 8.6 8.6 8.1 11.1 2.8	88.3 87.5 79.0 477.8 477.8 478.8 635.0 95.0 95.0 95.0 69.7 958.1 69.1 888.6	0.00 22.50 45.50 912.50 135.50 135.50 1202.20 2247.50 2247.50 2247.50 2247.50 2247.50 2315.50 3337.50	15.2 15.2 17.8 21.9 21.9 24.0 7 26.0 7 26.0 7 26.0 7 26.0 7 22.1 22.1 22.1 21.9 21.9 21.9 21.9 21.9	6.9 6.6 7.3 80.6 11.4 70.2 12.6 11.1 97.8 8.6 8.1	35.99 3349.4 4538.6 537.2 559.5 551.9 551.8 473.8 473.8
LOCATION 3				LOCATION	4		
WIND Azimuth	UNEAN/UINF (PERCENT)	URMSZUINF (Percent)	UNEAN+3+URMS/UINF (Percent)	WIND AZIMUTH	UNEAN/UINF (PERCENT)	URMS/UINF (Percent)	UNEAN+3+URMS/UINF (PERCENT)
$\begin{array}{c} 0 & 00 \\ 22 & 50 \\ 45 & 00 \\ 67 & 50 \\ 90 & 00 \\ 112 & 50 \\ 135 & 00 \\ 135 & 00 \\ 135 & 00 \\ 2025 & 00 \\ 247 & 50 \\ 247 & 50 \\ 247 & 50 \\ 270 & 50 \\ 292 & 50 \end{array}$	42.1 677.5 77.5 71.6 42.2 17.6 42.2 16 42.2 21.0 88.9 54.9 54.9 54.9 6	14.9 13.8 12.8 15.8 11.6 14.3 14.3 14.3 14.3 19.4 13.7 10.0 13.5 10.0 13.5	86.7 107.1 115.5 104.8 109.4 104.2 79.3 75.1 42.1 54.5 88.2 91.8 88.2 91.8 87.7	$\begin{array}{c} 0.00\\ 22.50\\ 45.00\\ 90.00\\ 112.50\\ 137.50\\ 157.50\\ 180.30\\ 225.00\\ 225.00\\ 227.50\\ 292.50\\ 292.50\\ 315.00\\ 337.50\\ 337.50\\ \end{array}$	27 2 22 8 12 9 19 4 22 1 19 6 18 1 31 0 13 6 18 8 32 1 21 0 22 8 19 0 20 1 20 1	12.1 5.2 10.1 9.3 9.7 13.4 5.5 14.1 7.9 8.7 6.4 7.2	63.5 61.1 28.4 49.8 49.8 49.8 49.8 49.8 49.8 49.8 4

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES Gateway project towers

LOCATION 5				LOCATION	6		
WIND Azimuth	UNEAN/UINF (Percent)	URNS/UINF (Percent)	UMEAN+3+URMS/UINF (PERCENT)	WIND Azimuth	UNEAN/UINF (Percent)	URMS/UINF (Percent)	UMEAN+3+URMS/UINF (PERCENT)
$\begin{array}{c} 0 & 00\\ 22 & 50\\ 45 & 00\\ 90 & 00\\ 112 & 50\\ 137 & 50\\ 187 & 50\\ 282 & 50\\ 225 & 00\\ 225 & 00\\ 2270 & 00\\ 270 & 00\\ 292 & 50\\ 2770 & 00\\ 337 & 50\\ 337 & 50\\ \end{array}$	19.8 39.32.3 28.4 308.8 49.0 688.4 49.0 688.5 4.0 688.5 4.3 4.3 4.3 4.3 1.0 7.0	7.50 1175.68 1122.56 1122.56 122.56 122.12 271.25 211.21 125.33 1175.33 1175.33 1175.33	42.4 87.6 85.6 65.8 68.1 130.7 1302.2 92.9 80.5 38.8 38.8	$\begin{array}{c} 0 & 0 \\ 22 & 5 \\ 45 & 5 \\ 9 \\ 0 & 5 \\ 0 \\ 112 & 5 \\ 135 & 5 \\ 0 \\ 135 & 5 \\ 0 \\ 200 \\ 275 & 5 \\ 275$	28.9 28.7 14.6 32.4 19.6 23.6 23.2 28.2 13.2 24.6 24.6 24.6 24.6 24.6 29.0 29.0	11.6 14.2 60.0 11.2 19.3 10.3 15.4 6.6 14.6 14.6 14.6 14.3 13.1 9.5 11.3	63.8 71.2 34.8 49.7 66.1 473.8 74.3 8 33.1 70.1 75.1 8 358.1 558.1 62.9
LOCATION 7				LOCATION	8		
WIND Azimuth	UMEAN/UINF (PERCENT)	URMS/UINF (PERCENT)	UMEAN+3+URMS/UINF (PERCENT)		UNEAN/UINF (PERCENT)	URMS/UINF (PERCENT)	UMEAN+3+URMS/UINF (PERCENT)
$\begin{array}{c} 0 & 0 \\ 22 & 30 \\ 45 & 00 \\ 90 & 50 \\ 112 & 50 \\ 137 & 50 \\ 137 & 50 \\ 180 & 00 \\ 2225 & 00 \\ 2470 & 50 \\ 2470 & 50 \\ 2470 & 50 \\ 2470 & 50 \\ 2470 & 50 \\ 3137 & 50 \\ 3137 & 50 \end{array}$	11.8 8.1 12.2 17.1 10.7 11.4 8.5 9.6 25.4 1 23.6 21.0 20.6	5.28694 5.28694 5.5945 5.2997 11.8665 11.8663	27.0 35.5 16.5 40.8 240.8 249.2 28.0 28.0 28.0 28.0 28.0 28.0 28.0 58.4 52.3 46.5 54.6 54.5	$\begin{array}{c} 0 & . & 0 \\ 2 & . & 5 \\ 4 & 5 & . & 5 \\ 6 & 7 & . & 5 \\ 9 & 0 & . & 5 \\ 0 & . & 5 \\ 1 & 1 & 5 \\ 1 & 3 \\ 7 & . & 5 \\ 1 & 5 \\ 2 & 2 \\ 2 & 5 \\ 2 & 7 \\ 2 & 5 \\ 2 &$	28.2 21.8 21.8 27.2 9.2 22.2 66.1 22.2 66.1 28 66.7 39.3 51.3 51.3 51.2 51.3 51.2 51.4 6.0 8	10.7 10.0 7.0 14.1 9.7 11.9 15.7 9.4 12.0 21.7 17.3 9.9 12.4 12.4 12.4	60.3 51.9 39.7 48.3 58.5 59.3 94.2 109.3 1028.7 116.8 91.1 94.2 83.1

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES

GATEWAY PROJECT TOWERS

LOCATION 9				LOCATION 10	0		
WIND Azimuth	UNEAN/UINF (PERCENT)	URMS/UINF (Percent)	UNERN+3+URMS/UINF (PERCENT)	WIND Azimuth	UNEAN/UINF (PERCENT)	URMS/UINF (Percent)	UMEAN+3*URMS/UINF (PERCENT)
0 00 22 50 45.00 90.00 112.50 157.50 1802.50 225.00 2470.00 2470.00 292.50 23337.50	43.1 44.4 26.8 43.6 38.7 24.8 39.0 22.3 4 50.6 33.9 33.9 33.9	16.6 17.00 14.6 15.00 15	93.0 95.3 68.2 91.0 825.9 61.3 752.9 56.4 104.2 756.4 198.2 71.9 71.9	0.00 22.50 47.50 90.00 1137.50 137.50 187.50 200 227.50 227.50 227.50 227.50 227.50 227.50 227.50 2315.50 337.50	26.5 26.4 326.8 37.5 27.6 17.6 22.4 26.3 24.9 24.8 25.1 21.3	13.4 10.8 13.0 16.4 7.6 11.2 12.5 11.2 12.5 11.0 10.6 12.7 9.3 11.4	66.6 38.9 65.8 869.9 400.5 563.8 63.6 570.8 570.8 570.8 63.9 563.4 570.4 55.4
LOCATION 11				LOCATION 1	2		
WIND Azimuth	UNEAN/UINF (PERCENT)	URNS/UINF (PERCENT)	UNEAN+3+URNS/UINF {PERCENT}	N I N D A Z I MU TH	UNEAN/UINF (PERCENT)	URNS/UINF (Percent)	UNEAN+3#URMS/UINF (PERCENT)
0.00 22.50 45.00 90.00 112.50 135.00 135.00 202.50 2257.50 2257.50 2270.00 2277.50 2277.50 2277.50 2315.00 337.50	54.9 52.3 33.9 76.5 8.0 19.6 7.5 8.0 19.5 125.6 9 7.9 10 23.5 125.6 9 7.5 125.6 9 7.5 125.6 9 7.5 10 5 23.5 10 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 5 23.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7.5 7	10.5 13.4 9.2 17.5 10.6 11.72 9.3 10.1 9.7 10.1 9.7 13.9 11.3		0.00 22.50 45.00 90.00 112.50 137.50 160.00 202.50 202.50 247.50 247.50 247.50 247.50 215.00 315.50 337.50	24 4 25 25 1 3 3 10 4 13 4 18 8 15 1 12 8 15 1 12 8 15 1 12 8 23 2 21 1	9.5 9.1 19 3.4.2 5.5 4.3 5.5 4.3 5.1 9.1 1.2 1.2 1.2 1.2 1.2 1.2	52.8 59.0 34.5 19.0 23.9 35.0 44.1 329.0 44.5 29.0 44.5 31.0 36.5 51.0 63.9 47.1

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES GATEWAY PROJECT TOWERS

LOCATION 13

LOCATION 14

WIND	UMEAN/UINF	URNS/UINF	UHEAN+3+URMS/UINF	WIND	UMEAN/UINF	URMS/UINF	UHEAN+3+URMS/UINF
Azimuth	(Percent)	(PERCENT)	(PERCENT)	Azimuth	(PERCENT)	(PERCENT)	(PERCENT)
0.00 22.50 45.00 90.50 112.50 157.50 225.00 157.50 205.00 205.50 205.50 205.50 205.50 205.50 205.50 205.50 200 200 200 200 200 200 200 200 200 2	228.4 389.5 199.4 226.4 237.4 246.4 273.6 86.7 273.6 86.7 273.6 86.7 273.8 322.3 32.5 32.5	7.1 10.4 16.0 1.3 15.0 7.6 11.6 13.6 13.9 11.9 11.9 11.9 8.3	43.8 59.50 872.00 233.4 712.00 399.04 311.5 599.1 3599.1 71.8 579.1 6477.5	0 00 22 50 45 50 90 50 112 50 135 50 187 50 182 50 202 50 202 50 245 00 245 50 270 50 215 50 2315 50 337 50	41.6 44.3 23.1 20.3 41.4 41.5 17.8 25.3 37.8 23.2 19.1 23.2 19.1 22.4 21.3 22.4 21.3 31.0	15.0 20.8 10.7 11.4 21.6 27.9 12.9 10.5 9.4 10.5 9.0 10.1 9.1 10.1 9.1 17.1	86.7 106.5 55.1 54.5 106.3 41.5 62.1 82.7 54.7 99.5 52.7 68.8 82.1

LOCATION 15				LOCATION 1	6		
WIND Azimuth	UNEAN/UINF (Percent)	URMS/UINF (PERCENT)	UMEAN+3+URMS/UINF (PERCENT)	WIND Azimuth	UMEAN/UINF (Percent)	URMS/UINF (PERCENT)	UHEAN+3+URHS/UINF (PERCENT)
0 22:50 45:00 90:50 112:50 157:50 1802:50 225:50 225:50 225:50 2470:50 292:50 2470:50 292:50 295:50 205	22.3 3230.2 123.5 123.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12	8.0 8.1 9.0 5.2 12.3 8.0 9.1 8.0 9.4 5.2 15.0 11.5 2 15.0 11.5 2 8.2	46.5 47.6 47.6 47.5 28.4 40.9 48.9 45.9 45.9 45.9 45.9 45.9 45.9 45.7 67.8 47.6 54.7	0.00 22.50 45.50 90.50 1135.50 185.50 182.50 200 200 2470.50 270.50 270.50 270.50 2315.00 337.50	51.6 53.8 29.1 21.1 16.9 30.3 65.2 79.1 74.8 52.7 18.1 75.0	11.8 12.6 13.6 10.4 8.7 13.8 11.5 13.3 12.8 11.5 13.3 12.1 12.9 8.4 13.9	86.9 91.8 69.8 52.4 43.0 72.8 78.7 99.6 103.4 118.9 1100.1 91.4 43.3 62.5 86.8

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES Gateway project towers

LOCATION 17				LOCATION 1	8		
WIND Azimuth	UNEAN/UINF (PERCENT)	URNS/UINF (PERCENT)	UMEAN+3+URMS/UINF (PERCENT)	WIND Azimuth	UMEAN/UINF (Percent)	URMS/UINF (Percent)	UMEAN+3×URM5/UINF (PERCENT)
0.00 22.50 45.00 90.00 112.50 135.00 157.50 180.00 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 2315.00 315.50	154.7 17785.9 12556582.0 1255664 1255664 1255664 125664 125664 125664 125664 125664 125664 125664 125664 125664 1257 1257 1257 1257 1257 1257 1257 1257	6.9 8.0 10.6 11.6 11.6 11.6 9.2 14.3 14.3 14.3 14.3 12.3 8.3	34.9 32.4 43.8 66.7 87.9 87.9 79.1 63.7 57.8 90.1 101.3 103.8 42.8	0.00 22.50 45.00 90.00 112.50 157.50 157.50 202.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 250 247.50 250 247.50 250 250 247.50 250 250 250 250 250 250 250 250 250 2	62.8 50.4 42.9 61.62 31.1 57.0 69.2 74.9 69.6 74.9 69.6 74.9 649.6 74.9 649.6 74.9 649.6 74.8 74.8	10.7 12.1 18.5 14.6 10.4 10.4 11.2 10.7 11.3 10.7 11.3 10.7 11.3 10.7 11.4 16.2 15.8 14.1	95.0 86.2 93.8 88.7 105.4 60.4 61.1 90.6 97.1 101.4 100.7 100.7 100.7 100.7 100.7 100.3 98.0 83.1 53.0 86.0
LOCATION 19				LOCATION 2	0		
WIND Azimuth	UNEAN/UINF (Percent)	URNS/UINF (PERCENT)	UNEAN+3+URMS/UINF (PERCENT)	WIND AZIMUTH	UNEAN/UINF (PERCENT)	URNS/UINF (Percent)	UMEAN+3+URMS/UINF (PERCENT)
0.00 22.50 45.00 67.50 90.00 112.50 1357.50 180.00 2025.00 247.40 247.40 292.50 315.00 315.50	416. 931217 555. 425755 425542 559. 32536 32536 16 390	18.36 12.039 11.05 11.05 11.05 15.02 15.02 14.05 14.05 14.05 12.3 14.05 12.3	97.0 103.1 115.1 1000.6 88.8 78.9 97.6 81.9 97.1 112.4 81.1 97.1 81.1 97.1 83.9 95.2 97.5 88.9 97.5 97.5 97.5 97.5 97.5 97.5 97.5 97	0.00 22.50 45.000 90.500 115.500 1157.500 1257.500 2295.500 200 200 200 200 200 200 200	67.3 56.3 32.9 39.4 59.2 43.1 43.1 13.8 17.8 13.8 17.8 32.2 43.4 33.4 33.4 33.4 33.4 33.4 33.2 4 3.2 4 3.2 4 3.2 5 5 5 5 5 5 5 5 6 5 5 6 5 6 5 6 5 6 5	12.1 12.6 12.5 9.8 12.6 10.6 10.6 16.1 12.5 8.5 8.5 8.5 16.9 16.9	103.6 101.8 93.0 82.9 52.4 77.3 91.4 94.9 91.6 87.7 61.7 30.5 40.3 45.3 82.8 100.7

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES GATEWAY PROJECT TOWERS

LOCATION 21

WIND	UMEAH/UINF	URNS/UINF	UMEAN+3+URMS/UINF
Azimuth	(Percent)	(Percent)	(Percent)
0.00 22.50 45.00 90.00 112.50 135.00 157.50 180.00 202.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 247.50 2315.00 337.50	221374758 28774758 3611.682 3611.682 345655688 63497 2272 2272 2272 2272	8,97722233 99,7733 19,8300 14,032278 13,800 14,032278 13,0032278 13,0032278 13,0032278 13,0032278 13,0032278 13,0032278 14,151221 13,0032278 14,151221 13,0032278 14,1512278 14,1512278 14,152788 14,1527888 14,1527888 14,1527888 14,1527888 14,1527888 14,1527888 14,15278888 14,1527888 14,152788888 14,152788888 14,1527	49.1 49.1 105.7 115.4 113.4 66.0 75.6 75.6 78.7 111.3 33.9 111.3 350.3 552.6 49.9

TABLE 2--PEDESTRIAN WIND VELOCITIES AND TURBULENCE INTENSITIES GATEWAY PROJECT TOWERS

* * GREATEST VALUES * *

UNEAN/UINF (PERCENT)

URMS/UINF (PERCENT)

UMEAN+3*RMS/UINF (PERCENT)

LOC	ΑZ	MEAN	RMS	N+3RMS	LOC	AZ	MEAN	RMS	H+3RHS	roc.	AZ	MEAN	RMS	H+3RMS	
19	45.0	79.1	12.0	115.1	5	157.5	49.0	27.2	130.7	5	157.5	49.0	27.2	130.7	
16	202.5	79.1	13.3	118.9	21	45.0	37.7	22.7	105.7	5	180.0	65.7	21.5	130.3	
8	202.5	78.8	16.6	128.7	8	225.0	51.7	21.7	116.8	21	225.0	66.8	21.2	130.3	
3	45.0	77.9	12.6	115.5	14	90.0	41.4	21.6	106 3	8	202.5	78.8	16.6	128.7	
18	225.0	74.9	11.3	108.7	5	180.0	65.7	21.5	130.3	16	202.5	79.1	13.3	118 9	
16	225.0	74.8	12.0	110.9	5	202.5	38.5	21.2	102.2	8	225.0	51.7	21.7	116.8	
8	180.0	73.2	12.0	109.3	21	225.0	66.8	21.2	130.3	3	45.0	77.9	12.6	115.5	
16	190.0	72.5	10.3	103.4	14	22.5	44.3	20.8	106.6	21	67.5	54.4	20.3	115.4	
11	90.0	71.9	11.5	106.4	14	112.5	41.5	20.5	103.1	19	45 0	79.1	12.0	115.1	
3	90.0	71.1	12.8	109.4	21	67.5	54.4	20.3	115.4	1	202.5	59.1	18.6	115.0	

TABLE 3

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED

SINGAPORE AIRPORT (1955-1964)

SEASON: ANNUAL NO. OF OBS. = 29121 HT. OF MEAS. = 10 m.

VELOCITY LEVELS IN MPS

DIRECTION	0-3	3.5-8	8.5-14	14.5-	
N	5.20	.70	0.00	0.00	5.90
NNE	6.00	2.40	0.00	0.00	8.40
NE	4.40	3.10	.10	0.00	7.60
ENE	.90	.70	0.00	0.00	1.60
E	1.20	.30	0.00	0.00	1.50
ESE	1.20	.30	0.00	0.00	1.50
SE	3.10	.60	0.00	0.00	3.70
SSE	2.90	.60	0.00	0.00	3.50
S	4.90	1.90	0.00	0.00	6.80
SSW	1.90	. 90	0.00	0.00	2.80
SW	1.90	.70	0.00	0.00	2.50
WSW	1.20	.40	0.00	0.00	1.70
W	2.00	.70	0.00	0.00	2.60
WNW	.90	.20	0.00	0.00	1.10
NW	1.50	.20	0.00	0.00	1.70
NNW	1.10	.20	0.00	0.00	1.30
CALM	45.60	0.00	0.00	0.00	45.60
TOT	85.70	14.00	.20	0.00	100.00

TABLE 4

	Beaufort Number	Speed (mps)	Effects
Calm, light air	0,1	0-1.5	Calm, no noticeable wind
Light breeze	2	1.6-3.3	Wind felt on face
Gentle breeze	3	3.4-5.4	Wind extends light flag Hair is disturbed Clothing flaps
Moderate breeze	4	5.5-7.9	Raises dust, dry soil and loose paper Hair disarranged
Fresh breeze	5	8.0-10.7	Force of wind felt on body Drifting snow becomes airborn Limit of agreeable wind on la
Strong breeze	6	10.8-13.8	Umbrellas used with difficult Hair blown straight Difficult to walk steadily Wind noise on ears unpleasant Windborne snow above head height (blizzard)
Near gale	7	13.9-17.1	Inconvenience felt when walki
Gale	8	17.2-20.7	Generally impedes progress Great difficulty with balance in gusts
Strong gale	9	20.8-24.4	People blown over by gusts

SUMMARY OF WIND EFFECTS ON PEOPLE

Note: Table from Reference 4, p. 40.

TABLE 5

CALCULATION OF REFERENCE PRESSURES

 Basic wind speed from local building officials*: fastest 3 second gust at 40 m = 40.2 mps

Mean hourly wind speed = $\frac{40.2}{1.60}$ = 25.1 mps at 40 m

Mean hourly gradient wind speed = $25.1 \left(\frac{300}{40}\right)^{.17} = 35.4 \text{ mps}$

Mean hourly wind at reference location = U_{∞} = gradient wind = 35.4 mps Reference Pressure = 0.5 ρ U_{∞}^2 = (.00256) (79.3)² = 16.1 psf (.615) (35.4)² = 771 N/m²

<u>Use 770 N/m²</u>

2. Loads for a 36.7 mps 3 sec. gust at 40 m.

Multiply loads by $(\frac{36.7}{40.2})^2 = 0.83$

 Gust load factors to convert hourly mean integrated loads to various gust durations (see Sect. 4.4):

Gust Duration, sec	Gust Load Factor
10 - 15	$(1.4)^2 = 1.96$
30	$(1.32)^2 = 1.74$
45	$(1.26)^2 = 1.59$

The 30 second gust load factor was used in Table 7.

^{*} Data supplied by T. Y. Lin International in a letter dated 17 August 1981. Additional data in that letter which were obtained at the Fullerton building imply fastest 3 second gust speeds at 40 m of 36.6 and 34.9 mps for a 100 year recurrence wind. Because the wind speed recommended by local officials is well below the minimum permissible level in the U.S. or United Kingdom, we do not recommend further reductions without a more extensive look at the Fullerton building data. Item 2 gives a load factor to reduce loads to a 36.6 mps fastest 3 second gust at 40 m if that is desired.

TABLE 6A. PEAK LOADS FOR CONFIGURATION A : Largest values of cladding load

GATEWAY PROJECT TOWERS Reference pressure = 770 pa

TAP	AZI- MUTH	PRESS COEFF	NEGATIVE PEAK	POSITIVE	TAP	AZI- Muth	PRESS Coeff	NEGATIVE PEAK	POSITIVE PEAK	TAP	AZI- Nuth	PRESS COEFF	NEGATIVE PEAK P	POSITIVE PEAK A
12345678901234578800000000000000000000000000000000000	8967877777552786747788875778867777557777556195 22 2222 22 21222221122 22 2222 22 21222221122122222222	672465955553176427556526612445453656124445395602445555533476427556512444455555334766427556512444452654254445255454445726544445725545444572654445726544457265444457265444572654445726544457265444572654445726544457265444572654445726544457265444572654445726544457265444572654445726544457665244457265444576652444576652444572654445766524445667766576657666664776666666666	$\begin{array}{c} -19751.12777.1110976.111111099777.111111099777.111111099777.111111099777.111111099777.111111099777.1111111099777.1111111099777.111111111099777.11111111099777.1111111111$	7837082139798986797999867766788957777774656565557664516510030	901234512345678901234567890123456789012345678901 111111111222222222222222222222222222	00000000000000000000000000000000000000	7119379378497564998211310569775107311593714112311412310569775186897532966984361488847	$\begin{array}{c} \bullet 227 \bullet 671 \bullet 2431 + 241 + 305 \bullet 688 \bullet 1 + 5598 \bullet 853289 + 1899 + 313 + 318 \\ \bullet 2234 \bullet 243 + 243 + 244 + 1124 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 2534 \bullet 2533 \bullet 2534 \bullet 25333 \bullet 2534 \bullet 2534 \bullet 25333 \bullet 2534 \bullet 2534 \bullet 25333 \bullet 2534 \bullet 2534 \bullet 25333 \bullet 2534 \bullet 2$	568775475555555808898888788878789777787678678667 570999209182.539182.624426700131541312158219544583906886399 735087539182.624426700131541312158219544583906886399 	234567890123456789001234567890012345678000000000000000000000000000000000000	000000000000000000000000000000000000	9538237966498958749502706555613053882216333954284628925 4855665796649895802706555663053888216333484600784 48555665796649895802705555663053888216333484600784 485566579666111111111111111111111111111111	$\circ 7 \ 9 \ 1 \ 9 \ 0 \ 7 \ 0 \ 7 \ 9 \ 1 \ 9 \ 0 \ 7 \ 0 \ 0$	655556655454356676666658576789989989888888888879788879 9443500342797670164426427210852260531022947388563646 9694742909767016445427210852260531022947388563646 9694742909767016445440404360347954591067754893974

TABLE 6A. PEAK LOADS FOR CONFIGURATION A : GATEWAY PROJECT TOWERS Largest values of cladding load reference pressure = 770 pa

CHRG	ESI AH	LUCS UP	CEMPTING												
TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK Pa	POSITIVE PEAK	TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK A	TAP	AZI- Nuth	PRESS Coeff	NEGATIVE PEAK PA	POSITIVE PEAK	
0123456789012345678901234567890123456789012345678901234567 33333333333444444445567890123455555666666666666777777777777777777777	10000000000000000000000000000000000000	593802891 1110 1110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 1110 1110 11110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1110 1100110 110011011	$\begin{array}{c} \bullet 23 \bullet 38 \circ \bullet 68 \circ 1 \circ \bullet 469578 \circ 1 \circ \circ 34 \bullet 9392333 \circ 35193 \circ \bullet 08 \circ 20 \circ 12\\ \bullet 114288325252525283 \circ 1 \circ \bullet 469578 \circ 1 \circ \circ 34 \bullet 9392333 \circ 351930 \circ \bullet 08020 \circ 12\\ \bullet 115724 \circ \bullet 774 \bullet 8829 \circ 1 \circ \circ 08829 \circ 121397 \circ 45983 \circ 08020 \circ 121314 \circ 090 \circ 839 \circ 97988 \circ 1352252828 \circ 08020 \circ 08020 \circ 1111111100000000000000000000000000$	78887788677777888876666887668555666666456546648877645 27764776477888874242441922449765884654198865444896003449 2776477647788887424244199224976683497866278198665449 277647788887984874242441992249765663198622739003449 3699456203656279889819184328446672036013620262706	1234567890123456789012345678901234567890123456789012345678	00000000000000000000000000000000000000	679463983024155258829117532859782539888482105095695569 0946352883024171111111122111111111111111201111120111112021111 09435528830244782284458495455388597825398884825105095569 0536881387577455655269	$\begin{array}{c} 29 \\ -115149 \\ -111499 \\ -1122849 \\ -111499 \\ -1122849 \\ -111499 \\ -1122849 \\ -111499 \\ -1122849 \\ -111499 \\ -1122849 \\ -111499 \\ -11149 \\ -11228 \\ -11149 \\ -$	97778866407347144697699942243888412228741223763222 6.2340371673471446976999171293388491051539237632027 6.234037167567558628109701712733883884910515392373112. 6.670162361399237633901712293383849105153923763112. 6.7016236131416587499	9012345678901123456789011234567890123456789012222 4455555556789011234567890112234567890122222 2222222222222222222222222222222	30000000000000000000000000000000000000	958348718622786494293823619239157195675226675559 83007322026533315234421225036499535436675226667559 12221122211111111111111111122503640953543667522666755459	-1836159154065299469287648191557788022108228362 -111073394065299469287648191557788022108228362	038800950136430493481529739869641569917143150054 64027070667717790880355890013346098747883549422825141 6388009501364304934815297379160986747883549422825141	

TABLE 6A. PEAK LOADS FOR CONFIGURATION A : GATEWAY PROJEC Largest values of cladding load Refere							OJECT TOVE Ference Pi	ERS Ressure =	770 PA					
TAP	AZI- Muth	PRESS Coeff	NEGATIVE PEAK	POSITIVE PEAK	TAP	AZI- Muth	PRESS	NEGATIVE PEAK	POSITIVE PEAK	TAP	AZI- Muth	P RE SS C DE F F	NEGATIVE PEAK PA	POSITIVE PEAK
5678901234567890123456789012345567890123456789012322222222222222222222222222222222222	00000000000000000000000000000000000000	353243554737382328127261549193819302585479365 1111111111111221111221111122111112211111	-114195411-915600233.7384303333518728149953280598041	67785766667775455776654664657746776877777779555334898343 771792237333890222119954618201159687471110721258250734598800 182246359890221199546182011596874111072125825073 	890123456789012345678901234567890123456789011234 2222222222222222222222222222222222	11122231111122311112231111223448124781910300000 11122234455543434553333354223448124781910339889		$\begin{array}{c} 323142222367117927824892413312165506569219826734744452275076486662525299857433065692194727766377433012655065692198267347666665692196666371166666252252222222222$	24874457107671446550542448777223677433238777789 903445710767144655062444848933214486700322722367433238777788 830788833321448933214486700322722367436371430082 909344557107871446550524448570032272256771081430082 909344557107833221448670032272256771081430082 909344557107833221448670032272256771081430082 909344557107833221448556761765058355884117816927	5678901234567890123456789012345678901234567890123456789012 333333333333333333333333333333333333		585866075 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 1111 11		318721662365275359877020808131664614127168694487

AL 11115 M														
TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK A	TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK 9	TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK A
345678901234567890123456712345678 33333333333333333333333333333344444444	90000000000000000000000000000000000000	54454839688353309104594813228554377744 	$\begin{array}{c} -1118760299930\\ -112562299930\\ -112562299930\\ -112562299930\\ -11258233\\ -99131999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1187999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -1189999\\ -118999\\ -118999\\ -118999\\ -1113999\\ -1111399\\ -11111399\\ -1111399\\ -11111399\\ -1111399\\ -1111399\\ -11111399\\ -1111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111399\\ -11111111399\\ -111111399\\ -11111399\\ -11111111111119\\ -111111111111111111$	655666766555664367899776666766678 9330930817325427677555996477810252 9330930817325427677555996477810252 9330930817325427677555996477810252 933093081463667338903700639189167948971	90123456789012345678901234567890 222222222222222222222222222222222222	40000000000000000000000000000000000000	$\begin{array}{c} -1 \\ . \\ . \\ . \\ . \\ . \\ . \\ . \\ . \\ . \\ $	$\begin{array}{c} -11185 \\ -11185 \\ -11185 \\ -11185 \\ -1120 \\ 155 \\ -1120 \\ 155 \\ -11326 \\ 556 \\ -11326 \\ 556 \\ -11326 \\ 556 \\ -11326 \\ 556 \\ -1147 \\ -1147 \\ -1147 \\ -1147 \\ -1147 \\ -11328 \\ -11358 \\ -11$	$\begin{array}{c} 8899989776209949181151029212418101055\\ 88992629949189778888436212\\ 8136299491811510292212418\\ 8136299491811510292212418\\ 8101055\\ 8197662082756628\\ 81976621491287238884\\ 876628884\\ 8101055\\ 8197566289\\ 819756628\\ 8197566666\\ 819756666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 8197566666\\ 81975666666\\ 81975666666\\ 81975666666\\ 81975666666\\ 81975666666\\ 819756666666666666666\\ 81975666666666666666666666666666666666666$	12345678901234567890112345678901 222222222222222222222222222222222222	3322059000000000000000000000000000000000	$\begin{array}{c} 2 \\ -2 \\ -2 \\ -1 \\ -2 \\ -1 \\ -2 \\ -2 \\ $	$\begin{array}{c} \textbf{492}\\ \textbf{734}\\ \textbf{3197}\\ \textbf{7342}\\ \textbf{321973}\\ \textbf{65531973}\\ \textbf{65531973}\\ \textbf{6435}\\ \textbf{66435}\\ \textbf{66735}\\ \textbf{67537}\\ \textbf{67537}\\$	67605269591867739478297497752909 414777794.86773947859453388624 455269591867739478297497752909 457605269591867739478297497752909

TABLE 6A. PEAK LOADS FOR CONFIGURATION A : Largest values of cladding load

GATEWAY PROJECT TOWERS Reference pressure = 770 pa

TABLE 6A. PEAK LOADS FOR CONFIGURATION LARGEST VALUES OF CLADDING LOAD	Ĥ	:	PROJECT TOWERS Reference pressure =	770 PA

* * 15 GREATEST PRESSURE MAGNITUDES * *

TAP	AZI- Muth	PRESS NEGATIVE P COEFF PEAK Pa	DSITIVE PEAK
1229	330	-3.66 -2815.2	775.1
1244	330	-3.53 -2720.9	593.0
2260	130	-3.46 -2665.8	834.8
1230	330	-3.37 -2596.8	744.0
1309	100	-3.36 -2586.8	805.3
2355	190	-3.34 -2573.5	633.1
1237	330	-3.18 -2450.3	728.4
1 2 2 2	330	-2.91 -2244.5	752.3
2151	10	-2.88 -2217.3	615.6
1243	330	-2.85 -2193.7	564.6
1223	330	-2.85 -2192.9	851.7
2227	140	-2.80 -2155.3	896.7
1215	330	-2.79 -2145.0	883.2
2460	310	-2.76 -2127.0	549.8
2370	170	-2.75 -2119.2	637.0

TABLE GA. PEAK LOADS FOR CONFIGURATION B Largest values of cladding load								ROJECT TOW Eference P	ERS Ressure =	77¢ PA				
TAP	AZ-1- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK	TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK A	TAP	AZI- Muth	PRESS COEFF	NEGATIVE PEAK	POSITIVE PEAK
1222 1229 1230	336 332 320	-3.71 -3.89 -3.84	-2856.6 -2998.1 -2957.9	383.6 425.2 300.3	1237 1244 1309	336 336 102	-3.52 -2.37 -3.20	-2710.9 -1821.7 -2463.5	292.5 317.5 805.1	2260 2355	134 178	-3.31 -2.43	-2546.8 -1874.1	803.6 613.1

TABLE 6A. PEAK LOADS FOR CONFIGURATION Largest Values of Cladding Load	8	:	GATEWAY PROJECT TOWERS Reference pressure = 770 pa

* * 8 GREATEST PRESSURE MAGNITUDES * *

TAP	AZI- Muth	PRESS Coeff	NEGATIVE PEAK	POSITIVE PEAK A
1229	332	-3.89	-2998.1	425.2
1230	320	-3.84	-2957.9	300.3
1222	336	-3.71	-2856.6	383.6
1237	336	-3.52	-2710.9	292.5
2260	134	-3.31	-2546.8	803.6
1309	102	-3.20	-2463.5	805.1
2355	178	-2.43	-1874.1	613.1
1244	336	-2.37	-1821.7	317.5

TABLE 6B. COMPARISON OF CONFIGURATIONS A AND B : GATEWAY PROJECT TOWERS TAPS WHERE NEGATIVE PEAK LOAD FOR CONFIG. B EXCEEDED THAT FOR CONFIG. A BY 200 PA Ref. Pressure = 770 PA

TAP	AZIMUTH	A CONFIG Pa Load	AZIMUTH	B CONFIG Pa Load
1222 1230	330 330	-2244.5 -2596.8	336 320	-2856.6 -2957.9
1237	330	-2450.3	336	-2710.9

CONFIGURAT.		Point in Point in						JUUA	INE NUUI UI
AZIMUTH	SHEAR	CKN) Y	x	DHENT (MN Y	-M) Z	ECCEI	н сму)YNAMIC X	RESPONSE
00000000000000000000000000000000000000	-43592 -44592 -44592 -446592 -445922 -44592	96571 11344 -9610 899803 1968350 -10002279384765 99710822279384765534 -11122385269347 -111223852655347 -199110 -1112236555347 -199110 -1992585 -19926585 -19926585 -1992585 -1995585 -1992585 -1995585 -1	-729 779 -929 778 -929 778 -929 778 -929 778 -778 -929 778 -778 -778 -778 -778 -778 -778 -778	-337.62 -3561.29 -369.9 -369.9 -210.1 -210.1 -2310.1 -	81.10065 91.299.49 93.378.99.3978.993.378.993.378.993.378.993.378.877.8 134154.377.888.5776.8556.66 1354.154.887.7 -702556.66.15556.66 11509.8 114099.88	767819584427445398777314702363913398	323461085674286543322101287460225533	584 671408834 424242 42442 4271149 2897655555 5555676897 6897663510 11111111111 111222 421111111111111 111222 322111 11111111222 322111 11111111	9537960035576732808881233683595069729 9537960035576732808881233683595069729

TABLE 7. BASE SHEAR AND MOMENT SUMMARY : GATEWAY PROJECT TOWER ONE CONFIGURATION A REFERENCE PRESSURE 771

: BASED ON AEROELASTIC DATA

SQUA NRMIC X	RE ROOT OF Response	FACTOR	•
11224244222222424211111111111111111111222322111111224244222222527446635109	45377960035576732808881223683595069729 45568770003557677508888888 4568770043557677508888888 456877040355767750888888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 456877040559766888888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 45687704055976688888 4568770405597667755 46888887704055976678280 46887704055976678280 4687704055976678280 4687704055976678280 4687704055976678280 469770405597667755768888888 456877040559766775576888888 45687775040559766775576875776875776875776772800 400577757767775776772800 4005777577677777777777777777777777777777	11111243211123111111112458574864754657569	

	7. SHEAR AN IRECTION	D NOMEN	T DIAGR	AMS ; GATE Configure		JECT TOWER	ONE Refe	RENCE PR	ESSURE	E 771 PA		: BASED ON	AEROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE X	(AREA X	(SQ_M)	PRESSUR	E (PA) Y	ECCEN X	CH >	SHEAI X	R (KN) Y	x	DMENT (MN-	-#) Z
GRND	0.00	-151 2	705 0	163	436	- 936 6	885.4	5	2	-4343.5	9657.3	-729.7	-337.6	81.1
1 S T	5.50	-151.2	385.8			-926.6				-4192.4	9271.5	-677.6	-314.1	79.0
2ND	9.16	-92.5	239.1	109	290	-851.3	824.0	5	2	-4099.9	9032.5	-644.1	-299.0	77.7
3R D	12.82	-88.0	227.3	109	290	-809.8	783.6	4	2	-4011.9	8805.2	~611.5	-284.1	76.6
4 T H	16.48	- 87.5	222.0	109	290	-805.4	765.3	5	2	-3924.5	8583.1	-579.7	-269.6	75.4
518	20.14	-89.0	221.5	109	290	-819.2	763.5	5	2	~ 3835.5	8361.6	-548.7	-255.4	74.1
6TH	23.80	-90.5	221.0	109	290	-833.0	761.7	5	2	-3745.0	8140.7	-518.4	-241.5	72.8
7TH	27.46	-92.0	221.1	109	290	-847.3	762.0	6	2	-3653.0	7919.6	-489.1	-228.0	71.3
8TH	31.12	-93.6	222.2	109	290	-861.9	765.9	6	2	-3559.4	7697.4	-460.5	-214.8	69.8
97H	34.78	- 95 . 2	223.3	109	290	-876.4	769.9	6	3	-3464.2	7474.1	-432.7	-201.9	68.2
10TH	38,44	- 96 . 8	224.5	109	290	-891.0	773.8	6	3	-3767.4	7249.6	~405.8	-189.4	66.5
		~98.4	225.6	109	290	-905.6	777.8	7	3					
1178	42.11	-99.9	226.8	109	290	-920.1	781.7	7	3	-3269.1	7023.9	-379.6	-177.3	64.7
12TH	45.77	-101.0	227.4	109	290	-930.1	783.8	7	3	-3169.1	6797.2	-354.3	-165.5	62.9
13TH	49.43	-101.6	227.6	109	290	-935.5	784.6	7	3	-3068.1	6569.8	~329.9	-154.1	61.0
14TH	53.09	-102.2	227.9	109	290	-941.0	785.5	7	3	-2966.5	6342.2	-306.2	-143.0	59.0
1 5 T H	56.75		228.1	109	290	-946.5	786.3	8	3	-2864.3	6114.3	~283.4	-132.4	57.0
16TH	60.41		228.4	109	290	-952.0	787.1	8	3	-2761.5	5886.2	-261.5	-122.1	54.9
17TH	64.07		228.6	109	290	-957.5	788.0	e	4	-2659.1	5657.8	-240.3	-112.1	52.8
18TH	67.73					-967.0	790.6			-2554.1	5429.2	-220.0	-102.6	50.6
1 9T H	71.39		229.3	109	290			8	4	-2449.1	5199.9	-200.6	-93.4	48.4
20TH	75.05		230.8	109	290	-982.5	795.5	8	4	-2342.3	4969.1	-182.0	-84.7	46.2
21ST	78.71		232.2	109	290	-998.0	800.4	8	4	-2233.9	4736.9	-164.2	-76.3	43.9
2 2 N D	82.37		233.6	109	290	-1013.5	805.4	8	4	-2123.9	4503.3	-147.3	-68.3	41.6
2 3 R D	86.03	-111.8	235.1	109	290	-1029.0	810.3	8	4	-2012.1	4268.2	-131.2	-60.7	39.3
24TH		-113.4	236.5	109	290	-1044.5	815.2	8	4	-1898.7	4031.7	-116.1	-53.6	36.9
M 7 7 7 7		-115.3	238.2	109	290	-1061.6	821.1	8	4					

TABLE	7. SHEAR IRECTION	AND MONENT	DIAGRA	NS : GATE Configura	WAY PRO Tion a	JECT TOWER	ONE REFE	RENCE PRI	ESSURE	771 PA		: BASED ON A	EROELASTI	IC DATA
FLOOR	HEIGHT	-	(KN) Y	AREA	<se,m></se,m>	PRESSURE X	(PA) Y	ECCEN X	< H >	SHEAR	(K N) Y	n o X	HENT (NN- Y	-H) Z
25TH	93.35							-		-1783.3	3793.5	-101.7	-46.9	34.5
	97.01	-117.6	242.3	109	290	-1082.4	835.2	8	4	-1665.8	3551.2	~ 88 . 3	-40.5	32.0
26TH		-119.8	246.4	109	290	-1103.2	849.3	8	4	-1546.0	3304.8	-75.7	-34.7	29.6
27TH	100.68	-122.1	250.5	109	290	-1124.0	863.3	8	4					
28T H	104.34			109	290	-1144.8	877 4	8	4	-1423.9	3054.4	-64.1	-29.2	27.1
29TH	108.00	-124.3						-		-1299.5	2799.8	-53.4	-24.2	24.6
30TH	111.66	-126.6	258,6	109	290	-1165.6	891.5	8	4	-1172.9	2541.2	-43.6	-19.7	22.1
		-128.5	262.2	109	290	-1182.8	903.9	8	4	-1044.5	2278.9	-34.8	-15.7	19.6
31ST	115.32	-128.7	266.6	109	290	-1185.0	918.9	8	4					17.1
32ND	118.98	-128.9	271 2	109	290	-1187.2	934.7	7	4	-915.8	2012.4	- 26 . 9	-12.1	
3 3 R D	122.64							7	3	-786.8	1741.2	-20.1	-9.0	14.6
34TH	126.30	-129.2	275.7	109	290	-1189.4		•	-	-657.7	1465.5	-14.2	-6.3	12.2
		-129.4	280.3	109	290	-1191.6	966.3	7	3	-528.3	1185.2	-9.3	-4.1	9.8
	129.96	-129.7	284.9	109	290	-1193.8	982.1	7	3	-398.6	900.2	-5.5	-2.4	7.4
36TH	133.62	-126.2	283.9	109	290	-1162.4	978.6	7	3					
37TH	137.28			109	290		906.4	7	3	-272.4	616.3	-2.7	-1.2	5.1
38TH	140.94	-116.5								-155.8	353.4	-1.0	4	2.9
TOP		-155.8	353.4	162	433	-961.4	816.3	7	3	0.0	0.0	0.0	0.0	0.0

	7. SHEAR AN IRECTION 1		T DIAGR	AMS : GATE CONFIGURA	WAY PRO Tion a	JECT TOWER ONE Refer	ENCE PR	ESSUR	E 771 PA		: BASED ON A	EROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE X	(KN) Y	AREA X	(SQ H)	PRESSURE (PA) X Y	ECCEN X	CH) Y	SHEAR X	(KN) Y	x nc	DMENT (MN- Y	-N) Z
GRND	0,00	-153.9	446 0	163	436	-943.5 1025.3	4	1	-4584.6	11530.6	-888.7	-358.2	83.0
1 S T	5.50	~94.9	275.1	109	290	-873.4 948.2	4	1	-4430.7	1083.8	-826.5	-333.4	80.9
2ND	9 16						4	1	-4335.8	10808.7	-786.5	-317.3	79.7
3RD	12.82	-90.3	259.2	109	290				-4245.5	10549.5	-747.4	-301.6	78.6
4TH	16.48	-90.2	252.5	109	290	-830.7 870.2	4	1	-4155.3	10297.1	-709.2	-286.3	77.4
5T H	20 14	- 92 . 4	253.5	109	290	-850.5 873.8	4	2	-4062.9	10043.6	-672.0	-271.2	76.2
6T H	23.80	-94.5	254.5	109	290	-870.3 877.4	5	2	-3968.4	9789.0	-635.7	-256.5	74.8
7TH	27.46	- 96 . 2	255.2	109	290	~885.3 879.6	5	2	-3872.2	9533.8	-600.3	-242.2	73.4
втн	31.12	- 97 . 5	255.9	109	290	-897.3 882.2	5	2	-3774.8	9277.9	-565.9	-228.2	71.8
9TH	34 78	- 98 . 8	256.7	109	290	-909.4 884.9	6	2	-3676.0	9021.2	-532.4	-214.5	70.2
1018		-100.1	257.5	109	290	-921.4 887.5	6	2	-3575.9	8763.7	-499.8	-201.3	68.5
		-101.4	258.2	109	290	-933.4 890.1	6	2	-3474.6	8505.5	-468.2	-188.4	66.6
11TH		-102.7	259.0	109	290	-945.5 892.7	6	3	-3371.9	8246.5	-437.6	-175.8	64.8
1278		-104.1	260.0	109	290	-958.5 896.1	7	3	-3267.8	7986.6	-407.9	-163.7	62.8
13TH		-105.6	261.2	109	290	-972.4 900.5	7	3	-3162.1	7725.4	-379.1	-151.9	60.8
14TH		-107.1	262.5	109	290	-986.4 904.8	7	3					
15TH	56.75	-108.6	263.8	109	290	-1000.3 909.2	7	3	-3055.0	7462.9	-351.3	-140.5	58.7
16TH	60.41	-110.2	265.0	109	290	-1014.2 913.5	7	3	-2946.4	7199.1	-324.5	-129.5	56.5
17TH	64.07	-111.7	266.3	109	290	-1028.2 917.9	7	3	-2836.2	6934.1	-298.6	-119.0	54.3
18TH	67.73	-113.4	268.1	109	290	-1044.3 924.1	7	3	-2724.5	6667.8	-273.7	-108.8	52.1
19TH	71.39	-115.5	272.1	109	290	-1063.4 938.1	7	3	-2611.1	6399.7	-249.8	-99.0	49.7
2 O T H	75.05			109	290	-1082.6 952.1	7	3	-2495.6	6127.6	-226.8	-89.7	47.4
215T	78.71	-117.6	276.2					3	-2378.0	5851.4	-204.9	-80.7	45.0
2 2 N D	82.37	-119.7	280.2	109	290	-1101.7 966.0	7		-2258.4	5571.1	~184.0	-72.3	42.5
2 3 R D	86.03	-121.7	284.3	109	290	-1120.9 980.0	8	3	-2136.7	5286.8	-164.1	~64.2	40.0
24TH	89.69	-123.8	288.3	109	290	-1140.0 994.0	8	3	-2012.8	4998.5	-145.3	-56.6	37.4
		-125.7	292.2	109	290	-1157.4 1007.1	8	3					

	7. SHEAR Irection		T DIAGRAI	NS : GATE Configura	TION A	OJECT TOWER	REFE	RENCE PRE	SSURE	771 PA		: BASED ON A	CKUELHOII	
FLOOR	HEIGHT	(M) FORCE	(KN) Y	AREA X	(SQ_M)	PRESSURE	(PA) Y	ECCEN X	CH) Y	SHEAR X	(KN) Y	MO X	HENT (MN- Y	·#) Z
25TH	93.35							7	-	-1887.1	4706.3	-127.6	-49.5	34.
26TH	97.01	-127.2		109	290	-1170.9 1			-	-1760.0	4409.6	-110.9	-42.8	32.
27TH	100.68	-128.6	301.2	109	290	-1184.3 1	038.1	7	3	-1631.3	4108.5	- 95 . 3	-36.6	29.
		-130.1	305.7	109	290	-1197.8 1	053.6	7	3	-1501.2	3802.8	-80.8	-30.9	26.
28TH		-131.5	310.2	109	290	-1211.2 1	069.1	7	3	-1369.7	3492.6		-25.6	24.
29TH	108.00	-133.0	314.7	109	290	-1224.6 1	084.6	7	3					
30TH	111.66	-134.3	318.9	109	290	-1236.5 1	099.4	7	3	-1236.7	3178.0	- 55 . 2	-20.8	21.
315T	115.32	-134.9		109	290	-1241.9 1		7	3	-1102.4	2859.1	-44.2	-16.6	19.
32ND	118.98							6	-	-967.5	2533.1	-34.3	-12.8	16.
3 3 R D	122.64	-135.5		109	290	-1247.3 1			3	-832.0	2199.9	-25.7	-9.5	14.
34TH	126.30	-136.1	340.6	109	290	-1252.7 1	173.9	6	2	-695.9	1859.3	-18.2	-6.7	11.
		-136.7	347.9	109	290	-1258.2 1	199.1	6	2	-559.3	1511.5	-12.1	-4.4	9.
35TH	129.96	-137.2	355.2	109	290	-1263.6 1	224.3	6	2	-422.1	1156.3	-7.2	-2.6	6.
36TH	133.62	-133.8	356.1	109	290	-1232.0 1	227.5	5	2					
37TH	137.28	-123.4	336 0	109	290	-1136.3 1	158.3	5	2	-288.3	800.2	-3.6	-1.3	4.
38TH	140.94					-1017.0 1		5	2	-164.8	464.2	-1.3	5	2.
TOP	146.44	-164.8	464.2	162	433	-1017.01	V(2.1	3	÷	Q.Q	Q .Q	Q.Q	0.0	۰.

	7. SHEAR AND IRECTION 2		T DIAGR	AMS : GATE CONFIGURA		JECT TOWER	ONE Refe	RENCE PR	ESSURE	771 PA		: BASED ON	AEROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE	ских	AREA	(รญุท)	PRESSUR	E (PA) Y	ECCEN X	с <mark>ң</mark> >	SHEA X	R (KN)	x	DMENT (MN-	-H) Z
GRND	0.00	-152.3	486 7	163	436	-933.8	1116 0	4	1	-4591.4	11944.3	-928.9	-361.2	91.0
1 S T	5.50	-91.8	291.6	109	290	-845.1		4	1	-4439.0	11458.0	-864.5	-336.3	88.7
2ND	9.16							4	1	-4347.2	11166.4	-823.1	-320.3	87.4
3R D	12.82	-86.3	269.8	109	290	-794.7			-	-4260.9	10896.6	-782.8	-304.5	86.2
4 T H	16.48	- 87 . 2	263.4	109	290	-802.9	908.1	4	1	-4173.7	10633.1	-743.3	-289.1	84.9
5TH	20.14	-91.2	269.4	109	290	-839.6	928.5	5	2	-4082.5	10363.8	-704.9	-274.0	83.5
6TH	23.80	-95.2	275.3	109	290	- 876.3	949.0	5	2	-3987.3	10088.5	-667.5	-259.2	81.9
7T H	27.46	-97.5	277.1	109	290	-897.5	955.2	6	2	- 3889 . 9	9811.3	-631.1	-244.8	80.1
8T H	31.12	-98.7	274.7	109	290	-909.0	947.1	6	2	-3791.1	9536.6	-595.6	-230.7	78.3
9TH		-100.0	272.4	109	290	-920.6	938.9	6	2	-3691.1	9264.2	-561.2	-217.0	76.5
10TH		-101.2	270.0	109	290	-932.2	930.7	6	2	-3589.9	8994.2	-527.8	-203.7	74.5
11TH		-102.5	267.6	109	290	-943.7	922.5	7	3	-3487.4	8726.6	-495.4	-190.7	72.5
1218		-103.8	265.3	109	290	-955.3	914.4	7	3	-3383.6	8461.3	-463.9	-178.2	70.4
	•	-104.8	263.1	109	290	-965.0	907.0	7	3	- 3278 . 8	8198.2	-433.4	-166.0	68.3
13TH		-105.7	262.5	109	290	-973.0	904.8	7	3		7935.7		-154.1	66.1
14TH		-106.5	261.9	109	290	-981.0	902.7	7	3	-3173.1		-403.9		
15TH		-107.4	261.2	109	290	-988.9	900.5	7	3	-3066.6	7673.8	-375.3	-142.7	63.8
16TH	60.41	-108.3	269.6	109	290	-996.9	898.4	8	3	-2959.2	7412.6	-347.7	-131.7	61.5
17TH	64.07	-109.1	260.0	109	290	-1004.9	896.2	8	3	-2850.9	7152.0	-321.1	-121.1	59.2
18TH	67.73	-110.6	260.4	109	290	-1018.3	897.6	8	3	-2741.8	6892.0	-295.3	-110.8	56.8
19TH	71.39	-112.9	262.6	109	290	-1039.7	905.1	8	3	-2631.2	6631.6	-270.6	-101.0	54.4
20TH	75.05	-115.2	264.7	109	290	-1061.0	912.5	8	3	-2518.3	6369.¢	-246.8	-91.6	52.0
21ST	78.71				290	-1082.4	919.9	8	4	-2403.0	6104.3	-224.0	-82.6	49.5
22ND	82.37	-117.6	266.9	109					7	-2285.5	5837.5	-202.1	-74.0	46.9
2 3 R D	86.03	-119.9	269.0	109	290	-1103.7	927.4	8	4	-2165.6	5568.4	-181.2	-65.8	44.3
24TH	89.69	-122.2	271.2	109	290	-1125.1	934.8	8	4	-2043.4	5297.2	-161.3	~58.1	41.7
	-	124.4	273.3	109	290	-1145.0	942.0	8	4					

	7. SHEAR IRECTION	AND MONENT	r diagr	ANS : GATI Configuri		ECT TOWER	ONE REF	ERENCE PRI	ESSURE	771 PA		: BASED ON A	EROELASTI	C DATA
FLOOR	HEIGHT	(H) FORCE X	(KN) Y	AREA	(SQ_M) Y	PRESSURI X	E (PA) Y	ECCEN X	CH > Y	SHEAR X	(KN) Y	NO X	MENT (MN- Y	H) Z
25TH	93.35			140	2.0.4		969.6	8		-1919.0	5024.0	-142.5	-50.9	39.1
26TH	97.01	-126.2		109		-1161.7		-	4	-1792.9	4742.7	-124.6	-44.1	36.4
27TH	100.68	-129.0	289.3	109	290	-1178.3	997.2	8	3	-1664.9	4453.4	-107.7	-37.8	33.7
2878	104.34	-129.8	297.3	109	290	-1195.0 1	1024.8	8	3	-1535.1	4156.1	-92.0	-31.9	31.0
29TH	108.00	-131.6	305.3	109	290	-1211.6 1	1052.5	8	3	-1403.5	3850.8	-77.3	-26.5	28.2
		-133.4	313.3	109	290	-1228.3 1	1080.1	8	3	-1270.1	3537.4	-63.8	-21.6	25.4
30TH	111.66	-135.1	321.1	109	290	-1243.6 1	106.9	8	3					
31ST	115.32	-136.1	335.7	109	290	-1253.5 1	1157.1	7	3	-1135.0	3216.3	-51.5	-17.2	22.5
32ND	118.98	-137.2	351.0	109	290	-1263.4 1	1209.8	7	3	-998.9	2880.6	-40.3	-13.3	19.7
3 3 R D	122.64	-138.3		109	290	-1273.3 1		7	3	-861.6	2529.7	-30.4	-9.9	16.8
34TH	126.30							7		-723.3	2163.4	-21.8	-7.0	14.0
35TH	129.96			109	290	-1283.1 1		-	2	-584.0	1781.9	-14.6	-4.6	11.2
36TH	133.62	-140.4	396.8	109	290	-1293.0 1	1367.9	6	2	-443.5	1385.0	-8.8	-2.7	8.3
3714	137.28	-137.9	405.4	109	290	-1269.8 1	1397.4	6	2	-305.6	979.6	-4.5	-1.4	5.6
		-129.2	398.3	109	290	-1189.2 1	1373.0	6	2					3.1
38TH	140.94	-176.5	581.3	162	433	-1088.7 1	1342.7	5	1	-176.5	581.3	-1.6	~.5	
TOP	146.44									0 ,0	Q .Q	¢.¢	Q.Q	Q. Q

: BASED ON AEROELASTIC DATA

FLOOR	HEIGHT	(M) FORCE	(KN) Y	AREA	(SQ H)	PRESSUR	E (PA) Y	ECCEN	< H >	SHEAF X	E CKN y	x HC	HENT (MN-	H) z
GRND	0.00	-159.7	468.6	163	436	-978.7	1075.3	4	i	-4627.5	9469.7	-747.9	-369.9	91.6
1 S T	5.50	-93.4		109	290	-860.1		5	2	-4467.8	9991-1	-714.7	-344.9	89.4
2ND	9.16							5		-4374.4	\$742.¢	-643.4	-328.7	88.1
3R D	12.92	-88.4	228.8	109	290	-814.2	788.7	-	2	-4285.9	4513.2	-652.2	-312.9	86.7
4TH	16.48	-89.0	216.4	109	290	-819.0	746.0	6	2	-4197.0	4294.7	-421.4	-297.4	85.3
5TH	20.14	- 92 . 2	218.7	109	290	-848.7	753.7	6	3	-4104.8			-282.2	83.8
6TH	23.80	- 95 . 4	220.9	109	290	- 878,4	761.4	6	3	-4009.4	7857.2	-\$62.3	-267.3	82.1
7TH	27.46	-97.3	218.9	109	290	-895.7	754.7	7	3	-3912.1		-\$35.9	-252.8	80.4
		~98.3	212.9	109	290	-905.2	733.9	7	3	-3813.8	1111.1		-238.7	78.5
8TH	31.12	-99.4	206.8	109	290	-914.8	713.0	7	4		1111-1			
9T H	34.78	-100.4	200.8	109	290	-924.4	692.1	8	4	-3714.5	III I	- †11 • †	-224.9	76.7
1 ¢TH	38.44	-101.4	194.7	109	290	-934.0	671.3	8	4	-3614.0	T††† †	-++++	-211.5	74.8
11TH	42.11	-102.5	188.7	109	290	-943.6	650.4	8	4	-3512.6	\$ \$23.4	-+2+.2	-198.4	72.8
1 2 T H	45.77	-102.9		109	290	-947.9	627.8	9	5	-3410.1	.		-185.8	7¢.8
1 3 T H	49.43	-102.9		109	290	-947.1	609.1	9	5	-3307.2	64\$2.2	-#74.6	-173.5	68.7
14TH	53.09				290	-946.3	590.3	9	5	-3204.3	6275.5		-161.6	66.6
15TH	56.75	-102.8	171.3	109				-		-3101.5	4144.2	-***.6	-150.0	64.5
16TH	69.41	-102.7		109	290	-945.5	571.6	9	6	-2998.8	\$938.4		-138.9	62.3
17TH	64.07	-102.6		109	290	-944.7	552.9	10	6	-2896.2	\$778.4	-290.1	-128.1	60.1
18TH	67.73	-102.5	155.0	109	290	-943.9	534.2	10	7	-2793.7	5623.0	-269.8	-117.6	57.9
19TH	71.39	-103.5	152.5	109	290	-953.2	525.8	10	7	-2690.2	5470.5	-249.0	-107.6	55.6
2018	75.05	-106.1	157.2	109	290	-977.0	541.7	10	7	-2584.1		-229.2	-98.0	53.3
		-108.7	161.8	109	290	-1000.8	557.7	10	7		III.I			51.0
21ST	78.71	-111.3	165.4	109	290	-1024.6	573.6	10	7	-2475.4	1111-1	-210.1	-88.7	
2 2 N D	82.37	-113.9	171.0	109	290	-1048.4	589.5	10	6	-2364.1	1147 . 1	-191.5	-79.8	48.6
2 3 R D	86.03	-116.5	175.6	109	290	-1072.3	605.4	10	6	-2250.2	4814 .1	-177.6	-71.4	46.2
24TH	89.69	-119.0		109	290	-1095.8		10	6	-2133.8	4438,5	-156.8	-63.4	43.8

	7. SHEAR IRECTION			S : GATE Onfigura		ECT TOWER		ERENCE PRESSURE	771 PA	: BASED ON	AEROELASTIC	C DATA
FLOOR	HEIGHT	(M) FORCE X	(KN) Y	AREA X	(SQ_M) Y	PRESSURE X	(PA) Y	ECCEN (M) X Y	SHEAR (KN) X Y	, X H	OMENT (MN-M Y	1) Z
25TH 26TH	93.35 97.01	-121.5	189.9	109	290	-1118.8	654.6	96	-2014.7 4458.		~55.8 ~48.6	41.4 38.8
27TH	100.68	-124.0 -126.5		109 109	290 290		687.7 720.9	96 96	-1769.2	• - 1•• •	-41.9	36.3
28TH	104.34	-129.0		109	290		754.1	95	-1642.7 3859. -1513.7 3640.	† - †‡ . †	-35.7 -29.9	33.6 31.0
29TH 30TH	108.00	-131.5		109	290		787.2	95	-1382.3 3412.	· · · · · · · · · · · · · · · · · · ·	-24.6	28.2
31ST	115.32	-134.1 -137.3		109	290 290	-1234.7 -1263.8	821.5 909.8	95 94	-1248.1 3174.	* -\$\$. *	-19.8	25.4
32ND 33RD	118.98 122.64	-140.4		109	290	-1292.9 1		8 4	-1110.9 2910. -970.5 2019.		-15.5 -11.7	22.5 19.5
34TH	126.30	-143.6 -146.7		109 109	290 290	-1322.0 1		84 83	-826.9 234.	6 -24.9	- 8 . 4	16.5
35TH 36TH	129.96 133.62	-149.9	371.7	109	290	-1380.2 1	281.1	7 3	-680.1 1956. -530.2 1955.		- 5.6 - 3.4	13.3 10.1
37TH	137.28	-151.9 -151.8	398.1	109 109	290 290	-1398.5 1		73 62	-378.3 1.87.	-9.6	-1.7	6.9
38TH Top	140.94 146.44	-226.5		162	433	-1397.4 1		5 i	-226.5 144.	* - ‡ . ∳	6 \$.\$	3.9 0.0
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TABLE 7. SHEAR AND MOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE Wind direction 40 configuration a reference pressure 771 pa

: BASED ON AEROELASTIC DATA

WIND D	IKECIION	40	COMPISER NICH N	REFE	RENCE FREDJOR		
FLOOR	HEIGHT (N) FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (N)	SHEAR (KN) X Y	NOMENT (MN-M) X Y Z
GRND	0.00	-694.0 1.2	163 436	-4254.2 2.6	06	-19277.# -2992.4	118.5 - 1174.8 122.5
1 S T	5.50	-452.1 -18.7	109 290	-4162.4 -64.4	-0 6		\$\$2.\$~\$\$2.8 118.5
2ND	9:16			-4368.5 -60.8	-0 6	-14131.6 -2885.1	• • • • • • • • • • • • • • • • • • •
3RD	12.82	-474.5 -17.6				-13697.2 -2867.5	\$1,\$ -\$\$\$,\$ 113.0
4TH	16.48	-477.9 -30.5	109 290	-4400.2 -105.1	-06 -16	- \$ 79.2 -2887.9	** .* -***.* 110.1
5TH	20 14	-472.1 -53.9	109 290	-4346.6 -185.6		-12747.2 -2785.1	\$\$.\$ -\$\$2.\$ 107.Z
6T H	23.80	-466.3 -77.2	109 290	-4292.9 -266.2			\$0.6 -\$67.2 104.1
7TH	27.46	-447.5 -100.9	109 290	-4120.5 -347.8			40.0 -000,2 101.1
8T H	31.12	-420 8 -116.2	109 290	-3874.8 -400.6	-2 7	-	21.5 -764.8 98.1
9T H	34.78	-394.2 -131.5	109 290	-3629.2 -453.4	-2 7	- • • † • . • - + + + + . +	22.7 -7 9.9 95.2
10TH	38.44	-367.5 -146.9	109 290	-3383.5 -506.2	-3 7	- + + + + + + + + + + + + + + + + + + +	4.2 -444.4 92.4
1 1 T H	42.11	-340.8 -162.2	109 290	-3137.8 -559.0	-3 7	- + + + + + + + + + + + + + + + + + + +	6.5 -642.2 89.6
12TH	45.77	-314.1 -177.5		-2892.2 -611.8	-4 6		-
1 3 T H	49.43	-294.7 -186.0	109 290	-2713.3 -641.2	-4 6		+ 7.2 -\$69.2 84.3
14TH	53.09	-282.2 -182.6	109 290	-2598.0 -629.3	-4 6	-+++	- 3 81.8
15TH	56.75	-269.6 -179.1	109 290	-2482.6 -617.5	-4 6		
16TH	69.41	-257.1 -175.7	109 290	-2367.3 -605.6	-4 6	-\$#\$\$.\$ -\$\$\$7.4	-22.7 -467.7 77.0
17TH	64.07	-244.6 -172.2	109 290	-2252.0 -593.7	-4 6	-8667.7 -975.	-26.6 -425.7 74.8
18TH	67.73	-232.1 -168.8	109 290	-2136.7 -581.9	-4 6	-8375.7 -806.3	-29.8 -494.6 72.7
19TH	71.39	-225.9 -162.9	109 290	-2079.8 -561.7	-4 6	-849.8 -648.4	
2014	75.05	-229.0 -159.5	109 290	-2108.5 -549.7	-4 6	-1920.8 -483.9	
21ST	78.71	-232 1 -156.0	109 290	-2137.1 -537.7	-4 6	-7488.7 -327.9	-\$6.4 -\$ 6.4 66.3
22ND	82.37	-235.2 -152.5	109 290	-2165.7 -525.7	-4 7	-7453.4 - 75.4	
23RD	86.03	-238.3 -149.0	109 290	-2194.3 -513.7	-4 7	-72 5 . 4	- \$7. \$ -261. \$ 61.8
24TH	89.69	-241.4 -145.5	109 290	-2222.9 -501.7	-4 7	-6973.7 119.1	- 1 . 2 - 285. 9 59.5
ii		-249.6 -139.6	109 290	-2298.0 -481.1	-4 7	•••	- · · ·

	7. SHEAR IRECTION	AND MOMENT DIAGRAM	S : GATEWAY PROJ Onfiguration a	JECT TOWER ONE Refe	RENCE PRESSURE	771 PA	: BASED ON AEROELASTIC DATA
FLOOR	HEIGHT		AREA (SQ M) X y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	MOMENT (MN-M) X Y Z
25TH	93.35	-269.5 -129.1	109 290	-2481.5 -445.2	-4 8		-36.5 -210.8 57.2
26TH	97.01	-289.4 -118.7	109 290	-2665.0 -409.2	-38		
27TH	100.68	-309.4 -108.3	109 290	-2848.4 -373.2	-39		-31.6 -41.6 48.9
28TH	104.34	-329.3 -97.8	109 290	-3031.9 -337.2	-39		-29.2 - 29.7 45.7
29TH	108.00	-349.2 -87.4	109 290	-3215.4 -301.3	-2 9		
30TH	111.66	-372.7 -74.8	109 290	-3431.2 -257.8	-29		
31ST	115.32	-410.7 -47.7	109 290	-3781.1 -164.5	-1 9		-23,3 -82.9 38.8
3 2 N D	118.98		109 290	-4131.0 -69.5	-0 9	-++++++++++++++++++++++++++++++++++++++	-24.4 -66.1 35.0
3 3 R D	122.64						- 1 \$,\$ -\$\$.\$ 30.9
34TH	126.30	-486.7 7.4	109 290	-4480.9 23.5	0 9		-17.2 -77.2 26.6
35TH		-524.7 35.0	109 290	-4830.8 120.5	19	-2933.9 999.3	-9.8 -25.5 21.9
		-562.7 62.5	109 290	-5180.8 215.6	1 9		-6.6 -15.8 17.0
36TH	133.62	-607.7 100.1	109 290	-5595.3 345.2	1 8	III.I III.I	-3,
37TH	137.28	-664.9 212.3	109 290	-6121.7 731.8	27		
38TH	140.94	-1098.6 525.4	162 433	-6777.7 1213.5	2 5	-1498.6 525.8	
TOP	146.44	1474.6 828.4				\$,\$ \$,\$	♦.♦ ♦.♦ ◊.◊

BLE ND D	7. SHEAR AN IRECTION 5	D HOMENT DIAGRAM	IS : GATEWAY ONFIGURATIO	PROJEC N A	F TOWER ONE Ri	EFERENCE P	RESSURE	771 PA	: BASED ON A	ERUELNSIIC C
00 R	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ X	₩> : Y	PRESSURE (PA)	ECCE	н снэ	SHEAR (KN) X Y	ло Х	HENT (MN-M) Y
RND	0.00			36 -	1036.5 -579.(0 -26	17	-739.8 -9609.8	691.3	-19.1 -
1 S T	5.50	-169.1 -252.3			1101.1 -572.0		19	-\$74.7 -9357.5	639.1	
2ND	9.16	-119.6 -165.9			1383.1 -512.2		24	-4519191.5	605.2	+ 4 . 7 +
3R D	12.82	-150.2 -148.6			1345.5 -535.0		22	-300.9 -9042.9	571.8	†7 .7 †0
4 T H	16.48	-146.1 -155.4		• •	1151.6 -608.0		17	- \$4.7 -8887.6	539.0	
5T H	20.14	-125.1 -176.4					12	-29.7 -8711.2	506.8	- ++-+ ++
TH	23.80	-104.0 -197.4			-957 7 -680.0 -786.4 -741.0		9	74.3 -8513.8	475.3	── <u></u> † ₹ ·₹── <u></u> } ²
тн	27.46	-85.4 -215.0			-629.1 -786.3		6		444.5	- + + -+ +:
тн	31.12	-68.3 -228.1				- 	4	2288070.8	414.5	†₽.₽↓ :
TH	34.78	-51.3 -241.2	• • • •		-471.9 -831.		2	279.3 -7829.6	385.4	┊┊┦╋╻╊┊
TH	38.44	-34.2 -254.3			-314.6 -876.0		1	\$\$,\$ -7575.3	357.2	── ┼ ╄₋╄──┼┘
TH	42.11	-17.1 -267.4	• • • • -		-157.3 -921.		0	330.6 -7307.9	330.0	· +++ + + !
TH	45.77	- 0 -280.5		90	1 -966,		-0	330.6 -7027.4	303.7	<u>+</u> ₹.₹
тн	49.43	11.1 -289.1	••• -	90	102.2 -996.		-1	\$ \$ -6738.3	278.5	── ┼ ╇₊┡──╂┊
TH	53.09	16.5 -292.0		90	152.1-1006.0			303.0 -6446.3	254.4	-++.} +
тн	56.75	21.9 -294.9		90	202.0-1016.		-1	28.0 -6151.3	231.4	
TH	60.41	27.4 -297.9	••• -	90	252.0-1026.		-1	253.7 -5853.5	209.4	-12.1 10
TH	64.07	32.8 -300.8		90	301.9-1036.		-1	220 5552.7	188.5	
тн	67.73	38.2 -303.7		90	351.8-1046.0		-1	\$2.7 -5249.0	168.7	
тн	71.39	41.7 -305.3	••••	90	383.8-1052.		-1	4 4943.7	150.1	-14.8 9
TH	75.05	42.3 ~304.8		90	389.6-1050.3		-1	-4638.9	132.5	-14.4 9
ST	78.71	42.9 -304.3		90	395.4-1049.0		-1	\$\$.7 -4334.6	116.1	-15.4 0
ND	82.37	43.6 -303.8		90	401.2-1047.3		-1	2.2 -4030.8	100.8	-15.2
RD	86.03	44 2 -303.3		90	407.0-1045.0		-1	-32.0 -3727.4	86.6	-14.1
TH	89.69	44 8 -302.8	109 2	90	412.7-1043.9		- 1	-76.9 -3424.6	73.5	
/ / П	47.07	44.9 -302.0	109 2	90	413.2-1040.	9 -10	- 1			

LOOR	HEIGHT (H > 1	FORCE X	(KN) Y	AREA X	(SQ M) Y	PRESSUR	E (PA) Y	ECCEN X	CH X Y	SHEAR (KN) X Y	x	NOMENT CMN- Y	·Ħ> Z
25TH	93.35		.7 6	-301.1	109	290	401.4-	1078 1	-11	-2	-121.# -3122.	6 61.5	5 -14.4	11.
26TH	97.01			-300.3	109		389.6-		-13	-2	- \$\$ 2821.	5 50.7	? - ¦∮.∳	- ††-
27TH	100.68		_							-2	-207.7 -2521.	2 40.9	≥	- † •.
28TH	104.34			-299.5	109		377.8-		-14	-	-248.7 -2221.	7 32.2	2 -14.\$	- 4 \$.
29TH	108.00			-298.7	109		365.9-		-16	-2	-2841923.	0 24.6	s -11.\$	- 44 .
30TH	111.66	:	38.5	-297.8	109	290	354.1-	1026.7	-18	-2	-3261625.	1 18.1	L -14.4	\$ \$.
	115.32	:	34.7	-295.5	109	290	319.1-	1018.5	-20	- 2	-361.6 -1329.	7 12.7		44.
		:	20.4	-276.0	109	290	197.7	-951.5	-23	- 2	-3821053.			44.
	118.98		6.1	-255.6	109	290	56.4	- 881.2	-26	- 1	-388798.		11	
	122.64		-8.1	-235.2	109	290	-74.9	-810.8	-30	1			11	II.
	126.30	- :	22.4	-214.8	109	290	-206.3	-740.5	-33	3	-\$79.9 -562.			ΞĪΓ
35TH	129.96	- :	36.7	-194.4	109	290	-337.6	-670.2	-37	7	-3\$7.\$ -348.			- ff-
36TH	133.62			-164.8	109	290	-517.4	- 567.9	-41	14	-320.9 -153.	61	└ ~₹.╡	14:
37TH	137.28			-67.8	109		-781.0		-28	35	-264.7 11.	24	F = [-]	₹ .
38TH	140.94						-1109.6		5	11	-179.9 79.1	•2	2	‡ .
TOP	146.44	-1	?9.9	79.0	162	733	-1107.8	104.0	J			o o.(› • .•	

TABLE	7. SHEAR A	ND NONENT DIAGRA	NS : GATEWAY PR Configuration a	OJECT TOWER ONE	RENCE PRESSURE	771 PA	: BASED ON AEROELASTIC DATA
		50) FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA)	ECCEN (#) X Y	SHEAR (KN) X Y	NOMENT (MN-M) X y z
GRND	0.00	-125.7 -469.6	163 436	-770.7-1077.6	-2 0	1 1 1 1 - 1 4 1 8 2 . 4 1 1 1 1 1 - 1 4 1 8 2 . 4	
1 S T	5.50	-98.8 -304.4	109 290	-909.5-1049.4	-3 i		
2ND	9,16	-132.1 -283.4	109 290	-1216.5 -976.8	-5 2		
3R D	12.82	-120.7 -300.3	109 290	-1111.8-1035.3	-4 2		
4TH	16.48	-87.5 -343.9	109 290	-805.6-1185.3	-3 i		
5T H	20.14	-54.2 -387.4	109 290	-499.5-1335.3	-2 0		
6 T H	23.80	-29.9 -418.2	109 290	-275.2-1441.7	-i ¢		
7TH	27.46	-11.0 -432.5	109 290	-101.3-1490.9	-i 0		
8T H	31.12	7.9 -446.8	109 290	72,5-1540.1	-0 -0		
9T H	34.78	26.8 -461.1	109 290	246.4-1589.3	00		
1 ¢ T H	38.44	45.6 -475.3	109 290	420.2-1638.5	1 0		
11TH	42.11	64.5 -489.6	109 290	594.1-1687.7	1 ¢		
12TH	45.77	73.8 -497.6	109 290	679.8-1715.4	1 O		
13TH	49.43	74.0 -501.3	109 290	681.7-1728.0	i ¢		
14TH	53.09	74.3 -504.9	109 290	683.6-1740.5	2 0		
15TH	56.75	74.5 -508.6	109 290	685.6-1753.1	2 0		
16TH	60.41	74.7 -512.2	109 290	687.5-1765.7	2 0		
17TH	64.07	74.9 -515.9	109 290	689.4-1778.3	2 0		
18TH	67.73	75.9 -518.7	109 290	699.1-1787.8	2 0		
19TH	71.39	78.2 -511.4	109 290	720.4-1762.7	2 ¢	ŢIJŢŢŢŢĬŢŢ	
20TH	75.05	80.5 -504.1	109 290	741.6-1737.6	3 0		
2157	78.71	82.8 -496.8	109 290	762.8-1712.4	3 i		
22ND	82.37	85.2 -489.5	109 290	784.0-1687.3	3 i	III.I IIII.I	
2 3 R D	86.03	87.5 -482.2	109 290	805.2-1662.2	4 1		
24TH	89.69	89.0 -474.2	109 290	819.1-1634.7	4 1	415'İ	

	7. SHEAR AND IRECTION 60		5 : GATEWAY PROJ Infiguration a	ECT TOWER ONE Refe	RENCE PRESSURE	771 PA	: BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	HOMENT (MN-M) X Y Z
2 5 T H	93.35	88.6 -465.1	109 290	815.9-1603.2	5 1	<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	<u><u></u></u>
26TH	97.01	88.3 -455.9	109 290	812.8~1571.6	5 1	──दे देसे . ७ . ─ट्रे देसे / . 4	
27TH	100.68	87.9 -446.8	109 290	809.6~1540.1	6 1	──┤┽┽╷ ╡──┤ ┦ ┦╎╷╡─	┤ ┦ ╷╿ ─┡╷╿ ─┡┤╷╿
28TH	104.34	87.6437.6	109 290	806.4-1508.5	6 1	 \$\$. 7 -14\$\$.7	┼╡╌╡╴╶╪╌┥╶╞╪╌┥
29TH	108.00	87.2 -428.5	109 290	803.2-1476.9	7 1		-13.4 -4.9 -55.5
30TH	114.66						── <u>┆</u> ┫╷ <u></u> ╋─── ╞ ┆┤──╞┆╷┥
315T	115.32	83.2 -416.7	109 290	766.1-1436.5	8 2	-199.7 -291.9	-14.4 -4.1 -44.1
32ND		63.9 -358.3	109 290	588.6~1235.2	10 2	-243.4 154.4	-18.4 -7.2 -45.5
		44.6 -296.7	109 290	411.0-1022.6	13 2		
3 3 R D		25.4 -235.0	109 290	233.5 -810.0	18 2		
34TH	126.30	6.1 -173.3	109 290	55.9 -597.4	27 1		
35T H	129.96	-13.2 -111.7	109 290	-121.6 -384.9	45 -5		-12.4 -7.4 -77.5
36TH	133.62	-40.9 -29.6	109 290	-376.4 -102.1	65 -90	-726.5 977.0	-9.9 -7.6 -77.6
37TH	137.28			-765.1 750.5	-30 -11		
38TH	140.94	-83.1 217.7	109 290			-262.\$ 784.9	- #.# +. # -1#.#
TOP	146.44	202.5 784.9	162 433	-1249.4 1813.1	-17 -4	↓ .↓ ↓ .↓	↓ .↓ ↓ .↓

	LE 7. SHEAR AND MOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE D DIRECTION 70 CONFIGURATION A REFERENCE PRESSUR									771 PA	BASED ON AEROELASTIC DATA			
FLOOR	HEIGHT	(H) FORCE	(KN) Y	AREA (X	(SQ_M) Y	PRESSURE X	(PA) Y	ECCE	N (N) Y	SHEA X	R (KN) Y	X	HENT (HN-H) Y Z	
GRND	0.00	-170.1	95.i	163	436	-1042.9	218.3	- 6	-10		•††††		-43\$.3 -99.4	
1 S.T	5.50	-135.7	83.3	109	290		287.0	-5	- 8	-\$\$?\$.}	4444 • 5	-\$72.4	-442.6 -97.1	
2ND	9.16	-152.6	98.6	109	290	-1404.8	339.7	- 5	-7		\$\$\$	-\$\$\$. {	-341.3 -95.3	7
3R D	12.82	-161.8		109	290	-1490.1	360.0	-5	-7		\$\$\$	-\$\$\$.4		1
4 T H	16.48		104.4			-1541.1	348.5	-4	-7	-\$4\$\$.\$	\$7\$\$.\$	-\$\$\$.\$	-\$40.4 -92.4	4
5TH	20.14	-167.4	101.1	109	290		340.5	-4	- 8		- ++++.+	-++++.+		7
6T H	23.80	-172.9	97.8	109	290	-1592.0				-\$44\$.7	\$\$\$	-444.7		0
7TH	27.46	-174.0	94.2	109	290	-1601.7	324.7	-4	- 8	-4911.8	\$ \$ \$ \$ 7. \$	-44\$.4	-283.6 -87.1	2
8T H	31.12	-172.2	94.0	109	290		324.1	- 5	- 8	-47\$9.\$	\$\$\$\$.2	-444.\$	-265.9 -85.3	3
9T H	34.78	-170.5	93.8	109	290		323.4	-5	-9	-4\$49.4	\$\$\$\$.\$	-494.4	-248.9 -83.3	3
1 ¢T H	38.44	-168.8	93.6	109	290		322.8	-5	-9	-++++.2	\$24\$.7	-\$\$\$.7	-222.\$ -81.3	3
11TH	42.11	-167.1	93.5	109	290		322.2	- 5	-10	-4233.	\$112 .2	-\$47.\$		2
1278	45.77	-165.4	93.3	109	290		321.5	-6	-10	-++++.+	\$418.9	-\$49.\$	-241.5 -77.0	0
13TH	49.43	-165.2	93.1	109	290		321.1	-6	-10		4925.4	-\$\$1.1	74.1	8
1478	53.09	-166.5	91.1	109	290	-1532.9	314.1	- 6	-10	- 3736 . 4	4834.7	-\$ \$ \$. \$	- 7272.	6
15TH	56.75	-167.8	89.1	109	290	-1544.7	307.1	- 6	-10	-3568.2	4745.6	-295.7	- 59.6 -70.3	3
1678	60.41	-169.1	87.1	109	290	-1556.5	300.1	-5	-10	- 2299.2	4658.5	-274.5	- 46. 8 -68.1	1
1778	64.07	-170.3	85.0	109	290	-1568.4	293.1	-5	-11	- 2228 . 8	4573.5	-241.4	- 84. 7 -65.	8
1878	67.73	-171.6	83.0	109	290	-1580.2	296.1	-5	-11	- 20 57 2		-245.4	- 23.2 -63.0	
19TH	71.39	-170.7	80.8	109	290	-1571.8	278.6	- 5	-11			-220.7	- 12.3 -61.3	-
		-166.6	84.1	109	290	-1533.9	289.7	- 6	-11			-212.7	- 02. 0 - 59. 0	
20TH	75.05	-162.5	87.3	109	290	-1495.9	300.8	- 6	-12		III.I		-9256.	
215T	78.71	-158.4	90.5	109	290	-1458.0	312.0	-7	-12		III.I	- 181.7	-83.3 -54.0	
22ND	82.37	-154.2	93.7	109	290	-1420.1	323.1	- 8	-12	I III.	III.I		-7451.	
23RD	86.03	-150.1	97.0	109	290	-1382.2	334.2	- 8	-13		IIII. I		-56.9 -48.0	
24TH	89.69	-144.0	99.0	109	290	-1326.1	341.2	- 9	-13	- 44 34 . 1	₹7 ₹ .£	-146.4	84.F	

TABLE WIND D	7. SHEAR	AND HOMENT	DIAGRAMS CO	: GATE	INAY PRO Tion a	JECT TOVER	ONE REFI	ERENCE PRESSURE	771 PA	: BASED ON	AEROELASTIC DATA
FLOOR	HEIGHT	(H) FORCE	(KN) Y	AREA X	(SQ_H) Y	PRESSURE X	(PA) Y	ECCEN (M) X Y	SHEAR (KN) X Y	×	IOHENT (HN-H) Y Z
25TH		-133.4	105.0	109	290	-1227.9	362.0	-10 -13			- 59.5 -45.8 - 52.6 -43.0
26TH	97.01	-122.7	111.1	109	290	-1129.6	382.9	-12 -13			-40.1
27TH	100.68	-112.0	117.1	109	290	-1031.4	403.7	-13 -12			
28TH	104.34	-101.3	123.2	109	290	-933.1	424.5	-14 -12			-34.3
29T H	108.00	-90.7	129.2	109	290	-834.9	445.4	-15 -11		-II.I	-29.3 -31.3
30TH	114.66	-84.0	137.9	109	290	-773.3	475.2	-16 -10			-24.3 -28.3
315T	115.32	-93.8		109	290	-863.4	604.6	-14 -7			25.2
32ND	118.98	-103.6		109	290	-953.6	739.6	-12 -6			-15.5 -22.1
3.3R D	122.64	-113.4		109	290	-1043.8	874.6	-11 -5			
34TH	126.30	-123.2		109	290	-1133.9 1	009.6	-10 -4			
35TH	129.96	-133.0		109	290	-1224.1 1	144.7	-9 -4	───────────────────────────────	-24.7	-15.5
36TH	133.62	-155.7		109	290	-1433.1 1	328.4	-8 -3		-17.3	
37TH	137.28	-200.7		109	290	-1848.1 1		-6 -2	─ ₽₽₽ .╂ ユ ₽₽₽.7	-7.2	-28.7
38T H	140.94	-383.4		162	433	-2365.1 2		-5 -2	-282.4 975.9	-2.7	-15.2
TOP	146.44	-383.4	773.0	192					♦.♦ ♦.♦	• • . •	∳.♦ 0. 0

	7. SHEAR AND MOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE Irection bo configuration a reference						ERENCE PR	ESSURE	BASED ON AEROELASTIC DA : BASED ON AEROELASTIC DA					
FLOOR	HEIGHT (M)	FORCE	(KN) Y	AREA X	(SQ_M)	PRESSURE X	(PA) Y	ECCEN X	CH > Y	SHEAR X	(KH) Y	NO X	HENT CHN Y	-H) Z
GRND	0.00	.			436	-316.3	479.9	-18	-5	-2914.5	8356.6	-635.7	-203.8	-133.9
1 S T	5.50	-51.6	209.1	163					-	-2862.9	8147.5	-590.3	~187.9	-129.8
2ND	9.16	-46.6		109	290	-429.3	557.7	-16	-5	-2816.3	7985.7	-560.8	-177.5	-126.9
3R D	12.82	-57.5	180.6	109	290	•	622.6	-15	-5	- 27 58 . 8	7805.1	-531.9	-167.3	-123.9
4TH	16.48	-65.2	192.8	109	290	-600.4	664.7	-14	-5	-2693.6	7612.2	-503.7	-157.3	-120.8
5T H	20.14	-71.4	197.4	109	290	-657.0	680.3	-14	-5	-2622.2	7414.9	-476.2	-147.6	-117.7
6TH	23.80	-77.5	201.9	109	290		695.9	-14	- 5	-2544.7	7213.0	-449.4	-138.1	-114.6
7TH	27.46	-81.2	204.6	109	290		705.3	-13	-5	-2463.6	7008.4	-423.4	-129.0	-111.4
8TH	31.12	-83.3	205.4	109	290		707.9	-13	-5	-2380.3	6803.0	-398.1	-120.1	-108.2
9TH	34.78	-85.4	206.1	109	290		710.5	-13	- 5	-2294.9	6596.9	-373.6	-111.5	-105.0
10TH	38.44	-87.5	206.9	109	290	-805.5	713.0	-13	- 6	-2207.4	6390.1	-349.8	-103.3	-101.8
11TH	42.11	- 89 . 6	207.6	109	290	-824.9	715.6	-13	- 6	-2117.8	6182.5	-326.8	-95.4	-98.6
1278	45.77	-91.7	208.3	109	290	-844.3	718.2	-13	- 6	-2026.1	5974.1	-304.5	-87.8	-95.4
13TH	49.43	-93.0	209.1	109	290	-856.0	720.6	-13	- 6	-1933.2	5765.1	-283.0	-80.5	-92.2
14TH	53.09	-93.4	211.5	109	290	-860.3	729.2	-13	- 6	-1839.7	5553.5	-262.3	-73.6	-88.9
1578	56.75	-93.9	214.0	109	290	-864.6	737.8	-13	- 6	-1745.8	5339.5	-242.4	-67.1	-85.6
1678	60.41	-94.4	216.5	109	290	-868.9	746.3	-13	- 6	-1651.4	5123.0	-223.2	-60.9	-82.2
1718	64.97	-94.8	219.0	109	290	-873.2	754.9	-13	- 6	-1556.6	4904.0	-204.9	-55.0	-78.8
1878	67.73	- 95 . 3	221.5	109	290	-877.5	763.5	-13	- 6	-1461.3	4682.5	-187.3	-49.5	-75.4
1978	71.39	-95.1	223.0	109	290	-875.3	768.9	-13	- 6	-1366.2	4459.4	-170.6	-44.3	-71.9
	75.05	-93.8	220.9	109	290	-863.3	761.3	-13	- 6	-1272.5	4238.6	-154.7	-39.5	-68.4
20TH		- 92 . 5	218.7	109	290	-851.4	753.8	-14	- 6	-1180.0	4019.9	-139.6	-35.0	-64.9
2157	78.71	-91.2	216.5	109	290	-839.5	746.2	-14	- 6	-1088.8	3803.4	-125.2	-30.8	-61.4
22ND	82.37	- 89 . 9	214.3	109	290	-827.5	738.7	-14	- 6					-57.9
23RD	86.03	- 88 . 6	212.1	109	290	-815.6	731.1	-14	- 6	-998.9	3589.1	-111.7	-27.0	
24TH	89.69	- 85 . 9	209.0	109	290	-790.9	720.4	-14	- 6	-910.3	3377.1	-99.0	-23.5	-54.4

	7. SHEAR AN Irection e		T DIAGRAI	15 : GATE Configura		ECT TOWER		RENCE PRE	SSURE	771 PA		: BASED ON A	EROELASTI	IC DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	AREA	(SQ_N)	PRESSURE X	(PA) Y	ECCEN	<n> Y</n>	SHEAR X	E CKNJ Y	H D X	HENT (MN- Y	- M > Z
25TH	93.35	~ ~ ~		140	2.84	-736.5	716.4	-15	- 6	-824.4	3168.1	-87.0	-20.3	-50.9
26TH	97.01	-80.0		109	290				-	-744.5	2960.2	-75.8	-17.5	-47.4
27TH	100.68		206.7	109	290		712.5	••	- 5	-670.4	2753.5	-65.3	-14.9	-43.9
28TH	104.34	-69.2		109	290		708.6		- 5	-602.2	2548.0	- 55 . 6	-12.5	-40.5
29TH	108.00	-62.3	204.4	109	290		704.7		- 5	-539.9	2343.5	-46.7	-10.4	- 37.0
30TH	111.66	- 56 . 4	203.3	109	290	-518.9	700.7	-16	-4	-483.5	2140.3	- 38 . 4	-8.6	-33.6
315T	115.32	-51.4	203.0	109	290	-473.6	699.6	-16	-4	-432.1	1937.3	-31.0	-6.9	-30.1
	118.98	- 50 . 6	208.5	109	290	-465.7	718.6	-16	-4	-381.5	1728.8	-24.3	-5.4	-26.6
32ND		-49.7	214.2	109	290	-457.8	738.4	-16	-4	-331.8	1514.6	-18.3	-4.1	-23.1
33RD	122.64	- 48 . 9	219.9	109	290	-449.9	758.2	-15	- 3		4			-19.5
34TH	126.30	-49.0	225.7	109	290	-442.0	777.9	-15	- 3	-282.9	1294.7	-13.2	-3.0	
35TH	129.96	-47.2	231.4	109	290	-434.1	797.7	-15	- 3	-234.9	1069.0	-8.9	-2.0	-15.9
3 6 T H	133.62	-48.2		109	290	-444.1	820.6	-15	- 3	-187.8	837.6	-5.4	-1.3	-12.3
37TH	137.28	-52.7		109	290		825.5		- 3	-139.5	599.5	-2.7	7	-8.6
38T H	140.94				-		831.6		- 3	-86.9	360.0	٩.٥	- .2	-5.0
TOP	146.44	- 86 . 9	360.0	162	433	-333.9	031. D	-13	- 3	0.0	0.0	0.0	Q.Q	0.0

	7. SHEAR		NT DIA	GRAMS : GAT Configur		OJECT TOWER	ONE Ref	ERENCE PR	ESSURE	771 PA	: BASED ON AEROELASTIC DA			IC DATA
FLOOR	HEIGHT	(M) FORD	E (KN) Y	AREA	(SQ N)	PRESSURE X	(PA) Y	ECCEN	<h><h><h><h<><h<><h<><h<><h<><h<><h<><h< th=""><th>SHEAR X</th><th>(KN) Y</th><th>NO X</th><th>MENT (MN Y</th><th>I-H) Z</th></h<></h<></h<></h<></h<></h<></h<></h<></h></h></h>	SHEAR X	(KN) Y	NO X	MENT (MN Y	I-H) Z
GRND	0.00				4.94	503 0		. 7		-4135.0	9916.5	-761.8	-310.1	-163.6
1 S.T	5.50	-96.8					616.8	-17	-6	-4038.2	9647.7	-798.1	-287.6	-158.5
2ND	9.16		195.				673.0	-15	- 6	- 3965 . 8	9452.4	-673.1	-273.0	-155.1
3R D	12.82	-78.9			290		718.3	-15	- 6	- 3886 . 9	9244.1	-638.9	-258.6	-151.7
4TH	16.48	-82.3	215.	3 109	290		742.3	-14	- 5	-3804.6	9028.7	-605.4	-244.5	-148.2
5TH	20.14	- 84 . 3	215.	5 109	290	-775.9	742.8	-14	- 6	-3720.3	8813.2	-572.8	-230.7	-144.6
6TH	23.80	-86.2	215.	6 109	290	-793.7	743.3	-14	- 6	-3634.1	8597.6	-540.9	-217.3	-141.0
718	27.46	-90.0	218.	2 109	290	- 828′. 5	752.3	-14	-6	-3544.2	8379.4	-509.8	-204.1	-137.4
8TH		-94.9	222.	8 109	290	-873.7	768.0	-14	- 6	-3449.3	8156.6	-479.6	-191.3	-133.7
	31.12	- 99 . 8	227.	4 109	290	-919.0	783.7	-14	- 6	-3349.4	7929.2	-450.1	-178.9	-130.0
9TH	34.78	-104.7	231.	9 109	290	-964.2	799.5	-i 3	- 6				-166.8	-126.2
1 0 T H	38.44	-109.6	236.	5 109	290	-1009.4	815.2	-13	- 6	-3244.7	7697.3	-421.5		
11TH	42.11	-114.5	241.	1 109	290	-1054.7	830.9	-13	- 6	-3135.1	7460.8	-393.8	-155.1	-122.4
12TH	45.77	-117.1	243.	9 109	290	-1078.1	840.7	-13	- 6	-3020.5	7219.7	-366.9	-143.9	-118.6
13TH	49.43	-117.4	246.	6 109	290	-1080.8	850.0	-13	- 6	-2903.4	6975.8	-340.9	-133.0	-114.7
14TH	53.09	-117.7	249.	3 109	290	-1083.5	859.4	-13	- 6	-2786.1	6729.2	-315.8	-122.6	-110.8
15TH	56.75	-118.0			290		868.7	-13	- 6	-2668.4	6479.9	-291.7	-112.6	-106.9
16TH	60.41	-118.3	. –		290		878.0	-13	- 6	-2550.4	6227.9	-268.4	-103.1	-102.9
17TH	64.07				290		887.4	-13	- 6	-2432.1	5973.2	-246.1	-94.0	~99.Q
18TH	67.73	-118.6							- 6	-2313.6	5715.8	-224.7	-85.3	-95.0
19TH	71.39	-118.9			290		896.3	-13	-	-2194.7	5455.7	-204.2	-77.0	-91.1
20TH	75.05	-119.2			290		900.3	-13	-6	-2075.5	5194.6	-184.7	-69.2	-87.9
21ST	78.71	-119.5			290		904.3	-13	- 6	-1956.0	4932.2	-166.2	-61.8	-82.9
2 2 N D	82.37	-119.9	263.	5 109	290	-1103 6	908.2	-13	- 6	-1836.1	4668.7	-148.6	-54.9	~78.8
23RD	86.03	-120.2	264.	6 109	290	-1106.6	912.2	-13	- 6	-1715.9	4404.1	-132.0	-48.4	-74.7
2478	89.69	-120.5	265.	8 109	290	-1109.7	916.2	-13	- 6	-1595.4	4138.3	-116.4	-42.3	-70.5
2310	97.07	-120.1	266.	4 109	290	-1105.8	918.4	-13	- 6				1	

	7. SHEAR Irection	AND NONENT	T DIAGRAI	15 : GATE Configura	WAY PRO	ERENCE PRE	SSURE	771 PA		: BASED ON A	EROELAST	IC DATA		
FLOOR	HEIGHT	(N) FORCE	(KN) Y	AREA X	(\$0_M) Y	PRESSURE X	(PA) Y	ECCEN X	CH >	SHEAR X	(KN) Y	NG X	HENT (MN- Y	-N) Z
25TH	93.35			109	290	-1085.8	920.2	-14	- 6	-1475.3	3871.9	-101.7	-36.7	-66.3
26TH	97.01	-117.9		-						~1357.4	3604.9	- 88 . 0	-31.5	-61.9
27TH	100.68	-115.8	267.5	109	290	-1065.8	922.0	-14	- 6	-1241.6	3337.5	-75.3	-26.8	- 57.6
28TH	104.34	-113.6	268.0	109	290		923.8		-6	-1128.0	3069.4	-63.6	-22.4	-53.1
29TH	108.00	-111.4	268.5	109	290	-1025.8	925.6	-14	- 6	-1016.6	2800.9	- 52 . 9	-18.5	-48.6
		-109.2	269.1	109	290	-1005.9	927.4	-15	- 6	-907.4	2531.9	-43.1	-15.0	-44.0
30TH	111.66	-107.0	269.6	109	290	-985.5	929.4	-15	- 6					
31ST	115.32	-104.7	271.4	109	290	-963.8	935.6	-15	- 6	-900.3	2262.3	-34.3	-11.9	-39.3
32ND	118.98								- 6	-695.6	1990.8	-26.5	-9.1	-34.6
3 3 R D	122.64	-102.3	273.3	109	290	-942.1			-	-593.3	1717.5	-19.8	-6.8	-29.8
34TH	126.30	-100.0	275.2	109	290	-920.4	948.6	-15	- 6	-493'.4	1442.3	-14.0	-4.8	-25.0
		-97.6	277.1	109	290	-898.7	955.2	-15	- 5	-395.7	1165.2	-9.2	-3.1	-20.2
35TH	129.96	- 95.3	279.0	109	290	-877.4	961.7	-16	- 5					
36TH	133.62	-92.0	278 8	109	290	-847.1	961.0	-16	-5	-300.5	886.2	-5.4	-1.9	-15.4
37TH	137.28								-	-208.5	607.4	-2.7	- 9	-10.5
38TH	140.94	-87.2	258.7	109	290	-803.0	891.8		-5	-121.3	348.7	-1.0	3	-6.0
TOP	146.44	-121.3	348.7	162	433	-748.1	805.5	-15	-5	0.0	0.0	0.0	0.0	0.0

TABLE WIND D	7. SHEAR AN	D NONEN	T DIAGR	AMS : GATE Configure	WAY PRO	ECT TOWER	ONE REF	ERENCE PR	ESSURE	771 PA	BASED ON I	REBELASTIC DATA
FLOOR			(KN) Y	AREA	(SQ_H)	PRESSURE X	(PA) Y	ECCEN X	CH >	SHEAR (KN) X Y	X	DHENT (HN-H) Y Z
GRND	0.00	- 89 . 8	278.3	163	436	-550.4	638.6	-15	- 5	-4711.1 10814.0	-832.3	-493177.2
1 S T	5.50	-77.4	200.3	109	290	-713.0	690.4	-14	-6	-4221.3 10535.7	-773.6	-458.6 -172.5
2ND	9.16		_	109	290		737.5	-13	-6	-6.63.9 10335.4	-735.4	-436.0 -169.2
3R D	12.82	-95.8	213.9		290		765.7	-13	-6	-6668. 10121.5	-698.0	-413.7 -165.8
4TH	16.48	-102.5	222.1	109				-13	-6	-\$945.6 9899.4	-661.3	-39.7 -162.2
5T H	20.14		226.7	109	290		781.4		-6	-\$\$\$2.2 9672.7	-625.5	
6TH	23.80	-104.3	231.2	109	290		797.1	-13		-\$7\$7.9 9441.4	-590.5	
7TH	27.46	-110.4	236.7	109	290	-1016.3	816.0	-13	-6	-\$\$27.\$ 9204.7	-556.4	
8T H	31.12	-119.6		109	290		836.3	-12	-6	-\$\$\$7.9 8962.1	-523.1	
9T H	34.78		248.5	109	290		856.6	-12	-6	-\$379.2 8713.6	-490.8	-207.0 -143.7
10TH	38.44		254, 4	109	290	-1269.8	876.9	-12	-6	-\$241.8 8459.2	-459.4	-248.4 -139.8
11TH	42.11		260.3	109	290		897.1	-11	-6	-5494.2 8199.0	-428.9	-249.5 -136.0
12TH	45.77	-156.3	266.1	109	290		917.4	-11	-6		-399.3	-23132.1
13TH	49.43		271.2	109	290		934.9	-11	-6	-4778.9 7661.6	-370.8	-213128.1
14TH	53.09	-170.2	273.9	109	290		944.1	-11	-7		-343.2	124.1
1578	56.75	-176.5	276.5	109	290	-1624.7	953.3	-11	-7	-4427.8 7111.2	-316.7	120.0
1678	60.41	-182.7	279.2	109	290	-1692.2	962.5	-10	-7		-291.2	115.8
1778	64.07	-189.0	281.9	109	290	-1739.7	971.6	-10	-7		-266.7	- 48.6 -111.6
1878	67.73	-195.2	284.5	109	290	-1797.2	980.8	-10	-7	-8860.4 6265.5	-243.2	107.3
1978	71.39	-200.5	286.8	109	290	-1846.3	988.7	-10	-7	-2659.9 5978.7	-220.8	- 24.3 -102.9
2014	75.05	-204.5	289.1	109	290	-1883.1	996.5	-10	-7	-8455.4 5689.6	-199.5	98.4
	78.71	-208.5	291.3	109	290	-1919.8 1	004.2	-i 0	-7	-8246.9 5398.3	-179.2	-93.8
215T		-212.5	293.6	109	290	-1956.6 1	011.9	-11	- 8	-8034.8 5104.7	-160.0	
22ND	82.37	-216.5	295.8	109	290	-1993.3 1	019.7	-11	- 8	-2817.8 4808.9	-141.8	-72.8 -84.3
2 3 R D	86.03	-220.5	298.1	109	290	-2030.1 1	027.4	-11	- 8	-2597.4 4510.9	-124.8	
24TH	89.69	-221.6	299.3	109	290	-2040.7 1	031.6	-11	- 8	PALA ANTAL		

(HN-H)
Z
\$ -74.3
-69.2
-64.1
3 -58.9
2 -53.7
-48.5
3 -43.2
-37.9
2 -32.6
-27.2
-21.8
-16.4
-11.0
3 -6.2
1

	7. SHEAR AND MOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE Direction 110 configuration a reference press								ESSURE	RE 771 PA : BASED ON GEROELASTIC D				
FLOOR	HEIGHT (M)	FORCE X	(KN) Y	AREA X	(SQ H) Y	PRESSURE X	(PA) Y	ECCEN X	CH >	SHEA X	R (KN) Y	x	NENT (NN-N) Y Z	
GRND	0.00	112.4	107 7	163	436	688.8	430.7	-19	11	7999- 9	9035.5	-696.7	139.1 -158.0	
1 S T	5.50						515.3		8	- 1949 - 2 -	8847.8	-647.6	-153.2	
2ND	9.16		149.5	109	290			-18		100 - 100 -	8698.3	-615.4	-150.0	
3R D	12.82		168.6	109	290		581.3	-17	6	4444.4	8529.7	-583.9	-146.8	
4TH	16.48		181.0	109	290		624.1	-16	6	1756.9	8348.7	-553.0	-143.5	
STH	20.14	65.2	189.5	109	290	600.5	653.1	-15	5		8159.2	-522.8	-140.2	
6TH	23.80	68.3	197.9	109	290	629.0	682.1	-15	5		7961.3	-493.3	-137.0	
7TH	27.46	68.6	206.1	109	290	632.0	710.3	-14	5		7755.3	-464.5	-133.7	
8TH	31.12	67.3	209.9	109	290	619.4	723.5	-14	5		7545.4	-436.5	-130.4	
		65.9	213.7	109	290	606.7	736.6	-14	4		7331.7	-409.3	-127.1	
9TH	34.78	64.5	217.5	199	290	594.1	749.8	-14	4			-382.8	73.6 -123.9	
10TH	38.44	63.Z	221.3	109	290	581.5	763.0	-14	4		7114.2			
11TH	42.11	61.8	225.2	109	290	568.8	776.2	-14	4		6892.8	-357.2	68.8 -120.6	
12TH	45.77	59.5	229.2	109	290	547.6	789.9	-14	4	}₹₹ ₹ · }	6667.7	-332.4	64117.3	
13TH	49.43	56.3	232.1	109	290	518.3	800.2	-14	3		6438.5	-308.4	\$9.7 -114.0	
14TH	53.09	53.1	235.1	109	290		810.5	-15	3	╞╞╞ ╞╶ ╞	6206.3	-285.3	\$\$.\$ -110.5	
15TH	56.75		238.1	109	290		820.8	-15	3	- }??	5971.2	-263.0	\$.\$ -106.9	
16TH	60.41		241.1	109	290		831.1	-15	3	1018.3	5733.1	-241.5	-103.2	
17TH	64.07			109	290		841.4	-16	3	- \$\$\$.\$	5492.0	-221.0	-99.3	
18TH	67.73	43.5							3	- +++ - + -	5247.9	-201.3	
19TH	71.39		246.3	109	290		848.9	-16		**	5001.7	-182.6	-91.2	
20TH	75.05		246.3	109	290		848.9	-17	3	\$ \$\$\$.\$	4755.4	-164.7	-86.9	
21ST	78.71	37.5	246.3	109	290		849.0	-17	3	\$ \$ \$.\$	4509.1	-147.8	8.2 -82.6	
22ND	82.37	35.7	246.3	109	290	328.8	849.1	-18	3	++++	4262.8	-131.7	28.3 -78.2	
23RD	86.03	34.0	246.3	109	290	312.8	849.2	-18	2		4016.4	-116.6	25.5 -73.7	
		32.2	246.4	109	290	296.8	849.2	-18	2	III.I	3770.0	-102.3		
24TH	89.69	31.2	246.0	109	290	287.5	848.0	-19	2	τ ν φ.γ	3774.4	-1 42.3	ĮI.9 -69 .0	

	7. SHEAR AND Irection 110	NOHEN		S I GATI Onfiguri		ECT TOWER	ONE Ref	ERENCE PRES	SURE	771 PA		: BASED ON AE	ROELASTI	IC DATA
FLOOR	HEIGHT (#)	FORCE	(KN) Y	AREA X	(SQ_N) Y	P RE SSURE X	(PA) Y	ECCEN (H > Y	SHEAF X	(KN) Y	N OP X	IENT (MN- Y	·H) Z
25TH	93.35	71 9	249.7	109	290	293.9	860.8	-19	2	\$72.7	3524.0	-89.0	79 . †	-64.3
26TH	97.01		253.4	109	290		873.6		2	\$ \$ \$. \$	3274.3	-76.5	1.	-59.5
27TH	100.68			- · ·			886.4		2	\$ \$ \$. \$	3020.9	-65.0		-54.7
28T H	104.34		257.2	109					_	\$ 74.5	2763.7	-54.4	4\$.\$	-49.8
29TH	108.00		260.9	109	290		899.2		2	\$44.5	2502.9	-44.8	84.4	-44.8
30TH	111.66		264.6	109	290	319.2			2	\$05.8	2238.3	-36.1	•	-39.8
315T	115.32	36.2	267.6	109	290	333.1			3	444.7	1970.7	-28.4		-34.7
32ND	118.98	41.1	263.4	109	290	378.5	907.9	-18	3	424.5	1707.3	-21.7	6.2	-29.7
33RD	122.64	46.0	258.8	109	290	423.9	892.1	-18	3		1448.5	-15.9		-24.9
	126.30	51.0	234.2	109	290	469.2	876.2	-18	4	III.I	1194.3	-11.0		-20.2
34TH		55.9	249.6	109	290	514.6	860.3	-18	4	III I	944.7	-7.1	ΙŢ	-15.6
35TH	129.96	60.8	245.0	109	290	560.0	844.5	-17	4	fft t			<u>f</u>	
36TH	133.62	63.4	240.2	109	290	583.7	828.0	-17	4	₹ <u></u>	699.7	-4.1	1.4	-11.1
37TH	137.28	61.9		109	290	569.8	717.8	-15	4	151.4	459.5	-2.0	• 7	-6.8
38TH	140.94		251.3	162	433		580.4	-12	4	- ++ - +	251.3	7	- 4	~3.4
TOP	146.44	07.0	231.3	192	733		30 V . T	• •	•	. .	0 .0	0.0	۵. ا	Q.Q

	7. SHEAR AND IRECTION 120	HONEN	T DIAGR	ANS : GATI Configuri	EVAY PROJ Ation a	ECT TOVER	ONE REFI	ERENCE PR	ESSURE	771 PA		: BASED ON	AEROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE	(KN) Y	AREA	(SQ_H) Y	PRESSURE X	E (PA) Y	ECCEN X	CH >	SHEAR X	ски у У	х	OMENT (MN- Y	H) Z
GRND	0.00	~~ -			474			. 7	68	3123.0	6530.0	-553.2	231.4	79.9
1 S T	5.50	95.5	9.4	163	436	585.6	21.7	-7		3027.5	6529.5	-517.3	214.5	\$7.\$
ZND	9.16	66.4	44.4	109	290	611.7	153.0	-31	47	2961.1	6476.1	-493.5	203.5	
3R D	12.82	65.7	83.5	109	290	604.8	287.8	-32	25	2895.4	6392.6	-469.9	192.8	44.4
4TH	16.48	69.9	99.0	109	290	643.6	341.1	-26	18	2825.5	6293.7	-446.7	182.3	- \$\$.\$
STH	20.14	76.6	92.9	109	290	705.0	320.3	-19	16	2748.9	6200.7	-423.8	172.1	\$\$.\$
6TH	23.80	83.2	86.9	109	290	766.3	299.6	-13	12	2665.7	6113.8	-401.3	162.2	\$\$.4
778	27.46	85.3	94.6	109	290	785.1	326.1	- 8	7	2580.4	6019.2	-379.1	152.6	- \$\$.t
8TH	31.12	84.5	111.7	109	290	777.6	385.1	-4	3	2496.0	5907.5	-357.3	143.3	\$ † .4
9TH	34.78	83.7	128.8	109	290	770.2	444.1	-0	Ó	2412.3	5778.7	-335.9	134.3	\$7.\$
1078	38.44	82.8	146.0	109	290	762.8	503.1	3	-2	2329.5	5632.7	-315.0	125.6	\$4.4
11TH	42.11	82.0	163.1	109	290	755.3	562.1	6	- 3	2247.4	5469.6	-294.7	117.3	55.6
1278	45.77	81.2	180.2	109	290	747.9	621.1	9	-4	2166.2	5289.5	-275.0	109.2	\$3.6
1378	49.43	80.6	192.5	109	290	742.5	663.4	11	-4	2085.6	5097.0	-256.0	101.4	\$1.2
14TH	53.09	80.3	190.9	109	290	739.0	657.9	11	-5	2005.3	4906.1	-237.7	93.9	
1578	56.75	79.9	189.3	109	290	735.5	652.4	11	- 5	1925.4	4716.9	-220.0	86.7	44.4
16TH	60.41	79.5	187.7	109	290	731.9	646.9	11	- 5	1845.9	4529.2	-203.1	79.8	
		79.1	186.1	109	290	728.4	641.3	11	- 5	1766.8	4343.2	-186.9	73.2	
17TH	64.07	78.7	184.5	109	290	724.9	635.8	11	- 5	1688.1	4158.7	-171.3	66.9	
1878	67.73	78.3	182.9	109	290	720.9	630.5	11	- 5	1609.8	3975.8	-156.4	60.9	III
19TH	71.39	77.8	181.3	109	290	716.2	624.9	11	- 5				55.1	II.I
20TH	75.05	77.3	179.7	109	290	711.4	619.4	11	- 5	1532.0	3794.5	-142.2		II I
2157	78.71	76.8	178.1	109	290	706.7	613.8	11	- 5	1454.7	3614.8	-128.7	49.6	tf f
22ND	82.37	76.2	176.5	109	290	701.9	608.3	11	- 5	1378.0	3436.8	-115.7	44.5	HI
2 3 R D	86.03	75.7	174.9	109	290	697.2	602.7	10	- 5	1301.7	3260.3	-103.5	39.5	Ĩ
24TH	89.69	75.6		109	290		595.1	10	-4	1226.0	3085.4	-91.9	34.9	2 \$.\$

	7. SHEAR AND Irection 120	MONEN	T DIAGRAM	S : GATE DNFIGUR	EWAY PROJ Ation A	ECT TOWER	ONE Refe	ERENCE PRES	SURE	771 PA		: BASED ON AE	ROELASTI	C DATA
FLOOR	HEIGHT (#)	FORCE X	CKN) Y	AREA X	(SQ_N)	PRESSURE X	(PA) Y	ECCEN (X	M > Y	SHEAR X	(KN) Y	N ON X	IENT (MN- Y	H) Z
25TH	93.35	76.3	175.9	109	290	702.6	606.2	10 -	4	1150.4	2912.8	-80.9	30.6	23.5]
26TH 27TH	97.01 100.68	77.0	179.1	109	290	709.3	617.4	9 -	4	1074.1 997.1	2736.9 2557.8	-70.6 -60.9	26.5 22.7	
28TH	104.34		182.3	109 109	290 290	716.1 722.8		-	4 3	919.3	2375.5	- 51 . 8	19.2	
29TH	108.00		188.8	109	290	729.5			3	840.8 761.6	2189.9 2001.1	-43.5 -35.8	16.0 13.0	<u></u> ∮∮·∳
30TH 31ST	111.66 115.32		192.5	109	290	736.4		-	3	681.6	1808.6	-28.8	10.4	
3 2 N D	118.98		197.0 201.4	109 109	290 290	743.9 751.3		-	2	600.8	1611.6	- 22 . 6	8.1	44.4
33RD 74th	122.64 126.30		205.8	109	290	758.8	709.3	5 -	2	519.2 436.8	1410.2	-17.0 -12.3	6.0 4.3	
35TH	129.96		210.2	109	290	766.3 773.8		4 -	2	353.5	994.2	-8.2	2.8	8. 2
36TH	133.62		214.6 224.1	109 109	290 290	763.1			1	269.5	779.7	-5.0	1.7	
37TH 38th	137.28	78.3	223.4	109	290	720.9		•	3	186.6 108.3	555.6 332.2	-2.5 9	. 8 . 3	
TOP	146.44	108.3	332.2	162	433	668.2	767.3	13 -	4	0.0	0.0	0.0	0.0	b . b

TABLE VIND	7. SHEAR AND Direction 130	MONEN	T DIAGRI	ANS : GATE Configure	ENAY PRO	JECT TOVER	ONE Refi	ERENCE P	RESSURE	771 PA		: BASED ON A	EROELASTI	C DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	AREA X	(SQ_H) Y	PRESSURI X	E (PA) Y	ECCE	N (M) Y	SHEAR X	(KN) Y	NO X	NENT (MN- Y	-H) Z
GRND	0.00		700 4	167	436	527.7	- 699 4	-5	-1	3034.6	1979 -	-1 79 -5	230.3	131.3
1 S T	5.50		-300.4	163	290	535.9		-7	-4	2948.5	1398.5	-147.7	213.8	129.8
2ND	9.16		-116.0	109		533.9		- r - 9	-12	2890.3	\$14.5	-4\$\$.8	203.1	128.8
3RD	12.82	58.0	-43.5	109	290			-5	-18	2832.3	\$\$\$.0	-144.7	192.7	127.7
4TH	16.48	61.0	-15.6	109	290	562.1				2771.3	- + + + . +	-147.0	182.4	126.5
5TH	20.14	65.7	-36.3	109	290	605.0		-9	-16	2705.6	44.0	-141.2	172.4	125.1
6TH	23.80	70.4	-57.0	109	290	647.9		-11	-14	2635.2	447.0	-4#\$.2	162.6	123.5
7TH	27.46	72.6	-56.0	109	290	668.4		-12	-15	2562.6	1723.1	-124.0	153.1	121.7
8T H	31.12	73.3	-32.4	109	290	674.9		-10	-23	2489.3		-122.6	143.9	119.7
9T H	34.78	74.0	-8.8	109	290	681.4		-4	-31	2415.3	244.2	-116.1	134.9	117.4
10TH	38.44	74.7	14.9	109	290	687.9	51.3	7	-33	2340.6	749.3	-444.7	126.2	114.9
11TH	42.11	75.4	38.5	109	290	694.5	132.8	15	-30	2265 2	710.8	-142.4	117.7	112.1
12TH	45.77	76.1	62.2	109	290	701.0	214.3	20	-24	2189.0	448.6	- 47.2	109.6	109.0
13TH	49.43	76.9	78.4	109	290	707.6	270.2	21	-21	2112.2	\$70.3	- \$1.8	101.7	105.7
14TH		77.6	72.7	109	290	714.4	250.7	22	-24	2034.6	497.5	- #\$. 7	94.1	102.3
15TH		78.3	67.1	109	290	721.1	231.1	23	-26	1956.3	430.5		86.8	98.7
16TH		79.1	61.4	109	290	727.9	211.6	23	-29	1877.2	369.1	-75.2	79.8	95.0
1778		79.8	55.7	109	290	734.6	192.1	23	-33	1797.4	1313.4	-74.8	73.1	91.1
1878	67.73	80.5	50.0	109	290	741.4	172.5	22	-36	1716.9	1243.3	-45.6	66.6	87.1
1978	71.39	80.9	46.6	109	290	744.7	160.7	22	-38	1636.0	1216.7	-41.1	60.5	83.0
2018	75.05	80.7	45.0	109	290	743.0	155.3	22	-39	1555.3		-56.7	54.7	78.8
2157	78.71	8¢.5	43.5	109	290	741.3	149.9	22	-41	1474.8	1120.2	-52.5	49.1	74.6
22ND	82.37	80.3	41.9	109	290	739.7	144.4	22	-42	1394.5	1006.3	-4.	43.9	70.3
23RD	86.93	80.2	40.3	109	290	738.0	139.0	22	-43	1314.3		-44.5	38.9	66.0
23KD 24TH	89.69	80.0	38.8	109	290	736.3	133.6	21	-44	1234.3			34.2	61.6
2718	47.07	80.0	36.2	109	290	736.7	124.7	21	-46			,,		

TABLE 7. VIND DIR	SHEAR AND Ection 130	NONENT	T DIAGRAMS CO	: GATE NFIGURA	WAY PROJI Tion a	ECT TOWER	ONE REFI	RENCE PRESSURE	771 PA		BASED ON A	EROELASTI	C DATA
FLOOR H	EIGHT (N)	FORCE	(KN) Y	AREA	(SQ_M) Y	PRESSURE X	(PA) Y	ECCEN (M) X Y	SHEAR X	(KN) Y	#0 X	NENT (MN- Y	H) Z
26TH 27TH 1 28TH 1 29TH 1 30TH 1 31ST 1	93.35 97.01 00.68 04.34 08.00 11.66 15.32 18.98	80.6 81.1 81.7 82.2 82.8 83.2 82.9	33.3 30.5 27.6 24.8 21.9 20.6 28.1	109 109 109 109 109 109	290 290 290 290 290 290 290	741.8 746.8 751.9 757.0 762.0 765.7 763.4	105.0 95.2 85.4 75.6 70.9 96.7	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	1154.3 1073.8 992.6 911.0 828.8 746.0 662.8 579.9	971.0 937.2 987.2 879.6 856.8 832.9 812.6 786.3	- 37 . 2 - 33 . 7 - 39 . 3 - 27 . 6 - 28 . 8 - 29 . 8 - 29 . 8	29.9 25.8 22.0 18.5 15.3 12.5 9.9 7.6	57.2 52.8 48.3 43.8 39.3 34.8 30.3 26.0
33RD 1 34TH 1 35TH 1 36TH 1 37TH 1 38TH 1	22.64 26.30 29.96 33.62 37.28 40.94 46.44	82.7 82.4 82.2 81.9 79.5 73.3 97.9	35.8 43.5 51.3 59.0 85.2 153.5 356.0	109 109 109 109 109 109 162	290 290 290 290 290 290 290 433	756.7 754.4 732.1	150.0 176.7 203.4 293.7 529.1	18 -42 20 -38 21 -33 21 -29 21 -19 16 -8 10 -3	497.2 414.8 332.6 250.7 171.2 97.9 0.0	748.5 745.4 457.7 594.7 594.7 594.5 356.9	-12.0 -0.0 -0.0 -0.0 -2.0 -2.0 -2.0	5.6 4.0 2.6 1.5 .8 .3 0.0	21.8 17.8 14.0 10.4 7.0 4.0 0.0

TABLE	7. SHEAP AND IRECTION 140	NOMENT DIAGRAM	S : GATEWAY PROJ Onfiguration a	ECT TOWER ONE REFE	RENCE PRESSURE	771 PA	: BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	HOMENT (MN-M) X Y Z
GRND	0.00	98.0 -407.7	163 436	600.5 -935.5	-7 -2	3402.9 -8493.5	614.4 263.9 145.5
1 S T	5.50	63.2 -239.7	109 290	581.8 -826.3	-7 -2	3304.9 -4045.4	\$68. \$ 247.5 142.7
2ND	9:16	60.8 -212.4	109 290	560.2 -732.1	-8 -2	3241.7 -7844.	\$\$\$.7 235.5 140.8
3RD	12.82	63.2 -208.5	109 290	582.2 -718.6	-9 -3	3180.9 -7433.7	\$11. 223.8 138.9
4TH	16.48	67.9 -226.8	109 290	625.5 -781.8	-9 -3	3117.6 -7425.7	43,8 212.2 136.8
5TH	20.14	72.6 -245.1	109 290	668.8 -845.0	-9 -3	3049.7 -7198.5	457.0 201.0 134.5
6T H	23.80	75.1 -251.2	109 290	691.1 -866.0	-10 -3	2977.1 -6953.3	189.9 132.0
7T H	27.46	76.1 -241.6	109 290	700.4 -832.8	-11 -3	2902.0 -4742.	446. 179.2 129.3
8T H	31.12	77.1 -232.0	109 290	709.7 -799.6	-11 -4	2825.9 -4444.5	\$\$2. 168.7 126.5
9TH	34.78	78.1 -222.3	109 290	719.0 -766.4	-12 -4	2748.8 -6228.6	\$\$\$.\$ 158.5 123.6
1 0 T H	38.44	79.1 -212.7	109 290	728.3 -733.2	-13 -5	2670.7 -6446.2	148.6 120.6
11TH	42.11	80.1 -203.1	109 290	737.6 -700.0	-14 -6	2591.6 -\$7\$3.\$	138.9 117.4
12TH	45.77	81.1 -194.6	109 290	746.6 -670.9	-15 -6	2511.5 -\$\$\$\$.	294. 0 129.6 114.1
13TH	49.43	82.0 -190.8	109 290	755.3 -657.8	-15 -7	2430.4 -\$\$\$\$.\$	273. 120.5 110.7
14TH	53.09	83.0 -187.0	109 290	764.0 -644.7	-16 -7	2348.4 -\$2\$\$.\$	2\$4.\$ 111.8 107.2
1 5 T H	56.75	83.9 -183.2	109 290	772.7 -631.6	-17 -8	2265.4 -\$417.4	23, 103, 3 103, 6
16TH	60.41	84.9 -179.4	109 290	781.4 -618.5	-17 -8	2181.5 -4434.7	217.7 95.2 99.9
17TH	64.07	85.8 -175.6	109 290	790.1 -605.4	-18 -9	2096.6 -4455.3	200.4 87.4 96.1
18TH	67.73	86.8 ~173.2	109 290	798.9 -597.1	-18 -9	2010.8 -4474.7	\$\$, \$ 79.9 92.3
19TH	71.39	87.7 -178.4	109 290	807.8 -614.9	-18 -9	1924.0 -4344.4	67.6 72.7 88.3
20TH	75.05			816.6 -632.8	-18 -9	1836.3 -4124.	\$2.1 65.8 84.2
21ST	78.71	88.7 -183.6	109 290 109 290	825.5 -650.6	-19 -9	1747.6	\$7.\$ 59.2 80.0
22ND	82.37	89.7 -188.8		834.4 ~668.5	-19 -9	1657.9 - 2755.7	23.3 53.0 75.7
2 3 R D	86.03	90.6 -193.9		843.3 -686.4	-19 -9	1567.3 - *** . *	1 4 47.1 71.3
24TH	89.69	91.6 -199.1	109 290 109 290	843.3 -686.4 852.1 -702.6	-17 -7	1475.7 -****.*	\$7.2 41.5 66.8

TABLE WIND D	7. SHEAR AND IRECTION 140	NONENT DIAGRAM	5 : GATEWAY PRO DNFIGURATION A	JECT TOWER ONE Refe	RENCE PRESSURE	771 PA	BASED ON AEROELASTIC	DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	HOMENT (NN-N) X Y	z
32ND 33RD	108.00 111.66 115.32 118.98 122.64	x T 93.5 -204.2 94.5 -204.7 95.5 -205.1 96.4 -205.5 97.4 -205.9 98.3 -206.1 98.6 -215.1 99.0 -225.0 99.4 -234.9	109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290	861.1 -704.0 870.0 -705.5 879.0 -706.9 887.9 -708.4 896.8 -709.8 904.7 -710.4 908.2 -741.5 911.7 -775.6 915.1 -809.7	-19 -9 -19 -9 -19 -9 -19 -9 -19 -9 -19 -9 -18 -8 -17 -7 -16 -7	1383.2 -2150.9 1289.6 -2950.5 1195.1 -2700.5 1099.7 -2500.5 1003.2 -2550.5 905.8 2133.5 807.6 -1927.3 708.9 -172.2 609.9 -1487.2 510.5 -1222.3	•\$.0 18.8 3•.8 15.3 29.4 12.2 22.7 9.4 1•.9 7.0	62.1 57.5 52.8 48.2 43.5 38.8 34.1 29.5 23.0 20.6
34TH 35th 36th 37th 38th Top	129.96 133.62 137.28 140.94	99.8 -244.8 100.1 -254.7 97.8 -252.7 90.7 -222.9 122.1 -277.3	109290109290109290109290162433	918.6 -843.8 922.1 -877.9 900.3 -870.9 835.0 -768.3 753.5 -640.5	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	310.3 - <td>3.2 3.2 1.9 2.2 .9 3</td> <td>16.2 12.0 8.0 4.4 0.0</td>	3.2 3.2 1.9 2.2 .9 3	16.2 12.0 8.0 4.4 0.0

BLE	7. SHEAR AND IRECTION 150	MONENT DIAGRA	771 PA	: BASED ON A	ERGELASTI	IC DAT				
.00 R	HEIGHT (N)		AREA (SR M X Y		ECCEI	N CM>	SHEAR (KN) X Y	x MG	NENT CAN- Y	-H) Z
RND	0.00			716 6 - 786 1	-10	- 3	4110.6 -9504.1	697.6	323.4	141
1 S T	5.50	116.9 -326.9	163 436			-	3993.7 -9177.2	646.2	301.1	138
ZND	9.16	74.2 -216.4	109 290		-11	-4	3919.5 -8960.8	613.0	286.6	135
3R D	12.82	71.8 -216.1	109 290		-11	-4	3847.7 -8744.7	580.6	272.4	132
ATH.	16.48	74.1 -220.8	109 290		-11	-4	3773.6 -8523.9	549.0	258.4	130
	20.14	78.7 -227.2	109 290	724.6 -783.1	-11	-4	3694.9 -8296.7	518.2	244.8	127
5TH		83.3 ~233.5	109 290	767.1 -805.0	-11	-4	3611.6 -8063.2	488.3	231.4	124
5TH	23.80	86.4 -237.9	109 290	795.6 -820.0	-11	-4	3525.2 -7825.3	459.2	218.3	12
TH	27.46	88.6 -240.5	109 290	815.5 -829.1	-11	- 4	3436.6 -7584.8		205.6	111
ITH	31.12	90.7 -243.1	109 290	835.5 -838.1	-11	- 4	3345.9 -7341.6		193.2	11-
TH	34.78	92.9 -245.8	109 290	855.4 -847.2	-12	-4	3253.0 -7095.9		181.1	11
TH	38.44	95.1 -248.4	109 290	875.3 -856.2	-12	-4	3157.9 -6847.5		169.4	101
TH	42.11	97.2 -251.0	109 290	895.3 -865.3	-12	- 5	3060.7 -6596.5		158.0	10
TH	45.77	99.1 -252.4	109 290	912.1 -870.0	-12	- 5			147.0	10
TH	49.43	100.6 -251.1	109 290	926.0 -865.5	-12	- 5		280.7	136.3	9
TH	53.09	102.1 -249.8	109 290	940.0 -861.1	-12	- 5	2861.0 -6093.0		126.0	9
TH	56.75	103.6 -248.5	109 290	953.9 -856.6	-12	- 5	2758.9 -5843.2		116.1	9
TH.	60.41	105.1 -247.2	109 290	967.9 -852.1	-13	- 5	2655.3 -5594.7	237.9		
TH	64.07	106.6 -245.9	109 290	981.8 -847.7	-13	- 6	2550.2 -5347.5	217.8	106.6	8
TH	67.73	107.7 -244.4	109 290	991.6 -842.4	-13	- 6	2443.6 -5101.6		97.4	8
TH	71.39	108.1 -243.5	109 290	995.3 -839.3	-13	- 6	2335.9 -4857.2		88.7	7
TH	75.05	108.5 -242.6	109 290		-13	-6	2227.8 -4613.7		80.3	70
S T	78.71		109 290		-13	- 6	2119.3 -4371.2	146.7	72.4	73
ND	82.37	108.9 -241.7	109 290		-14	-6	2010.3 -4129.5	131.2	64.8	61
RD	86.03	109.3 -240.8			-14	- 6	1901.0 -3888.7	116.5	57.7	6
TH	89.69	109.7 -239.9	109 290			-	1791.3 -3648.8	102.7	50.9	6 (
		110.3 -239.1	109 290	1016.0 -824.4	-14	-6				

ABLE JIND D	7. SHEAR AND IRECTION 150	D MOMENT DIAGRA	15 : GATENAY PROJ Configuration a	ECT TOWER ONE Refe	RENCE PRESSURE	771 PA	: BASED ON A	ROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (N) X Y	SHEAR (KN) X Y	N OF X	IENT (MN-N) Y Z
25TH 26TH	93.35 97.01	111.4 -237.8	109 290	1026.0 -819.6	-14 -7	1680.9 -3409.7 1569.5 -3171.9	89.8 77.7	44.5 56.4 38.6 52.3
281H	100.68	112.5 -236.4 113.6 -235.0	109 290 109 290	1036.0 -814.9 1046.1 -810.2	-14 -7 -14 -7	1457.0 -2935.5		33.1 <u>48.3</u> 27.9 44.2
28TH 29TH	104.34 108.00	114.7 -233.7	109 290 109 290	1056.1 -805.4 1066.1 -800.7	-14 -7 -14 -7	1343.4 -2700.5 1228.7 -2466.8	56.2 46.8	27.9 44.2 23.2 40.2
30TH 315T	111.66 115.32	115 8 -232.3 117.0 -231.0	109 290 109 290	1077.1 -796.3	-14 -7	1112.9 -2234.5 995.9 -2003.5	38.2 39.4	18.9 36.1 15.1 31.9
32ND	118.98	118.6 -235.2 120.2 -239.8	109 290 109 290	1092.0 -810.7 1106.8 -826.7	-14 -7 -13 -7	877.3 -1768.3 757.1 -1528.5	23.5	11.7 27.9 8.7 23.8
33RD 34th	122.64 126.30	121.8 -244.5 123.4 -249.1	109 290 109 290	1121.6 -842.8 1136.5 -858.8	-13 -7 -13 -6	635.2 -1284.0	12.3	6.1 19.8
35TH 36TH	129.96 133.62	125.0 -253.8	109 290	1151.3 -874.9	-12 -6	511.8 -1034.9 386.8 -781.1	8.1 4.7	4.0 15.9 2.4 12.0
371 H	137.28	122.6 -251.3 113.1 -229.1	109 290 109 290	1128.7 -866.3 1041.2 -789.8	-12 -6 -12 -6	264.2 -529.7 151.1 -300.6	2.3	1.2 8.2 .4 4.7
38TH Top	140.94 146.44	151 -1 -300.6	162 433	932.2 -694.4	-13 -6	0.0 0.0	¢.¢	0.0 0.0

	7. SHEAR		IT DIAGR	AMS : GAT CONFIGUR	EWAY PRO Ation a	JECT TOWER	ONE REFE	RENCE PR	ESSURE	771 PA	I BASED ON F	ERGELAST	IC DATA
FLOOR	HEIGHT (M) FORCE X	CKN) Y	AREA X	(SQ_N)	PRESSURE	E (PA) Y	ECCEN	r (H) Y	SHEAR (KN) X Y	X HC	MENT (NN) Y	-#) Z
GRND	0.00					745 8		•	2	4265.2 -10842.0	786.2	334.7	115.2
151	5.50		-400.1	163	436	765.5 -		- 8	-3	4140.3 -10441.9	727.7	311.5	111.7
2ND	9.16		-264.0	109	290	737.0 -		- 8	- 3	4960.3 -10177.9	690.0	296.5	109.2
3R D	12.82	77.0	-261.4	109	290	709.1 -		- 9	- 3	3983 2 -9916.5	653.2	281.8	106.8
4TH	16.48	78.6	-264.2	109	290	723.9 -	-910.8	-9	- 3	3904.6 -9652.3	617 4	267.4	104.2
5T H	20.14	82.5	-269 2	109	290	759.6 -	928.1	- 9	- 3	3822.1 -9383.0	582.5	253.2	101.7
611	23.80	86.4	-274.2	109	290	795.2 -	945.3	- 8	- 3	3735 8 -9108.8	548.7	239.4	99.1
7TH	27.46	89.4	-277.2	109	290	823.0 -	955.4	- 8	- 3	3646.4 -8831.6	515.9	225.9	96.6
8TH	31.12	91.9	-277.7	109	290	845.7 -	-957.1	- 8	- 3	3554.5 -8554.0	484.0	212.7	94.0
		94.3	-278.1	109	290	868.5 -	958.8	-9	- 3	3460.2 -8275.8	453 2	199.9	91.3
9TH	34.78	96 . 8	-278.6	109	290	891.3 -	960.4	- 9	- 3	· · · · · · · · · · · · · · · · · · ·		199.9	88.6
10TH	38.44	99.3	-279.1	109	290	914.1 -	962.1	- 9	- 3		423.5	175.2	85.9
11TH	42.11	101.8	-279.6	109	290	936.9 -	963.8	- 9	- 3		394.7		83.7 83.1
1278	45.77	103.5	-279.6	109	290	953.0 -	963.8	-9	- 3	3162.3 -7438.5	366.9	163.5	
13TH	49.43	104.6	-280.1	109	290	962.7 -	965.5	-9	- 3	3058 8 -7158.9	340.2	152.1	80.2
14TH	53.09	105.6	-280.6	109	290	972.4 -	967.2	- 9	- 3	2954.3 -6878.8	314.5	141.1	77.4
15TH	56.75	106.7	-281.1	109	290	982.2 -	968.9	- 9	- 3	2848 7 -6598.2	289.9	130.5	74.5
16TH	60.41	107.7	-281.6	109	290	991.9 -	970.6	- 9	- 3	2742.0 -6317.2	266.2	120.2	71.7
1.7TH	64.07	108.8	-282.1	109	290	1001.6 -	972.3	- 9	- 3	2634.2 -6035.6	243.6	110.4	68.8
18TH	67.73		-282.0	109	290	1009.2 -		-9	-4	2525.5 -5753.5	222.0	101.0	65.8
1 9 T H	71.39	110.1		109	290	1013.5 -		- 9	-4	2415.8 -5471.5	201.5	91.9	62.9
20TH	75.05		-277.1	109	290	1017.9 -		-9	-4	2305.8 -5192.0	182.0	83.3	59.9
215T	78.71					1022.3 -		-9	-4	2195.2 -4914.9	163.5	75.0	56.9
2 2 N D	82.37		-274.6	109	290	1025.6 -		-10	-4	2084.2 -4640.2	146.0	67.2	53.9
23RD	86.03		-272.2	109	290					1972.7 -4368.1	129.5	59.8	50.9
24TH	89.69		-269.7	109	290	1031.0 -		-10	-4	1860.7 -4098.4	114.0	52.8	47.8
		112.9	-267.7	109	290	1039.3 -	922.9	-10	-4				

DOR	HEIGHT (M)	FORCE	(KN)	AREA	(SQ #)	PRESSU	RE (PA)	ECCE	4 (M) -	SHEA	RCKNO		OHENT (MN-	
		X	Ŷ	x	Ŷ	×	Y	X	Ŷ	x	Y	X	· Y	Z
5TH	93.35	114.8	- 26 2 2	109	290	1456 9	-924.5	-10	-4	1747.8	-3830.6	99.5	46.2	44.
6T H	97.01									1633.0	-3562.4	86.0	40.0	41.
7T H	100.68	116.7		109	290		-926.2	-10	-4	1516.3	-3293.7	73.4	34.2	.38.
8T H	104.34	118.6		109	290		-927.9	-10	-4	1397.7	-3024.5	61.8	28.9	35.
9TH	108.00	120.5		109	290		-929.5	-19	-4	1277.2	-2754.9	51.3	24.0	32.
OTH	111.66	122.4	-270.1	109	290	1127.2	-931.2	-10	-4	1154.8	-2484.7	41.7	19.5	29
1ST	115.32	124.1	-270.3	109	290	1142.9	-931.8	-10	-4	1030.6		33.1	15.5	25
	118.98	125.0	-271.7	109	290	1151.3	-936.7	-10	- 4	905.6		25.5	12.0	22
ZND		126.0	-273.4	109	290	1159.7	-942.3	-10	- 4		-1669.3	18.9	8.9	19
SRD	122.64	126.9	-275.0	109	290	1168.0	-948.0	-10	-4	779.6				
FT H	126.30	127.8	-276.6	109	290	1176.4	-953.6	-10	- 4	652.8	-1394.3	13.3	6.3	16
STH	129.96	128.7 -	-278.3	109	290	1.184.7	-959.2	-10	- 4	525.0	-1117.7	8.7	41	13
STH-	133.62	125.7 -		109	290	1157.1	-941.4	- 9	- 4	396.3	-839.4	5.1	2.4	9
TH	137.28	115.9 -		109	290		-850.8	-10	-5	270.7	-566.3	2.5	1.2	6
TH	140.94						-737.9	-10	-5	154.8	-319.5	. 9	. 4	3
OP	146.44	154.8	-317.3	162	433	734.7	-131.7	-10	- 3	0.0	0.0	0.0	0 .0	0

	7. SHEAR IRECTION	A ND NONENT DIAGRAM 170 c	IS : GATE ONFIGURA		ECT TOWER ONE Refei	RENCE P	RESSURE	771 PA	: BASED ON I	RERGELASTI	IC DA
FLOOR	HEIGHT (N) FORCE (KN) X Y	AREA X	(SQ_N)	PRESSURE (PA)	ECCE	N (N) Y	SHEAR (KN) X Y	X	DHENT (NN-	-#) z
GRND	0.00				04.0 0 00A 7	-	~	4243.9 -10231.	3 746.3	330.2	94
1 S T	5.50	133.5 -383.6	163	436	818.2 -880.3	-7	-2	4110.4 -9847.	691.1	307.2	91
2ND	9.16	84.8 -249.8	109	290	780.7 -861.2	-7	-2	4025.6 -9597.	655.5	292.3	89
3RD	12.82	81.3 -245.1	109	290	748.6 -845.0	-7	-2	3944.3 -9352.	8 620.8	277.8	87
4T H	16.48	81.9 -245.7	109	290	754.4 ~847.0	-7	-2	3862.4 -9107.	1 587.0	263.5	85
5TH	20.14	84.6 -249.5	109	290	778.7 -860.0	-7	-2	3777.8 -8857.		249.5	83
		87.2 -253.2	109	290	803.0 -872.9	-7	- 2	3690.6 -8604	-	235.8	81
6TH	23.80	89.6 -255.9	109	290	825.0 -882.2	- 7	- 2			222.5	79
7TH	27.46	91.8 -257.2	109	290	845.6 -886.6	- 7	- 3	3601.0 -8348.			
8T H	31.12	94.1 -258.5	109	290	866.1 -891.0	- 7	- 3	3509.1 -8091.1		209.5	77
9T H	34.78	96.3 -259.7	109	290	886.7 -895.4	-7	- 3	3415.1 -7832.		196.8	75
1 OT H	38.44	98.5 -261.0	109	290	907.3 -899.8	-7	- 3	3318.8 -7573.4) 403.7	184.5	73
11TH	42.11	100.8 -262.3	109	290	927.8 -904.2	- 8	- 3	3220.2 -7312.0	376.4	172.5	71
12TH	45.77	102.3 -262.6	109	290	941.9 -905.2	- 8	- 3	3119.5 -7049.3	350.2	160.9	68
13TH	49.43	103.1 -261.3	109	290	949 7 -900.7	- 8	- 3	3017 2 -6787.	324.8	149.7	66
14TH	53.09		•••			-	-3	2914.0 -6525.0	300.5	138.8	64
15TH	56.75	104.0 -260.0	109	290	957.4 -896.2	- 8		2819.0 -6265.0	3 277.1	128.3	61
16TH	60.41	104.8 -258.7	109	290	965.2 -891.7	- 8	- 3	2705.2 -6007.	254.6	118.2	59
17TH	64.07	105.7 -257.4	109	290	973.0 -887.2	- 8	- 3	2599.5 -5749.0	233.1	108.5	57
18TH	67.73	106.5 -256.1	109	290	980.8 -892.7	- 8	- 3	2493.0 -5493.3	212.5	99.2	54
19TH	71.39	107.5 -255.2	109	290	990.0 -879.6	- 8	- 3	2385.5 -5238.		90.3	52
2011	75.05	108.7 -256.5	109	290	1001.1 -884.1	- 8	- 3	2276.7 -4982.		81.7	49
		109.9 -257.8	109	290	1012.3 -888 6	- 8	- 3			73.6	47
2157	78.71	111.2 -259.1	169	290	1023.5 -893.1	- 8	- 3	2166.8 -4724.3			
22ND	82.37	112.4 -260.4	109	290	1034.6 -897.6	- 8	-4	2055.6 -4465.2		65.9	44
2 3 R D	86.03	113.6 -261.7	109	290	1045.8 -902.1	- 8	-4	1943.2 -4204.1		58.6	42
24TH	89.69	114.7 -263.0	109	290	1056.3 -906.6	- 8	-4	1829.7 -3943.	108.8	51.6	39

								0.0EA	DICKAN	* 04	APOT ZMO.	
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ X	Y Y	PRESSURE (PA) X Y	EUUEI X	N (M) Y	X	R (KN) Y	X	NENT (NN- Y	Z
25TH	93.35	118 7 .043 8	109 2	90	1065.5 -906.3	- 8	- 4	1714.9	-3680.1	94.8	45.2	37.3
26TH	97.01	115.7 -262.9					•	1599.2	-3417.2	81.8	39.1	34.7
27TH	100.68	116.7 -262.8		90	1074.6 -906.1	- 8	- 4	1482.5	-3154.3	69 8	33.5	32.2
28TH	104.34	117.7 -262.8	109 2	90	1083.8 -905.8	- 8	- 4	1364.8	-2891.6	58.7	28.2	29.6
29TH	108.00	118.7 -262.7	109 2	90	1092 9 -905.5	- 8	- 4	1246.1	-2628.9	48.6	23.5	27.1
30TH	111.66	119.7 -262.6	109 2	90	1102.0 -905.3	- 8	- 4	1126.4	-2366.2	39 5	19.1	24.5
		120.6 -262.4	109 2	90	1110.8 -904.4	- 6	- 4	1005.7	-2103.9	31.3	15.2	21.9
315T	115.32	121.4 -262.3	109 2	90	1118 1 -904.1	- 8	- 4					
32ND	118.98	122.2 -262.3	109 2	90	1125.3 -904.0	- 8	- 4	884.3	-1841.6	24.1	11.8	19.3
3 3 R D	122.64	123.0 -262.2	109 2	90	1132.6 -903.9	- 8	- 4	762.1	-1579.3	17.8	8.7	16.7
34TH	126.30	123.8 -262.2	109 2	90	1139.8 -903.8	- 8	- 4	639.1	-1317.1	12.5	6.2	14.0
35T H	129.96	124.6 -262.2		90	1147.1 -903.7	- 8	- 4	515.3	-1054.9	8.2	4.1	11.3
36TH	133.62					-8	- 4	390.7	-792.7	4.8	2.4	8.6
37TH	137.28	122.1 -256.9		90	1124.1 -885.4		-	268.6	-535.9	2.4	1.2	6.0
38TH	149.94	113.9 -232.9		90	1048.6 -802.8	- 9	-4	154.7	-303.0	. 8	. 4	3.5
TOP	146.44	154.7 -303.0	162 4	33	954.6 -699.8	- 9	-5	0 .0	0 .0	¢.¢	0 .0	Q.Q

TABLE 7. SHEAR AND MONENT DIAGRAMS : GATEWAY PROJECT TOWER ONE Wind direction 180 configuration a reference pressure									771 PA BASED ON AEROELASTIC DATA				
FLOOR	HEIGHT (N)	FORCE	(KN) Y	AREA X	(S0 N) Y	PRESSURI X	E (PA) Y	ECCEN	(M) Y	SHEAR (KN) X	× **0	NENT (NN- Y	-H) Z
GRND	0.00	COD 4			436	705 4	0/E E	-6	-2	4152.3 -10227.1	764.5	328.4	83.3
1 S T	5.50	128.1		163		785.4				4024.1 -9849.9	709.3	305.9	80.7
2ND	9,16		-240.7	109	290	751.8		-6	-2	3942.5 -9609.2	673.7	291.3	79.0
3R D	12.82		-231.3	109	290	714.7		-6	-2	3864.9 -9377.8	638.9	277.0	77.4
4TH	16.48		-229.2	109	290	717.5		-7	-2	3786.9 -9148.6	605.0	263.0	75.7
5T H	20.14		-233.7	109	290	740.0		-7	- 2	3796.6 -8914.9	572.0	249.3	73.9
6 T H	23.80	82 8	-238.2	109	290	762 4		-7	- 2	3623.8 -8676.7	539.8	235.9	72.2
7TH	27.46	84.7	-241.2	109	290	780.2 ·	-831.4	-7	-2	3539 0 -8435.5	508.4	222.8	70.3
8T H	31.12	86.4	-242.0	109	290	795.1 ·	-834.2	-7	- 2	3452.7 -8193.5	478.0	210.0	68.5
9T H	34.78	88.0	-242.8	109	290	810.0	-837.1	-7	- 3	3364.7 -7950.6	448.5	197.5	66.6
10TH	38.44	89.6	-243.7	109	290	824.9	-839.9	- 7	- 3	3275.1 -7707.0	419.8	185.3	64.6
1178	42.11	91.2	-244.5	109	290	839.9	-842 7	- 7	- 3	3183.9 -7462.5	392.0	173.5	62.7
1278	45.77	92.8	-245.3	109	290	854.8 -	-845.5	-7	- 3	3091.0 -7217.2		162.0	60.7
13TH	49.43	94.5	-246.3	109	290	869.7 -	-849.2	-7	- 3	2996.6 -6970.9	339.2	150.9	58.6
1478	53.09	96.1	-248.0	109	290	884.6 -	-854.9	- 7	- 3	2900 5 -6722.8	314.1	140.1	56.6
1578	56.75	97.7	-249.7	109	290	899.5 -	- 860 . 7	-7	- 3	2802.8 -6473.2		129.6	54.5
16TH	60.41	99.3	-251.3	109	290	914.4 -	-866.4	- 7	- 3	2703.5 -6221 8	266.7	119.6	52.4
1718	64.07	100.9	-253.0	109	290	929.3 -	- 87 2 . 2	-7	- 3	2602.6 -5968.8	244.4	109.9	50.3
1878	67.73	102.6	-254.7	109	290	944.2 -	-877.9	- 7	- 3	2500.0 -5714.1	223.1	100.5	48.2
		104.0	-256.3	109	290	957.9 -	- 883 . 4	-7	- 3	2396.0 -5457.8	202.6	91.6	46.1
19TH	71.39	105.3	-258.4	109	290	969.9 -	- 890 . 8	-7	- 3				
20TH	75.05	106.6	-260.6	109	290	981.8 -	- 898 . 2	-7	- 3	2290.6 -5199.4	183.1	83.0	43.9
2157	78.71	107.9	-262.7	109	290	993.8	905 6	-7	- 3	2184.0 -4938.8	164.5	74.8	41.7
22ND	82.37	109.2	-264.9	109	290	1005.7 -	-913.0	-7	- 3	2076.1 -4676.1	146.9	67.0	39.5
2 3 R D	86.03	110.5	-267.0	109	290	1017.7 -	-920.4	-7	- 3	1966.8 -4411.2	130.3	59.6	37.3
24TH	89.69	112.1	-269.4	109	290	1032.0 -	-928.6	- 7	- 3	1856.3 -4144.2	114.7	52.6	35.0

	7. SHEAR AN IRECTION 18	D MOMENT DIAGRAM	IS ; GATEWAY PRO. Configuration a	JECT TOWER ONE Refei	RENCE PRESSURE	771 FA	: BASED ON AERC	JELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X Y	FRESSURE (PA)	ECCEN (M)	SHEAR (KH) X Y	MOREN X	NT (MH-M) Y Z
25TH 26TH	93.35 97.01	114.2 -271.2 116.4 -272.9	109 290 109 290	1051.9 -934.7 1071 8 -940.8	-7 -3 -7 -3	1744.2 -3874.1 1630.0 -3603.1	5 86.3	46.0 32.8 39.8 30.5 34.1 28.2
27TH 28TH 29TH	100.68 104.34 108.00	118.6 -274.7 120.7 -276.5	109 290 109 290	1091.7 -946.9 1111.6 -953.0	-7 -3 -7 -3	1513.6 -3330.3 1395.0 -3056.0 1274 2 -2779.0	61.9	34.1 28.2 28.8 26.0 23.9 23.7
30TH 31ST	111.66	122.9 -278.2 124.8 -279 7	109 290 109 290	1131.5 -959.1 1148.6 -964.1	-7 -3	1151.3 -2501.3 1026.6 -2221.3	3 41.6	19.4 21.4 15.4 19.1
3 2 N D 3 3 R D	118.98 122.64	125.3 -279.3 125.9 -278.8	109 290 109 290 109 290	1153.8 -962 7 1159.1 -961.1 1164.3 -959.5	-7 -3 -7 -3 -7 -3	901.3 -1942.4 775.4 -1663.6		11.9 16.7 8.8 14.4
34TH 35TH	126.30 129.96	126.5 -278.3 127.0 -277.9 127.6 -277.4	109 290 109 290 109 290	1164.3 -939.3 1169 6 -957.9 1174.8 -956.3	-7 -3 -7 -3	648 9 -1385.4 521.9 -1107.4		6.212.04.19.7
36TH 37TH	133.62 137.28	124.5 -271.4	109 290 109 290	1146.7 -935.5 1060.7 -842.2	-7 -3 -7 -3	394.3 -830.0 269.8 -558.0	5 2.5	2.4 7.3 1.2 5.0
38TH Top	140.94 146.44	154.6 -314.2	162 433	953.6 -725.9	-7 -4	154.6 -314.3 0.0 0.0		.4 2.9 0.0 0.0

REFERENCE PRESSURE 771 PA CONFIGURATION A WIND DIRECTION 190 ECCEN (M) SHEAR (KN) HOMENT (MN-M) FLOOR HEIGHT (M) FORCE (KN) AREA (SQ M) PRESSURE (PA) Z X Ŷ Y. x ¥ x X 885 1 312.4 87.7 3914.9 -11578.3 GRND 0.00 120.8 -405.4 163 436 740.7 -930.3 -6 - 2 85.0 3794.0 -11172.9 622.6 291.2 1ST 5.50 - 2 77.4 -258.1 109 290 712.7 -889.8 -6 3716.6 -10914.8 782.1 277.4 83.3 2ND 9:16 - 2 73.6 -247.3 109 290 677.6 -852.4 - 6 264.0 81.8 3643.0 -10667.5 742.6 3RD 12.82 - 2 673.5 -838.1 - 6 73.1 -243.1 109 290 3569.9 -10424.3 704.0 250.8 89.2 4TH 16.48 - 2 74.3 -245.6 109 290 684.5 -846.5 - 6 78.5 3495.6 -10178.8 666.3 237.8 5TH 20.14 - 2 -7 75.5 -248.0 109 290 695.6 -854.9 76.7 3420.0 -9930.8 629.5 225.2 6TH 23.80 290 - 7 - 2 77.0 -250.7 109 708.5 -864.3 3343 1 -9680.0 593.6 212.8 74.8 7TH 27.46 78.5 -253.8 109 290 722.6 -874.9 - 7 - 2 72.9 200.7 3264.6 -9426.2 558.6 8TH 31.12 - 7 - 2 109 290 736.7 -885.4 80.0 -256.9 71.0 3184.6 -9169.3 524.6 188.9 9TH 34.78 750.7 -895.9 -7 -2 81.5 -259.9 109 290 68.9 3103.0 -8909.4 491.5 177.4 10TH 38.44 - 2 -7 83.1 -263.0 109 290 764.8 -906.5 3020.0 -8646.5 459.4 166.2 66.9 11TH 42.11 84.6 -266.0 109 296 778.9 -917.0 -7 - 2 64.7 428.2 155.3 2935.4 -8380.4 12TH 45.77 109 - 2 290 793.8 -929.0 -7 86.2 -269.5 2849.1 -8110.9 398.0 144.7 62.5 13TH 49.43 109 -7 -2 87.9 -274.2 290 809.4 -945.1 60.3 2761.2 -7836.7 368.8 134.4 14TH 53.09 290 825.1 961.3 -7 - 2 89.6 -278.9 109 2671.6 -7557.9 340.7 124.5 58.1 15TH 56.75 -2 -7 91.3 -283.5 109 290 846.7 -977.4 55.9 2580.3 -7274.3 313.5 114.9 16TH 60.41 -7 -2 93.0 -288.2 109 290 856.4 -993.5 53.6 287.4 105.6 17TH 2487.3 -6986.1 64.07 - 2 290 872.0-1009.7 -7 94.7 -292.9 109 2392.6 -6693.2 262.4 51.4 96.7 18TH 67.73 109 290 888.2-1024.7 -7 - 2 96.5 -297.3 49.1 2296.1 -6395.9 238.4 88.1 19TH 71.39 -7 - 2 109 290 905.1-1031.1 98.3 -299.1 2197.8 -6096.8 215.6 79.9 46.8 20TH 75.05 100.1 -301.0 109 290 922.1-1037.6 -7 - 2 2097.7 -5795.8 193.8 72.0 44.4 215T 78.71 109 290 939.0-1044.1 - 7 -2 102.0 -302.9 1995.7 -5492.9 173.1 64.5 42.1 22ND 82.37 103.8 -304.8 109 290 955.9-1050.5 -7 - 2 1891.8 -5188.2 153.6 57.4 39.7 23RD 86.03 -7 -2 105.7 -306.6 109 290 972.9-1057.0 1786.2 -4881.5 135.2 50.7 37.2 24TH 89.69 -7 107.6 -308.7 109 290 990.5-1064.0 - 2

TABLE 7. SHEAR AND MOMENT DIAGRAMS 1 GATEWAY PROJECT TOWER ONE

FLOOR	HEIGHT (M	> FORCE (KN) X Y	AREA (SQ H) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	X	HENT (MN-1 Y	"z
25TH	93.35	140 7 717 4	100 000	1009,9-1080.3	-7 -2	1678.6 -4572.8	117.8	44.3	34.8
26TH	97.01	109.7 -313.4	109 290			1568.9 -4259.5	101.7	38.4	32.4
27TH	100.68	111.8 -318.1	109 290	1029.2-1096.6	-7 -2	1457.1 -3941 3	86.7	32.8	29.9
28TH	104.34	113.9 -322.8	109 290	1048.6-1112.9	-7 -2	1343.2 -3618.5	72 8	27.7	27.5
29TH	108.00	116.0 -327.6	109 290	1067.9-1129.2	-7 -2	1227.2 -3290.9	60.2	23.0	25.1
30TH	111.66	118.1 -332.3	109 290	1087.3-1145.4	-7 -2	1109.1 -2958.6	48.7	18.7	22.6
315T	115.32	119.9 -336.7	109 290	1104.0-1160.7	-6 -2	989.2 -26214.9	38.5	14.9	20.2
32ND	118.98	120.5 -335.2	109 290	1109.8-1155.5	-6 -2	868.7 -2286.7	29.6	11.5	17.7
33RD	122.64	121.2 -333.3	109 290	1115.5-1148.9	-7 -2	747.5 -1953.4	21.8	8.5	15.3
34TH	126.30	121.8 -331.4	109 290	1121 3-1142.3	-7 -2	625.8 -1622.0	15.2	6.0	12.8
35TH	129.96	122.4 -329.5	109 290	1127.1-1135.6	-7 -2	503.3 -1292.6	9.9	3.9	10.3
		123.0 -327.5	109 290	1132.9-1129.0	-7 -2		5.8	2.3	7.9
36TH	133.62	120.1 -319.6	109 290	1106.1-1101.8	-7 -2				
37TH	137.28	111.1 -284.9	109 290	1023.1 -982.0	-7 -3	260.2 -645.4	2.8	1.2	5.5
38TH	140.94	149.0 -360.5	162 433	919.5 -832.7	-8 -3	149.0 -360.5	1.0	. 4	3.2
TOP	146.44					0.0 0.0	0.0	0.0	0.0

	IRECTION 204		ONFIGURATION (
. 00 R	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M X y) PRESSURE (PA) X Y	ECCE	н сйх	SHEAR (KN) X Y	X	HENT CMN-H Y	ź
RND	0.00			770 0 044 0			3644 8 -11796.2	909.2	289.6	ŧŢ.
1 S T	5.50	119.5 -412.6	163 436	732.2 -946.8	-4	-1	3525.3 -11383.6	845 5	269.9	- # \$.
2ND	9.16	76.2 -262.2	109 290	701.7 -903.7	-4	-1	3449.1 -11121.5	804.3	257.1	. ∳ ∳.
3RD	12.82	71.9 -250.5	109 290	661.9 -863.3	- 4	- 1	3377 2 -10871.0	764.0	244.6	_ ↓ ↓.
4TH	16.48	79.6 -244.6	109 290	650.3 -843.0	- 5	- 1	3306.6 -10626.5	724.7	232.4	
5TH	20.14	70.9 -244.3	109 290	652.4 -842.2	-5	-1	3235.7 -10382.2	686.2	220.4	
		71.1 -244.1	109 290	654.6 -841.3	- 5	- 1	3164.6 -10138.1	648.7	208.7	- 1
6TH	23.80	71.9 -245.4	109 290	661.9 -846.0	-5	- 1	3092.7 -9892.7	612.0	197.2	- H
7TH	27.46	73.0 -248.9	109 290	672.5 -858.1	- 5	-2	3019.7 -9643.7	576.3	186.0	-11
8TH	31.12	74.2 -252.5	109 290	683.2 -870.3	- 6	- 2	2945.5 -9391.2	541.4	175.1	-11
9T H	34.78	75.3 -256.0	109 290	693.8 -882.5	- 6	- 2		507.5	164.5	-11
OTH	38.44	76.5 -259.5	109 290	704.4 -894.7	- 6	- 2	2870.1 -9135.2		154.1	-11
1 T H	42.11	77.7 -263.1	109 290	715.0 -906.8	-7	- 2	2793.6 -8875.7	474.5		11
2T H	45.77	79.1 -267.4	109 290	728.6 -921.7	-7	- 2	2716.0 -8612.6	442.5	144.0	11 -
3TH	49.43	80.9 -273.7	109 290	745.1 -943.5	-7	- 2	2636.8 -8345.2	411.5	134.2	11
4TH	53.09	82.7 -280.0	109 290	761.6 -965.2	-7	- 2	2555.9 -8071.5	381.4	124.7	- fi
5TH	56.75	84.5 -286.3	109 290	778.1 -987.0	- 7	-2	2473.2 -7791.5	352.4	115.5	- 47
6T H	60.41	86.3 -292.7	109 290	794.6-1008.8	-7	-2	2388.7 -7505.2	324.4	106.6	- • •
7TH	64.07	88.1 -299.0	109 290	811.1-1030.6	-7	-2	2302.4 -7212.5	297.5	98.0	- \$\$
8T H	67.73			825.4-1050.3	-7	-2	2214.3 -6913.5	271.6	89.8	- \$\$
9TH	71.39	89.6 -304.7			-	-2	2124.7 -6608.8	246.9	81.8	- \$\$
OTH	75.05	90.9 -307.4	109 290	836.6-1059.6	-7	-	2033.8 -6301.4	223.2	74.2	- \$\$
1 S T	78.71	92.1 -310.1	109 290	847.8-1068.8	-7	-2	1941.7 -5991.4	200.7	66.9	- 44
2ND	82.37	93.3 -312.7	109 290	859.0-1078.0	-7	-2	1848.4 -5678.6	179.4	60.0	- 44
3RD	86.03	94.5 -315.4	109 290	870.2-1087.3	-7	-2	1753.9 -5363.2	159.2	53.4	- 44
	89.69	95.7 -318.1	109 290	881.5-1096.5	-7	-2	1658.1 -5045.1	140.1	47.2	- 11
4TH	07.87	97.3 -321.1	109 290	896.3-1106.8	-7	-2				. •

LOOR	HEIGHT (M)	FORCE (KN)	AREA (SQ	N) PRESSURE (PA)	ECCEN (M)	SHEAR (KN)	HO	HENT (HN-H)
		X Y	X Y	X Y	X Y	X Y	X	Y 7
25TH	93.35	99.9 -324.5	109 29	0 919.6-1118.6	-7 -2	1560.8 -4724.0	122.2	41.3 3
26TH	97.91					1460 9 -4399.	5 105.5	35.7 3
27TH	100.68	102.4 -327.9	109 29		-7 -2	1358.5 -4071.6	5 90.0	30.6
8TH	104.34	105.0 -331.3	109 29		-7 -2	1253.5 -3740.3	3 75.7	25.8
9TH	108.00	107.5 -334.7	109 29	0 989 6-1153.8	-7 -2	1146.1 -3405.6	62.7	21.4 21
OTH	111.66	110.0 -338.1	109 29	0 1013.0-1165.5	-7 -2	1036.0 -3067.5	5 50.8	17.4 2
15T	115.32	112.2 -341.3	109 29	0 1033.2-1176.4	-7 -2	923.8 -2726.2		13.6 21
		113.0 -342.1	109 29	0 1040.4-1179.3	-7 -2	810.8 -2384.1		10.7
2ND	118.98	113.8 -342.8	109 29	0 1047.6-1181.7	-7 -2			11
3RD	122.64	114.6 -343.5	109 29	0 1054.8-1184.2	-7 -2	697.0 -2041.3	3 22.7	7:9
4TH	126.30	115.3 -344.3	109 29	0 1062.0-1186.7	-7 -2	582.5 -1697.7	7 15.9	5.6
STH	129.96	116.1 -345.0	109 29		-7 -2	467.1 -1353.5	5 10.3	3.6 1
6TH	133.62					351.0 -1008.5	5 6.0	2.1
7TH	137.28	113.0 -338.8	109 29		-7 -2	238.1 -669.8	3 2.9	1.1
8T H	140.94	103.0 -298.6	109 29	0 948.1-1029.5	-8 -3	135.1 -371.1	L 1.0	.4
TOP	146.44	135.1 -371.1	162 43	3 833.4 -857.2	-9 -3	0.0 0.0		0.0

	HEIGHT (M)	FORCE (KN)	OPEN	(SQ (M)	PRESSURE (PA)	FCCEN	4 (M)	SHEAR (KN)	A 16	NENT (NN-M)
UUK	nciuni (N)	X Y	нксн Х	Y	X Y	X	Ϋ́	X Y	X	Y
RND	0.00	116.0 -413.4	163	436	710.9 -948.6	- 2	- 1	3494.2 -12232.8	942.1	273.2 1
1 S T	5.50							3378.2 -11819.4	875.9	254.3
ZND	9.16	73.6 -265.5	109	2,90	677.4 -915.2	15	4	3304.7 -11553.9	833.2	242.1
RD	12.82	71.0 -258.1	109	290	653.8 -889.8	34	9	3233.6 -11295.8	791.3	230.1
TH	16.48	70.2 -255.1	109	290	646.4 -879.5	31	9	3163.4 -11040.7	750.4	218.4
TH	20.14	70.3 -257.1	109	290	646.8 -886.3	32	9	3093.2 -10783.5	710.5	207.0
TH	23.80	70.3 -259.1	109	290	647.3 -893.1	33	9	3022.9 -10524.4	671.5	195.8
тн	27.46	71.3 -262.2	109	290	656.4 -903.9	26	7	2951.6 -10262.2	633.5	184.8
TH	31.12	72.9 -266.3	109	290	670.9 -917.9	12	3	2878.7 -9995.9	596.4	174.2
тн	34.78	74.4 -270.3	109	290	685.4 -931.8	-1	-0	2804.3 -9725.6	560.3	163.8
TH	38.44	76.0 -274.4	109	290	699.9 -945.8	-14	-4	2728.3 -9451.3	525.2	153.6
TH	42.11	77.6 -278.4	109	290	714.4 -959.7	-26	-7	2650.7 -9172.8	491.1	143.8
тн	45.77	79.2 -282.5	109	290	728.9 -973.7	-38	-11	2571.5 -8890.4	458.0	134.2
TH	49.43	80.5 -286.2	109	290	741.0 -986.5		-14	2491.0 -8604.2	426.0	125.0
тн	53.09	81.5 -289.3	109	290	750.6 -997.1	-65	-18	2409.5 -8314.9	395.0	116.0
TH	56.75	82.6 -292.3	109	290	760.2-1007.7	-78	-22	2326.9 -8022.6	365.1	107.3
TH	60.41	83.6 -295.4	109	290	769.9-1018.3	-91	-26	2243.3 -7727.2	336.3	99.0
TH	64.07	84.7 -298.5	109	290	779.5-1028.9	-103	-29	2158.7 -7428.7	308.6	90.9
тн	67.73	85.7 ~301.6	109	290	789.1-1039.5	-116	-33	2073.0 -7127.1	281.9	83.2
тн	71.39	86.7 -304.8	109	290	798,5-1050.7	-122	-35	1986.2 -6822.3	256.4	75.7
тн	75.05	87.7 -309.0	109	290	807:4-1065.3	-118	-34	1898.5 -6513.3	232.0	68.6 75
5 T	78.71	88.7 -313.3	109	290	816.4-1079.9	-114	-32	1809.9 -6200.0	208.7	61.8 71
ND	82.37	89.6 -317.5	109	290	825.4-1094.5	-111	-31	1720.2 -5882.4	186.6	55.4 68
RD	86.03	90.6 -321.8	109	290	834.3-1109.2	-107	-30	1629.6 -5560.7	165.7	49.2
TH		91.6 -326.0	109	290	843.3~1123.8	-103	-29	1538.0 -5234.7	145.9	43.4
1 11	89.69	92.8 -330.5	109	290	854.9-1139.1	-100	-28	1000'A	1 7 9 . 7	TU.T

	IRECTION		at vinu	CONFIGUR		DEGI IDWER C		ERENCE P	RESSURE	771 PA		· DHSED ON H	ERUELNSII	IC DHIN
FLOOR	HEIGHT (M) FORCE X	E (KN) Y	AREA X	(SQ_M) Y	PRESSURE	(PA) Y	ECCE X	(N (M) Y	SHEA X	R (KN) Y	× NO	MENT (MN- Y	-M) Z
25TH	93.35	94 9	-334.4	109	290	872.6-11	89 6	-102	-29	1445.2	-4904.2	127.3	38.0	\$71.9
26TH	97.01		-338.3	109		890.4-11		-105		1350.4	-4569.8	110.0	32.9	\$\$\$.4
27TH	100.68									1253.7	-4231.5	93.9	28.1	- \$, \$ \$. \$
28TH	104.34		-342.2	109		908.1-11		-107		1155.0	-3889.4	79.0	23.7	4\$\$.\$
29TH	108.00		-346.1	109		925.9-11		-110		1054.5	-3543.3	65.4	19.7	444.4
30TH	111.66		-350.0	109		943.7-12		-112		952.0	-3193.3	53.1	16.0	
31ST	115.32	104.1	-353.6	109	290	958.6-12	18.9	-114	-34	847.9	-2839.7	42.1	12.7	111
32ND	118.98	104.5	-354.5	109	290	961.7-12	21.9	-111	-33		-2485.2	32.3	9.8	IIII
3 3 R D	122.64	104.8	~355.2	109	290	964.9-12	24.4	-108	-32		-2130.0	23.9	7.2	III.I
34TH	126.30	105.1	-355.9	109	290	968.1-12	26.9	-105	-31					f II f
		105.5	-356.7	109	290	971 2-12	29.4	-102	-30		-1774.1	16.7	5.1	₹१ <u></u> <u></u> <u></u> <u></u> <u></u>
35TH	129.96	105.8	-357 4	109	290	974.4-12	31.9	-99	-29	428.0	-1417.4	10.9	3.3	-
36TH	133.62	162 9	-352.1	109	290	947.5-12	13 7		-24	322.2	-1060.1	6.3	2.0	· 124.2
37TH	137.28		-313.1	109		868.8-10		-102		219.3	-707.9	3.1	1.0	- \$\$.\$
38TH	140.94									124.9	-394.8	1.1	. 3	- \$\$.¥
TOP	146.44	124.7	-394.8	162	433	770.6 -9	12.0	-132	-42	0.0	0.0	0.0	0.0	

TABLE 7. SHEAR AND NOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE WIND DIRECTION 210 CONFIGURATION A REFERENCE PRESSURE 7

TABLE 7. SHEAR AND MOMENT DIAGRAMS & GATEWAY PROJECT TOWER ONE REFERENCE PRESSURE 771 PA WIND DIRECTION 220 CONFIGURATION A SHEAR (KN) HOMENT (NN-H) PRESSURE (PA) ECCEN (M) FLOOR HEIGHT (N) FORCE (KN) AREA (SQ M) ¥ Z X. х ¥ x 3423 9 -12684.4 983.9 268.3 0.00 GRND 436 712.1-1018.4 2 1 163 116.2 -443.8 3307.7 -12240.6 915.4 249.8 15T 5.50 109 290 683.1 -969.6 2 1 74.2 -281.3 871.1 237.8 3233.6 -11959.3 -1 2ND 9:16 2 290 657.8 -929.8 1 71.4 -269.7 109 827.8 226.1 -11 3162.1 -11689.6 12.82 3RD 70.3 -264.5 109 290 647.2 -911.7 2 6 3091.8 -11425.1 785.5 214.7 4TH 16.48 643.6 -921.4 2 Ô 290 69.9 -267.3 109 3021.9 -11157.8 744.2 203.5 -1\$ 20.14 5TH 640.1 -931.1 2 1 69.5 -270.1 109 290 703.8 192.5 -1\$ 2952.4 -10887.7 6TH 23.80 2 109 290 644.7 -941.2 1 70.0 -273.1 664.5 181.8 -14 2882.4 -10614.7 27.46 7TH 290 654.3 -947.9 2 0 71.1 -275.0 109 626.1 171.4 -11 2811.3 -10339.7 8TH 31.12 2 ٥ 72.1 -276.9 109 290 663.9 -954.5 588.8 161.3 2739.2 -10062.8 -13 9TH 34.78 673.5 -961.1 ¢ 73.2 -278.8 109 290 1 552.4 151.4 - 1 1 2666.0 -9783.9 10TH 38.44 683.1 -967.8 1 ¢ 74.2 -280.7 109 290 2591.8 -9503.2 517.1 141.7 11TH 42.11 692.7 -974.4 Ó 75.2 -282.7 109 290 1 2516.6 -9220.5 482.9 132.4 12TH 45.77 76.2 -284.9 109 290 701.9 -982.1 Ó Ó 123.3 2440.4 -8935.6 449.6 13TH 49.43 ¢ 77.2 -288.3 109 296 710.6 -993.8 Ó 2363.2 -8647.3 417.5 114.5 -12 14TH 53.09 78.1 -291.7 109 290 719.3-1005.5 Ó Ó 2285.1 -8355.6 386.3 106.0 15TH 56.75 Ó 728.0-1017.2 1 79.1 -295.1 109 290 2206.0 -8060.5 356.3 97.8 -1 16TH 60.41 736.7-1028.9 1 Ó 80.0 -298.5 109 290 2126.0 -7762.0 327.3 89.9 -1: 17TH 64.07 745.4-1040.6 109 290 1 Ó 81.0 -301.9 2045.0 -7460.1 299.5 82.2 -11 18TH 67.73 290 757.3-1054.1 1 Ô 82.2 -305.8 109 1962.8 -7154.3 272.7 74.9 -11 19TH 71.39 84.0 -311.5 109 290 773.8-1073.7 1 ¢ -11 1878.8 -6842.9 247.1 67.9 20TH 75.05 t 85.8 -317.2 109 290 790.4-1093.3 Ô. 1792.9 -6525.7 222.6 61.2 -10 215T 78.71 290 807.0-1112.9 1 ¢ 87.6 -322.8 109 -1+ 1705.3 -6202.8 199.3 54.8 22ND 82.37 290 823.6-1132.4 1 Ó. 89.4 -328.5 109 1615.8 -5874.3 177.2 48.7 23RD 86.03 91.2 -334.2 109 290 840.1-1152.0 1 Ó 1524.6 -5540.1 156.3 42.9

856.7-1171.5

1

٥

24TH

89.69

93.0 -339.9

109

290

FLOOR	HEIGHT (M) FORCE (KN) X Y	AREA (SQ M) X Y	FRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X 7	X	NENT (HN-H) Y Z
25TH	93.35	04 0	109 290	873.1-1189.8	2 0	1431.5 -5200.3	136.7	37.5 -•.
26TH	97.01	94.8 -344.9				1336.7 -4855.4	118.3	32.4
27TH	100.68	96.6 -349.9	109 290	889.5-1206.2	2 0	1240.1 -4505.5	101.1	27.7 -7.
28TH	104.34	98.4 -355.¢	109 290	905.9-1223.5	2 0	1141.7 -4150.5		23.4 -7.
		100.2 -360.0	109 290	922.2-1240.9	2 0			
29TH	108.00	101.9 -365.0	109 290	938.7-1258.2	2 i	1041.5 -3790.5		19.4 -6.
30TH	111.66	103.4 -369.8	109 290	952.1-1274 7	2 1	939.6 -3425.5	57.5	15.8 -5.
315T	115.32	103.5 -372.9	109 290	953.1-1285.3	2 1	836.2 -3055.7	45.7	12.5 -\$.
32ND	118.98					732.7 -2682.8	35.2	9.6
33RD	122.64	103.6 -375.9	109 290	954.2-1295.6	2 0	629.0 -2307.0	26.0	7.1 -1.
34TH	126.30	103.7 -378.8	109 290	955.2-1305.9	2 0	525.3 -1928.1	18.3	5.0 -1.
35TH	129.96	103.9 -381.8	109 290	956.3-1316.2	2 0	421.4 -1546.3	11.9	1
		104.0 -384.8	109 290	957.3-1326.6	1 0			3.3 -2.2
36TH	133.62	101.1 -381.7	109 290	930.5-1315.8	2 0	317.4 -1161.5	7.0	1.9 -1.
37TH	137.28	92.9 -342.3	109 290	855.4-1179.9	1 0	216.4 -779.7	3.4	1.0 -1.0
38TH	140.94					123.5 -437.5	1.2	.3
TOP	146.44	123.5 -437.5	162 433	761.8-1010.4	1 0	0.0 0.0	Q.Q	0.0 0.

ABLE IND D	7. SHEAR AND IRECTION 230	MONENT DIAGRA	NS : GATENAY PROJ Configuration A	ECT TOWER ONE REFE	RENCE PRESSURE	771 PA	BASED ON A	EROELAST	IC DAT
LOOR	HEIGHT (M)		AREA (SQ N) X y	PRESSURE (PA)	ECCEN (N) X Y	SHEAR (KN) X Y	x ^{NO}	NENT (NN- Y	-H) z
GRND	0.00			684.4 -845.4	4 i	3249.4 -11366.7	911.5	256.7	-53.
1 S T	5.50	111.7 -368.4	163 436			3137.8 -10998.3	850.1	239.1	-51.
2ND	9.16	70.9 -233.3	109 290	652.9 -804.1	4 1	3066.8 -10765.0	810.2	227.8	-5¢.
3RD	12.82	68.1 -223.7	109 290	627.1 -771.0	3 1	2998.7 -10541.3	771.2	216.7	-50.
4TH	16.48	67.0 -220.0	109 290	616.6 -758.3	3 1	2931 8 -10321.3	733.0	205.8	-49.
STH	20.14	66.6 -224.0	109 290	613.6 -772.0	3 1	2865.1 -10097.4	695.7	195.2	-48.
6TH	23.80	66.3 -227.9	109 290	610.5 -785.7	4 1	2798.8 -9869.5	659.1	184.8	-47.
7TH	27.46	66.5 -231.2	109 290	612.3 -797.0	4 1	2732.3 -9638.3	623.4	174.7	-46.
		67.0 -232.4	109 290	617.0 -801.2	4 1	2665.3 -9405.9	588.6	164.8	-45.
8TH	31.12	67.5 -233.6	109 290	621.6 -805.3	31	2597.8 -9172.2	554.6	155.2	-44.
9TH	34.78	68.0 -234.8	109 290	626.3 -809.5	31	2529.7 -8937.4	521.4	145.8	-44
OTH	38.44	68.5 -236.1	109 290	631 0 -813.7	31	2461.2 -8701.3	489.1	136.7	-43
1TH	42.11	69.0 -237.3	109 290	635.7 -817.9	3 1	2392.2 -8464.0	457.7	127.8	-42
2TH	45.77	69.8 -239.1	109 290	642.5 -824.3	3 i	2322.4 -8224.9	427.2	119.2	-41
3TH	49.43	70.8 -242.7	109 290	651.4 -836.6	3 i	2251.6 -7982.2	397.5	110.8	-40
L4TH	53.09	71.7 -246.3	109 290	660.3 -849.0	3 1	2179.9 -7735.9	368.7	102.7	- 39.
STH	56.75	72.7 -249.9	109 290	669.2 -861.4	4 i	2107.2 -7486.0	340.9	94.8	-38.
6TH	60.41	73.6 -253.5	109 290	678.1 -873.8	4 1	2033.6 -7232.5	313.9	87.3	-37.
7TH	64.07	74.6 -257.1	109 290	687.0 -886.1	4 i				-36.
8TH	67.73	76.0 -261.4	109 290	699.4 -901.2	4 I	1959.0 -6975.5	287.9	80.0	
9TH	71.39	77.9 -269.1	109 290	716.9 -927.5	4 1	1883.0 -6714.0	262.9	72.9	-35.
QT H	75.05	79.8 -276.7	109 290	734.4 -953.7	5 1	1805.1 -6445.0	238.8	66.2	-34.
15T	78.71	81.7 -284.3	109 290	751.9 -980.0	5 1	1725.4 -6168.3	215.7	59.7	-32.
2ND	82.37	83.6 -291.9	109 290	769.4-1006.2	5 1	1643.7 -5884.0	193.6	53.6	-31.
Z 3 R D	86.03	85.5 -299.5	109 290	787.0-1032.4	5 i	1560.1 -5592.1	172.6	47.7	-29.
24TH	89.69	87.4 -307.1	109 290	804.3-1058.6	5 1	1474.7 -5292.6	152.7	42.1	-28.

	7. SHEAR AND IRECTION 230		S : GATEWAY PROJ Onfiguration a	EGT TOWER ONE Refei	RENCE PRESSURE	771 PA	BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (H)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	NOMENT (MN-M) X Y Z
25TH 26Th 27Th 28Th	93.35 97.01 100.68 104.34	89.2 -313.6 91.1 -320.2 92.9 -326.7	109 290 109 290 109 290	821.3-1081.1 838.4-1103.7 855.4-1126.3	5 1 5 1 5 1	1387.3 -4985.5 1298.1 -4671.8 1207.0 -4351.7 1114.1 -4024.9	133.9 36.9 -26.5 116.2 32.0 -24.6 99.7 27.4 -23.1 84.4 23.1 -21.3
29TH 30TH 31ST	108.00 111.66 115.32	94.8 -333.3 96.6 -339.8 98.3 -346.3	109 290 109 290 109 290	872.4-1148.8 889.4-1171.4 904.6-1193.7	5 1 5 1 5 1	1019.4 -3691.6 922.8 -3351.8 824.5 -3005.5	70.3 19.2 -19.5 57.4 15.7 -17.6 45.7 12.5 -15.7
32ND 33RD 34TH	118.98 122.64	99.1 -352.5 99.9 -358.8 100.7 -365.0	109 290 109 290 109 290	912.3-1215.2 919.9-1236.6 927.6-1258.1	5 1 5 1 5 1	725.5 -2653.0 625.5 -2294.2 524.8 -1929.3	35.4 9.6 -13.8 26.3 7.2 -11.9 18.6 5.1 -9.9
35TH 36TH	129.96 133.62	101.6 -371.2 102.4 -377.5 100.4 -378.5	109 290 109 290 109 290	935.3-1279.6 942.9-1301.1 924.6-1304.6	5 1 5 1 5 1	423.2 -1558.0 320.8 -1180.6 220.4 -802.1	12.2 3.3 -8.0 7.2 2.0 -6.0 3.6 1.0 -3.9
37TH 38th Top	137.28 140.94 146.44	93.6 -346.0 126.8 -456.1	109 290 162 433	861.3-1192.8 782.5-1053.5	51 41	126.8 -456.1 0.0 0.0	1.3 .3 -2.2 0.0 0.0 0.0

	7. SHEAR AND IRECTION 240	NOMENT DIAGRAM	S : GATEWAY PROJ Onfiguration a	ECT TOVER ONE Refei	RENCE PRESSURE	771 PA	: BASED ON AE	ROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	N ON X	ENT (MN-M) Y Z
GRND	0.00	126.5 -379.4	163 436	775.3 -870.7	4 i	2438.0 -10856.3	854.4	169.9 -77.0
1 S T	5.50					2311.5 -10476.8	795.8	156.8 -75.3
2ND	9.16	79.8 -239.2	109 290	735.0 -824.5		2231.7 -10237.7	757.9	148.5 -74.3
3RD	12.82	76.7 -228.7	109 290	705.9 -788.4	4 1	2155.0 -10008.9	720.8	140.5 -73.2
4TH	16.48	74.4 -223.0	109 290	685.2 -768.6	4 1	2080.6 -9786.0	684.6	132.7 -72.2
STH	20.14	72.6 -223.8	109 290	668.7 -771.5	5 1	2008.0 -9562.2	649.2	125.2 -71.1
6TH	23.80	70.8 -224.7	109 290	652.1 -774.5	52	1937.2 -9337.5	614.6	118.0 -69.9
7TH	27.46	69.1 -226.2	109 290	636.0 -779.8	52	1868.1 -9111.3	580.8	111.0 -68.6
		67.4 -228.4	109 290	620.1 -787.5	52	1800.7 -8882.8	547.9	104.3 -67.3
8TH	31.12	65.6 -230.7	109 290	604.3 -795.2	62	1735.1 -8652.1	515.8	97.8 -65.9
9TH	34.78	63.9 -232.9	109 290	588.4 -802.8	62			
10TH	38.44	62.2 -235.1	109 290	572.5 -810.5	6 2	1671.2 -8419.2	484.5	91.6 -64.4
11TH	42.11	60.5 -237.4	109 290	556.6 -818.2	62	1609.0 -8184.1	454.1	85.6 -62.9
12TH	45.77	59.0 -239.6	109 290	543.2 -826.0	62	1548.6 -7946.7	424.6	79.8 -61.4
13TH	49.43	57.8 -241.9	109 290	532.1 -833.9	72	1489.6 -7707.1	396.0	74.3 -59.7
14TH	53.09	56.6 -244.2	109 290	521.0 -841.9	7 2	1431.8 -7465.2	368.2	68.9 -58.0
15TH	56.75	55.4 -246.5	109 290	509.9 -849.8	7 2	1375.2 -7220.9	341.3	63.8 -56.3
16TH	60.41		109 290	498.8 -857.7	7 2	1319.8 -6974.4	315.3	58.8 -54.4
17TH	64.07	54.2 -248.8				1265.6 -6725.6	290.3	54.1 -52.5
18TH	67.73	53.0 -251.1	109 290	487.8 -865.6		1212.6 -6474.5	266.1	49.6 -50.5
19TH	71.39	52.2 -253.9	109 290	480.8 -875.3	8 2	1160.4 -6220.5	242.9	45.2 -48.5
29TH	75.05	52.1 -258.3	109 290	479.8 -890.4	82	1108.3 -5962.2	229.6	41.1 -46.4
2157	78.71	52.0 -262.7	109 290	478.8 -905.5	82	1056.3 -5699.5	199.2	37.1 -44.2
22ND	82.37	51.9 -267.1	109 290	477.9 -920.6	82	1004.4 -5432.5	178.8	33.4 -42.0
		51.8 -271.5	109 290	476.9 -935.7	82	952.6 -5161.0	159.5	29.8 -39.7
23RD	86.03	51.7 -275.8	109 290	475.9 -950.9	8 2	900.9 -4885.2	141.1	26.4 -37.3
24TH	89.69	51.9 -280.5	109 290	477.7 -967.0	82	744.7 .4003.2	171.1	69.7 °V1.9

TABLE 7. SHE Wind Directi	R AND HOMENT D	IAGRAMS : GAT Configur			ENCE PRESSURE	771 PA	: BASED ON AER	OELASTIC DATA
FLOOR HEIGH	(N) FORGE (K X	N) AREA Y X	(SQ M)	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	MONE X	NT (HN-H) Y Z
25TH 93.3		7 7 148	200	486.0 -990.4	82	849.0 -4604.6	123.7	23.2 -34.9
26TH 97.0						796.3 -4317.3	107.4	20.2 -32.4
27TH 100.6				494.2-1013.8	8 1	742.6 -4023.2	92.1	17.3 -29.9
28TH 104.3				502.5-1037.3	8 1	688.0 -3722.3	77.9	14.7 -27.4
29TH 108.0				510.7-1060.7	8 1	632.5 -3414.6	64.9	12.3 -24.8
30TH 111.6	56.4 -31	4.5 109	290	519.0-1084.1	8 1	576.2 -3100.1	52.9	10.1 -22.2
31ST 115.3	57.3 -32	1.5 109	290	527.8-1108.1	8 1	518.8 -2778.6		8.1 -19.6
32ND 118.91	58.6 -32	7.2 109	290	539.2-1127.8	8 1	460.3 -2451.4	32.6	6.3 -17.1
	59.8 -33	2.7 109	290	550.6-1146.9	7 1			
33RD 122.64	61.0 -33	8.3 109	290	561.9-1166.1	7 1	400.5 -2118.7	24.2	4.7 -14.5
34TH 126.30	62.3 -34	3.8 109	290	573.3-1185.2	7 1	339.4 -1780.4	17.1	3.4 -12.0
35TH 129.90	63.5 -34	9.4 109	290	584.7-1204 3	7 1	277.2 -1436.6	11.2	2.2 -9.5
36TH 133.62				585.4-1210.6	7 1	213.7 -1087.2	6.6	1.3 -7.1
37TH 137.28				567.7-1100.3	6 1	150.1 -736.0	3.3	.7 -4.6
38TH 140.94						88.4 -416.8	1.1	.2 -2.5
TOP 146.44	88.4 -41	6.8 162	433	545.6 -962.8	6 1	0.0 0.0	0.0	0.0 0.0

	7. SHEAR AND IRECTION 250		IS : GATENAY PROJ Configuration a	ECT TOVER ONE REFE	RENCE PRESSURE	771 PA	: BASED ON AEROEL	ASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KH) X Y	AREA (SQ M) X y	PRESSURE (PA)	ECCEN (M)	SHEAR (KN) X Y	NOMENT X Y	
GRND	0.00	185.0 -316.2	163 436	1134.2 -725.6	б 4	2999.6 -9325.5	726.3 186	.7 -196.4
1 S T	5.50				7 4	2814.5 -9009.3	675.9 170	.7 -103.7
2ND	9.16	120.8 -202.0	109 290	1112.6 -696.3		2693.7 -8807.3	643.3 160	.6 ~101.9
3RD	12.82	116.0 -193.9	109 290	1067.9 -668.3	7 4	2577.7 -8613.4	611.4 151	. 0 -100.1
4TH	16.48	112.0 -190.2	109 290	1031.0 -655.6	7 4	2465.7 -8423.2	580.3 141	.7 -98.3
5TH		108.4 -192.9	109 290	997.9 -665.1	8 4	2357.3 -8230.3	549.8 132	.9 -96.3
6TH	23.80	104.8 -195.7	109 290	964.9 -674.5	8 5	2252.5 -8034.6	520.0 124	
		100.9 -198.4	109 290	929.2 -683.8	95	2151.6 -7836.3	491.0 116	
7TH	27.46	96.9 -200.5	109 290	891.9 -691.2	94			
8TH	31.12	92.8 -202.7	109 290	854.6 -698.7	94	2054.8 -7635.7	462.6 108	
9T H	34.78	88.8 -204.9	109 290	817.2 -706.2	10 4	1961.9 -7433.0	435.1 101	
10TH	38.44	84.7 -207.0	109 290	779.9 -713.6	10 4	1873.2 -7228.2	408.2 94	.3 -85.0
11TH	42.11	80.7 -209.2	109 290	742.6 -721.1	10 4	1788.5 -7021.2	382.1 87	.6 -82.6
12TH	45.77	77.6 -211.8	109 290	714.9 -730.1	10 4	1707.8 -6812.0	356.8 81	.2 -80.2
13TH	49.43	75.6 -215.1	109 290	696.2 -741.4	11 4	1630 2 -6600.2	332.3 75	.1 -77.6
14TH	53.09					1554.5 -6385.1	308.5 69	.3 -75.1
15TH	56.75	73.6 -218.4	109 290	677.6 -752.7		1481.0 -6166.7	285.5 63	.7 -72.5
16TH	60.41	71.6 -221.6	109 290	658.9 -764.0	11 4	1409.4 -5945.1	263.4 58	.4 -69.8
17TH	64.07	69.5 -224.9	109 290	640.3 -775.3	11 3	1339.8 -5720.2	242.0 53	.4 -67.1
18TH	67.73	67.5 -228.2	109 290	621.6 -786 6	11 3	1272.3 -5492.0	221.5 48	.6 -64.3
19TH	71.39	65.7 -231.4	109 290	605.3 -797.6	11 3	1206.6 -5260.6	201.8 44	
		64.3 -233.1	109 290	592.3 -803.6	11 3	1142.3 -5027.5	183.0 39	
20TH	75.05	62.9 -234.9	109 290	579.3 -809.7	12 3			
215T	78.71	61.5 -236.7	109 290	566.3 -815.8	12 3	1079.3 -4792.6	165.0 35	
22ND	82.37	60.1 -238.4	109 290	553.3 -821.9	12 3	1017.8 -4555.9	147.9 31	
2 3 R D	86.03	58.7 -240.2	109 290	540.4 -828.0	12 3	957.7 -4317.5	131.6 28	.3 -49.7
24TH	89.69	57.9 -242.2	109 290	532.9 -835.0	12 3	899.0 -4077.3	116.3 24	.9 -46.7

	7. SHEAR AND IRECTION 230	MONENT DIAGRAMS	; : GATEWAY PROJ Infiguration a	ECT TOWER ONE Refe	RENCE PRESSURE	771 PA	BASED ON A	ROELASTIC DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ H) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	NOM X	IENT (HN-H) Y Z
25TH 26TH 27TH 28TH 29TH 30TH 31ST 32ND 33RD 34TH	93.35 97.01 100.68 104.34 108.00 111.66 115.32 118.98 122.64 126.30	X Y 58.4 -247.0 59.0 -251.8 59.6 -256.6 60.1 -261.3 60.7 -266.1 61.1 -270.9 61.0 -274.2 60.9 -277.4 60.7 -280.6	x Y 109 290 109 290 109 290 109 290 109 290 109 290 109 290 109 290	x T 538.1 -851.5 543.3 -867.9 548.6 -884.4 553.8 -900.8 559.0 -917.3 563.0 -933.8 561.7 -945.3 560.3 -956.3 559.0 -967.3	12 3 12 3 12 3 12 3 12 3 12 3 11 3 11 2 11 2	A T 841.2 -3635.0 782.7 -3588.0 723.7 -3336.2 664.1 -3079.6 604.0 -2818.3 543.3 -2552.2 482.1 -2281.3 421.1 -2007.1 360.3 -1729.6 299.5 -1449.0	^ 1 ¢1 . 8 88 . 2 75 . 5 63 . 8 53 . ¢ 43 . 2 34 . 3 26 . 5 19 . 6 13 . 8	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
341H 35TH 36TH 37TH 38TH TOP	126.30 129.96 133.62 137.28 140.94 146.44	60.6 -283.8 60.4 -287.0 58.2 -287.1 52.5 -258.5 67.8 -332.6	109 290 109 290 109 290 109 290 109 290 162 433	557.7 -978.3 556.4 -989.3 536.3 -989.5 483.7 -891.0 418.1 -768.4	102 102 102 92 92	239.0 -1165.2 178.5 -878.2 120.3 -591.1 67.8 -332.7 0.0 0.0	9.0 9.0 5.3 2.6 .9 0.0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$

	7. SHEAR AND IRECTION 260		MS : GATEWAY PRO Configuration a	JECT TOWER ONE Refe	RENCE PRESSURE	771 PA	: BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN)	AREA (SQ M) X y	PRESSURE (PA)	ECCEN (M)	-SHEAR (KN) X Y	NOMENT (MN-M) X Y Z
GRND	0.00	238.4 -285.0	163 436	1461.1 -653.9	76	3134.8 -9263.3	713.4 134.9 -128.5
1 S T	5.50	157.1 -184.5	109 290	1446.8 -635.9	76	20008978.3	663.3 118.3 -125.1
2ND	9.16	157.6 -180.9	109 290	1451.0 -623.6	76	2739.3 -8793.9	630.8 148.4 -122.9
3R D	12.82	158.4 -182.6	109 290	1458.4 -629.3	7 6	2581.7 -8612.9	598.9 \$8.2 -120.6
4TH	16.48					2423.3 -8430.4	567.7 \$9118.3
5TH	20.14	159.4 -192.1	109 290	1467.5 -662.1	86	2263.9 -8238.3	537.2 40.5 -115.8
6T H	23.80	160.4 -201.6	109 290	1476.5 -694.9	86	2 03.5 -8036.7	507.4 2.5 -113.1
7TH	27.46	156.8 -208 3	109 290	1443.7 -717.9	8 6	-7828.4	478.4 45110.3
8T H	31.12	150.4 -211.1	109 290	1385.1 -727.6	96	796.3 -7617.4	450.1 \$8.2 -107.5
9T H	34.78	144.1 -213.9	109 290	1326.5 -737.2	96	652.2 -7403.5	422.6 -104.7
1078		137.7 -216.7	109 290	1267.9 -746.9	10 6	514.5 -7186.8	395.9 4101.7
11TH	42.11	131.3 -219.5	109 290	1209.3 -756.5	10 6	383.2 -6967.3	370.0 40.0 -98.8
1278	45.77	125.0 -222.3	109 290	1150.7 -766.2	10 6	258.2 -6745.1	344.9 36.9 -95.7
		118.6 -225.1	109 290	1092 1 -776 0	11 6	39.6 -6519.9	320.6 31.6 -92.7
13TH	49.43	112.3 -228.3	109 290	1033.5 -787.0	11 5		
14TH	53.09	105.9 -231.5	109 290	975.0 -797.9	12 5	1427.3 -6291.6	297.2 27.6 -89.5
15TH	56.75	99.5 -234.7	109 290	916.4 -808.9	12 5	921.4 -6060.2	274.6 2486.3
16TH	60.41	93.2 -237.8	109 290	857.9 -819.8	12 5	\$21.9 -5825.5	252.8 20.9 -83.0
17TH	64.07	86.8 -241.0	109 290	799.3 -830.7	13 5	728.7 -5587.7	231.9 8.0 -79.6
18TH	67.73	79.8 -243.5	109 290	735.1 -839.4	13 4	641. \$ -5346.7	211.9 \$.\$ -76.1
19TH	71.39		109 290	662.5 -836.9	13 4	542.1 -5103.2	192.8 3.3 -72.6
20TH	75.05	72.0 -242.8				494.1 -4860.4	174.5 1.4 -69.1
21ST	78.71	64.1 -242.1	109 290	589.9 -834.4	14 4	426.0 -4618.3	157.2
22ND	82.37	56.2 -241.4	109 290	517.3 ~832.0	14 3	369.9 -4376.9	140.7 8.2 -61.9
2 3 R D	86.03	48.3 -240.6	109 290	444.8 -829.5	14 3	321.6 -4136.3	125.1 .0 -58.3
24TH	89.69	40.4 -239.9	109 290	372.2 -827.0	15 2	2813896.4	110.4 5.9 -54.6
2.41Fl	47.97	34.2 -239.9	109 290	314.5 -827.0	15 2		

	7. SHEAR AND Irection 260	NOMENT DIAGRAM	S : GATEWAY PROJ DNFIGURATION A	ECT TOWER ONE Refe	RENCE PRESSURE	: 771 PA	BASED ON AEROELAST	IC DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ H) X Y	PRESSURE (PA) X Y	ECCEN (H) X Y	SHEAR (KN) X Y	NOMENT (M)	i-H) Z
25TH	93.35	31.7 -242.5	109 290	291.6 -835.7	15 2	247. 4 -3656.5	96.6	-51.0
26TH	97.01	29.2 -245.0	109 290	268.6 -844.5	15 2	213 .3 -3414.0 186.1 -3169.0	83.7 4.1	-47.3 -43.6
27TH 28Th	100.68 104.34	26.7 -247.5	109 290	245.7 -853.2	15 2	-2921.5	60.5	- 39.9
29TH	108.00	24.2 -250.1	109 290 109 290	222.7 -862.0 199.8 -870.7	15 1 15 1	35.2 -2671.5	50.2 2.2	-36.2
30TH	111.66	21.7 -252.6 19.2 -255.2	109 290	177.0 -879.7	15 1	113.6 -2418.9	40.9	-32.4
315T	115.32	16.9 -258.9	109 290	155.3 -892.3	14 1	•4.3 -2163.7 77.5 -1904.8	32.5 25.1	-28.7 -25.0
32ND 33RD	118.98 122.64	14.5 -262.6	109 290	133.5 -905.1	14 1	-1642.2	18.6 .	-21.3
34TH	126.30	12.1 -266.3 9.8 -270.0	109 290 109 290	111.8 -918.0 90.1 -930.9	14 1 13 0	5 . - 1375.9	13.1 .5	-17.6
35T H	129.96	7.4 -273.8	109 290	68.3 -943.7	13 0	-1105.9	8.5 .	-14.0
36TH	133.62	6.8 -275.3	109 290	62.3 -949.1	13 0	73 .6 -832.1 26.8 -556.8	5.0 .2	-10.4 -6.9
37TH 38th	137.28	9.1 -245.6	109 290	83.4 -846.6	13 0	-311.2	.9 .4	-3.9
TOP	146.44	17.8 -311.2	162 433	109.7 -718.8	12 1	¢.¢	¢.¢ ¢.	0.0

TABLE 7. SHEAR AND NOMENT DIAGRAMS : GATEWAY PROJECT TOWER ONE WIND DIRECTION 270 CONFIGURATION A REFERENCE PRESSURE 771 PA

#100 L	VIRECTION ETV	CONTROCKETON N		ALIGE TREGGORE		
FLOOR	HEIGHT (N) FORCE (KN)	AREA (SQ M) X y	PRESSURE (PA)	ECCEN (M) X Y	SHEAR (KH) X Y	HOMENT (AN-A) X Y Z
GRND	0.00		704 0 400 6	11 7	4\$21.1 -9694.1	792.5 731 .0 -155.5
1 S T	128.9 -212.		790.2 -488.6		4392.2 -9481.2	739.7 304.5 -152.3
2ND	89.8 -140. 9.16		826.6 -482.5	12 7	4342.4 -9341.3	705.3 294.6 -150.0
3R D	96.6 -139. 12.82	8 109 290	889.1 -481.9	12 8	4245.8 -9201.5	671.4 275.1 -147.6
4TH	102.2 -144.	6 109 290	941.1 -498.4	12 8		637.9 259.8 -145.1
578	107.3 -157.	4 109 290	988.1 -542.6	12 8	3996.3 -8899.5	605.1 245.0 -142.4
	112.4 -170. 23.80	2 109 290	1035.2 -586.7	12 8	3883.9 -8729.3	572.8 239.6 -139.5
6TH	114.2 -180.	4 109 290	1051.2 -622.0	12 8	3769.7 -8548.8	541.2 216.6 -136.5
7TH	27.46 113.8 -187.	1 109 290	1048.0 -645.0	12 7		
8T H	31.12 113.5 -193.	8 109 290	1044.9 -668.0	12 7	3655.9 -8361.7	
9T H	34.78 113.2 -200.	5 109 290	1041.8 -691.0	13 7	3542.4 -8167.9	480.0
10TH	38.44 112.8 -207.	1 109 290	1038.7 -714.0	13 7	3429.2 -7967.5	450.4 17.1 -126.8
11TH	42.11 112.5 -213.	8 109 290	1035.6 -737.0	13 7	3316.4 -7760.3	421.7
1 2 T H	45.77 113.4 -220.		1044.4 -761.0	13 7	3203.0 -7546.5	393.6 \$2.8 -119.8
13TH	49.43 115.6 -227.		1064.6 -783.6	13 7	\$00.5 -7325.7	356.4 41.8 -116.1
14TH	53.09 117.8 -233.		1084.8 -806.3	13 7	2974.9 -7098.4	340.0 30.2 -112.4
15TH	56.75		1105.0 -829.0	13 7	20576864.5	314.5 4.5 -198.5
16TH	120.0 -240.				2737.0 -6624.0	289.8 149.2 -104.5
17TH	64.07		1125.2 -851.6	13 7	26 4.8 -6376.9	266.0100.5
18TH	124.4 -253. 67.73		1145.5 -874.3	13 6	2494.4 -6123.3	243.196.3
19TH	126.8 -260. 71.39		1167.2 -896.1	13 6	2363.6 -5863.3	221.2
20TH	129.4 -264.	3 109 290	1191.2 -911.0	13 6	2234.8 -5599.1	200.2 72.9 -87.9
21ST	132.0 -268. 78.71	6 109 290	1215.2 -926.0	13 6	2102.8 -5330.4	180.283.5
22ND	134.6 -273.	0 109 290	1239.2 -940.9	13 6	-5057.5	161.2 \$7.4 -79.1
	137.2 -277.	3 109 290	1263.2 -955.9	13 6	434.5 -4780.2	143.2 \$9.5 -74.7
23RD	86.03 139.8 -281.	6 109 290	1287.2 -970.8	13 6		
24TH	89.69 139.8 -285.	2 109 290	1287.6 -983.0	136	1690.7 -4498.5	126.2 44.4 -70.1

TABLE WIND D	7. SHEAR AN IRECTION 27	D MONENT DIAGRAMS	S : GATEWAY PROJ Infiguration a	ECT TOWER ONE REFE	RENCE PRESSURE	771 PA	BASED ON AE	ROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (N) X Y	SHEAR (KN) X Y	N OM X	ENT (HN-H) Y Z
25TH	93.35	133.9 -287.0	109 290	1232.9 -989.1	136	\$\$4 -4213.4	110.2	34.1 -65.6
26TH	97.01	128.0 -288.7	109 290	1178.3 -995.3	13 6	4.43926.4	95.3	32.7 -60.9
27TH	100.68					2003637.7	81.5	27.7 -56.3
28TH	104.34	122.0 -290.5	109 290	1123.6-1001.5	14 6	-3347.1	68.7	23.2 -51.6
29TH	108.00	116.1 -292.3	109 290	1069.0-1007.7	14 6	•5•. -3054.8	57.0	-46.9
30TH	111.66	110.2 -294.1	109 290	1014.3-1013.9	14 5	-2760.7	46.3	5.5 -42.1
		105.4 -296.4	109 290	970.7-1021.6	14 5	33 .2 -2464.3	36.8	2.3 -37.3
31ST	115.32	105.6 -299.7	109 290	972.7-1033.2	14 5			
32ND	118.98	105.9 -303.0	109 290	974.8-1044.5	14 5	29.6 -2164.6	28.3	•. • -32. 5
3 3 R D	122.64	*		976.8-1055.9	14 5	423 .7 -1861.6	20.9	. -27.8
34TH	126.30	106.1 -306.3	109 290			\$17.6 -1555.3	14.7	23.1
35TH	129.96	106.3 -309.6	109 290	978.8-1067.3	14 5	-1245.6	9.5	818.4
		106.5 -312.9	109 290	980.9-1078.7	13 5	344 . 8 -932.7	5.6	-13.7
36TH	133.62	102.3 -311.7	109 290	941.6-1074.5	13 4			-9.1
37TH	137.28	90.2 -275.9	109 290	830.8 -951.0	13 4	202.5 -621.0	2.7	
38TH	140.94		162 433	692.7 -797.1	13 4	112.3 -345.1	. 9	.3 -5.1
TOP	146.44	112.3 -345.1	182 433	₩76.((7(.)	19 4	↓. ↓ 0.0	0.0	0.0 0.0

TABLE 7. SHEAR AND MONENT DIAGRAMS : GATEWAY PROJECT TOWER ONE WIND DIRECTION 280 CONFIGURATION A REFERENCE PRESSURE 771 PA

wine s	TRECTION KOV	CONFIGURATION A		REHOE, HALDOOKE		
FLOOR	HEIGHT (#) FORCE (KN X Y	AREA (SQ H) X Y	PRESSURE (PA) X Y	ECCEN (M)	SHEAR (KN) X Y	HONENT (HN-H) X Y Z
GRND	0.00		4/1 7 700 F	10 - 0	149.7 -9757.0	834.6 47.9 -156.6
1ST	-75.3 -143		-461.7 -329.5	18 -9	-9613.4	781.3 2.7 -153.4
2ND	-50.9 -93 9.16		-468.4 -323.2	19 -10	235.5 -9519.7	746.3 4151.1
3R D	-46.7 -93 12.82		-430.0 -323.4	21 -10	282.2 -9425.9	711.6 4.4 -148.7
4TH	-45.0 -99		-414.5 -342.7	22 -10	\$27.2 -9326.5	677.3 \$9.9 -146.1
578	-44.5 -114	.3 109 290	-410.0 -394.0	21 -8	¥71.7 -9212.2	643.3 38.6 -143.3
6TH	-44.1 -129	.2 109 290	-405.6 -445.4	21 -7	415.8 -9083.0	609.9 87140.2
7TH	-40.7 -143	.8 109 290	-375.1 -495.8	21 -6	454.5 -8939.1	576.9 \$5.5 -137.0
8TH	-35.7 -156	.1 109 290	-328.5 -538.1	21 -5	492.2 -8783.0	544.4 33.4 -133.6
9TH	-30.6 -168	.4 109 290	-282.0 -580.4	20 -4	\$22.8 -8614.6	512.6 2130.1
10TH	-25.6 -180	.7 109 290	-235.4 -622.8	20 - 3	\$48.4 -8434.0	481.4 30.0 -126.4
	-20.5 -192	.9 109 290	-188.8 -665.1	20 -2	568.9 -8241.0	450.9 27.9 -122.6
11TH	42.11 -15.4 -205	.2 109 290	-142.2 -707.4	19 -1	504.8 -8035.8	421.1 25.8 -118.6
1278	45.77 -9.0 -217	.4 109 290	-83.2 -749.3	19 - 1	-7818.4	392.1 23.7 -114.5
13TH	49.43 -1.3 -228	.1 109 290	-12.4 -786.2	18 - 0		
14TH	53.09 6.3 -238	.8 109 290	58.4 -823.0	17 0	\$94.7 -7590.4	
15TH	56.75 14.0 -249	.5 109 290	129.3 -859.9	17 1	\$\$\$.8 -7351.6	336.5 9.3 -106.2
16TH	60.41 21.7 -260	. 2 109 290	200.1 -896.8	16 1	\$74.8 -7102.2	310.1 7.2 -102.0
17TH	64.07 29.4 -270	.8 109 290	271.0 -933.6	16 2	\$\$2.6 -6842.0	284.5 \$.2 -97.7
18TH	67.73 34.5 -280		317.5 -966.1	15 2	\$23.2 -6571.2	260.0 3.2 -93.4
19TH	71.39 35.7 -285		328.6 -983.0	15 2	488 7 -6290.9	236.4 11.2 -89.0
<u>201</u> H	75.05 36.9 -290		339.7 -999.9	15 2	4\$3.0 -6005.7	213.9
21ST	78.71 38.1 -295		350.7-1016.8	15 2	-5715.6	192.5
2 2 N D	82.37 39.3 -299		361.8-1033.7	14 2	5420.6	172.1
2 3 R D	86.43			14 2	-5120.8	152.8 \$. 71.5
24TH	40.5 -304 89.69		372.9-1050.6		298.2 -4816.0	134.6 4.1 -67.0
	40.8 -309	.3 109 290	376.1-1066.3	14 2		

	7. SHEAR AND Irection 200	NONENT DIAGRAM	S : GATEWAY A Onfiguration		REFERENCE	PRESSURE	771 PA	: BASED ON AEROELA	STIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ I X Y	I) PRESSURE X	(PA) ECC Y X	EN (M)	SHEAR (KN) X Y	HOMENT C X Y	HH-H) Z
25TH	93.35	39.2 -311.5	109 290	361.0-10	73.9 14	2	257.4 -4506.7	117.5 \$.	-62.6
26TH	97.01						2 4 4.2 -4195.1	101.6 2.	2 -58.2
27TH	100.68	37.6 -313.8	109 290	346.0-10	81.6 14	2	-3881.3	86.8	5 -53.7
28TH	104.34	35.9 -316.0	109 290	330.9-10	89.2 14	2	-3565.3		
		34.3 -318.2	109 290	315.9-10	96.9 14	2			-49.1
29TH	108.00	32.7 -320.4	109 290	300.8-11	Q4.6 14	1	110.3 -3247.1	69.7 .	4 -44.5
30TH	111.66						77.7 -2926.7	49.4 .	-39.9
315T	115.32	30.3 -322.5	109 290	279.0-11	11.5 14	1	-2604.2	39.3	2 -35.3
		24.9 -321.2	109 290	229.2-11	07.3 14	1			1
32ND	118.98	19.5 -319.8	109 290	179.3-11	¢2.4 14	1	22.5 -2283.0	30.4	3 -30.6
3 3 R D	122.64						31963.2	22.6	-26.0
34TH	126.30	14.1 -318.4	109 290	129.5-10	97.5 14	1	-111644.8	16.0	-21.4
35TH	129.96	8.7 -316.9	109 290	79.7-10	92.5 14	0			
3318	127.70	3.2 -315.5	109 290	29.9-10	87.6 14	¢	1327.8	10.6	-16.9
36TH	133.62	-1.6 -312.7	109 290	-15.1-10	77.9 14	- 0	-231012.3	6.3 —.	2 -12.4
37TH	137.28	-1.6 -312.7	109 290	-15.1-19	((.7 14	- ¢	-21.3 -699.6	3.1	-7.9
38TH	140.04	-5.6 -294.4	109 290	-51.6-10	14.7 13	- 0			
	140.94	-15.7 -405.3	162 433	-97.0 -9	36.1 10	- 0	-15.7 -405.3	1.1	-4.2
TOP	146.44						♦.♦ ¢.¢	0.0 0.	• •.•

	7. SHEAR AND IRECTION 290		T DIAGR	AMS : GATE Configura		ECT TOWER	ONE REFE	RENCE P	RESSUR	E 771 PA	: BASED ON (AEROELASTIC	C DATA
FLOOR	HEIGHT (M)	FORCE	(KN)	AREA	¢seyn⇒	PRESSURI	E (PA) Y	ECCE	N CM>	SHEAR (KN) X Y	x	OMENT (MN-M Y	N) Z
GRND	0.00	-93.9	- 96 9	163	436	-575.6	-199 5	23	-25	-1908.7 -11188.9	968.9	-135.0 -	-146.6
1 S T	5.50								-24	-1814.8 -11102.0	907.6	-124.8 -	-142.3
2ND	9.16	- 58 . 8		109	290	-541.7				-1756.0 -11035.2	867.1	-118.2 -	-139.1
3RD	12.82	-56.7	-72.7	109	290	-522.1		-	-23	-1699.3 -10962.5	826.8	-111.9 -	-135.7
4TH	16.48	-55.9	-83.0	109	290	-515.1	-286.2	30	-20	-1643.3 -10879.5	786.8	-105.8 -	-132.0
578	20.14	-55.9	-102.2	109	290	-514.3	-352.3	30	-16	-1587.5 -10777.3	747.2	-99.9 -	-128.1
6TH	23.60	-55.8	-121.4	109	290	-513.5	-418.5	29	-13	-1531.7 -10655.8	708.0	-94.2 -	-123.9
778	27.46	-54.6	-142.2	109	290	-503.0	-490.3	27	-10	-1477.0 -10513.6	669.2		-119.5
		~ 52 . 8	-163.5	109	29¢	-486.5	- 563 . 6	24	- 6	-1424.2 -10350.1	631.0		-115.2
8TH	31.12	-51.0	-184.8	109	290	-470.0	-636.8	22	- 6	-1373.2 -10165.4	593.5		-110.8
9TH	34.78	-49.3	-206.0	109	290	-453.5	-710.1	20	- 5				
1 ¢ T H	38.44	-47.5	-227.3	109	290	-437.0	-783.4	19	-4	-1323.9 -9959.4	556.6		-106.4
11TH	42.11	-45.7	-248.5	109	290	-420.4	- 856.7	17	- 3	-1276.5 -9732.1	520.6		-102.0
12TH	45.77	-44.4	-267.8	109	290	-408.5	- 923 . 2	16	- 3	-1230.8 -9483.6	485.4	-64.0	-97.5
13TH	49.43	-43.5		109	290	-400.8 -	-972.4	15	- 2	-1186.4 -9215.8	451.2	-59.5	-93.1
14TH	53.09	-42.7		109	290	-393.2-1		14	-2	-1142.9 -8933.6	418.0	-55.3	- 88.8
15TH	56.75				290	-385.5-1		13	-2	-1100.2 -8637.2	385.8	-51.2	-84.6
16TH	60.41	-41.9		109						-1058.3 -8326.6	354.8	-47.2	-80.5
17TH	64.07	-41.0		109	290	-377.8-1		12	-2	-1017.3 -8001.6	324.9	-43.4	-76.4
18TH	67.73	-40.2	-339.3	109	290	-370.2-1		11	-1	-977.1 -7662.3	296.2	-39.8	-72.5
1 9 T H	71.39	-39.9	-351.8	109	290	-367.3-1	1212.5	11	- 1	-937.2 -7310.5	268.8	-36.3	-68.6
2014	75.05	-40.3	-355.3	109	290	-371.4-1	1224.8	10	- 1	-896.8 -6955.2	242.7	-32.9	-64.9
		-40.8	-358.9	109	290	-375.4-1	237.1	10	- 1	-856.1 -6596.3	217.9		-61.2
21ST		-41.2	-362.4	109	290	-379.5-1	1249.3	10	- 1	-814.8 -6233.9	194.4		-57.7
22ND		-41.7	-366.0	109	290	-383.6-1	261.6	9	- 1				
2 3 R D		-42.1	-369.5	109	290	-387.7-1	1273.9	9	- 1	-773.2 -5867.9	172.3		-54.2
24TH	89.69	-42.7	-372.7	109	290	-393.5-1	1284 6	9	- 1	-731.1 -5498.4	151.5	-21.0	-50.9

	7. SHEAR AN Irection 29	D MONENT DIAGRAMS O CO	S : GATENAY PROJ Infiguration a	ECT TOWER ONE REFEI	RENCE PRESSURE	771 PA	: BASED ON A	EROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M.) X Y	FRESSURE (PA) X Y	ECCEN (N) X Y	SHEAR (KN) X Y	NO X	NENT (NN-N) Y Z
25TH	93.35	-43.8 -371.9	109 290	-403.6-1282.1	9 -1	-688.3 -5125.7	132.0	-18.4 -47.6
26TH	97.01					-644.5 -4753.8	113.9	-15.9 -44.3
27TH	100.68	-44.9 -371.2	109 290	-413.7-1279.5	9 - 1	-599.6 -4382.6	97.2	-13.7 -41.0
28TH	104.34	-46.0 -370.5	109 290	-423.8-1277.0	9 - 1	-553.5 -4012.1	81.8	-11.6 -37.7
29TH	108.00	-47.1 -369.7	109 290	-433.8-1274.5	9 - 1	-506.4 -3642.4		-9.6 -34.3
		-48.2 -369.0	109 290	-443.9-1271.9	9 - 1			
30TH	111.66	-49.1 -368.6	109 290	-452.1-1270.4	9 - 1	-458.2 -3273.4		
31ST	115.32	-49.1 -364.2	109 290	-452.4-1255.4	10 -1	-409.1 -2904.8		-6.3 -27.5
32ND	118.98	-49.2 -359.4	109 290	-452.7-1238.8	10 -1	-360.0 -2540.6	33.9	-4.9 -23.9
3 3 R D	122.64	-49.2 -354.6	109 290	-453.0-1222.2	11 -1	-310.8 -2181.2	25.3	-3.6 -20.3
34TH	126.30			•		-261.6 -1826.7	17.9	-2.6 -16.5
35TH	129.96	-49.2 -349.7	109 290	-453.3-1205.5	11 -2	-212.4 -1477.0	11.9	-1.7 -12.5
36TH	133.62	-49.3 -344.9	109 290	-453.6-1188.9	12 -2	-163.1 -1132.0	7.1	-1.0 -8.5
		-48.7 -340.1	109 290	-448.4-1172.3	12 -2	-114.4 -791.9		5 -4.4
37TH	137.28	-47.1 -327.3	109 290	-433.7-1128.2	8 - 1			
38TH	140.94	-67.3 -464.6	162 433	-415.3-1073.2	4 -1	-67.3 -464.6	1.3	2 -1.7
TOP	146.44		4			0.0 0.0	\$.\$	0.0 0.0

						ADFCOUDE (DA)	ECCEN (N)	CHEA	R (KH)	M (DHENT (NN	~ # 1
OR	HEIGHT (M)	FURCE	CKNJ Y	нкея Х	(SQ N) Y	PRESSURE (PA) X Y		X	Y	×	Y	"' z
ND	0.00			163	436	-600.7 -35.0	20 -128	-2355.5	-9014.7	793.0	-173.6	-##.
ST	5.50	-98.0						-2257.5	-8999.4	743.4	-160.9	- + + -
ND	9.16	-61.3		109	290	-564.5 -111.5	62 -117	-2196.2	-8967.1	710.6	-152.8	- 42
RD	12.82	- 59 . 4	-47.5	109	290	-547.1 -163.6	80 -100	-2136.8	-8919.6	677.8	-144.8	
TH	16.48	-59.1	-60.7	109	290	-544.1 -209.2	82 -60	-2077.7	- 6858.9	645.3	-137.1	-44
		- 59.5	-74.4	109	290	-548.1 -256.5	78 -62	-2018.2	-8784.5	613.0	-129.6	- #
TH	20.14	-60.0	-88.2	109	290	-552.1 -303.9	72 -49	-1958.2	-8696.3	581.0	-122.4	-44
TH	23.80	- 59 . 4	-105.4	109	290	-547.2 -363.3	65 -36					
TH	27.46	-58.3	-126.6	109	290	-536.8 -436.3	55 -25	-1898.8	-8590.9	549.3	-115.3	
TH	31.12	-57.2	-147.7	109	290	-526.4 -509.2	47 -18	-1849.5	-8464.4	518.1	-108.5	ŢĮ
TH	34.78	-56.0		109	290	-516.0 -582.2	39 -13	-1783.3	-8316.6	487.4	-101.8	
TH	38.44	-54.9		109	290	-505.5 -655.1	33 -10	-1727.2	-8147.7	457.3	-95.4	11
тн	42.11				290	-495.1 -728.1	28 -7	-1672.3	-7957.7	427.8	-89.2	- 11
TH	45.77	- 53.8		109				-1618.6	-7746.5	399.1	-83.2	- 44
тн	49.43	-53.4		109	290	-491.2 -787.7	23 -5	-1565.2	-7518.0	371.1	-77.3	- 44
TH	53.09	- 53.6		109	290	-493.6 -815.4	19 -4	-1511.6	-7281.4	344.0	-71.7	- +
TH	56.75	-53.9	-244.6	109	290	-495.9 -843.0	i5 -3	-1457.7	-7036.9	317.8	-66.3	
TH	60.41	-54.1	-252.6	109	290	-498.2 -870.7	11 -2	-1403.6		292.5	-61.0	44
		~54.4	-260.6	109	290	-500.6 -898.4	7 -2	-1349.3		268.2	-56.0	- 11
TH		-54.6	-268.7	109	290	-502.9 -926.1	4 -1				-51.1	I
TH		-55.1	-275.8	109	290	-507.3 -950.9	1 -0	-1294.6	-6255.0	244.8]]
TH	71.39	-55.9	-279.6	109	290	-514.8 -963.8	-1 ¢	-1239.5	-5979.1	222.4	-46.5	11
TH	75.05	-56.7 -		109	290	-522.3 -976.7	-3 1	-1183.6	-5699.5	201.0	-42.1	- 11
S T	78.71	-57.5		109	290	-529.8 -989.7	-5 i	-1126.9	-5416.2	180.7	-37.8	- ††
ND	82.37							-1069.3	-5129.1	161.4	-33.8	- ‡ŧ
RD	86.03	-58.4		109	290	-537.3-1002.6		-1011.0	-4838.2	143.1	-30.0	- \$\$
TH	89.69	-59.2	-294 6	109	290	-544.8-1015.5	-92	-951.8	-4543.6	126.0	-26.4	- 11

LOOR	HEIGHT (N)	FORCE (KN)	AREA	(SQ_H)	PRESSURE (PA)	ECCEN	e cii y -	SHEA	R (KN 3	#0 X	HENT (MN-	·H> _
		X Y	x	Y	X Y	×	T	~	r			<u>د</u>
25TH	93.35	-61.0 -300.0	109	290	-561.9-1034.2	-11	2	-891.8	-4245.5	109.9	-23.0	39
26TH	97.¢1	-62.0 -301.9	109	290	-570.9-1040.7	-10	2	-830.7	-3945.4	94.9	-19.9	- 24
27TH	100.68							-768.7	-3643.5	81. Q	-17.0	
28TH	104.34	-63.0 -303.8	109	290	-580.0-1047.1	-10	2	-705.7	-3339.8	68.2	-14.3	24
29TH	108.00	-64.0 -305.6	109	290	-589.1-1053.5	-10	2	-641.8	-3034.1	56.5	-11.8	
		-65.0 -307.5	109	290	-598.1-1060.0	-10	2		-2726.6	46.0	-9.6	
30TH	111.66	-65.6 -310.0	109	290	-604.4-1068.5	- 9	2	-511.1	-2416.7	36.6	-7.6	
315T	115.32	-65.1 -305.2	109	290	-599.2-1051.9	-7	2					• 1
3 2 N D	118.98	-64.5 -299.5	109	290	-593.9-1032.3	- 5	1	-446'.1		28.3	-5.8	Ť
3 3 R D	122.64	-63.9 -293.8	109	290	-588.7-1012.6	- 2	¢	-381.6	-1812.0	21.1	-4.3	1
34TH	126.30					_	-0	-317.6	-1518.3	15.0	-3.0	- ŧ
35TH	129.96	-63.4 -288.1	109	290	-583.4 -993.0	0	•	-254.3	-1230.2	10.0	-2.0	🖡
36TH	133.62	-62.8 -282.4	109	290	-578.2 -973.3	3	- 1	-191.5	-947.9	6.0	-1.2	ł
		-60.7 -279.2	109	290	-558.9 -962.3	6	- 1	-130.8	-668.7	3.0	6	
37TH	137.28	-56.0 -272.9	109	290	-515.5 -940.8	- 5	1					1
38TH	140.94	-74.8 -395.8	162	433	-461.3 -914.1	-19	4	-74.8	-395.8	1.1	2	ſ
TOP	146.44							Q . Q	Q.Q	Q.Q	0 .0	

	7. SHEAR DIRECTION	R AND MOMEN 1 310	T DIAGR	AMS : GAT Configur		ECT TOWER	ONE Refi	RENCE PR	ESSURE	771 PA	: BASED GN A	ERGELASTI	C DATA
FLOOR	HEIGHT	(N) FORCE	(KN) Y	AREA X	(SQ_M) Y	PRESSURE	E (PA) Y	ECCEN X	<h><h><h><h<><h<><h<><h<><h<><h<><h<><h< th=""><th>SHEAR (KN) X Y</th><th>x no</th><th>MENT (MN-) Y</th><th>n) Z</th></h<></h<></h<></h<></h<></h<></h<></h<></h></h></h>	SHEAR (KN) X Y	x no	MENT (MN-) Y	n) Z
GRND	0.00	-102.3	366 7	163	436	-627.3	611 2	- 3	- 1	-2666.9 -\$967.9	679.P	-201.0	80.1
1 S T	5.50			109	290	-586.8	500.3	- 3	- 1	-2564.5 -4234.2	· · · · · · · · · · · · · · · · · · ·	-186.6	81.0
2ND	9.16	-63.7						_	-	-2500.8 -4174.	\$\$\$. \$	-177.4	81.6
3R D	12.82	~61.2	124.3	109	290	-563.7	428.4	-4	- 2	-2439.6 -4\$43.7	5\$9.7	-168.3	82.2
4TH	16.48	-60.9	105.2	109	290	- 561.2	362.6	- 3	- 2	-2378.6 -444.	\$\$\$.7	-159.5	82.6
STH	20.14	-61.8	77.6	109	290	-568.6	267.5	- 2	- 2	-2316.9 -6686.4	\$11.3	-150.9	82.9
6TH	23.80	~ 62.6	50.0	109	290	-576.0	172.5	- 1	- 1	-2254.3 -4734.5	444.4	-142.5	82.9
		-62.6	21.2	109	290	-576.3	73.0	1	2	-2191.7 -4757.7		-134.4	82.8
7TH	27.46	- 62 . 2	-4.8	109	290	-572.2	-16.7	- 0	5	-2129.5 -6752.8		-126.5	82.5
8TH	31.12	-61.7	-30.9	109	290	-568.1 -	106.4	- 3	7		III		82.0
9T H	34.78	-61.3	-56.9	109	290	-564.1 -	-196.1	- 6	7	-2967.8 -6721.9	III I	-118.8	
1 0 T H	38.44	-60.8	-82.9	109	290	~560.0 -	285.9	- 8	6	-2006.6 -6665.0	# 8 8 . Z	-111.3	81.2
11TH	42.11	-60.4	-109.0	109	290	-555.9 -	375.6	- 8	5	-1945.8 -4582.1	747.9	-104.1	80.3
12TH	45.77	-60.5		109	290	-556.9 -	454.5	- 9	4	-1885.4 -4473.1	744 .4	-97.1	79.1
13TH	49.43	-61.1		109	290	- 562.8 -		-9	4	-1824.9 -4341.3	714-4	-90.3	77.7
14TH	53,09				290	-568.6 -		-9	3	-1763.8 -4194.2	293.2	-83.7	76.2
15TH	56.75	-61.8		109				-9	3	-1702.0 -6019.8	271.3	-77.4	74.4
16TH	60.41	-62.4		109	290	-574.5 -		-	-	-1639.6 -5830.2	249.6	-71.3	72.6
17TH	64.07	-63.0		109	290	-580.4 -		-9	3	-1576.6 -5421.3	228.7	~65.4	70.5
18TH	67.73	-63.7	-228.1	109	290	-586.2 -		- 9	3	-1512.9 -5393.2	208.5	-59.7	68.3
19TH	71.39	-64.5	-245.0	109	290	-593.6 -	844.7	- 9	2	-1448.4 -5148.1	89.2	-54.3	65.9
20TH	75.05	-65.5	-249.1	109	290	-603.2 -	858.7	-10	3	-1382.9 -4899.4	70.2	-49.1	63.4
		- 66 . 6	-253.2	109	290	-612.8 -	872.8	-10	3	-1316.4 -4445.8	53.3	-44.2	60.7
21\$T	78.71	-67.6	-257.3	109	290	-622.4 -	886.8	-10	3	-1248.8 -4388.6		-39.5	57.8
2 2 N D	82.37	-68.6	-261.3	109	290	-632.0 -	900.8	-11	3		JII I		
2 3 R D	86.03	-69.7	-265.4	109	290	-641.6 -	914.8	-11	3	-1180.1 -4127.3	jfi∙f	-35.1	54.8
24TH	89.69	-70.7		109	290	-650.8 -	928.7	-12	3	-1110.4 -3#41.9	146.6	-30.9	51.6

LOOR	HEIGHT (M)	FORCE (KN)	AREA	(SQ_N)	PRESSURE		ECCEN	(8)	SHEAR (KN)	X	HENT (MH-	·Ħ) 7
		X Y	X	Ŷ	×	Ŷ	x	T,		^ 	, ,	40
25T H	93.35	-71.5 -267.3	109	290	-658.8 -9	21.4	-12	3	-1039.7 -3992.	Ĩ↓ I	-26.9	48.
26TH	97.01	-72.4 -265.2	109	290	-666.7 -9	14.1	-12	3	-968.2 - 3325 .	Ff · T	-23.2	44.
27TH	100.68	-73.3 -263.1	109	290	-674.7 -9		-13	3	-895.8 -3060.	• • • • • • •	-19.8	41.
28TH	104.34		109	290	-682.7 -8		-13	4	-822.5 -2744.	• \$ 7.\$	-16.7	37.
2 9 T H	108.00	-74.2 -260.9			-690.7 -8		-13	т 4	-748.3 -2534.4	• • • • • •	-13.8	34.
30TH	111.66	-75.0 -258.8	109	290			-13		-673.3 -2277.	\$ \$.\$	-11.2	30.
31 5 T	115.32	-75.7 -257.8	109	290	-696.5 -8			-	-597.7 -24.4.	÷ \$1.\$	-8.9	26
32ND	118.98	-75.3 -251.0	109	290	-693.2 -8		-13	•	-522.4 - 744.	: \$4.\$	-6.8	23
33RD	122.64	-74.9 -243.3	109	290	-689.9 -8		-13	4	-447.5 - \$25.	·	-5.1	19
34TH	126.30	-74.6 -235.7	109	290	-686.5 -8	12.3	-13	4	-372.9 - 289.		-3.6	16
-		-74.2 -228.0	109	290	-683.2 -7	85.8	-13	4	-298.7 -		-2.3	13.
35TH	129.96	-73.8 -220.3	109	290	-679.9 -7	59.4	-13	4	-224.8 -**		-1.4	10
36TH	133.62	-71.5 -222.2	109	290	-658.5 -70	65.8	-12	4	-153.3 -	L II	7	7.
37TH	137.28	-65.8 -237.1	109	290	-605.7 -8	17.4	-11	3		Î Î Î		4
381H	140.94	-87.5 -381.7	162	433	-540.0 -8	81.7	-11	2	-87.5 -38.	Ĩ t · ₹	2	
TOP	146.44								0.0 4.1	• • •	0 .0	¢

	7. SHEAR AND IRECTION 320		T DIAGR	AMS : GATI Configuri		JECT TOWER	ONE Ref	ERENCE PRESSI	JRE 771 PA		: BASED ON	AEROELASTI	C DATA
FLOOR	HEIGHT (N)	FORCE	(KN) Y	AREA X	(SQ_M)	PRESSURE X	(PA) Y	ECCEN (M) X Y	SHEAR X	C KH S Y	×	OMENT (MN-	·#> Z
GRND	0.00	101.9	400.3	163	436	-624.6	918.7	3 1	-2955.4	T###-#	-#61.9	-232.0	121.5
1ST	5.50		246.8	109	290	~ 566.8	850.9	3 1	-2853.5	*** **		-216.0	120.3
2ND	9.16	-58.4	236.6	109	290		815.7	3 1	-2791.9	****	-+++.7	-205.7	119.4
3R D	12.82			109	290	-538.6	803.9	4 1	-2733.6	****		-195.6	118.6
4TH	16.48	-58.5					791.1	5 1	-2675.1	*****	₽. ♦ ₽₽~	-185.7	117.6
5TH	20.14		229.5	109	290				-2614.8	\$\$ <u>4</u> \$.\$	444.4	-176.0	116.5
6T H	23.80	-62.0		109	290		778.4	5 1	-2552.8	4744.2	· + + + +	-166.5	115.2
7TH	27.46	- 62 . 9		109	290		756.4	62	-2489.9	4144.1	***	-157.3	113.9
8T H	31.12	-63.1	211.9	109	290	-581.0	730.6	72	-2426.8	\$\$\$\$.\$	***	-148.3	112.3
9TH	34.78	-63.3	204.5	109	290	-583.2	704.8	82	-2363.5	5684.3	±24.4	-139.6	110.6
10TH	38,44	-63.6	197.0	109	290	~585.4	679.0	93	-2299.9			-131.0	108.6
		-63.8	189.5	109	290	- 587.6	653.2	10 3	-2236.1			-122.7	106.5
1178		-64.i	182.0	109	290	-589.8	627.4	11 4	-2172.0	IIII	III I	-114.6	104.3
12TH		-64.6	176.1	109	290	-595.1	607.1	12 4	-2107.4	IIII	III I	-106.8	101.8
13TH	49.43	-65.5	173.0	109	290	-603.4	596.4	13 5		IIII 1	III I		99.3
14TH	53.09	- 66 . 4	169.9	109	290	-611.7	585.6	14 5	-2041.9		-731.7	-99.2	
15TH	56.75	-67.3	166.8	109	290	-619.9	574.9	15 6	-1975.4	1111.1	-714.9	-91.9	96.6
16TH	60.41	-68.2		109	290	-628.2	564.1	16 6	-1908.1	1111	-197-5	-84.8	93.7
17TH	64.07	-69.1		109	290	-636.5	553.4	16 7	-1839.9	1111	-181 - 4	-77.9	90.7
18TH	67.73	-70.4		109	290		548.2	17 8	-1770.7	4149.9	-144.7	-71.3	87.6
1 9T H	71.39				290	-666.1	558.2	18 8	-1700.3	****	-141.\$	-64.9	84.3
20TH	75.05	-72.3		109				• • • •	-1627.9	****	-\$\$\$.\$	-58.8	8¢.9
215T	78.71	-74.3		109	290		568.3	18 8	-1553.7	\$4\$4.4	-123.4	~53.0	77.3
2 2 N D	82.37	-76.2		109	290		578.4	19 9	-1477.5	\$4\$2.\$	÷. +11-	~47.5	73.5
23RD		-78.1	170.7	109	290	-718.8	588.4	19 9	-1399.5	\$\$\$.4		-42.2	69.5
24TH		-80.0	173.6	109	290	-736.3	598.5	20 9	-1319.5	↓↓↓		-37.2	65.4
2716	47.97	- 81.6	176.0	109	290	-751.7	606.8	20 9					

FLOOR	HEIGHT C) FORCE	2 K M N	ADEA	(SQ #)	PRESSURE	C PAN	ECCEN	2.86.5	CUEAD	CKNO	40	HENT (MH-	- M \
FLOUR	nc10n1 (;	X	Y	X	Y'	r RESSURE X	Y	X	Ŷ	X	Ŷ	X	Y Y	Z
25TH	93.35	- 82 . 8	108 3	109	290	-762.0	638.3	19	۵	-1237.9		-77.#	-32.5	61.
26TH	97.01									-1155.1	****.*	-4\$.4	-28.2	56.
27TH	100.68	-83.9		109	290		669.8	19	8	-1071.2	2552.4	-\$\$.7	-24.1	52.
28TH	104.34	-85.0	203.4	109	290	-782.6	701.3	18	8	-986.2	1144	-44.4	-20.3	48.
29TH	108.00	-86.1	212.6	109	290	-792.9	732.8	18	7	-900.1	III.I		-16.9	43.
		- 87 . 2	221.7	109	290	-803.2	764.3	17	7		III.I	II		
30TH	111.66	-88.2	230.4	109	290	-811.9	794.2	17	6	-812.9			-13.7	39.
31ST	115.32	- 88 . 4	226.0	109	290	-814.3	778.9	17	7	-724.7	1494.3	-74.5	-10.9	34.
32ND	118.98	-89.7		109	290	-816.7		17	7	-636.2	- 1499.3	-14.4	-8.4	30.
33RD	122.64								, -	-547.5	1277.4	-13.8	-6.3	25.
34TH	126.30	-89.0		109	290	-819.1		17	-	-458.6	1022.8	-\$.\$	-4.4	21.
35TH	129.96	-89.2	209.5	109	290	-821.5	722.3	17	7	-369.3	413.3	-4.1	-2.9	17.
36TH	133.62	-89.5	204.1	109	290	-823.9	703.4	17	8	-279.9			-1.7	13.
		- 87.5	192.4	109	290	-805.6	663.4	17	8			1.1		
37TH	137.28	-81.6	178.0	109	290	-751.2	613.6	18	8	-192.4	ŢţţŢ	-1.9	9	9.
38TH	140.94	-110.8	238.8	162	433	-683.4	551.5	18	8	-110.8	234.4	7	3	5.
TOP	146.44								-	\$.\$		9 .	0 .0	٥.

TABLE WIND D	7. SHEAR AN IRECTION 33	D MONEN	T DIAGR	AMS : GATE Configura	WAY PROJ Tion A	ECT TOWER	ONE REFE	RENCE PRI	ESSURE	771 PA	:	BASED ON A	ERCELAST	IC DATA
FLOOR	HEIGHT (N)		(KN) Y	AREA	(SQ_N)	PRESSURE X	(PA) Y	ECCEN X	(H) Y	SHEAR X	CKN S Y	X HC	HENT CHN- Y	-H> Z
GRND	0.00	-107.0	331.9	163	436	-655.6	761.7	6	2	-3443.5	9655.7	-742.9	-281.9	145.0
1 S T	5.50				290		745.9	8	2	-3336.5	9323.8	-690.7	-262.4	142.3
2ND	9.16	-65.1	216.4	109					2	-3271.4	9107.4	-657.0	-250.3	140.4
3R D	12.82	-61.2	214.1	109	290		737.9	8		-3210.2	8893.3	-624.0	-238.4	138.6
4TH	16.48	-61.7	216.5	109	290		746.4	8	2	-3148.5	8676.8	-591.9	-226.8	136.7
5TH	20.14	-64.3	219.9	109	290	-592.4	757.9	9	3	-3084.2	8456.9	-560.5	-215.4	134.6
6T H	23.80	-67.0	223.2	109	290	-616.7	769.5	9	3	-3017.2	8233.7	-530.0	-204.2	132.4
	27.46	-68.6	224.6	109	290	-631.7	774.3	10	3	-2948.6	8009.1	-500.2	-193.3	130.0
7TH		-69.6	224.2	109	290	-641.0	772.7	10	3	-2879.0	7784.9	-471.3	-182.6	127.5
8T H	31.12	-70.6	223.7	109	290	-650.4	771.1	11	3	-2808.3	7561.2	-443.2	-172.2	125.0
9TH	34.78	-71.6	223.2	109	290	-659.7	769.5	11	4		7337.9	-416.0	-162.1	122.3
10TH	38.44	-72.7	222.8	109	290	-669.0	767.9	11	4	-2736.7				119.5
11TH	42.11	-73.7	222.3	109	290	-678.3	766.3	12	4	-2664.0	7115.2	-389.5	-152.2	
1.2TH	45.77	-74.5	222.4	109	290	-686.1	766.5	12	4	-2590.3	6892.9	-363.9	-142.6	116.5
13TH	49.43	-75.2	224.5	109	290	-692.5	773.7	13	4	-2515 8	6670.5	-339.0	-133.2	113.5
14TH	53.09	-75.9	226.6	109	290		781.0	13	4	-2440.6	6446.0	-315.0	-124.1	110.3
15TH	56.75	-76.6	228.7	109	290		788.2	13	5	-2364.7	6219.5	-291.9	-115.3	107.1
16TH	60.41						795.5	14	5	-2288.1	5990.8	-269.5	-106.8	103.6
17TH	64.07	-77.3	230.8	109	290					-2210.8	5760.0	-248.0	-98.6	100.1
1878	67.73	-78.0	232.9	109	290		802.7	14	5	-2132.8	5527.2	-227.3	-90.6	96.4
19TH	71.39	-78.9	234.9	109	290		809.6	15	5	-2053.9	5292.3	-207.5	-83.0	92.6
2014	75.05	-80.0	235.2	109	290	-736.1	810.6	15	5	-1974.0	5057.1	-188.6	-75.6	88.7
	78.71	- 81. Q	235.4	109	290	-746.2	811.6	15	5	-1892.9	4821.7	-170.5	-68.5	84.8
21ST		- 82 . 1	235.7	109	290	-756.3	812.6	15	5	-1810.8	4585.9	-153.3	-61.8	80.8
2 2 N D	82.37	- 83 . 2	236.0	109	290	-766.4	813.6	15	5	-1727.5	4349.9	-136.9	-55.3	76.6
2 3 R D	86.03	-84.3	236.3	109	290	-776.5	814.5	16	6		4113.6	-121.4	-49.1	72.5
24TH	89.69	-86.0	237.4	109	290	-791.7	818.3	16	6	-1643.2	7113.0	-121.4	-47.1	(2.3

TABLE	7. SHEAR	AND MOMEN	T DIAGA			JJECT TOWER	ONE			771 PA		: BASED ON A	EROELASTI	C DATA
WIND D	IRECTION	330		CONFIGUR	ATION A			RENCE PRE						 .
FLOOR	HEIGHT (H) FORCE	(KN)	AREA	(SQ_N) Y	PRESSURE	(PA) Y	ECCEN X	(M) Y	SHEAR X	(KN) Y	ло Х	HENT (NN- Y	Ξ, Z
25TH	93.35		•		•	-				-1557.2	3876.2	-106.8	-43.3	68.2
		-89.0	239.9	109	290	-819.0	827.0	16	6	-1468.3	3636.3	-93.1	-37.7	63.9
26TH	97.01	-91.9	242.4	109	290	-846.4	835.7	16	6	-1376.3	3393.9	-80.2	-32.5	59.5
27TH	100.68	-94.9	245.0	109	290	-873.7	844.4	16	6		3148.9	-68.2	-27.6	55.1
28TH	104.34	-97.9	247.5	109	290	-901.0	853.1	16	6	-1281.4				
29TH	108.00	-100.8	250.0	109	290	- 928.3	861.8	16	6	-1183.6	2901.4	- 57 . 2	-23.1	50.6
30TH	111.66	-104.0	252.8	109	290		871.4	16	6	-1082.8	2651.4	-47.0	-19.0	46.1
315T	115.32				290	-994.7	900.9	15	6	-978.8	2398.6	- 37 . 7	-15.2	41.5
32ND	118.98	-108.0	261.3	109						-870.7	2137.3	- 29 . 4	-11.8	36.8
3 3 R D	122.64	-112.1	270.3	109	290		931.8	15	6	-758.7	1867.0	- 22 . 1	- 8.8	32.0
34TH	126.30	-116.1	279.3	109	290	-1068.9	962.6	15	6	-642.6	1587.7	-15.8	-6.3	27.1
		-120.1	288.2	109	290	-1106.0	993.5	15	6	-522.4	1299.5	-10.5	-4.1	22.2
35T H	129.96	-124.2	297.2	109	290	-1143.1 1	024.4	15	6	-398.3	1002.3	-6.3	-2.5	17.1
36TH	133.62	-123.8	299.9	109	290	-1140.2 1	033.7	15	6				-1.2	12.0
37.TH	137.28	-116.0	289.5	109	290	-1067.8	998.1	15	6	-274.5	702.4	-3.2		
3 8 T H	140.94	-158.5	412.8	162	433		953.6	15	6	-158.5	412.9	-1.1	4	7.1
TOP	146.44	-130.3	712.0	102	100			••	-	0.0	0.0	•.•	0.0	0.0

	7. SHEAR IRECTION		T DIAGR	AMS : GATI Configuri	EWAY PROV Rtion A	ECT TOVER	ONE Ref	ERENCE PRES	SURE	771 PA		: BASED ON (ERCELAST	C DATA
FLOOR	HEIGHT	(M) FORCE X	(KN) Y	AREA X	(SQ_M)	PRESSURE	(PA) Y	ECCEN (X	Y Y	SHEAI X	R (KN) Y	X H	DHENT CHN- Y	·H) Z
GRND	0.00					70.0 5				- 37 83 . 9	10270.0	-762.7	-299.8	109.5
1 S T	5.50	-127.5		163	436	-781.5	953.4	6	2	-3656.4	9854.5	-707.4	-279.4	106.6
2ND	9.16	-76.8	255.9	109	290	-706.9	882.3	7	2	-3579.6	9598.6	-671.7	-266.1	104.7
3RD	12.82	-71.6	241.3	109	290	-659.4	831.6	7	2	-3508.0	9357.3	-637.1	-253.2	103.0
4TH	16.48	-71.3	236.5	109	290	-656.3	815.3	7	2	-3436.7	9120.8	-603.2	-240.4	101.2
514	20.14	-73.3	240.2	109	290	-674.9	827.9	7	2	-3363.4	8880.6	-570.3	-228.0	99.3
6TH	23.80	-75.3	243.8	109	290	-693.5	840.4	8	2	- 3288 . 1	8636.8	-538.2	-215.8	97.3
		-76.9	246.3	109	290	-708.0	849.0	8	2	-3211.2	8390.5	-507.1	-203.9	95.2
7TH	27.46	-78.2	247.5	109	290	-719.9	853.0	8	3	-3133.0	8143.1	-476.8	-192.3	93.0
8TH	31.12	-79.5	248.6	109	290	-731.8	857.1	8	3	-3053.5	7894.4	-447.4	-181.0	90.8
9TH	34.78	-80.8	249.8	109	290	-743.7	861.1	8	3					99.8 88.5
10TH	38,44	- 82 . 1	251.0	109	290	-755.6	865.2	8	3	-2972.8	7644.6	-419.0	-170.0	
11TH	42.11	-83.4	252.2	109	290	-767.4	869.2	9	3	-2890.7	7393.6	-391.5	-159.2	86.1
12TH	45.77	- 84 . 6	252.9	109	290	-779.1	871.6	9	3	-2807.3	7141.5	-364.9	-148.8	83.7
13TH	49.43	-85.9	252.0	109	290	-790.5	868.7	9	3	-2722.7	6888.6	-339.2	-138.7	81.2
14TH	53.49	-87.1	251.2	109	290	-801.9	865.8	9	3	-2636.9	6636.6	-314.4	-128.9	78.7
15TH	56.75	- 88.3	250.3	109	290		862.9	9	3	-2549.8	6385.4	-290.6	-119.4	76.1
16TH	69.41	- 89.6	249.5	109	290	-824.7	860.0		3	-2461.4	6135.1	-267.7	-110.2	73.5
17TH	64.07	-90.8	248.7	109	290		857.1	-	4	-2371.9	5885.6	-245.7	-101.4	70.8
18TH	67.73						855.6		4	-2281.1	5636.9	-224.6	-92.8	68.1
19TH	71.39	-92.1	248.2	109	290					-2189.0	5388.7	-204.4	-84.7	65.4
20TH	75.05	-93.5	249.8	109	290		861.1		4	-2095.4	5138.9	-185.1	-76.8	62.6
215T	78.71	-94.9	251.4	109	290		866.5		4	-2000.5	4887.5	-166.8	-69.3	59.7
22ND	82.37	-96.3	253.0	109	290		872.0		4	-1904.2	4634.6	-149.4	-62.2	56.8
2 3 R D	86.03	-97.7	254.6	109	290		877.4		4	-1806.4	4380.0	-132.9	-55.4	53.9
24TH	89.69	-99.2	256.1	109	290	-912.9	882.9	10	4	-1707.3	4123.9	-117.3	-49.0	50.9
6.711		-100.8	257.9	109	290	-927.8	889.1	10	4					

	7. SHEAR IRECTION	AND MOMENT 340	DIAGR	AMS : GAT Configur		JECT TOVER		ERENCE PRESS	URE	771 PA		: BASED ON A	ERCELASTI	C DATA
FLOOR	HEIGHT	(M) FORCE X	(KN) Y	AREA	(SQ_M) Y	PRESSURE X	(PA) Y	ECCEN (M X Y	}	SHEAR X	(KN) Y	X NO	HENT (MN-	N) Z
25TH	93.35	-102.9	259.6	109	290	-947.2	894.8	10 4	ŀ	-1606.5	3866.0	-102.7	-42.9	47.8
26TH	97.01	-105.0	261.3	109	290	-966.5	900.6	10 4	ł	-1503.6 -1398.6	3606.4	~89.4 ~76.3	-37.2 -31.9	44.7 41.6
27TH 28th	100.68	-107.1	262.9	109	290	-985.9	906.3	10	ł	1291.6	3082.2	-64.5	-27.0	38.5
29TH	108.00	-109.2		109			912.1	10 4	ł	1182.4	2817.6	-53.7	-22.4	35.3
301H	111.66	-111.3 -113.2		109 109			917.8 922.6	10 4	-	1071.1	2551.3	-43.9	-18.3	32.1
315T	115.32	-114.2		109		-1051.2	929.7	10 4	ł	-957.9	2283.7	-35.0	-14.6	28.8
32ND 33RD	118.98 122.64	-115.2	272.0	109	290	-1060.5	937.5	10	ł	-843.8 -728.6	2014.0	- 27 . 2 - 20 . 3	-11.3	25.5 22.1
34TH	126.30	-116:2		109			945.2	11 4	•	-612.4	1467.8	-14.4	-6.9	18.7
35TH	129.96	-117.2 -118.2		109	290 290		953.0 960.7	11 4	•	-495.2	1191.3	-9.5	-3.9	15.3
36 <u>T</u> H	133.62		276.8	109	290		954.1	11	ŀ	-377.0	912.6	-5:7	-2.3	11.8
37TH 38th	137.28 149.94	-109.6	264.4	109	290	-1009.3	911.3	11 5	5	-260.7	635.8 371.5	-2.9 -1.0	-1.2	8.3 4.9
TOP	146.44	-151.1	371.5	162	433	-932.0	858.0	11 5	5	¢.¢	¢.¢	¢.¢	¢.¢	Q.Q

TABLE Wind C	7. SHEAR AN Direction 35	D HOMEN	T DIAGR	AMS : GATE Configure	EWAY PRO TION A	JECT TOWER	ONE Ref	ERENCE PRE	SSURE	771 PA		BASED ON F	EROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE	скй)	AREA	(sejn)	PRESSURE	(PA)	ECCEN	េព្រះ	SHEA	R (KN) Y	× nc	DHENT (MN- Y	H) Z
GRND	0.00	-145.8	441.1	163	436	-893.5 1	012 3	5	2	-4257.2	10649.9	-785.4	-333.5	99.8
1 S T	5.50						955.5	5	2	-4111.4	10208.8	-728.1	-310.5	97.2
2ND	9.16		277.2	109	290					-4021.9	9931.6	-691.2	-295.6	95.6
3R D	12.82		266.2	109	290		917.7	5	2	-3936.9	9665.4	-655.4	-281.0	94.0
4TH	16.48	-84.2	261.7	109	290	-774.9	902.2	6	2	- 38 52 . 7	9403.7	-620.5	-266.7	92.4
578	20.14	- 85.2	261.5	109	290	-784.1	901.5	6	2	- 3767.6	9142.1	-586.5	-252.8	90.7
6TH	23.80	-86.2	261.3	109	290	-793.3	900.8	6	2	-3681.4	8880.8	-553.5	-239.2	88.9
		- 87.6	261.4	109	290	-806.2	900.9	6	2	- 35 93 . 9	8619.4	-521.5	-225.9	87.0
7TH	27.46	-89.2	260.9	109	290	-821.5	899.5	7	2	-3504.6	8358.5	-490.4	-212.9	85.1
8T H	31.12	-90.9	260.5	109	290	-836.7	898.1	7	2		8098.0	-460.3	-200.2	83.1
9T H	34.78	- 92 . 5	260.1	109	290	-852.0	896.6	7	3	-3413.8			-187.9	81.0
1 O T H	38.44	-94.2	259.7	109	290	-867.2	895.2	Ż	3	-3321.2	7837.8	-431.1		
11TH	42.11	-95.8	259.3	109	290	-882.5	893.8	7	3	-3227.0	7578.1	-402.9	-175.9	78.8
12TH	45.77	-97.0	258.3	109	290	-893.4	890.3	8	3	-3131.2	7318.8	-375.6	-164.2	76.6
13TH	49.43		256.9	109	290	-900.2	885.6	8	3	-3034.2	7060.6	-349.3	-153.0	74.4
14TH	53.09		255.5	109	290	-907.1	880.8	8	3	-2936.4	6803.7	-323.9	-142.0	72.1
15TH	56.75	,						8	3	-2837.9	6548.1	-299.5	-131.5	69.7
16TH	60.41	-99.3	254.2	109	290	-913.9	876.1		3	- 27 38 . 6	6294.0	-276.0	-121.3	67.3
17TH	64.07	-100.0	252.8	109	290	-920.8	871.3	9	-	-2638.6	6041.2	-253.4	-111.4	64.8
18TH	67.73	-100.7	251.4	109	290	-927.6	866.6	9	3	-2537.9	5789.8	-231.8	-101.9	62.2
19TH	71.39	-102.2	251.2	109	290	-941.2	866.1	9	4	-2435.6	5538.6	-211.0	-92.8	59.6
2011		-104.8	253.5	109	290	-964.7	873.8	9	4	-2330.8	5285.0	-191.2	-84.1	57.0
		-107.3	255.8	109	290	-988.3	881.6	?	4	-2223.5	5029.3	-172.3	-75.8	54.2
21ST		-109.9	258.0	109	290	-1011.8	889.4	9	4	-2113.6	4771.3	-154.4	-67.8	51.4
22ND		-112.4	260.3	109	290	-1035.3	897.2	9	4	-2001.2	4511.0	-137.4	-60.3	48.6
2 3 R D		-115.0	262.5	109	290	-1058.8	905.0	9	4					45.7
24TH	89.69	-117.2	264.3	109	290	-1079.0	910.9	9	4	-1886.2	4248.4	-121.4	-53.2	4J.(

AARA AN APROPLACTIC BATA

	7. SHEAR IRECTION		T DIAGR	AMS : GAT Configur		JECT TOWER		ERENCE PR	ESSURE	771 PA		: BASED ON A	ERDELASTI	C DATA
FLOOR	HEIGHT	(M) FORCE X	(KN) Y	AREA X	(SQ_M) Y	PRESSURE	(PA) Y .	ECCEN X	CN > Y	SHEAR X	(KN) Y	HO X	HENT (HH- Y	H) Z
25TH	93.35			160	294	. 1		9		-1769.0	3984.2	-106.3	-46.5	42.7
26TH	97.01	-119.6	265.3	109			914.4		7	-1650.4	3718.9	- 92 . 2	-40.2	39.7
27TH	100.68	-119.9	266.3	109			917.9	9	•	-1530.5	3452.6	-79.1	-34.4	36.0
28TH	104.34		267.3	109			921.4	9	4	-1409.3	3185.3	-66.9	-29.0	33.8
29TH	108.00			109			924.9	9	4	-1286.6	2917.0	- 55 . 8	-24.1	30.8
30TH	111.66	-124.0		109	290		928.4	9	4	-1162.7	2647.6	-45.6	-19.6	27.9
315T	115.32	-125.2		109			931.5	9	4	-1037.4	2377.4	- 36 . 4	-15.6	24.9
32ND	118.98		275.5	109	290		949.5	9	4	-911.3	2101.9	-28.2	-12.0	21.9
33RD	122.64	-127.0	281.1	109	290	-1169.6	969.0	9	-4	-784.3	1820.8	-21.0	-8.9	18.9
34TH	126.30	-127.9	286.8	109	290	-1177.8	988.5	9	4	-656.3	1534.1	-14.9	-6.3	15.8
35TH	129.96	-128.8	292.4	109	290	-1186.1 1	008.0	9	4	-527.5	1241.7	-9.8	-4.1	12.8
		-129.7	298.1	109	290	-1194.3 1	027.5	9	4	-397.8	943.6	-5.8	-2.4	9.7
36TH	133.62	-126.6	297.0	109	290	-1165.3 1	023.6	9	4					
37TH	137.28	-116.4	275.5	109	290	-1071.8	949.6	9	4	-271.2	646.6	-2.9	-1.2	6.7
38TH	140.94	-154.8	371.1	162	433	-955.2	857.3	9	4	-154.8	371.1	-1.0	4	3.9
TOP	146.44									Q .Q	Q.Q	\$.\$	Q .Q	Q.Q

TABLE 7. Project 7 Scale = 4 Standard Number of	GATEWAY 910 00 Floor Heig Sides =	PROJECT TOWER Coni Ref HT = 3.66 6 NO.	ONE Figuration a . pressure = of floors =
SIDE	ANGLE	Z-AXIS	
123456	315.0 90.0 135.0 270.0 225.0 45.0	107 9.375 107 9.375 4.369 -3.302	
FLOOR #	LABEL	HEIGHT-N	
123 45678 901234567890123456789 11111111111222222222222333333333333333	G 123456789011111111111122222222222223333333333333	ŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢŢ	

CONFIGURATION A			CE PRESSUI	RE 771				SQL	JARE ROOT OF
AZIMUTH	shear X	(KN) 4	X HO	MENT (MN- Y	n) z	ECCEI X	N (M) Y		RESPONSE Y
4000033 4000044 5000044 11111111111111111111111	620 451 233 112 630	99605528359696 12114413562996 12514413562996 11514413562996 96695528875996 9669552 11514413562996 -1115562996 -111556297 -111556296 -11155629 -1115	$\begin{array}{c} -8283,1\\ -7714469\\ -7714469\\ -9966572\\ -678966557\\ -77926557\\ -77926557\\ -77926557\\ -77926557\\ -77926557\\ -77966557\\ -77966557\\ -77966557\\ -77966557\\ -7716667\\ -716667\\ -911667\\ -911667\\ -911667\\ -9111\\ 1\end{array}$	217.5 -320.6 -223.6 -365.4 -3265.4 -328.8 -328.8 -317.4 -328.8 -317.4 -360.0	$\begin{array}{c} 1 \\ 4 \\ 9 \\ 1 \\ 5 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	133170280878036646033341176678918632 1111 1131		472522210311808473550438804859015366 09867655556798094117019281767929643 211111111111124222244242804859015366	333221111111111123235535111111111111111

TABLE 7. BASE SHEAR AND MOMENT SUMMARY (GATEWAY PROJECT TOWER TWO CONFIGURATION A REFERENCE PRESSURE 771

OF NSE FACTOR Z 1111122421111111321112342111111111242

BASED ON AEROELASTIC DATA

	IRECTION	•			TION A			RENCE PR						
. 00 R	HEIGHT (N)	FORCE	ских	AREA	(รตุท>	PRESSURE X	(PA) Y	ECCEN	e ch>	SHEA X	R (KH) Y	n o X	MENT (MH Y	1-M) Z
GRND	0.00			163	436	-809.0	274.2	11	12	-744.4	9589.5	-828.3	-44.4	149.
1 S T	5.50	-132.0	119.5				297.2	13	12		9470.1	~775.9	-21.1	146.
2ND	9.16	-77.3	86.2	109	290			15	11	-\$\$4.8	9383.8	-741.4		144.
3R D	12.82	-67.6	92.0	109	290		317.0			-447.4	9291.9	-707.2	-47.4	142.
4TH	16.48	-60.4	100.0	109	290		344.6	17	10	-444.4	91,91.9	-673.3	-1\$.\$	139.
5TH	20.14	-54.5	112.3	109	290		387.2	19	9	-352.1	9079.6	-639.9	- 44. 2	137.
6T H	23.80	-48.6	124.7	109	290	-447.3	429.8	20	8	- 161 4	8954.9	-606.9	- \$.+	134.
718	27.46	-44.5	136.7	109	290	-409.4	471.1	20	7	-259.0	8918.2	-574.4	-41.4	131.
8TH	31.12	-41.5	148.1	109	290	-381.7	510.4	20	6		8670.2	-542.3		128
		- 38 . 5	159.5	109	290	-354.0	549.7	20	5	- 119	8510.7	-510.9	-	124
9TH	34.78	-35.4	170.9	109	290	-326.3	589.0	20	4		8339.8	-480.1		121
OTH	38.44	-32.4	162.3	109	290	-298.7	628.4	19	3		8157.5	-449.9	-9.8	117
111	42.11	-29.4	193.7	109	290	-271.0	667.7	19	3		7963.8	-420.4	-	113
2TH	45.77	-25.1	205.5	109	290	-231.4	708.4	19	2		7758.3	-391.6	-8.4	109
13TH	49.43	-19.6	217.4	109	290	-180.5	749.5	18	2					106
4 T H	53.09	-14.1	229.4	109	290	-129.5	790.6	17	1	-#1.1	7540.9	-363.6		
5TH	56.75	-8.5	241.3	109	290	-78.6	831.8	17	1		7311.5	-336.4		102
6TH	60.41	-3.0	253.2	109	290	-27.7	872.9	16	¢	- 11 - 1	7070.2	-310.1	-8.8	98
TH	64.07		265.2	109	290		914.0	16	- ¢	- -	6817.0	-284.7	- 8 . 8	93
STH	67.73	5.9	275.6	109	290		950.1	15	-0	-	6551.8	-260.2	- B . P	89
9TH	71.39			-		58.0	964.3	15	-0	- [• . •	6276.2	-236.7	-18.12	85
OTH	75.05		279.8	109	290			15	-0	\$\$.\$	5996.4	-214.2	-8.4	81
21ST	78.71	6.6	283.9	109	290		978.6			- \$\$. \$	5712.6	-192.8	-8.0	77
22ND	82.37	7.¢	288.0	109	290	64.4		15	-0	- \$9.9	5424.6	-172.4	- Þ. B	73
23RD	86.03	7.3	292.1	109	290	67.6 1		14	- 0	- 41.1	5132.4	-153.1	-1.1	68
		7.7	296.3	109	290	70.8 1	021.3	14	-0		4836.1	-134.9	-þ.þ	64

	7. SHEAR AND TRECTION 0		T DIAGRI	AMS : CATI Configuri		ECT TOWER TWO Refe	RENCE PRESSURE	771 PA	: BASED ON AE	RGELASTIC	DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	HREA X	(SQ M) Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	N O M X	ENT (MN-M) Y	Ż
25TH	93.35	12.6	306.4	109	384	115.7 1056.1	14 - i	- 43 . \$ 4535.4	-117.7	-1-1	60.4
26TH	97.01				290			- 4229.0	-101.7	-1.4	56.1
27TH	100.68	16.1		109	290	148.4 1075.4	14 -1	-12. 3917.0	-86.8	-6.7	51.8
28TH	104.34	19.7	317.6	109	290	181 2 1094.7	14 -1	-12.3 3599.5	-73.0	- 4 . 1	47.4
2978	108.00	23.2	323.2	109	290	213.9 1114.0	14 -1	- 35.5 3276.3	-60.4		42.9
30TH	111.66	26.8	328.8	109	290	246.6 1133.3	14 -1	- 2947.5	-49.0		38.4
		27.5	333.5	109	290	252.9 1149.4	14 -1				
3151	115.32	16.2	331.1	109	290	149.4 1141.3	14 -1	- 2614.0	-38.8		33.8
3ZND	118.98	5.0	328.4	109	290	45.8 1132.1	14 -0	-266.6 2283.0	- 29 . 9	-4.4	29.3
33R D	122.64		325.8	109	290	-57.7 1122 9	14 0	-2	- 22 . 1	¥	24.9
34TH	126 30	-17.5	323.1	109	290	-161.2 1113.7	13 1	-244.7 1628.8	-15.6	-\$.4	20.4
3 5 T H	129.96							1305.7	-10.2	7	16.1
367 H	133.62	-28.8	320.4	109	290	-264.7 1104.6	13 1	9852	-6.¢		11.8
37TH	137.28	-38.0	316.0	109	290	-350.2 1089.1	13 2	-120.4 669.3	-3.0	1.1	7.6
38TH	140.94	43.9	288.8	109	290	-404.4 995.5	12 2	-14.5 380.5	-1.¢		4.0
		-76.5	380.5	162	433	-471.8 878 8	10 2			1.1	
TOP	146 44							∮.♦ 0.0	¢.¢	₩.₩	¢.¢

	IRECTION 1	·		CONFIGURA										
ר? ?	HEIGHT (M)	FORCE X	 KHI Y 	AREA : X	(SQ_M) Y	PRESSURI X	(PA) Y	ECCEI X	N (N) Y	SHI X	EAR (KN) Y	× no	MENT (MH Y	-11)
en d	0.00	1.54 4	344 9	163	436	640.1	470 3	13	- 6	+ 771 -	9675.7	~793.1	- ₹ <u></u> }₹- ∳	1
ST	5.50	104.4	204.9		400 290		475.4	13	-7	4144	9470.8	-740.5		1
ZND	9.16		137.9	109		690.3		12	-7		9332.9	-706.1	474	1
SR D	12.82	84.5	140.9	109	290	777.9	495.6			4427.	9192.0	-672.1		1
+TH	16 48		146.1	109	290	850.7	503.6	12	- 8	****	9045.9	-638.8		1
57 H	20.14		155.3	109	290	916.2	535 4	12	-8	****.	8890.6	-605.9	444.4	1
тн	23.80	106.6		109	290	981.7	567.3	12	- 8	****	8726.0	-573.7	444.4	1
•тн	27 46	110.8	173.8	109	290	1020.6	599.2	12	- 7	-	8552.2	-542.1	202.	1
втн	31.12	113.3		109	290	1043 1	633 6	12	- 7		8368.4	-511.1		1
этн	34 78	115.7	193.8	109	290	1065.6	668.1	12	- 7	****	8 8174.6	-480.8	477.5	1
тн	38 44	118.2	203.8	109	290	1088.1	702.5	12	- 7	\$\$\$.	7970.8	-451.3	444.4	1
тн	42.11	120.6	213.8	109	290	1110.7	736.9	12	- 7	* * *	7757.0	-422.5	\$\$.\$	1
2T H	45.77	123.1	223.8	109	290	1133.2	771 4	13	- 7		7533.2	-394.5	442.2	1
тн	49.43	122.8	231.5	109	290	1130.8	798.2	13	- 7	2904.	7301.6	-367.3		:
тн	53.09	120.0	234.3	109	290	1104.6	807.6	13	-7		7057.4	-341.0		1
тн	56.75	117.1	237.0	109	290	1078.5	817.0	13	- 6		6830.3	-315.6		1
тн	60 41	114.3	239.7	103	290	1052.3	826.4	13	- 6.	2552	6590.6	-291.0		1
- - тн	64.07	111.5	242.5	109	290	1026.2	835.8	13	- 6		6348.1	-267.4	92.5	
TH	67 73	108.6	245.2	109	290	1000.0	845.3	14	- 6	2332	6102.9	-244.6	88.6	
)TH	71.39	108.7	249.1	109	290	1003.0	858.5	14	- 6		5853.8	-222.7	75.2	
	75.05	113.9	254.5	109	290	1048.6	877.3	14	- 6		8 5599.3	-201.7	64.5	
TH		118.8	259.9	109	290	1094 2	896.1	13	- 6		5339.4	-131.7		
ST	78.71	123.8	265.4	109	290	1139.8	914.8	13	- 6		1 5074.0	-162.6		
ND	82.37	128.7	270.8	109	290	1185.4	933.6	13	- 6		4803.2	-144.6		
RD	86.03	133.7	276.3	109	290	1231.0	952.3	13	- 6		4526.9			
TH	89.69	135.8	280.8	109	290	1250.3	967.8	13	- 6	1944.0	1 4325.7	-127.5	**.*	

	7. SHEAR AN TRECTION 1		T DIAGRA	NS : GATI Configuri		ECT TOWER		ERENCE PR	ESSURE	771 PA		BASED ON A	EROELASTI	C DATA
FL//GR	HEIGHT (N)	FORCE X	(KH)	AREA X	(\$9,4) Y	PRESSURI X	E (PA) Y	ECCEN X	(月) 子	SHEA X	R (KN) Y	M OI X	NENT (MH- Y	n) Z
25TH	93 35			109		1000 E	973.3	i 3	- 6	1149.9	4246.1	-111.4	¥4 4	65.6
26TH	97.01	131.3			290	1208.5			-	 	3962.3	-96.4	29.2	61.0
27TH	100.68	126.7		109	290	1166.6	988.8	13	- 6		3675.5	- 82 . 4	24.4	56.4
28TH	104.34	122.2		109	290	1124.8	999.3	14	- E		3385.6	-69.5	20 4	51.8
29TH	108.00	117.6	293.0	109	290	1033.0	1009.8	14	- 5		3092.6	-57.6		47.2
30TH	111.66	113.1	296.0	109	290	1041.1	1020.3	14	- 5		2796.6	-46.9		42.5
	115.32	109.0	299.3	109	290	1003.1	1931.6	14	- 5		2497.4	-37.2		37.7
3157		105.6	303.3	109	290	981.2	1045.6	14	- 5				' I'I	
32ND	118.98	104.2	307.4	109	290	959.2	1059.5	14	- 5	997.3	2194.0	-28 6	in the t	33.0
33RD	122.64	101.8	311 4	109	290	937.3	1073.5	14	- 5	.	1886.7	-21.1		28.3
34TH	126.30	99.4		109	290	915.3		14	- 4	- +++ / +	1575.2	-14.8	₽ ₽	23.5
35TH	129.98							14	-	- ++ +.	1259.8	-9.6	* . •	18.7
36TH	133.62		319.5	109	290	893.4			-4		940.2	-5.6	1 . *	13.9
37TH	137.28	89.4		109	290	823 5		14	- 4	\$	621.7	-2.7		9.2
38TH	140 94	72.8	279.0	109	290	670.7	961.6	14	-4		342.8	- 9		5.1
TOP	146.44	77.8	342.8	162	433	490.2	791.8	1.4	- 3	12.1	Q .Q	0.0		0.0
· • • •	120.34									▼.▼	* . *	¥ . ¥	¥ · ¥	*.*

TABLE ATNA A	7 SHEAR AND IRECTION 20		T DIAGRA	MS : GATE Configura	WAY PROJ Tion A	ECT TOWER	T₩O REFE	RENCE PI	ESSURE	771 PA	:	BASED ON A	ERDELASTI	IC DATA
FLOOR	HEIGHT (N)	FORCE X	ских Г	-	(SQ_N)	PRESSUR X	E (PA) Y	ECCEI	4 (Å>	SHE: X	AR (KN) Y	#0 X	NENT (NN- Y	-n) z
GRND	0.00		076 1	163	436	1308.2	633.6	8	- 6		9290.3	-719.6	197.9	131.9
IST	5.50	213.4			290	1394.2	629.8	8	-7	****	9014.2	-669.3	144-1	128.3
ZND	9.16		182.7	109		1452.9		8	-7	****	8831 5	-636 6		125.8
3RD	12.82	157 8	181.4	109	290		625.3		-7	- 2444-1	8650.1	-604.6	195.6	123.3
4TH	16.48		182.7	109	290	1470.2	629.7	8		2444.5	8467.4	-573.3	- \$∮ ,₿	120.7
STH	20 14	159.4	189.6	109	290	1467.2		8	-7	272	8277.8	-542.7		118.9
ETH	23.80	159.0	196.5	109	290	1464.2		9	- ?	2142	8081.4	-512.7		115.1
7TH	27.46	155.3	202.3	109	290	1429.9	697.2	9	-7	2044 4	7879.1	~483.5		112.2
8TH	31.12	149 5	207 0	109	290	1376.3	713.4	ş	-7	1857.5	7672.1	-455.0	44.4	109.3
9TH	34.78	143.7	211.7	109	290	1322.6	729.6	10	-7		7460.5	-427.3	\$8.4	106.3
	38.44	137 8	216.4	109	290	1269.0	745.8	10	- 5	1575 8	7244.1	-400.4	44.4	103.2
10TH		132.0	221.1	109	290	1215 4	762.0	10	- 6		7023.0	-374.3	44.4	100.1
11TH	42.11	126.2	225.8	109	290	1161.7	778.2	11	- 5		6797.2	-349.0		96.9
12TH	45.77	119.4	229.4	109	290	1099.6	790.6	11	- 5		6567.9	-324 6		93.
13TH	49.43	111.8	230.2	109	290	1029 3	793.5	11	- 6		6337.7	-300.9		90.
14TH	53.09	104.2	231.0	109	290	958.9	796.3	i 2	- 5	- III I	6106.7	-278.2	II I	87.1
15TH	56.75	96.5	231.8	109	290	888 6	799.2	i 2	- 5	- III I				83.6
16TH	60.41	88.9	232.7	109	290	818.3	802.0	13	- 5	III I	5874.8	-256.2	11 I	80.4
17TH	64.07	81.2	233.5	109	290	748.0	804.8	i 3	- 5		5642.2	-235.2	ff I	
1 8T H	67.73	74 3	234.6	109	290	684.1	808.6	13	- 4		5408.7	-214.9	11.1	77.0
19TH	71.39	63 4	236.3	109	290	629.5	814.6	14	- 4	- 11 -Ŧ	5174.1	-195.6		73.6
20TH	75.05		238.0	109	290	574.9	820.5	14	-4	444.4	4937.8	-177.0	11.1	70.1
21ST	78.71	62`. 4		109	290	520.3	826.5	14	- 3	- \$\$\$.\$	4699.8	-159.4	14 . †	66.5
2 2 N D	82.37	56.5	239.8					14	-3		4460.0	-142.6	\$ \$. \$	62.9
2 3 R D	86.03	50.6	241.5	109	290	465.7	832.4			44\$.4	4218.5	-126.8	4 . ¢	59.3
24TH	89.69	44.7		109	290	411.2	838.4	15	-3	\$ \$ \$ E	3975.3	-111.8	\$.\$	55.6
		39.6	245.4	109	290	364.7	846.0	15	- 2	• • •				

FLOOP	HEIGHT (M)	FORCE	(ку)	AREA	(ରେଥିଲା)	PRESSURE	(PA)	ECÇEN	< H >	SHEAR	(KN 3	MOME	ENT CMN-	15) 7
		^	1	^	r r	n .		~ ^	1		1	- A		-
25TH	93.35	76 6	249.2	109	290	337.2	c = 0 3	15	- 2	÷11.	3729 9	-97.7	4.2	51.9
26TH	97.01									242.5	3480.6	-84.5	\$	48.2
27TH	100.68		253.1	109	290	309.7		15	- 2	\$ 4 \$.\$	3227.6	-72.2	4.4	44.4
28TH	104.34	30.6	256.9	109	290	282.2	885.6	14	- 2		2970.7	-60.8	4.4	40.7
29TH	108.00	27.7	260.7	109	290	254 6	898.8	14	- 2		2709.9	-50.4	3.2	36.9
30TH	11,1.66	24.7	264.6	109	290	227.1	912.0	14	- 1	ШТ	2445.3	-41.0		33.2
		22.1	268.4	109	290	203.1	925.3	14	- 1		1 - C			
3 1 S T	115.32	21 0	269.0	109	290	193.4	927.2	14	- 1		2176.9	-32.5	1 1	29.4
32HD	118.98	20 C	269.3	109	290	183 8	928.1	14	- 1	<u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u> <u>+</u>	1907.9	-25.1	1 · F	25.6
3 3 R D	122.64		269.5	109	290	174.1		14	- 1	- +++-+	1638.7	-18.6	1.1	21.9
347H	126.30		269.8	109	290	164.5		14	- 1	\$ \$ •	1369.2	-13.1	. 🕴	18.2
35TH	129,96								-	\$\$.\$	1093.4	-3.6	. \$	14.5
3614	133.62		27.0.0	109	290		930.8	14	- 1	↓↓ .↓	829.4	-5.0		10.8
37TH	137.28	15.7	268.9	109	290	144.5	926 8	13	- 1		560.5	-2.5		7.2
38TH	140.94	14.4	243.7	109	290	132.8	840.0	13	- 1		316.8	9		4.0
		19.2	316.8	162	433	118.3	731.8	13	- 1	• [] †			1	
TOP	146.44									♥ .♥	0.0	0.0	۰. ا	9.0

TABLE 7. SHEAR AND MONENT DIAGRAMS : GATEWAY PROJECT TOWER TWO WIND DIRECTION 20 CONFIGURATION A REFERENCE PRESSURE 771 PA : BASED ON AERDELASTIC DATA

L 0 0 R	HEIGHT (11) F0 X		(KN) Y	AREA X	(SQ_M) Y	PRESSURE	E (PA) Y	ECCEN X	CM D Y	SHEAR X	(KN) Y	X NO	HENT (NN- Y	-H) Z
GRND	0.00					4.74	1039.5	768.5	7	- 4	2670.7	9584.7	-744.6	166.6	114.3
1 S T	5.50			334.9	163	436			7	-4	2501.1	9249.9	-692.8	152.4	111.
ZND	9:16	111		213.6	109	290	1028.9	736.2		-4	2389.4	9036.3	-659.3	143.4	109.
3R D	12.82	109		205.7	109	290		709.0	8	-	2279.5	8830.6	-626.6	134.9	107.
4TH	16.48	105		200.6	109	290		691.3	8	- 4	2174.1	8630.0	-594.6	126.7	105.
STH	20.14	93	. 4	200.9	109	230	915.1	692.5	9	-4	2074.8	8429.1	-563.4	118.9	103.
6TH	23.80	93	. 5	201.3	109	290	860.5	693.9	9	-4	1981.3	8227.8	-532.9	111.5	101.
77H	27.46	88	. 6	202.8	109	290	816.0	699.2	10	- 4	1892.7	8025.0	-503.2	104.4	98.
8TH	31.12	84	. 5	205.3	109	290	777.6		10	-4	1808.2	7819.6	-474.2	97.7	96.
97 H	34.78	80	. 3	207.8	109	290			11	- 4	1727.9	7611.8	~445.9	91.2	93
10TH	38.44	76	. 1	210.3	109	290	700.9		11	-4	1651.8	7401.5	-418.5	85.0	91
11TH	42.11	72	. •	212.8	109	290		733.6	11	- 4	1579.9	7188.6	-391.8	79.1	88
1218	45.77	67	. 8	215.3	109	290		742.2	12	- 4	1512.1	6973.3	-365.8	73.4	85
137H	49.43	65	. 0	218.1	109	290	598.2	751.8	12	- 4	1447.1	6755.2	-340.7	68.0	83
14TH	53.09	63	. 4	220.6	109	290	584.1	760.5	12	- 3	1383.7	6534.6	-316.4	62.8	80
15TH	56.75	61	. 9	223.1	109	290	569.9	769.1	12	- 3	1321.8	6311.5	-292.9	57.9	77
16TH	60.41	60	. 4	225.6	109	290	555.8	777.8	12	- 3	1261.4	6085.8	-270.2	53.1	74
101N	64.07	58	. 8	228.1	109	290	541.7	786.4	12	- 3	1202.6	5857.7	-248 3	48.6	71
		57	. 3	230 6	109	290	527.6	795.1	12	- 3	1145.2	5627.¢	-227.3	44.3	68
1878	67.73	55	. 8	233.2	109	290	514.1	803.8	13	- 3	1089.4	5393.9	-207.1	40.3	65
19TH	71.39	54	. 5	235.6	109	290	501.3	812.2	13	- 3	1035.0	5158.2	-187.8	36.4	61
20TH	75.05	53	. 1	238.1	109	290	488.6	820.7	13	- 3	981.9	4920.1	-169.4	32.7	58.
21ST	78.71	51	. 7	240.5	109	290	475.9	829.1	13	- 3	930.2	4679.6	-151.8	29.2	55.
22ND	82.37	50	. 3	243.0	109	290	463.1	837.5	13	- 3			-135.1	25.9	52
2 3 R D	86.03	48	. 9	245.4	109	290	450.4	846.0	13	- 3	879.9	4436.6			
24TH	89.69	48	. 7	248.5	109	290	448.5	856.5	i 3	- 2	831.0	4191.2	-119.3	22.7	49.

LOOR	HEIGHT (M)	FORCE	(KN)	AREA	(SQ M)	PRESSURE	E (PA)	ECCEN	(哲)	SHEAR	(KN)		NENT (NN-	
		X	Y	X	Y	X	Y	X	Y	×	Ŷ	X	Ý	Z
25TH	93.35		253.9	109	290	471.8	875 1	12	- 3	782.3	3942.8	-104.4	19.8	45.9
26TH	97.01							-		731.0	3688.9	-90.5	17.0	42.6
27TH	100.68	53.8	259.3	109	290	495.1	893.7	12	- 3	677.3	3429.6	-77.4	14.4	39.3
2878	104.34	56.3	264.6	109	290	518.3	912.2	12	- 3	621 0	3165.0	-65.4	12.1	36.0
		58.8	270.0	109	290	541.6	930.8	12	- 3	562.1	2895.0	-54.3	9.9	32.7
29TH		614	275 4	109	290	564.9	949.4	12	- 3					
30TH	111.66	63.0	280.4	109	290	580.2	966.5	11	- 3	500.8	2619.5	-44.2	7.9	29.3
315T	115.32			109	290		976.0	11	- 2	437.8	2339.1	-35.1	6.2	26.0
32ND	118.98									376.6	2056.0	- 27 . 1	4.7	22.6
3 3 R D	122.64	59.2	285.8	109	290	545.3	985.3	11	- 2	317.4	1770.2	-20.1	3.5	19.3
34TH	126.30	57.3	288.5	109	290	527.9	994.6	11	- 2	260.1	1481.6	-14.1	2.4	16.0
		55.4	291 2	109	290	510.4 1	003.9	11	- 2	204.7	1190.4	-9.2	1.6	12.7
	129.96	53 5	293.9	109	290	492.9 1	013.2	11	- 2					
36TH	133.62	50 3	294.2	109	290	462.9 1	014.0	11	- 2	151.1	896.5	-5.4	. 9	9.4
377H	137.28				290	411.1		10	- 2	100.8	602.3	-2.7	. 4	6.2
38TH	140 94	44.7		109						56 2	338.2	- 9	. 2	3.4
TOP	146.44	56.2	338.2	162	433	346.6	781.2	10	- 2	0.0	¢.¢	Q . Q	Q.Q	\$.¢

- BASED ON AERDELASTIC DATA

TABLE Uind D	7. SHEAR P IRECTION	ND MOMEN 40	T DIAGR	AMS : GATI Configuri	EWAY PROJ Ation a	ECT TOWER	TWO REFE	RENCE PR	ESSURE	771 PA		: BASED ON A	EROELASTI	C DATA
FLCOR	HEIGHT (M	I) FORCE X	(EN) (EN)	AREA X	(SQ_M) Y	PRESSURE	(PA) Y	ECCEN	CM > Y	SHEA X	R (KN) Y	X NO	NENT (MN- Y	H) Z
GRND	0.00		433.0		436	686.0	995.5	5	- 1	2329.9	12075.2	-948.9	175.7	93.0
1 S T	5.50	111.9	433.8	163				-	-	2218.0	11641.4	-883.7	163.2	90.6
2ND	9.16	67.6	269.8	109	290	622.0	929.9	6	-1	2150.4	11371.7	-841.6	155.2	88.9
3RD	12.82	62 2	254.7	109	290	572.7	878.0	6	-1	2088.2	11117.0	-800.4	147.5	87.3
4TH	16.48	59.3	246.5	109	290	545.9	849.9	6	- 1	2028.9	10870.4	-760.2	139.9	85.7
5TH	20.14	57:16	247.2	109	290	530.1	852.0	7	- 2	1971.3	10623.2	-720.8	132.6	84.¢
6TH	23.80	55.9	247.8	109	290	514.3	854 2	7	- 2	1915.5	10375.4	-682.4	125.5	82.2
7TH	27.46	54.6	249.5	109	290	502.7	860.0	7	- 2	1860.9	10125.9	-644.9	118.6	80.3
8T H	31.12	53.6	251.9	109	290	493.7	868.3	?	- 2	1807.3	9874.1	-608.3	111.9	78.3
9TH	34.78	52.7	254.3	109	290	484.8	876.5	8	- 2	1754.6	9619.8	~572.6	105.3	76.3
1018	38.44	514.7	256.7	109	290	475.8	884.8	8	- 2	1702.9	9363.1	-537.8	99.0	74.2
	42.11	50.7	259.1	109	290	466.9	893.0	8	- 2	1652.2	9104.0	-504.0	92.9	72.0
1178		49.7	261.5	109	290	457.9	901.3	8	- 2	1602.5	8842.6	-471.2	86.9	69.8
12TH	45.77	49.2	264.2	109	290	452.9	910.7	8	- 2	1553.3	8578.4	-439.3	81.1	67.5
13TH	49.43	49.0	267.4	109	290	451.5	921.8	9	- 2					
14TH	53.09	48.9	270.7	109	290	450.1	933.0	9	- 2	1504.3	8311.0	-408.4	75.5	65.1
15TH	56.75	48.7	273.9	109	290	448.7	944.2	9	- 2	1455.4	8040.3	-378.5	79.1	62.7
16TH	60.41	48.6	277.2	109	290	447.3	955.4	9	- 2	1406.7	7766.3	-349.5	64.9	60.3
17TH	64.07	48.4	280.4	109	290	445.9	966.6	9	- 2	1358.1	7489.2	-321.6	59.8	57.7
18TH	67.73	48.7	284.1	109	290		979.4	9	- 2	1309.7	7208.8	-294.7	54.9	55.2
1 9T H	71.39	49.5	289.4	109	290		997.7	9	- 2	1261.0	6924.6	-268.8	50.2	52.6
20T H	75.05				290	462.8 1		9	- 1	1211.5	6635.2	-244.0	45.7	49.9
21ST	78.71	50.3	294.7	109				9	-1	1161.3	6340.5	-220.3	41.4	47.3
2 2 N D	82.37	51.1	300.1	109	290	470.2 1		-		1110.2	6040.4	-197.6	37.2	44.6
2 3 R D	86.03	51.9	305.4	109	290	477.6 1		9	-1	1058.3	5735.1	-176.1	33.2	41.9
24TH	89 69	52 7	310.7	109	290	484.9 1		8	-1	1005.7	5424.4	-155.6	29.5	39.2
		53.9	3163	109	290	496.3 1	090.3	8	- 1					

TABLE Wind D	7 SHEAR AND IRECTION 40	MOMEN	DIAGRAM C	S : GATI Onfiguri		ECT TOWER	TUO Refe	RENCE PR	ESSURE	771 PA		: BASED ON AE	ROELASTI	C DATA
FLOOR	HEIGHT (M)	FORCE	ски) Ски)	AREA X	(SQ M) Y	P PESSURI X	E (PA) Y	ECCEN X	<n> Y</n>	SHEAR X	CKN) Y	n on X	ENT (MN- Y	M) Z
25TH	93.35					E1 (0)		8	- 1	951.8	51.08.1	-136.4	25.9	36.5
26TH	97.01		323.3	109	290	516.8 1				895 6	4784.7	-118.2	22.5	33.8
27TH	100.68	58.4	330.4	109	290	537.2 1		8	-1	837.3	4454.4	-101.3	19.3	31.1
28TH	104.34	60.6	337.4	109	290	557.7 1	163.0	8	- 1	776.7	4117.0	- 85.6	16.4	28.3
	108.00	62.8	344.4	109	290	578.2 1	187.2	8	- 1	713.9	3772.6	-71.2	13.6	25.6
29TH		65.0	351.4	109	290	598.7 1	1211.4	7	- 1	648.9	3421.1	~ 58 . 0	1101	23.0
3 O T H	111.66	67 0	358.4	109	290	617.2 1	1235.4	7	- 1	581.8	3062.7	-45.2	8.9	20.3
31ST	115.32	68.1	364.3	109	290	627 3 1	255.8	7	- 1				6.9	17.5
32ND	118.98	69.2	370.2	109	290	637 4 1	276 1	7	-1	513.7	2698.4	-35.6		
3 3 R D	122.64			109	290	647.5 1		7	- 1	444.5	2328.2	-26.4	5.,1	15.0
34TH	126.30	70.3						7	- 1	374.2	1952.1	-18.6	3.6	12.4
35TH	129.96	71.4	381.9	109	290	657.6 1				302.7	1570.2	-12.1	2.4	9.8
36TH	133.62	72.5	387.8	109	290	667.8 1	336.8	6	- 1	230.2	1182.4	-7 1	1.4	7.2
		71.6	389.0	109	290	658.9 1	1340.9	6	- 1	158.6	793.4	-3.5	.7	4.7
37TH	137.28	67 0	348.5	109	290	617.2 1	201.4	6	- 1	91.6	444.9	-1.2	. 3	2.6
38T H	140.94	91.6	444.9	162	433	565.2 1	027.5	6	- 1					
TOP	146.44									0.0	0.0	0	0.0	0.0

		0					ECCEN		SHEA	R (KN)	#0	RENT CAN-	. # >
00 R.	HEIGHT (M)	FORCE	CKN) Y	AREA X	(SQ H) Y	PRESSURE (PA) X Y	X	Y Y	X	Y	x	HENT CHN- Y	Ž.
RND	0.00				476	621.9 1044.0	8	-2	2623.4	13131.9	-1047.3	214.7	133.9
1 S T	5.50		454.9	163	436		9	-2	2521.9	12677.0	-976.4	200.5	130.1
2ND	9.16		284.3	109	290	580.4 979.9		-2	2458.9	12392.7	-930.5	191.4	127.5
3R D	12.82	59.3	269.3	109	290	545.9 928.3	10		2399.6	12123.4	-885.6	182.5	124.7
4TH	16.48	57.1	261.2	109	290	526.2 900.3	10	-2	2342.4	11862.2	-841.7	173.8	121.9
5TH	20.14	55.8	262.1	109	290	513.6 903.6	10	- 2	2286 . 6	11600.1	-7.98 . 8	165.3	119.1
6TH	23.80	54.4	263.1	109	290	501.0 906.9	11	-2	2232.2	11337.0	-756.8	157.1	116.2
7TH	27.46	53.3	264.8	109	290	490.8 912.7	11	-2	2178.9	11072.2	-715.8	149.0	113.2
8TH	31.12	52.3	266.8	109	290	481.9 919.6	11	-2	2126.6	10805.4	-675.7	141.1	110.1
9TH	34.78	51.4	268.8	109	290	473.0 926.4	12	-2	2075.2	10536.6	-636.7	133.4	106.8
OTH	38.44	50.4	270.8	109	290	464.2 933.3	12	-2	2024.8	10265.9	-598.6	125.9	103.5
111	42.11	49.5	272.7	109	290	455.3 940.2	12	-2	1975.3	9993.1	-561.5	118.6	100.1
27.8	45.77	48.5	274.7	109	290	446.4 947.0	13	-2	1926.9	9718.4	-525.4	111.5	96.5
3TH	49.43	47.9	277.2	109	290	440.6 955.6	13	-2	1879.0	9441.2	-490.4	104.5	92.9
4TH	49.43 53.09	47.5	280.8	109	290	437.6 967.8	13	-2	1831.5	9160.4	-456.3	97.7	89.3
	56.75	47.2	284.3	109	290	434.5 979.9	13	- 2	1784.3	8876.1	-423.3	91.1	85.6
STH.		46.9	287.8	109	290	431.5 992.1	13	- 2	1737.4	8588.3	-391.3	84.6	81.9
6TH .	60.41	46.5	291.3	109	290	428 5 1004.2	13	-2	1690.9	8297.0	-360.4	78.4	78.1
7TH.	64.07	46.2	294.9	109	290	425.5 1016.4	13	-2	1644.7	8002.1	-330.6	72.3	74.3
8T\H	67.73	47.2	299.6	109	290	434.3 1032.9	12	- 2	1597.5	7702.5	-301.9	66.3	70:5
9TH	71.39	50 0	307.2	109	290	460.3 1059.0	12	- 2	1547.5	7395.3	-274.2	60.6	66.7
OTH	75.05	52.8	314.8	109	290	486.4 1085.1	12	-2	1494.7	7080.5	-247.7	55.0	62.8
IST	78.71	55.7	322.4	109	290	512.4 1111.3	12	- 2	1439.0	6758.1	-222.4	49.6	58.9
2ND	82.37	58.5	330.0	109	290	538.4 1137.4	11	-2	1380.5	6428.1	-198.3	44.5	55.1
3RD	86.03	61.3	337.5	109	290	564 4 1163.5	11	- 2			-175.4	39.5	51.2
4TH	89.69	64.4	345.5	109	290	593.3 1190.8	11	- 2	1319.2	6090.6	-119.4	37.J	J1.2

LOOR	HEIGHT (N)	FORCE	(KN)	AREA	(SQ N)	PRESSUR	E (PA)	ECCEN	(H)		(KH)	NO	HENT CHN-	H> _
LOOK	NEIGHT CHT	X	Ϋ́	X	Y	X	Y	X	Y	X	Y	x	Ť	Z
25TH	93.35			109	290	628.8	227 1	10	-2	1254.8	5745.1	-153.7	34.8	47
ETH	97.01	68.3	356.0							1186.5	5389.1	-133.3	30.3	43
7TH	100.68	72.2	366.5	109	290	664.4		10	-2	1114.3	5022.6	-114.3	26.1	39
8TH	104.34	76.0	377.0	109	290	699.9		10	-2	1038.3	4645.6	-96.6	22.2	35
	108.00	79.9	387.5	109	290	735.4 1	335.8	9	- 2	958.5	4258.1	-80.3	18.5	32
:9TH		83.7	398.1	109	290	770.91	372.1	9	- 2	874.7	3860.0	-65.4	15.2	28
OT H	111.66	87.3	408.4	109	290	803.7	1497.8	ğ	- 2	787.4	3451.6	- 52 . 0	12.1	24
1 S T	115.32	89.6	413.8	109	290	824.8	1426.5	8	- 2	697.8	3037.8	-40.1	9.4	21
ZND	118.98	91.9	418.9	109	290	846.0	1443.8	8	- 2				7.0	17
3RD	122.64	94 2	423.9	109	290	867.2	461.1	7	- 2	606.0	2618.9	-29.8		
4TH	126.30		428.9	109	290	888.3	478 5	7	-2	511.8	2195.1	-21.0	5.0	14
STH.	129.96				290	909.5		7	- 2	415.3	1766.1	-13.7	3.3	11
6TH	133.62	98.8	433.9	109					-1	316.5	1332.2	-8.1	2.0	8
7TH	137.28	98.1	432.9	109	290	902.8		6	-	218.5	899.3	-4.0	1.0	5
8TH	140.94	92.1	391.6	109	290	848.0 1		6	-1	126.4	507.7	-1.4	. 3	2
TOP	146.44	126.4	507.7	162	433	779.5	172.6	5	- 1	0.0	0 .0	0 .0	0.0	\$

						PRESSURE		ECCEN	<pre>/ # ></pre>	CHEA	R (KN)		HENT CAN	- 83
OOR	HEIGHT (M)	FORCE	CKN2 Y	якея Х	(SQ H) Y	PRESSURE	Y	X	Ϋ́Ύ	X	K (KNZ Y	X	MENT (MN- Y	
ND	0.00			147	436	403.2	868.0	11	-2	1829.6	11147.7	-906.0	161.0	H
ST	5.50	65.8	378.3	163				12	-2	1763.8	10769.4	-845.8	151.1	
ND	9116	39.7	234.0	109	290		806.5			1724.0	10535.4	-806.8	144.7	
RD	12.82	36.7	219.9	109	290		758.0	13	-2	1687.3	10315.5	-768.6	138.5	
тн	16.48	35.3	212.3	109	290		731.7	14	-2	1652.1	10103.3	-731.2	132.4	
тн	20.14	34.7	212.8	109	290		733.4	15	- 2	1617.4	9890.5	-694 6	126.4	
TH	23.80	34.Ģ	213.3	109	290		735.2	15	- 2	1583.4	9677.2	-658.8	120.5	
TH	27.46	33.0	214.3	109	290		738.7	16	- 2	1550.4	9462.9	-623.8	114.8	
TH	31.12	31.7	216.1	109	290		745.0	16	- 2	1518.7	9246.8	-589.6	109.2	
тн	34.78	30.4	218.0	109	290		751.4	17	-2	1488 2	9028.8	-556.1	103.7	
TH	38 44	29.1	219.8	109	290	268.3	757.7	18	- 2	1459.1	8809.0	-523.5	98.3	
TH	42.11	27.8	221.6	109	290		764.0	18	- 2	1431.2	8587.3	-491.6	93.0	Ĩ
TH	45.7?	26.6	223.5	109	290		770.3	19	- 2	1404.7	8363.9	-460.6	87.8	9
TH	49.43	26 . 1	226.2	109	290		779.6	19	-2	1378.6	8137.7	-430.4	82.7	9
TH	53.09	26.3	230.0	109	290	242.0	792.8	19	- 2	1352.3	7907.7	-401.0	77.7	4
TH	56.75	26.5	233.8	109	290	244.2	805.9	19	- 2	1325 8	7673.9	-372.5	72.8	8
TH	60.41	26.8	237.6	109	290	246.3	819.1	19	-2	1299.1	7436.3	-344.8	68.0	8
TH	64.07	27.0	241.4	109	290	248.5	832.3	19	- 2	1272.1	7194.9	-318.1	63.3	
TH	67.73	27.2	245.3	109	290	250.7	845.4	18	- 2	1244.8	6949.6	-292.2	58.7	
TH	71.39	28.2	249.9	109	290	259.3	861.4	18	- 2	1216.7	6699.7	-267.2	54.2	
TH	75.05	30.1	256.6	109	290	277.5	884.3	17	- 2	1186.5	6443.1	-243.1	49.8	
5 T	78.71	32.1	263.2	109	290	295.7	907.3	17	- 2	1154 4	6180.0	-220.0	45.5	
	rø.ri 82.37	34.1	269.8	109	290	313.9	930.2	16	- 2	1120.3	5910.1	-197.9	41.3	
ND ND		36.1	276.5	109	290	332 1	953.1	16	-2	1084.3	5633.6	-176.8	37.3	
R Ð	86.03	38.0	283.1	109	290	350.3	976.0	15	- 2	1046.2	5350.5	-156.7	33.4	
TH	89.69	40.6	290.4	109	290	373.8 1	001.1	14	- 2	1040.2	13JV. J	-130.1	33.4	

	7. SHEAR AND IRECTION 60		DIAGR	AMS : GATE Configura		ECT TOWER		RENCE P	ESSURE	771 PA		: BASED ON A	ERGELASTI	C DATA	
FLOOR	HEIGHT (M)	FORCE	(KN) Y	AREA X	(รอู้ท) Y	PRESSURE X	(PA) Y	ECCE	I (M) Y	SHEAR X	E CKND Y	n or X	IENT (MN- Y	n) z	
25TH 26TH 27TH 28TH 29TH 30TH 30TH 31ST 32ND 33RD 34TH 35TH	93.35 97.01	X 44.5 48.4 52.3 56.2 60.1 64.1 68.7 73.2 77.7 82.2 86.7	Y 300.6 310.7 320.9 331.0 341.1 351.5 360.0 368.2 376.5 384.7 393.0	X 109 109 109 109 109 109 109 109 109	Y 290 290 290 290 290 290 290 290 290 290	X 409.7 1 445.6 1 517.5 1 553.4 1 590.4 1 632.1 1 673.7 1 715.4 1 757.0 1 798.7 1	Y 036.1 071.1 106.0 141.0 175.9 211.6 240.9 269.4 297.8 326.2 354.7	x 14 13 12 11 11 10 9 8 7 6 6	Y - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 1 - 1 - 1	x 1005.6 961.1 912.7 860.4 804.2 744.1 680.0 611.3 538.1 460.4 378.2 291.5	5060.1 4759.5 4448.8 4127.9 3796.9 3455.8 3104.3 2744.3 2376.0 1999.5 1614.8 1221.8		29.6 26.0 22.6 19.4 16.3 13.5 10.9 8.5 6.4 4.6 3.0 1.8	Z 33.5 29.6 25.6 25.6 18.5 18.5 18.5 18.5 18.5 18.5 18.5	224
38TH	137.28 140.94 146.44	88.2 84.4 118.9	358.8	109 109 162	290 290 433	812.2 1 777.1 1 733.3 1	236.6	5 4 2	- 1 - 1 - 1	203.3 118.9 0.0	826.8 468.1 0.0	+3.7 -1.3 0.0	.9 .3 ¢.¢		

PAREN ON APPRELACTIC DATA

ĴR I	HEIGHT (N)	FORCE	EKN)	AREA	(SQ_H)	PRESSURE	(PA) Y	ECCE	N CM>	SHEAF X	CKN)	X	OMENT (NN Y	I-H) Z
1D	Q. QQ				474	444 2	654.0	51	-12	2193.0	8472.6	-696.9	189.2	717.
5 T	5.50	68.7		163	436				-12	2124.2	8187.6	-651.1	177.3	- \$\$\$.
ND	9.16	43.0		109	290		617.7	101		2081.2	8008.5	-621.4	169.6	- \$\$\$. <i>!</i>
RÐ	12.82	40.8		109	290		588.7	147	-35	2040.4	7837.7	-592.4	162.1	- \$ \$\$.:
TH	16.48	40.4		109	290	371.7	573.4	156	-38	2000.0	7671.3	-564.0	154.7	- 444.1
тн	20.14	40.7		109	290	374.9	572.8	155	-38	1959.3	7505.2	-536.3	147.4	- \$\$\$.
TH	23.80	41.1		109	290		572.2	154	-38	1918.2	7339.2	-509.1	140.3	444.
TH	27.46	40.7		109	290		571.1	150	-37	1877.5	7173.5	-482.5	133.4	444.
TH	31.12	39.9		109	290		571.0	146	-35	1837.6	7007.8	-456.6	126:6	44.
TH	34.78	39.1		109	290		571.0	141	-33	1798 6	6842.2	-431.2	119.9	444.1
ГН	38.44	38.2		109	290		571.0	137	-32	1760.3	6676.5	-406.5	113.4	44.
T.H	42.11	37.4		109	290		571.0	133	-30	1722.9	6.510.9	-382.4	107.0	144.:
TH	45.77	36.6		109	290		571.0	129	-28	1686.3	6345.2	-358.8	100.8	\$4.:
TH	49.43	36.5		109	290		573.7	122	-27	1649.8	6178.8	-335.9	94.7	44.
F:H	53.09	37.1		109	290		580.0	114	-25	1612.7	6010.6	-313.6	88.7	
TH	56.75	37.6		109	290		586.3	106	-24	1575.1	5840.5	-291.9	82.9	
T H	60.41	38.2		109	290		592.6	99	-22	1536.9	5668.5	-270.8	77.2	- 43.1
TH	64.07	38.8		109	290		599.0	91	-20	1498.1	5494.8	-250.4	71.6	- 44.
ТН	67.73	39.3		109	290		605.3	84	-19	1458.7	5319.2	-230.6	66.2	
TH	71.39	40.4		109	290		614.3	78	-18	1418.3	5141.0	-211.5	60.9	+ 10.
TH	75.05	42.1	183.5	109	290		632.5	77	-18	1376.2	4957.5	-193.0	55.8	185.
ST	78.71	43.9	188.7	109	290		650.6	75	-17	1332.4	4768.7	-175.2	50.9	-100.
ND	82.37	45.6	194.0	109	290		668.7	73	-17	1286.8	4574.8	-158.1	46.1	
RÐ	86.03	47.3	199.2	109	290	435.7	686.8	71	-17	1239.5	4375.5	-141.7	41.5	-130.5
TH	89.69	49.1	204.5	109	290	451.6	704.9	70	-17	1190.4	4171.0	-126.0	37.0	-145.
• •		51.5	210.5	109	290	473.8	725.6	64	-16					

OR HEI	GHT (M)	FORCE	(EN)		(ରହ୍ୟ)	PRESSUR	E (PA)	ECCE	a (H) -	SHEAL	R (KN)		DHENT (MN-M	D -
		X	Ť	X	T	×	T	^	•				32.7 -	
	. 35	55.5	219.0	109	290	510.6	754.9	47	-1-2	1138.9	3.960.5	-111.2		11
6TH 97	. 01	59.5	227.5	109	290	547.4	784.2	31	- 8	1083.5	3741.5	-97.1	28.7 -	11
7TH 100	. 68		236.0	109	290	584.2	813.5	1.6	- 4	1024.0	3514.0	- 83 .48	24.8 -	11
BTH 104	. 34		244.5	109	290	620.9	842.7	3	-1	960 6	3278.0	-71.4	21.2 -	14
9TH 108	. 00		253.0	109	290	657.7	872.0	-10	3	893.1	3033.6	- 59 . 8	17.8 -	14
OTH 111	. 66						901.1	-22	6	821.7	2780.6	-49.2	14.7	1
IST 115	. 32	75.4	61.4	109	290	694 .1				746.3	2519.2	- 39 . 5	11.8 -	1
2ND 118	. 98	79.2	272.5	109	290		939.3	-31	9	667.2	2246.7	-30.7	9.2 -	14
	. 64	82.9	283.8	109	290		978.4	-38	11	584.2	1962.8	-23 0	6.9 -	1
	30	86.7	295.2	109	290	798.4	1017.5	-46	13	497.5	1667.6	-16.4	4.9 -	13
	.96	90.5	306.5	109	290	833.2	1056.6	-52	15	407.0	1361.1	-10.8	3.3 -	12
**		94.3	317.9	109	290	868.0	1095.7	-58	17	312.7	1043.3	-6.4		
	. 62	95.0	324.2	109	2,90	875.1	1117.5	-59	17	217.7	719.1	-3.2	1.0]
	. 28	90.6	303.8	109	290	834.5	1047.1	-83	25				-	I
BTH 140		127.1	415.3	162	433	783.9	959.3	-116	36	127.1	415.3	-1.1	. 3	ŢŦ
TOP 146	. 44	-								Q .Q	Q.Q	Q.Q	Q . Q	

	7. SHEAR IRECTION		MOMENT	DIAGE	AMS : GATE CONFIGURE		JECT TOWER	TWO REFE	RENCE PRI	ESSURE	771 PA		: BASED ON A	ERCELAST	IC DATE
FLOOR	HEIGHT	(H)	FORCE	(KN) Y	AREA	(SQ_M) Y	P RE SS U RE X	(PA) Y	ECCEN X	CH >	SHEAR X	(KN) Y	X NO	HENT CHN-	-H) Z
GRND	0.00		96.8	717 6	163	436	593. Ó	717 7	- 9	3	3340.8	9195.2	-736.5	275.6	-1+1.5
1 S T	5.50									3	3244.1	8882.6	-686.8	257.5	- + + - :
2ND	9,16			201.0	109	290		693.0	- 8		3183.2	8681.6	-654.7	245.8	- • • • . :
3R D	12.82		57.9		109	290		673.0	-8	2	3125.3	8486.4	-623.3	234.2	
4TH	16.48			192.1	109	290		662.1	-8	2	3967.5	8294.3	-592.5	222.9	- • • • . :
STH	20.14			189.9	109	290	543.7		-9	.3	3008.4	8104.4	-562.5	211.8	- + + + .:
6TH	23.80			187.8	109	290	555.3		-9	3	2948.1	7916.6	-533.2	200.9	- 44. (
7TH	27.46			186.7	109	290	566.5		-10	3	2886 . 6	7729.8	-504.6	190.2	-48.0
8TH	31.12		62.7		109	290	577.5		-10	3	2823.8	7542.0	-476.6	179.7	-44.
9T H	34.78			189.0	109	290		651.4	-10	3	2759.9	7353.0	-449.4	169.5	- 44.
1 O T H	38.44			190.1	109	290		655.2	-10	4	2694.8	7162.9	-422.8	159.5	- 44. :
11TH	42.11			191.2	109	290		659.1	-11	4	2628.5	6971.7	-396.9	149.8	- 14.
12TH	45.77			192.3	109	290		662.9	-11	4	2561.0	6779.4	-371.7	140.3	- 44.
13TH	49.43		69.8		109	290		667.3	-11	4	2492.2	6585.8	-347.3	131.0	- 44.3
14TH	53.09			195.3	109	290		673.3	-11	4	2422.2	6390.5	-323.5	122.0	- 11.
15TH	56.75		71.4		109	290	657.3		-11	4	2350.8	6193.5	-300.5	113.3	- 14.
16TH	60.41		72.7		109	290		695.2	-11	4	2278.1	5994.7	-278.2	104.8	- 44. 9
1778	64.07			200.5	109	290		691.2	-11	4	2204.1	5794.2	-256.6	96.6	- 44.
18TH	67.73		75. <u>3</u>	202.2	109	290		697.2	-11	4	2128.7	5591.9	-235.8	88.7	-43.0
19TH	71.39		77.1	204.8	109	290	710.1	705.8	-11	4	2051.6	5387.2	-215.7	81.0	- 40.
20TH	75.05			209.3	109	290		721.6	-11	4	1972.0	5177.8	-196.3	73.7	- 41.
21ST	78.71		82.2	213.9	109	290		737.4	-11	4	1889.8	4963.9	-177.8	66.6	- \$ 5.
2 2 N D	82.37			218.5	109	290		753.2	-11	4	1805.1	4745.4	-160.0	59.9	- 92.
2 3 R D	86.03			223.1	109	290		769.0	-11	4	1717.9	4522.3	-143.0	53.4	- 49.3
24TH	89.69		89.7	227.7	109	290	826.0	784.8	-11	5	1628.2	4294.6	-126.9	47.3	- 4
			92.2	232.2	109	290	849.0	800.5	-11	5 .					14.4

	7. SHEAR AN IRECTION 8		DIAGR	ANS : GAT Configur		JECT TOWER	TWO REP	ERENCE PRI	ESSURE	771 PA		: BASED ON A	ROELAST	IC DATA
FLOOR	HEIGHT (M)	FORCE	(KN)	AREA X	(SQ_M) Y	PRESSURE X	(PA) Y	ECCEN X	(M) Y	SHEAR X	E CKN >	X NOP	IENT (NN- Y	-H) Z
25TH	93.35									1536.0	4062.4	-111.6	41.5	-4\$.3
26TH	97.01	94.7		109		871.5		-11	4	1441.4	3823.1	-97.2	36.0	-40.2
27TH	100.68		246.5	109		894.0		-11	4	1344.3	3576.6	- 83.6	30.9	- ++. 1
28TH	104.34		253.6	109			874.3	-11	4	1244.7	3322.9	-71.0	26.2	-\$\$.9
29TH	108.00		260.8	109			898.9	-10	4	1142.7	3062.2	- 59.3	21.8	-34.8
30TH	111.66	104.4	267.9	109	290	961.5	923.5	-10	4	1038.3	2794.3	-48.6	17.8	-27.5
315T		106.8	275.0	109	290	983.1	948.0	-10	4	931.5	2519.3	- 38 . 9	14.2	-24.5
32ND	118.98	108.7	283.5	109	290	1001.2	977.4	-10	4	822.8	2235.7	-30.2	11.0	
33RD	122.64	110.7	292.2	109	290	1019.3 1	007.3	- 9	4	712.1	1943.5	-22.5	8.2	
34TH	126.30	112.7	300.9	109	290	1037.3 1	037.1	- 9	3	. 599 . 4	1642.6	-16.0	.5.8	
		114.6	309.5	109	290	1055.4 1	067.0	- 9	3	484.8	1333.1	- 10. y	3.8	-11.6
35TH	129.96	116.6	318.2	109	290	1073.5 1	096.9	- 8	3					- I.I.
36TH	133.62	115.0	321.2	109	290	1059.0 1	107.1	- 8	3	368.2	1014.9	-6.2	2.3	
37TH	137.28	107.3	296.6	109	290	988.2 1	022.5	- 8	3	253.2	693.7	-3.1	1.1	-
38TH	140.94	145.9	397.1	162	433	899.9	917.2	- 8	3	145.9	397.1	-1.1	. 4	-7.5
TOP	146.44							-		0.0	0.0	ð. O	0.0	♦.♦

FLOOR	HEIGHT (#) FORCE	(KN)	AREA	(SQ #)	PRESSURE	(PA)	ECCEN	(8)	SHEA	R (KN)	HO	HENT CAN-	-82
. LUUK		X	Ϋ́	X	Y	X	Ŷ	X	Ŷ	X	¥ ·	X	Y	Z
GRND	0.00					7/7 4		-		4117.9	11534.9	-886.5	330.1	-97.6
1ST	5.50	125.1		163	436	767.0	944.2	-7	2	3992.8	11123.5	-824.2	307.8	-94.5
2ND	9,16		262.5	109	290	720.7	904.8	-6	2	3914.5	10861.0	-783.9	293.4	-92.6
3RD	12.82	73.5	252.5	109	290	676.3	870.4	- 6	2	3841.1	10608.5	-744.6	279.2	-91.0
4TH	16.48	73.3	249.3	109	290	674.8	859.4	- 6	2	37.67 . 8	10359.2	-706.3	265.2	-89.3
5TH	20.14	75.4	251.4	10,9	290	694.2	866.7	-7	2	3692.4	10107.7	-668.8	251.6	-87.5
6TH	23.80	77.5	253.5	109	290	713.6	873.9	-7	2	3614.9	9854.2	-632.3	238.2	-85.6
778	27.46	79.6	255.4	109	290	732.8	880.5	-7	2	3535.3	9598.8	-596.7	225.1	-83.5
8TH	31.12	81.7	256.9	109	290	752.0	885.7	-7	2	3453.6	9341.9	-562.0	212.3	-81.4
		83.8	258.4	109	290	771.2	890.9	- 8	3	3369.9	9083.4	-528.3	199.8	-79.2
97H	34.78	85.8	259.9	109	290	790.3	896.1	- 8	3	3284.0	8823.5	-495.5	187.7	-76.9
10TH	38.44	87.9	261.5	109	290	809.5	901.2	- 8	3		8562.0	-463.7	175.8	-74.5
11TH	42.11	90.0	263.0	109	290	828.7	906.4	- 8	3.	3196.1				
12TH	45.77	91.9	2,64.6	109	290	845.8	912.0	-9	3	3106.1	8299.1	-432.8	164.3	-72.1
13TH	49,43	93.5	267.1	109	290	861.0	920.6	- 9	3	3014.2	8034.5	-402.9	153.1	-69.5
14TH	53.09	95.2	269.5	109	290	876.2	929.1	-9	3	2920.7	7767.4	-374.0	142.2	-67.0
15TH	56.75		272.0	109	290	891.4	937.7	- 9	3	2825.5	7497.9	-346.0	131.7	-64.4
16TH	60.41	98.5	274.5	109	290	906.6	946.3	-9	3	2728.7	7225.8	-319.1	121.5	-61.8
17TH	64.97	100.1	277.0	109	290		954.9	-9	3	2630.3	6951.3	-293.1	111.7	-59.1
18TH	67.73			109	290		964.4	- 8	3	2530.1	6674.3	-268.2	102.3	-56.5
1.9TH	71.39	102.0	279.8						3	2428.2	6394.5	-244.3	93.2	-53.8
20TH	75.05	104.1	283.3	109	290	958.2		-8	-	2324 1	6111.2	-221.4	84.5	-51.1
215T	78.71	106.2	286.8	109	290		988.7	- 8	3	2217.9	5824.4	-199.5	76.2	-48.4
22ND	82.37	108.3	290.3	109	290	997.2 1		-8	3	2109.6	5534.1	-178.8	68.3	-45.7
2 3 R D	86.03	110.4	293.8	109	290	1016.7 1	012.9	- 8	3	1999.2	5240.2	-159.0	60.7	-43.0
24TH	89.69	112.5	297.4	109	290	1036.2 1	025.0	- 8	3	1886.7	4942.9	-140.4	53.6	-40.3
		114.5	300.8	109	290	1054.7 1	037.0	- 8	3					_

	7. SHEAR AN IRECTION 9		T DIAGRA	AS : GATE Configure	EWAY PROG TION A	ECT TOWER TWO	REFERENCE PR	ESSURE	771 PA		: BASED ON AS	ROELAST	IC DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	AREA X	(\$8,M>	PRESSURE (P X Y	A) ECCEN	¢∦≶ ¥	SHEAT	E CKND Y	N OH X	IENT (MN- Y	-N) Z
25TH	93.35		.					-	1772.1	4642.0	-122.9	46.9	-37.6
26TH	97.01	116.3		109	290	1070.9 1050		3	1655.8	4337.2	-106.4	40.5	-34.9
27TH	100.68	118.1		109	290	1087.2 1064		5	1537.7	4028.2	-91.1	34.8	-32.2
2 8 T H	104.34	119.8		109	290	1103.4 1078		3	1417.9	3715.3	-76.9	29.4	-29.5
29TH	108.00	121.6		109	290	1119.7 1092		3	1296.3	3398.2	-63.9	24.4	-26.8
30TH	111.66	123.4	321.1	109	290	1136.0 1106		3	1172.9	3077.1	- 52 . 1	19.9	-24.1
31ST	115.32	125.0	325.0	109	290	1151.0 1120	.2 -7	3	1047.9	2752.2	-41.4	15.8	-21.4
32ND	118.98	126.1	329.6	109	290	1161.2 1136	.1 -7	3	921.7	2422.6	-31.9	12.2	-18.7
33RD	122.64	127.2	334.3	109	2 90	1171.3 1152	.4 -7	3	794.5	2088.3	-23.7	9.1	-16.0
		128.3	339.0	109	290	1181.5 1168	.7 -7	3	666.2	1749.3	-16.6	6.4	-13.4
34TH	126.30	129.4	343.8	109	290	1191.6 1185	.0 -7	3	536.8	1405.5	-10.9	4.2	-10.7
35TH	129.96	130.5	348.5	109	290	1201.8 1201	. 2 - 7	2				2.5	-8.1
36TH	133.62	127.8	346.5	10,9	290	1177.1 1194	.5 -6	2	406.3	1057.0	-6.4		-
37TH	137.28	118.6	311.3	109	290	1092.0 1073	.2 -7	3	278.4	710.5	-3.1	1.2	-5.6
38T H	140.94	159.8	399.1	162	433	986.0 922	.0 -7	3	159.8	399.2	-1.1	. 4	-3.2
TOP	146.44								0.0	0.0	9.0	0.0	0.0

	7. SHEAR AND IRECTION 100		T DIAGR	ANS : GATE Configure		ECT TOWER	TUO REFE	RENCE PRI	ESSURE	771 PA		I BASED ON A	EROELAST	IC DATA
FLOOR	HEIGHT (N)	FORCE	(KŊ)	AREA	('se୍ମ>	PRE SSURE X	(PA) Y	ECCEN	<h><h><h><h<>h<>h<>h<>h<>h<>h<>h<>h<>h<></h<></h></h></h>	SHEA X	R (KN)	10 M X	NENT (NN) Y	-#) Z
GRND	0.00				. 7/	897 1	901.7	-6	2	4274.3	10569.5	-792.7	340.1	-85.3
1 S T	5.50	134.3	392.9	163	436	823.1				4140.1	10176.5	-735.7	317.0	-82.7
2ND	9:16		251.5	109	290	773.1	866.8	-6	2	4056.1	9925.1	-693.9	302.0	-81.1
3R D	12.82	78.9	242.6	109	290	726.0	836.2	-5	2	3977.2	9682.5	-663.0	287.3	-79.6
4TH	16.48	78.9	240.8	109	290	726.6	830.2	- 6	2	3898.3	9441.7	-628.0	272.9	-78.1
STH	20.14	81.5	244.4	109	290	750.5	842.5	- 6	2	3816.8	9197.2	-593.9	258.7	-76.4
6TH	23.80	84.1	248.0	109	290	774.4	854.9	-7	2	3732.7	8949.2	-560.7	244.9	-74.6
7TH	27.46	86.¢	250.1	109	290	791.9	862.2	-7	2	3646.7	8699.1	-528.4	231.4	-72.7
	31.12	87.5	250.4	109	290	805.4	863.1	-7	2	3559.2	8448.7	-497.0	218.2	-70.8
,8TH 		88.9	250.7	109	290	819.0	864.1	-7	2	3470.3	8198.0	-466.5	205.4	-68.8
9TH	34.78	90.4	250.9	109	290	832.5	865.0	-7	3	3379.9	7947.1	-437.0	192.8	-66.8
1078	3,8.44	91.9	251.2	109	290	846.1	866.0	-7	3	3288.0	7695.9	-408.3	180.6	-64.7
11TH	42.11	93.4	251.5	109	290	859.6	866.9	-7	3			-380.6	168.7	-62.7
12TH	45.77	94.9	252.0	109	290	873.6	868.6	-7	3	3194.6	7444.4			-60.6
13TH	49.43	96.5	253.1	109	290	888.0	872.6	-7	3	3099.7	7192.4	-353.8	157.2	
14TH	53.09	98.0	254.3	109	290	902.5	876.6	-7	3	3003.3	6939.3	-328.0	146.1	-58.5
15TH	56.75	99.6	255.5	109	290	916.9	880. 6	-7	3	2905.2	6685.0	-303.0	135.2	-56.4
16TH	60.41	101.2	256.6	109	290	931 3	884.5	- 7	3	2805.7	6429.5	-279.0	124.8	-54.3
17TH	64.07	102.7	257.8	109	290	945.8	888.5	-7	3	2704.5	6172.9	-255.9	114.7	-52.1
18TH	67.73	104.6	259.3	109	290	962.8	893.7	- 7	3	2601.8	5915.1	-233.8	105.0	-49.9
19TH	71.39				290	983 6	902.2	-7	3	2497.2	5655.9	-212.6	95.7	-47.8
20TH	75.05		261.7	109						2390.4	5394.1	-192.4	86.7	-45.6
21ST	78.71	109.1	264.2	109	290	1004.4	910.7	-7	3	2281.3	5129.9	-173.2	78.2	-43.4
2 2 N D	82.37		266.7	109	290	1025.2	919.2	-7	3	2169.9	4863.3	-154.9	70.0	-41.2
2 3 R D		113.6	269.1	109	290	1046.0	927.7	-7	3	2056.3	4594.2	-137.6	62.3	-39.0
24TH		115.9	271.6	109	290	1066.8	936.2	-7	3	1940.5	4322.6	-121.2	55.0	-36.8
		118.0	274.0	109	290	1086.8	944.5	- 7	3					

	7. SHEAR AN IRECTION 10		T DIAGRI	AMS : GAT Configur		JECT TOWER		ERENCE PRE	SSURE	771 PA		BASED ON A	ROELASTI	LC DATA
FLOOR	HEIGHT (M	FORCE X	(KN) Y	AREA X	(SQ_M) Y	PRESSURE X	(PA) Y	ECCEN	€Ħ⊃ Y	SHEAR X	(KN) Y	HOH X	IENT (MN- Y	-#) Z
25TH	93.35	120.0	07/ 0	140	290			-7	3	1822.4	4048.6	-105.9	48.1	-34.5
26TH	97.01			109			951.2		-	1702.4	3772 6	-91.6	41.6	-32.3
27TH	100.68	122.0	277.9	109	290		958.0	- 7	3	1580.4	3494.7	-78.3	35.6	-30.0
28TH	104.34	124.0		109	290		964.7	- ?	3	1456.5	3214.8	-66.0	30.1	-27.7
29TH	108.00			109	290	~	971.5	-7	3	1330.5	2933.0	-54.8	25.0	-25.3
30TH	111.66	127.9	283.8	109	290	1177.7	978.2	- 7	3	1202.6	2649.2	-44.5	20.3	-23.0
315T	115.32	129.7	285.5	109	290	1193.7	984.2	- 7	3	1073.0	2363.7	-35.4	16.2	-20.6
32ND	118.98	130.4	287.9	109	290	1201.0	992.3	- ?	3	942.5	2075.8	- 27 . 2	12.5	-18.2
33RD	122.64	131.2	290.4	109	290	1208.3 1	091.1	-7	3	811.3	1785.4	-20.2	9.3	-15.7
		132.0	292.9	109	290	1215.6 1	009.8	-7	3					
34TH	126.30	132.8	295.5	109	290	1222.9 1	018.5	- 7	3	679.3	1492.5	-14.2	6.5	-13.2
35TH	129.96	133.6	298.0	109	290	1230.1 1	027.2	-7	3	546.5	197.0	-9.3	4.3	-10.6
36TH	133.62	130.5	294.3	109	290	1201 5 1	014.4	-7	3	412.9	899.0	-5.4	2.5	-8.0
37TH	137.28	120.6		109	290		912.5	-7	7	282.4	604.7	-2.7	1.3	-5.5
38TH	140.94	161.7		162	433		785.4	- 8	- -	161.7	340.0	- 9	. 4	-3.1
TOP	146.44		J T V . V	102	733	271.1	100.7	- 0	T	0.0	¢.¢	¢.¢	0.0	0.0

	7 SHEAR AND IRECTION 11		T DIAGR	AMS : GATE Configura	WAY PROJ Tion A	ECT TOWER	TWO REFE	RENCE PRESSUR	E 771 PA		BASED ON A	ERUELASI	IC DATA
LOOR	HEIGHT (M)	FORCE	(KN) Y	AREA	(SQ_N) Y	PRESSURE X	(PA) Y	ECCEN (H) X Y	SHEI	NR (KN) Y	x HO	HENT CHN- Y	-M) Z
GRND	0.00	133.3	404.8	163	436	816.9	928.9	-7 2	4346.4	10526.1	-773.2	343.1	- 97.1
1 S T	5.50			103	290	779.3	898.4	-7 2	4213.1	10121.3	-716.4	319.5	-94.0
2ND	9.16	84.6	260.6				873.8	-7 2	4128.5	9860.7	-679.8	304.3	-92.0
3RD	12.82	81.3	253.5	109	290	748.8			4047.Z	9607.3	-644.2	269.3	-90.1
4TH	16.48	82.4	252.5	109	290	758.5	870.4	-7 2	3964.8	9354.7	-609.5	274.7	-88.2
5TH	20.14	85.6	255.8	109	290	787.8	881.7	-7 2	3879 2	9098.9	-575.7	260.3	-86.2
6T H	23.80	88.8	259.1	109	290	817.2	893.0	-7 2	3790.5	8839.9	-542.9	246.3	-84.1
7TH	27.46	90.8	260.5	109	290	835.6	898.0	-7 3	3699.7	8579.4	-511.0	232.5	- 81.9
8TH	31.12	92.0	260.3	109	290	847.2	897.3	-7 3	3607.7	8319.1	-480.1	219.2	-79.7
9TH	34.78	93.3	260.1	109	290	858.9	896.6	-8 3	3514.4	8059.0	-450.1	206.1	-77.5
10TH	38.44	94.6	259.9	109	290	870.6	895.9	-8 3	3419.9	7799.0	-421.1	193.4	-75.3
11TH	42.11	95.8	259.7	109	290	882.2	895.2	-8 3	3324.0	7539.3	-393.0	181.1	-73.0
12TH	45.77	97.1	259.5	109	290	893.9	894.5	-8 3	3226.9	7279.8	-365,9	169.1	-70.8
13TH	49.43	98.7	259.8	109	290	908.6	895.6	-8 3	3128.3	7020.0	-339.7	157.5	-68.5
		100.6	260.9	109	290	926.2	899.3	-8 3	3027.7	6759.1	-314.5	146.2	-66.2
14TH	53.09	102.5	262.0	109	290	943.8	903.0	-8 3	2925.1	6497.2	-290.2	135.3	-63.8
15TH	56.75	104.4	263.0	109	290	961.4	906.7	-8 3		6234.1	-266.9	124.8	-61.4
16TH	60.41	106.3	264.1	109	290	979.0	910.3	-8 3	2820.7				-59.0
17TH	64.07	108.2	265.2	109	290	996.6	914.0	-8 3	2714.4	5970.0	-244.6	114.7	
1 8 T H	67.73	109.8	265.7	109	290	1010.9	915.8	-8 3	2606.2	5704.9	-223.2	104.9	-56.0
19TH	71.39	110.8	265.1	109	290	1020.4	913.7	-8 3	2496.4	5439.2	-202.8	95.6	-54.2
20TH	75.05	111.9	264.5	109	290	1029.9	911.6	-8 3	2385.5	5174.2	-183.4	86.7	-51.7
2 1 S T	78.71	112.9	263.8	109	290		909.5	-8 3	2273.7	4909.7	-164.9	78.1	-49.3
2 2 N D	82.37	113.9	263.2	109	290		907.4	-8 4	2169.8	4645.9	-147.4	70.0	-46.7
2 3 R D	86.03				290		905.3	-8 4	2046.9	4382.6	-130.9	62.3	-44.2
24TH	89.69	115.0	262.6	109	274	1038.3	7VJ.J	-0 4	1931.9	4120.0	-115.4	55.0	-41.6

TABLE WIND D	7 SHEAR AN IRECTION 11		T DIAGRI	NS : GAT Configur		JECT TOWER	T⊌O Refi	ERENCE PRESS	URE	771 PA		: BASED ON AE	ROELASTI	IC DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	AREA	(S₽_Ħ) Y	PRESSURE X	(PA) Y	ECCEN (M X Y	12	SHEAR X	(KN) Y	N OH X	ENT (MN- Y	-H) Z
25TH	93.35			100		1088.2	a	-8 4		1815.6	3857.6	-100.8	48.2	-39.0
26TH	97.01	118.2		109			910.4		•	1697.4	3593.4	-87.1	41.7	-36.4
27TH	100.68	120.1		109			916.3	-8 4	ł	1577.3	3327.6	-74.5	35.7	-33.8
28TH	104.34	122.0	267.5	109	290	1123.6		-8 4	ł	1455.3	3060.1	-62.8	30.2	-31.2
29TH	108.00	124.0	269.2	109	290	1141.3	927.9	-6 4	Ļ	1331.3	2790.9	- 52.1	25.1	-28.6
30TH	111.66	125.9	270.9	109	290	1159.0	933.8	-8 4	ł	1205.5	2520.0	-42.3	20.4	-25.9
		127.7	272.4	109	290	1175.9	939.1	-8 4	ŧ.	1077,8	2247.6	-33.6	16.3	-23.3
31ST	115.32	129.2	274.5	109	290	1190.0	946.2	-8 4	ł					
3 2 N D	118.98	130.8	276.7	109	290	1204.1	953.8	-8 4	ŀ	948.5	1973.1	-25.9	12.6	-20.5
3 3 R D	122.64	132.3	278.9	109	290	1218.2	961.3	-8 4	L	817.7	1696.4	-19.2	9.3	-17.8
34TH	126.30	133.8		109			968.8	-8 4		685.4	1417.5	-13.5	6.6	-15.0
35TH	129.96									551.6	1136.5	-8.8	4.3	-12.1
36TH	133.62	135.4		109	290		976.3	-8 4	•	416.2	853.3	-5.1	2.5	-9.2
37TH	137.28	132.4	278.6	109	290	1219.4	960.4	-8 4	ļ	283.8	574.7	-2.5	1.3	-6.3
	140.94	121.8	251.1	109	290	1121.4	865.6	-9 4	ļ.	162.0	323.5	9	. 4	-3.6
38TH		162.0	323.5	162	433	999.3	747.3	-9 5	i					
TOP	146.44									0.0	0.0	0.0	0.0	0 .0

TABLE	7. SHEAR AN IRECTION 12	D HONEN O	T DIAGR	ANS : GATE Configure	WAY PROJ TION A	ECT TOWER	TWO REFE	RENCE PR	ESSURE	771 PA	1	BASED ON A	EROELAST	IC DATA
FLOOR	HEIGHT (M)	FORCE	CKN) Y	AREA	(รตุท)	PRESSURE X	(PA) Y	ECCEN X	<pre>K H ></pre>	SHEA X	R CKN3	H GI X	MENT (MN Y	1-M) Z
GRND	0.00		70/ 8	163	436	752.7	886.9	- 8	3	4263.6	10799.4	-792.9	337.8	-119.0
1 S T	5.50	122.8	386.5				875.9	- 8	3	4140.8	10412.9	-734.6	314.7	-115.6
2ND	9:16	78.7	254.1	109	290	724.6		-	3	4062.1	10158.8	-696.9	299.7	-113.2
3R D	12.82	75.8	251.0	109	290	698.0	865.0	-9		3986.3	9907.9	-660.2	285.0	-110.8
4TH	16.48	77.5	254.3	109	290	713.7	876.7	- 9	3	3908.8	9653.5	-624.4	270.5	-108.3
5TH	20.14	81.5	261.6	109	290	750.1	901.8	- 9	3	3827.3	9391.9	-589.5	256.3	-105.7
6TH	23.80	85.4	268.9	109	290	786.4	927.0	-9	3	3741.9	9123.0	-555.6	242.5	-103.0
7TH	27.46	87.9	273.0	109	290	809.7	940.9	- 9	3	3654.0	8850.0	-522.7	228.9	-100.2
8T H	31.12	89.6	273.2	109	290	824.8	941.9	- 9	3	3564.4	8576.8	-490.9	215.7	-97.5
9TH	34.78	91.2	273.5	109	290	840.0	942.8	- 9	3	3473.1	8303.3	-460.0	202.9	-94.7
10TH	39.78	92.9	273.8	109	290	855.1	943.7	- 9	3	3380.3	8029.5	-430.1	190.3	-91.8
	42.11	94.5	274.1	109	290	870.3	944.7	- 9	3	3285.7	7755.4	-401.2	178.1	-89.0
11TH		96.2	274.3	109	290	885.4	945.6	- 9	3	3189.6	7481.1	-373.3	166.3	-86.1
12TH	45.77	97.9	274.8	109	290	901.8	947.3	-9	3	3091.6	7206.3	-346.4	154.8	-83.3
13TH	49.43	99.9	275.5	109	290	919.4	949.6	- 9	3			-320.5	143.6	-80.4
14TH	53.09	101.8	276.1	109	290	937.0	951.9	- 9	3	2991.8	6930.8			
15TH	56.75	103.7	276.8	109	290	954.6	954.2	- 9	4	2890.0	6654.7	-295.7	132.9	-77.4
16TH	60.41	105.6	277.5	109	290	972.2	956.5	- 9	4	2786.3	6377.9	-271.8	122.5	-74.5
17TH	64.07	107.5	278.1	109	290	989.8	958.8	- 9	4	2680.7	6100.4	-249.0	112.5	-71.5
18TH	67.73	109.2	278.1	109	290	1005.1	958.8	- 9	4	2573.2	5822.2	-227.1	102.9	-68.5
19TH	71.39	110.5	275.9	109	290		950.9	-10	4	2464.1	5544.1	-206.3	93.6	-65.4
20TH	75.05						943.0	-10	4	2353.6	5268.2	-186.5	84.8	-62.4
21ST	78.71	111.8	273.6	109	290					2241.9	4994.7	-167.8	76.4	-59.3
22ND	82.37	113.1	271.3	109	290		935.1	-10	4	2128.8	4723.4	-150.0	68.4	- 56.3
23RD	86.03	114 3	269.0	109	290		927.2	-10	4	2014.5	4454.4	-133.2	60.8	-53.2
24TH	89.69	115.6	266.7	109	290	1064.7	919.3	-10	. 4	1898.8	4187.8	-117.4	53.7	-50.1
		117.0	264.6	109	290	1077.6	912.2	-10	4					

	7. SHEAR AND IRECTION 120		DIAGRAMS Con		WAY PROJE Tion A	CT TOVER	TWO REFE	RENCE PRESSI	RE 771 PA		: BASED ON AE	RCELASTI	IC DATA
FLOOR	HEIGHT (M)	FORCE	(KN) Y	AREA X	(SQ ∰) Y	PRESSURE X	(PA) Y	ECCEN (M X Y	SHEA X	R (KN) Y	N O H X	ENT CHN-	-H) Z
25TH	93.35	118.7	267 1	109	290	1092.5	920.6	-10 4	1781.8	3923.1	-102.5	46.9	-47.9
26TH	97.01						929.0	-10 4	1663.1	3656.1	- 58 . 6	40.6	-43.9
27TH	100.68	120.3		109	290				1542.8	3386.6	-75.8	34.7	-40.7
28TH	104.34	121.9	271.9	109	290		937.4	-10 4	1421.0	3114.6	-63.9	29.3	-37.5
29TH	108.00	123.5	274.4	109	290	1137.2	945.8	-10 4	1297.4	2840.2	-53.0	24.3	-34.3
		125.1	276.8	109	290	1152.1	954.2	-10 4	1172.3	2563.4	-43.1	19.8	-31.1
3¢TH	111.66	126.6	279.0	109	290	1165.2	961.6	-10 4	1045.8	2284.5	-34.2	15.8	-27.8
315T	115.32	127.2	280.3	109	290	1171.0	966.2	-10 4					
3 2 N D	118.98	127.8	281.6	109	290	1176.8	970.8	-10 4	918.6	2004.2	-26.3	12.2	-24.5
3 3 R D	122.64		283.0	109	290	1182.6		-10 5	790.7	1722.5	-19.5	9.0	-21.2
34TH	126.30							-10 5	662.3	1439.6	-13.7	6.4	-17.8
35TH	129.96		284.3	109	290		980.0		533.2	1155.3	-9.0	4.2	-14.3
36TH	133.62	129.7	285.7	109	290	1194.2	984.7	-10 5	403.5	869.6	-5.3	2.5	-10.8
		126.8	280.6	109	290	1167.5	967.2	-10 5	276.7	589.0	-2.6	1.2	-7.4
37TH.	137.28	117.8	255.2	109	290	1084.3	879.8	-10 5			9	. 4	-4.2
38T H	140.94	159.0	333.8	162	433	980.7	771.0	-10 5	159.0	333.8			
TOP	146.44		-						0 .0	Q.Q	• ¢.¢	Q .Q	¢.¢

	7. SHEAR AND IRECTION 130		T DIAGRI	AMS : GATI Configuri	EWAY PROJ Ation A	ECT TOWER	REFE	RENCE PR	ESSURE	771 PA	•	BASED ON A	CROCLHOII	
LOOR	HEIGHT (M)	FOPCE	(EN) Y	AREA X	< ระ ุห >	PRESSURE	(PA) Y	ECCEN	CH > Y	SHERI	R CKN3	. но Х	HENT (HN- Y	-#) Z
GRND	0.00									4020.0	8946.3	-668.5	318.9	-139.8
15T	5.50	113.3	300.3	163	436	694.8	689.2	-10	4	3906.6	8645.9	-620.1	297.1	-136.4
210	9.16	71.6	198.8	109	290	658.8	685.4	-11	4	3835.1	8447.1	-588.8	282.9	-133.9
JRD	12.82	68.7	198.3	109	290	632.6	683.5	-11	4	3766.3	8248.8	-558.3	269.0	-131.4
4TH	16.48	70.8	20171	109		651.7	693.3	-12	4	3695.6	8047.7	-528.4	255.3	-128.8
5TH	20.14	75.3	202.9	109	290	693.1	699.4	-12	4	3620.3	7844.8	-499.3	241.9	-126.0
6TH	23.80	79.8	204.7	109	290		705.6	-12	5	3540.5	7640.1	-471.0	228.8	-123.2
778	27.46	82.8	206.4	109	290	762.2	711.5	-1,2	5	3457 8	7433.7	-443 4	216.0	-120.3
8TH	31.12	84.9	210.3	109	290	781.5	724.8	-12	5	3372.9	7223.4	-416.6	203.5	-117.3
9TH	34.78	87.¢	214.1	109	290	800.9	738.2	-12	5	3285.9	7009.3	-390.5	191.3	-114.3
10TH	34.76	89.1	218.0	109	290	820.2	751.5	-12	5	3196.8	6791.2	-365.3	179.5	-111.2
11TH	42.11	91.2	221.9	109	290	839.6	764.9	-12	5	3105.6	6569.3	-340.8	167.9	-108.0
12TH	45.77	93.3	225.8	109	290	858.9	778.2	-12	5	3012.3	6343.6	-317.2	156.7	-104.7
		95.0	228.6	109	290	874.3	788.1	-12	5	2917.4	6115.0	-294.4		-101.4
13TH	49.43	96.2	229.3	109	290	885.9	790.4	-13	5	2821.1	5885.6	-272.4	135.4	-98.0
14TH	53.09	97.5	230.0	109	290	897.6	792.8	-13	5	2723.7	5655.7	-251.3	125.2	-94.6
15TH	56.75	98.7	230.7	109	290	909.2	795.1	-13	5	2624.9	5425.0	-231.0	115.5	-91.1
16TH.		100.0	231.3	109	290	920.8	797.4	-13	6	2524.9	5193.7	-211.6	106.0	-87.6
17TH		101.3	232.0	109	2.90	932.5	799.7	-13	6		4961.7	-193.0	97.0	-84.0
1878		102.6	232.6	109	290	944.6	801.7	-13	6	2423.6			88.3	-80.3
19TH	71.39	104.0	232.8	109	290	957.5	802.3	-13	6	2321.0	4729.1	-175.2		
20TH	75.05	105.4	232.9	109	290	970.5	802.9	-13	6	2217.0	4496.4	-158.4	80.0	-76.6
215T	78.71	106.8	233.1	109	290	983.4	803.6	-14	6	2111.6	4263.4	-142.3	72.1	-72.8
22ND	82.37	108.2	233.3	109	290	996.3	804.2	-14	6	2004.8	4030.3	-127.1	64.5	-69.0
23RD	86.03	109.6	233.5	109	290		804.8	-14	7	1896.6	3797.0	-112.8	57.4	-65.1
24TH	89.69	110.9	233.6	109	290		805.1	-14	7	1787.0	3563.5	-99.3	50.6	-61.1

FLOOR	HEIGHT	(M) FORCE	(KN)	AREA	(SR N)	PRESSURE	(PA)	ECCEN	(8)	SHEAR	(KN)	101	ENT (MN	(一門)
		X	Y	x	Y	X	Y	x	Y	X	, Y	X	Y	
25TH	93.35	112.1	377 5	109	290	1031.7	805.0	-14	7	1676.1	3330.0	-86.7	44.3	-
26TH	97.01								-	1564.0	3096.5	-75.0	38.4	-
27TH	100.68	113.2	233.5	109	290	1042.0	804.9	-14	7	1450.8	2862.9	-64.1	32.8	-
28TH	104.34	114.3	233.5	109	290	1052.2	804.8	-14	7	1336.5	2629.5	-54.0	27.7	-
	108.00	115.4	233.4	109	290	1062.5	804.7	-14	7	1221.1	2396.0	-44.8	23.1	-
		116.5	233.4	109	290	1072.8	804.6	-14	7			-36.5	18.8	-
	111.66	117.6	233.3	109	290	1082.7	804.1	-14	7	1104.6	2162.6			
3137	115.32	118.5	234 7	109	290	1090.8	809.2	-14	7	987.0	1929.3	-29.0	15.0	-
32ND	118.98	119.3		109	290	1098.9	814 8	-14	7	869.6	1694.6	-22.3	11.6	-
33RD	122.64								, 7	749.2	1458.2	-16.6	8.6	-
34TH	126.30	120.2		109	290	1107.0		-14	f _	629.0	1220.2	-11.7	6.1	-
35TH	129.96	121.1	239.7	109	290	1115_0	826.2	-14	7	507.9	980.5	-7.6	4.0	-
	133.62	122.0	241.3	109	290	1123.1	831.9	-14	7	385.9	739.1	-4.5	2 ² .4	-
		119.8	237.3	109	290	1103.1	817.9	-14	7	266.1	501.8	-2.2	1.2	
	137.28	112.3	216.7	103	290	1034.3	747.0	-14	7					
3 8 th	140,94	153 8	285.1	162	433	948.6	658.6	-13	7	153.7	285.1	8	. 4	
TOP	146.44	V				•••••				0.0	0.0	0.0	0.0	

TABLE Vind (7. SHEAR AND DIRECTION 140		T DIAGRAM	IS : GATE Configura	WAY PRO. Ition a	ECT TOWER	REFE	RENCE PR	ESSURE	771 PA		: BASED ON A	ERGELASTIC DATA
FLOOR	HEIGHT (N)	FORCE	(KN) Y	AREA X	(SQ M) Y	PRESSURE	E (PA) Y	ECCEN X	<pre>CM > Y</pre>	SHEAR X	(KN) Y	NO X	MENT (MN-M) Y Z
GRND	0.00	00 <i>(</i>	304.5	163	436	567.7	698 7	- 7	2	3400.2	••••••••	-111-1	268.7 -138.7
1 S T	5.50		194.0	109	290		668.6	- 8	- 3	3307.6	6692 .0	-+++-+	250.2 -136.4
2ND	9.16		194.0	109	290		642.3	-9	3	3246.7	44\$\$. \$	-4\$\$.7	238.2 -134.7
3R D	12.82	62.8	189.8	109	290	578.3	654.3	- 9	3	3186.6	•••••••••••••	-414-7	226.5 -132.9
4TH	16.48	67.3	200.1	109	290	619.4	689.9	- 9	3	3123.8	4121.9	-747.5	214.9 -130.9
5TH	20.14		210.4	109	290		725.4	- 9	3	3056.5	** **.*	-749.5	203.6 -128.8
6T H	23.80	73.8	211.5	109	290		729.2	-10	3	2984.8	\$7\$\$.3	-744-7	192.5 -126.6
7 T H	27.46		203.4	109	290		701.3	-11	4	2911.0	9499 .8	-343.7	181.8 -124.2
8T H	31.12		195.4	109	290		673.4	-12	4	2836.7		-303.9	171.2 -121.8
9T H	34.78		187.3	109	290	693.7	645.6	-12	5	2761.9			161.0 -119.2
10TH	38.44		179.2	109	290	698.5	617.7	-13	6	2686.6			151.0 -116.5
1 1 T H	42.11		171.1	109	290	703.4	589.9	-14	6	2610.7	1111-1		141.3 -113.7
12TH	45.77		165.8	109	290	713.6	571.4	-15	7	2534.3			131.9 -110.7
13TH	49.43	79.2	164.9	109	290	729.0	568.4	-16	8	2456.8			122.8 -107.7 113.9 -104.4
14TH	53.09	80.8	164.0	109	290	744.3	565.4	-16	8	2377.6 2296.8			105.4 -101.1
15TH	56.75	82.5	163.2	109	290	759.7	562.4	-17	9	2276.8	IIIII	-184.5	97.1 -97.6
1678	60.41	84.2	162.3	109	290	775.1	559.4	-18	9	2130.1			89.2 -93.9
17TH	64.97	85.8	161.4	109	290	790.4	556.4	-18	10	2044.2			81.5 -90.1
1878	67.73	87.3	159.8	109	290	803.4	551.0	-19	10	1957.0			74.2 -86.2
19TH	71.39	88.3	159.7	109	290	812.9	550.3	-19	11	1868.7			67.2 -82.2
2014	75.05	89.3	159.5	109	290	822.5	549.7	-19	11	1779.4			60.5 -78.1
21ST	78.71	90.4	159.3	109	290	832.0	549.0	-20	11	1689.0			54.2 -74.0
22ND	82.37	91.4	159.1	109	290	841.5	548.4	-20	12	1597.6		-	48.1 -69.7
23RD	86.03 89.69	92.4	158.9	109	290	851.1	547.7	-20	12	1505.2			42.5 -65.4
24TH	47.02	93.5	159.2	109	290	861.0	548.7	-21	12			•••	

THE REPORT AND MOMENT PROCEEDED CATERAN APPLIERT TRUEP THE

: RASED ON AEROELASTIC DATA

TABLE Vind D	7. SHEAR AN IRECTION 14		T DIAGR	AMS : GAT Configur		JECT TOWER	TWO Refe	RENCE PR	ESSURE	771 PA		: BASED ON A	ERDELASTI	C DATA
FLOOR	HEIGHT (N)	FORCE X	(KN) Y	AREA X	(SQ_M) Y	PRESSURE X	(PA) Y	ECCENX	(H) Y	SHEAR X	(KN) Y	M O X	MENT (MN- Y	·h) Z
25TH	93.35	94.7	161.8	109	290	871.7	557.8	-21	12	1411.6	₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽	- 65 . 6 - 56 . 5	37.1	-61.0 -56.5
26TH	97.01	95.8	164.5	109	290	882 4	566.9	-20	12	1317.0	ffTI f			
27TH	100.68	97.0	167.1	109	290	893.1	575.9	-20	12	1221.1	fii I		27.5	-52.0
28TH	104.34	98.2	169.7	109	290	903.8	585.0	-20	12	1124.1	HII!		23.2	-47.5
29TH	108.00		172.3	109	290	914.5	594.1	-20	11	1026.0		- + + - + - + - + - + - + - + - + - + -	19.3	-43.0
30TH	111.66	100.3		109			599.9	-20	11	926.6	1410.9	- 27 . 4	15.7	-38.4
31ST	115.32	100.6		109			607.6	-19	11	826.3		-21.8	12.5	-33.8
3 2 N D	118.98	100.9		109	290		616.6	-19	11	725.7	- ††† • †	-14.7	9.6	-29.3
3 3 R D	122.64	101.2		109			625.7	-18	10	624.7	╶╛┋╡╡╸┦	-14.4	7.2	-24.9
34TH	126.30						634.7	-18	10	523.5	- \$\$\$.\$	-4.7	5.1	-20.6
35TH	129.96	101.5		109			643.8	-17	9	422.0	- † ‡4. I	-\$.†	3.3	-16.3
36TH	133.62	101.8		109					-	320.1	- \$4\$.\$	-\$.\$	2.0	-12.2
37TH	137.28		180.7	109	290		622 07	-17	9	220.4	- \$44 . }	-1.4	1.0	-8.2
38TH	140.94		161.9	109			558.1	-17	10	127.2	244.4	4.4	. 3	-41.6
TOP	146.44	127.2	206.8	162	433	784.7	477.6	-16	10	¢. ¢		4 . •	Q.Q	¢.¢

TABLE WIND D	7. SHEAR AND IRECTION 150	NOMENT DIAGRAM	IS : GATEWAY PROJ Onfiguration a	ECT TOWER TWO Refei	RENCE PRESSURE	771 PA	: BASED ON AERDELASTIC DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	NOMENT (NN-N) X Y Z
GRND	0.00	81.0 87.2	163 436	496.6 200.2	-33	2995.8 -\$**7.2	531.1 230.6 -115.8
1 S T	5.50	56.7 20.4	109 290	522.2 70.4	-2 6	2914.8 -\$924.4	444.7 214.4 -115.2
2ND	9,16	58.0 -14.9	109 290	534.4 -51.4	2 6	2858.0 -\$.8	203.8 -114.8
3RD	12.82	60.7 -35.2	109 290	559.0 -121.3	4 7	2800.0	455 2 193.4 -114.5
4TH	16.48	64.0 -40.6	109 290	589.6 -140.0	58	2739.3 -544.7	183.3 -113.9
5T H	20.14	67.4 -46.1	109 290	620.2 -158.8	7 10	2675.2 -\$*\$4.	412. 173.4 -113.2
6TH	23.80	69.1 -61.0	109 290	636 2 -210.2	9 10	2607.9 -500	163.7 -112.2
7TH	27.46	69.8 -83.4	109 290	643.1 -287.6	10 9	2538.8 -5747.4	
8TH	31.12	70.6 -105.9	109 290	650.0 -364.9	12 8	2468.9 - 4643.4	348.7 145.1 -109.5
97 H	34.78	71.3 -128.3	109 290	656.9 -442.3	12 7	2398.4 -\$\$\$7.7	328.2 136.2 -107.7
10TH	38.44	72.1 -150.8	109 290	663.8 -519.6	12 6	2327.0 -\$429.4	127.6 -105.7
11TH	42.11	72.8 -173.2	109 290	670.7 -597.0	13 5	2254.9 -5274.7	244.\$ 119.2 -103.4
12TH	45.77	73.5 -190.9	109 290	676.5 -658.2	13 5	2182.1 -5 5.5	269.\$ 111.1 -100.8
13TH	49.43	74.0 -191.8	109 290	681.3 -661.2	14 5	2108.6 -49.4.5	25,2 103.2 -97.9
14TH	53.09	74.5 ~192.7	109 290	686.1 -664.2	14 5	2034.6 -4722.7	233.5 95.6 -94.9
15TH	56.75	75.0 -193.6	109 290	690.9 -657.2	15 6	1960.1 -4510.4	2 6 68.3 -91.8
16TH	60.41	75.6 -194.4	109 290	695.7 -670.2	15 6	1885.0 -4336.5	200.4 81.3 -88.5
1778	64.07	76.1 -195.3	109 290	700.4 -673.2	16 6	1809.5 -4142.4	74.5 -85.1
18TH	67.73	76.7 -194.4	109 290	706 2 -670.0	17 7	1733.4 -104.7	68.0 -81.5
19TH	71.39	77.5 -186.2	109 290	713.3 -641.9	17 7	1656.7 -3752.3	61.8 -77.8
20TH	75.05	78.2 -178.1	109 290	720.4 -613.8	18 8	1579.2 -3566.	142.5 55.9 -74. 0
2157	78.71	79.0 -169.9	109 290	727.4 -585.7	19 9	1501.0 -1344.0	29.8 50.3 -70.1
2 2 N D	82.37	79.8 -161.8	109 290	734.5 -557.6	20 10	1422.0 -32.4.	44.9 -66.2
2 3 R D	86.03	80.5 -153.6	109 290	741.6 -529.5	21 11	1342.2 -	39.9 -62.2
24TH	89.69	81.3 -146.3	109 290	748.5 -594.3	22 12	1261.7 -4442.4	\$\$. ≵ 35.1 -58.1

BLE ND D	7. SHEAR AND Irection 150		S : GATEWA Onfigurati		ECT TOWER TWO Refei	ENCE P	RESSURE	771 PA	I BASED ON A	ERGELASTI	C DATA	
00 R	HEIGHT (#)	FORCE (KN) X Y	AREA (S X	e / # >	PRESSURE (PA)	ECCE	N (M) Y	SHEAR (KN) X Y	H 0 X	INENT (NN-1 Y	H) Z	
5TH	93.35	82.0 -145.5	109	290	754.6 -501.5	22	12	1180.4 -2754.5	17 1	30.6	-54.0	
TH	97.01	82.6 -144.7	109	2.90	760.8 -498 7	22	12	1098.4 -261.4	11.1	26.5	-49.8	
?TH	100.68	83.3 -143.8		296	767.0 -495.8	22	13	1015.8 -2464.4	11 · 1	22.6	-45.6	
8.T N	104.34	84.0 -143.0	109	290	773.1 -493.0	22	i 3	932.5 -2322.5		19.0	-41.5	
PT.H.	108.00	84.6 -142.2		290	779.3 -490.2	22	i 3	848.5 -2174.4	11 1	15.8	-37.2	
TH	111.66	85.1 -143.5		290	783.6 -494.7	22	13	763.9 -2437.3	11-1	12.8	-33.0	
ST	115.32	84.7 -154.9		290	780533.9	20	11	678.8 - 443.4	11 1	10.2	-28.8	
2ND	118.98	84.3 -166.4		290	776.4 -573.5	19	9	594.1 - 134.9	11 • 1	7.8	-24.7	
3 R D	122.64	83.9 -177.8		290	772.8 -613.0	17	8	509.7 - 572.5	* - *	5.8	-20.8	
4 T H	126.30	83.5 -189.3		290	769.3 -652.6	16	7	425.8 - 344.		4.1	-17.1	
5T H	129.96	83.2 -200.8		290	765.7 -692.2	14	6	342.3 - 245.4	1 . •	2.7	-13.5	
6 T H	133.62	80.9 -226.1		290	745.2 -779.2	12	4	259.1 -104.5	1.1	1.6	-10.1	
7 T H	137.28	75.5 -275.5		290	695.3 -949.6	10	3	178.2 -774.4		. 8	-7.0	
BT H	140.94	102.6 -503.0		433	633.2-1161.9	8	2	102.6 -\$**.*		. 3	-4.0	
TOP	146.44	142.0 .043.4				-		0.0 4.4	♦.♦	Q.Q	Q .Q	

									~	-		
L 0 0 R	HEIGHT (M.)	FORCE (KN) X Y	AREA (X	SQ M) Y	PRESSURE (PA) X 7	ECCE X	H (M) Y	SHER X	R (KN) Y	X	OMENT CMN Y	- 11)
GRND	0.00	0/ E (7) 7	147	476	530.0 -391.8	-50	-25	2860.9	-9606.3	746.2	217.5	ŧ
15T	5.50	86.5 -170.7	163	436				2774.4	-9435.6	693.8	202.0	ł
2ND	9.16	60.1 -139 0	109	290	553.6 -479.3	-45	-19	2714.3	-9298.6	659.6	192.0	
3RD	12.82	60.7 -163.6	109	290	558.7 -563.9	-41	-15	2653.6	-9133.0	625.8	182.2	
4TH	16.48	62.6 -182.0	109	290	576.0 -627.3	-33	-11	2591.1	-8951.0	592.7	172.6	
578	20.14	65.1 -194.9	109	290	599.4 -671.9	-26	- 9	2525 9	-8756.1	560.3	163.2	
		67.6 -207.9	109	290	622.8 -716.5	-19	- 6		-8548.2	528.6	154.1	ļ
6TH	23.80	68.8 -220.8	109	290	633 1 -761 2	-14	- 4		-8327.4	497.8	145.2	1
7TH	27.46	69.0 -229.7	109	290	635.3 -791.7	-11	- 3			467.7	136.6	-
8T H	31.12	69.2 -238.5	109	290	637.5 -822.1	- 8	- 2		-8097.7		128.2	_
9T H	34.78	69.5 -247.3	109	290	639.6 -852.6	-5	- 1		-7859.2	438.5		1
107H	38.44	69.7 -256.2	109	290	641.8 -883.1	- 2	- 1		-7611.9	410.2	120.1	-1
11TH	42.11	69.9 -265.0	109	290	644.0 -913.6	1	¢	21:2.1		382.8	112.2	-1
12TH	45.77	70.2 -271.4	109	290	646.5 -935.5	3	1	2042.2	-7090.7	356.3	104.6	-1
13TH	49.43	70.5 -269.3	109	290	649.4 -928.3	2	1	1972.0	-6819.3	330.9	97.3	-1
14TH	53.09	70.8 -267.2	109	290	652.2 -921.0	2	1	1901.4	-6550.0	305.4	90.2	-
15TH	56.75			- · ·		2	1	1830.6	-6282.8	282.9	83.4	- 1
16TH	60.41	71.1 -265.1	109	290	655.1 -913 8			1759.4	-6017.7	260.4	76.8	- 1
17TH	64.07	71.5 -263.0	109	290	657.9 -906.5	2	1	1689 0	-5754.7	238.9	70.5	
18TH	67.73	71.8 -260.9	109	2,90	660.8 -899.3	2	¢	1616 2	-5493.8	219.3	64.4	-
19TH	71.39	72.0 -258.7	109	290	662.8 -891.8	1	¢	1544.2	-5235.1	193.6	58.6	-
20TH	75.05	72.1 -255.4	109	290	663.7 -880.4	2	¢	1472.1	-4979.7	179.9	53.1	- 1
	78.71	72.2 -252.1	109	290	664.6 -868.9	2	1		- 4727.7	162.2	47.9	-
2151		72.3 -248.8	109	290	665.5 -857.5	2	1		-4478.9	145.3	42.9	-
22ND	82.37	72.4 -245.4	109	290	666.4 -846.1	2	1		-4233.5	129.4	38.1	-
23RD	86.03	72.5 -242.1	109	290	667.3 -834.6	3	1					
24TH	89.69	72 8 -238 6	109	290	670.2 -822.3	3	1	1182.8	-3991 3	114.3	33.7	

TABLE WIND D	7. SHEAR AND IRECTION 160	NOMENT DIAGRAM C	S : GATEWAY PROJ Onfiguration a	ECT TOWER TWO REFE	RENCE PRESSURE	771 PA	: BASED ON AE	ROELASTIC DATA
FLOOR	HEIGHT (M)	FORCE (KN) X Y	AREA (SQ M) X y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	N OH X	ENT (MN-M) Y Z
25TH	93.35	73.6 -242.8	109 290	()) ()) ()		1110.0 -3752.8	100 1	29.5 -6.4
26TH	97.01			677.6 -837.0	3 1	1036.4 -3510.0	86.8	25.6 -6.4
27TH	100.68	74.4 -247.0	109 290	685,1 -851.6	3 1	962.0 -3262.9	74.5	21.9 -5.2
28TH	104.34	75.2 -251.3	109 290	692.5 -866.2	3 1	886.8 -3011 6	63.0	18.5 -
29TH	108.00	76.0 -255.5	109 290	700.0 -880.8	31	810.8 -2756.1	52.4	15.4 -1.5
30TH	111.66	76.8 -259.8	109 290	707.4 -895.5	3 1	733 9 -2496.3	42:8	12.6 -2.
3157	115.32	77.6 -264.6	109 290	714.4 -912.2	3 i			11
		78.1 -266.1	109 290	719.1 -917.4	2 1	656.3 -2231.7	34.1	10.0
32ND	118.98	78.6 -267.1	109 290	723.9 -920 8	1 0	578.2 -1965.5	26.5	7.8 ?
3 3 R D	122.64	79.1 -268.1	109 290	728.7 -924.1	0 0	499.6 -1698.4	19.8	5.8 .
34TH	126.30	79.7 -269.1	109 290	733.5 -927.5	-1 -0	420.5 -1430.3	14.0	· 4.1 +.+
35TH	129.96	80 2 -270.0	109 290	738.3 -930.8	_	340.8 -1161.3	9.3	2.72
36TH	133.62					260.6 -891.2	5.5	1.6
37TH	137.28	79.2 -274.3	109 290	729.0 -945.4	-3 -1	181.4 -617.0	2.8	.8 -2.4
38T H	140.94	75.5 -259.0	109 290	695.4 -892.7	1 0	105.9 -358.0	1.0	.3 -2.4
TOP		105.9 -358.0	162 433	653.4 -827.0	62	0.0 0.0	0 .0	0.0

TABLE 7. SHEAR AND MOMEN	T DIAGRAMS : GATEWAY PROJECT T	IDVER TVO	771 PA
WIND DIRECTION 170	Configuration a	REFERENCE PRESSURE	

: BASED ON AEROELASTIC DATA

	TRECTION ITV		CONFIGURATION	Fi NET	LKENCE IKEGGGKE			
FLQOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ X y	M) PRESSURE (PA) X Y	ECCEN (M)	SHEAR (KN) X Y	X NO!	1EHT (MN-M) Y Z
GRND	0.00				-20 -7	414 1 -10646.9	817.4	\$4.2 167.8
1 S T	5.50	77.8 -240.9	163 43			-10405.9	759.5	77.7 162.3
2ND	9:16	43.2 -186.9	109 29		-19 -4	-10219.1	721.8	158.5
3RD	12.82	36.9 -207.4	109 29		-18 -3	-10011.7	684.8	4 . 154.6
4TH	16.48	35.0 -221.5	109 29		-17 -3	-9790.1	648.5	45. 150.7
5T H	20.14	35.1 -230 4	109 29		-16 -2	-9559.7	613.1	42.2 146.9
6T H	23.80	35.2 -239.3	109 29		-15 -2	-9320.4	578.5	143.1
7TH	27.46	35.6 -246.1	109 29		-14 -2	-9074.3	544.9	\$5. 139.5
8T H	31.12	36.0 -250.3	109 29		-14 -2		512.1	135.9
9T H	34.78	36.5 -254.4	109 29		-14 -2	-8569.6	480.3	132.3
1078	38.44	37.0 -258.6	109 29		-14 -2	-8311.1	449.4	5. 128.6
11TH	42.11	37.5 -262.7	109 29		-13 -2	-8048.3	419.4	2. 125.1
1278	45.77	38.0 -266.9	109 29		-13 -2	-7781.5	390.5	4.2 121.5
1378	49.43	36.7 -271.5	109 29		-13 -2	-7510.0	362 5	117.8
1478	53.09	33.8 -273.0	109 29		-14 -2	-7237.1	335.5	5. 114.1
15TH	56.75	30.9 -274.5	109 29		-14 -2		309.5	2. 110.2
1678	6.0.41	28.1 -276.0	109 29		-14 -1		284.5	106.3
1718	64.07	25.2 -277.5	109 29	0 231.8 -956.6	-15 -1	5 -6409.0	260.5	102.2
1878	67.73	22.3 -279.0	109 29	0 205 2 -961 9	-15 -1	553 2 -6130.0	237.6	97.9
19TH	71.39	20.2 -279.8	109 29	0 186 3 -964 6	-15 -1	531.4 -5850.2	215.7	93.6
2018	75.05	19.4 -281.2	109 29	0 178 7 -969 4	-16 -1	5 . 6 -5568.9	194.8	89.2
2157	78.71	18.6 -282.6	109 29	0 171.0 -974 1	-16 -1		174.9	84.7
2 1 5 1 2 2 N D	82.37	17.7 -284.0	109 29	ú 163.3 -978.9	-16 -1		156.1	80.2
	86.03	16.9 -285.4	109 29	0 155 7 -983.6	-16 -1	-4717.0	138.3	75.5
23RD		16.1 -286.7	109 29	0 148.0 -988.4	-17 -1	-4430.3	121.5	5.4 70.7
24TH	89.69	15.8 -287.6	109 29	0 145.1 -991.5	-i7 -1	1		****

	7. SHEAR AND IRECTION 170	NOMENT DIAGRAM C	S : GATEWAY PROJ Onfiguration a	ECT TOWER TWO Refe	RENCE PRESSURE	771 PA	BASED ON AE	ROELASTIC DATA
FLOOR	HEIGHT (#)	FORDE (KN) X Y	AREA (SØ M) X y	PRESSURE (PA)	ECCEN (M)	SHEAR (KN) X Y	N ON X	ENT (HH-H) Y Z
25TH	93.35	16.6 -291.0	109 290	153.1-1003.1	-17 -1	4142.6	105.8	3.8 65.9
26TH	97.01	17.5 -294.3	109 290	161 1-1014 6	-17 -1	-3851.7	91.2	2.2 61.0
27TH	100.68	18.4 -297.7	109 290	169.1-1026.1	-17 -1	-3557.3	77.6	14.4 56.1
28T H	104.34	19.2 -301.0	109 290	177.2-1037.7	-16 -1	-3259.6	65.2	9. 51.1
29T H	108.00	20.1 -304.4	109 290	185.2-1049.2	-16 -1	15 . 2 - 2 9 5 8 . 6	53.8	\$. 46.1
3 0 T H	111.66	21.4 -307.4	109 290	197.2-1059.6	-16 -1	-2654.2	43.5	4.7 41.1
3 1 S T	115.32	24.6 -304.3	109 290	226.1-1049.0	-16 -1	-2346.8	34.4	5.6 36.1
3 2 N D	118.98	27.7 -300.9	109 290	254.9-1037.1	-16 -1	-2042.5	25.3	. 31.1
3 3 R D	122.64			283.8-1025.1	-16 -2	-1741.7	19.4	26.2
34TH	126.30	30.8 -297.4				232.2 -1444.3	13.6	2. 21.4
3 5 T H	129.96	34.0 -293.9	109 290	312.6-1013.1	-16 -2	-1150.4	8.8	. 16.7
36T H	133.62	37.1 -290.4	109 290	341.5-1001.1	-16 -2	-859.9	5.1	. 12.0
37TH	137.28	40 7 -285.6	109 290	374.6 -984.4	-15 -2	-574.4	2.5	. 7.6
38T H	140.94	45.1 -254.0	109 290	414.9 -875.6	-14 -2	-320.3	. 9	. 2 3.9
TOP	146.44	75.4 -320.3	162 433	465.3 -739.9	-12 -3	0.0	0.0	0.0

OR	HEIGHT ((M) FORCE (KN) X Y	AREA	(SQ_M) Y	PRESSURE (PA)	ECCEN X	€H⊃ Y	SHEAR (KN) X Y	X	DMENT (MH Y	-H) Z
N P	0.00	-1j68.1 -325.3	163	436	-1030.5 -746.4	-13	7 -	\$1\$\$.2 -11920.4	905.4	-+++-+	178.
ST	5.50	-133.9 -234.9	103	290	-1232.9 -809.9	-12	· - 7	-11595.2	840.8		173.
ND	9:16				-1232.9 -863.6	-11		-11360.2	798.7	-\$\$\$.\$	169.
RD	12.82	-153.7 -250.5	109	290				-11109.7	757.6		165.
TH	16.48	-161.9 -260.1	109	290	-1490.9 -896.7	-11	-	-10849.5	717.4	-494.4	162
TH	20.14	-164.5 -265.3	109	290	-1514.6 -914.5	-11		-10584.2	678.2	-442.4	158
тн	23.80	-167.1 -270.5	109	290	-1538.3 -932.3	-10		-10313.8	639.9	-444.7	154
T.H	27.46	-172.6 -275.8	109	290	-1588.8 -950.6	-10		-10038.0	602.7	-444.\$	150
TH	31.12	-179.8 -280.0	109	290	-1655.9 -965.0	-10	6 –	-9758.0	566.5	-\$\$\$.\$	146
ГН	34.78	-187.1 -284.1	109	290	-1723.0 -979.5	-10	6 -	-9473.9	531.3	- # \$ \$. 1	142
T H	38.44	-194.4 -288.3	109	290	-1790.0 -993.9	-10	7 -	-9185.6	497.1		138
гн	42.11	-201.7 -292.5	109	290	-1857.1-1008.3	-10		-8893.1	464.0	-++++	134
H	45.77	-209.0 -296.7	109	290	-1924.2-1022.7	- 9	7 _	-8596.4	432.0		130
	49.43	-215.3 -300.1	109	290	-1982.6-1034.6	- 9	7 -	-8296.2	401.1	-266.1	125
H	53.09	-220.8 -301.9	109	290	-2032.8-1040.5	- 9	7 -	-7994.4	371.3	-245.6	121
'n	56.75	-226.2 -303.6	109	290	-2082.9-1046.4	- 9	7 _	-7690.8	342.6	-225.2	117
T H	60.41	-231.7 -305.3	109	290	-2133.1-1052.3	- 9	7 -	\$2 • 7 . 8 -7385.5	315.0	-205.8	113
		-237.1 -307.0	109	290	-2183.3-1058.3	- 9	? _	-7078.5	288.5	- 187.2	108
Г Н г 14	64.07	-242.6 -308.7	109	290	-2233.5-1064.2	- 9	? _	-6769.8	263.1	-14	104
Ή.	67 73	-246.2 -309.8	109	290	-2266.8-1068.0	- 9	7	-6460.0	238.9	- 52.6	99
H	71.39	-247.2 -312.1	109	290	-2275.6-1075.8	- 9	7		236.9	-	95
T H	75.05	-248.1 -314.4	109	290	-2284.4-1083.7	- 9	7	6147.9			
5 T	78.71	-249.1 -316.7	109	290	-2293.2-1091.6	- 9	7 -	-5833.5	193.9	-121.6	90
łD	82.37	-250 0 -319.0	109	290	-2302.0-1099.5	- 9	7 -	-5516.8	173.2	-447.4	86
RD	86.03	-251.0 -321.2	109	290	-2310.8-1107.3	- 9	7 -	-5197.8	153.5	-**.2	81
r H	89.69	-250.7 -323.3	109	290	-2308.2-1114.6	- 9	7 -	\$2\$6.1 -4 876.6	135.1	-#\$.\$	7.7

LOOR	HEIGHT	(M) FORCE X	(KN) Y	AREA	(SQ_M) Y	PRESSURE	(PA) Y	ECCEN	(首) 子	SHE	AR (KN) Y	NO X	INENT (NN- Y	-#) Z
25TH	93.35	-247.6	-327 1	109	290	-2279.4-11	177	- 9	7		-4553.3	117.8	-29.\$	72.2
26TH	97.01	-244.4		109		-2250.6-11		-10	7	- * * * * . *	-4230.2	101.8	-54.4	67.3
27TH	100.68								7	-+++++.+	-3907.3	86.9	-54.5	62.
2 8 T H	104.34	-241.3		109	290	-2221 8-11		-10		-####.	-3584.7	73.2		57.5
2 9 T H	108.00	-238.2		109	290	-2192.9-11		-10	7		-3262.4	60.6	-\$4.4	52.5
30T H	111.66	-235.0		109	290	-2164.1-11		-10	7		-2940.2	49.3	-\$7.\$	47.5
3 1 S T	115.32	-231.4		109	290	-2130.6-11		-19	7	- \$ 4 7 \$	-2618.6	39.1	-24.4	42.
3 2 N D	118.98	-225.6	-322.6	109	290	-2077.5-11	11.9	-11	7		-2296.1	30.1	-	37.
3 3 R D	122.64	-219.9	-323.7	109	290	-2024.4-11	16.0	-11	7		-1972.3	22 3	-11.	32.
34TH	126.30	-214.1	-324.9	109	290	-1971.3-11	20.1	-11	7		-1647.4	15.7	<u> </u>	26.
	129.96	-208.3	-326.1	109	290	-1918.3-11	24.2	-12	7		-1321.2	10.2		21.
		-202.6	-327.3	109	290	-1865.2-11	28.3	-12	7		-993.9	6.0		16.
	133.62	-184.8	-324.6	109	290	-1701.2-11	18.9	-12	7				II	
37TH	137.28	-146.1	-292.5	109	290	-1345.0-10	08.3	-13	7		-669.3	3.0	-1.7	10.
38TH	140.94	-146.1	-376.8	162	433	-901.1 -6	370.4	-14	6	-146.1	-376.8	1.0	ţ.ţ	6.3
TOP	146.44									. •	Q.Q	0.0	♦.♦	Q. (

	7. SHEAR	AND MOMENT DIAGRAM	S : GATEWAY PRO- Onfiguration a	JECT TOWER TWO Refe	RENCE PRESSUR		BASED ON A	ERDELASTIC D	ATA
FLOOR	HEIGHT	(N) FORCE (KN) X Y	AREA (SQ H) X Y	PRESSURE (PA)	ECCEN (M) X Y	SHEAR (KN) X. Y	H10 X	HENT (HN-H) Y	z
GRND	0.00	-98.6 -287.9	163 436	-604.3 -660.8	-16 5	-4331.9 -10505.1	796.4	-320.6 15	6 .0
1 S T	5.50	-82.5 -215.0	103 430	-759.8 -741 1	-15 6	-4233 3 -10217.2	739.4	-297.1 15	iQ.9
2ND	9.16			-886.6 -806.1	-14 6	-4150.8 -10002.2	702.4	-281.7 14	17.2
3RD	12.82	-96.3 -233.8				-4054.5 -9768.3	666.2	-266.7 14	13.4
4TH	16.48	-100.8 -244.1	109 290	-928.3 -841.4	-13 6	-3953.7 -9524.2	630.9	-252.4 13	9.6
5T H	20.14	-100.8 -249.3	109 290	-928.2 -859.2	-13 5	-3852.9 -9275.0	596.5	-237.8 13	5.9
6TH	23.80	-100.8 -254.4	109 290	-928.2 -877.0	-12 5	-3752.0 -9020.5	563.0	-223.9 13	2.3
7TH	27.46	-102.4 -258.8	109 290	-943.1 -892.0	-12 5	-3649.6 -8761.8	530.5	-210.3 12	8.7
8TH	31.12	-105.0 -259.5	109 290	-967.2 -894.5	-12 5	-3544.6 -8502.3	498.9	-197.1 12	5.1
9TH	34.78	-107.7 -260.2	109 290	-991.3 -897.1	-12 5	-3436.9 -8242.0	468.2	-184.4 12	1.4
10TH	38.44	-110.3 -261.0	109 290	-1015.4 -899.6	-12 5	-3326.6 -7981.0	436.5	-172.0 11	7.7
1 1 T H	42.11	-112.9 -261.7	109 290	-1039.5 -902.2	-12 5	-3213.7 -7719.3	409.8	-160.0 11	4.0
12TH	45.77	-115.5 -262.5	109 290	-1063.7 -904.8	-12 5	-3098.2 -7456.8	382.0	-148.5 11	0 .3
13TH	49.43	-117.4 -262.4	109 290	-1081 2 -904.7	-12 5	-2980.8 -7194.4	355.2	-137.3 100	6.6
14TH	53.09	-118.7 -261.1	109 290	-1092.6 -900.1	-12 5	-2862.1 -6933.3	329.3	-126.6 10	2.8
15TH	56.75	-119.9 -259.8	109 290	-1104.0 -895.6	-12 6	-2742 2 -6673.5	304.4	-116.4 9	9.0
16TH	60.41	-121.1 -258.5	109 290	-1115.4 -891 0	-12 6	-2621.0 -6415.0	280.5		5.2
17TH	64.07	-122.4 -257.2	109 290	-1126.8 -886.5	-12 6	-2498.6 -6157.8	257.5		1.4
18TH	67.73	-123.6 -255.8	109 290	-1138.2 -881.9	-12 6	-2375.0 -5902.0	235.4		7.6
		-124.0 -254.5	109 290	-1141 3 -877.2	-12 6	-2251.1 -5647.5	214.2		3.8
19TH	71.39	-123.0 -257.1	109 290	-1132.2 -886.4	-12 6	-2128.1 -5390.4	194.0		
20TH	75.05	-122.0 -259.8	109 2 9 0	-1123.1 -895.5	-12 6				0.0 6.1
21ST	78.71	-121.0 -262.5	109 290	-1114.0 -904.7	-12 6	-2006.1 -5130.6	174.8		6.1
2 2 N D	82.37	-120.0 -265.1	109 290	-1104.9 -913 9	-12 5	-1885.1 -4868.1	156.5		2.3
2 3 R D	86.03	-119.0 -267 8	109 290	-1095.8 -923.1	-12 5	-1765 1 -4603.0	139.1		8.4
24TH	89.69	-118.0 -270.5	109 290	-1086.4 -932.4	-12 5	-1646 1 -4335.2	122.8	-44.2 64	4.5

	7. SHEAR IRECTION	AND MOMENT DIAGRA	ANS : GATEN Configurat		JECT TOWER TWO Refe	RENCE PR	ESSURE	771 PA		I BASED ON A	ERDELASTI	C DAT
LOOR	HEIGHT	(M) FORCE (KN) X Y	AREA (SQ M) Y	PRESSURE (PA) X Y	ECCEN	i (M) Y	SHEA	R (KN)	NO X	HENT CHN-	-#) Z
25TH	93.35	-116.9 -272.6	109	290	-1076.1 -939.6	-12	5	-1528 1	-4064.7	107.4	-38.4	60.
26TH	97.01						-	-1411.2	-3792.1	93.0	-33.0	56.
27TH	100.68	-115.8 -274.7	109	290	-1065.9 -946.8	-12	5	-1295.5	-3517.5	79.7	-28.0	52.
28TH	104.34	-114.6 -276.7	109	290	-1055.6 -954.0	-12	5	-1180.8	-3240.7	67.3	-23.5	48.
29†H	108.00	-113.5 -278.8	109	290	-1045 3 -961.1	-12	5	-1067.3	-2961.9	55.9	-19.4	44.
30TH	111.66	-112.4 -280 9	109	290	-1035.0 -968.3	-13	5	-954.9	-2681.0	45.6	-15.7	40.
315T	115.32	-111.2 -283.0	109	290	-1024.0 -975.4	-13	5	-843.6	-2398.0	36.3	-12.4	36.
3 2 N D	118.98	-109.7 -286.2	109	290	-1009.8 -986.5	-13	5	-734.0	-2111.8	28.¢	-9.5	32.
3 3 R D	122.64	-108.1 -289.5	109	290	-995.7 -997.9	-13	5	-625.8	-1822.4	20.8	-7.0	27.
34TH	126.30	-106.6 -292.8	109	290	-981.5-1009.3	-13	5	~519.2	-1529.6	14.7	-4.9	23.
35TH	129.96	-105.1 -296.1	109	290	-967.3-1020.7	-13	5	-414.2	-1233.5	9.7	-3.2	19.
36TH	133.62	-103.5 -299.4	109	290	-953.1-1032.1	-14	5	-310.6	-934.1	5.7	-1.9	14.
37TH	137.28	-99.5 -299.2	109	290	-915 7-1031.4	-14	5	-211.2	-634.9	2.8	9	10.
38TH	140.94	-91.0 -273.7	109	290	-838.1 -943 6	-14	5	-120.2	-361.1	1.0	3	5.
TOP	146.44	-120.2 -361.1	162	433	-741.3 -834.1	-14	5	0.0	- 301.1	0.0	0.0	Q.(

TABLE	7. SHEAR AND Rection 200	NOMENT DIAGRA	MS : GATEN Configurat	AY PROJ 'ION A	ECT TOWER	TWO REFE	RENCE PR	ESSURE	771 PA		: BASED ON I	HEROELAST:	IC DATA
FLOOR			AREAC	se n>	PRESSURE X	(PA) Y	ECCEN X	 t H > Y	SHEA X	R (KN) Y	x	DHENT (MN· Y	-H) Z
GRND	0.00			474	700 .	601 A	-16	4	-3055.0	-7967.2	519.7	-223.6	105.5
157	5.50	-63.5 -262.1	163	436	-389.1 -				-2991.5	-6805.1	481.5	-207.0	101.5
2ND	9.16	-55.6 -190.0	109	290	-521.2 -		-14	4	-2934.9	-6615.1	457.0	-196.2	98.5
3R D	12.82	-69.1 -202.5	109	290	-627.0 -		-14	5	-2866.8	-6412.6	433.1	-185.6	95.5
4T.H	16.48	-71.0 -206.4	109	290	-653.6 -	711.5	-13	5	-2795.8	-6206.2	410.0	-175.2	92.4
5TH	20.14	-69.7 -203.9	109	290	-641.5 -	702.9	-13	4	-2726.1	-6002.3	387.7	-165.1	89.
6TH	23.80	-68.4 -201.4	109	290	-629 5 -	694.3	-13	4	-2657.8	-5800.9	366.1	-155.2	86.0
718	27.46	-70.3 -199.4	109	290	-647.2	687.4	-12	4	-2587.5	-5601.5	345 2	-145.6	83.1
		-74.2 -195.0	109	290	-683.3 -	672.2	-12	5	-2513.3	-5406.5	325.1	-136.3	81.0
8TH	31.12	-78.1 -190.6	109	290	-719.3 -	656.9	-12	5	-2435.2	-5215.9	305.6	-127.2	78.
9TH .	34.78	-82.0 -186.1	109	290	-755.4 -	641.6	-12	5	-2353 1	-5029.8	286.9	-118.5	75.
10TH	38.44	-86.0 -181.7	109	290	-791.5 -	626.3	-12	6	-2267.1	-4848.1	268.8	-110.0	72.
11TH	42.11	-89.9 -177.2	109	290	-827.6 -	611.0	-12	6	-2177.3	-4670.9	251.4	-101.9	70.
12TH	45.77	-91.6 -172.4	109	290	-843 7 -	594.4	-12	6			234.6	-94.1	67.
13TH	49.43	-91.3 -169.5	109	290	-840 7 -	584.4	-12	6	-2085.6	-4498.5			65.
14TH	53.09	-91.0 -166.6	109	290	-837.8 -	574.4	-12	7	-1994.3	-4328.9	218.4	-86.6	
15TH	56.75	-90.7 -163.7	109	290	-834.8 -	564.4	-12	7	-1903.3	-4162.3	202.9	-79.5	62.
16TH	60.41	-90.3 -160.8	109	290	-831.8 -	554.4	-12	7	-1812.7	-3998.6	188.0	-72.7	59.1
17TH	64.07	-90.0 -157.9	109	290	-828.9 -	544 3	-13	7	-1722.3	-3837.8	173.6	-66.2	57.
18TH	67.73	-89.4 -154.7	109	290	-823.2 -		-13	7	-1632.3	-3679.8	159.9	-60.1	54.
19TH	71.39	-89.4 -151.5	109	290	-813.5 -		-13	7	-1542 9	-3525.1	146.7	-54.3	52.
20TH	75.05		109	290	-803.8 -		-13	7	-1454.5	-3373.6	134.0	-48.8	49.
215T	78.71	-87.3 -148.2						, 7	-1367.2	-3225.4	122.0	-43.6	46.
2 2 N D	82.37	-86.3 -145.0	109	290	-794.1 -		-12		-1281.0	-3060.4	110.4	-38.8	44.4
2 3 R D	86.03	-85.2 -141.7	109	290	-784.5 -		-12	7	-1195.8	-2938.7	99.4	-34.2	42.0
24TH	39.69	-84.1 -138.5	109	290	-774.8 -		-12	?	-1111.6	-2800.2	88.9	-30.0	39.7
		-82.8 -135.3	109	290	-762.7 -	466.4	-12	8					

	7. SHEAR AN IRECTION 20		S : GATEWAY PROJ Onfiguration a	ECT TOWER TWO Refe	RENCE PRESSURE	771 PA	BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (N)	FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA)	ECCEN (M) X Y	SHEAR (KN) X Y	HONENT (MN-M) X Y Z
25TH 26TH	93.35 97.01	-80.9 -138.0	109 290	-745.0 -475.6	-12 7	-1028 8 -2664.9 -947.9 -2526.9	78.9 -26.1 37.4 69.4 -22.5 35.2
27TH	100.68	-79.0 -140.7	109 290	-727.3 -484.8	-12 7	-868 9 -2386.2	60.4 -19.1 32.9
28th	104.34	-77.1 -143.3	109 290	-709.7 -494.0		-791.8 -2242.9	51.9 -16.1 30.5
29TH	108.00	-73.2 -146.0	109 290	-692.0 -303.2	-13 6	-716.6 -2096.9	44.0 -13.3 28.2
30TH		-73.2 -148.7	109 290	-674.3 -512.5	-13 6	-643.4 -1948.3	36.6 -10.8 25.9
315T	115.32	-71.6 -151.4	109 290	-659.1 -521.9	-13 6	-571.8 -1796.9	29.7 -8.6 23.5
32ND		-71.1 -165.4	109 290	-654.4 -570.0	-13 5	-500.7 -1631.5	23.4 -6.7 21.1
33RD	122.64	-70.6 -180.3	109 290	-649.7 -621.5	-12 5	-430.2 -1451.2	17.8 -5.0 18.5
34TH		-70.0 -195.2	109 290	-644.9 -673.0	-12 4	-360.1 -1255.9	12.9 -3.5 15.8
35T H	129.96	-69.5 -210.2 -69.0 -225.1	109 290 109 290	-640.2 -724.5 -635.5 -776.0	-12 4 -12 4	-290.6 -1045.8	8.6 -2.3 13.0
36TH	133.62	-67.5 -238.2	109 290	-621.5 -821.0	-12 3	-221.6 -820.6	5.2 -1.4 10.1 2.7 7 7.1
37TH	137.28	-64.2 -235.6	109 290	-591.5 -812.2	-12 3	-154.1 -582.5	
38TH Top	140.94 146.44	-89.8 -346.9	162 433	-554.1 -801.2	-11 3	-89.8 -346.9 0.0 0.0	1.02 4.2 0.0 0.0 0.0

TABLE WIND D	7. SHEAR A DIRECTION A		IS : GATEWAY PROJ Configuration a	ECT TOWER TWO Refe	RENCE PRESSURE	771 PA	I BASED ON AEROELASTIC DATA
FLOOR	HEIGHT (Y) FORCE (KN) X :Y	AREA (SQ M) X Y	PRESSURE (PA)	ECCEN (M) X Y	SHEAR (KN) X Y	HOHENT (HN-H) X Y Z
GRND	0.00	84.0 +2.7	163 436	514.7 -6.1	-2 -66	4419-1 4717-9	-944.7 198.8 89.8
1 S T	5.50			254.5 -25.6	-31 -117	\$\$\$.] \$P\$\$.}	-\$\$7.8 \$7.9 84.3
2ND	9.16	27.6 -7.4			-226 -123		-483. 94.6 80.8
3R D	12.82	6.1 -11.2	109 290		452 405	── ∲∳ <u> </u> : ∲── ∮ ₽₽₽. ∳;	-4\$\$.\$ \$1.\$ 77.5
4TH	16.48	-3.4 3.9	109 290		73 13	• • • • • • • • • • • • • • • • • • • 	-4\$\$.\$ \$7.\$ 74.4
STH	20.14	-7.1 39.9	109 290	-65.8 137.4	38 5		-449.2 84.6 71.3
6TH	23.80	-10.8 75.9	109 290	-99.9 261.5		• • • • • • • • • • • • • • • • • • •	
7TH	27.46	-12.5 104.5	109 290	-114.8 360.2	26 3 23 2	 	
8TH	31.12	-12.8 117.1	109 290	-117.9 403.7		 	
9T H	34.78	-13.1 129.7	109 290	-121.0 447.2			
1 0 T H	38.44	-13.5 142.4	109 290	-124.2 490.8	18 2		-29.2 67.6 57.8
11TH	42.11	-13.8 155.0	109 290	-127.3 534.3		• • • • • • • • • • • • • • • • • • •	-269.2 63.8 55.3
12TH	45.77	-14.2 167.6	109 290	-130.4 577.8	14 1	1442.7 \$\$\$\$.4	-247 6 66. 52.9
1 3 T H	49.43	-11.4 181.3	109 290	-105.0 625.1	13 1	- 1414 . 1 - 568 . 7	-226.7 56.5 50.5
14TH	53.09	-5.7 194.4	109 290	-52.5 670.3	12 0 11 -0	- 1414.4 - \$\$\$\$.\$	-20625 52.7 48.3
1 5 T H	56.75	.0 207.6	109 290	.0 715.5	10 -0	1414 4 \$214 7	
16TH	60.41	5.7 220.7	109 290	105/0 805.8	9 -0	1414.1 4999.4	
17TH	64.07	11.4 233.8	109 290		9 -0 8 -1	1444.7 4744.2	
1 8T H	67.73	17.1 246.9	109 290		7 -1	\$\$\$.6 \$\$\$\$.	
19TH	71.39	22.7 259.2	109 290	209.0 893.6		• • • • • • • • • • • • • • • • • • • 	- 7.4 34.4 38.0
20TH	75.05	28.1 266.6	109 290	259.1 918.9	7 -1	• • • • • • • • • • • • • • • • • • • 	
215T	78.71	33.6 273.9	109 290	309.1 944.2	7 -1	• • • • • • • • • • • • • • • • • • • 	-#8.2 27.5 34.3
2 2 N D	82.37	39.0 281.3	109 290	359.1 969.5	6 -1	*** **	-75. 24.8 32.5
2 3 R D	86.03	44.4 288.6	109 290	409.1 994.8	6 -1	417.7 \$144.8	-68.0 21.2 30.7
24TH	89.69	49.9 295.9	109 290	459.1 1020.1	6 -1	1 ∮1.∮ 2452.8	-\$2.0 8.8 29.0
		54.7 302.4	109 290	503.6 1042.3	5 -1	•	

TABLE 7. SHEAR AND NOMENT DIAGRAMS : GATEWAY PROJECT TOWER TWO

I BASED ON AERDELASTIC DATA

TABLE Wind D	7. SHEAR AND DIRECTION 210	MONENT	DIAGRA	NS : GATE Configure	WAY PRO	JECT TOWER TWO Ri	EFERENCE PRESSURE	1 771 PA	BASED ON AE	ROELASTIC DATA	
FLOOR	HEIGHT (N)	FORCE	(KN) Y	AREA	(SQ_H)	PRESSURE (PA) ECCEN(H) X Y	SHEAR (KN) X Y	N OH X	ENT (NN-N)	
25TH 26TH 27TH 28TH 29TH 30TH 31ST 32ND 33RD 33RD 33RD 34TH 35TH 36TH	93.35 97.01 100.68 104.34 108.00 111.66 115.32 118.98 122.64 126.30 129.96 133.62	X 59.1 61.5 64.9 68.3 71.7 72.6 63.0 53.3 43.7 34.0 24.4 20.5	Y 297.6 292.8 288.0 283.2 278.4 272.2 240.5 207.0 173.5 140.1 106.6 72.7	X 109 109 109 109 109 109 109 109 109	Y 290 290 290 290 290 290 290 290 290 290	X Y 534.9 1025. 566.3 1009.2 597.7 992.0 629.0 976.2 660.4 959.2 668.4 938.2 579.7 829.2 490.9 713.4 402.2 598.2 313.5 482.1 224.8 367.4 188.6 250.3	X Y 7 5 -1 2 5 -1 6 5 -1 1 5 -1 2 5 -1 2 5 -1 0 6 -2 6 8 -2 2 10 -2 8 13 -3 4 18 -4 7 27 -8			Y 7 27.3 25.6 24.0 22.4 20.8 19.2 17.7 16.0 2.3 14.3 12.5 10.6 8.6 6.4	
38TH Top	140.94 146.44	26.5 50.6 -	7.6 -109.6	109 162	290 433	243.7 26.4 312.3 -253.4			0.0	. 4.0 0.0 0.0	

TABLE	7. SHEAR AN IRECTION 22	D MOMEN	T DIAGRA	NS : GATE Configura	WAY PRO	JECT TOWER TWO REFE	RENCE PI	ESSURE	771 PA	: BASED ON A	EROELASTIC D)ATA
FLOOR	HEIGHT (M)		(KN) Y	AREA X	(ទខ្.។)	PRESSURE (PA)	ECCE	(CH) Y	SHEAR (KN) X	N O X	HENT (HN-H) Y	z
GRND	0.00	178.2		163	436	1092.1 1256.5	17	- 6	- ++++ + +++++++++++++++++++++++++++++	-1441-7	+++ r =	1 F · 4
1 S T	5.50		374:3	109	290	818.0 1290.4	16	-4	──\$ \$\$\$\$.\$ <u></u> ─\$}\$\$\$}.	-1441.4	<u></u>	lŧ t
2ND	9:16	88.8		109	290	568.3 1309.6	14	-2	────────────────────── ──────────────	─ <u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	- 797 - 7	
3R D	12.82	61 7		-	_	521.4 1389.3	12	-2	- \$4\$6 2 - \$4746 (: -1786.9		
4TH	16.48	56.6	403.0	109	290			-1	\$4\$9.4 \$4\$4\$.4		- 7 99-9- 9	·
5T H	20.14		437.4	109	290	573.8 1507.6	10		· ++++ + + +++++++++++++++++++++++++++	-1224.4	*******	##- †
6TH	23.80		471.7	109	290	626.1 1625.9	8	-1	- 4949.\$ - 19474.(+ + + + + + + + + + + + + + + + +	}\$.}
77 H	27.46	75.6	497.6	109	290	695.8 1715.1	7	-1	- 44\$\$.7 . 149\$7.2	-1444.7	***	 • • • •
8TH	31.12	84.3	505.5	109	290	776.1 1742.6	7	-1	- 4244 . 4 - 144 4 3 . ;	-1427.4	*****	 \$. }
9TH	34.78	93.0	513.5	109	290	856.4 1770.1	6	-1	4454 4 12914	-966.4	- #\$\$.\$ - 4	12.3
1 0 T H	38.44	101.7	521.5	109	290	936.8 1797.7	6	-1	4554.4 17294.0	-494.2	444. 4	\$\$.\$
11TH	42.11	110.5	529.5	109	290	1017.1 1825.2	6	-1	4444.2 14847.1	-633.5	444.4 4	¦ \$.∮
1278	45.77	119:2	537.5	109	290	1097.4 1852.7	6	-1		- + + + + +	244.4	
		126.5	547.5	109	290	1164.8 1887.3	5	-1				
13TH	49.43	132.5	566.9	109	290	1220.0 1954.1	5	- 1				
14TH	53.09	138.5	586.3	109	290	1275.2 2020.9	4	- 1				
15TH	56.75	144.5	605.6	109	290	1330.3 2087.7	4	- 1				
16TH	60.41	150.5	625.0	109	290	1385.5 2154.5	3	- 1				III
17TH	64.07	156.5	644.4	109	290	1440.7 2221.3	. 3	- 1			III I	
18TH	67.73	162.9	661.8	109	290	1500.2 2281.2	2	- 1				11.1
19TK	71.39	170.1		109	290	1566.1 2289.6	2	- 1			† ∐ ·∐	IT I
29TH	75.05	177.2	666.7	109	290	1631.9 2298.1	2	-1	₽ ₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽₽		<u>]</u>].[II I
215T	78.71	184.4	669.1	109	290	1697.8 2306.5	2	- 1	<u> </u>	·		∣ ₹ ∙₹
2 2 N D	82.37	191.6	671.6	109	290	1763.7 2314.9	2	-1	─ ₽₽₽ ₽.₽─1₽₽₽₽.:		1† • †	∦ ŀ∮
2 3 R D	86.03			109	290	1829.5 2323.4	2	-1	· ####.# · ####.!	·	∮∮ ,₿↓	19.1
24TH	89.69	198.7 203.4		109	290	1872.9 2325.3	2	-1	- 2298.1 - 4246.(; -\$1\$.\$	\$5.1	ъ 1

ND D	IRECTION 22	0	C	ONFIGURA	TION A		REFERENCE	FRESSU	RE 771 PA				
00 R	HEIGHT (M)	FORCE X	(KN)	AREA	(SQ_M)≻ Y	PRESSURE (PA) EC 7	CEN (M) X Y	SHEA X	RCKNO	N O X	HENT (HH- Y	N) Z
5TH	93.35	202.4	675 6	109	290	1864.0 232	8.9	2 -1	TIP T	****		11 1	<u>+</u> -1
6TH	97.01		676.7	109	290	1855.0 233		1 - 0		7796.8	-1.96.7	11 1	1
7TH	100.68		677.7	109	290	1846.1 233		1 -0		+ † † †	-174-7	77 T	1
8 T H	104.34	199.5		109	290	1837.1 233		1 -0	· • • • • • • • • • • • • • • • • • • •	***	-147.5	4† • †	1
9TH	108.00			109	290	1828.2 234		• - •		₽₽₽₽ ₽₽₽₽₽	──────── ────────────────────────────	41 · 1	.
TH	111.66		679.9			1791.1.234		· ·	4144	┥ ╡╡╡	-44.2		.
IST	115.32	194.5		109	290					+++ +	-\$\$.\$	14.4	.
2ND	118.98	177.8		109	290	1637.4 221		00	÷12.+	****	- ##. #	•	. .
SRD	122.64		605.5	109	290	1483.8 208		00	\$\$1.4	<u> </u>	- # # . #		. .
TH	126.30	144.5	567.5	109	290	1330.1 195		0 0	\$\$\$.\$	<u></u>	- 14.4	4.4	.
	129.96	127.8	529.5	109	290	1176.4 182		0 0	\$\$\$.\$	16 54 .4-	-11.4	k k	4.
5TK		111.1	491.5	109	290	1022.7 169	4.3 -	0 0	244 5	1144.5	-4.4	1.4	.
TH	137.28	95.1	448.7	109	290	875.8 154	6.8 -	0 0		+++	-\$.\$		4.
		80.4	356.7	109	290	740.6 122	9.4	3 -1			-1.4		.
BTH Top		92.7	361.1	162	433	572.1 83	4.0	9 - 2	TI		I.I		I.

FLOOR	NEIGHT (N>	FORCE	(KN)	AREA	(SQ_H)	PRESSURE	E (PA)	ECCEN	< N >	SHEAR CK	t)	M 0	NENT (NN-	-#>
GRND	0.00	X	Ŧ	X	Ŧ	^	•	Ŷ	• .	-14.2 72	8.5	-491.3	-44.\$	-11
		11.9	205.5	163	436	73.0	471.6	23	- 1	- 70	73.0	-451.8	-48.4	
15T	5.50	-6.4	136.1	109	290	-59.3	469.2	16	1	- 4 69	86.8	-426.2	-42.7	_
2ND	9,16	-20.6	133.9	109	290	-189.8	461.5	11	2		3.0	-401.0	_	_
3RD	12.82	-20.3	140.9	109	290	-187.4	485.7	6	1		52.1	-376.4	III	
4TH	16.48	-13.0	152.6	109	290	-119.8	525.9	3	٥			-352.3	<u> </u>	
5TH	20.14	-5.7	164.3	109	290	-52.2	566.2	-0	- 0		9.5	•		
6T H	23.80		174.3	109	290	12.6	600.8	- 3	٥		15.2	-328.7	-]] -[-1
7TH	27.46		181.3	109	290	75.8	625.1	- 3	0		0.9	-305.8		
8T H	31.12		168.4	109	290	138.9	649.3	- 3	0		39.6	-283.6	-]] ·]	
9TH	34.78	22.0	195.4	109	290		673.6	- 3	0	- 30.7 58	91.2	-262.0	- 19 . 4	-1
10TH	38.44		202.4	109	290		697.8	-3	0		5.8	-241.1	-99.9	-1
11TH	42.11	28.8		109	290		722.1	-4	1		3.4	-221.0	-\$\$.\$	-1
12TH	45.77	35.7	209.5				743.6	-4	1		3.9	-201.6	-11.1	-
1 3 T H	49.43	40.3	215.7	109	290			- 5	1	-245.5 49	8.2	-183.0	-\$\$.\$	-1
14TH	53.09	42.8	222.8	109	290	394.3		-			55.4	-165.1	-\$\$.\$	-
1.5TH	56.75	45.3	229.8	109	290		792.1	-7	1		25.6	-148.2	-\$4.\$	-
16TH	60.41	47.9	236.8	109	290		816.3	- 8	2	-44. 42	8.8	-132.0	-\$\$.\$	-4
1778	64.07	50.4	243.8	109	290	463.8	840.6	- 9	2	-45 40	15.0	-116.8	-41.5	-
1878	67.73	52.9	250.9	109	290	487.0	864.8	- 9	2		94.1	-102.4	-49.6	-1-
19TH	71.39	51.9	255.1	109	290	477.6	879.4	-11	2		39.0	- 89.0	-41-6	-
		45.7	253.0	109	290	420.8	872.1	-13	2	- 32	36.0	-76.5	-45.5	-
20TH	75.05	39.5	250.9	109	290	363.9	864.8	-14	2		85.1	-64.9	-41.1	_
21ST	78.71	33.3	248.8	109	290	307.0	857.6	-16	2		36.3	-54.3		_
2 2 N D	82.37	27.2	246.7	109	290	250.1	850.3	-19	2		39.6	-44.5		
2 3 R D	86.03	21.0	244.6	109	290	193.3	843.0	-21	2					
24TH	89.69	16.0	243.3	109	290	146.9	839.7	-23	2	-144.4 22	5.1	-35.7	-44.1	- 4

: BASED ON AERDELASTIC DATA

	7. SHEAR (IRECTION 2	AND MOMENT 230	DIAGRI	NS : GATI Configuri		JECT TOWER		ERENCE PRESS	URE 771 PA		: BASED ON A	EROELASTIC	DATA
FLOOR	HEIGHT (N) FORCE X	CKN> Y	AREA	(SQ_N) Y	PRESSURE	(PA) Y	ECCEN (M X Y	> SHEA X	R (KN) Y	10 X	HENT (MH-M) Y	Z
25TH	93.35	13.6	245 0	109	290	124.9	844.7	-25 1	-117-7	2051.8	-27.7		17-7
26TH	97.01							-27 1	-7\$\$.\$	1806.7	-20.7		
27TH	100.68	11.2		109	290		850.7		-744.4	1559.9	-14.5	-\$7.\$ -1	\$\$.\$
28TH	104.34		248.5 250.3	109	290 290		856.7 862.7	-30 1 -32 1	-++++.+	1311.4	-9.2		• • • • •
29TH	108.00								-++++-+	1061.1	-4.9		***
30TH	111.66		252.0	109	290	36.9		-3,4 1	-144.2	809.1	-1.5		
315T	115.32	-1.3		109		-11,9		-37 -0	-}\$\$.\$	557.2	1.0	- 4	· • • • • •
32ND	118.98	-18.7	222.6	1,09	290	-172.0	767.5	-41 -3	-145.5	334.6	2.7	-11	
3 3 R D		-36.1	191.5	109	290	-332.1	660.1	-47 -9		143.1	3.5	- 10.4 -	
		- 53 . 5	169.4	109	290	-492.2	552.8	-52 -17				11	II I
	126.30	-70.9	129.2	109	290	-652.3	445.4	-55 -30	- • • • • • • • •	-17.3	3.8		11.1
3.5T H	129.96	- 88 2	98.1	109	290	-812.4	338 0	-52 -47		-146.5	3.5		P1-7
36TH	133.62					-1014.5		-34 -65	-\$15.6	-244.5	2.7		\$\$. \$
37TH	137.28	-110.2	58.4	109	290				-444.4	-302.9	1.7		4.
38TH	140.94	-140.0	-44.7	109	290	-1289.2 -	153.9	16 -49	-264.4	-258.3	. 7	4.4	- 4.4
TOP	146.44	-264.4 -	258.3	162	433	-1631.4 -	596.6	16 -16		0.0	0.0	d. 6	.↓

FLOOR	HEIGHT C	N) FORCE	(KN)	AREA	(SQ M)	PRESSUR	E (PA)		e cris -	SHEAR (KH)		ONENT (MN-M) Y Z
		X	Y	X	Y	X	Ŷ	×	Ŷ	X Y	X	
GRHD	0.00	-607 8	-171.5	163	436	-3725.7	-393.6	1	- 4		- † . ?	
1 S T	5.50	-392.4		109	290	-3612.5	-249.2	i	- 5		I I	-108.
ZND	9.16	-412.5	-55.2	109	290	- 3798.3	-190.3	1	- 5		Ţ.Ţ	- 120.2 -106.
3RD	12.82	-401.2	-29.4	109	290	-3693.8	-101.2	٥	- 5		I.I.	•••• ••••••••••••••••••••••••••••••••
4TH	16.48	-374.4	-8.1	109	290	-3447.3	-28.1	٥	-6		HI.I.	-102.5
5T H	20.14	-347.6	13.1	109	290	-3200.8	45.1	- 0	- 6		fi fi	-972.6 -100.3
:6 T H	23.80	-327.3	31.0	109	290	-3013.5	107.0	- 1	-7		ĨĨ Ĩ	- + 2 6 . 1 - 98 . 0
7.T.H	27.46	-310.9	47.6	109	290	-2862.6	164.1	- 1	- 7		II I	-###. 9 -95.8
8T H	31.12	-294.5	64.2	109	290	-2711.7	221.2	- 2	-7		<u> </u>	-#36.6 -93.5
97/H	34.78	-278.1	80.7	109	290	-2560.8	278.3	- 2	-7		11:1	-791.4
1 OTH	38.44	-261.7	97.3	109	290	-2409.9	335.3	- 3	-7		II I	-7\$2. • -89.7
1 1 T H	42.11	-245.4	113.8	109	290	-2259.0	392.4	- 3	- 7		II f	-6785.
12TH	45.77	-238.1	124.7	109	290	-2191.9	429.9	- 3	-7		II I	-63.
13TH	49.43	-239.4	128.4	109	290	-2204.3	442.8	-4	- 7		II I	-551.6 -81.1
14TH	53.09	-240.8	132.2	109	290	-2216.8	455.6	-4	-7		II.I	-556.5 -79.0
15TH	56.75	-242.1	135.9	109	290	-2229.2	468.4	-4	-7		II I	
16TH	60.41	-243.5	139.6	109	290	-2241.7	481.2	-4	- 6		II I	
17TH	64.07	-244.8	143.3	109	290	-2254.2	494.0	-4	- 6		II I	
1874	67.73	-247.7	145.4	109	290	-2280.2	501.2	-4	-7			
19TH	71.39	-252.7	142.4	109	290	-2326.2	491.0	-4	-7		II · I	-101 -68.3
2 O T H	75.05	-257.6	139.5	109	290	-2372.2	480.8	-4	- 7		II Î	-35.2 -66.0
21ST	78.71	-262.6	136.5	109	290	-2418.2	470.7	-4	- 7		II I	-120.2 -63.6
22ND	82.37	-267.6	133.6	109	290	-2464.2	460.5	-4	-7		<u>II.</u>	
2 3 R D	86.03	-272.6	130.7	109	290	-2510.2	450.4	-4	- 8		Ĩ.Ĩ.	-294.2 -61.1

TABLI Vind	7. SHEAR Direction	AND HONEN	T DIAGR	AMS : GATE Configura	WAY PRO	JECT TOWER	TWO REFI	ERENCE PRESSU	IRE 771 PA	: BASED ON AERDELASTIC DATA
FLOOI	R HEIGHT	(H) FORCE	(кы)	AREA	(SQ_M)	PRESSURE	(PA)	ECCEN (M)	SHEAR (KN)	HOMENT (MN-M) X Y Z
25TI		-306.5	117.8	109	290	-2822.1	406.1	-3 -8		58.2 -283.2 -55.9 55.2 -296.3 -53.0
26TI 27TI		-329.9	110.8	109	290	-3037.1	381.9	-3 -8		5
2871			103.8	109	290		357.8	-2 .8		47.9 - 54 46.8
291		-376.6	96.8	109	290 290		333.6 309.4	-2 -8 -2 -8	؋ ₊؋؋ٳٳ- ۲.؋\$ <u>↓</u> <u></u> ؋-	49.7 -182.9 -43.4
3011	111.66	-399.9 -426.5	89.8 81.1	109	290	-3926.6		-2 -9		\$911.2 -39.8
	115.32	-466.2	43.9	109	290	-4292.0	151.4	-1 -8		
32N		-505.9	4.7	109	290	-4657.5	16.2	-0 -8		
33RI 34TI		-545.5	-34.5	109	290	-5022.9 -	118.9	0 - 8		
351		-585.2		109	290	-5388.4 -	1.1.1	1 -7 1 -7	┽╷╇┟ ╪┟┿╷╶╪╷╞╞╞╪╪╼╶	17.9 - 27.9 -19.3
36TH	133.62	-624 9		109	290 290	-5753.8 -		2 -7	<u></u> ₹₊ <u>₹</u> <u>₹</u> <u></u>	4.4 - 17 . 2 -14.7
3711	137.28	-726.6		109	290	-6689.7-1		2 - 5	- 1915 . • - 193 . • 1	
38TH		-1188.4		162	433	-7332.1-1	677.2	2 - 3	-1186.4 -724.1	
TOP	2 146.44					100 A.				Ţ·Ţ

WIND DIRECTION 250 MONENT (MN-N) SHEAR (KN) AREA (SQ M) PRESSURE (PA) ECCEN (M) FLOOR HEIGHT (N) FORCE (KN) Z X × -367.0 -91.2 -4604.4 -1443 GRND 0.00 4 - 1 -158.1 -505.2 163 436 -969.3-1159.4 -342.1-89.1 -4446.3 1 S T 5.50 290 -860.2-1012.6 4 -1 -93.4 -293.8 109 -4352.9 -326.0 -87.8 2ND 9.16 -810.3 -926.7 4 -1 -88.0 -268.8 109 290 -310.2 -86.4 -4264.9 3RD 12.82 5 - 2 290 -820.0 -897.0 -89.1 -260.2 109 -4175.8 -294.7 -85.0 16.48 4TH 5 - 2 -858.7 -901.4 -93.3 -261.5 109 290 -279.6 -4082.5 -83.4 5TH 20.14 6 - 2 -97.5 -262.8 109 290 -897.5 -905.8 -3985.1 -264.9 -81.6 23.80 6TH - 2 -99.2 -257.4 109 290 -912.9 -887.2 6 ~3885.9 -250.5 -79.8 27.46 7TH 290 -914.0 -850.3 6 - 3 -99.3 -246.7 109 -236.4 -78.0 -3786.7 8TH 31.12 7 -3 109 290 -915.1 -813.3 -99.4 -235.9 -222.7 -76.2 -3687.3 34.78 9TH - 3 -99.5 -225.2 109 290 -916.1 -776.3 7 -3587.8 -209.4 -74.3 10TH 38.44 -917.2 -739.3 7 - 3 -99.6 -214.5 109 290 -72.5 -196.5 -3488.1 -7492 11TH 42.11 -4 -99.7 -203.7 109 290 -918.3 -702.3 7 -183.9 -70.6 -3389.4 12TH 45.77 8 -4 290 -924.2 -676.2 -100.4 -196.2 109 -68.7 -3288.0 -171.7 13TH 49.43 -4 109 290 -934.6 -676.1 8 -101.5 -196.1 -3186.5 -159.8 -66.8 14TH 53.09 109 290 -945.0 -676.0 8 -4 -102.6 -196.1 -64.7 -3083.9 -148.3 15TH 56.75 -955.4 -675.9 8 -4 -103.8 -196.1 109 290 -2980.1 -137.2 -62.6 60.41 16TH 290 -965.8 -675.9 9 - 5 -104.9 -196.1 109 -126.5 -60.4 -2875.2 17TH 64.07 - 5 9 -106.0 -196.0 109 290 -976.2 -675.8 -2769.2 -116.2 -58.2 67.73 18TH - 5 290 -988.3 -678.3 9 -107.3 -196.8 109 -55.9 -2661.8 -106.2 71.39 - 51 19TH - 5 -1002.9 -691.0 9 109 290 -108.9 -200.5 -2552.9 -54 -96.7 -53.5 75.05 20TH - 5 290 -1017.5 -703.7 9 -110.5 -204.2 109 -87.6 -51.1 -2442.4 -5424 21ST 78.71 9 - 5 -112.1 -207.8 109 290 -1032.0 -716.4 -78.8 -48.7 -2330.3 -5212 82.37 22ND - 5 -113.7 -211.5 109 290 -1046.6 -729.1 9 -70.5 -46.2 -2216.7 23RD 86.03 -1061.1 -741.9 - 5 109 290 9 -115.3 -215.2 62.6 -43.7 -2101.4 89.69 24TH 9 - 5 -117.0 -219.3 109 290 -1076.9 -756.1

TABLE 7. SHEAR AND MOMENT DIAGRAMS : GATEWAY PROJECT TOWER TWO REFERENCE PRESSURE 771 PA CONFIGURATION A

: BASED ON AEROELASTIC DATA

	7. SHEAR DIRECTION		DIAGRAMS : GA Configu	TEWAY PRO Ration a	JECT TOWER		ERENCE PRESSU	RE 771 PA	: BASED ON AEROELASTIC DATA
FLOOR	HEIGHT	(N) FORCE (KN) AREI Y X	A (SQ M) Y	PRESSURE	(PA)	ECCEN (H)	SHEAR (KN) X Y	HOHENT (MH-M) X Y Z
25TH	93.35	-119.0 -2	26.3 109	9 290	-1095.5 -3	780 2	9 -5	-1984.4 -4566.1	117 .6 -55.1 -41.2
26TH	97.01							-1865.5 -4844.	2 . 2 . 48.1 - 38.6
27TH	100.68	-121.0 -2	33.3 109	9 290	-1114.0 -0	SV4.2	9 - 5	-1744.5 -4 47.	45.8 -41.5 -35.9
28TH	104.34	-123.0 -2	40.3 109	9 290	-1132.6 -6	828.3	9 - 5	-1621.4 -344.	9.2 -35.3 -33.2
		-125.0 -2	47.3 109	9 290	-1151.2 -6	852.3	9 -4		
29TH	108.00	-127.0 -2	54.2 109	9 290	-1169.7 -6	376.4	9 -4	-1496.4 -3619.	77.5 -29.6 -30.5
30TH	111.66						-	-1369.4 -\$\$\$\$.	4
315T	115.32	-129.6 -2	62.3 109	9 290	-1193.1 -9			-1239.8 -3 42.	\$2. 9 -19.6 -24.9
32ND	118.98	-134.3 -2	81.4 109	9 290	-1236.4 -9	969.9	8 -4	-1105.5 -282.	4215.3 -22.0
		-139.0 -3	01.0 109	9 290	-1279.7-10	37.6	8 -4		
3 3 R D	122.64	-143.7 -3	20.7 109	9 290	-1323.0-11	105.4	8 -4	-966.5 -2\$24.	\$2.5 -11.5 -19.0
34TH	126.30							-822.8 -2 99.	-8.2 -16.0
35TH	129.96	-148.4 -3		9 290	-1366.3-11			-674.4 -1859.	-5.5 -12.9
	133.62	-153.1 -3	60.0 109	9 290	-1409.7-12	240.9	7 - 3	-521.3 -1499.	-3.3 -9.8
		-154.5 -3	76.3 109	9 290	-1422.9-12	297.1	7 - 3		
37TH	137.28	-150.3 -4	18.9 109	2 2 90	-1383.9-14	143 9	6 - 2	-366.8 -1123.	\$.3 -1.7 -6.6
38T H	140.94							-216.5 -744.	- 6 - 3.8
TOP	146.44	-216.5 -7	04.4 162	2 433	-1335.4-16	527.9	5 -1	0.0	0.0 0.0

LOOR	HEIGHT	(N) FORDE (KN)	AREA	∈ร์ผ ู่ท≥	PRESSURE (PA)	ECCE	н сңэ	SHEAR (KN)	X	DHENT (MN	-#> Z
GRND	0.00	^ '		•				-4619.6 -12940.5	998.9	-365.4	- 89
1 S T	5.50	-152.8 -521.5	163	436	-936.5-1196.8	4	-1	-4466 8 -12419.0	929.1	-340.4	-87
ZND	9:16	-92.8 -319.7	109	290	-854.0-1101.9	4	- 1	-4374.0 -12099.3	884.3	-324.2	- 86
3RD	12.82	-87.8 -301.5	109	290	-808.7-1039.4	4	-1	-4286.2 -11797.8	840.5	-308.3	-84
4TH	16.48	-88.0 -295.1	109	290	-810.3-1017.3	4	- 1	-4198.2 -11502.7	797.9	-292.8	-83
		-90.7 -297.6	109	290	-834.8-1025.8	4	- 1	-4107.5 -11205.1	756.3	-277.	-81
STH	20.14	-93.3 -300.0	109	290	-859.3-1034.3	5	- 1	-4014.2 -10905.1	715.8	-262.8	- 80
6TH	23.80	-95.1 -300.Z	109	290	-875.5-1034.7	5	- 2		676.5	-248.2	- 7 8
7T.H	27.46	-96.3 -297.9	109	290	-886.6-1026.8	5	- 2	-3919.1 -10604.9		-234.1	-77
8TH	31.12	-97.5 -295.6	109	290	-897.7-1019.0	5	- 2	-3822.8 -10307.0	639.2		
9T H	34.78	-98.7 -293.3	109	290	-908.8-1011.1	6	-2	-3725.3 -10011.4	601.0	-220.2	-7:
10TH	3,8 . 44	-99.9 -291.0	109	290	-920.0-1003.2	6	-2	-3626.6 -9718.1	564.9	-206.8	-73
11TH	42.11	-101.1 -288.7	109	290	-931.1 -995.3	6	- 2	-3526.7 -9427.0	529.8	-193.7	-71
12TH	45.77	-102.8 -287.5	109	290	-946.4 -991.0	6	-2	-3425.6 -9138.3	495.9	~181.0	-69
13TH	49.43		109	290	-965.7 -992.3	6	-2	-3322.8 -8850.8	462.9	-168.6	-67
14TH	53.09	-104.9 -287.9				7	-2	-3217.9 -8562.9	431.1	-156.6	- 63
15TH	56.75	-107.0 -288.2	109	290	-984.9 -993.5		-	-3110.9 -8274.7	400.3	-145.1	- 6
16TH	60.41	-109.1 -288.6	109	290	-1004.2 -994.8	7	- 3	-3001.8 -7986.1	370.5	-133.9	-61
17TH	64.07	-111.2 -288.9	109	290	-1023.5 -996.0	7	- 3	-2890.7 -7697.2	341.8	-123.1	- 58
1978	67.73	-113.3 -289.3	109	290	-1042.8 -997.2	7	- 3	-2777.4 -7407.9	314.1	-112.7	-50
1.9TH	71.39	-114.9 -289.3	109	290	-1058.0 -997.1	7	-3	-2662.5 -7118.6	287.5	-192.8	-54
		-115.9 -290.7	109	290	-1067.4-1002.1	7	- 3	-2546.6 -6827.9	262.0	-93.2	- 51
20TH	75.05	-116.9 -292.1	109	290	-1076.7-1007.0	7	- 3	-2429.6 -6535.8	237.6	-84.1	-41
21ST	78.71	-118.0 -293.6	109	290	-1086.0-1011.9	7	- 3			-75.4	-46
22ND	82.37	-119.0 -295.0	109	290	-1095.3-1016.8	7	- 3	-2311.7 -6242.2	214.2		
23RD	86.03	-120.0 -296.4	109	290	-1104.7-1021.8	7	- 3	-2192.7 -5947.2	191.9	-67.2	-44
24TH	89.69	-121.5 -298.9	109	290	-1119.0-1030.2	7	- 3	-2072.7 -5650.8	170.6	-59.4	-41

	7. SHEAR IRECTION	AND MONEN [.] 260	T DIAGRA	NS : GATE Configure		JECT TOWER		ERENCE PR	ESSURE	771 PA		: BASED ON A	ERDELAST	IC DATA
FLOOR	HEIGHT	(H) FORCE	CKN) Y	AREA X	(SQ_N) Y	PRESSURE X	(PA) Y	ECCEN X	(M) Y	SHEA X	R (KN) Y	n a X	NENT CHN-	-#) Z
25TH	93.35	-174 4	747 1	140					-	-1951.2	-5352.0	150.5	-52.0	-39.3
26TH	97.01	-124.4 -		109	290	-1145.2-1		7	- 3	-1826.8	-5044.8	131.5	-45.1	-36.7
27TH	100.68	-127.2 -		109	290	-1171.3-1	_	7	- 3	-1699.5	-4729.5	113.6	-38.7	-34.1
28TH	104.34	-130.1 -		109	290	-1197.5-1		7	- 3	-1569.5	-4405.8	96.9	-32.7	-31.3
29TH	108.00	-132.9 -	-331.9	109	290	-1223.6-1	144.2	7	- 3	-1436.6		81.3	-27.2	-28.5
30TH	114.66	-135.7 -	-340.2	109	290	-1249.8-1	172.7	7	- 3	-1300.9		67.0	-22.2	-25.6
315T	115.32	-138.2 -	-348.0	109	290	-1272.9-1	199.5	7	- 3	-1162.6				
32ND	118.98	-139.4 -	-360.5	109	290	-1283.2-1	242.6	7	- 3			54.0	-17.6	-22.7
		-140.5 -	-373.6	109	290	-1293.5-1	287.8	7	- 3	-1023.3		42.3	-13.6	-19.8
3 3 R D	122.64	-141.6 -	-386.7	109	290	-1303.8-1	333.0	7	- 2	-882.8	-2651.6	31.9	-10.2	-16.9
34TH	126.30	-142.7 -	-399.8	109	290	-1314.1-1	378.2	6	- 2	-741.2	-2264.9	22.9	-7.2	-14.0
35TH	129.96	-143.8 -	412 9	109	290	-1324.4-1		6	- 2	-598.5	-1865.1	15.3	-4.7	-11.2
36TH	133.62	-141.3 -		109	290	-1300.9-14		-	-	-454.6	-1452.2	9.3	-2.3	-8.4
37TH	137.28							6	-2	-313.3	-1032.6	4.7	-1.4	-5.7
38T H	140.94	-132.4 -		109	290	-1218.7-14		5	- 2	-181.0	-616.0	1.7	5	-3.2
TOP	146.44	-181.¢ -	-616.0	162	433	-1116.4-14	422.8	5	-1	0 .0	٥.٥	0.0	0.0	0.0

	7. SHEAR IRECTION		T DIAGR	CONFIGURA	WAY PRO	JECT TOWER	TWO REFE	RENCE PRI	ESSURE	771 PA	BASED ON I	ROELAST	IC DATA
FLOOR	HEIGHT (N) FORCE	CKN) Y	AREA X	(SQ_H)	PRESSURE	(PA) Y	ECCEN	€H) Y	SHEAR (KN) X Y	X NI	DHENT CHN	-H) Z
GRND	0.00		- 1 2 7 6	163	436	-892.7 -	973 1	5	- 2	-4451.2 -11379.8	882.2	-350.8	-80.8
1 S T	5.50	-145.6						-		-4305.6 -10956.2	820.8	-326.8	-78.6
2ND	9.16	-89.6		109	290	-825.0 -		5	-2	-4216.0 -10692.1	781.1	-311.2	-77.3
3RD	12.82	-84.8	-251.3	109	290	-780.7 -		4	-1	-4131.2 -10440.8	742.5	-295.9	-76.1
4TH	16.48	~84.9	-246.4	109	290	-781.2 -	849.4	4	- 2	-4046.3 -10194.4	704.7	-280.9	-74.8
5TH	20.14	- 87 . 3	-247.2	109	290	-803.7 -	852.0	5	- 2	-3959.0 -9947.2	667.8	-266.3	-73.6
6TH	23.80	-89.7	-247.9	109	290	-826.1 -	854.6	5	- 2	-3869.3 -9699.3	631.9	-251.9	-72.3
		- 91 . 8	-249.0	109	290	-845.6 -	858.4	5	- 2	-3777.5 -9450.3	596.8	-238.0	.70.9
7TH	27.46	- 93 . 8	-251.4	109	290	-863 3 -	866.5	5	- 2	-3683.7 -9198.9	562.7	-224.3	-69.4
8TH	31.12	- 95 . 7	-253.7	109	290	- 881.1 -	874.6	5	- 2		529.5	-211.0	-67.8
9T H	34.78	- 97 . 6	-256.1	109	290	-898.8 -	882.7	6	- 2	-3588.0 -8945.2			
1 0 T H	38.44	-99.5	-258.4	109	290	-916.5 -	890.8	6	- 2	-3490.4 -8689.2	497.2	-198.0	-66.2
11TH	42.11	-101.5	-260.8	109	290	-934 2 -	878.9	6	- 2	-3390.8 -8430.8	465.9	-185.4	-64.4
12TH	4577	-102.7	-262.1	109	290	-945.8 -	903.4	6	- 2	-3289.4 -8170.0	435.5	-173.2	-62.6
13TH	49.43	-103.4		109	290	-951.6 -	903.1	6	- 3	-3186.6 -7907.9	406.1	-161.4	-69.7
14TH	53.09	-104.0		109	290	-957.4 -		7	- 3	-3083.3 -7645.9	377.6	-149.9	-58.7
15TH	56.75							, 7	- 3	-2979.3 -7384.0	350.1	-138.8	-56.7
16TH	60.41	-104.6		109	290	-963.3 -				-2874.7 -7122.2	323.5	-128.1	-54.7
17TH	64.07	-105.3	-261.7	109	290	-969.1 -		7	- 3	-2769.4 -6860.5	297.9	-117.7	-52.6
18TH	67.73	-105.9	-261.6	109	290	-974.9 -	901.9	7	- 3	-2663.5 -6598.9	273.3	-107.8	-50.5
19TH	71.39	#107.1	-262.4	109	290	-985.8 -	904.7	?	- 3	-2556.5 -6336.4	249.6	-98.2	-48.3
		-109.1	-265.6	109	290	-1004.3 -	915.7	7	- 3	-2447.4 -6070.8	226.9	-89.1	-46.1
20TH	75.05	-111.1	-268.8	109	290	-1022.7 -	926.7	7	- 3	-2336.3 -5801.9	205.2	-80.3	-43.8
215T	78.71	-113.1	-272.0	109	290	-1041.2 -	937.8	7	- 3				-41.5
2 2 N D	82.37	-115.1	-275.2	109	290	-1059.6 -	948.8	7	- 3	-2223.2 -5529.9	184.4	-72.0	
2 3 R D	86.03	-117.1	-278.4	109	290	-1078.1 -	959.8	7	- 3	-2108.2 -5254.7	164.7	-64.1	-39.2
24TH	89.69	-119.2		109	290	-1097.9 -	971.7	7	- 3	-1991.1 -4976.2	146.0	-56.5	-36.8

OR	HEIGHT (N)	FORCE	(KN)	AREA	(SQ H)	PRESSURE	E (PA)	ECCEN	(M) Y	SHEA	R (KN)	80 X	DHENT (MN- Y	-H) Z
TH		-121.8	-287.8	109	290	-1121.1 -	992.2	7	- 3	-1871.8		128.3	-49.5	-34
TH		-124.3	-293.8	109	290	-1144.3-1	012.7	7	-3	-1750.1		111.6	-42.8	-31
ТĦ		-126.8	-299.7	109	290	-1167.4-1	033.1	7	- 3	-1625.8		96.0	-36.7	-29
TH	104.34	-129.3	-305.7	109	290	-1190.6-1	053.6	7	- 3	-1499.0	-	81.5	-30.9	-26
TH	108.00	131 8	-311.6	109	290	-1213.7-1	074.1	7	-3	-1369.7	-3507.3	68.1	-25.7	-24
ťH	111.66	-134.0		- 109	290	-1233.3-1		7	- 3	-1237.8	-3195.7	55.8	-29.9	- 2
Ŝ T	115.32		-324.6	109	290	-1238.3-1		7	- 3	-1103.9	-2878.7	44.7	-16.6	-1
ND	118.98							-	-	-969.4	-2554.0	34.8	-12.8	- 1
RD	122.64		-332.6	109	290	-1243.3-1		7	-3	-834.4	-2221.5	26.0	-9.5	-1
TH	126.30	135.6	-340.5	109	290	-1248.3-1		6	- 2	-698.8	-1881.0	18.5	-6.7	- 1
TH	129.96	136.1	-348.4	109	290	-1253.3-1	201.1	6	- 2	-562.6	-1532.5	12.3	-4.4	- 1
TH	133.62	136.7	-356.4	109	290	-1258.3-1	228.4	5	- 2	-426.0	-1176.2	7.3	-2.6	- (
	•	133.6	-358.4	109	290	-1230.1-1	235.3	5	- 2	~	-817.8	3.7	-1.3	
TH	137.28	124.3	-341.0	109	290	-1144.2-1	175.6	5	- 2	-292.4				
TH		168.1	-476.7	162	433	-1037.1-1	101.2	5	- 2	-168.1	-476.7	1.3	5	- :
) P	146.44									0.Q	0 .0	0 .0	Q. Q	

	7. SHEAR Direction		AGRAMS : GAT Configur	EWAY PRI Ation a	OJECT TOWER TWO REFER	ENCE PRESSURE	771 PA	: BASED ON AERUELASTI	IC DATA
FLOOR	HEIGHT	(N) FORCE (KN X Y) AREA X	(SR H)	PRESSURE (PA) X Y	ECCEN (N) X Y	SHEAR (KN) X Y	NONENT (MN- X Y	·H) Z
GRND	¢.¢¢					5 -2	-4233.2 -9516.9	715.6 -328.8	-79.6
157	5.50	-143.4 -374			-878.8 -860.1		-4089.9 -9142.1	664.3 -305.9	-77.5
ZND	9:16	-90.4 -236			-832.2 -815.2	5 -2	-3999.5 -8905.6	631.3 -291.1	-76.2
3RD	12.82	-86.9 -226			-799.8 -781.5	5 - 2	-3912.6 -8678.9	599.1 -276.6	-74.9
4.T.H		-86.5 -222			-796.5 -766.9	5 -2	-3826.1 -8456.4	567.8 -262.4	-73.6
STH		-87.7 -222	.7 109	290	-807.3 -767.7	5 - 2	-3738.4 -8233.7	537.2 -248.6	-72.3
6TH		-88.9 -222	.9 109	290	-818.1 -768.5	5 -2	-3649.6 -8010.8	507.5 -235.1	-70.9
7TH		-90.3 -223	.5 109	290	-831.0 -770.4	5 -2	-3559.3 -7787.3	478.6 -221.9	-69.5
8TH		-91.8 -224	.3 109	290	-845.3 -773.1	6 - 2	-3467.5 -7563.0	450.5 -209.0	-68.0
9TH		-93.4 -225	.0 109	290	-859.6 -775.7	6 - 2	-3374.1 -7338.0	423.2 -196.5	-66.4
10TH	38.44	-94.9 -225	.8 109	290	-873.9 -778.3	6 - 3	-3279.2 -7112.2	396.7 -184.3	-64.7
1178	42.11	-96.5 -226	.5 109	290	-888.2 -780.9	7 -3	-3182.7 -6885.7	371.1 -172.5	-63.0
1278	45.77	-98.0 -227	.3 109	290	-902.5 -783.5	7 -3	-3084.7 -6658.4	346.3 -161.0	-61.1
1378	49.43	-99.2 -227	.6 109	290	-913.0 -784.5	7 - 3	-2985.5 -6430.8	322.4 -149.9	-59.2
1478	53.09	-99.9 -227	.5 109	290	-919.9 -784.3	7 - 3	-2885.6 -6203.3	299.3 -139:1	-57.3
1578	56.75	-100.7 -227	.5 109	290	-926.8 -784.1	7 - 3	-2785.0 -5975.8	277.0 -128.8	-55.3
1678	60.41	-101.4 -227	.4 109	290	-933.7 -783.9	7 - 3	-2683.5 -5748.4	255.5 -118.8	-53.2
1778	64.07	-102.2 -227	.3 109	290	-940.6 -783.7	8 - 3	-2581.4 -5521.1	234.9 -109.1	-51.2
1878	67.73	-102.9 -227	.3 109	290	-947.5 -783.5	8 -4	-2478.5 -5293.8	215.1 -99.9	-49.0
19TH	71.39	-103.9 -227	.5 109	290	-956.3 -784.2	8 - 4	-2374.6 -5066.3	196.1 -91.0	-46.9
20TH	75.05	-105.1 -228	.1 109	290	-967.9 -786.4	8 - 4	-2269.5 -4838.2	178.0 -82.5	-44.7
	78.71	-106.4 -228	.8 109	290	-979.4 -788.6	8 - 4	-2163.1 -4609.4	160.7 -74.4	-42.4
21ST		-107.6 -229	.4 109	290	-991.0 -790.8	8 -4	-2055.5 -4380.0	144.2 -66.6	-40.2
22ND		-108.9 -230	.0 109	290	1002.6 -793.0	8 - 4	-1946.6 -4149.9	128.6 -59.3	-37.8
23RD	86.03	-110.2 -230	.7 109	290	1014.2 -795.2	8 - 4	-1836.4 -3919.2	113.9 -52.4	-35.5
24TH	89.69	-111.5 -231	.4 109	290	1026.6 -797.8	8 - 4			

TE T SUPAR AND MORENT DISCROME & COTEMAY PROJECT TOUER THE

: BASED ON AERCELASTIC DATA

	7. SHEAR IRECTION		S : GATEWAY PROJ Onfiguration a	ECT. TOWER TWO Refei	RENCE PRESSURE	771 PA	: BASED ON AE	ROELASTIC DATA
FLOOR	HEIGHT	(H) FORGE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	X HOH	ENT (MN-M) Y Z
25TH	93.35	-113.0 -234.5	109 290	-1040.9 -808.2	8 -4	-1724.9 -3687.8	99.9	-45.9 -33.1
26TH	97.01				• •	-1611.9 -3453.3	86.9	-39.8 -30.8
27TH	100.68	-114.6 -237.5	109 290	-1055.1 -818.7		-1497.3 -3215.8	74.7	-34.1 -28.4
28TH	104.34	-116.1 -240.5	109 290	-1069.4 -829.1	8 - 4	-1381.1 -2975.3	63.3	-28.8 -25.9
29TH	108.00	-117.7 -243.6	109 290	-1083.7 -839.5	8 -4	-1263.4 -2731.7	52.9	-24.0 -23.5
30TH		-119.3 -246.6	109 290	-1098.0 -850.0	8 -4	-1144.2 -2485.2	43.3	-19.6 -21.1
		-120.7 ->49.5	109 290	-1111.5 -860.1	8 - 4	-1023.5 -2235.7		-15.6 -18.6
		-121.8 -254,5	109 290	-1121.9 -877.1	8 -4	-901.6 -1981.2		-12.1 -16.2
32ND	118.98	-123.0 -259.6	109 290	-1132.3 -894.9	7 - 3			
3 3 R D	122.64	-124.1 -264.8	109 290	-1142.7 -912.6	7 - 3	-778.6 -1721.6		
34TH	126.30	-125.2 -269.9	109 290	-1153.1 -930.4	7 - 3	-654.5 -1456.8		-6.4 -11.6
35TH	129.96	-126.4 -275.1	109 290	-1163.4 -948.2	7 - 3	-529.3 -1186.9	9.5	-4.2 -9.3
36TH	133.62		109 290	-1145.6 -951.3	6 - 3	-402.9 -911.9	5.7	-2.5 -7.2
37TH	137.28	-124.4 -276.0				-278.5 -635.9	2.9	-1.2 -5.1
38T H	140.94	-117.2 -264.0	109 290	-1078.8 -910.2	7 - 3	-161.4 -371.8	1.0	4 -3.0
TOP	146.44	-161.4 -371.8	162 433	-995.5 -858.9	7 - 3	0.0 0.0	0.0	0.0 0.0

	7. SHEAR I		T DIAGR	AMS : GATE Configura		JECT TOWER	TWO REFE	RENCE PR	ESSURE	771 PA		: BASED ON (ROELAST	IC DATA
FLOOR			(KN) Y	AREA	(SQ_H)	PRESSURE	E (PA) Y	ECCEN X	<pre>Provide the second /pre>	SHEAI X	R (KN) Y	n (X	DHENT CHN Y	-#) Z
GRND	0.00					0.0 F (A AA 7	6	- 2	-4111.6	-9867.6	716.7	-317.4	-95.9
1 S T	5.50	-147.7		163	436	-905.6 -				-3963.8	-9436.8	663.7	-295.2	-93.2
2ND	9.16		-272.0	109	290	-843.1 -		6	-2	-3872.3	-9164.8	629.6	-280.9	-91.5
3R D	12.82	- 86 . 8	-261.2	109	290	-799.4 -		6	- 2	- 37 85 . 4	-8903.6	596.5	-266.9	-89.9
478	16.48	- 86 . 2	-256.4	109	290	-793.4 -	- 883 . 8	6	- 2	-3699.3	-8647.2	564.4	-253.2	-88.2
578	20.14	-87.5	-254.7	109	290	-806.0 -	- 878 . 0	6	- 2	-3611.7	-8392.5	533.2	-239.8	-86.5
671	23.80	- 88 . 9	-253.0	109	290	-818.5 -	-872.1	6	- 2	- 35 22 . 8	-8139.5	503.0	-226.7	-84.7
718	27.46	-90.0	-251.3	109	290	-829.0 -	866.1	7	- 2	-3432.8	-7868.2	473.6	-214.0	-82.9
		-91.0	-249.8	109	290	-838.3 -	- 861 . 2	7	- 2		-7638.4	445.2	-201.6	-81.0
8TH	31.12	- 92 . 1	-248.4	109	290	-847.6 -	- 856 . 4	7	- 3		-7390.0	417.7	-189.5	-79.0
9TH	34.78	-93.1	-247.0	109	290	-856.9 -	- 851.5	7	- 3	2	-7142.9	391.1	-177.8	-76.9
1.0TH	38.44	-94.1	-245.6	109	290	-866.2 -	846.6	7	- 3		-6897.3	365.4	-166.4	-74.9
11TH	42.11	- 95 . 1	-244.2	109	290	-875.5 -	841.7	8	- 3	-			-155.4	-72.7
12TH	45.77	-95.9	-242.6	109	290	- 883.2 -	- 836 . 3	8	- 3		-6653.2	340.6		
13TH	49,43	-96.6	-241.2	109	290	-889.4 -	-831.5	8	- 3		-6410.6	316.7	-144.7	-70.5
14TH	53.09	-97.3	-239.8	109	290	-895.6 -	- 826 . 7	8	- 3		-6169.3	293.7	-134.4	-68.2
15TH	56.75	-97.9		109	290	-901.7 -	-821.9	9	-4		-5929.5	271.5	-124.4	-65.9
16TH	60.41	-98.6		109	290	-907.9 -		9	- 4	-2579.7	-5691.1	250.3	-114.8	-63.5
17TH	64.07	-99.3		109	290	-914.0		9	-4	-2481.1	-5454.0	229.9	-105.5	-61.0
18TH	67.73			109	290	-920.5 -		9	-4	-2381.8	-5218.4	210.3	-96.6	-58.5
19TH	71.39	-100.0						9	-4	-2281.9	-4984.0	191.6	-88.1	-56.0
2 Q T H	75.05	-100.7		109	290	-927.3 -				-2181.1	-4750.5	173.8	-79.9	-53.4
215T	78.71	-101.5		109	290	-934.1 -		9	- 4	-2079.7	-4517.9	156.9	-72.1	-50.8
2 2 N D	82.37	-102.2		109	290	-941.0 -		9	-4	-1977.5	-4286.1	140.7	-64.7	-48.2
23RD	86.03	-102.9	-230.9	109	290	-947.8 -		10	-4	-1874.5	-4055.2	125.5	-57.6	-45.5
2478	89.69	-103.7	-230.1	109	290	-954.7 -	-793.1	10	-4	-1770.9	-3825.1	111.1	-50.9	-42.9
6 71 8	¥7.97	-104.7	-2,29.6	109	290	-964.4 -	-791.6	10	- 4		-			

	7. SHEAR	AND MONENT DIAGRAM	15 : GATEWAY PRO Configuration a	JECT TOVER TWO Refe	RENCE PRESSURE	771 PA	: GASED ON AEROEL	ASTIC DATA
FLOOR	HEIGHT	(M) FORCE (KN) X Y	AREA (SQ H) X Y	PRESSURE (PA) X Y	ECCEN (N)	SHEAR (KN) X Y	X NOMENT	(HH-H) Z
25TH	93.35	-106.5 -231.3	109 290	-981.0 -797.5	10 -4	-1666.1 -3595.4	97.5 -44	7 -40.2
26TH	97.01					-1559.6 -3364.1	84.7 -38	7 -37.5
27TH	100.68	-108.4 -233.1	109 290	-997.6 -803.3		-1451.2 -3131.0	72.8 -33	.2 -34.7
28TH		-110.2 -234.8	109 290	-1014.2 -809.2	10 -5	-1341.1 -2896.3	61.8 -28	.1 -31.9
		-112.0 -236.5	109 290	-1030.8 -815.1	10 -5	-1229.1 -2659.8	51.6 -23	.4 -29.1
29TH		-113.8 -238.2	109 290	-1047.4 -820.9	10 -5	-1115.3 -2421.7	42.3 -19	
3 ¢ T H	111.66	-115.6 -239.9	109 290	-1064.0 -826.9	10 -5			
315T	115.32	-117.4 -245.7	109 290	-1080.9 -846.8	10 -5	-999.8 -2181.8	33.9 -15	
3 2 N D	118.98	-119.2 -251.8	109 290	-1097.7 -868.0	9 -4	-882.4 -1936.1	26.4 -11	.8 -20.4
33RD	122.64				-	-763.1 -1684.3	19.8 -8	.8 -17.5
34TH	126.30	-121.1 -258.0	109 290	-1114.6 -889.2		-642.1 -1426.4	14.1 -6	.2 -14.7
35TH		-122.9 -264.1	109 290	-1131.4 -910.4	9 - 4	-519.2 -1162.2	9.3 -4	.1 -11.9
		-124.7 -270.3	109 290	-1148.2 -931.6	8 - 4	-394.5 -892.0	5.6 -2	.4 -9.2
36TH	133.62	-122.9 -271.0	109 290	-1131.9 -934.1	8 - 4			.2 -6.5
37TH	137.28	-114.9 -258.5	109 290	-1058.2 -891.0	9 - 4	-271.6 -621.0		
38TH	140.94	-156.6 -362.5	162 433	-966.3 -837.3	9 -4	-156.6 -362.5	1.0 -	.4 -3.8
TOP	146.44	-198.8 -385.9	102 400			0.0 0.0	0,0 O	.0 0.0

SASED ON AEROELASTIC DATA

		300 0	ONFIGURATION A		RENCE PRESSURE	771 PA		
00 R	HEIGHT	M) FORCE (KN) X Y	AREA (SQ M) X Y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	KONENT (P	1H-H) Z
RND	0.00		163 436	-958.8-1050.3	7 -2	-4629.7 -10111.8	710.0 -360.0	-115.
1 S T	5.50	-156.4 -457.7				-4473.3 -9654.1	655.7 -335.0	-112.
2ND	9:16	-94.6 -287.4	109 290	-871.1 -990.8	7 - 2	-4378.7 -9366.7	620.9 -318.8	-109.
3R D	12.82	-88.9 -276.2	109 290	-818.2 -952.1	7 - 2	-4289.8 -9090.5	587.1 -302.9	-107.
4TH	16.48	-89.3 -274.9	109 290	-822.6 -947.7	7 -2	-4200.5 -8815.6	554.3 -287.4	-105
5TH	20.14	-92.9 -279.9	109 290	-855.0 -965.0	7 -2	-4107.6 -8535.6	522.6 -272.1	-103
6TH	23.80	-96.4 -285.0	109 290	-887.5 -982.3	7 - 3	-4011.2 -8250.7	491.9 -257.3	-100
7TH	27.46	-99.1 -286.6	109 290	-912.0 -987.9	8 - 3	-3912.2 -7964.1	462.2 -242.8	- 98
8TH	31.12	-101.2 -283.1	109 290	-931.7 -975.9	8 - 3	-3811.0 -7681.0	433.5 -228.6	- 96
9TH	34.78	-103.3 -279.7	109 290	-951.4 -964.0	8 - 3	-3707.6 -7401.3	405.9 -214.9	
TH	38.44	-105.5 -276.2	109 290	-971.1 -952.0	8 - 3	-3602.2 -7125.1	379.3 -201.5	
		-107.6 -272.7	109 290	-990.8 -940.1	8 - 3	-3494.6 -6852.4	353.8 -188.5	
TH	42.11	-109.7 -269.3	109 290	-1010.5 -928.1	8 - 3	-3384.8 -6583.2	329.2 -175.9	
TH	45.77	-111.0 -264.8	109 290	-1022.3 -912.8	9 -4	-3273.8 -6318.4	305.6 -163.7	
TH	49.43	-111.5 -259.9	109 290	-1026.6 -896.0	9 -4		282.9 -152.0	
TH	53.09	-112.0 -255.1	109 290	-1031.0 -879.3	9 -4	-3162.3 -6058.4		
TH	56.75	-112.5 -250.2	109 290	-1035.4 -862.6	9 - 4	-3050.3 -5803.3	261.2 -140.6	
TH	60.41	-112.9 -245.4	109 290	-1039.7 -845.9	10 -4	-2937.8 -5553.1	240.4 -129.6	
TH	64.07	-113.4 -240.5	109 290	-1044.1 829.1	10 -5	-2824.9 -5307.7	220.5 -119.1	
TH	67.73	-114.3 -236.6	109 290	-1052.5 -815.5	10 -5	-2711.5 -5067.2	201.5 -108.9	
HTH	71.39	-115.9 -235.1	109 290	-1067.0 -810.6	10 -5	-2597.2 -4830.6	183.4 -99.2	
TH	75.05	-117.5 -233.7	109 290	-1081.4 -805.6	10 -5	-2481.3 -4595.4	166.2 -89.9	-6
ST	78.71	-119.0 -232.3	109 290	-1095.8 -800.7	10 -5	-2363.9 -4361.7	149.8 -81.1	- 6
ND	82.37				11 -5	-2244.9 -4129.4	134.2 -72.6	-54
RD	86.03	-120.6 -230.9	109 290	-1110.3 -795.8		-2124.3 -3898.6	119.5 -64.6	-5
	89.69	-122.2 -229.4	109 290	-1124.7 -730.8	11 -6	-2002.1 -3669.2	105.7 -57.1	-54

: BASED ON AEROELASTIC DATA

TARLE 7 SHEAR AND NOMENT DIAGRAMS : GATEWAY PROJECT TOWER TWO

	7. SHEAR IRECTION		S : GATEVAY PRO Onfiguration a	JECT TOWER TWO Refei	RENCE PRESSURE	771 PA	: BASED ON A	ERDELASTIC DATA
FLOOR	HEIGHT	(N) FORCE (KN) X Y	AREA (SQ A) X y	PRESSURE (PA) X Y	ECCEN (M) X Y	SHEAR (KN) X Y	NO X	HENT (HN-H) Y Z
25TH	93.35	404 E 007 0	109 290	-1146.0 -785.5	11 -6	-1878.6 -3441.	4 92.7	-50.0 -47.6
26TH	97.01	-124.5 -227.9				-1754.1 -3213.	6 80.5	-43.3 -44.4
27TH	100.68	-125.4 -228.0	109 290	-1154.6 -785.9	11 -6	-1628.7 -2985.	6 69.1	-37.1 -41.2
28TH	104.34	-126.3 -228.1	109 290	-1163.2 -786.3	11 -6	-1502.4 -2757.	5 58.6	-31.4 -37.9
29TH		-127.3 -228.2	109 290	-1171.8 -786.7	11 -6	-1375.1 -2529.	2 49.0	-26.1 -34.7
30TH		-128.2 - 228.3	109 290	-1180.4 -787.1	11 -6	-1246.9 -2300.	9 40.1	-21.3 -31.4
		-129.4 -228.8	109 290	-1191.2 -788.6	11 -6	-1117.5 -2072.		-17.0 -28.0
31\$T		-131.5 -234.3	109 290	-1210.9 -807.7	11 -6			-13.2 -24.7
	118.98	-133.7 -240.2	109 290	-1230.6 -828.1	11 -6			
3 3 R D	122.64	-135.8 -246.1	109 290	-1250.3 -848.4	11 -6	-852.3 -1597.		-9.8 -21.3
34TH	126.30	-137.9 -252.0	109 290	-1270.0 -868.8	10 -6	-716.5 -1351.	5 13.3	-6.9 -17.9
35TH	129.96	-140.1 -257.9	109 290	-1289.7 -889.1	10 -6	-578.6 -1099.	4 8.8	-4.6 -14.5
36TH	133.62					-438.5 -841.	5 5.2	-2.7 -11.1
37TH	137.28	-137.8 -257.7	109 290	-1269.0 -888.1		-300.7 -583.	8 2.6	-1.3 -7.8
38TH	140.94	-128.0 -244.3	109 290	-1178.4 -842.0	i¢ -5	-172.7 -339.	6.9	5 -4.6
TOP	146.44	-172.7 -339.6	162 433	-1065.4 -784.4	11 -5	0.0 0.	0 0.0	0.0 0.0

00 R	HEIGHT		(KN)		(ହେମ୍ପ >	PRESSURE	(PA)	ECCEN	(M) Y	SHEAR (KN) X Y	X	DHENT _y (MN	-H) Z
		X	Ŷ	X	Ŷ	X	T	^	T			-420.0	-
RND	0.00	-163.0	-548.5	163	436	-999.2-1	258,7	9	- 3	-5278.0 -13576.3	958.1		
1 S T	5.50	-96.9	-359.1	109	290	-892.4-1	237.9	9	- 2	-5115.0 -13027.8	884.9	-391.4	-168.0
2ND	9:16	-89.0	-356.2	109	290	-819.5-1	227.7	9	- 2	-5018.0 -12668.7	837.9	-372.9	-164.0
3RD	12.82	- 89.4		109	290	-822,9-1	243.6	9	- 2	-4929.0 -12312.6	792.2	-354.7	161.
4TH	16.48	-93.8		109	290	-863.7-1	257.3	9	- 2	-4839.6 -11951.8	747.7	-336.8	-157.5
5TH	20.14	-98.2		109	290	-904.5-1		9	- 2	-4745.8 -11587.1	704.7	-319.3	-154.0
6T H	23.80	-102.3		109	290	-942.3-1		9	- 3	-4647.6 -11218.3	662.9	-302.1	-150.
7TH	27.46	-106.2		109	290	-978.2-1		9	- 3	-4545.3 +10847.4	622.5	-285.2	-146.
8T H	31.12	-110.1		109	290	-1014.1-1		9	- 3	-4439 0 -10477.2	583.5	-268.8	-143.
9TH	34.78	-114.0		109	290	-1050.0-1		9	- 3	-4328.9 -10107.8	545.8	- 252.8	-139.
¢T H	38.44				290	-1086.0-1		9	- 3	-4214.8 -9739.1	509.5	-237.1	-135.
1 T H	42.11	-117.9		109	290	-1121 9-1		9	- 3	-4096.9 -9371.0	474.5	-221.9	-131
2 T H	45.77	-121.8		109				10	- 3	-3975.0 -9003.8	440.9	-207.1	-127.
3 T H	49.43	-124.7		109	290	-1147.9-1		10	- 3	-3850.4 -8638.7	408.6	-192.8	-123.
4 T H	53.09	-126.5		109	290	-1164.4-1			- 4	-3723.9 -8277.1	377.6	-178.9	-120.
5TH	56.75	-128.3		109	290	-1180:9-1		10	-	-3595.7 -7918.9	348.¢	-165.5	-115.
6 T H	60.41	-130.0		109	290	-1197.4-1		10	-4	-3465.6 -7564.2	319.6	-152.6	-111.
7TH	64.07	-131.8		109	290	-1213.9-1		10	-4	-3333.8 -7213.0	292.6	-140.2	-107.
8TH	67.73	-133.6	-347.8	109	290	-1230.3-1		11	-4	-3200.1 -6865.2	266.8	-128.2	-103.
9TH	71.39	-135.3	-344.1	109	290	-1246 1-1		11	- 4	-3064.8 -6521.1	242.3	-116.7	-99.
et H	75.05	-136.9	-338.5	109	290	-1260.7-1	166.8	11	- 4	-2927.9 -6182.6	219.1	-105.8	-94.
1.5 T	78.71	-138.5	-332.9	109	290	-1275.4-1	147.6	11	- 5	-2789.4 -5849.7	197.1	-95.3	90.
ZND	82.37	-140.1	-327.3	109	290	-1290,0-1	128.3	12	- 5	-2649.2 -5522.4	176.2	-85.4	- 85.
3RD	86.03	-141.7	-321.8	109	290	-1304.7-1	109.1	12	- 5	-2507.5 -5200.6	156.6	-75.9	-81.
		-143.3	-316.2	109	290	-1319.3-1	089.9	12	- 5	-2364.3 -4884.4	138.2	-67.0	-76.
24TH	89 69	-145.0	-310.9	109	290	-1335.2-1	071.7	12	- 6	6941.9 1941.1	100.6	****	

TABLE Wind D	7. SHEAR A	ND HONEN	T DIAGR	ANS : GATI Configuri	EWAY PRO- Ation a	JECT TOWER		ERENCE PR	ESSURE	771 PA		: BASED ON A	ERCELAST	IC DATA
FLOOR	HEIGHT ()	I) FORCE X	(KN) Y	AREA X	(\$9_H) Y	PRESSURE X	(PA) Y	ECCEN	CH >	SHEA X	R (KN) Y	NO X	HENT CHN	-H) Z
25TH	93.35			() •						-2219.2	-4573.6	120.8	-58.6	-72.1
26TH	97.01	-147.1		109	290	-1353.9-1		12	-6	-2072.2	-4261.6	104.7	-50.8	-67.4
27TH	100.68	-149.1		109	290			12	-6	-1923.1	-3948.6	89.6	-43.4	-62.6
2.8TH	104.34	-151.1		109		-1391.4-1		13	- 6	-1772.0	-3634.5	75.8	-36.7	-57.7
29T H	108.00	-153.2		109	290	-1410.2-1		13	-6	-1618.8	-3319.4	63.0	-30.5	-52.8
30TH	111.66	-155.2		109	290	-1428.9-10		13	-6	-1463.6	-3003.2	51.5	-24.8	-47.8
315T	115.32	-157.0		109	290	-1445.7-10		13	- 6	-1306.6	-2686.2	41.1	-19.8	-42.7
32ND	118 98	-157.9		109	290	-1454.2-1		13	- 6	-1148.7	-2367.1	31.8	-15.3	-37.6
33RD	122.64	-158.9		109	290	-1462.7-1		13	- 6	-989.8	-2045.4	23.7	-11.4	-32.5
34TH	126.30	-159.8		109	290	-1471.2-1		13	- 6	-830.0	-1721.2	16.8	-8.0	-27.3
35TH	129.96	-160.7	-326.7	109	290	-1479 7-1	126.1	13	- 6	-669.3	-1394.6	11.1	-5.3	-22.2
36TH	133.62	-161.6	-329.2	109	290	-1488.2-1	134.7	13	- 6	-507.7	-1065.4	6.6	-3.1	-17.0
37TH	137.28	-158.4	-325.7	109	290	-1458.3-1	122.7	13	- 6	-349.3	-739.7	3.3	-1.6	-11.8
38TH	140.94	-147.9	-309.1	109	290	-1362.1-10	65.6	13	- 6	-201.3	-430.5	1.2	6	-6.9
TOP	146.44	-201.3	-430.5	162	433	-1242.2 -9	94.5	13	- 6	0.0	0.0	0.0	¢.¢	0.0

)0 R	HEIGHT (N)	FORCE (KN) X Y	AREA (S X	SQ M > - Y	PRESSURE (PA)	ECCÊN (X	°₩> Y	SHEAR (KN) X Y	X NOME	ENT (MH−M) Y Z
t n d	0.00	-89.7 -572.8	163	436	-549.7-1314.5	5 -	-1 -	2816.2 - #####.7	P\$1.7 -	225.5 -115
ST	5.50	-54.9 -374.6		290	-505.8-1291.4	-		2726.5 - 2925.9	- ### .# -	-210.2 -112
2N D	9.16	-51.8 -371.4		290	-477.1-1280.2	-		2671.5 - 255.	- +++	200.3 -110
SRD	12.82	-52.0 -374.4		290	-479.2-1290.6			2619.7 - 2179.9	- ++++ -	190.7 -108
H T H	16.48	-53.9 -376.4		290	-496.3-1297.5		- T	2567.7	- ** *.* -	181.2 -106
5T H	20.14	-55.8 -378.4	•••	290	-513.5-1304.4	-	-1 -	2513.8 - 429.	- +++ -	171.9 -104
5TH	23.80	-57.2 -378.2		290	-526.3-1303.7	-		2458.0	- 649.4 -	162.8 -102
TH.	27.46	-58.3 -375.7		290	-536.5-1295.1			2400.8 - 4472.5	- <u>669</u> .6 -	153.9 -100
BTH	31.12	-59.4 -373.2		290	-546 6-1286 6			2342.6	- \$\$\$.\$ -	145.2 -98
TH	34.78	-60.5 -370.8		290	-556 8-1278 0	-		2283.2	+‡4 +	136.7 -96
TH	38.44	· · ·		290	-567.0-1269.4		-1 -	2222.7	- +++ -	128.5 -93
TH	42.11	-61.6 -368.3		290	-577.2-1260.9	-	-1 -	2161.2 -	- +++	120.4 -91
TH	45.77	-63.7 -362.8		290	-586.3-1250.5	-		2098.5	- +++	112.6 -89
TH	49.43			290	-594.4-1237.6	-		2034.8	- \$\$\$. \$ -	105.1 -86
TH	53.09	-64.6 -359.0	•••				-1 -	1970.2	***	-97.8 -84
TH	56.75	-65.4 -355.3		290	-602.4-1224.6 -610.5-1211.6	-		1904.8	\$\$\$.\$	-90.7 -81
TH	60 41	-66.3 -351.5		290				1838.5 -7894.	\$\$\$.T	-83.8 -78
T, ri	64.07	-67.2 -347.7		290	-618.6-1198.6	-	-	1771.3 -7942.4	2 # # # . #	-77.2 -76
TH	67.73	-68.1 -344.0		290	-626.7-1185.6	-		1703.2	241.I	-70.8 -73
TH	71.39	-68.7 -339.4		290	-632.6-1169.8	-		1634.5 -4554.	<u>+</u> ++.+	-64.7 -70
T.H	75.05	-69.0 -333.0		290	-635.2-1148.0	-		1565.6 -6026.	\$\$\$	-58.9 -67
5 T	78.71	-69.3 -326.7		290	-637.8-1126.1	-		1496.3	197.1	-53.3 -64
ND	82.37	-69.6 -320.4		290	-640.5-1104.3			1426.7 -\$\$79.9	174.4	-47.9 -61
RÞ	86.03	-69.8 -314.0	109	290	-643.1-1082.5	-		1356.9 -\$065.0	141.1	-42.8 -58
TH	89.69	-70.1 -307.7	109	290	-645.8-1060.7	9 -	2	1286.7 -4757.8		-38.0 -55

TABLE WIND D	7. SHEAR A	AND NOMENT DIAGRAM	S : GATEWAY PROJ Onfiguration a	ECT TOWER TWO Refe	RENCE PRESSURE	771 PA	: BASED ON AERDELASTIC DATA
FLOOR	HEIGHT ()	TORCE (KN)	AREA (SQ M). X Y	PRESSURE (PA) X Y	ECCEN (N) X Y	SHEAR (KN) X Y	HOHENT (HN-H) X Y Z
25TH	93.35	-72.7 -302.3	109 290	-669.5-1042.0	10 -2	-1215.8 -4454.5	4 . • -33. 4 -52. 5 • 3. • -29. 1 -49. 3
26TH 27TH	97.01 100.68	-74,5 -301.8	109 290	-686.3-1040.4	10 -3	-1143.1 -152.3 -1068.6 -3854.4	103 29.1 -49.3 60.5 -25.0 -46.1
28TH	104.34	-76.4 -301.4 -78.2 -300.9	109 290 109 290	-703.1-1038.8 -719.9-1037.2	10 - 3 11 - 3	-992.2 -3549.	-21.3 -42.7
29TH 30TH	108.00 111.66	-80.0 -300.4	109 290	-736.7-1035.6	11 -3	-914.0 - 324 .2 -834.0 - 2947 .7	€2.\$ -17.8 -39.3 \$.2 -14.6 -35.8
315T	115.32	-82.0 -300.4 -84.4 -305.2	109 290 109 290	-754.6-1035.3 -776.8-1051.9	11 - 3 11 - 3	-732.1 -2447.4	-11.7 -32.3
32ND 33RD	118.98 122.64	-86.8 -310.3	109 290	-798.9-1069.5	11 -3	-667.7 -2342.2 -580.9 -2032.4	23.8 -9.1 -28.6 23.8 -6.8 -24.9
34TH	126.30	-89.2 -315.4 -91.6 -320.5	109 290 109 290	-821.1-1087.2 -843.3-1104.8	11 - 3 11 - 3	-491.8 - 7.6.6	-4.8 -21.0
35TH 36TH	129.96 133.62	-94.0 -325.6	109 290	-865.5-1122.4	11 -3	-400.2 - 396. -306.2 - 979.3	-3.2 -17.2
37TH	137.28	-93.7 -323.0 -88.9 -309.8	109 290 109 290	-863.1-1113.5 -818.2-1067.8	11 - 3 11 - 3	-212.4 -747.4	-1.0 -9.2
38TH Top	140.94 146.44	-123.6 -437.6	162 433	-762.3-1010.9	11 - 3	-123.6 -437.6	· · · · · · · · · · · · · · · · · · ·

BLE ND D	7. SHEAR AND IRECTION 330	NONEN	T DIAGRA	MS : GATE CONFIGUR	WAY PROJ Ition A	ECT TOWER	TUO REFEI	RENCE PI	RESSUR	E 771 PA		BASED ON	AEROELAST	IC DAI
OOR	HEIGHT (N)	FORCE	(KN)	AREA X	<seyn></seyn>	PRESSUR X	E (PA) Y	ECCEI	e (H) Y	SHEA X	R (KN) Y	x	NOMENT CAN	-H) Z
RND	0.00					477 8	744 0	- 0	Ó	-2061.4	\$77-1	-229.	-163.6	-33.
1 S T	5.50	-70.7		163	436	-433.5				-1990.7		-272.4	-152.4	- 33.
ZND	9:16	-44.9		109	290	-413.1		-1	•	-1945.8	1319.8	- + + + +	-145.2	-33
3RD	12.82	-43.8	-181.8	109	290	-403.1		-1	0	-1902.1	- 1\$41.4	-224.4	-138.2	- 3 3
4TH	16.48	-43, 9	-175.0	109	290	-404.4	- 603.3	- 1	0	-1858.1	1444.4	-214.	-131.3	-34
5TH	20.14	-44.6	-164.4	109	290	-411.1	-566.7	- 1	0	-1813.5		-212.	-124.6	-34
		-45.4	-153.8	109	290	-417.8	-530.0	- 1	0	-1768.1		-245.	-118.0	-34
6TH		- 45 . 5	-138.2	109	290	-419.2	-476.4	- 1	٥	-1722.6			-111.6	-34
TH	27.46	-45.3	-117.8	109	290	-417.2	-406.0	- 1	•	-1677.3	1111 I	- 1	-105.4	- 34
BTH	31.12	-45.1	-97.3	109	290	-415.2	-335.6	- 1	٥		1111-1		-99.4	- 34
TH	34.78	- 44 . 9	-76.9	109	290	-413.3	-265.2	-0	0	-1632.2		- ! .		
TH	38.44	-44.7	- 56.5	109	290	-411.3	-194.7	ò	- 0	-1587.3	iiii	- 11	-93.5	- 35
TH	42.11	-44.5	-36.1	109	290	-409.4	-124.3	1	- 1	-1542.6	Ĩ, Î, Î, Î		-87.7	- 34
TH	45.77	-44.5	-17.5	109	290	-409.3	-60.4	1	- 2	-1498.2	FFFT · F		-82.2	-34
TH	49.43	-44.6	-2.9	109	290	-411.0	-10.1	0	-4	-1453.7	****		-76.8	- 34
TH	53.09	-44.8	11.6	109	290	-412.7	40.2	- 1	-4	-1409.1		- ++	-71.5	-34
TH	56.75				290	-414.4	90.4	-2	-4	-1364.2	****	-↓₽∳↓-	-66.5	-34
тн	60.41	-45.0	26.2	109				_		-1319.2	****	-111-	-61.5	-34
TH	64.07	-45.2	40.8	109	290	-416.1	140.7	-3	-3	-1274.0		-144.	-56.8	-33
TH	67.73	-45.4	55.4	109	290	-417.8	190.9	- 3	- 3	-1228.7	2442.4	- ++ . :	-52.2	-33
TH	71.39	-45.8	68.6	109	290	-421.6	236.3	-4	- 3	-1182.9	- ₽₽₽₽	- • • .	-47.8	- 3 3
TH	75.05	-46.5	77.8	109	290	-428.5	268.3	- 5	- 3	-1136.3	2252.4	- #2 .	-43.6	- 32
		-47.3	87.1	109	290	-435.4	300.3	- 5	- 3	-1089.1		- 14	-39.5	- 32
ST	78.71	-48.0	96.4	109	290	-442.2	332.3	- 6	- 3	-1041.0	III I		-35.6	-31
ND	82.37	- 48 . 8	105.7	109	290	-449.1	364.3	- 6	- 3	-992.2	III.I	_II · I	-31.9	-30
RD		- 49 . 5	115.0	109	290	-456.0	396.3	- 7	- 3]		
TH	89.69	- 50 . 4	123.4	109	290	-464.3	425.3	- 7	- 3	-942.7	\$\$2.8	-\$1.4	-28.3	-29

LOOR	HEIGHT (N)	FORCE	(KN)	AREA	(SQ H)	PRESSURE	(PA)	ECCEN	(1)	SHEAT	CKN)	M	OHENT (NN-	-83
		X	Ŷ	×	Υ.	X	Y	×	Ϋ́	X	Ý	X	Ŷ	Z
25TH	93.35	-51.7	124.8	109	290	-475.8	430.2	- 8	- 3	-892.3	- ++++-+	-17.7	-25.0	-28.1
26TH	97.01	-52.9		109	290		435.0	- 9	-4	-840.6		-\$\$.\$	-21.8	-27.
27TH	100.68				290		439.8			-787.7	4444.4	-\$\$,\$	-18.8	-26.
28TH	104.34	-54.2		109				-10	-4	-733.5		-24.\$	-16.0	-24.
2 9 T H	108.00	- 55 . 4		109		-510.4		-10	-4	-678.1		- ** . *	-13.4	-23.
BOTH	111.66	-56.7		109		-521.9		-11	-5	-621.4		- 19.4	-11.1	-21.
IST	115.32	-58.2	130.8	109	290	-535 5	451.0	-12	- 5	-563.2		- 15. 6	-8.9	-19.
ZND		-60.5	122.3	109	290	-557.4	421.5	-13	- 6	-502.7		-12.1	-6.9	-17.
3RD	122.64	-62.9	113.3	109	290	-579.4	390.5	-14	- 8	-439.7			-5.2	-15.
	126.30	-65.3	104.3	109	290	-601.3	359.6	-15	- 9	-374.4	III.I		-3.7	-13.
		- 677	95.3	109	290	-623.3	328.6	-16	-11		I11-1	1.1		
	129.96	-70.1	86.3	109	290	-645.2	297.6	-16	-13	-306.7		- 1 . 1	-2.5	-11.
	133.62	-70.7	87.0	109	290	-651.1	300.0	-16	-13	-236.7		-7.7	-1-5	-8.
7TH	137.28	-68.3	118.1	109	290	-629.3	407.0	-16	- 9	-165.9	777 • •	- .7	8	-6.
8 T H	140.94	-97.6	233.9	162	433		540.2	-15	-6	-97.6	- ###- <u>*</u>	∮ .∳	3	-4.
TOP	146.44	~ · · · ·	/					• •	-	0.0	₩.	↓ . ♦	0.0	٥.

ÓOR	HEIGHT (M)	FORCE	скях	AREA (ଽଽୄ୶ଽ	PRESSUR	E (PA):	ECÇE	н с д ≯⊹		(KN Ş	н Х	ONENT CHN	-#>
RND 1ST 2ND 3RD 4TH 5TH 6TH	HEIGHT (R) 0.00 5.50 9.16 12.82 16.48 20.14 23.80	X - 87.7 - 56.1 - 54.3 - 53.9 - 54.2 - 54.5	Y -76.5 -34.8 -21.7 -9.2 5.6 20.4	X 163 109 109 109 109	Y 4 36 2 90 2 90 2 90 2 90 2 90	X -537.8 -516.9 -499.5 -495.8 -498.8 -501.8	Y -175.7 -119.9 -74.7 -31.7 19.3 70.4	X -45 -50 -45 -23 15 51	Y 52 80 112 135 145 135	-2254.2 -2166.5 -2110.3 -2056.1 -2002.2 -1948.1 -1893.6	7470.7 7547.3 7582.0 7603.7 7612.9 7607.3 7586.9	X " -718.1 -676.8 -649.1 -621.3 -593.5 -565.6 -537.8	- 170.5 - 158.4 - 150.5 - 142.9 - 135.5 - 128.3 - 121.2	
7TH 8TH 9TH 0TH 1TH 2TH 3TH 4TH	27.46 31.12 34.78 38.44 42.11 45.77 49.43 53.09 56.75	-50.2 -50.6 -50.9		109 109 109 109 109 109 109 109	290 290 290 290 290 290 290 290 290	-498.6 -491.7 -484.7 -477.8 -477.8 -470.9 -463.9 -463.9 -465.4 -468.7	130.8 200.2 269.6 339.0 408.4 477.7 541.0 592.7 644.4	74 78 72 64 56 49 42 35 29	105 71 48 34 24 18 13 10 8	-1839.4 -1786.0 -1733.4 -1681.5 -1630.3 -1579.9 -1529.7 -1479.2 -1428.3	7549.0 7490.9 7412.7 7314.3 7195.9 7057.3 6900.3 6728.4 6541.5	-510.1 -482.6 -455.3 -428.3 -401.8 -375.7 -350.1 -325.2 -300.9	-114.4 -107.8 -101.3 -95.1 -89.0 -83.1 -77.4 -71.9 -56.6	
6TH 7TH 8TH 9TH 0TH 1ST 2ND 3RD 4TH	60.41 64.07 67.73 71.39 75.05 78.71 82.37 86.03 89.69	-52.0 -52.5 -53.1 -53.8	201.9 216.9 231.9 245.7 252.9 260.1 267.3 274.5 281.7	109 109 109 109 109 109 109 109	290 290 290 290 290 290 290 290	-471.9 -475.2 -478.4 -482.9 -489.3 -495.7 -502.1 -508.5 -514.9	696.0 747.7 799.4 846.8 871.6 896.4 921.3 946.1 970.9	23 18 14 10 7 5 2 -0 -2	6 4 3 2 2 1 0 -0 -0	-1377.0 -1325.4 -1273.5 -1221.0 -1167.9 -1114.0 -1059.5 -1004.3 -948.3	6339.5 6122.6 5890.7 5645.1 5392.2 5132.2 4864.9 4590.4 4308.8	-277.3 -254.5 -232.5 -211.4 -191.2 -172.0 -153.7 -136.4 -120.1	-61.5 -56.5 -51.8 -47.2 -42.8 -38.7 -34.7 -30.9 -27.3	

. 00 R	HEIGHT (N)	FORCE	(KN)	AREA	ଽଽୄ୳୵	PRESSURE	(PA)	ECCEN	(월)		₹ (KN 2	N	OMENT_(MN-	-#>
25TH	93.35	^	1	Ŷ	I		1	X	I	X -891.7	T 4020.1	⊼ ∽104.8	T A A	2 مد
		-57.4	288.2	109	290	-528.5	993.4	-4	- 1				-24.0	- 17
6 T H	97.01	-58.2	287.8	109	290	-535.6	931.9	-4	- 1	-834.3	3731.9	-90.6	-20.8	- 24
7TH	100.68	-58.9		109	290	-542.6		-	-1	-776.1	3444.2	-77.5	-17.8	-#•
BTH -	104.34							-	-	-717.2	3156.9	-65.4	-15.1	- 1
TH	108.00	-59.7	286.9	109	290	-549.6	988.9	-4	- 1	-657.5	2870.0	-54.4	-12.6	_
TH	111.66	-60.5	286.4	109	290	-336.7	987.4	-4	- 1					
		-61.3	286.0	109	290	- 564.2	965.8	-4	- 1	-597.Q	2583.5	-44.4	-10.3	- 1
IST	115.32	- 62 . 3	281.6	109	290	-573.5	970.8	- 3	- 1	-535.8	2297.6	-35.5	-8.2	- []
ND	118.98	-63.3	977 0	109	2.90	-582.9		_		-473.5	2015.9	- 27 . 6	-6.4	- 14
RD	122.64								- 1	-410.2	1739.0	-20.7	-4.8	
TH	126.30	-64.3	272.3	109	290	- 592, 3	938.6	~ 2	-0	-345.8	1466.7	-14.8	-3.4	_
TH	129.96	-65.3	267.6	109	290	-601.6	922.5	- 1	- 0]]
		-66.4	262.9	109	290	-611.0	906.4	0	0	-280.5	1199.1	-10.0	-2.2	-
TH	133.62	-65.7	261.7	109	290	-605.1	902.1	1	0	-214.1	936.1	-6.0	-1.3	-11
TH	137.28							-		-148.4	674.4	-3.1	7	-
TH	140.94	~ 62 . 2		109	290	- 572.5			- 2	-86.2	407.6	-1.1	2	- 1
OP	146.44	-86.2	407.6	162	433	-532.0	941.5	-25	- 5	0.0	0.0	0.0	0.0	· ·]

	7. SHEAR AN		T DIAG	RAMS : GATI Configuri		JECT TOWER	TWO REF	ERENCE PR	ESSURE	771 PA		: BASED ON A	ERDELAST	IC DATA
FLOOR	HEIGHT (M)	FORCE X	(KN) Y	AREA	(SQ_H) Y	PRESSURE X	E (PA) Y	ECCEN	i ch>	SHEA X	R (KN) Y	N NC	DMENT (MN- Y	-H) Z
GRND	0.00				476		109.9	16	32	-2159.6	1,0323.1	-711.1	-159.8	133.2
15T	5.50	-92.4	47.9	163	436	-566.2				-2067.2	10275.2	-854.5	-148.2	129.5
2ND	9.16	-60.4	43.3	109	290		149.3	21	29	-2006.8	10231.9	-817.0	-140.7	126.8
38 D	12.82	-58.7	53.6	109	290	-540.8	184.8	25	27	-1948.0	10178.3	-779.6	-133.5	123.9
4TH	16.48	- 58 . 2	66.1	109	290	-535.6	227.7	27	24	-1889.9	10112.2	-742.5	-126.5	120.7
5TH	20.14	-58.2	83.5	109	290	~535.4	287.9	28	20	-1831.7	10028.7	-705.6	-119.6	117.2
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		- 58 . 1	101.0	109	290	-535.2	348.0	29	16	-1773.6	9927.7	-669.1	-113.0	113.4
6TH	23.80	-57.1	120.4	109	290	-526.0	414.9	27	13		9807.4		-106.7	109.3
7TH	27.46	- 55 . 5	140.7	109	290	-511.4	485.0	25	10	-1716.5		-632.9	_	
8T H	31.12	-54.0	161.1	109	290	-496.7	555.2	23	8	-1660.9	9666.7	-597.3	-100.5	105.3
9T H	34.78	- 52 . 4	181.4	109	290	-482.1	625.3	21	6	-1607.0	9505.6	-562.2	-94.5	101.2
10TH	38.44	-50.8	201.8	109	290	-467.4	695.5	19	5	-1554.6	9324.2	-527.7	-88.7	97.1
11TH	42.11	-49.2	222.1	109	290		765.7	18	4	-1503.8	9122.4	-494.0	-83.1	92.9
12TH	45.77	-48.3	240.4	109	290	-444.5	828.8	17	3	-1454.7	8900.3	-461.0	-77.7	88.7
13TH	49.43	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	-	-			876.8	15	3	-1406.4	8659.9	-428.9	-72.5	84.5
14TH	53.09	-48.0	254.4	109	290	-442.1				-1358.4	8405.5	-397.6	-67.4	80.5
15TH	56.75	-47.8	268.3	109	290		924.8	14	3	-1310.6	8137.2	-367.3	-62.5	76.6
16TH	60.41	-47.5	282.2	109	290	-437.5	972.8	13	2	-1263.1	7855.0	-338.1	-57.8	72.8
1778	64.07	-47.3	296.1	109	29(-435.2 1	020.8	12	2	-1215.8	7558.8	~309.9	-53.3	69.1
	67.73	-47.0	310.1	109	290	-432.8 1	068.8	11	2	-1168.8	7248.8	-282.8	-48.9	65.6
1878		47.0	322.6	109	290	-432.3 1	112.2	10	1	-1121.9	6926.1	-256.8	-44.7	62.2
19TH	71.39	-47.2	326.9	109	290	-434.3 1	126.8	10	1					
20TH	75.05	-47.4	331.2	109	290	-436.3 1	141.5	10	1	-1074.7	6599.2	-232.1	-40.7	58.9
21ST	78.71	-47.6	335.4	109	290	-438.3 1	156.2	9	1	-1027.3	6268.1	-208.5	-36.8	55.6
22ND	82.37	-47.8	339.7	109	290	-440.3 1		9	1	-979.7	5932.6	-186.2	-33.2	52.4
23RD	86.03	-48.0	343.9	109	290	-442.3 1		9	1	-931.9	5593.0	~165.1	-29.7	49.3
24TH	89.69							8	1	-883.8	5249.0	-145.2	-26.3	16.3
		-48.5	347.8	109	290	-446.6 1	178.8	5	1					

	7. SHEAR AN DIRECTION 35		T DIAGE	CONFIGUR		JECT TOWER	TWO REF	ERENCE PRI	ESSURE	771 PA		: BASED ON A	ERCELASTI	C DATA
FLOOR	HEIGHT (N)	FORCE X	(KN)	AREA X	(SQ_M) Y	PRESSURI X	E (PA) Y	ECCEN X	€Ħ> Y	SHEA	R (KN) Y	N D X	HENT CHN-	H) Z
25TH	93.35	-49.5	748 9	109	290	-436.2	1202 5	,	1	-835.3	4901.3	-126.7	-23.2	43.3
26TH	97.01								•	-785.8	4552.4	-109.3	-20.2	40.3
27TH	100.68	-50.6		109	290	-465.8		9	I	-735 2	4202.5	- 93 . 3	-17.4	37.2
28TH	104.34	-51.6	351.0	109	290	-475.4		9	1	-683.5	3851.4	-78.6	-14.8	34.1
29TH		- 52 . 7	352 1	109	290	-485.0	1213.8	9	1	-630.9	3499.3	-65.1	-12.4	30.9
		-53.7	353.2	109	290	-494.6	1217.6	9	1	-577.2	3146.0	-53.0	-10.2	27.8
3 OTH		-54.9	354.1	109	290	-505.8	1220 5	9	1					
315T	115.32	-56.9	350.1	109	290	-523.9	1206.7	9	1	-522.2	2792.0	-42.1	-8.2	24.5
32ND	118.98	-58.9		109	290	-542.0	191.8	10	2	-465.3	2441.9	- 32 . 5	-6.4	21.2
33RD	122.64			109	290	-560.1		10	2	-406.4	2096.1	-24.2	-4.8	17.8
34TH	126.30	-60.8							-	-345.6	1754.7	-17.2	-3.4	14.4
35TH	129.96		337.1	109	290	-578.2		10	2	-282.8	1417.7	-11.4	-2.3	10.8
36TH		-64.8	332.7	109	290	-596.4	146.9	11	2	-218.0	1085.0	-6.8	-1.4	7.1
		-65.2	329.1	109	290	-600.3	134.3	11	2	-152.8	755.9	-3.4	7	3.5
37TH	137.28	-63.0	3147	109	290	-579.8 1	083.4	7	1					
38.TH	140.94	- 89 . 8	441.6	162	433	-554.3 1	1020.0	3	1	- 89 . 8	441.6	-1.2	- 2	1.2
TO₽	146.44									0.0	Q.Q	0.0	Q.Q	0. 0

	TAB PRO SCA STA NUM	LE JE LE	7. CT	79 40 F	1(> >	A	T	E¥ HE			0 =	j E		;T	5	T (UE Co Re	R N F	F 1	r⊌ ⊑G P	0 1) R	RE	A1 53	1 1 1	0 R	N E	A =		77
ł	NUM	BĚ	R	F	ຣັງ	Č	Ē	S	=	4	6			~	• •	Č	Ċ	;	N O	•	f) F		F	10	0	R	3	2	3	9
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1	FLO	ØR	ŧ		Ľ	. A	B	E	L			H	ΕI	G	H	T	-1	4													
			1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890		0 HHHHHHHHHHHHHNNNNNNNNNNNNNNNNNNNNNNNN	R12345678901224567890123456789012345678	NSHRTTTTTTTTTTTTTTTSNRTTTTTSNRTTTTT	оторинининининининиторинининиторинини							Showardensers and	· · · · · · · · · · · · · · · · · · ·	<u></u>														

: BASED ON AEROELASTIC DATA

TABLE 8

DYNAMIC PROPERTIES OF THE AEROELASTIC MODEL AND PROTOTYPE TOWER

Sc	ales*		М	lode	L		Protot	уре	
Stiffness	Mass moment of inertia	Frequency	Mass moment of inertia	Stiffness	Natural frequency	Stiffness	Natural frequency	Mass moment of inertia	Property
×κ	لر ر	۸	J=K(2⊤N) ⁻²	ĸ	N	$K=J(2\pi N)^2$	N	Ľ,	Symbol
			lb-sec ² -in.	lb-in.	Hz	lb-ft	Ηz	lb-sec ² -ft	Units
1.59E-9	.0805E-12	140.6	.339	7200	23.2	377E9	.165	351.1E9	X
1.44E-9	.0762E-12	137.5	.365	24000	42.9	13,88E9	.312	361.1E9	Х
1.44E-9	.0709E-12	142.7	.0133	1100	45.8	63.54E9	.321	15.62E9	Z

* Dimensionless ratio of model value to prototype value

TABLE 9

DIMENSIONLESS SCALE FACTORS FOR THE AEROELASTIC MODEL TESTS

	Property	Symbol	X	Y	Z	Mean
	Length	$^{\lambda}$ L		.0025		
ted	Air density	^λ p		.862		
Selected	Aeroelastic moment of inertia	$\lambda_{\mathbf{JA}} = \lambda_{\mathbf{P}} \lambda_{\mathbf{L}}^{5}$.0842E-12		
	Damping	$\lambda_{\zeta} = 1$		1		
el by	Frequency	λ _N	140.6	137.5	142.7	140.3
Deter- mined by model	Actual moment of inertia	λ _J	.0805E-12	.0762E-12	.0709E-12	.0759E-12
	Velocity	$\lambda_{\mathbf{U}} = \lambda_{\mathbf{N}} \lambda_{\mathbf{L}}$.3515	.3438	.3568	.3507
Principal	Base moment	$\lambda_{\rm MB} = \lambda_{\rm JA} \lambda_{\rm N}^2$	1.664E-9	1.592E-9	1.715E-9	1.657E-9
с,	Rotation	$\lambda_{\theta} = \lambda_{\mathbf{J}\mathbf{A}} \lambda_{\mathbf{J}}^{-1}$	1.046	1.105	1.188	1.113
tal	Time	$\lambda_{\rm T} = \lambda_{\rm N}^{-1}$.0071	.00727	.00701	.00713
Supplemental	Deflection	$\lambda_{\mathbf{D}} = \lambda_{\mathbf{L}} \lambda_{\theta}$.00262	.00276	.00297	.00278
Supp]	Acceleration	$\lambda_{\mathbf{A}} = \lambda_{\mathbf{N}}^{2} \lambda_{\mathbf{D}}$	51.7	52.2	60.5	54.8

TABLE 10

VALUES OF MAIN PARAMETERS FOR "EXACT" AND "ACTUAL" MODEL

Damping ratios $\zeta_x = 0.014$ $\zeta_y = 0.017$ $\zeta_z = 0.024$

Wind	Wind Velocity*	No. Events	RM	S Acceleration	s (mg)	Total RMS
Direction	(m/s)	Per Year	x	у	Z	Acceleration (mg)
50°						
	12.70	25.400	0.190	0.228	0.200	0.358
	19.33	0.990	0.209	0.702	0.534	0.907
	26.86	0.025	0.418	1.803	1.369	2.300
60 [°]						
••	12.99	22.000	0.171	0.247	0.234	0.380
	19.56	0.880	0.247	0.731	0.651	1.010
	26.88	0.024	0.551	1.936	1.603	2.570
100°						
	12.68	25.700	0.266	0.313	0.200	0.457
	19.32	0.990	0.304	0.674	0.584	0.942
	26.88	0.024	0.437	1.348	1.536	2.090
330°						
	12.67	25.800	0.522	0.294	0.200	0.632
	19.55	0.885	0.542	0.626	0.501	0.968
	27.51	0.179	0.608	1.604	1.553	2.310
			I			

* Hourly mean at gradient height

TABLE 10 (continv

VALUES OF MAIN PARAME "EXACT" AND "ACTUAL"

Damping ratios $\zeta = 0.008$ x $\zeta = 0.008$ y $\zeta = 0.008$ $\zeta = 0.016$

Wind	Wind Velocity*	No. Events	RM	S Acceleration	s (mg)	Total RMS
Direction	(m/s)	Per Year	x	У	Z	Acceleration (mg)
50°						
	12.83	23.800	0.219	0.313	0.234	0.448
	19.36	0.970	0.475	0.940	0.735	1.358
60 [°]	26.75	0.026	0.627	2.480	2.000	3.250
	12.90	23.000	0.332	0.332	0.367	0.597
	19.83	0.770	0.589	1.050	0.919	1.516
100 °	26.79	0.025	0.760	2.370	2.200	3.330
	12.82	24.000	0.447	0.626	0.384	0.860
	19.25	1.030	0.599	1.450	0.885	1.803
	26.34	0.032	0.513	1.860	1.990	2.770
330°						_
	12.63	26.300	0.589	0.902	0.334	1.128
	19.82	0.780	0.542	1.110	0.802	1.472
	26.29	0.033	0.675	1.990	1.800	2.770

* Hourly mean at gradient height

Pressure tap designation is explained in Figure 3.

Pressure coefficients are defined in Section 4.3.

Note:

PRESSURE DATA

APPENDIX A

APPENDIX A -- PRESSURE DATA ; CONFIGURATION A ; GATEWAY PROJECT TOWERS

ND	TRP	CPHEAN CPRHS	CPHAX	CPMIN	ND	TAP	CPNERN	CPRHS	CPHAX	CPHIN	ND	TAP	CPNEAN	CPRMS	CPMAX	CPNIN
		. 120 . 132	. 580	- 410	0	1151	. 345	. 133	1.046	.052	0	1246	393	. 063	187	665
×	1101	238 136	.763	- 223	ŏ	1152	360	138	1.017	058	ò	1247	- 403	.064	293	732
X	1103	. 292 . 134	.768	219	ā	1153	323	126	1.037	010	Ċ.	1248	419	. 97.4	233	955
X	1104	.327 .140	.787	- 150	ŏ	1154	176	104	725	- 092	Ó	1249	442	. 986	230	-1.159
X		329 .141	.784	- 126	ě	1155	024	083	400	- 256	Č.	1250	- 385	. 072	162	750
¥.	1105	272 .139	.812	- 253	ŏ	1201	- 382	062	- 172	- 646	Ó	1251	- 393	. 072	173	773
v.	1106	. 203 . 142	.745	272	à	1202	- 369	. 065	- 084	- 610	ò	1252	- 408	. 974	- 239	769
X	1107	.367 .139	.911	- 082	ă	1203	- 385	068	- 092	- 685	Ó	1253	412	078	- 237	878
	1109	.525 .158	1.008	089	ŏ	1204	- 399	076	097	- 734	¢	1254	- 369	. 085	142	985
X	iiió	.537 .161	1.057	.059	ò	1205	- 443	. 099	978	- 986	9	1255	370	. 084	451	-1.016
X	iiii	.411 .143	.932	- 019	ě	1206	- 478	. 122	074	-1.146	0	1256	372	. 966	182	762
X	1112	278 132	.794	- 155	ò	1207	- 474	. 122	080	-1.274	0	1237	379	061	201	665
Å	i i i i i i i i i i i i i i i i i i i	. 200 . 132	738	- 158	Ċ	1208	374	. 068	163	621	Ŷ	1258	387	. 057	222	601
ŏ	iii4	354 140	.815	- 013	Ó.	1209	369	. 063	152	623	0	1259	397	. 062	235	648
ŏ	1115	531 158	1.054	.130	¢	1210	374	. 061	169	691	0	1260	402	. 075	213	823
ŏ	1116	526 152	1.070	.121	0	1211	386	. 063	186	595	0	1301	421	. 098	120	841
ŏ	1117	380 .129	.867	. 030	0	1212	403	. 068	184	665	<u> </u>	1302	396	. 089	120	752 735
ò	1118	239 113	658	078	· • •	1213	446	. 087	109	833	<u>o</u>	1303	357	. 084	- 089	- 684
ő	1119	. 126 . 122	. 6 4 7	315	¢	1214	461	. 090	198	837	ç	1304	345	. 081	- 022	- 658
Ó	1120	. 296 . 125	. 824	083	¢	1215	375	. 059	195	557	Ū,	1305	353	. 082		- 756
¢.	1121	.456 .138	. 984	.104	<u> </u>	1216	364	. 958	184	584	9	1306	365 351	.093	046	- 671
0	1122	.462 .144	. 929	. 087	0	1217	369	. 057	173	596	Ū	1307			- 074	- 727
¢	1123	. 314 . 128	.779	005	Q.	1218	387	. 057	173	626	Ů,	1308	333 330	.081	- 070	- 690
•	1124	. 200 . 12(.705	109	0	1219	410	. 059	206	631	×	1310	- 418	074	- 179	- 719
¢	1125	.113 .118	. 654	275	0	1220	442	. 072	228	715	X	1311	- 397	. 069	164	718
•	1126	.241 .119	. 768	077	0	1221	453	074	232	748	×	1312	- 370	069	121	- 764
Ŷ	1127	. 384 . 1 33	. 938	018	9	1222	363	. 058	- 122	779	×	1313	- 350	. 067	- 147	- 659
0	1128	.390 .132	1.052	022	0	1223	367	. 058	112	860	X	1314	- 352	. 068	- 122	- 572
¢.	1129	. 270 . 128	. 826	9.46	Ç Å	1224	- 368 - 384	. 057 . 058	- 189	- 634	X	1315	- 357	. 06 9	-135	- 589
0	1130	.154 .111	.722	153	V	1225	- 410	.063	- 231	- 658	ň	1316	- 359	071	- 142	- 594
9	1131	.084 .105	. 567	336 086	å	1227	- 446	078	- 240	- 939	ă	1317	- 344	. ŏ71	- 109	- 666
<u> </u>	1132	.200 .106	.639	.003	ă	1228	- 471	083	- 222	- 790	ŏ	1318	- 342	. 073	104	- 652
2	1133	.349 .124	.834	.048	ă	1229	- 362	061	- 154	- 616	ó	1319	- 421	. 063	- 194	658
0	1134	. 204 . 119	. 698	- 093	ň	1230	- 368	062	- 151	- 621	ŏ	1320	- 401	. 059	201	- 626
×	1136	092 099	.546	- 203	ă	1231	- 378	. 060	- 187	- 603	Ó	1321	- 375	. 061	160	574
X	1137	085 102	.578	- 268	å	1232	- 397	058	- 199	- 635	Ó	1322	349	. 060	039	589
X	1138	166 .097	.561	- 036	ò	1233	- 419	063	- 227	- 714	0	1323	354	. 058	161	578
ă	1139	.254 .106	699	005	ě	1234	- 471	. 087	238	796	0	1324	359	. 055	17.6	589
	1146	241 110	655	- 087	ó	1235	- 495	. 089	- 235	921	0	1325	360	. 057	193	- 601
	1141	117 102	523	- 178	Ó	1236	367	. 065	154	682	0	1326	347	. 059	110	607
ŏ	1142	001 085	372	- 253	Ó	1237	- 369	. 064	- 149	619	0	1327	- 344	. 059	~.156	628
ā.	1143	104 .086	.473	- 158	¢.	1238	381	. 064	178	669	¢.	1328	414	. 064	142	694
ŏ	1144	224 107	669	- 026	Ó	1239	396	. 065	198	639	¢	1329	392	. 061	124	638
õ	1145	217 .109	672	019	Ġ.	1240	414	. 066	227	677	Q	1330	361	. 058	126	564
ō	1146	- 045 .084	366	- 311	0	1241	- 448	. 082	225	941	0	1331	325	. 057	107	~.538
ŏ	1147	.127 .087	471	- 109	¢	1242	465	. 089	227	932	<u>o</u>	1332	326	. 055	117	523
ò	1148	205 095	642	- 095	0	1243	382	. 066	- 198	6 3 9	0	1333	334	. 053	134	518
, Č	1149	. 249 . 099	. 598	.018	¢	1244	380	. 963	173	678	Ģ	1334	331	. 055	153	582
ò	1150	280 113	. 6 9 5	001	0	1245	382	. 063	183	638	0	1335	325	. 056	123	545
-																

WD	TAP	CPNEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPMEAN	CPRNS	CPMAX	CPNIN	¥D.	TAP	CPHEAN	CPRNS	CPMAX	CPNIN
• •••••••••••••••••••••••••••••••••••••	111111111111111111111111111111111111	$\begin{array}{c} 1 \\ 2 \\ 2 \\ 3 \\ 4 \\ 3 \\ 5 \\ 2 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3$	5674944 00605544200788880976655344200 0000555688809209746869917665534319888920937045 00000000000000000000000000000000000	519838534102238753651594083260744069011106698498652		000000000000000000000000000000000000000	9012345678900123456789001234567890012345678900123456789001234567890012345678900123456789001234567890012345678900123456		132444672010727006330697502512618518239637141677837 0000000000000000000000000000000000			***************************************	901123456789011123456789012345678901234567890123456 144499999000000011000000000011111111111	18046200803247337106252512269186802305058965854497 069645200803247337106252512235531234688531658965894497 2024444434442275111136511235531223442123442122442122	114443776040443740129548162130292219353455456059910 1101802776040443740129548162130292219353455456059912 10013328557340760818144899155456059912 12226809112226809112226809112226992219353455456059910 112226809112226992219353455456059910 11222680911222692219353455456059910 11222680911222692219353455456059910 11222680911222692219353455456059910 11222680911222692219353455456059910 11222680911222692219353455456059910 11222680911222692219353455456059910 1122268000000000000000000000000000000000	90068216970622691392350146522274888315246 11123326721999345973939940990386181249562246 10022220002232100228200321200228461 10022220022220002282200321200228461 1002222002222000228200321200228461	$\begin{array}{c} -& -& -& -& -& -& -& -& -& -& -& -& -& $

	MS CPNAX	CRNIN	ND 1	T A P	CPNEAN: C	PRNS C	PMAX	CPMIN	UD	TAP	CPNEAN	CPRMS	CPNAX	CPMIN
$ \begin{array}{c} 0 & 2138 & -304 \\ 0 & 2139 & -195 \\ 0 & 2140 & -114 \\ 0 & 2141 & -174 \\ 0 & 2142 & -246 \\ 0 & 2144 & -146 \\ 0 & 2144 & -146 \\ 0 & 2144 & -152 \\ 0 & 2144 & -052 \\ 0 & 2144 & -055 \\ 0 & 2144 & -055 \\ 0 & 2147 & -114 \\ 0 & 2150 & -198 \\ 0 & 2151 & -207 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2155 & -048 \\ 0 & 2207 & -490 \\ 0 & 2202 & -481 \\ 0 & 2202 & -481 \\ 0 & 2206 & -397 \\ 0 & 2206 & -398 \\ 0 & 2208 & -520 \\ 0 & 2208 & -520 \\ 0 & 22110 & -424 \\ 0 & 22110 & -424 \\ 0 & 22112 & -282 \\ 0 & 22113 & -282 \\ 0 & 22114 & -279 \\ 0 & 22115 & -447 \\ 0 & 22116 & -438 \\ 0 & 22116 & -438 \\ 0 & 22116 & -438 \\ 0 & 22116 & -438 \\ 0 & 22216 & -285 \\ 0 & 22216 & -285 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 22224 & -378 \\ 0 & 224 & -378 \\ 0 & 224 & -37$	00 .220	-1.484 -1.344121 -1.344121 -1.344121 -1.4689594 -1.46895364 -1.4689594 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.46895364 -1.4695664 -1.4695664 -1.46956664 -1.46956664 -1.46956664 -1.469566664 -1.469566666666666666666666666666666666666			2901 2901 1727 1727 1228 	- 1395 - 0804 - 1673 - 1667 - 0855 - 06662 - 106662 - 005667 - 00576 - 00576 - 00575 - 00775 - 00775 - 00775 - 00755 - 007555 - 007555 - 007555 - 007555 - 007555 - 007555		C	ND 000000000000000000000000000000000000	P 1234567890123456789012345678901234567890123456666666 X 222222222333333333334444444445555555555	C	C P R MS 086625 077515 077515 00654 11173274 110774 00521 00654 110774 00521 00554 110774 100774 110774 100774 110774 100774 110774	0034032647685398422917733403268539842291120568539884200000000000000000000000000000000000	$ \begin{array}{c} - & - & - & - & - & - & - & - & - & - $

W.D.	TRP	CPHEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN	CPRNS	CPMAX	CPMIN
	- 12345671234567890123456789012345678901234567890123 333333344444444444444444444444444444	1 1		415 948 253 076 085	- 65517810529275723977720660523389197936620668043266680 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		4567890123456789011234567890112345678901211111111111111111111111111111111111	- 1057921193550093957640282102779660869465987018634004	79057962106968927757831389167860359557266645135187 55780116589686458097761084444146644443155665857266645135187 11111111111111111111111111111111111				$\begin{array}{c} 2 \\ 2 \\ 3 \\ 4 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	42113432012221749752801120741582192066889232556781346 42113432012221749752801120741582192066889232556781346 	342374645409967398601604271274861401435369745166365 11121112110800986016042712748614014353569745166355 110010000110790001111211197666679211055555689565	965287659992767659037886145313832323617950257826 5789843502992767659037886145313832323617950257826 11111789978265727966557411438014789977826	

ND	TAP	CPHEAN CPRM	S CPHAX	CPHIN	ND	TAP	CPHEAN	CPRMS	CPNAX	CPHIN	UD	TAP	CPHEAN	CPRMS	CPMAX	CPHIN
10	1217	362 .05	3215	544	10	1307	347	. 086	032	784	10	1357	- 373	. 067	- 124	- 639
10	1218	378 . 05		- 564	10	1308	- 326	. 080	101	726	10	1358	370	. 057	154	~.588
iò	1219	- 392 05		- 636	10	1309	328	. 081	078	675	10	1359	368	. 06 1	103	553
10	1220	- 412 .06		- 723	10	1310	383	. 073	182	694	10	1360	375	. 065	165	624
10	i 22 i	- 419 .07		- 743	10	1311	365	.070	- 144	685	10	1361	373	. 06 3	133	585
iò	1222	- 344 .05		- 578	10	1312	352	. 070	145	682	10	1362	367	. 063	147	579
10	1223	347 . 05		581	10	1313	346	. 066	155	614	10	1363	360	. 064	062	553 619
10	1224	362 .05	2193	~.509	10	1314	343	. 064	082	616	10	1364	387	. 061	179	622
10	1225	371 . 05		539	10	1315	343	. 05 5	079	621	10	1365	388 365	.059	156	- 551
10	1226	386 .05	6212	619	10	1316	349	. 067	093	634	10 10	1367	366	. 058	- 160	- 567
10	1227	409 .07		656	10	1317	337 337	.070	127	- 614	10	1360	- 357	. 058	- 169	567
10	1228	414 . 07		771	10	1318 1319	388	.057	- 202	- 616	10	1369	- 372	. 057	- 189	- 587
10	1229	337 .05		- 542	10	1320	- 376	. 054	- 184	572	10	1370	- 369	. 057	- 180	577
10	1230	343 .05		- 550	10	1321	354	. 055	165	- 618	īò	1371	- 375	. 058	- 199	599
10	1232	367 .04		576	10	1322	- 350	. 055	118	- 568	ĨŎ	1372	359	. 058	179	589
10	1233	375 .05		584	iŏ	1323	342	. 053	- 153	592	10	1373	360	. 059	153	585
1.0	1234	- 404 .07		754	iò	1324	- 347	. 052	172	589	10	1374	368	. 059	182	584
10	1235	421 . 08		- 784	10	1325	348	. 056	168	670	10	1375	348	. 058	179	558
iŏ	1236	352 . 05	9153	562	10	1326	343	. 058	157	616	10	1376	341	. 059	149	557
ĪÒ	1237	352 .05	8174	557	10	1327	333	. 059	117	550	1.0	1377	338	. 061	130	557
10	1238	363 . 05	8181	552	10	1328	374	. 061	150	608	10	1401	148	. 096	. 295	589 381
10	1239	380 .05		577	10	1329	355	. 058	- 137	- 546	10	1402	049	. 102	. 454	516
10	1240	398 .06	1299	701	10	1330	341	. 056	- 125	547	10	1403	038 033	. 107	. 298	357
10	1241	409 .07	3172	667	10	1331	321	. 050	115	531	10	1405	- 011	. 097	393	- 347
10	1242	423 . 08		721	10	1332 1333	320 323	.050	076	- 509	ið	1406	.011	. 119	426	- 429
10	1243	364 .06		588	10	1334	- 327	.050	- 073	- 538	10	1407	- 052	140	451	- 533
10	1244	357 .06	2160 0211	677	10 10	1335	- 319	051	- 094	- 515	ið	1408	- 237	. 059	. 078	- 539
10	1246	380 .06		- 652	10	1336	- 319	. 051	- 140	- 523	10	1409	- 139	. 060	. 192	405
10	1247	393 . 06	6 - 211	- 700	iŏ	1337	- 361	. 057	- 113	- 550	10	1410	014	. 076	. 278	374
10	1248	401 . 07		- 704	iò	1338	- 352	. 055	- 138	543	10	1411	.081	. 087	. 38 9	256
ĩŏ	1249	- 393 .06		- 689	10	1339	327	. 055	082	517	10	1412	.128	. 099	. 489	189
īò	1250	346 . 06		688	10	1340	317	. 050	130	474	10	1413	.103	. 138	. 672	445
ĪÓ	1251	357 .06	0170	677	10	1341	309	. 052	- 108	457	10	1414	.039	. 164	. 708	564
10	1252	397 .06	5221	65.4	10	1342	318	. 051	093	459	10	1415	262	. 051	- 055	519
10	1253	406 . 06		691	10	1343	326	. 059	124	- 730	10	1416	216	.052	203	- 370
10	1254	360 .07	2115	457	10	1344	315	. 057	117 110	671 686	10	1418	- 020	. 066	. 351	- 288
10	1255	364 .07		- 672	10	1345	313 373	.059	154	574	10	1419	.058	080	. 478	- 210
19	1256	372 .06		637	10 10	1347	370	063	146	- 613	10	1420	- 020	154	. 508	- 675
10	1257	- 386 .03		596 581	10	1348	352	063	- 102	- 576	10	1421	- 102	140	. 494	763
10	1258	397 .06		- 625	10	1349	- 344	. 060	- 160	- 580	10	1422	- 270	. 057	022	500
10	1260	390 . 06		- 703	10	1350	- 341		- 140	- 570	10	1423	- 212	. 054	. 079	~.505
ič	1301	389 .08		- 803	10	1351	- 337	. 057	- 160	522	10	1424	- 129	. 063	. 141	450
ič	1302	367 .08		- 752	iò	1352	- 338	. 058	130	- 576	10	1425	056	. 068	. 216	380
ič	1303	352 .08		757	ió	1353	- 331	. 060	078	526	10	1426	.017	. 079	. 292	406
ić	1304	348 . 08		- 750	10	1354	329	. 961	092	519	10	1427	077	. 151		-1.115
ić	1305	353 .08	2 084	- 740	10	1355	387	. 062	146	646	10	1429	142	. 129	. 434	601
11	1306	353 .08		825	10	1356	381	. 06 0	132	611	10	1429	260	. 948	. 924	522

N D	TAP	CPNEAN	CPRHS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRNS	CPHAX	CPHIN	ND.	TAP	CPMEAN	CPRHS	CPHAX	CPHIN
10 10 10	1430 1431 1432 1433 1434	211 130 073 008 098	046 052 066 077	062 278 220 312 378	- 467 - 415 - 407 - 380 - 765	10 10 10 10	2108 2109 2110 2111 2112	604 555 366 279 318	.204 .212 .197 .138 .129	022 159 261	-1.430 -1.375 -1.510 -1.169 -1.092	10 10 10 10	2203 2204 2205 2206 2207	310 284 266 224 215	.131 .112 .109 .103 .106	126 108 160	768 -1.037 767 766 808
10 10 10 10	1435 1436 1437 1438 1439	134 279 220 126 064	.131 .049 .042 .043 .051	- 088 - 043 046 139	916 464 413 331 357	10 10 10 10	2113 2114 2115 2116 2117	- 491 - 499 - 509 - 419 - 327	.152 .155 .199 .202 .182	012 138 233 188	-1.211 -1.261 -1.561 -1.269 -1.157 -1.604	10 10 10 10	2208 2209 2210 2211 2212 2213	- 383 - 354 - 288 - 261 - 238 - 212	.153 .139 .120 .108 .106 .104	.091 .105 .049 .016 .035 .089	-1.149 898 781 840 826 669
10 10 10 10	1440 1441 1442 1443 1444 1445	010 095 157 205 217 111	067 129 120 047 039 036	.247 .382 .419 078 077 .047	318 636 747 477 397 303	10 10 10 10 10	2118 2119 2120 2121 2122 2123	341 487 501 542 443 340	. 192 . 175 . 183 . 220 . 221 . 205	- 059 - 040 226 .254 .187	-1.259 -1.620 -1.546 -1.399 -1.503	10 10 10 10	2214 2215 2216 2217 2218	215 305 290 235 191	.109 .127 .128 .118 .114	112 056 064 084 169	647 -1.036 871 769 738
10 10 10 10	1446 1447 1448 1449 1450	045 010 079 133 266	.045 .065 .128 .125 .045	128 288 354 337 - 119	260 225 606 602 470	10 10 10 10	2124 2125 2126 2127 2128	349 489 499 474 365	.218 .199 .208 .236 .211	.212 011 .062 .268 .283	-1.943 -1.718 -1.855 -1.629 -1.173	10 10 10 10	2219 2220 2221 2222 2223 2223 2224	157 142 148 305 285 234	103 094 096 144 135 119	. 200 . 177 . 197 . 248 . 177 . 246	673 599 652 -1.011 918 736
10 10 10 10	1451 1452 1453 1454 1455	083 .018 101 243 190	.034 .061 .105 .038 .034	.069 .232 .275 119 026	237 256 538 392 326	10 10 10 10	2129 2130 2131 2132 2133 2134	302 309 461 475 461 371	.180 .210 .226 .246 .219	.076 .017 .061 .150	-1.043 -1.296 -1.893 -1.854 -1.734 -1.261	10 10 10 10	2225 2226 2227 2228 2228	181 140 120 125 310	103 088 080 085	173 190 255 210	912 546 461 478 936
10 10 10 10	1456 1457 1458 1459 1460 1461	048 .044 .093 .036 029	.044 .064 .078 .112 .108 .121	.208 .348 .447 .395 .765	199 130 151 432 460 012	10 10 10 10 10	2135 2136 2137 2138 2139	301 308 394 409 444	.171 .173 .202 .213 .252	149 125 086	-1.178 -1.468 -2.031 -2.079 -1.528	10 10 10 10	2230 2231 2232 2233 2233	292 236 175 125 107	.131 .112 .091 .076 .073	.169 .136 .092 .170 .261	846 730 585 426 437
10 10 10 10	1901 1902 1903 1904 1905	464 468 453 471	.085 .103 .133 .079 .101	- 184 - 092 - 004 - 218 - 179	781 888 -1.070 761 961	10 10 10 10	2140 2141 2142 2143 2144	263 178 201 374 396	. 181 . 120 . 110 . 197 . 232	.324 .198 .136 .163 .393	-1.037 798 835 -1.679 -1.388	10 10 10 10	2235 2236 2237 2238 2239	112 300 277 209 141	.079 .135 .128 .101 .074	.289 .130 .116 .100 .102 .118	575 918 -1.005 747 678 414
10 10 10 10	1906 1907 1908 1909 1910	428 494 473 411 .237	117 086 092 105 097	235 194 .096 .647	-1.072 906 929 844 .015	10 10 10 10	2145 2146 2147 2148 2149 2150	119 075 044 097 430	155 083 144 083 098 237	.350 .165 .320 .354 .295 .042	- 990 - 613 -1.151 - 600 - 765 -2.116	10 10 10 10	2240 2241 2242 2243 2243 2244 2245	103 086 092 261 221 145	.060 .070 .124 .109 .068	. 143 . 138 . 077 . 085	340 349 906 868 519
10 10 10 10	1911 2101 2102 2103 2104 2105	.255 618 602 461 306 263	107 205 211 206 172 .128	- 024	004 -1.626 -1.625 -1.232 -1.038 943	10 10 10 10 10	2151 2152 2153 2154 2155	448 232 112 020 016	.264 .237 .186 .094 .098	.086 .441 .352 .414 .304	-2.880 -1.549 -1.202 505 732	10 10 10 10	2246 2247 2248 2249 2250	- 104 - 080 - 069 - 066 - 198	049 042 046 051 103	078 093 201 163 055	331 266 225 259 884
10 10	2106 2107	307 621	124	165	-1.023 -1.521	10 10	2201 2202	- 409 - 360	. 177		-1.276	10 10	2251 2252	110 054	.063 .037	.104 .128	563 206

ND	TAP	CPHEAN CPRHS	CPNAX	CPMIN	ND.	TAP	CPMEAN	CPRHS	CPMAX	CPNIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
	34567890112345678901234567890123456789 2022222222222222222222222222222222222	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	31297361116747233201562543829493077969488 1222321111884480140211146633309493047969488 1222321110000011111466338029493047969488 10000011111466438829493007969488	2537986501787341818851234812855154456		N3456789012345678901234567890123456712 335555555555566666666677777777700 N22222222222222355556666666666777777777700	336132769974 336132769974 22361322769974 2236141128837864 223644150274 223644150274 223644150274 1136668899453010588894 10588850996322929832	08365872447498221015350538991637870886 333331935023437811502333508222234767894466	57819921712296783369374753336456603568549921712667947336093747533564565035645126535645126553564560001	$\begin{array}{c} -1 & .0 & 18 \\ -1 & .0 & 62 \\ -1 & .3 & 93 \\ -1 & .5 & 86 \\ -1 & .5 & .5 \\$		56789012345678901234567890123456789012 2222222222223333333344444444444444444	- 1483 - 1424 - 1224 - 1224 - 1255 - 12583 - 12583 - 125829 - 122351829 - 122351829 - 122383 - 1252829 - 12588 - 1252829 - 12588 - 12596 - 12596	608166070745943023654553342496971383129 00924660707459430236545533424969713831229 000111356878011134767914475568901117689 0001113568901117689 0001117689 000111006890111006890110068901100689011006890110068901100689011006890010000000000	$\begin{array}{c} 103797866\\ 5389755680662355869662355884366222486925568943966227975578914362224671441222869255438692554386925543869255438666379122666637912266637912266663791226666379122666637912266637912266637912266637912266637912266637912266637912266637912266637912266637912266637912266663791226666379122666679912266667991226666799122666679912266667991226666799122666679912266667991226666799122666679912266667991226666799122666679912266667991226666799122666666799122666667991226666666666$	
10 10 10	2325 2326 2327 2328	353 .126 356 .126 348 .123 193 .156		-1.035 984 -1.044 -1.055	10 10 10 10	2375 2376 2377 2401	- 100 - 279 - 296 - 213	.097 .140 .148 .068	.145 .076 015 .025	- 774 -1.112 -1.976 513	10 10 10 10	2448 2449 2450 2451	.177 .128 155 .109	113 071 062	6369 0791 3552 5827 4792 1883 4464 8606 6091 - 128	183 509 090

APPENDIX A -- PRESSURE DATA : CONFIGURATION A : GATEWAY PROJECT TOWERS

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ND TR	CPMIN NO TAP CPMEAN	RHS CF	CPMEAN	TAP	WD	CPMIN	CPMAX	CPRMS	CPMEAN	TAP	W D
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	100 22990000 11100000 111100000 11111111111	504 20 1239 309 097 20 1239 320 098 20 1240 322 487 20 1241 322 487 20 1242 333 263 20 1244 304 268 20 1244 307 192 20 1244 303 044 20 1246 326 050 20 1247 333 050 20 1247 343 050 20 1250 303 050 20 1255 306 572 20 1257 308 572 20 1257 308 572 20 1257 308 572 20 1257 308 572 20 1257 308 577 20 1257 308 577 20 1257 325	110011111110000000000000000000000000000	018384354298384493003275082903119911088688110068649	34567890123451234567890123456789012345678901234 11111111111111111111111111111111111	00990000000000000000000000000000000000	774762397539490298682079602636999978001922303434	- 1 11 111 111 111 111 111 111 111 111	6376045844855575531504404393388518732764154888290 1111101176411898750888640886518732764154888290		456789011123456789012345678901234567890123345678 2222222222211111111111111111111111111	11111111111111100000000000000000000000

WD	TAP	CPNEAN	CPRMS	CPNAX	CPHIN	WD.	TAP	CPHEAN	CPRHS	CPHAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
B 000000000000000000000000000000000000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H 8470392262809984658452861871326646440453407549354	52119903880886808024966723334533295765762333873354246	A 0490427780709790899554099110410735042326768832956655	L	OCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC			C 74352568898552031271878933743025515334476084174338	7969957509722186744837725287284944056999146748 		- 000000000000000000000000000000000000	14444555567890111199900000901112345678901112222222222222222222222222222222222	26511789331210482870224128270287852591953259074894	0081626010049113500471500267253333634432870453225668 0021110012436725333363443287045322568 002111002457253333634432870453225668	$\begin{array}{c} 0.773\\ 1.514\\ - 0.02272\\ 3.1692\\ - 0.2272\\ 3.167\\ - 0.2272\\ 3.167\\ - 0.2272\\ - 0.2272\\ - 0.2272\\ - 0.2272\\ - 0.2272\\ - 0.212\\ - 0.0013\\ - 0.0013\\ - 0.0020\\ - 0.0020\\ - 0.0052\\ - 0$	$\begin{array}{c} -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 $

APPENDIX A -- PRESSURE DATA ; CONFIGURATION A : GATEWAY PROJECT TOWERS

WD	TAP	CPNEAN CP	RMS CPM	X CPHIN	WD.	TAP	CPMEAN	CPRMS	CPNAX	CPNIN	¥D	TAP	CPMEAN	CPRMS	CPMAX	CPHIN
00000000000000000000000000000000000000	90103456789012345678901234512345678901234567890123 23333333334444444444455555500000001111111111		173 30 1135 -00 1135 -00 1135 -00 11463 00 11561 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1152 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1111 -00 1110 -00 1100 -00 1100 -00 1100 -00 1100 -00 1100 -00 1100 -00 1100 -00 <	4723607430468132163070337746556958275047391202688723657878582750473912026887182984101775889387228687878785827504739120285707388878787858789888888888788788788788888888	00000000000000000000000000000000000000	456789011034567890110345678901103456789011134567890112 222222233555555555555555555555555555	- -		3082 22163 22163 107898 00787 22163 00787 22163 00787 22163 00787 22163 00787 22163 00787 22163 00787 2014 00787 2010 0079		00000000000000000000000000000000000000	34567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234555555555555555555555555555555555555	1~1~1~1~1~1~1~1~1~1~1~1~1~1~1~1~1~1~1~	33368207997140471307464604555345624225877366590946 1113369193926765905133675498393476575160244655839024	125033333214399513355616426325035482223339024 1244099513556164264265035482223339024 	$\begin{array}{c} - & - & - & - & - & - & - & - & - & - $

ND TAP	CPHEAN CPRHS	CPNAX CPNIN	ND TAP	CPMEAN CPRNS	CPNAX CPNIN	ND TAP	CPNEAN CPRNS	CPMAX CPHIN
P 345667890112345678901123456789012234567890132 D 000000000000000000000000000000000000	$\begin{array}{c} \text{CP} \text{ ME AN } \text{ CPR MS} \\ \hline - 390 & 145 \\ \hline - 0463 & 049 \\ \hline - 037 & 107 \\ \hline - 139 & 132 \\ \hline - 038 & 040 \\ \hline - 037 & 107 \\ \hline - 340 & 132 \\ \hline - 025 & 038 \\ \hline - 074 & 079 \\ \hline - 007 & 137 \\ \hline - 074 & 079 \\ \hline - 0259 & 145 \\ \hline - 074 & 095 \\ \hline - 074 & 095 \\ \hline - 0259 & 146 \\ \hline - 047 & 080 \\ \hline - 047 & 095 \\ \hline 193 & 121 \\ \hline 3222 & 150 \\ \hline - 047 & 095 \\ \hline 193 & 121 \\ \hline 3222 & 156 \\ \hline - 047 & 095 \\ \hline 193 & 121 \\ \hline 3422 & 113 \\ \hline - 047 & 095 \\ \hline 195 & 084 \\ \hline - 047 & 078 \\ \hline - 047 & 157 \\ \hline - 195 & 084 \\ \hline - 047 & 157 \\ \hline - 195 & 084 \\ \hline - 047 & 157 \\ \hline - 195 & 078 \\ \hline - 0528 & 1046 \\ \hline - 148 \\ \hline - 047 & 078 \\ \hline - 0522 & 075 \\ \hline - 212 & 100 \\ \hline - 246 & 157 \\ \hline - 047 & 078 \\ \hline - $	CPNAX CPHIN 085 -1 .147 .266268 .226481 .466642 .115201 .123179 .431233 1.124411 .151724 .431235 .120949 .099 -1 .062 .276358 .4083023 .120949 .099 -1 .062 .276358 .4083023 .602149 .835122 .457613 .926121 .110012 .281493 .075809 .872012 .0540022 1.102945 .926301 .621046 .923046 .926058 .058046 .906038 .058042 .058046 .058	$\begin{array}{c} \textbf{WD} & \textbf{TAP} \\ 2436 \\ 2437 \\ 200 \\ 24437 \\ 200 \\ 24437 \\ 200 \\ 24442 \\ 200 \\ 24442 \\ 200 \\ 24442 \\ 200 \\ 24444 \\ 200 \\ 24444 \\ 200 \\ 24444 \\ 200 \\ 24447 \\ 200 \\ 24447 \\ 200 \\ 24447 \\ 200 \\ 24451 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24457 \\ 200 \\ 24450 \\ 2457 \\ 200 \\ 24450 \\ 29004 \\ 2$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} {\sf CPMAX} & {\sf CPMIM} \\ 201 & - 613 \\ 3563 & - 0633 \\ 781 & 028 \\ 856 & - 0463 \\ 8556 & - 0463 \\ 8575 & - 0463 \\ 2255 & - 3333 \\ 5985 & - 0199 \\ 6819 & - 1630 \\ 2255 & - 3333 \\ 5985 & - 0199 \\ 6819 & - 1275 \\ 1985 & - 0431 \\ 6311 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6321 & - 0431 \\ 6324 & - 0555 \\ 577 & - 0533 \\ 379 & - 1956 \\ 844 & 0555 \\ 577 & - 0555 \\ 577 & - 0533 \\ - 0555 & - 3135 \\ 577 & - 0533 \\ - 0555 & - 3135 \\ - 0528 & - 9329 \\ - 0388 & - 9329 \\ - 0388 & - 9329 \\ - 0388 & - 9329 \\ - 0388 & - 9329 \\ 211 & - 8895 \\ - 0388 & - 3978 \\ - 0389 & - 3982 \\ - 0389 & - 3982 \\ - 3978 & - 3978 \\ - 0289 & - 3982 \\ - 663 & - 3156 \\ - 889 & - 4647 \\ - 086 & - 214 \\ \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} CP \ MAX & CP \ MIN \\ & 896 &5624 \\ 1.019 &279 \\ & 809 &284 \\809 &284 \\809 &284 \\814 &814 \\81$

MA	TAB	COMPAN			* 58 T M	44	TAB			CORAY			T 4 8	COMEAN	CRRMC	CRMAN	60 M T.N
OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO	P 9012345678901234586788001234586880000000000000000000000000000000000	C	s 0812233873013430298139729826651846048656624146533164	X 69974135200323038988855903817982507386308630853413340 X 6997413520032300389885590381798825073386308386308311111111111111111111111111	C	W 333333333333333333333333333333333333	P 90123456789012345678901234567890123456789012345678	C	5 555685014436115968336008544448044444444444444444444444444444	014 019 .001	N 413873237441557245707990767901799971660331958336203	₩ 333333333333333333333333333333333333	P 901234567890123456789012345671234567123456789012345678901	C	KR 44519114109746990810229883356492435107240169319854859 000000000000000000000000000000000000	75715 66715 6629 72128 23721 2456 23750 2456 23750 2456 2000 2000 2000 2000 2000 2000 2000 20	C

WD	TAP	CPNEAN CPRMS	CPHAX	CPNIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	₩Đ	TAP	CPMEAN	CPRNS	CPMAX	CPMIN
n Noooooooooooooooooooooooooooooooooooo	TAP 1422 1423 1424 1425 1426 1427 1428 1429 1431 1432 1433 1434	CPNEAN CPRNS - 262 055 - 236 061 - 241 075 - 266 086 - 326 125 - 677 278 - 756 297 - 243 055 - 228 061 - 224 077 - 265 090 - 324 128 - 633 277	CPMAX 035 .095 .095 .220 051 .051 .118 .097	CPMIN 	ND 30 30 30 30 30 30 30 30 30 30 30	IAP 1911 2102 2103 2105 2105 2106 2106 2106 2108 2109 2110 2111 21112	CP MEAN . 080 - 346 - 3765 - 394 - 407 - 415 - 422 - 370 - 387 - 387 - 407 - 413	135 076 081 087 093 093 077 078 080 090 090	CPMAX - 0867 - 145 - 104 - 084 - 071 - 039 - 126 - 111 - 182 - 142 - 144 - 131		30 30 30 30 30 30 30 30 30 30 30 30 30 3	2150 2151 2152 2153 2155 2202 2203 2204 2205 2205 2205	$\begin{array}{c} - 344 \\ - 354 \\ - 3552 \\ - 3529 \\ - 3390 \\ - 3390 \\ - 3590 \\ - 3590 \\ - 3590 \\ - 2252 \\ 2252 \\ \end{array}$	126 130 134 117 131 096 098 096 1037 097	$\begin{array}{c} - & 017 \\ - & 028 \\ - & 028 \\ - & 034 \\ - & 0352 \\ - & 0352 \\ - & 0352 \\ - & 0666 \\ - & 1083 \\ - & 097 \end{array}$	$\begin{array}{c} -1 & . \\ 4 96 \\ -1 & . \\ 2 95 \\ -1 & . \\ 2 95 \\ -1 & . \\ 3 41 \\ -1 & . \\ 0 14 \\ -7 54 \\ -7 54 \\ -8 39 \\ -8 39 \\ -5 37 \end{array}$
30000000000000000000000000000000000000	1443678901238901144456789012389012389012389012389012389012389012344467678	$\begin{array}{cccccccccccccccccccccccccccccccccccc$.027 045 .040 .040 .056 .102 110 .005 .042 .133 .111	$\begin{array}{c} -1 & 8577 \\ - & 5200 \\ - & 5629 \\ - & 5629 \\ - & 5622 \\ -1 & 5727 \\ - & 5622 \\ -1 & 5727 \\ - & 4728 \\ - & 5698 \\ - & 8688 \\ - & 8682 \\ \end{array}$	300 300 300 300 300 300 300 300 300 300	2113 21134 2115 2117 2117 2117 2122 21223 21223 21223 21223 21225 21226	- 354 - 357 - 388 - 421 - 432 - 336 - 338 - 338 - 363 - 391 - 363 - 391 - 327 - 330 - 346	07774 0847 0957 10687 0953 0953 1113 080 080 080	$\begin{array}{c} - & 108 \\ - & 1092 \\ - & 0999 \\ - & 1410 \\ - & 0863 \\ - & 1081 \\ - & 0868 \\ - & 1088 \\ - & 1084 \\ - & 0661 \\ - & 0626 \end{array}$	685 78891 78891 77727 	300 300 300 300 300 300 300 300 300 300	22090 22211 222134 222134 222134 222134 22216 22216 22216 22216 22216 22216 22216 22216 22216 222212 222212 222212 222212 22222 222222	3895 3695 3695 2292 401 3407 3844 305 1887 1887 1887 1887 1887 3844	0927 0880 1005 1006 0885 0885 0885 0885 0885 0885 0885 0	- 057 - 110 - 041 - 024 - 154 - 026 - 137 - 1526 - 137 - 1526 - 1377 - 1526 - 1377 - 1526 - 1377 - 1526 - 1377 - 1526 - 1377 - 1576 - 1377 - 1576 - 1377 - 1576 - 1377 - 1576 - 1377 - 1576 - 1377 - 0377 - 03777 - 00	719 7731 7731 7739 7776 7780 7847 6227 6227 6539 896
00000000000000000000000000000000000000	14451234 4551234 445557 845557 89000 11111 144557 89000 11111 119900 11111 11111 11111 11111 11111 11111 1111	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	021750 07550 076522 076527 076700 076527 0767000000000000000000000000000000000	$\begin{array}{c} -1 & 890 \\ - & 4409 \\ - & 651 \\ -1 & 720 \\ - & 354 \\ - & 3571 \\ - & 302 \\ - & 680 \\ -11 & 241 \\ - & 3933 \\ - & 76689 \\ - & 689 \end{array}$	30 30 30 30 30 30 30 30 30 30 30 30 30	212289012334 212221334567890 211333567890 211333567890 21133567890 21133507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2113507890 2114440 211400 211400 211400 21140000000000	- 376 - 376 - 419 - 329 - 329 - 329 - 356 - 416 - 421 - 355 - 361 - 376 - 395 - 395 - 395		$\begin{array}{c} - & 0 & 0 & 7 \\ - & 0 & 7 & 8 \\ - & 0 & 7 & 8 \\ - & 0 & 4 & 9 \\ - & 1 & 0 & 6 & 8 \\ - & 0 & 1 & 9 & 8 \\ - & 1 & 1 & 3 & 8 \\ - & 1 & 1 & 3 & 8 \\ - & 1 & 1 & 1 & 7 \\ - & 0 & 6 & 3 & 9 \\ - & 0 & 5 & 6 & 1 \\ - & 0 & 5 & 6 & 5 \\ - & 0 & 5 & 6 & 5 \\ \end{array}$	867 -1.000 -1.253 819 -1.287 -1.287 -1.287 -1.1089 -1.117 -1.206 -1.232	30000000000000000000000000000000000000	134567890123345678 122222223333345678 1222222222222222222222222222222222222		00838383 0087781 0087781 0087781 00876249 00669233 00669233	- 019 1866 16179 07933 16577 1895 14289 14289 14289 1020	
33333333333333333333333333333333333333	1904 1905 1906 1907 1908 1909 1910	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	525 859 141 459 947 630	806 806 668 844 844 672 449	30 30 30 30 30 30	2144 2145 2146 2147 2148 2149	374 380 392 369 363 346	135 120 143 125 135	035 009 .040 .151 .201	-1.149	30 30 30 30 30 30	2239 2240 2241 2242 2243 2243 2244	- 244 - 194 - 167 - 166 - 382 - 361	.068 .060 .061 .067 .107 .105	126 .070 .074 .118 100 068	533 559 496 627 803 798

W D	TRP	CPHEAN	CPRHS	CPMAX	CPMIN	ND.	TAP	CPMEAN	CPRHS	CPMAX	CPHIN	¥D.	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
30	2245	307	. 086	.157	671	30	2334	240	. 166		-1.081	30	2407	.314	. 153	. 838	221
30	2246	236	. 067	.157	577	30	2335	522	. 165		-1.447	30	2408	329	. 138	. 175	926 323
30	2247	185	. 0 56	.030	419	3¢ 30	2336 2337	511 135	.150	- 086	-1.188	30 30	2410	.042	. 102	. 859	031
30 30	2248	176 172	.063	.079	487 496	30	2338	123	054	124	371	30	2411	.431	. 154	. 954	. 0 0 5
30	2250	355	.111	- 017	- 912	30	2339	- 143	. 087	227	- 599	30	2412	513	. 173	1.091	000
30	2251	301	097	060	- 785	30	2340	092	. 169	. 496	862	30	2413	.503	. 173	1.049	020
30	2252	- 192	. 063	.058	470	30	2341	179	. 111	. 129	746	30	2414	. 383	. 167	1.260	186
30	2253	178	. 061	.027	429	30	2342	193	. 124	.101	962	30 30	2415 2416	137	. 103	. 250	541 230
30	2254	352	.110	.056	962 775	30 30	2343 2344	213 495	. 147	.086	987	30	2417	.317	126	774	059
30 30	2255 2256	316 317	.108	132	- 820	30	2345	- 485	153	- 117	-1.432	30	2418	445	148	. 917	038
30	2257	286	105	.089	- 799	30	2346	- 138	.051	. 0 9 9	407	30	2419	501	. 166	1.011	. 073
30	2258	- 223	078	.040	538	30	2347	128	. 045	. 034	366	30	2420	.444	. 165	. 935	.014
30	2259	183	. 055	. 0 0 2	396	30	2348	151	. 074	. 115	688	30	2421	.357	. 163	. 902	~.084
30	2260	164	. 052	.009	354	30	2349	065	. 144	. 567	673	30	2422 2423	142	.083	. 224 . 384	489 279
30	2261	163	. 0 52	.012	369	30 30	2350 2351	153 163	.089	.086	566 893	30	2424	305	121	704	- 043
30	2301 2302	214	.064	.030	413 386	30	2352	180	. 122	094	825	30	2425	406	150	861	- 025
30 30	2303	164	. 067	.089	- 608	30	2353	- 467	166	. 018	-1.322	30	2426	.455	163	. 922	036
30	2304	184	201	.947	- 504	30	2354	- 456	156	076	-1.241	30	2427	. 398	. 165	. 928	012
30	2305	- 214	091	.150	625	30	2355	141	. 051	. 107	371	30	2428	. 283	. 152	. 877	107
30	2306	266	. 089	. 026	715	30	2356	123	. 045	. 070	364	30	2429	144	. 088	. 202	454 227
30	2307	256	. 082	.034	677	30	2357	113	. 062	. 219 . 596	522 655	30 30	2430 2431	.018	.086	816	- 011
30	2308	572	.204	.049	-1.459	30 30	2358 2359	051 110	.116	. 144	475	30	2432	.362	131	865	054
30 30	2309 2310	717 246	081	130	531	30	2360	118	091	188	- 658	30	2433	409	143	988	024
30	2311	- 201	067	072	- 429	30	2361	- 122	091	. 077	- 748	30	2434	358	. 144	872	107
30	2312	- 110	062	112	- 479	30	2362	353	. 149	. 056	-1.071	3¢	2435	.255	. 141	. 839	179
30	2313	. 007	. 155	. 673	6 5 2	30	2363	385	. 146	. 024	-1.135	30	2436	158	. 081	. 264	579
30	2314	144	. 979	.234	488	30	2364	125	.049	. 041	302	30	2437 2438	.004	.078	. 409	274
30	2315	173	.071	.070	626	30	2365 2366	084 014	.049	.167	523 593	30	2439	315	. 124	.730	045
30	2316	186	.082	.224	-1.261	30 30	2367	- 085	084	134	- 773	30	2440	343	124	. 774	025
30 30	2317 2318	593 679	221		-1.545	30	2368	- 283	1115	005	- 853	30	2441	.285	139	900	110
šό	2319	- 163	. 078	. 1 93	- 482	30	2369	- 103	. 041	. 051	- 249	30	2442	.187	. 129	. 808	139
3ò	2320	132	. 065	.130	583	30	2370	072	. 038	. 1 0 9	200	30	24,43	151	. 084	. 284	625
30	2321	115	. 078	. 239	831	30	2371	025	. 053	. 3 5 3	194	30	2444	.005	. 076	439	324 057
30	2322	. 022	.175	.744	937	30	2372	- 020	.140	.773	348 315	30 30	2445	.241	.091	680	012
30	2323 2324	172	.107	.107	- 848	30 30	2373	- 053	062	139	- 442	30	2447	242	106	. 676	051
30 30	2325	- 173	133	129	-1.018	30	2375	033	070	171	- 413	30	2448	167	108	.614	- 111
30	2326	- 579	188	. 0 3 3	-1.305	30	2376	- 224	. 144	. 214	- 952	30	2449	.070	. 103	. 463	251
3ŏ	2327	- 573	174	118	-1.485	30	2377	251	. 139	. 158	-1.179	30	2450	106	. 072	. 30 9	398
30	2328	135	. 064	.139	457	30	2401	140	. 091	. 236	456	30	2451	.167	. 076	. 524	035
30	2329	122	. 062	.091	470	30	2402	. 024	. 098	. 399 . 698	291 317	30 30	2452 2453	.227	.098	.750	008 159
30	2330	129	. 092	.167	656 -1.089	30 30	2403 2404	.094	. 111	. 612	- 215	30	2454	.027	. 092	.534	276
30 30	2331 2332	- 089	.191	.467	-1.087	30	2405	. 206	. 130	.684	- 231	30	2455	- 063	. 071	284	- 486
30	2333	- 208	140	. 049	- 875	30	2406	. 287	148	782	- 155	30	2456	.052	. 063	344	- 192
				• • • •													

¥D.	TAP	CPNEAN CPRN	S CPMAX	CPMIN	ND	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN	
00000000000000000000000000000000000000	78901123456789011123456789012345678901234 555678901222222222222222222222222222222222222	$\begin{array}{c} 215 & 09\\ 3205 & 11\\ 2896 & 09\\ 051 & 07\\ -4426 & 08\\ -4328 & 108\\ -4328 & 108\\ -4328 & 108\\ -4438 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -4448 & 108\\ -448 & 108$	34691128174837072338051136492312901258429566222549 87717732805331599740284292640508854269761258429566222549 	$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $		56789012345678901234512345678901234567890123456789 111111111111111111111111111111111111		8440663962899332419118437698274072442503782222100034 1112116763963244191184376982740724425037822222100034			***************************************	0123456789012345	958698856880429057971346569586174393255555777030249 2233223112220120022111212231112223577726677998876778098 22222222222222222222222222222222222	006295595699752220885901620691244288632896524130628 8762955956997522208859016200000000000000000000000000000000000	043 015 .012 .034 .059 .016 .048 .091		

ND	TAP	CPNEAN	CPRMS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRHS	CPMAX	CPHIN
40	1320	284	. 063	075	585	40	1370	242	. 063	019	617	40	1443	307	. 098		-1.174
40	1321	294	. 966	059	569	40	1371	243	. 071	. 017	643	40 49	1444	- 320	.078	111	817 837
40	1322	282	. 065	017	- 503	40	1372	238 239	.078	.095	771	40	1446	329	. 472	- 101	- 634
40	1323	275 263	.065 .063	- 029 - 034	513 526	40 40	1374	244	. 077	052	- 837	40	1447	- 351	. 092	122	- 953
40	1324	287	073	- 015	- 572	40	1375	- 252	. 091	. 043	-1.147	40	1448	458	. 192	101	-1.689
40	1326	- 293	071	.046	- 591	40	1376	262	. 113		-1.270	40	1449	501	. 225		-1.710 -1.378
40	1327	308	. 073	. 0 2 2	720	40	1377	279	.137		-1.434 -1.334	40 40	1450 1451	321	. 121	036	-1.570
40	1328	276	. 063	090 108	721 527	40	1401	296 269	. 221		-1.098	40	1452	- 326	. 087	086	790
40	1329	272	.055 .052	- 074	- 478	40	1403	- 251	. 235	. 735	-1.142	40	1453	515	. 238	. 004	-1.738
40	1331	- 272	. 0 57	- 020	532	40	1404	245	. 229		-1.332	40	1454	234	. 142	. 473	-1.216
40	1332	272	. 057	002	541	40	1405	273	. 184		-1.154	40 40	1455 1456	- 294	. 087	- 023	- 777
40	1333	263	. 969	- 035	516 589	40 40	1406	- 300 - 313	. 193		-1.275	40	1457	- 306	. 080	- 039	- 892
40	1334	292 278	.066	0.07	638	40	1408	- 394	173		-1.405	40	1458	341	. 098	091	-1.264
4ŏ	1336	- 286	062	.052	680	40	1409	383	. 149	. 123	-1.157	40	1459	423	. 151	063	-1.174
40	1337	263	. 071	046	698	40	1410	362	. 121	. 122	852 -1.246	40	1460 1461	436	.157	133 .543	-1.235
40	1338	254	. 061	- 045	571 448	40 40	1411	339 347	.113	.053	784	40	1901	- 224	133	271	924
40	1339 1340	- 245	.046	- 058	- 468	40	1413	- 398	150	. 154	-1.144	40	1902	183	. 110	. 412	552
40	1341	251	047	- 066	- 490	40	1414	- 428	. 196	206	-1.288	40	1903	195	. 124	. 400	619
40	1342	227	. 048	- 010	439	40	1415	360	. 110	106	-1.243	40	1904 1905	204	.134	.316	715 628
40	1343	271	. 065	061	803	40	1416	351 354	.105	075	-1.432	40	1906	- 116	153	527	718
40	1344 1345	266	.057 .058	058 050	504	40 40	1418	- 356	. 088	- 059	887	40	1907	165	. 150	. 624	748
40	1346	269	. 089	- 024	-1.032	40	1419	366	. 093	042	886	40	1908	093	. 176	. 781	745
40	1347	- 259	. 085	- 014	943	40	1420	484	. 189	044	-1.451	40	1909	084	. 157	. 629	457 718
40	1348	259	. 069	.008	678	40	1421	510	. 204	041	-1.618 -1.017	40	1910 1911	187	.135	. 397 . 492	427
40	1349	263	. 070	011	687 732	40 40	1422	322 313	.092	- 106	- 853	40	2101	- 370	. 070	- 124	- 697
40	1350 1351	261 231	.071	- 033	529	40	1424	328	082	109	-1.195	40	2102	383	. 067	149	669
4ŏ	1352	- 262	072	- 029	- 724	40	1425	340	. 080	085	8 5 8	40	2103	395	. 070	194	683
40	1353	260	. 064	036	613	40	1426	367	. 097	088	902	40	2104 2105	- 412	.074	206	≂.747 820
40	1354	265	. 063	042	633	40 40	1427	- 443	.155	044	-1.649 -1.732	40	2106	- 429	. 088	- 172	- 896
40	1355	- 262	.085	021	757 623	40	1429	- 282	1071	- 120	- 796	40	2107	- 433	. 083	191	746
40	1357	262	075	. 006	- 783	40	1430	282	. 070	088	777	40	2108	379	. 065	171	616
40	1358	261	. 072	051	654	40	1431	298	. 068	051	576	40	2109 2110	377 402	.065	173	616 631
40	1359	262	. 073	016	634	40 40	1432 1433	327 367	.069	159	727 831	40	2111	- 425	072	- 199	- 713
40	1360	244	.073	004	636 965	40	1434	- 449	.157	- 155	-1.560	40	2112	- 433	075	- 181	746
40	1361	283	. 0.89	040	- 977	40	1435	- 464	. 169	152	-1.850	40	2113	353	. 06 9	113	616
40	1363	275	. 084	. 179	- 902	40	1436	296	. 086	113	848	40	2114	356	. 068	131 124	609 614
40	1364	254	. 082	031	734	40	1437	299	. 083	120	919 615	40 40	2115 2116	372 388	067	163	617
40	1365	252 245	.073	- 030 - 012	- 630 - 924	40	1438 1439	312	.078	- 100	- 697	40	2117	- 414	. 079	- 176	864
40	1366	243	.088	- 012	- 971	40	1440	- 359	096	042	- 805	40	2118	- 432	. 091	- 158	- 975
- 4ŏ	1368	283	101	115	956	40	1441	- 467	. 179	130	-1.672	40	2119	327	. 068	075	616
40	1369	246	. 967	036	617	40	1442	487	. 199	133	-1.582	40	2120	331	. 067	097	619

W D	TAP	CPHEAN CPRHS	CPHAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	80	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
40	2121	336 . 068	131	- 609	40	2216	378	. 083	. 044	- 745	40	2305	127	. 094	. 219	453
40	2122	356 .068	- 124	- 745	40	2217	- 351	086	017	625	40	2306	- 185	. 977	. 114	554
40	2123	- 385 .082	- 144	- 772	40	2218	- 339	082	006	- 614	40	2307	- 165	. 081	. 195	533
40	2124	- 406 .093	- 144	- 874	40	2219	- 328	. 075	- 014	589	40	2308	326	. 223		-1.066
40	2125	- 326 .071	- 099	- 737	40	2220	323	. 069	077	593	40	2309	522	. 187		-1.408
40	2126	- 328 .069	- 100	- 701	40	2221	320	. 069	056	597	40	2310	- 285	. 064	072	559
40	2127	- 347 .070	- 106	- 653	40	2222	369	. 080	004	732	40	2311	183	. 057	. 082	430
40	2128	370 . 071	147	637	40	2223	351	. 978	. 042	6 94	40	2312	043	. 063	. 239	- 290
40	2129	- 401 .094	127	857	40	2224	299	. 076	. 024	560	40	2313	.240	. 190	1.019	282 303
40	2130	419 .102	136	885	40	2225	267	. 070	. 034	560	40	2314	- 026	.088	.373	- 352
40	2131	335 .073	064	636	40	2226	280	. 067	. 065	516	40	2315 2316	065 076	. 074	202	- 363
49	2132	337 . 973	0 68	637	40	2227	271	. 066	.014	496 531	40	2317	- 347	226	259	-1.071
40	2133	361 .075	1 31	658	40	2228	282	.060 .085	- 061	- 702	40	2318	- 443	239		-1.222
49	2134	377 . 077	1 58	762	40 40	2229 2230	363 339	. 082	- 035	- 641	40	2319	- 256	060	- 060	- 431
40	2135	404 . 094		-1.052	40	2231	- 304	074	072	- 571	40	2320	- 182	052	051	384
40	2136 2137	413 .097 346 .078	140	-1.067	40	2232	- 286	064	. 000	- 466	40	2321	- 096	059	196	433
40	2138	346 . 076	- 131	636	40	2233	- 278	. 057	- 016	- 467	40	2322	.174	. 149	.770	310
40	2139	350 . 078	- 157	- 784	40	2234	- 266	056	- 008	- 471	40	2323	- 061	. 069	. 253	464
40	2140	359 .081	- 122	- 696	40	2235	- 263	. 057	004	469	40	2324	032	. 972	. 237	~.659
40	2141	- 371 .094	- 148	-1.086	40	2236	- 360	. 079	084	749	40	2325	034	. 078	. 225	733
40	2142	- 371 092	- 148	-1.019	40	2237	348	. 977	078	697	40	2326	399	. 240		-1.299
40	2143	334 . 074	131	669	40	2238	319	. 074	. 024	637	40	2327	429	. 205	.150	-1.210
40	2144	346 .084	126	878	40	2239	299	. 063	. 0 0 5	540	40	2328	212	.052	. 002	- 408
40	2145	357 .085	115	960	40	2240	298	. 066	007	548	40	2329 2330	- 118	058	131	- 559
40	2146	368 .097	097		40	2241	- 284 - 281	.062	063 035	527 539	40	2331	.094	129	698	- 538
40	2147	350 .088	111	-1.097	40	2242 2243	- 378	.086	- 021	- 879	40	2332	- 075	065	. 162	- 439
40	2148	356 .094	079	887	40 40	2244	- 362	. 077	- 103	- 680	40	2333	- 077	. 079	136	- 622
40	2149	354 .103 331 .087	- 104	- 793	40	2245	- 346	071	- 136	- 607	40	2334	- 066	086	207	- 713
40	2150 2151	330 .089	- 095	- 841	40	2246	- 322		- 140	- 619	40	2335	- 404	. 204		-1.261
4ŏ	2152	333 .091	- 117	-1.011	40	2247	- 303	. 06.3	- 079	- 647	40	2336	418	. 168		-1.180
40	2153	- 342 .090		-1.039	40	2248	- 303	067	- 105	572	40	2337	209	. 049	017	405
40	2154	- 339 086	- 128	- 821	40	2249	301	. 066	101	597	40	2338	173	. 944	. 006	350
40	2155	- 343 091	- 108	- 946	40	2250	371	. 085	140	855	40	2339	139	. 056	. 142	- 459
40	2201	415 . 084	146	735	40	2251	355	. 077	139	668	40	2340	.033	. 131	. 573	614 538
40	2202	415 .084	1 31	721	40	2252	311	. 068	072	634	40	2341	108	. 070	.133	- 560
49	2203	- 409 . 090	117	843	40	2253	302	. 067	106	- 650	40	2342 2343	107	.069	151	- 666
40	2204	355 .084	0 32	658	40	2254	361	.080	099	737	40	2344	- 446	179	. 162	-1.220
49	2205	346 .091	040	770	40 40	2255 2256	352 346	.076	123	- 706	40	2345	- 451	167		-1.182
40	2206	321 .083	022	701 631	40	2257	- 340	. 078	- 086	- 632	40	2346	- 212	047	- 045	- 383
49	2207	290 .079 425 .078	- 010	- 722	40	2258	- 319	070	- 074	- 596	40	2347	- 188	045	- 048	- 373
40	2208 2209	425 .078 403 .077	- 161	- 724	40	2259	- 304	066	- 104	- 596	40	2348	- 167	062	. 140	587
40	2210	- 406 .076	- 149	- 728	40	2260	- 284	062	- 117	- 560	40	2349	005	. 116	. 607	459
40	2211	- 401 .085	- 150	- 723	40	2261	287	. 061	- 121	562	40	2350	113	. 064	. 049	449
40	2212	- 388 .086	- 096	- 687	40	2301	- 227	058	013	437	40	2351	112	. 072	. 105	501
40	2213	- 380 .093	- 038	- 743	40	2302	163	. 06 1	. 150	388	40	2352	115	. 083	. 105	547
40	2214	- 363 103	- 034	915	40	2303	105	. 069	. 250	377	40	2353	436	. 159		-1.233
40	2215	405 . 077	120	687	40	2304	. 315	. 183	. 9 0 3	345	40	2354	412	. 150	. 185	-1.229

WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPREAN	CPRMS	CPMAX	GPMIN
40	2355	- 234	. 051	051	452	40	2428	. 213	. 123	.705	148	50	1106	031	. 181	. 586	767
40	2356	190	044	- 043	- 404	40	2429	071	. 095	. 287	408	50	1107	412	. 145		-1.228
40	2357	- 139	050	. 942	385	49	2430	. 084	. 091	. 4 9 4	249	50	1108	381	. 128		-1.104
40	2358	028	. 0 9 0	. 366	485	49	2431	. 300	. 119	. 762	005	50	1109	279	. 149 . 181	. 659 . 842	748
40	2359	081	. 061	.114	428	40	2432	. 387	. 137	.883 .952	.015	50 50	1110	- 073	. 184	.659	- 709
40	2360	080	. 066	.133	488	40	2433 2434	.404	. 152	. 932	- 027	50	1112	- 089	169	. 699	- 672
40	2361	096	. 076	.128	-1.009	40	2435	. 175	126	.762	- 168	Šò	1113	- 433	102		-1.435
40	2362 2363	325 367	.153	.125	-1.155	40	2436	- 099	. 089	318	- 445	50	1114	420	101	003	-1.423
40	2364	- 234	052	- 099	- 429	40	2437	056	086	420	209	50	1115	364	. 122	. 483	878
40	2365	- 116	. 049	.082	- 355	40	2438	. 252	. 106	. 666	- 020	50	1116	289	. 166	. 636	756
40	2366	009	089	.476	569	40	2439	. 324	. 124	. 885	041	50	1117	210	. 208 . 223		-1.072
40	2367	062	. 076	.140	625	40	2440	. 306	. 126	.8¢3 .790	077 080	50 50	1118	224	. 099	098	- 964
40	2368	273	. 123	.019	806	40 40	2441	. 237	. 128	777	- 188	50	1120	- 393	097	- 100	- 786
40	2369	181	. 042	- 008	351 273	40	2442	- 110	081	336	- 473	50	1121	- 353	. 110	339	- 816
40	2370 2371	- 124	.039 .052	. 393	- 252	40	2444	031	080	509	- 300	50	1122	- 309	. 138	. 567	859
40	2372	161	132	.865	- 364	40	2445	192	096	687	- 037	50	1123	276	. 187	. 915	937
40	2373	- 007	. 067	.385	- 417	40	2446	. 256	. 104	. 656	020	50	1124	298	. 215		-1.648
40	2374	- 031	070	. 292	398	40	2447	. 249	. 104	. 685	0 32	50	1125	411	. 100	- 116	850
40	2375	010	. \$78	. 2 5 4	380	40	2448	. 154	. 100	. 659	124	50	1126	393 359	.097	048	743 825
40	2376	174	. 148	. 342	951	40	2449	. 047	. 095	. 484	217	50 50	1127	301	149	. 499	- 898
49	2377	223	. 140	.212	903	40	2450	071	.073	. 204	001	50	1129	- 253	185		-1.111
40	2401	006	. 1 1 2	.407 .587	470 271	40	2451 2452	226	.093	. 635	.002	50	1130	- 258	. 198		-1.265
40	2402 2403	. 127 . 136	. 117	.656	- 254	40	2453	. 110	083	459	- 146	50	1131	- 417	107	123	881
40	2404	. 174	. 124	.708	- 178	40	2454	019	080	502	- 276	50	1132	398	. 099	. 036	807
- 4ŏ	2405	. 195	130	715	- 151	40	2455	017	. 073	287	280	50	1133	352	. 122	. 285	829
40	2406	225	137	.763	- 195	40	2456	. 096	. 070	. 413	160	50	1134	258	. 156	. 510	787
40	2407	. 237	. 1 38	.709	207	40	2457	. 257	. 097	. 717	.009	50	1135	- 172	. 202		-1.037 -1.316
40	2408	108	. 159	.479	642	40	2458	. 342	. 125	.890 .853	.072	5¢ 50	1136	- 180	112		-1.030
40	2409	. 208	. 124	.642	137	40	2459	. 320	.119	592	.081	50	1138	353	. 099	. 166	- 880
40	2410	. 431	. 148	.899	037 007	40	2461	058	075	. 446	- 176	50	1139	- 247	138	. 442	- 819
40	2411 2412	. 492	.178	1.201	.064	40	2901	- 443	078	- 167	- 728	50	1140	128	. 174	. 583	790
40	2413	. 41.8	169	1.066	- 005	40	2902	- 440	078	126	771	50	1141	049	. 169	. 599	603
40	2414	292	141	.736	154	40	2903	469	. 101	115	969	50	1142	082	. 147		-1.000
40	2415	. 030	. 1 2 0	.412	435	40	2904	453	. 082	187	823	50	1143	314	.107	.100	-1.004
40	2416	. 196	. 119	.617	181	40	2905	467	. 097	169	920	50 50	1144	151 032	178	.537	- 873
40	2417	. 406	. 147	. 925	.037	40	2906 2907	- 467 - 455	.117	161	- 905	50	1146	- 039	131	459	- 899
40	2418	. 487	.159	1.071	.095	40	2908	- 423	109	225	- 885	50	1147	- 336	101	. 036	- 798
40	2419 2420	. 473	.155	.975	- 045	40	2909	- 450	126		-1.120	50	1148	- 297	. 113	. 109	706
40	2421	. 243	139	708	- 112	40	2910	- 341	. 085	- 096	827	50	1149	222	. 138	. 351	765
40	2422	016	107	399	417	40	2911	344	. 089	090	941	50	1150	202	. 116	. 368	583
40	2423	. 133	106	. 582	- 258	50	1101	365	. 186		-1.198	50	1151	155	. 174	.610	697
40	2424	. 379	. 1 32	. 925	.042	50	1102	332	. 176		-1.228	50	1152 1153	- 180	. 121	.308	592 682
40	2425	. 458	. 1 47	.946	.079	50	1103	228	. 208		-1.084	50 50	1153	078	. 103	. 319	632
40	2426	. 469	.150	. 899	.095	50 50	1104	091	. 227	.740	764	50	1155	- 090	105		-1.022
40	2427	. 353	. 139	. 826	019	74	1103					••				#	

. ND	TAP	CPNEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPNEAN	CPRMS	CPMAX	CPNIN	۷Ð	TAP	CPNEAN	CPRMS	CPHAX	CPMIN
00000000000000000000000000000000000000	123456789012345678901234567890123456789012345678901234567890 2222222222222222222222222222222222333333	$\begin{array}{c} -231\\ -2229\\ -22257\\ -22257\\ -22572\\ -2$	$\begin{array}{c} 1 \ 0 \ 3 \ 5 \ 0 \ 0 \ 9 \ 1 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0$	01222114781607259520277776189992404136150373677302853		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	12345678901234567890123456789012345678901234567890 2222222222223333333333333333333333333	$\begin{array}{c} - & 1822\\ - & 1222\\ - & 19952\\ - & 188527\\ - & 188527\\ - & 227652\\ - & 227652\\ - & 227667\\ - & 2276767\\ - & 22777\\ - & 227777\\ - & 227777\\ - & 227777\\ - & 227777\\ - & 2277777\\ - & 2277777\\ - & 2277777\\ - & 2277777\\ - & 2277777\\ - & 2277777\\ - & 22777777\\ - & 227777777\\ - & 22777777777777777777777777777777777$	$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \\ 1 \\ 1 \\ 0 \\ 0 \\$	1995248486411221435824500111230091855577 - 000011123201435824550011111230098250455577		00000000000000000000000000000000000000	123456789012345678901234567890123456712345671234567890123 33333333333333355556666666789012345671234567890123 4444544444444444444444444444444444444	48721783051206190238322455737189799350248357039656 222332222223333222223333222233332222222	$\begin{array}{c} 13762\\ 112462390694575297889941\\ 112552978899413012220197342760579061980776223\\ 112552978899413012220197342760579061222424980776223\\ 112522260880776223\\ 11222260880776223\\ 11222260880776223\\ 11222260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 1122260880776623\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 11222608807766223\\ 112226088076688\\ 112226688080\\ 1122266886688\\ 112226688668\\ 11222668866868\\ 112226686868\\ 1122668686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 1122668686868\\ 11226686868686868\\ 11226686868\\ 11226686868\\ 11226686868\\ 112266868$	19503521895318768444999996978400270826205822864 12300021012300023000442122879895443010	$\begin{array}{c} -& -& -& -& -& -& -& -& -& -& -& -& -& $

¥D.	TAP	CPMEAN CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPHAX	CPMIN	¥Ð	TAP	CPREAN	CPRMS	CPMAX	CPMIN
	456789012345678901122	$\begin{array}{c} - 430 & .140 \\ - 481 & .213 \\ - 479 & .181 \\ - 467 & .107 \\ - 462 & .106 \\ - 456 & .125 \\ - 454 & .128 \\ - 481 & .210 \\ - 451 & .117 \\ - 456 & .128 \\ - 481 & .161 \\ - 451 & .117 \\ - 448 & .161 \\ - 453 & .106 \\ - 433 & .111 \\ - 433 & .122 \\ - 438 & .105 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 438 & .095 \\ - 440 & .101 \\ - 459 & .168 \\ - 427 & .087 \\ - 465 & .135 \\ - 465 & .165 \\ - 395 & .091 \\ - 478 & .199 \\ - 395 & .091 \\ - 478 & .199 \\ - 382 & .101 \\ - 478 & .199 \\ - 382 & .101 \\ - 427 & .135 \\ - 428 & .101 \\ - 427 & .135 \\ - 428 & .101 \\ - 427 & .135 \\ - 428 & .124 \\ - 398 & .101 \\ - 427 & .135 \\ - 428 & .124 \\ - 140 & .101 \\ - 427 & .135 \\ - 428 & .124 \\ - 140 & .101 \\ - 427 & .135 \\ - 428 & .124 \\ - 140 & .101 \\ - 424 & .138 \\ - 427 & .135 \\ - 248 & .124 \\ - 140 & .114 \\$	907701100111111111111111111111111111111		00000000000000000000000000000000000000	34567890112345678901234567890123456789012345678901 999999999112222222222222222222222222	1 1	701309717101727884757908907297126931013009564397035 1111110787778888777888877889777789189777791887778889	$\begin{array}{c} - & 0619 \\ - & - & 2169 \\ - & 11655 \\ - & - & 11525 \\ - & - & 15525 \\ - & - & 115525 \\ - & - & 115726 \\ - & - & 115726 \\ - & - & 11777 \\ - & - & 11777 \\ - & - & 11884 \\ - & - & 204 \\ \end{array}$		***************************************	22222222222222222222222222222222222222	665788543054531386827594869370668872336906229532143	997102562494376606059240255297652433159999668884896 000000000000000000000000000000000000	192 152 153 150 160 166	

ND TAP CPHEAN CP	RNS CPHAX	CPMIN	WD	TAP	CPMEAN	CPRNS	CPNAX	CPHIN	ND	TAP	CPNEAN	CPRHS	CPNAX	CPMIN
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	N 26496619038511930550411333142393403260900653	00000000000000000000000000000000000000	P 6789012345786780012345786780000000000000000000000000000000000	C P ME AN: - 0851 - 164 - 1960 - 0851 - 0850 - 08574 - 0850 - 0820 - 0850 - 0820 - 0820 - 0820 - 0820 - 0820 - 0820 - 0820 - 0820 - 0820 - 000 - 0820 - 0820 - 000 - 0820 - 000 -	S 42998055388042592867188613710554112479012812 R 2205063677066656115668464595556000110000912 C 0000100001100001100000001100000010000010000	X 982051107391344010070699723680980334980122601017 A 660113790461244488820070699723680898033498012260121062 P 660113790461244488820070699723680988033498012260121062 P 6601137904612444888200706997236809880334980122601017	C P M I N - 1 . 020 - 407 - 231827 - 229916 - 229916 - 229916 - 229916 - 22328 - 229916 - 22328 - 22328 - 22328 - 22328 - 22328 - 22328 - 22328 - 22328 - 22328 - 232328 - 233325 - 23335 - 2335 - 2335 -	N 555555555555555555555555555555555555	P 671234567890123456789012345678901234567890123	CPME A - 08393187338043812400497119900489051152053775566915 - 1255381225049719900489051152053775566915 - 0075266915	CPRHS 91138066702113389928006940039813946636113225133611380640039813981565659435611226133611325133611395655659435611226513361132513361139565565945656594556556594556556594556556594556556594556556556556556556556556556556556556556	CPHA 3671663549 738549989011 36766354998901 1.102155655 884001 1.10215565 89101 1.08110 89101 1.084057 1.108147 59655655 83001 991019255 880025720 3885720 3885720 3885720 3887720	C

ND	TRP	CPNEAN	CPRMS	CPMAX	CPMIN	MĐ	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	MD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
000000000000000000000000000000000000000	90123456789011234567890111234567890123456789012345678901234567890122222	176661877179175222741182584292318439612782403888477703 - 2239162222455665355564383362277044359612782403888477703 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	888 9 9 9 9 9 9 9 9 9 9	77974204405800550200 396967429744050015960 3969671795670015080538 39696717966			78901234567890123456789012345123456789012345678901 222233333333333444444444455555550000000000		1461 1461 1469900 11470923334005917815521241046886634055286076375 11110923334099292020200110879122188670021657900 11111090001111100000110121886700011110000011000001100000010000000000	262998649394242632949735910678629916651139 3688710532486277351809172464100049765011433 	$\begin{array}{c} -& -& -& -& -& -& -& -& -& -& -& -& -& $		2345678901234567890123456789012345678901234567890123456789011 22222222222222222222222222222222222		49855460874923613530162730715250868148928869748629 9755799997545899864578775456776578868148928869748629 111111111111111111111111111111111111	24405188463151919272775700175002215139306766643599	

N D	TAP	CPMEAN CPRM	S CPMAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD.	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
N 666666666666666666666666666666666666	P 2345678901234567890012345678900123456789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789001234556789000000000000000000000000000000000000	CP ME AN CPR H - 293 13 - 294 133 - 309 144 - 355 177 - 386 17 - 410 188 - 256 114 - 256 114 - 256 114 - 258 114 - 258 114 - 258 200 - 289 153 - 289 153 - 289 153 - 289 153 - 280 144 - 258 114 - 258 11	117 202 203 2	853	\$	2345678901234567123456789011234567890 3333333333333334567123456789011234567890	$\begin{array}{c} -316\\ -335\\ -2252\\ -2533\\ -2252\\ -2533\\ -3922\\ -2533\\ -3922\\ -2252\\ -2253\\ -3922\\ -225$	18085522610058444984858474559011314288092444988584745590113142880924444984858474559011114586576270	$\begin{array}{c} 1911\\ 071114$ 07114\\ 07114 07114 0,1114\\ 07114 0,111	$\begin{array}{c} -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 $	60000000000000000000000000000000000000	567890123456789012345678901123456789 944444444444444444444444999999999999	980798752416418693310112894501158579 33489988217867755554075855556260000000000000000000000000000000	9473171650057607777941117623108450164		$\begin{array}{c} -11.\\ 426224245494523096502774666633622339782510\\ -11.\\ -11$
60	1346	245 .108	$\begin{array}{c} 0.046\\ 0.046\\ 0.059\\ 0.55\\ 0.158\\ 0.114\\ 0.114\\ 0.138\\ 0.277\\ 0.006\\ 0.006\\ 0.006\\ 0.116\\ 0.200\\ 0.116\\ 0.127\\ 0.006\\ 0.116\\ 0.127\\ 0.006\\ 0.116\\ 0.127\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.128\\ 0.006\\ 0.006\\ 0.128\\ 0.006\\ 0.006\\ 0.128\\ 0.006\\ 0.0$	695 8001 797 797 7911 -1 . 347 -1 . 8420 795 705 798 798 798 798	60	1419	- 406	. 107	004 0736 1009 715 2306 - 086 009 - 086 009 - 086 589 151 - 073	- 819	60	1908	.067	. 166	. 793	- 431

ND	TAP	CPMEAN CPRMS	CPMAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	MD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
	3456789012345678901234567890123 22222222222222222222222222222222222	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 2677653866799206707480112066855182226674514651601000000000000000000000000000000$	1188380197581886636420224299482 646668977655766675576667808 86668897765557755666775576697808 119758803801975818866975576906677808	00000000000000000000000000000000000000	89011234567890123456789012345678 222222222222222222222222222222222222	$\begin{array}{c} - & + \\ + & + \\$	4819270676834353913126326691718 9889900000000000000000000000000000000	$\begin{array}{c} - 158\\ - 1252\\ - 12819\\ - 12819\\ - 22110\\ - 22110\\ - 11970\\ - 11970\\ - 11970\\ - 11970\\ - 11570\\ - 11570\\ - 12473\\ - 12290\\ - 122423\\ - 12290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 112290\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 112290\\ - 0395\\ - 039$	$\begin{array}{c} - & 8 \\$		8901123456789012345678901234567 2222223333333333333333333333333333333	- 33511 38511 - 337788304 005784830 - 00578485399 - 00578485399 - 00578485399 - 005789934 - 005779932 - 00520 - 1002779932 - 00520 - 1002779932	6065970492619144531643923337013 09999970492619144531643923337013 1121426144531643923337013 112388	$\begin{array}{c} 111\\ -113\\ -0976\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -69276\\ -75857\\ -9864\\ -5229\\ -75853\\ -92829\\ -7828\\ -9382\\ -9382\\ -9382\\ -853\\ -9382\\ -853\\ -9382\\ -853\\ -852\\ -853\\ -852\\ -$	- -
6 Q 6 Q 6 Q	2140 2141 2142	340 .081 355 .092 363 .095	- 061 - 031 - 106 - 121 - 052 - 076 - 084	894	60 60	2236 2237	- 348	087	029	791 689	60 69	2325 2326	.099	. 130 . 281	9382 7854 236354 36544 36759 36856 36759 446 6700 248080 1200 248080 46187 4667 467	535

WD	TAP	CPHEAN CPRHS	СРИАХ	CPHIN	WD T	P CPMEAI	CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN CPRMS	CPHAX CPHIN
	78901234567890123456789012345671234 33333333333335556666667777777770000 22222222222222222222	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	040131117354062164355251592163378440 1212122589524129515921633788480 1212212216221643552515921633788480			01234567890123456789012345678901234 	369932137864461490338494503087464898 113367654461490384945030887464898 11111008803087464898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 11109798898 111097988 111097988 111097988 111097988 111097988 111097988 111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 1111097988 111109788 11110988 111109788 111109788 111109788 111109788 11110988 111109788 111109788 111109788 11110988 111109788 11110988 111109788 111109788 11110988 111109788 11110988 11110988 11110988 111109788 111109788 11110988 11110988 11110988 11109788 11109788 1110988 11109788 1110988 1110988 1110988 1110988 11109788 1110988 11100088 1110088 1110088 1110088 1110088 1110088 1110088 1110088 1110088 1110088 1110088 100888 1008888 100888 100888 100888 100888	7556689996330026465522373610084023601 2355266963002646552266531 23566776636663002646531 235677666666653002646531 2467664700623601		60000000000000000000000000000000000000	991112345678901123456789012234456789012234556789012234556789012234556789012234556789012	- -	$\begin{array}{c} - 038 & -1 & 178 \\ - 109 & - 732 \\ - 112 & - 744 \\ 464 & -1 & 456 \\ 385 & -1 & 055 \\ 320 & -1 & 456 \\ 320 & -1 & 456 \\ 362 & - 886 \\ 275 & - 7927 \\ 236 & -1 & 423 \\ 232 & - 783 \\ 328 & - 570 \\ 226 & - 734 \\ 360 & -1 & 087 \\ 226 & - 734 \\ 360 & -1 & 087 \\ 226 & - 734 \\ 360 & -1 & 087 \\ 118 & - 719 \\ 234 & - 635 \\ 118 & - 719 \\ 234 & - 635 \\ 118 & - 719 \\ 234 & - 635 \\ 118 & - 752 \\ 199 & - 1 & 030 \\ 029 & - 908 \\ - 008 & - 915 \\ - 008 & - 915 \\ - 008 & - 915 \\ - 008 & - 970 \\ 010 & - 807 \\ 010 & - 807 \\ 010 & - 807 \\ 010 & - 807 \\ 010 & - 784 \\ 055 & - 724 \\ 111 & - 823 \\ 025 & - 724 \\ 111 & - 813 \\ \end{array}$
60	2403	. 207 . 158	.784	508	60 245	3 1011 10011 10011 10011 12877 12877 3223 10011 1662 10011 55020 10011 55412 10011 55420 10011 55420 10011 55420 10011 55420 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 5520 10011 55420 10011 55420 10011 55420 10011 55420 10011 55420 10011 55420 10011 5542	. 089	530 311 435 586 848 045 500 - 155 - 145 - 145 - 140	271	70	1131	245 .083	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

W D	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ЫÐ	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
70	1148	209	. 096	. 166	988	70	1243	202	. 071	021	847	70	1333	336	. 156		-1.106
70	1149	198	. 111	. 4 4 2	-1.053	70	1244	204	. 062	- 018	618	70	1334	377	. 196		-1.629
70	1150	194	. 092	. 279	764	70	1245	182	. 044	036	425	70	1335	419 425	. 201		-1.393 -1.508
79	1151	201	. 099	.319	798	70	1246	195	.051	- 070	568 686	70 70	1336 1337	- 289	142	101	993
70	1152	190	.104	. 288	844	70 70	1247	- 220	081	- 026	- 700	70	1338	287	136	103	- 982
70	1153	176 160	.112	.415	-1.274	20	1249	- 233	086	- 031	- 852	20	1339	- 304	. 147		-1.177
70 70	1154 1155	178	. 101	1119	-1.073	żŏ	1250	- 195	068	007	- 822	70	1340	- 326	. 158	. 179	-1.168
źŏ	1201	232	. 0 95	023	825	ŻŎ	1251	180	047	. 030	427	70	1341	314	. 143		-1.085
70	1202	- 236	. 095	015	958	70	1252	204	. 063	061	789	70	1342	324	. 153		-1.397
- ŻÓ	1203	221	. 080	015	697	70	1253	221	. 073	063	805	70	1343	370	.186		-1.304 -1.566
70	1204	219	. 080	.039	819	70	1254	188	. 068	002	712 785	70 70	1344	- 425	197		-1.647
70	1205	231	. 093	.005	739 769	70 70	1255 1256	184 171	.066	002	- 480	70	1346	- 259	117	. 038	- 916
70	1206	255 265	.112	.061	818	20	1257	- 171	040	- 026	- 361	70	1347	- 261	112	058	- 796
70 70	1208	242	096	- 023	- 831	70	1258	- 191	. 053	- 043	- 515	70	1348	291	. 134		-1.027
źŏ	1209	- 237	091	- 005	- 763	70	1259	- 213	. 074	057	725	70	1349	310	. 155		-1.181
70	ižió	- 227	. 070	052	558	70	1260	213	. 06 9	035	630	70	1350	306	. 133	. 064	- 978
70	1211	217	. 064	034	608	70	1301	294	. 147	. 085	995	70	1351	330	. 157		-1.265 -1.599
70	1212	225	. 072	0 0 9	695	70	1302	292	. 139		-1.081	70 70	1352 1353	- 360	. 202	.137	-1.582
70	1213	251	. 091	000	699 741	70 70	1303 1304	324 350	.148		-1.053	70	1354	429	201	137	-1.750
79	1214	262 264	.103 .118	.031 022	-1.210	70	1305	347	155		-1.178	70	1355	- 231	082	. 002	- 703
70 70	1215	245	. 094	- 038	800	70	1306	- 350	147	054	- 984	70	1356	- 232	. 084	. 015	- 658
źŏ	1217	- 223	058	- 082	520	70	1307	- 369	149	. 076	-1.037	70	1357	267	. 120		-1.171
70	1218	- 223	. 057	- 072	- 517	70	1308	376	. 158	. 037	-1.186	70	1358	276	. 136		-1.156
ŻÒ	1219	237	. 075	.060	677	70	1309	37.4	. 161		-1.645	70	1359	284	. 118		-1.139 -1.241
70	1220	251	. 090	.042	631	70	1310	292	. 124		-1.010	70 70	1360 1361	310 333	.153		-1.455
70	1221	269	. 104	.051	698	70	1311 1312	287 318	.114	.049	825 918	70	1362	- 402	. 197	010	-1.629
70	1222	245	.114	- 004	-1.494	70 70	1313	- 339	. 136		-1.014	70	1363	- 409	204		-2.322
70 70	1223	229 210	.047	.005	- 460	70	1314	- 315	116	038	850	70	1364	- 298	962	035	534
źŏ	1225	212	: 055	- 069	596	70	1315	- 311	. 122	. 0 0 2	-1.072	70	1365	240	. 092	. 160	835
70	1226	- 227	076	- 046	- 674	70	1316	356	. 149		-1.078	70	1366	288	. 138		-1.250
70	1227	249	. 100	021	789	70	1317	381	. 156		-1.111	70	1367	303	. 154		-1.272 -1.398
70	1228	271	. 118	.032	737	70	1318	386	160	. 066	-1.182	70 70	1368 1369	401 193	. 194	109	414
70	1229	225	. 075	055	931	70	1319 1320	301 295	. 136		-1.025	70	1370	- 192	055	. 142	- 421
79	1230	220	. 066	076	818	70	1321	- 325	.145		-1.024	70	1371	- 193	. 067	102	- 575
70 70	1231	- 210 - 215	.051	- 080	- 630	70	1322	- 333	154		-1.159	70	1372	- 193	. 088	. 242	694
20	1233	226	.078	- 045	731	70	1323	315	139	167	- 982	70	1373	213	. 078	. 074	648
70	1234	249	103	013	- 928	70	1324	- 315	. 138	. 041	978	70	1374	242	. 092	. 033	788
70	1235	- 259	114	. 0 3 0	998	70	1325	362	. 184		-1.678	70	1375	262	. 131	. 024	-1.400
70	1236	220	. 070	011	706	70	1326	376	. 181		-1.432	70	1376	354	. 205	.043	-1.675
70	1237	209	. 063	028	546	70	1327	389	. 182		-1.705	70 70	1377	387	. 227 . 232	1,190	- 484
70	1238	202	. 0 50	- 072	503	70	1328 1329	287 285	. 141		-1.000	70	1402	.285	217	. 981	- 657
70 70	1239	208 231	.057 .089	055	624 851	70 70	1330	- 312	152		-1.418	70	1403	- 012	176	. 820	613
70	1241	243	.099	.063	946	70	1331	- 341	171		-1.200	ŻÓ	1404	108	. 185	. 782	774
70	1242	- 255	106	065	- 917	ŻŎ	1332	- 324	148		-1.017	70	1405	053	. 245	1.040	860
• •						• •											

W D	TAP	CPHEAN CI	PRMS	CPMAX	CPHIN	ND.	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
70 70	1406 1407	115	266	.862	845 -1.133	70 70 70	1456 1457 1458	178 255 245	. 105	194	- 599 - 560 - 703	70 70 70	2134 2135 2136	- 267 - 268 - 280	.084 .080 .085	.007 .024 .040	724 701 659
70 70	1408 1409	. 293	. 276	1.287	564 743	ŻÓ	1459	230	. 080	. 047	- 569	70 70	2137 2138	- 269	113	. 034	-1.080
70 70	1410	198	. 149 . 122	.410	669 717	70 70	1460	- 235	.084	.059	-1.106	70	2139	- 286	. 118	.046	978
70	1412		. 126	.301	823 864	70 70	1901	- 179	.115	. 244 . 137	697 865	70 70	2140 2141	280	.107	. 116	-1.015
70	1414	362	203	512	-1.144	70 70	1903	327	. 124	.042	897 504	70 70	2142 2143	297 262	. 104	.046	-1.052
70 70	1415	. 161	. 266	. 897	774	70	1905	111	. 165	. 523	722	70	2144 2145	- 282	. 123	010	-1.441 822
70 70	1417		.155 .110	.338	-,877 -,787	70 70	1906 1907	203	. 131	.338	672	70	2146	277	. 093	. 161	902
70 70	1419	301 .	.099	.057	746 872	70 70	1908 1909	. 017 076	. 163	.727	458 724	70 70	2147 2148	251	.103	.079	843 822
70	1421	378	. 142	- 043	-1.027	70	1910	205	. 096	. 176	- 873	70 70	2149 2150	262 252	.094	.215	944
70 70	1422		. 290 . 268	1.129	-1.004	70 70	1911 2101	197 291	. 082	056	628	70	2151	251	. 146	. 072	-2.443
70	1424		.152	.475	796 851	70 70	2102	310 320	.081 .090	- 064	690 763	70 70	2152 2153	247 259	.115		-1.402
70	1426	337	. 091	035	- 910	70 70	2104	348	.097	- 013	862 959	70 70	2154 2155	226	.090	.154	803 858
70 70	1427	306	.081 .0 96	.109	943	70	2106	362	. 099	058	922	70	2201	- 379	. 107		-1.196
70 70	1429		. 275 . 259	1.134	912 743	70 70	2107 2108	335 314	.081	068	634	70	2203	- 382	. 111	010	-1.182
70 70	1431	200	.156	.384	793 840	70 70	2109	- 337	.079	072	700	70 70	2204 2205	401 394	.107	096	887 815
70	1433	334	090	020	- 928	70 70	2111 2112	- 360	080	151 132	- 679 - 693	70 70	2206 2207	383 378	089 .092	034	715 766
70 70	1434 1435	- 272	.082 .086	.079	778	70	2113	289	080	013	876	70	2208	- 380	. 085	087	690 753
70 70	1436 1437		. 2 56 . 233	.846 .783	820 808	70 70	2114 2115	294 308	.077	034 065	783 681	70 70	2210	- 378	. 082	111	679
79	1438	185	. 146	.264	855	70 70	2116 2117	321 337	.065	084	541	7¢ 70	2211 2212	410 419	.093 .099	179 135	- 783 - 821
70 70	1439	320	. 087	.014	698	70	2118	349	083	- 027	- 829	70 70	2213 2214	- 433	. 107		-1.073
70	1441	267 261	.082 .084	.051	-1.131 792	70 70	2119 2120	253	. 087	. 029	871	70	2215	371	. 088	054	754
70	1443		. 203 . 201	.791	668 587	70 70	2121 2122	277 279	.083	.001	864 615	70 70	2216 2217	364	.083	060	893
70	1445	184	. 127	.354	- 606	70 70	2123	- 292	.075	.095 .085	590 618	70 70	2218 2219	- 378	.079	173	831 836
70 70	1446	- 282	.089	. 086	626	70	2125	241	. 096	. 076	- 881	70 70	2220	- 364	. 087	146	7 58 800
70 70	1448 1449		. 081 . 088	.017	850	70 70	2126 2127	- 246	.094	014	- 840	70	2222	- 359	. 107	020	- 966 - 939
70	1450 1451		. 176	.727	660 586	70 70	2128 2129	250 265	.070	.031	- 740 - 599	70 70	2223 2224	350	.092	112	656
70 70	1452	273	079	049	- 626	70 70	2130	- 285	077	003	661 956	70 70	2225 2226	366 353	.075	148 109	-:675 653
70	1454	. 013	. 157	. 6 9 4	494	70	2132	248	. 096		-1.030	70 70	2227	335	.083	054	811 -1.312
70	1455	021	. 150	. 813	525	70	2133	268	. 773								

APPENDIX A -- PRESSURE DATA : CONFIGURATION A : GATEWAY PROJECT TOWERS

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	TAP CPMEAN CPR	RMS CPHAX CPHIN
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	RMS CPMAX CPMIN 122 400 -679 370 -392 083 370 -234 115 770 -234 117 867 -240 1113 672 -2976 1113 672 -2976 1146 517 -8832 139 576 -6844 220 9966 -9751 166 654 -641 220 9966 -9751 166 654 -6424 2827 1.143 -8266 2239 1.097 -3394 2239 1.994 -4453 2239 1.997 -3355 166 855 -8453 2173 984 -4453 2239 1.997 -3355 184 972 -3071 1137 621 -5971 1273 864 -2887 185

APPENDIX A -- PRESSURE DATA ; CONFIGURATION A : GATEWAY PROJECT TOWE

ND TAP CPHEAN CPRHS C	PMAX CPMIN	ND TAP	CPNEAN CPRMS	CPMAX CPMIN	WD TAP	CPMEAN CPRMS	CPMAX CPMIN
304 439 .171 80 1304 439 .171 80 1306 423 .151 80 1306 4423 .151 80 1307 452 .160 - 80 1309 447 .156 - 80 1309 447 .156 - 80 1316 446 .148 - 80 1312 407 .148 - 80 1313 4436 .161 - 80 1317 427 .139 - 80 13216 4466 .171 - 80 1322 437 .183 - 80 1322 437 .189 - 80 13231 4437 .189 - 80 13227 4437 .188 - 80 13327 .4420 .1533 - 80 1	PMAX GPMIN .118 -1.370 .021 -1.364 .023 -1.369 .023 -1.368 .023 -1.302 .061 -1.0225 .061 -1.0455 .122 -1.179 .039 -1.213 .078 -1.4186 .037 -1.245 .087 -1.2489 .088 -1.189 .023 -1.245 .088 -1.189 .025 -1.1319 .026 -1.189 .023 -1.2319 .024 -1.175 .003 -1.0967 .016 -1.1175 .027 -1.189 .026 -1.189 .027 -1.319 .037 -1.571 .041 -1.313 .033 -1.324 .041 -1.3238 .034 -1.994 .039 -1.3238 .039 -2.323 .068 -1.340	ND 800 1355678901133661234 13556789011335661234566789011335661234 1335612345678901133661234 135589011336612345671234 13377777777777777777777777777777777777	CPMEAN CPRMS 490 1311 310 1322 490 1311 310 1322 4910 1322 4910 1322 4910 1322 4910 1322 4910 1225 3884 1679 3884 1679 3884 1679 2187 2306 1236 4928 0822 4928 0822 4928 0822 4928 0822 4928 0822 4928 0822 4928 0822 4928 0822 22455 1540 22455 1540 22577 1255 22577 1255 22577 1255 222887 222887 222887 222887 222887 222887 222887 222887 222887 222887 223847 22387 223847 223847 223847 223847 223847 223847 223847 224947 224947 224947 224947 22497 224947 22447 224477 22447 22447 -	$\begin{array}{c} {\sf CPMAX} & {\sf CPMIH} \\ 0.02 & -1.672 \\ 0.44 & -1.033 \\ 0.11 & -1.052 \\ 0.82 & -1.292 \\ 1.19 & -1.717 \\ 0.75 & -1.074 \\025 & -1.232 \\ 0.06 & -2.011 \\ 0.016 & -1.662 \\082 & -1.929 \\082 & -1.929 \\032 & -1.826 \\031 &704 \\ 0.070 &959 \\032 & -1.826 \\032 & -1.826 \\032 & -1.826 \\032 & -1.825 \\ 0.028 &729 \\032 & -1.825 \\ 0.028 &729 \\032 & -1.825 \\ 0.067 &655 \\ 2.55 & -1.005 \\ 2.55 & -1.005 \\ 2.55 & -1.900 \\ 0.065 & -2.932 \\ 1.005 &204 \\ 884 &325 \\ 0.065 & -2.932 \\ 1.025 &204 \\ 884 &325 \\ 0.065 & -1.900 \\ 0.669 & -1.017 \\ 7.35 &6624 \\ 353 &6628 \\ 363 & -1.290 \\ 0.669 & -1.017 \\ 7.35 &624 \\ 1.139 &351 \\ 0.497 &624 \\ 1.139 &544 \\ 0.98 &677 \\035 &488 \\ 1.228 &482 \\ 1.036 &579 \\035 &578 \\ 0.36 &578 \\ 0.36 &783 \\ \end{array}$	WD T AP 80 1428 80 14429 80 144312 80 144334 80 144334 80 144334 80 144334 80 144334 80 144334 80 14434 80 14434 80 14434 80 14434 80 14434 80 14434 80 14437 80 14447 80 14447 80 14447 80 14447 80 14457 80 14447 80 14457 80 14457 80 14457 80 14457 80 14457 80 14457 14457 1457 80 1457 80 1457 80 1457 80 1457 80 1457		$\begin{array}{c} - 0.74 &801 \\11 &801 \\888 \\ 1 & 153 &500 \\ 1 & 023 &432 \\094 &810 \\004 &873 \\0064 &873 \\0064 &873 \\008 &417 \\008 &417 \\008 &3317 \\008 &815 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0088 &315 \\0076 &3413 \\0076 &3413 \\0076 &3413 \\0076 &353 \\0076 &353 \\0076 &3546 \\0071 &8651 \\0071 &8651 \\0085 &8851 \\0085 &8851 \\0085 &8851 \\0085 &8851 \\0071 &8951 \\0071 &8951 \\0071 &8111 \\0070 &871 \\016 &871 \\0016 & - $

80 2103 385 100 042 856 80 2101 408 118 066 -1.145 80 2251 406 131 065 80 2107 345 096 075 908 80 2202 416 1126 070 -1.359 80 2252 398 .130 097 80 2108 357 090 087 6679 80 2203 416 .111 090 911 80 2253 369 .119 077 80 2109 357 090 087 682 80 2204 426 099 083 80 2255 403 .175 .086 80 2110 359 090 099 751 80 2206 392 .093 101 717 80 2256 395 .155 000 80 2112 359 097 101 772 80 2208 409 .093 101 107	AX CPMIN
80 2120 200 .040 904 80 2215 422 .103 105 80 2200 .224 .103 105 80 2200 .224 .103 105 80 2200 .225 .115 .005 80 2200 .2200 .221	$\begin{array}{c} 105 - 11.53377868711333778688703774 - 1.7333778688703774 - 1.7333778688703774 - 1.7333778688703774 - 1.7333778686703774 - 1.733278688703336 - 1.73337786667794774 - 1.7332786888203336 - 1.733332203774 - 1.33332603336 - 1.733332203774 - 1.33332603336 - 1.733332203774 - 1.33332603336 - 1.733332666779374 - 1.332786667793774 - 1.332786667793774 - 1.332786667793774 - 1.33337786667793774 - 1.33337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667793774 - 1.3337786667799777222392 - 1.3337786667799777222392777222377848 - 1.3337786667799777222392777222377848 - 1.3337786667799777222377848 - 1.3337786667799777222392777222377766888888888888888888888888888$

WD	TAP	CPMEAN C	CPRMS	CPHAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD.	THP	CPMEAN	CPRMS	CPMAX	CPMIN
8¢ 8¢	2339 2340	. 225	. 185	.934	360	80 80	2412 2413	. 178	. 181	. 792	494 562	80 80	2901 2902	- 437 - 446	. 161	057	
80	2341	. 265	.182	1.031	530 324	80 80	2414 2415	125	.114	. 485	511	80 80	2903 2904	477 460	.118	132	931
80 80	2342 2343	. 266 . 230	191	.904	- 535	80	2416	. 229	239	. 991	801	80	2905	519	136		-1.082
80	2344	. 164	. 164	. 812	- 457	80	2417	. 216	. 164	. 806	318	80	2906	- 506	. 111		-1.090
80	2345 2346	.109 015	.154	.736 .454	724	80 80	2418 2419	.159	. 144	. 770	263 325	80 80	2907 2908	369	.145		-1.066 -1.230
80	2347	. 098	128	.637	- 406	80	2420	- 038	. 115	443	- 377	80	2909	481	123	105	-1.131
80	2348	. 195	. 177	. 909	358	80	2421	159	. 104	. 279	614	80	2910	241	. 096	. 207	679
80	2349 2350	. 193	.175	.740	445 329	80 80	2422 2423	.016	. 201	.776	- 865 - 831	80 90	2911 1101	244	.091	.069 025	773
80 80	2351	. 187	166	749	330	80	2424	116	116	542	- 258	90	1102	- 426	. 161	. 102	-1.270
80	2352	. 171	. 177	. 805	483	80	2425	. 073	. 100	. 573	293	90	1103	369	.159		-1.126
80	2353	. 119	.144	.618 .702	423 387	80 80	2426 2427	.016	. 102	. 579 . 497	338 395	90 90	1104	354 359	.144		-1.008 -1.036
80 80	2354 2355	.075 065	.131	399	517	80	2428	141	103	387	- 550	9¢	1106	- 349	121		-1.032
8ò	2356	. 041	. 130	. 582	464	80	2429	086	. 194	. 596	988	90	1107	359	.100	. 058	912
80	2357 2358	. 125	.143	.692 .704	479 478	80 80	2430 2431	025	.183	.620	850 331	. 90 90	1108 1109	357	.104	.140	852 -1.221
80 80	2359	156	133	.731	- 355	80	2432	035	083	570	- 233	9ŏ	1110	359	. 120		-1.085
80	2360	. 143	. 130	.657	299	80	2433	002	. 087	. 586	394	90	1111	353	. 103	. 051	866
80	2361	. 146	.148	.701	288	8¢ 8¢	2434 2435	071	.094	549	466 646	90 90	1112	- 346	.104	007	-1.014 892
80 80	2362 2363	.103	.114	.685	- 429	80	2436	- 079	161		-1.024	9ŏ	1114	- 331	083	108	- 895
80	2364	091	. 107	. 323	479	80	2437	029	. 152	. 475	752	90	1115	340	. 090		-1.051
80	2365	. 129	. 135	.676	- 233	80	2438	. 034	. 088	.343	391 287	90 90	1116	339 341	.079	036 091	848 773
80 80	2366 2367	.159 .153	.135	.750 .683	229 332	80 80	2439 2440	.028	.076	569	- 328	90	1118	- 349	. 088	- 082	842
80	2368	. 090	104	.574	358	80	2441	066	. 096	549	411	90	1119	300	. 072	089	859
80	2369	037	. 086	. 323	379	80	2442	131	. 101	. 516	586 741	90 90	1120 1121	292 299	.067	097	653
80 80	2370 2371	.064 .186	.106	.628 .971	238	80 80	2443	061	.133	.403	- 620	90	1122	- 306	.065	091	813 636
åŏ	2372	231	156	1.001	- 210	80	2445	. 035	071	376	- 329	90	1123	- 315	067	128	857
80	2373	. 247	. 156	.907	196	80	2446	. 029	. 067	. 297	267	90	1124	320	. 076	145	999
80	2374 2375	. 246 . 220	.157	1.049	195 231	80 80	2447	.000	.067 .078	.340	345 745	90 90	1125	289 287	.067	064	653 647
80 80	2376	172	118	. 855	- 355	80	2449	- 138	. 098	413	-1.094	90	1127	- 294	073	058	840
80	2377	. 154	. 116	. 824	362	80	2450	000	. 115	. 349	610	90	1128	302	. 065	131	712
80 80	2401 2402	. 166 . 177	.203	.733	874 659	80- 80-	2451 2452	.066	.072	. 374	350 483	90 90	1129 1130	308 312	.066	107	904 939
ŝŏ	2403	. 113	152	. 682	560	80	2453	050	069	. 268	- 333	90	1131	- 285	061	118	823
80	2404	. 102	. 157	644	739	80	2454	115	. 076	. 231	649	90	1132	286	. 061	123	813
80	2405	.056	.161	. 558	641 871	80 80	2455 2456	.044	.119	.386	- 529	90	1133 1134	290	.068 .061	- 114	-1.016
80 80	2406 2407	063	.150	. 645 . 476	810	80	2457	107	.081	444	- 230	90	1135	- 308	. 066	- 113	692
80	2408	. 322	. 269	1.046	948	80	2458	. 090	. 077	. 484	1 58	90	1136	314	. 086	144	868
80	2409	. 351	. 234	1.034	912	80 80	2459 2460	.061	. 078 . 078	. 4 9 6 . 4 3 3	262	90 90	1137	300 306	.059	160 132	695 744
80 80	2410 2411	.314	.195	1.001	381 339	80 80	2461	- 063	.074	453	- 387	90	1130	- 313	. 065	- 162	676
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													TAB	CPNEAN		CPMAX	CPHIN
₩ D	TAP	CPMEAN	CPRNS	CPHAX	CPMIN	WD.	TAP	CPMEAN	CPRAS	CPMAX	CPHIN	₩D	TAP				
90	1140	323	. 067	166	650	90	1235	- 400 - 336	. 177		-1.213	90 90	1325	718	. 264		-2.020 -2.034
90 90	1141	336 341	.076	145	786 807	90 90	1236 1237	- 325	. 090	- 107	- 785	90	1327	- 662	. 196		-1.606
őõ	1143	306	057	- 173	- 557	90	1238	337	. 088	118	810	90	1328	479	. 247		-1.816
90	1144	306	. 058	153	599	90	1239	359 366	.111		-1.140	90 90	1329	475	. 227		-1.438
90 90	1145	316	.061	159	639 -1.533	90	1240	383	. 149		-1.113	90	1331	- 643	269	. 166	-1.727
90	1147	- 305	. 0 58	- 167	533	90	1242	401	161	002	-1.230	90	1332	602	. 217		-1.585
90	1148	299	. 0 32	152	592	90	1243	316	. 081	137	-1.068 999	90 90	$1333 \\ 1334$	617 696	.218		-1.648 -2.298
90 90	1149	303 291	.052	162	629	90 90	1244	317 326	.078	- 100	- 825	90	1335	670	226	. 011	-1.976
9 0	1151	- 298	. 038	- 098	538	90	1246	363	106	116	-1.232	90	1336	651	. 212		-1.778
90	1152	301	. 0 5 5	107	6 9 4	90	1247	398	.145		-1.626	90 90	1337 1338	450	. 240	. 188	-1.614
90	1153	308 312	.060	132	636 809	90 90	1248	388 448	.128		-1.655	90	1339	- 576	249		-1.613
90	1155	319	. 071	- 097	833	90	1250	320	. 072	130	776	90	1340	646	. 272		-1.921
90	1201	388	. 132	044	-1.085	90	1251	318	. 073	109	-1.077	90 90	1341 1342	613 639	. 225		-1.525
90	1202	393 369	.134	034	-1.176	90 90	1252 1253	369 413	.119		-1.236	90	1343	- 682	270		-1.909
90	1204	373	133	. 136	-1.109	90	1254	298	. 068	075	655	90	1344	660	. 211		-1.754
90	1205	381	. 145		-1.856	90	1255	292	.067	078	671 660	90 90	1345 1346	648	. 206		-1.584 -1.424
90 90	1206	427 446	.147		-1.031 -1.195	90 90	1256 1257	292 294	.062	- 034	- 627	90	1347	- 412	. 189		-1.301
30	1208	389	132		-1.147	90	1258	323	.087	.017	890	90	1348	525	. 232		-1.533
90	1209	382	. 116		-1.051	90	1259	383	.138		-1.234	90 90	1349	596 575	. 271	. 221	-1.795 -1.492
90	1210	367 362	.107	039	-1.267	90 90	1260	392 428	.145		-1.192	90	1351	- 645	238	- 013	
30	1212	- 372	. 124	022	981	90	1302	- 434	. 164	. 1 0 3	-1.239	90	1352	723	. 280	015	
90	1213	389	. 130	.047	945	90	1303	513	. 202		-1.315	90 90	1353	723	. 240	144	
90	1214	393 365	.136		-1.355	90 90	1304	505 605	. 291		-1.765	90	1355	- 390	. 146		-1.075
90 90	1216	349	. 093	- 101	769	őě	1306	648	. 197	118	-1.557	90	1356	393	. 153	. 003	-1.091
9 Q	1217	344	. 083	- 089	708	90	1307	646	. 203		-1.519	90 90	1357 1358	479	.216		-1.506
90	1218	347 355	.100	065	806 926	90 90	1308	765 746	. 252		-2.349 -3.201	90	1359	515	186		-1.369
90 90	1220	- 391	136	.041	886	90	1310	- 421	. 151	. 254	-1.427	90	1360	566	215	091	-1.637
90	1221	419	. 152	.017	-1.068	90	1311	425	. 158		-1.198	90 90	1361 1362	619	. 251		-1.965 -2.346
90	1222	348 341	. 117 . 098	060	979	90 90	1312	558 593	. 206		-1.276	90	1363	- 683	241		-2.356
30	1224	- 342	082	- : 099	653	90	1314	601	. 186	. 073	-1.286	90	1364	- 360	. 116	033	880
90	1225	353	. 099	052	752	90	1315	634	. 205		-1.397	90 90	1365 1366	431 560	. 184		-1.294 -1.661
90 90	1226	360 386	.127	.050	904	90 90	1316	691 710	. 220		-1.583	90	1367	644	288		-2.115
30	1228	442	. 194	. 0 6 2	-1.369	90	1318	749	. 218	108	-1.948	90	1368	658	. 222		-2.087
90	1229	353	. 128		-1.236	90	1319	471	. 207		-1.252	90 90	1369	329	.094	011	727 817
90 90	1230 1231	346 350	. 112	015	-1.022	90 90	1320	465 586	. 195		-1.306	90	1371	- 344	.157		-1.201
őõ	1232	344	109	052	902	90	1322	640	. 258	. 393	-1.773	90	1372	415	. 213		-1.848
90	1233	349	. 136		-1.103	90 90	1323	620 628	.210		-1.448	90 90	1373	- 419	.168	.051	-1.409
90	1234	379	. 162	. 442	-1.477	74	1324	510	. 217				4414				

$\begin{array}{cccccccccccccccccccccccccccccccccccc$
90 1425 -250 126 240 751 90 2103 422 0.074 101 101 103 100 0.089 90 1426 355 118 021 870 90 2104 425 0.074 101 101 90 2155 303 0.089 90 1426 355 018 0021 459 90 2105 416 066 163 776 90 2201 459 111 90 1428 323 080 093 768 90 2106 428 0.088 177 920 90 2202 471 116 90 1429 408 162 1.064 398 90 2107 3853 008 177 920 90 2203 466 0.90 90 1432 233 152 956 291 90 2107 3853 0077 112 761 90 2203 465 0.975 90 1431 066 121 562 425 90 21109 3933 0.777 112 761 90 2204 455 0.75 90 1432 233 112 048 325 90 2110 412 0.775 90 2206 454 0.76 90 1433 323 064 098 086 198 <

ИБ	TAP	CPNEAN CPRNS	CPHAX	CPHIN	ND	TAP	CPMEAN	CPRHS	CPMAX	CPHIN	ND	TAP	CPMEAN	CPRNS	CPNAX	CPMIN
VD										245	90	2360	.255	. 106	. 819	070
90	2221	425 .071	210	679	90 90	2310 2311	. 106 . 291	. 120	.554	- 082	90	2361	.235	109	. 82 0	067
őõ	2223	521 .104	- 207	-1.013	90	2312	. 456	. 165	. 976	021	90	2362	.203	. 109	. 815	179
90	2224	475 . 092	206	926	90	2313	. 50 9	. 169	1.076	- 053	90	2363	.166	.110	.745	- 258 - 390
90	2225	445 .081	195	721	90 90	2314 2315	.516	. 174	1.026	.062	90 90	2364 2365	176	. 094	601	- 090
90 90	2226	421 .080 498 .080	- 116	- 702	90	2316	. 502	. 164	1.013	- 070	90	2366	.245	. 105	. 784	271
90	2228	391 . 079	162	701	90	2317	. 495	. 161	1.005	017	90	2367	.232	. 101	. 847	072
90	2229	524 .122	250	-1.245	90 90	2318 2319	.439 .093	.167	. 994	114	90 90	2368 2369	.171	.094	. 594	107
90 90	2230 2231	512 .115	- 231	908	90	2320	256	125	.766	0 80	90	2370	.106	. 083	. 477	101
90	2232	452 . 083	189	- 718	90	2321	.451	. 155	1.003	.015	90	2371	.281	. 123	. 814	.001
90	2233	427 . 080	173	719	90 90	2322 2323	.512	. 166	1.159	.082	90 90	2372 2373	.341 .350	.138	.925	- 057
90 90	2234 2235	- 409 .080	164	726	90	2324	. 485	167	1.026	036	90	2374	.348	136	1.051	035
90	2236	561 .133	237	-1.219	90	2325	. 490	. 167	1.010	.044	90	2375	. 3 3 3	. 128	. 974	038
90	2237	547 .122	235	-1.087	90	2326	. 440	. 169	1.080	005 091	90 90	2376 2377	.293	.122	.944 .769	053 044
9¢ 90	2238 2239	490 .095	240	941	90 90	2327 2328	. 374	.169	.461	- 228	90	2401	.013	170	555	- 705
90	2240	- 444 .085	218	- 735	90	2329	. 239	. 116	. 666	089	90	2402	.075	. 115	. 521	540
90	2241	432 . 083	175	729	90	2330	. 427	144	. 965	.060	90 90	2403 2404	.004	.095	. 441	- 535 - 540
90 90	2242	429 .085 559 .141	171 231	-1.333	90 90	2331 2332	.451	. 152	.999 .998	.058	90	2405	- 054	. 090	. 402	- 482
90	2244	534 .141	- 208	-1.519	90	2333	. 445	. 155	. 974	.034	90	2406	116	. 083	. 353	518
9 Ó	2245	489 .105	235	955	90	2334	. 450	. 153	1.005	042	90	2407 2408	160	.087 .204	. 283 . 882	672
90 90	2246	468 .099 452 .094	224	-1.030	9¢ 90	2335 2336	. 398 . 339	.154	1.149	- 177	90 90	2409	293	177	.845	721
90	2248	430 . 092	- 167	- 805	90	2337	. 023	093	352	- 270	90	2410	.276	128	. 687	133
90	2249	- 429 .090	168	- 802	90	2338	. 182	.110	.619	169	90	2411	.210	. 117	. 597	299 209
90	2250	515 .162	153	-1.327	90 90	2339 2340	.360	.144	.960	091 091	90 90	2412 2413	.124	.107	.415	- 352
90	2251 2252	468 .111 458 .104	- 191	984	90	2341	417	141	2877	- 118	90	2414	190	. 074	. 142	462
9ŏ	2253	- 447 . 097	- 195	- 837	90	2342	. 401	. 137	. 832	.000	90	2415	.232	. 194	. 870	917
90	2254	338 .088	.174	699	90 90	2343 2344	.410	.144	.904	193	90 90	2416 2417	.276	. 193	.848	- 641
90	2255	490 .142	161	-1.229	90	2345	. 288	. 142	.845	- 071	90	2418	.165	. 103	. 576	200
90	2257	454 .108	150	-1.198	90	2346	. 008	. 088	. 421	301	90	2419	.051	. 089	. 474	286
90	2258	455 .103	- 160	857	90 90	2347 2348	. 125	.098	.540	206	90 90	2420 2421	081 221	.067	.311	308 490
90	2259	455 .102	175	913 830	90	2349	340	127	.816	- 258	90	2422	.128	. 188	794	- 584
90	2261	- 444 . 096	178	814	90	2350	. 342	. 121	. 802	045	90	2423	.175	. 187	. 805	546
90	2301	.105 .111	. 506	213	90 90	2351 2352	. 333 . 336	. 122	.793	091 159	90 90	2424 2425	.210	.112	.649	337 249
90 90	2302 2303	.215 .133	.726	274	90	2353	. 279	. 125	. 791	- 336	90	2426	.022	. 072	. 386	240
90	2304	. 183 . 119	. 687	303	90	2354	. 218	. 134	.705	251	90	2427	078	. 063	. 180	320
90	2305	.192 .122	. 6 9 5	283 254	90	2355 2356	075	.087	.333	471	90 90	2428 2429	180	.063 .164	.060	515 510
90	2306	.195 .125	.741	- 160	90	2357	213	108	.796	- 103	90	2430	141	157	. 608	484
óè	2308	.342 .149	. 832	- 148	90	2358	. 256	. 110	.815	- 037	90	2431	.174	. 093	. 510	115
90	2309	.327 .151	.852	185	90	2359	. 264	. 198	. 858	. 022	90	2432	.104	. 073	. 381	091

	HI ILIW	10 0															
W D	TAP	CPNEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPNEAN	CPRNS	CPMAX	CPHIN	WD	TAP	CPHEAN	CPRNS	CPMAX	CPMIN
	678901234567890123456789012345678901234567890		507890412854209449573421237995557811159683711 00011202023009980585634422249095557811123222555781 112020230099805856344222490955578111232225653711	178897680877797107764572866438023968323739346 11111000885110000160000000150000110025060000239 1110100085110000160000000150000110025000000000000	31403676282658999563751159894530133028423736970987 578415950222465899956375114834800722912481480795837401049729587 57841595022246589995637548109559894510802842373697038723554	WD 1000000000000000000000000000000000000	P 6789012345678901234567890123456712345678901234 1 333355555555555566666666777777770000000011234 1 333333333333333333333333333333333444444	R 24893428327763344715945508913109573372388099692	C 113178154991610498393112250636402604552413251046 R 113126099161049839311225063640260455241325104 	- -	C 1	WD 1000 1000 1000 1000 1000 1000 1000 10	P 9012345678901234567890123456789012345678901123 T 4444444444444444444444445555555555555	A 4258581303912101958973350621416158251428950075 H 23344673822993401958973350621423339394361759120275 9	C P R 966835800857732618008571673308667166733086671667330000000000000000000000000000000	$\begin{array}{c} 1231\\ -10022\\ -1002276856\\ -100226427636\\ -1002266634\\ -1002266634\\ -1002266634\\ -1002266634\\ -11002366634\\ -11002366634\\ -11002366634\\ -1100236663\\ -110023663\\ -110023663\\ -110023663\\ -110023663\\ -110023663\\ -110023663\\ -1100236\\ -110026\\ -10026\\ -100026\\ -10026\\ -10026$	C
100 100 100 100	1341 1342 1343 1344 1345	524 592 638 766 753	.245 .275 .314 .248 .229	- 030 108 030	-1.439 -1.743 -2.046 -2.048 -1.837	100 100 100 100	1415 1416 1417 1418	. 513 . 474 . 190 109	. 173 . 184 . 131 . 098	1.060 1.121 .645 .354	- 026 - 004 - 162 - 537	100 100 100 100	1904 1905 1906 1907	263 575 694 262	. 148 . 129 . 131 . 125		- 909 -1.067 -1.143 750

W D	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	MD	TAP	CPMEAN	CPRHS	CPHAX	CPHIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
100	1908	296	. 123	. 469	865	100	2147	364	. 093	. 0 0 9	807	100	2242	443	. 087	190	767
100	1909	142	. 194	.517	912	100	2148	417	. 092	083	900	100	2243	- 524	141	111	
100	1910	335	. 063	1 52	688	100	2149	432	. 104		-1.003	100	2244	523	. 132		-1.174
100	1911	337	. 964	161	651	100	2150	267	. 073	009	815	100	2245	503	. 106		-1.040
100	2101	388	. 084	- 125	729	100	2151	267	. 073	038	944	100	2246	501	. 107	231 215	- 887
100	2102	393	. 087	043	699	100	2152	285	. 074	. 052	552	100	2247 2248	490	.100	225	874
100	2103	414	. 092	- 115	752	100	2153	340	. 083 . 087	.010	751 733	100	2249	- 463	092	- 218	884
100	2104	415	. 085	140	760	100	2154 2155	349 350	. 079	074	699	100	2250	- 467	131		-1.195
100	2105	420	. 079	186 188	- 714	100	2201	- 499	. 119		-1.276	100	2251	- 465	104		-1.090
100	2106	440 389	.086 .072	- 172	- 740	100	2202	504	113		-1.005	iòò	2252	- 476	112	- 211	-1.067
100	2107 2108	385	072	- 178	- 720	100	2203	- 489	. 090	121	- 942	100	2253	- 471	. 106	- 223	- 968
100	2109	399	. 068	- 187	- 653	iòò	2204	- 468	076	- 189	- 784	ĨÓÓ	2254	- 363	. 083	067	733
iòò	2110	- 423	. 072	- 191	- 675	100	2205	- 430	. 070	- 192	718	100	2255	435	. 134	067	
100	2111	- 449	. 079	- 226	- 727	100	2206	- 423	. 066	- 169	694	100	2256	419	. 129		-1.131
100	2112	- 468	087	- 218	- 811	100	2207	424	. 072	184	737	100	2257	434	. 098	186	889
ĪÒÒ	2113	344	. 067	047	~.651	100	2208	473	. 091	197	821	100	2258	463	. 106		-1.051
100	2114	347	. 066	132	640	100	2209	467	. 083	243	821	100	2259	465	. 107		-1.175
100	2115	379	. 067	168	628	100	2210	447	. 070	230	687	100	2260	- 465	. 123		-1.974 -1.825
100	2116	413	. 071	- 221	687	100	2211	473	. 082	208	798	100	2261 2301	466	126	.760	261
100	2117	461	. 081	204	770	100	2212	476	.081 .086	228 222	770 878	100	2302	.309	. 143	. 814	- 290
100	2118	485	. 090	206	852	100	2213 2214	- 490 - 488	.081	- 195	786	100	2303	.343	150	815	- 261
100	2119	296	. 067	040	599	100	2215	- 499	. 106	- 139	963	100	2304	.146	. 117	. 490	- 401
100	2120	297	.065	033 062	587 573	100	2216	- 492	. 099	- 244	- 912	100	2305	187	124	614	- 391
100	2121 2122	340 396	.066	051	- 635	100	2217	- 460	. 077	- 253	- 797	100	2306	228	136	642	- 337
100	2123	461	. 079	- 143	785	100	2218	- 439	072	- 251	- 695	ĩòò	2307	286	146	. 784	239
100	2124	492	092	- 225	-1.015	100	2219	- 423	. 070	- 222	- 682	100	2308	. 261	. 137	. 824	278
iòò	2125	- 264	066	- 017	- 497	100	2220	408	. 070	194	669	100	2309	.203	. 134	. 781	290
100	2126	- 268	. 062	- 021	- 509	100	2221	406	. 068	198	666	100	2310	.221	. 133	. 737	192
ĨŎŎ	2127	303	. 058	024	549	100	2222	521	. 127		-1.132	100	2311	.383	. 152	. 858	118
100	2128	363	. 065	127	633	100	2223	514	. 117		-1.021	100	2312	.504	. 177	1.155	038
100	2129	444	. 083	202	820	100	2224	477	. 089	218	900	100	2313	.519	. 177	1.105	.032
100	2130	476	. 094	204	988	100	2225	445	.079	- 194 - 213	854 697	100	2314 2315	.509 .494	. 165	1.031	. 036
100	2131	242	. 073	153	621	100	2226 2227	423 409	. 073	- 194	- 652	100	2316	506	160	1.063	. 009
100	2132	247	. 071	.029	628 642	100	2228	- 402	. 071	- 158	690	100	2317	.408	143	. 913	- 013
100	2133 2134	294 372	.066	- 127	- 672	100	2229	551	135	- 236	-1.216	100	2318	294	. 146	792	170
100	2135	456	. 086	- 206	814	100	2230	- 540	121		-1.046	100	2319	189	. 130	. 693	208
100	2136	486	. 0 98	159	- 951	100	2231	- 490	. 088	- 245	- 890	100	2320	. 346	. 154	. 923	082
100	2137	- 239	078	126	- 601	100	2232	- 452	085	234	862	100	2321	. 496	. 171	1.198	013
100	2138	- 250	. 074	115	- 586	100	2233	- 428	. 076	- 189	768	100	2322	.517	. 172	1.197	. 071
iòò	2139	- 296	074	.003	- 637	100	2234	414	. 077	179	733	100	2323	.524	. 170	1.197	. 078
100	2140	372	. 084	079	866	100	2235	411	. 077	180	733	100	2324	.510	. 171	1.132	. 034
100	2141	451	. 094	152	858	100	2236	537	. 145		-1.351	100	2325	.490	. 170	1.114	. 043
100	2142	478	. 1 07	149	-1.022	100	2237	527	. 133		-1.406	100	2326	.374	. 158	.977 .832	- 080 - 250
100	2143	251	. 082	.053	599	100	2238	482	. 103		-1.042	100	2327 2328	.267	. 154	596	196
100	2144	288	. 076	.093	823	100	2239	458	.094	203	-1.085	100	2329	.267	. 141	. 870	- 122
100	2145	384	. 093	107	789	100	2240	457	.091	- 203	760	100	2330	.410	157	1.122	. 064
100	2146	454	. 1 0 3	154	-1.084	100	2241	448	. 403	···· 7 43		1.4.4	2004				

WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPHAX	CPHIN	WD	TAP	CPNEAN	CPRHS	CPMAX	CPHIN
	123456789012345678901234567890123456789012345678901234567123 33333333333444444444445555555555566666666	44744592416200000000000000000000000000000000000	39704005436067142896757593741902630302211162501956 11151124436067142896757593741902630302211162101956 11111110100900011009892111637	111 1275799999999999999999999999999999999999	49090797994373482702305843514624507015189048505530	1000 1000 1000 1000 1000 1000 1000 100	456789012345678901234567890123456789012345678901234567890123 444444444444444444444444444444444444		0726335328890991235187001555807957706228332488862597 766661009855909912351870011555807957706228332488862597 7000001110000011000001100000011000000110000	1183410580736164923199856144203376198805246486783295 		10000000000000000000000000000000000000	45678901123456789011234567890123456789012345678901 2022222222222233 21111111111111111111		492962418850105545484169087366909655499207907688270 011177665119820105545484169087366909655499207907688270 110000001108188888778888976678911778011398911238 000000000000000000000000000000000000	13976961740044413302227465208269914981 19769611111111111111111111111111111111	

WD TAP CPHEAN CPRNS CPNAX CPNIN WD TAP CPMEAN CPRNS CPMAX CPNI	IIN NO TAP CPNEAN CPRMS CPMAX CPMIN
WD TAP CPMEAN CPRMS CPMAX CPMIN WD TAP CPMEAN CPRMS CPMAX CPMIN 110 1367 223 .166 .095 -1.574 110 1440 293 .080 .013 571 110 1369 378 .263 .426 660 110 1444 366 .077 127	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

WD	TAP	CPHEAN	CPRMS	CPHAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ыD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
111111111111111111111111111111111111111	34567890123456789012345678901234567890123456789011 22222222222222222222222222222222222		468017538468793686087812101407849591930488354904 9933098887511198887521998853N2100332N332N124380001111111111111111111111111111111111		518976747878799668210245479327921702630853770295952	110000 111000 111000 111000 11110000 1111000000	23456789012345678901234567890123456789012345678901 3033355555555555555555555555555555555	3302222103499993497371287188426254570932188762392288070 222210345654555689198890234445570782188720222 21034562499993349737128718842625455709322188762392288070	84131535919519781924138121921222722670518803948989 641315359195866986344777755333555564213454533311111211111 111111111111111111111111	23440829958166111111111111111111111111111111111		11111111111111111111111111111111111111	2345678901234567890123456712345678901234 55555555555556666666666777777777700000000	87789163688922841087582201414023523673141974548491 2122456676002143942059223981928804854039102322190411 201222222222239819288048540391023222190411 111111111111111111111111111111111	92725502198426926396417793842996508965776151915736 1109111111989426926396417793842996508965776151915736 1100000001111111198942692630964100000220000210000001209 11000000011111110000000112332994865555610076545818864457709	1702 00297 - 00297 - 00297 - 0258 4777 24777 24600 - 12561 32215 - 1163 2215 - 1163	

WD	TAP	CPMEAN CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRNS	CPMAX	CPMIN	SD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
111111111111111111111111111111111111111	567890123456789012345678901234567890123456789011224567890112345678901234567890123456789012345678901234567890123	$\begin{array}{c} 026 \\ 0440 \\ -1177 \\ 04689 \\ -2312 \\ 2182 \\ -2312 \\ 2014 \\ 00227 \\ 00469 \\ -2312 \\ 2014 \\ 00227 \\ 0047 \\ -1195 \\ 0047 \\ -1195 \\ 0047 \\ -1195 \\ -1195 \\ 0047 \\ -1195 \\ -1105 \\ -$	31441 1241 1244 12088 12623 12004 13562 12004 13562 12004 13562 12004 1200 10	207495869418688747735509277880968235156372308732893	00000000000000000000000000000000000000	34567890123456789012345678901234567890123333333334444444445555 11111111111111111	$\begin{array}{c} -& -& -& -& -& -& -& -& -& -& -& -& -& $	701419382998099933670142073023223470861119128236510 7889767789666778077790118888011299901114432447119128236510	14494 1118496 111113347 111113496 1111118496 1111118496 111111111849 111111111111111111111111111111111111		11111111111111111111111111111111111111	11111111111111111111111111111111111111		14466602237325194885296514846333730041111737522376296 112009938000930885296514846333730041111737522376296 110000001108877714110000000111009888800101111 111111111111	109527 11108438931 11108438931 11108438931 11108438931 1110912243376292921 1118128378687 11109188487 11111128378687 1128378687 122831998647 12382987 128378687 1283788 128378687 1283788 128378 1283788 1283788 128378 1283788 1283788 128	112

W D	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	H D	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
D 000000000000000000000000000000000000	P 8901234567	H 71062613573614123779061967842007347333617477714150 F	CPR 111542533557115042478711406880239167092140585550788721443	X 19668970782957347167165931397635899070073612048386690 H 3303109206209573471671671923374981018334781008836690 H 3303109206200122220105036271726101498334781008836690 H 3303109206200122201050362717261018334781008836690 H 3303109206200122201050362716238899007007361244	$ \begin{array}{c} G & G \\ G \\ G & G \\ \mathsf$	WD 000000000000000000000000000000000000	P 89012345678901234567890123456789012345678901234567890 111111111111111111111111111111111111	C P ME G 0 - 1509 - 2509 - 0343 - 01049 - 2554 - 001049 - 2554 - 00256 - 00104 - 00256 - 0026 - 00256 - 0026 - 000 -	C C C C C C C C C C C C C C C C C C C	$\begin{array}{c} - & 0.13648996445937066146556680537553569133377668296644280\\ - & - & - & - & - & - & - & - & - & - $	C	WD 0.00000000000000000000000000000000000	P 12345678901234567890123456789012345678901234567890	G	S 981025890336599457192150842448349561280274008175896 N 5461025890966673096667192150842448349561280274008175865896		N 448607007622928653159628738795993609298913741429937

ND TAP	CPMEAN CP	RMS CPHAX	CPHIN	VD TA	P CPMEAN	CPRMS	CPMAX	CPMIN	ND.	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
ND TAT 1200 1460 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 1900 1200 2000 1200 2100 1200 2100 1200 2100 1200 2100 1200 2100 1200 2100 1200 2100 1200 2110 1200 2111 1200 2111 1200 2111 1200 2111 1200 2112 1200 2113 1200 2113 1200 2133 1200	$\begin{array}{c} - 426 \\ - 130 \\ - 373 \\ - 377 \\ - 125 \\ - 551 \\ - 551 \\ - 551 \\ - 551 \\ - 476 \\ - 348 \\ - 355 \\ - 395 \\ - 477 \\ - 476 \\ - 341 \\ - 348 \\ - 355 \\ - 398 \\ - 416 \\ - 346 \\ - 346 \\ - 346 \\ - 346 \\ - 346 \\ - 346 \\ - 346 \\ - 362 \\ - 304 \\ - 366 \\ - 398 \\ - 442 \\ - 278 \\ - 308 \\ - 448 \\ - 278 \\ - 308 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 366 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 398 \\ - 346 \\ - 442 \\ - 268 \\ - 308 \\ - 346 \\ - 442 \\ - 268 \\ - 308 \\ - 346 \\ - 442 \\ - 268 \\ - 308 \\ - 346 \\ - 442 \\ - 268 \\ - 308 \\ - 346 \\ - 374 \\$	R MS C P M AX 131 017 0081 -058 201 1282 201 1283 201 1284 0096 -2779 1079 380 1070 -054 1079 -154 0070 -0247 1100 -02247 1125 -0338 1004 -0247 1125 -0338 0070 -0336 1200 -00336 1200 -00336 1200 -00336 1200 -00336 1200 -0034 0081 -00103 0081 -00293 00529 -0247 1335 -05290 0662 -00264 134 -0529 0053 -00264 134 -0529 0063 -00264 1055 -00264 0063 -00264 0063 -00264 0029 -0341		$\begin{array}{c} \textbf{WD} & \textbf{TA} \\ 1200 & 213 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2114 \\ 1200 & 2115 \\ 1200 & 2115 \\ 1200 & 2115 \\ 1200 & 2115 \\ 1200 & 2115 \\ 1200 & 2215 \\ 1200 & 2215 \\ 1200 & 2200 \\ 1200 & 2$	9012345678901123456788901128456788001100000000000000000000000000000000	S 360470596335420997159183417559722507709590368887886667664459113112755424597859633542099711000000000000000000000000000000000	544566941333899593535710466694100000000011110012210116642969410053332004 0000000000000001111001221011664290941005332004	C	WD 000000000000000000000000000000000000	P 456789012345678901234567890112345678901 1 22222222222222222222222222222222222	N N 0289628612503057533770180162367547935483067802877 P 55444555533456553366233344566442012200459428987 P C 	S 63203529897324631950118866718350680444278534310797 R 11376789552258298973246319501188667183506680444278534310797 P 113111121258298973246319501112211649453097755774126797	97803345572506222837205653723 1100524557250652283720011006533723	-1.3299 -1.3498357800 -1.149895332583111 -1.188378832583111 -1.188378325831317 -1.18887720

ND TAP	CPREAN CPRMS	CPHAX	CPHIN	ND TAP	CPMEAN C	PRMS CP	Max C	CPHIN	WD.	TAP	CPMEAN	CPRMS	CPNAX	CPMIN
ND TAP 130 1360 130 1361 130 1363 130 1363 130 13653 130 13653 130 13653 130 13653 130 13657 130 13657 130 13667 130 13771 130 13773 130 13774 130 13774 130 13774 130 13774 130 13774 130 13774 130 13774 130 1402 130 1402 130 1402 130 1403 130 1403 130 1403 130 1402 130 1402 130 1402 130 1412 130 14141 130 142	CP ME AN CP R MS . 048 . 074 . 075 . 075 . 076 . 081 . 191 . 116 . 225 . 1204 085 . 062 . 055 . 0733 . 151 . 1127 085 . 056 . 045 . 056 . 091 . 091 . 095 . 1091 . 091 . 095 . 116 . 095 . 127 . 068 . 095 . 116 . 095 . 116 . 095 . 127 . 058 . 055 . 073 . 056 . 055 . 1091 . 055 . 127 . 055 . 127 . 055 . 073 . 055 . 055 . 073 . 055 . 055 . 055 . 055 . 0072 . 0060 . 0957 . 125 . 0072 . 0072 . 0060 . 0957 . 126 . 0072 . 007	3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3117 3111111 311111 <t< td=""><td></td><td>WD TAP 130 1432 130 14334 130 1435 130 1435 130 1435 130 1435 130 14367 130 14436 130 14441 130 14441 130 14441 130 14441 130 14441 130 14445 130 14445 130 14445 130 14445 130 14445 130 14552 130 14551 130 14551 130 14551 130 14551 130 14551 130 14551 130 14501 130 14551 130 14501 130 14501 130 14501 130 14501 130</td><td>C</td><td>33438027499 00000331064956027302787599341745591005869225630885720 </td><td>0049</td><td> 690 5007 5007 1 . 712 7507 /td><td>133333333333333333333333333333333333333</td><td>T 1112222222222222222222222222222222222</td><td>N N N N N N N N N N N N N N N N N N N</td><td>CP 01100000112656923135160551740026162095731571532722175</td><td>$\begin{array}{c} - & 0.24 \\ - & 0.02 \\ - & 0.022 \\ - & 0.11 \\ - & 0.45 \\ 0.0355 \\ - & 0.161 \\ + & 0.604 \\ - & 0.054 \\ - & 0.054 \\ - & 0.054 \\ - & 0.0576 \\ - & 0.0511 \\ - & 0.0233 \\ - &$</td><td>C -1</td></t<>		WD TAP 130 1432 130 14334 130 1435 130 1435 130 1435 130 1435 130 14367 130 14436 130 14441 130 14441 130 14441 130 14441 130 14441 130 14445 130 14445 130 14445 130 14445 130 14445 130 14552 130 14551 130 14551 130 14551 130 14551 130 14551 130 14551 130 14501 130 14551 130 14501 130 14501 130 14501 130 14501 130	C	33438027499 00000331064956027302787599341745591005869225630885720	0049	690 5007 5007 1 . 712 7507 	133333333333333333333333333333333333333	T 1112222222222222222222222222222222222	N N N N N N N N N N N N N N N N N N N	CP 01100000112656923135160551740026162095731571532722175	$\begin{array}{c} - & 0.24 \\ - & 0.02 \\ - & 0.022 \\ - & 0.11 \\ - & 0.45 \\ 0.0355 \\ - & 0.161 \\ + & 0.604 \\ - & 0.054 \\ - & 0.054 \\ - & 0.054 \\ - & 0.0576 \\ - & 0.0511 \\ - & 0.0233 \\ - &$	C -1

WE THE DENERH SERIES CENTRA SERIES WE THE SERIES SERVICE SERVICE	CPNIN AD TAP	CPHEAN CPRMS	CPMAX CPHIN
170 2205 - 602 182 - 022 -1 382 130 2255 - 242 051 - 054			o
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	- 239 .061 - 172 .052 - 267 .052 - 282 .066	020584 .026702 125656 090587
$ \begin{array}{c} 130 \\ 2423 \\ 130 \\ 2424 \\ 140 \\ 1102 \\ 2423 \\ 140 \\ 1102 \\ 2423 \\ 140 \\ 1102 \\ 2424 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1102 \\ 2425 \\ 140 \\ 1104 \\ 1278 \\ 140 \\ 1104 \\ 1278 \\ 140 \\ 1104 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1106 \\ 1278 \\ 140 \\ 1106 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1100 \\ 1100 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 1110 \\ 1278 \\ 140 \\ 11110 \\ 1278 \\ 140 \\ 11110 \\ 1278 \\ 140 \\ 11110 \\ 1278 \\ 140 \\ 11110 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1278 \\ 140 \\ 11111 \\ 1278 \\ 1288 \\ 140 \\ 11111 \\ 128 \\ 1288 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 11122 \\ 128 \\ 140 \\ 1112 \\ 128 \\ 140 \\ 1112 \\ 128 \\ 140 \\ 1112 \\ 128 \\ 140 \\ 1112 \\ 128 \\ 140 \\ 1112 \\ 140 \\ 11111 \\ 140 \\ 1112 \\ 140 \\ 11111 \\ 140 \\ 11111 \\ 140 \\ 11111$	1111555502000011203456789012020202020203456789 111155550200001120211314567890120202020202020353333333333333333333333	73912 7392 73912 7392 7392 7392 7392 7392 7392 7392 739	$\begin{array}{c} - 0.028 & - 1.518 \\ - 0.028 &518 \\ - 0.028 &518 \\ 0.011 &518 \\ 0.011 &518 \\ 0.021 &6355 \\ - 0.022 &6886 \\ - 0.038 &6555 \\ - 0.0428 & - 1.528 \\1077 & - 1.470 \\3034 &5284 \\1077 & - 1.470 \\3028 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &5284 \\1228 &1.5305 \\0428 &1.222 \\0428 &1.3032 \\1229 &1.216 \\2985 &1.2151 \\0778 & - 1.2434 \\1298 &1.2434 \\1298 &1.2434 \\2998 &1.512 \\0788 &8776 \\8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0778 &1.2434 \\2998 &578 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.277 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.2434 \\0778 &1.277 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &8777 \\0788 &0777 \\0788 &8777 \\07$

WD	TAP	CPHEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	
140	1240	541	. 197	015	-1.342	140	1330	. 066	. 099	. 461	- 257	140	1403	346	. 168	023	-1.271	
140	1241	- 631	161	- 245	-1.469	140	1331	. 348	. 152	. 992	056	140	1404	- 323	. 111	086 034	980 787	
140	1242	- 624	. 165	274	-1.475	140	1332	237	. 106	. 660	040	140	1405	- 255	.061	- 100	711	
140	1243	212	. 046	050	568	140	1333	. 278	. 109	.719	.010	140	1406	- 313	062	- 126	- 670	
140	1244	168	. 042	027	437	149	1334	. 289 . 453	.118	1.023	.064	140	1408	- 815	200	039	-1.632	
140	1245	159	. 055	.053	565 943	140 140	1335 1336	.441	. 169	1.101	- 008	140	1409	- 770	209	. 052	-1.797	
140	1246	213 430	. 122	.074	-1.495	140	1337	- 217	071	094	- 488	140	1410	591	260	. 021	-1.617	
140	1247	- 588	188	- 218	-1.574	140	1338	- 110	073	203	- 331	140	1411	255	. 098	007	-1.033	
140	1249	598	. 1 8 1	- 228	-2.084	140	1339	. 055	. 091	. 5 0 5	232	140	1412	235	. 059	. 005	797	
140	1250	- 192	037	- 061	349	140	1340	. 324	. 140	. 998	- 013	140	1413	287	.055	113	833 -1.106	
140	1251	142	. 034	.001	380	140	1341	. 223	. 103	. 629	061	140	1414	317	.191	. 071	-2.218	
140	1252	333	. 176	.019	-1.152	140	1342	. 237 . 255	. 104	. 661	036 008	140	1416	696	200	126	-1.845	
149	1253	550	. 167	203	-1.358 336	140	1343 1344	. 367	145	. 927	.005	140	1417	- 553	238	. 087	-1.475	
140	1254	166 141	.034	.008	264	140	1345	350	156	. 916	- 992	140	1418	- 333	179	. 132	-1.068	
140	1255	- 131	. 027	0 0 3	- 239	140	1346	- 227	076	. 092	- 511	140	1419	258	. 107	. 095	908	
140	1257	132	. 039	. 0 88	- 470	140	1347	121	. 068	. 121	402	140	1420	263	. 068	034	787	
140	1258	- 189	112	. 1 3 3	936	140	1348	. 039	. 083	. 343	256	140	1421	- 286	. 067	055 046	733	
140	1259	539	. 212	069	-1.941	140	1349	. 258	. 125	. 758	- 035	140	1422	- 683	. 201	136	-2.193 -2.153	
140	1260	556	. 209	087	-1.534	140	1350	. 178	.093	564	065	140	1424	560	281	089	-1.739	
140	1301	424	. 083	148	736 454	140	1351 1352	. 199	.098	. 689	- 041	140	1425	- 336	185	. 082	-1.154	
140	1302	206	.069	.112	- 276	140	1353	. 330	130	.856	- 012	140	1426	- 258	. 115	. 123	-1.052	
140	1303	345	166	1.008	- 135	140	1354	318	141	. 860	044	140	1427	251	. 080	. 106	889	
140	1305	. 025	104	.440	- 285	140	1355	225	. 082	101	5 38	140	1428	256	. 066	. 002	736	
140	1306	117	070	135	368	140	1356	118	. 068	. 220	362	140	1429	661	. 209	053	-1.593 -1.867	
140	1307	. 093	. 1 02	. 428	236	140	1357	. 048	. 086	. 519	180	140	1430 1431	- 669 - 478	.240	. 115	-1.697	
140	1308	. 365	. 151	.832	046	140	1358	. 200	.105	. 624 . 508	032	140	1432	- 299	161	. 089	-1.305	
140	1309	. 435	.168	. 935	053 906	140 140	1359 1360	141	.076	.610	- 109	140	1433	- 247	092	100	- 896	
140	1310	477 200	.103 .078	- 210	- 499	140	1361	166	. 085	511	- 053	140	1434	242	. 066	. 011	675	
140	1311 1312	103	.104	.451	- 220	140	1362	236	. 111	. 720	041	140	1435	255	. 062	032	693	
140	1313	426	161	1.032	- 017	140	1363	. 204	. 118	. 835	204	140	1436	630	. 224	. 232	-1.896	
140	1314	225	117	.740	243	140	1364	211	. 081	000	552	140	1437	630	. 255	.150	-1.909 -1.876	
140	1315	. 252	. 117	. 7 5 8	124	140	1365	. 009	. 073	. 392	208 093	140	1438 1439	- 437	. 263	. 095	-1.137	
140	1316	. 300	. 128	.844	118	140	1366 1367	. 131 . 134	075	.547 .503	034	140	1440	234	. ¢8ō	. 072	- 799	
140	1317	. 503	. 164	1.026	.006	140	1368	135	105	614	- 219	140	1441	- 237	. 055	- 023	- 700	
140	1318 1319	.505 414	. 169 . 986	111	- 824	140	1369	- 155	077	. 1 5 3	- 505	140	1442	- 247	052	069	697	
140	1320	- 216	072	.070	- 573	140	1370	- 073	068	. 232	- 329	140	1443	581	. 236	. 384	-2.244	
140	1321	. 084	096	. 546	- 178	140	1371	. 060	. 086	. 697	163	140	1444	604	. 248	. 233	-2.169	
140	i 322	. 430	. 166	1.009	- 050	140	1372	. 177	. 100	. 624	-:061	140	1445	- 455	. 243	. 077	-1.638	
140	1323	. 274	. 1 1 3	.712	068	140	1373	. 177	. 100	.658	046	140	1446	279	.140	.058	693	
140	1324	. 296	.114	.725	045	140	1374	. 143	.089	610	- 061	140	1448	- 238	. 048	052	- 560	
140	1325	. 329	. 1 23	.786	033 .033	140	1375	. 168	079	481	068	140	1449	- 250	048	- 060	- 505	
140	1326	. 505 . 485	.168	1.058	- 027	140	1377	. 057	079	431	- 204	140	1450	- 552	247	. 146	-2.035	
140	1328	- 318	079	065	- 628	140	1401	- 864	. 237	.078	-1.970	140	1451	309	. 181	. 137	-1.240	
140	1329	152	074	158	- 408	140	1402	- 768	274		-1.973	14(1452	226	. 048	017	440	
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¥ D	TAP	CPMEAN	CPRMS	CPNAX	EPHIN	N D	TAP	CPMEAN	CPRHS	CPMAX	CPMIN	¥Đ	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
140	1453	257	. 043	118	467	140	2131	254	. 061	091	704	140	2226	523	. 283		-1.673
140	1454	541	. 235	.257	-1.758	140	2132	251	. 053	116	545	140	2227	712	. 242		-2.799
140	1455	552	281	. 1 02.	-1.902	140	2133	260	. 049	059	498	140	2228	692	. 225		-1.95?
140	1456	268	. 116	- 012	-1.120	140	2134	- 260	. 054	- 059	653	140	2229	- 240	. 062	028	661
140	1457	247	. 054	071	618	140	2135	- 258	. 058	066	682	140	2230	236	. 07.0	. 031	729
140	1458	234	. 045	.028	454	140	2136	- 257	. 059	065	681	140	2231	246	. 102		-1.039
140	1459	244	. 045	072	550	140	2137	216	. 085		-1.081	140	2232	304	. 176		-1.373 -2.282
140	1460	260	. 048	107	579	140	2138	- 220	.064	002	648 634	140	2233 2234	- 480	. 279	215	-2.068
140	1461	272	. 065	067 .304	609 881	140	2139	- 303	066	- 086	674	140	2235	- 683	228	371	-1.898
140	1901	329 527	.147	- 118	-1.164	140	2141	- 279	. 067	126	- 780	140	2236	- 239	. 053	008	- 625
140	1903	- 600	126	- 238	-1.140	140	2142	- 280	065	- 128	- 725	140	2237	- 236	058	. 016	595
140	1904	- 130	107	. 586	- 554	140	2143	- 169	072		-1.007	140	2238	- 234	. 082	. 055	727
140	1905	- 473	120	- 048	- 953	140	2144	24 9	074	- 008	547	140	2239	273	150	. 121	-1.206
140	1906	- 572	. i õ i	- 277	- 935	140	2145	- 309	078	- 073	- 311	140	2240	422	. 262		-1.769
140	1907	117	112	.334	632	140	2146	297	. 065	130	806	140	2241	624	. 269	. 093	-2.077
140	1908	233	. 111	. 1 56	724	140	2147	293	. 075	044	664	140	2242	628	. 238		-1.700
140	1909	509	. 1 0 3	188	918	140	2148	301	. 965	095	831	140	2243	250	. 045	088	498
140	1910	274	. 069	110	646	140	2149	297	. 065	154	654	140	2244	236	. 048	058	466
140	1911	276	. 061	- 122	575	140	2150	- 166	. 051	. 038	591	140	2245	215	. 057	. 014	484 924
140	2101	279	. 072	003	637	140	2151	166	. 049	. 060	603	140	2246 2247	236	. 106	.098	-1.575
140	2102	290	. 064	092	651	140	2152 2153	204	. 068	017	642	140	2248	400 580	280		-2.692
140	2103	273	. 070	~.059	879 850	140	2153	266 289	.081	- 122	- 715	140	2249	591	237	. 243	-2.338
140	2104 2105	269 264	.070	009 073	- 608	140	2155	- 289	.064	- 142	- 730	140	2250	- 258	046	- 068	- 519
140	2105	- 263	.052	- 086	- 569	140	2201	- 239	. 044	- 083	- 496	140	2251	- 218	047	- 007	- 470
140	2107	258	. 035	- 072	515	140	2202	- 233	045	- 036	- 524	140	2252	- 315	203		-1.209
140	2108	- 260	049	- 121	470	140	2203	- 256	056	- 091	- 591	140	2253	- 554	263		-2.099
140	2109	- 268	. 047	- 121	- 488	140	2204	- 312	098	- 026	- 969	140	2254	- 290	077	001	- 945
140	2110	- 268	047	- 083	- 497	140	2205	- 325	152	056	-1.189	140	2255	249	. 043	081	468
140	2111	- 268	050	- 041	522	140	2206	820	. 269		-1.634	140	2256	229	. 038	089	376
140	2112	270	. 049	079	529	140	2207	799	. 216		-1.703	140	2257	224	. 040	070	373
140	2113	252	. 064	071	673	140	2208	258	. 046	091	889	140	2258	224	. 047	041	454
140	2114	246	. 052	091	549	140	2209	235	. 046	. 024	547	140	2259	- 176	. 977	. 075	697
140	2115	252	. 046	111	474	140	2210	236	. 056	049	720	140	2260	531	. 346	. 115	-3.013 -2.329
140	2116	~. 255	. 054	082	713 592	140	2211 2212	270 500	. 096	032	902 -1.228	140	2261 2301	525 .485	. 293	1.001	002
140	2117 2118	263 267	.062	023 071	- 579	140	2213	- 783	228		-1.552	140	2302	377	158	825	- 069
140	2119	248	. 069	046	- 664	140	2214	- 816	211		-1.684	140	2303	129	100	521	- 169
140	2120	- 239	055	- 070	- 570	140	2215	- 245	061	- 012	- 624	140	2304	- 131	076	198	- 407
140	2121	- 248	. 048	- 076	- 496	140	2216	- 238	064	004	- 592	140	2305	131	148	.739	- 254
140	2122	~ 253	056	- 031	- 571	140	2217	- 245	. 091	024	- 895	140	2306	.325	. 150	. 921	147
140	2123	- 256	064	044	- 684	140	2218	312	. 166		-1.099	140	2307	.013	. 101	. 433	404
140	2124	259	. 064	- 026	690	140	2219	534	. 273		-1.493	140	2308	176	. 071	. 194	400
140	2125	237	. 059	054	730	140	2220	698	. 217		-1.741	140	2309	373	. 079	050	655
149	2126	236	. 048	073	633	140	2221	690	. 186		-1.691	140	2310	.590	. 176	1.134	. 0 0 9
140	2127	243	. 045	095	537	140	2222	- 243	. 072	.011	837	140	2311	.545	. 167	1.079	. 027
140	2128	245	. 0 5 5	031	603	140	2223	241	. 080	.048	817	140	2312	. 302	.130	.716	- 054
140	2129	250	. 061	016	663	140	2224	254	. 109	. 058	929	140	2313 2314	.219	. 140	.690 .809	340 115
140	2130	252	. 059	081	675	140	2225	~.330	. 187	. 240	-1.191	140	2914	. 286	. 136	. 847	113

ND	TAP	CPNEAN CPRHS	CPNAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPHAX	CPHIN	WD.	TAP	CPMEAN	CPRNS	CPMAX	CPHIN
	- 567890123456789012345678901234567890123456789012345678901234 - 3333333333333333333333334444444455555555	$\begin{array}{c} 445 & 171 \\ 094 & 109 \\ -227 & 078 \\ -311 & 106 \\ 515 & 183 \\ 522 & 162 \\ 338 & 126 \\ 282 & 118 \\ 405 & 176 \\ 062 & 097 \\ -183 & 068 \\ -362 & 097 \\ -183 & 068 \\ -362 & 176 \\ 062 & 097 \\ -183 & 068 \\ -362 & 176 \\ 282 & 118 \\ -362 & 168 \\ -362 & 197 \\ -262 & 115 \\ -270 & 120 \\ -262 & 115 \\ -270 & 120 \\ -270 & 120 \\ -219 & 073 \\ -361 & 095 \\ -219 & 073 \\ -260 & 120 \\ -219 & 073 \\ -260 & 120 \\ -219 & 073 \\ -200 & 120 \\ -200 & 089 \\ -200 & 080 \\ -184 & 071 \\ -311 & 085 \\ -157 & 106 \\ -219 & 071 \\ -311 & 085 \\ -219 & 071 \\ -311 & 085 \\ -270 & 120 \\ -200 & 080 \\ -2184 & 071 \\ -311 & 085 \\ -217 & 106 \\ -219 & 071 \\ -311 & 085 \\ -217 & 106 \\ -218 & 071 \\ -311 & 085 \\ -217 & 106 \\ -219 & 071 \\ -311 & 085 \\ -217 & 106 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & 071 \\ -311 & 085 \\ -218 & $	1 0401118075947650236553082334397103476526750312248 1 0401118779411004856790856057212820855308255583562226750312248 1 0401118779411104755476502310997755583562226750312248 1 0401111 040175547650230825506730034765267500312248 1 0401111 040175547650230825506730034765267500312248 1 0401111 040175547650230825506730034765267500312248 1 0401111 040175547650230825530823343971034765267500312248 1 0401111 040175547650230825530823343971034765267500312248 1 0401111 04017554765002300825506730000000000000000000000000000000000			567890123456712345678901234567890123456789012345678901234567 3333333333334444444444444444444444444	$\begin{array}{c} 123\\ 123\\ 0216\\ 0272\\ 1537\\ 03165\\ 1276\\ 101427\\ 2700\\ 02556\\ 325737\\ 993556\\ 32465\\ 43724\\ 101427\\ 2995556\\ 324458\\ 43724\\ 101427\\ 2995556\\ 324458\\ 43724\\ 101427\\ 2056\\ 102$	0077425450999030404985112410080811328725358978920854190002175900001109777110000217555410572535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112100011212872535897892085419003112128725358978920854190031121000112128725358978920854190031121000112128725358978920854190031121000112128725358978920854110585419003112128725358978920854110001112872535897892085411000011128725358978920851128725358978920851128725358978920851128725535897892085112872553589789208511287255358978920851128725535897892085112872553589789208511287255358978920851128541900011112854587255358978920851128558755875589789208511285587558755897892085112855875589789208511285587558875588755887558875588755887	14436 14436 000029 7878 10000278578 10000078878 0000078878 10000033004 10000033004 10000033004 10000033004 100000332006 110030423 11003048 11003048 11003048 11003048 11003048 11003314 10003314 10003314 10003314		4444444444444444444444444444444444455555	890123456789012345678901123456789011234567890111111111111111111111111111111111111	52044008529678203345775477709522824532190891257383 532226642112531115521111024145255224433322233333222333 5322266421125311155211110241455255224433322233333222333	41170739162952785244127617746212452647406464268035 11055556321109821649526803342206201110982164268035 11098216495268035 111098216495268035	35330132485901312636230962424666308318312 002000000000000000000000000000000000	

U D	TAP	CPHEAN CPRMS	CPMAX	CPMIN	ND TA	CPMEAN	CPRMS	CPMAX	CPMIN	₩D	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
000000000000000000000000000000000000000	6789012345678901234567890123456789012345678901234567890 111111111111111111111111111111111111	$\begin{array}{c} - & 276 \\ - & 242 \\ - & 2312 \\ - & 2332 \\ - & 22422 \\ - & 33121 \\ - & 22223 \\ - & - & 222255 \\ - & - & 222235 \\ - & - & 222235 \\ - & - & 222235 \\ - & - & 222235 \\ - & - & 222235 \\ - & - & 222235 \\ - & - & - & - & - \\ - & - & - & - & -$	6205396534413243441824824809977906435533376767201448886450223 0000000000000000000000000000000000	211237638409446918069951333414411161518132073966791			49826875626768935362211500294258075166240668085895 06665555750435674045557205555498784336455443145343323776 01111000112110001211000091116433645544314433223776	52286111717330814180244519770450840132782197722949 2118011200239814180244519770450840132782197722485013700 1100012000000001000066661972248509752949 1100000000000000000000000000000000000	$\begin{array}{c} -& -& -& -& -& -& -& -& -& -& -& -& -& $	15550000000000000000000000000000000000	123456789012345678901234567890123456789012345678901234567890 0000000011111111111211111111111111111		46931690493273803946519762503091614567538621833013 0021111189049327380394651976250309161456753866218833013 113118668799210	$\begin{array}{c} 0&2&3&4&0&6&4&0&4\\ 0&2&3&5&4&5&2&2&5&8\\ 0&2&5&4&7&2&7&2&3&2&9&4&6&8&6&2&6&9&7&2&2&3&2&8&8&2&6&2&7&2&3&2&3&2&3&2&3&2&3&2&3&2&3&2&3&2&3$	

WD	TAP	CPNEAN	CPRNS	CPNAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	¥D	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
150	1351	. 280 . 300	. 1 0 3	.704	.048	150	1424	665	. 218		-1.685	150	2102	353	. 067	146	643
150	1352	. 300	. 107	.723	.055	150	1425 1426	- 578 - 430	. 224		-1.552	150 150	2103	315 308	.065	059 088	570 554
150	1353	. 330 . 262	.132	.813 .759	026	150 150	1427	- 361	172		-1.105	150	2105	- 302	. 057	- 132	525
150	1355	- 091	074	273	- 419	150	1428	355	. 172	0.00	-1.168	150	2106	- 302	. 057	136	520
150	1356	. 002	. 069	273	231	150	1429	610	. 187		-1.584	150	2107	343	. 072	152	677
1,50	1357	. 127	. 085	.506	101	150	1430	622 643	. 196 . 231	080	-1.702 -2.023	150 150	2108 2109	326	.065	131 150	702 581
150 150	1358 1359	. 22 9 . 20 2	.105	.802 .680	034 .015	150	1432	- 530	220	089	-1.462	150	2110	- 303	. 053	134	539
150	1360	. 198	. 0 89	. 6 3 4	- 003	150	1433	406	. 198	. 092	-1.197	150	2111	304	. 055	138	540
150	1361	. 214	. 0 95	. 684	.001	150	1434	347	. 163	.114	-1.077	150	2112	307 310	.054	148	545 742
150 150	1362	. 220	.116	.730	101	150 150	1435	349	. 169 . 211	.040	-1.165 -2.178	150 150	2113 2114	- 305	. 061	142	- 676
150	1364	101	075	251	- 422	150	1437	- 631	222	052	-2.344	150	2115	308	. 054	147	558
150	1365	. 099	. 975	. 486	107	150	1438	632	. 243	. 2 0 2	-1.674	150	2116	303	. 051	146	522
150	1366	. 191	. 089	. 5 5 5	013	150	1439	522	. 232	. 051	-1.721	150 150	2117 2118	293	.046	147	453 459
150	1367 1368	. 195 . 088	.091	.673 .574	052 221	150	1440	389 332	. 185	.151	-1.199	150	2119	- 315	070	- 123	789
150	1369	037	. 071	218	- 318	150	1442	334	. 134	- 015	-1.086	150	2120	- 306	. 058	137	599
150	1370	. 038	. 067	218	177	150	1443	650	. 238	161	-2.263	150	2121	309	. 058	164	658
150	1371	. 179	. 091	. 6 0 3	052	150	1444	628	. 236	105	-2.589 -2.654	150	2122 2123	305	.054 .054	144 134	556 556
150	1372	. 234	.099	.708	.017	150	1445	- 637	. 274	.014	-1.305	150 150	2124	- 302	.054	123	593
150	1373	. 235	. 0 95	617	.010	150	1447	306	138	114	996	150	2125	- 334	. 081	084	926
150	1375	213	. 1 00	. 677	005	150	1448	277	. 097	. 051	849	150	2126	324 318	. 070	095	707
150	1376	. 135	. 089	. 6 4 6	060	150	1449	289	. 094	.018	- 956	150	2127		.062	171	629 593
150 150	1377	.013 629	.088	- 229	- 243	150 150	1450 1451	612 615	. 227 . 248	059	-2.348 -1.934	150 150	2128 2129	- 313	. 058	152	580
150	1402	665	165	169	-1.655	150	1452	270	. 090	051	827	150	2130	- 303	. 057	156	571
150	1403	632	. 190	- 013	-1.462	150	1453	270	. 067	~.014	617	150	2131	370	.114		-1.111
150	1404	582	. 189		-1.363	150 150	1454 1455	- 714	. 291	- 115	-2.239 -2.270	150 150	2132 2133	359 366	. 099 . 092	128	922 895
150	1405	423 337	.151		-1.017	150	1456	397	. 147	.073	-1.208	150	2134	- 353	. 082	154	768
150	1407	381	113	- 035	- 982	150	1457	304	. 085	- 041	-1.039	150	2135	335	. 077	143	711
150	1408	- 643	. 1 47	220	-1.270	150	1458	275	. 066	007	612	150	2136	333	. 077	132	720
150	1409	660	. 160	021	-1.244	150	1459 1460	259 263	.059	.039 .044	696	150 150	2137 2138	308 296	.170		-1.794 -1.078
150 150	1410	663 546	.160	149	-1.465	150 150	1461	- 254	. 064	- 034	608	150	2139	- 386	104		-1.002
150	1412	491	. 169	. 1 9 9	-1.216	150	1901	451	. 132	. 265	984	150	2140	396	. 107	- 168	953
150	1413	354	. 121	. 1 2 7	998	150	1902	598	. 111		-1.005	150	2141	347	. 095	176	924
150	1414	390	. 122	.060	-1.041	150	1903 1904	598 212	.111	- 271	977	150	2142 2143	345 255	.092	176	903 -1.208
150 150	1415	624	.153		-1.488	150	1905	613	.151		-1.343	150	2144	- 337	122	. 059	851
150	1417	665	183		-1.477	150	1906	- 598	. 107	- 276	-1.044	150	2145	- 420	. 124	006	-1.091
150	1418	580	. 202	.108	-1.417	150	1907	336	.159	. 200	-1.085	150	2146	387	. 101	178	949
150	1419	431	. 180		-1.100	150	1908 1909	458 601	. 157		-1.113 -1.154	150 150	2147 2148	- 400	. 121	.028 198	-1.148 922
150 150	1420	342 353	. 139		-1.046	150	1910	250	.054	- 015	-1.104	150	2149	- 395	. 110	164	914
150	1422	601	.173		-1.429	150	1911	252	052	031	450	1 50	2150	198	. 114	. 122	917
150	1423	- 632	186		-1.811	150	2101	- 349	. 070	- 107	649	150	2151	191	.100	. 124	~.884

N D	TAP	CPHEAN	CPRMS	CPMAX	CPHIN	90	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	¥D	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
000000000000000000000000000000000000000	2345123456789012345	644460625737367753709994678194075338102576008650172	089819479417797473566447866606072103918739983382662 119994344441779747356644736666060721039187399833826545 13300001330000133300001333000013335584454326545	4436363631372868225123887496796375110027509783249679637511000214611000297833249679721251533		111111111111111111111111111111111111111	789012345678901123456789012345678901234567890123456789012345		70586695205402950485672501798127916269660294682527 133300031654579064971797897111120979872109887776100686 1111112097981279162459660294682527	397 5603 - 1270 1877 - 1877 - 1877 - 1222 - 1222 - 1651	74047895675460497852127464061451455465597419224109	111111111111111111111111111111111111111	678901234567890123456789012345678901234567777777777777 33333444444444555555555555		40379728601114070499693392616647183045105630922485 01111095766743999938673318888176884876888998907688009211256097 011100001100001100001000000000000000	239 160 105 094 088 144	

ND	TAP	CPNEAN CPRMS	CPMAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPNAX	CPMIN
	23456789012345678901234567890123456789012345678901 222222222233333444444444555555555555555	- 091 056 - 171 165 - 473 179 - 472 165 - 207 044 - 1267 044 - 1267 044 - 1267 054 - 135 136 - 403 1760 - 403 1760 - 403 1760 - 403 1760 - 403 1760 - 0315 1032 - 0901 0332 - 0901 0332 - 0901 0332 - 0901 0332 - 00265 0332 - 00266 0032 - 1094 1642 - 1293 1270 - 1293 1270 - 1287 1270 - 1287		801680952217524601987418578514462555485986451235458 6122154349962175246042574444739838615193043663144 -111		23456789012345678901234567890123456789012345678901 222222222233333333334444444445555555555	540949074544227830170462354894912313197520661684585 444455997998922005564487828321120127743339106601684585 - 2200556448782832311200177743339106601684585 - 220055644878283233332001777433339106601684585	460831944670232711628415957618257823031461221684975 1114446799446702327116284159576182578230314611213789984975 11111137899146702327000000000000000000000000000000000	7535684579552322988803334039415814687562169562406768 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9148326254305049655533400702201213552012929064	11111111111111111111111111111111111111	23456712345678901234567890123456789012345678901234 33333344444444444444444444444444444	50805567415454523197419502454495824543426499304360	191590921624531166631502374758832821500794087776182 11010899921624531166631502374758832821500794087776182 11111111111111111111111111111111111		444205920008879956144597710068430356380956593964782421

ND TAP CPHEAN CPRHS CPHAX	CPHIN ND	TAP CPMEAN	CPRNS CPNAX	CPMIN	ND TAP	CPHEAN CPRHS	CPMAX	CPMIN
NDTAPCPNEANCPRMSCPMAX1601445 583 202 -153 1601446 357 182 024 1601447 448 140 031 1601448 392 128 025 1601450 554 175 175 1601451 623 224 021 1601452 6011 122 024 1601453 359 230 040 1601453 592 230 040 1601455 592 230 040 1601456 512 1457 040 1601457 413 106 118 1601458 3468 0957 083 1601457 340 094 006 1601461 316 098 041 1601902 562 110 233 1601903 377 097 042 1601905 573 138 090 1601906 309 077 087 1601907 4453 155 024 1601908 3768 144 233 1601908 3768 144 233 1601908 368 077 087 1601908 368 077 087 1602107 368 074	$\begin{array}{c} -1 & .699 & 160 \\ -1 & .545 & 160 \\ -1 & .166 & 160 \\ -1 & .976 & 160 \\ -1 & .058 & 160 \\ -1 & .058 & 160 \\ -2 & .084 & 160 \\ -2 & .091 & 160 \\ -2 & .991 & 160 \\ -2 & .377 & 160 \\ -1 & .978 & 160 \\ -1 & .978 & 160 \\ -1 & .978 & 160 \\ -1 & .978 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .065 & 160 \\ -1 & .023 & 160 \\ -1 & .067 & 160 \\ -1 & .1607 & 160 \\ -1 & .067 & 160 \\ -1 & .067 & 160 \\ & .737 & 160 \\ & .737 & 160 \\ & .726 & 160 \\ & .726 & 160 \\ & .725 & 160 \\ & .726 & 160 \\ & .698 & 160 \\ &$	TAP CPMEAN 2123 360 2124 361 2125 412 2126 383 2127 412 2126 383 2127 412 2126 383 2130 383 2131 474 2137 462 2137 463 2137 4428 2137 4439 2137 448 2137 448 2137 448 2137 448 2137 448 2137 448 2137 448 21447 4396 21447 448 21447 469 21447 461 2145 4420 2145 4420 2153 431 2154 322 2202 232 2204 232 2205 -	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} - & 876\\ -1 & 124\\ -1 & 124\\ -1 & 1260\\ -7779\\ -1 & 07779\\ -1 & 07779\\ -1 & 07779\\ -1 & 07779\\ -1 & 07492\\ $	WD T AP 1600 2219 1600 22220 1600 22222 1600 222223 1600 222223 1600 222223 1600 222233 1600 222233 1600 222333 1600 222334 1600 222334 1600 222334 1600 222334 1600 222334 1600 222444 1600 22255233 1600 2225523 1600 222552 1600 222553 1600 222553 1600 222553 1600 22304 1600 223002 1600 223002 1600 223002 1600 23004	CPHEAN CPRMS - 1022 108 2009 196 - 23320 0676 - 23320 0676 - 23320 0676 - 2441 009 - 2251 068 - 2251 066 - 2253 0703 - 2265 0055 - 2265 0055 - 2272 0655 - 2275 - 20655 - 22055 - 20055 - 2	24724809906888726981226073703399340077962339171 2472810093733597350781226035597370339934007796233917103359734007718708125825 	PP

W D	TAP	CPNEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN	CPRHS	CPMAX	CPMIN	WD.	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
	P 7890123456789012345678901234567890123456789012345678901	C	S 108949778450682714436884594341610063074197486 P 000210003210011000321001200032100010003219872 C 000210000321001100032100100032100010003219872 C 00021000032100010003210001000321000100003219872 C 000021000032100010000321000100003219872 C 000021000032100010000321000100003210000100003219886	966455748345365699334882280494430999560995309 11297333381068759322009956095309 11297333381068759322003256095309 1101873332200955009550095309 1101873332200955009550095500955009550095500955	C	D 000000000000000000000000000000000000	P 7890123456789012345671284567890128456789012845474444444444444444444444444444444444	C P MEAA 0656 067526 067526 07527 0756 07527 0756 0756 0756 0756 0756 0756 0756 07527 0756 0757 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0756 0757 0756	CPR 007746528966007888667007594666377795688999195667421243 00726528966007888667001101557795169883099195667421243 111111199518988309719567421243 000000000000000000000000000000000000	119867083431074545117066011012222110 225134310745454751111664440924754511578 10112111664440924754511578	C	W 6000000000000000000000000000000000000	$ \begin{array}{c} T \ A \ B \ B \ B \ B \ B \ B \ B \ B \ B$	C	C PR 0009113509144793002294248897043333661817900342694444499 PP 00091135099141121111999288970433336618179003426874444499 	089980073381 22100074381 2100074381 100032211494991 13322084500730144 13322084500 133208263324 1211215 100042469381 242259007251 12212 11215 111	N 96886250553488423466669171184507629455608182933337

W D	TAP	CPHEAN C	PRMS	CPNAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
D 000000000000000000000000000000000000	P 890123456789012345567890123455578012345557800123455578001234555780000000000000000000000000000000000	C	P	$\begin{array}{c} 1837\\ -& 11886\\ +& 11886\\ +& 11886\\ +& 11886\\ +& 11740\\ -& 11826076\\ -& 11320767\\ -& 113209767\\ -& 113299\\ -& 114250\\ -& 1142$	C	UD 17700000000000000000000000000000000000	P 34567890112345678901234567890123456789011212121212121212121212121212121212121	C PM 20793889732047114812000147990428884681600677332468782	CPR 000053378822518129119613570018814112999220100743395433390 CPR 0000002175446011854451000001116544589543390 1100000021754460118944445100000011654439543390 1100000002175446011894445100000011654439543390	944 010834373 10834573 1083457 1223659 1223659 1223659 1223659 1223659 1223659 1223659 12288285 11223667 12288285 16009077 2288285 161010 122654 122654 122667 12267 1267 12	C	U 000000000000000000000000000000000000	P 34556? 8901234567890123345678901 111111111111111111111111111111111111	AN PH 129865551397455625520736579785066135990042332158934415 00000157888852073657978506513590042332158934415 000001578888520736579785065135900042332158934415 00002334542553350024444433092285542332101777	$ \begin{array}{c} c \ P \ R \ 33311109007911920013117266289070582001118083197646286890705820011112466286890705582001111246628689070558200111124662868907011112483197664628689070558200111111111111111111111111111111111$	CPM 293887958999100056929081499797468720021995849318879938857958974712242997974687200221995846891000887595812900288555700470847002219958468910008855579002288555556893885555568938855555689388555556893885555568938855555689388555556893885555568938855555689388555555689388555555689388555555689388555555689388555555689388555555689388555555689388555555689388555556893885555556893885555556893885555556893885555556893885555556893885555556893885555556893885555689388555568938855556893885555689388555568938855556893885555689388555568938855555689388555556893885555568938855555689388555568938855555689388555568938855556893885555689388555568938855555689388555556893885555689388555556893885555689388555555689388555568893885555688938885556889388555688938885555688938885556889388855556889388555688938855568893885555688938855555688938855555688938855556889388555556889388555568893885555568893885555568893885555568893885555568893885555568893885555588855558885555888555588855558885555	C

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	CPNAX CPMIN
170 1362 233 102 709 1432 337 162 102 1357 1351 170 2112 359 073 170 1364 116 033 -312 170 1433 -357 162 170 2114 -359 117 1364 116 033 -312 170 1435 -935 098 -171 1 141 170 2114 -384 1096 170 1364 170 1438 -435 098 -184 1190 170 2116 -352 076 170 1365 236 097 647 -023 170 1443 -305 120 -144 -1 092 170 2119 -3332 070 170 1367 236 098 748 -023 170 1442 -305 115 -134 170 2121 -377 132 170 1367 2372 137 170 1442 -306 1174 1397 170 2121	$\begin{array}{c} CPMAX & CPMIN \\ CPMAX & CPMIN \\ - & 172 & -1 & 108 \\ - & 242 & -935 \\ - & 166 & -1 & 180 \\ - & 205 & -935 \\ - & 935 \\ - & 129 & -750 \\ - & 060 & -1 & 231 \\ - & 060 & -838 \\ - & 129 & -750 \\ - & 060 & -838 \\ - & 141 & -661 \\ - & 133 & -1 & 050 \\ - & 146 & -999 \\ - & 133 & -1 & 0555 \\ - & 167 & -661 \\ - & 1167 & -661 \\ - & 124 & -663 \\ - & 124 & -663 \\ - & 124 & -664 \\ - & 124 & -664 \\ - & 124 & -664 \\ - & 124 & -668 \\ - & -915 \\ - & 167 & -664 \\ - & 124 & -668 \\ - & -999 \\ - & 167 & -782 \\ - & 167 & -782 \\ - & 167 & -782 \\ - & 168 & -1 & 279 \\ - & 167 & -743 \\ - & 105 & -1 & 2694 \\ - & 105 & -1 & 2694 \\ - & 105 & -1 & 2694 \\ - & 105 & -1 & 694 \\ - & 198 & -1 & 008 \\ - & 175 & -784 \\ - & 069 & -1 & 479 \\ - & 045 & -1 & 581 \\ - & 068 & -1 & 1437 \\ - & 163 & -1 & 893 \\ - & 015 & -1 & 581 \\ - & 008 & -1 & 1437 \\ - & 163 & -893 \\ - & 146 & -1 & 494 \\ \end{array}$

W D	TAP	CPMERN	CPRMS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPNIN
180	1224	. 012	. 063	.237	143	1.80	1314	. 486	. 174	1.173	. 0 38	180	1364	.165	. 086	. 376	095
180	1225	. 101	. 075	. 417	091	180	1315	.479	. 174	1.158	.048	180	1365	.225	. 091	. 688	001
180	1226	. 161 . 924	.094	.543	238 793	180 180	1316 1317	. 486 . 375	. 190	1.196	006	180	1366 1367	.241 .206	.101	.677	021
180	1228	- 007	186	692	740	180	1318	. 212	139	683	- 194	i 80	1369	042	. 086	. 31-9	362
180	1229	207	. 056	. 965	450	180	1319	. 278	. 146	. 776	262	180	1369	.223	. 094	. 629	013
180	1230	125	. 0 52	.125	303 166	180	1320	. 364 . 474	.146	.909 .988	084 .053	180 180	1370	.251 .315	.098	.667	.035 .053
180 180	1231 1232	.000	.059	.330 .323	- 099	180 180	1321 1322	. 484	. 168	1.022	- 002	180	1372	336	129	1.168	. 0 54
180	1233	. 120	. 084	.414	288	180	1323	488	. 160	. 956	.073	180	1373	.337	. 131	1.118	. 053
180	1234	016	. 195	.492	661	180	1324	. 480	. 158	. 957	.058	180	1374	.311	. 124	. 974	. 035
180 180	1235	059	.180	.492	759 533	180 180	1325	.462	.164	. 968 . 869	.052 053	180 180	1375	.293	.124	. 766	.026
180	1236	- 129	.050	. 078	351	180	1327	. 168	135	604	- 212	180	1377	006	. 076	. 597	241
180	1238	013	. 0 53	. 225	163	180	1328	. 255	. 131	. 902	146	180	1401	398	. 06.5	177	622
180	1239	. 055	. 063	. 3 5 5	122	180	1329	. 334	.134	1.001	040	180 180	1402 1403	413	.068	165	674 747
180	1240	.107	.075	.407	361 662	180 180	1330 1331	.419	. 145	.997	.090	180	1404	- 455	071	173	751
180	1242	046	167	1471	666	180	1332	. 448	. 143	. 982	.110	180	1405	461	. 091	163	-1.015
180	1243	202	. 062	.075	- 444	180	1333	. 442	. 147	. 954	. 967	180	1406	473	. 100	193	963
180	1244	099	.047	.081	313	180	1334 1335	. 422 . 275	. 148	.978 .834	.052	180 180	1407	461	.107	114 191	-1.289
180 180	1245	014	.045	.170	146	180 180	1336	. 131	123	. 643	- 256	180	1409	- 414	066	- 196	- 639
180	1247	. 078	. 065	.357	- 129	180	1337	. 259	. 123	. 689	070	180	1410	415	. 065	192	668
180	1248	. 002	. 128	. 480	460	180	1338	. 318	. 128	. 763	004	180	1411	428	. 070	215	677
180 180	1249	012 215	.137	.479	742	180 180	1339 1340	. 375	.143	. 896 . 865	.042	180 180	1412	440	.071	195 211	695 805
180	1251	. 012	049	267	- 117	180	1341	. 394	143	. 924	073	180	1414	464	. 091	211	- 823
180	1252	. 107	.068	. 359	116	180	1342	. 388	. 145	. 930	. 066	180	1415	398	. 064	182	637
180	1253	. 017	. 118	. 441	505	180	1343	. 360	. 150	. 985	.014	180	1416	405	. 065	165	653 647
180 180	1254	165 067	.057	.109	367 217	180	1344 1345	. 230 . 101	. 132	.755 .569	082 277	180 180	1417	415	.064	203	686
180	1256	. 048	. 060	342	- 099	180	1346	204	107	677	089	180	1419	- 455	. 072	- 246	- 801
180	1257	. 113	. 069	.411	064	180	1347	. 266	. 106	. 718	049	180	1420	482	. 095	226	911
180	1258	. 165	. 078	. 483	045	180	1348	. 328 . 334	. 116	.770	019	180	1421	- 495 - 387	. 101	228	982 679
180 180	1259	.134	.114	.529	442	180 180	1349 1350	.342	.117	.782	063	180	1423	388	. 069	192	705
180	1301	129	127	. 6 4 8	321	180	1351	. 314	122	. 859	.009	180	1424	407	. 072	187	668
180	1302	. 198	. 1 33	.759	210	180	1352	. 288	. 124	. 767	062	180	1425	432	. 075	201	717
180	1303 1304	. 270 . 231	.148	.723	- 199	180 180	1353	. 168	. 116	. 643 . 586	133 243	180	1426	- 466	.085	206	846 -1.105
180 180	1305	. 162	127	636	- 206	180	1355	162	094	546	- 112	180	1428	- 521	120		-1.030
180	1306	. 117	117	.521	251	180	1356	. 204	096	. 583	062	180	1429	392	. 072	173	662
180	1307	. 27 9	. 151	.774	175	180	1357	. 238	. 104	. 739	055	180	1430	394	. 072	176	667 723
180 180	1308	. 265	.149	.776	178 217	180 180	1358 1359	. 253	.111 .106	.785 .801	002	180 180	1431	410 437	.074	194 197	~.723 785
180	1310	230	149	.934	- 169	180	1360	. 236	103	. 780	- 017	180	1433	481	. 089	- 233	863
180	1311	. 353	. 154	1.026	020	180	1361	. 223	. 113	.751	091	180	1434	531	. 124	197	-1.053
180	1312	. 444	.170	1.020	.003	180	1362	. 105	. 108	. 588	281	180	1435 1436	544	. 135		-1.182
180	1313	. 473	. 165	1.013	019	180	1363	014	. 096	. 417	399	180	1430	404	. 976	192	690

W D	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND.	TAP	CPHEAN	CPRAS	CPMAX	CPMIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
180 180	1437 1438	409	075	190 158 253	679 702 -1.008	180 180 180	2115 2116 2117	325 313 295	.075 .073 .064	121 085 090	- 873 - 749 - 612	180 180 180	2210 2211 2212	247 038 .200	.085 .089 .120	. 142 . 293 . 591	588 383 205
180	1439	436 475 540	.091 .093 .129	229	855	180	2118	- 300	.064	969	590	180	2213	.507	168	1.013	.043
180	1441	556	. 146	218	-1.209	180	2120	- 302	069	126	897	180	2215 2216	- 303	068	- 091	566
180 180	1443	- 446	.096	190	836 854	180	2122	- 297	. 079	086	- 778	180	2217	269	. 093	. 042	619
180 180	1445	465	.103	229	-1.017	180 180	2123	283 286	.071	072	671	180	2219	106	. 101	. 623	340
180 180	1447 1448	476 521	.106	199	964	180	2125	- 299	.080	093	-1.196	180 180	2220 2221	.501	. 167	1.043	.033
180 180	1449 1450	533 442	.157	198 186	-1.411 886	180 180	2127 2128	- 300 - 291	.074	143	882 824	180	2222 2223	292	.073	054	691 714
180 180	1451 1452	451 441	.100	223 210	975 899	180 180	2129 2130	283 285	.068 .068	092 095	610 615	180	2224 2225	275	.105 .103	.059	840 631
180 180	1453 1454	465	.144	133 148	-1.341895	180 189	2131 2132	337 333	.077	152 142	962 765	180 180	2226 2227	.186 .456	. 121	.659 1.078	176 002
180 180	1455	441	.106	120 163	-1.058	180 180	2133 2134	321 317	.068 .066	144	885	180 180	2228 2229	.457 289	.175	1.008	161 691
180	1457 1458	440	102	- 175	961 874	180	2135 2136	304 305	.061	130 113	591 595	180 180	2230 2231	300	.081 .101	043	682 779
180	1459	- 432	133	068	-1.307	180	2137 2138	- 350	081		-1.170	180	2232 2233	144	.101	241	562
180	1461	361	089	108	728	180	2139	- 331	058	192	733	180	2234	.371	157	1.013	068
180	1902 1903	492	. 093	189	921	180	2141 2142	- 313	052	151	544	180	2236	- 316	.069	- 080	- 670
180	1904	475	. 122	086	973	180	2143	353	.092		-1.195	180 180	2238	296	093	007	695
180	1906	499	.077	133	815	180	2145	336	.060	189	- 633	180	2240	.109	.112	.575	266
180	1907	479 488	. 098	.037	892	180	2147	336	.061	183	647	180	2242	.343	.153	.921	165
180	1909	494 355	.085	209	766 688	180 180	2148	315	. 056	163	638	180	2244	327	. \$58	137	543
180	1911 2101	345	.080		650	180	2150	353 342	.102	149	-1.375	180	2245	- 289	.069 .076	050	525 449
180	2102 2103	365	. 124	085	-1.073	180	2152 2153	- 324	.059	163 189	704	180 180	2247 2248	.078	. 101	. 533	202 049
180	2104 2105	338 346	.119	.002	-1.005	180	2154 2155	318 316	.057	158 154	596 588	180	2249 2250	.274	.137	.918 174	079
180 180	2106 2107	338 353	.086	122	922	180	2201	302	082	. 241	742 744	180 180	2251 2252	274	.063	103	576
180	2108 2109	-,344 -,358	.100	- 089	-1.311 -1.337	180	2203	271	.082	.117	- 585	180 180	2253 2254	- 318	. 124	.797 122	178
180 180	2110 2111	326 325	.083	- 026	878 667	180 180	2205	049	.098	. 296	410	180	2255	298	.051	115 108	497 484
180	2112 2113	328 333	.072		685	180 180	2207 2208	332	.161	- 090	210 713	180 180	2257 2258	243	.066	017	527 445
180	2114	331	. 072	122	849	180	2209	307	. 068	028	599	180	2259	.060	. 104	. 483	218

ND TAP	CPNEAN CPRM	CPNAX C	PHIN ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
$\begin{array}{c} 1 & 8 & 0 & 2 & 26 & 0 \\ 1 & 8 & 0 & 2 & 23 & 0 & 2 \\ 1 & 8 & 0 & 2 & 33 & 0 & 2 \\ 1 & 8 & 0 & 2 & 33 & 0 & 2 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 0 & 4 \\ 1 & 8 & 0 & 2 & 33 & 1 & 4 \\ 1 & 8 & 0 & 2 & 33 & 1 & 4 \\ 1 & 8 & 0 & 2 & 33 & 1 & 4 \\ 1 & 8 & 0 & 2 & 33 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 & 8 & 0 & 2 & 3 & 2 & 4 \\ 1 $	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} .749 \\ .700 \\126 \\045 \\073 \\104 \\073 \\104 \\104 \\104 \\105 \\012 \\012 \\012 \\012 \\036 \\11 \\036 \\11 \\032 \\012 \\012 \\012 \\012 \\012 \\032 \\11 \\032 \\012 \\012 \\012 \\012 \\012 \\012 \\136 \\11 \\025 \\205 \\205 \\205 \\205 \\11 \\025 \\205 \\11 \\025 \\205 \\11 \\025 \\11 \\025 \\11 \\025 \\11 \\025 \\11 \\025 \\11 \\025 \\11 \\012 \\11 \\012 \\11 \\012 \\11 \\012 \\11 \\012 \\11 \\012 \\11 \\012 \\01$	190 180 314 180 974 180 374 180 374 180 374 180 375 180 935 180 935 180 940 180 935 180 935 180 943 180 544 180 372 180 372 180 372 180 300 180 919 180 919 180 300 180 331 180 333 180	9012345678901234567890123456 222222222222222222222222222222222222	$\begin{array}{c} - & 5343\\ - & 5407\\ - & 5407\\ - & 47799\\ - & 47799\\ - & 7224\\ - & 550079\\ - & 4529\\ - & 4529\\ - & 45251\\ - & 45251\\ - & 45251\\ - & 45251\\ - & 33720\\ - & 33222\\ - & 3322\\ - & & 3322\\ - & & 3322\\ - & & 3322\\ - & & 3322\\ - & & 3322\\ - & & $	7208035239878705091747384254 633343571522911111288945805037	- 0486 44663 44663 - 00491 00491297 0040000000000000000000000000000000000	$\begin{array}{c} -2 & 1 & 102 \\ -1 & 1 & 5677776 \\ -1 & 1 & 23760336836855 \\ -1 & 23760336836856856856856856856856856856856856856856$		2234567890123345678901222222222222222222222222222222222222	803625017421135107844206713 333662501742113510784440753 3333844333384440753 33384440753 333844440753 333844440753 335544440753 335544440753 335544440753 335544440753 335544440753 335544440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 33554440753 35554440753 35554440753 35554440753 35554440753 35554440753 35554440753 3555400000000000000000000000000000000	1437 1207211 1207211 13337 1133931 1133931 1132035 1132761 1209769 113203552761 1209769	$\begin{array}{c} 0435\\ 00091\\ -00983\\ -00983\\ -003427\\ -003425\\ -00159932\\ -00159932\\ -00159932\\ -115265\\ -0028922\\ -115265\\ -115265\\ -11578\\ -11788\\ -11778\\ -11788\\ -1$	$\begin{array}{c} -1 & 0 & 3 & 9 \\ - & 9 & 9 & 7 & 4 \\ - & 9 & 7 & 7 & 1 \\ - & 7 & 7 & 7 & 1 \\ - & 7 & 7 & 7 & 7 & 1 \\ - & 1 & 3 & 3 & 4 \\ - & 1 & 2 & 5 & 7 \\ - & 1 & 2 & 5 & 7 \\ - & 1 & 2 & 5 & 8 & 9 \\ - & 1 & 2 & 8 & 8 & 8 \\ - & 1 & 2 & 8 & 8 & 8 \\ - & 1 & 2 & 8 & 8 & 8 \\ - & 1 & 2 & 8 & 8 & 8 \\ - & 1 & 2 & 8 & 8 & 8 \\ - & 1 & 2 & 9 & 2 & 4 \\ - & 1 & 2 & 2 & 9 & 2 & 8 \\ - & 1 & 2 & 2 & 9 & 2 & 8 \\ - & 1 & 2 & 2 & 9 & 2 & 8 \\ - & 1 & 2 & 2 & 9 & 2 & 8 \\ - & 1 & 2 & 2 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 9 & 2 & 8 \\ - & 1 & 2 & 0 & 0 & 2 & 8 \\ - & 1 & 2 & 0 & 0 & 2 & 8 \\ - & 1 & 2 & 0 & 0 & 2 & 8 \\ - & 1 & 2 & 0 & 0 & 2 & 8 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 2 & 1 \\ - & 1 & 2 & 0 & 0 & 0 & 2 \\ - & 1 & 2 & 0 & 0 & 0 & 2 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 2 & 0 & 0 & 0 & 0 \\ - & 1 & 1 & 0 & 0 & 0 & 0 \\ - $
180 2325	49 {	$\begin{array}{c} 1575 \\ 1778 \\ 1778 \\ 1882 \\ -12 \\ 2054 \\ -11 \\ 2054 \\ -11 \\ 2054 \\ -11 \\ 2054 \\ -11 \\ 2054 \\ -11 \\ 2536 \\ -12 \\ 2536 \\ -12 \\ 2536 \\ -12 \\ 2536 \\ -12 \\ 2536 \\ -12 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ 2097 \\ -11 \\ -223 \\ -23 \\ -232 \\ $	539 180 331 180 377 180 862 180 030 180 046 180 755 180 492 180 632 180 254 180 338 180 231 180 617 180 616 180 519 180 655 180 248 180	2375	320		198142688 007342688 00034289 0004427 0004482 0004482	-1.058	180	2448	351	. 066	- 17487 - 11487 - 11303 - 11309487 - 109487 - 109487 - 11199 - 111991 - 1326763 - 13094 - 13094 - 111991 - 1326763 - 13094 - 13094 - 13094 - 111991 - 13094 - 111994 - 11194 - 11194	649

W D	TAP	CPHEAN	CPRMS	CPHAX	CPMIN	80	TAP	CPMEAN	CPRHS	CPHAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CP MA X	CPMIN
00000000000000000000000000000000000000	11234567890123456789012345678901234567890123456789 911111111111111111111111111111111111		8334180932952285970943550542566664254932165255330414 000000000000000000000000000000000	3996300755653682394144632478344887908387536638470573565		11111111111111111111111111111111111111	01234512345678901234567890123456789012345678901234545424444 11111111111111111111111111111		36643804296901099330122170133942491091362985415753 8877777878899001099330122170133942491091362985415753 11000001111000001111000000111100000001110000	6130805418784160498580966888545122022503106675547371 75770429418784160498580966838099614578702445671134455512 757870244575235473114677802445787024456915122002503106675547371	1	19000000000000000000000000000000000000	56789012345567890123455678901234556789012345567890123455678901234556789012345567890123455678901234556789012345567890123355555555555555555555555555555555555	41572532936297196925399123530251263967861856404842 281170549329599645695459073534528904466671856404842 	730334256879959789076518049519338144229535598283203 45600656855678903343225335566566766666666666666666666666666	$\begin{array}{c} 1304699931987486472766127015784605734891272386699731\\ 234547713449467328319883559910288889799009999731\\ 31111111111111111111111111111111111$	

ND	TAP	CPNEAN	CPRMS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPHAX	CPHIN	WD	TAP	CPREAN	CPRHS	CPNAX	CPHIN
190	1335	. 208	. 130	. 6 6 0	193	190	1408	435	. 072	192	704	190	1458	453	. 105	211	-1.068
190	1336	. 059	107	. 4 3 6	- 268	190	1409	- 427	. 073	- 189	- 755	190	1459	- 479	. 141	155	-1.623
190	1337	. 319	. 132	. 8 9 6	042	190	1410	448	. 074	239	707	190	1460	488	. 148	162	-1.517
190	1338	. 354	. 136	. 958	005	190	1411	422	. 967	241	638	190	1461	333	. 080	. 049	671
190	1339	. 352	. 145	. 904	044	190	1412	461	.074	218	887	190	1901	451	. 098	116	882
190	1340	.347	. 140	. 878	021	190	1413	478	. 084	230	835	190	1902	485	. 986	234	922
190	1341	. 347	. 144	. 858	017	190	1414	484	. 089	233	846	190	1903	485	. 081	241	951
190	1342	. 356	. 147	. 929	037	190	1415	422	. 072	218	666	190	1904	- : 500	. 116	089	-1.042
190	1343	. 305	. 148	1.094	079	190	1416	432	. 069	223	716	190	1905	506	. 092		-1.320
190	1344	- 142	. 121	.757	194	190	1417	443	. 067	- 245	704	190	1906	499	. 080		-1.161
190	1345	. 017	. 1 0 3	. 537	279	190	1418	436	.070	253 244	745	190 190	1907 1908	515	. 112	207 232	-1.493
190	1346 1347	. 264 . 288	.116	.742	.012	190	1419	- 493	. 0.95	- 249	- 870	190	1909	487	. 089	161	832
190	1348	. 300	. 117	.770	.005	190	1421	- 505	. 098	- 260	- 893	190	1910	- 322	. 086	021	659
190	1349	. 293	.116	. 803	.027	190	1422	396	074	- 189	657	190	1911	314	. 083	- 935	667
190	1350	. 294	. 1 1 8	.814	.026	190	1423	- 406	072	- 187	- 656	190	2101	- 360	128		-1.299
190	1351	299	132	1.057	- 060	190	1424	- 414	078	- 215	678	190	2102	- 355	. 126	. 109	- 934
190	1352	. 239	127	.976	- 177	190	1425	438	. 082	- 245	- 719	190	2103	- 342	. 138		-1.352
190	1353	101	109	. 6 1 9	- 251	190	1426	- 469	. 690	- 253	- 862	190	2104	- 356	. 145		-1.067
190	1354	030	094	455	- 330	190	1427	50 9	. 107	- 258	947	190	2105	394	. 143	. 073	-1.214
190	1355	198	101	. 6 3 6	055	190	1428	539	. 116	286	-1.150	190	2106	391	. 133		-1.245
190	1356	. 223	. 1 0 3	.651	030	190	1429	403	. 070	154	757	190	2107	357	. 105	075	981
190	1357	220	. 102	. 652	029	190	1430	405	. 071	178	752	190	2108	354	. 107	010	962
190	1358	. 233	. 1.04	.613	018	190	1431	422	. 073	185	750	190	2109	327	. 103		-1.128
190	1359	. 233	. 104	.641	047	190	1432	443	. 074	232	726	190	2110	346	. 103		-1.056
190	1360	. 227	. 112	. 6 9 9	076	190	1433	484	. 085	252	828	190	2111	349	. 094	. 041	977
190	1361	. 175	. 103	.605	118	190	1434	542	. 113	265	-1.002	190	2112	351	. 092	. 000	915
190	1362	. 036	. 087	.401	244	190	1435	558	. 121		-1.144	190	2113	327	. 088	. 021	-1.019
190	1363 1364	071	.086	.340 .553	342 063	190	1436 1437	409	.091 .080	174	704 694	190 190	2114 2115	322 317	.076	.024	821 728
190 190	1365	. 183	.096	.533	.013	190	1438	- 424	. 082	- 184	- 733	190	2116	- 310	. 078	130	775
190	1366	211	. 0 96	.678	023	190	1439	- 451	. 082	- 225	- 747	190	2117	- 303	070	095	782
190	1367	175	. 0 9 9	634	064	190	1440	- 490	. 089	- 274	- 858	190	2118	305	. 070	- 099	- 831
190	1368	- 094	079	.267	404	190	1441	- 575	. 127		-1.143	190	2119	- 312	. 078	- 122	- 997
190	1369	277	110	.723	- 038	19ŏ	1442	598	144		-1.337	190	2120	- 306	. 064	117	- 807
190	1370	290	. 113	760	.012	190	1443	- 430	. 082	220	783	190	2121	- 299	. 062	102	721
190	1371	304	. 121	. 826	.013	190	1444	430	. 084	- 201	824	190	2122	295	. 070	045	865
190	1372	. 305	. 125	. 8 96	.020	190	1445	438	. 086	196	823	190	2123	287	. 064	102	632
190	1373	. 312	. 127	.973	.018	190	1446	454	.091	206	851	190	2124	288	. 064	110	631
190	1374	. 285	. 120	. 835	002	190	1447	468	. 101	242	908	190	2125	317	. 074	024	936
190	1375	. 248	. 119	. 7 99	023	190	1448	531	. 140	206	-1.191	190	2126	312	. 064	067	956
190	1376	. 977	. 079	.431	136	190	1449	555	. 161		-1.392	190	2127	304	. 059	140	681
190	1377	038	. 066	.240	265	190	1450	422	.091	165	805	190	2128	296	. 065	137	677
120	1401	432	. 074	213	727	190	1451	409	. 083	215	7.754	190	2129	287	. 062		633
190	1402	419	. 073	179	696	190	1452	461 539	. 107		-1.031	190	2130	287 336	. 061	- 121	597 912
190	1403	447	. 078	210	774	190	1453 1454	423	.175	208	-1.560 856	190 190	2131 2132	331	.078	153	864
190	1404 1405	458 466	.076	187 108	911	190	1434	- 426	. 095	200	937	190	2132	316	.056	149	690
190	1405	468	105		-1.154	190	1456	- 436	.093	- 228	883	190	2134	- 309	.059	136	617
190	1407	454	. 1 02	173	961	190	1457	- 436	.095	- 220	863	190	2135	302	. 057	140	563
1.5.4	1 4 4 1		· • • • •				4.4.4.4						E104				

190 2370632 .227065 -2.018 190 2443480 .166101 -1.35 190 2371599 .260027 -2.020 190 2444462 .161040 -1.21 190 2372518 .188074 -1.508 190 2445429 .146084 -1.47	12 200 1122 76 200 1123 24 200 1124	328 .071 282 .060 260 .059	071536 012463
$ \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 2 \\ 2 \\ 1 \\ 1$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} - & - & - & - & - & - & - & - & - & - $	$\begin{array}{c} - 045 - 485 \\ - 075 - 5046 \\ - 131 - 692 \\ - 0605 - 468 \\ - 0020 - 475 \\ - 0200 - 475 \\ - 0020 - 475 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 746 \\ - 058 - 788 \\ - 060 584 \\ - 058 - 788 \\ - 060 584 \\ - 058 - 788 \\ - 060 648 \\ - 0013 - 788 \\ - 060 648 \\ - 0013 - 788 \\ - 060 648 \\ - 0013 - 788 \\ - 040 648 \\ - 0013 - 788 \\ - 040 648 \\ - 0013 - 788 \\ - 040 648 \\ - 0013 - 788 \\ - 040 648 \\ - 013 - 788 \\ - 040 648 \\ - 013 - 788 \\ - 040 590 \\ - 013 648 \\ - 025 599 \\ - 025 590 \\ - 02$

N D	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPNIN
00000000000000000000000000000000000000	67890123456789012345678901234567890123456789012345 1111121111111111111111111111111111111		890833673070575782614290257324145078577703508874586 00111100001111100000111127667789667770350887458 111111111111111111111111111111111111	2578991356897460281830960049048963815319033477317672 5868465319209979876933503152165588154868309221909510 5951548583168074602818309600490489638154868309221909510		00000000000000000000000000000000000000	678901234567890123355353535355555555555555555555555555	11000782010444444531100077773859288696854777856382611 - 444644531100077773859288696854777856382611	27771366639576153735815615261649826807361154508502 11111111155775396665556119444335530833332244308321111131989	5614624032899266602294556436007405845948782502955829 11119886400048138323031607405845948782502955829 111111111111111111111111111111111111	1 1	00000000000000000000000000000000000000	67890123456789012345671234567890123456789012345678 5555566666666667777777770000000001111111111	70607105230147806709271290573083750201041605441769 111122370514676454946436867644557823456911135615 11221122222210044444444557823456911135615 11222222210044444444557823456911135655441555782345691113565544455578234569111356554455578234556911135655445555	21903662756536618269179882913727646274359831022814 90911119888990711121212129767788900677689677789677790777711	$\begin{array}{c} 127\\ -226\\ -224\\ -224\\ -224\\ -224\\ -222\\ -224\\ -222\\ -222\\ -222\\ -222\\ -222\\ -222\\ -222\\ -222\\ -222\\ -222\\ -220\\ -200\\ $	

	NFFENV	10 H FRES	SUKE DHI	n <i>x</i> - U	ONFIGUE	NILUN P		WAI FAU	WEGI 10							
ND	TAP	CPHEAN CPR	S CPNAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPNAX	CPMIN	MD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
00000000000000000000000000000000000000	901234567890123456789011 144444444444444456789012	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	8999546202067500015337128 8999574620206750003843620730	$\begin{array}{c} -&.6715\\ -&.6789\\ -&.893032\\ -&.893032\\ -&.771055\\ -&.777555\\ -&.77555\\ -&.77555\\ -&.776189\\ -&.776189\\ -&.776189\\ -&.781481\\ -&.79056\\ -&.91481\\ -&.79056\\ -&.9956\\ -&$		78901123456789012234567890 211123456789012234567890 2111123456789012234567890	CPMEAN - 3320 - 3335 - 3389 - 3389 - 33987 - 33977 - 33977 - 33977 - 33977 - 33977 - 33977 - 33977 - 33777 - 337777 - 37777 - 37777 - 37777 - 37777 - 37777 - 37777 - 37777 - 37777		1254 0436 0237 001413900 1112211 1122211 11122211 1112221 1112221 1112221 112221 112221 112221 112221 112221 112221 112224			2345678901123456789011232222222222222222222222222222222222		1640 1211 148532 10025 10025 10025 20892 00982 10725 20892 00982 10725 20892 00982 0096 12607 0070 0070 0070 0070 0070 0070 0070	541 488 205 378 851 1.223 171 204 042 042 040 406 1.147	-1.0252 -0252 8738 8738 8773
00000000000000000000000000000000000000	1453678901123456789011123456789000000000000000000000000000000000000	$\begin{array}{c} -& 550 & 168 \\ -& 408 & 088 \\ -& 408 & 088 \\ -& 412 & 088 \\ -& 442 & 097 \\ -& 493 & 12 \\ -& 4937 & 1336 \\ -& 4937 & 1336 \\ -& 4933 & 082 \\ -& 4933 & 082 \\ -& 5303 & 109 \\ -& 5303 & 109 \\ -& 5303 & 120 \\ -& 5303 & 120 \\ -& 33433 & 133 \\ -& 33443 & 133 \\ -& 34443 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 134 \\ -& 34453 & 144 \\ -& 34453 & 144 \\ -& 34453 & 144 \\ -& 34453 & 144 \\ -$	295 	-1	00000000000000000000000000000000000000	12345678901234567890123451 111133334444444444555550 121111111111111111111111111111111	$\begin{array}{c} -374\\ -3365\\ -3336\\ -3333\\ -3388\\ -33881\\ -3778\\ -3778\\ -3778\\ -33442\\ -33442\\ -3358\\ -3344\\ -3358\\ -3346\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3358\\ -3348\\ -3388\\ $	09119588884 0065588884 108500 1108509100 1087711 1087754 0077111087754 0077111087754 0077111087754 0077558 007754 007754 007754 007754 007754 007754 007754 007754 007754 007754 007754 007754 007754 007754 0077554 007754 0000000000	$\begin{array}{c} - & 0036 \\ - & 0736 \\ - & 11515 \\ - & 10515 \\ - & 00239 \\ - & 10572 \\ - & 0067 \\ - & 0007 \\ - & 0007 \\ - & 0007 \\ - & 0007 \\ - & 1170 \\ - & 1172 \end{array}$	-1, -1 ,	00000000000000000000000000000000000000	67890123456789012345678901 2222333333333334444444455 22222223333333333		17911 27912 206559380 11255739 200700105074 125573808074 125573808074 125573808074 125771882 200708447771882 118682	$\begin{array}{c} 33123\\ 33520\\ 1 \\ 1 \\ 10023\\ 1 \\ 1 \\ 10023\\ 1 \\ 1 \\ 10023\\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	

ND	TAP	CPNEAN	CPRNS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	HD.	TAP	CPMEAN	CPRNS	CPNAX	CPMIN
• • • • • • • • • • • • • • • • • • •	234567890112345678901123456789012345678901234567890123353333333333333333333333333333333333		11612435927465589274655816947558449598798748166947374 112211224435524458598798748166867374 112244355244389998798748166867374 112244355244389998798748166867374	42286099956159302084938839013669785767866385767866385751101 		22222222222222222222222222222222222222	123456789012345678901183456789011834567177777000000011111 333333333333335555555555555	1599673123282381234445554685149911953616468887432965544650	360190069994227452635224880484660449371092728880466835 	1377637774057280080713526380061156440584720527766107923550 11225227740557237680001100044087133217661079235550 11110000001100040000000000000000000		00000000000000000000000000000000000000	456789012345678901234567890123456789012345678901234567890112 44444444444444444444444444444444444	277696945664112899%67003396742767052823125520700402 333333333333333333333322233339%886521321977433855103863111189 9653222247753219988643099886521321977433855103863111189	72327483083635091767650315284613875096845234369096 11110070001111000000743152846138750968452334369096 1110000001111000000111000000100082966452334369096		

ND	TAP	CPHEAN CPRHS	CPNAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	₩Đ	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
D 000000000000000000000000000000000000	P 34567890111234567890123456789012345678901234567890 2222222222222222211111111111111111111	CP HE AN CP RHS 332 .156 240 .118 357 .162 409 .117 462 .117 462 .117 470 .078 350 .072 442 .088 452 .088 452 .088 452 .088 452 .088 452 .088 452 .088 421 .074 355 .074 355 .074 355 .074 355 .068 355 .066 355 .066 365 .066 365 .066 365 .066 365 .066 386 .067 386 .067 385 .066 385 .067 385 .067 385 .067 386 .067 385 .067 385 .067 386 .067 385 .067 385 .067 385 .067 385 .067 385 .067 385 .067 385 .067 385 .067 375 .070 347 .078 376 .077 347 .078 376 .078 376 .078 376 .078 376 .078	.349	$ \begin{array}{c} C & P \\ \hline & 1 \\ - & 6 \\ - & 6 \\ - & 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	U 10009900009900000000000000000000000000	P 2345678901234512345678901234567890123456789012345 A 4444444455555556000000011111111111111111	C P HE AN - 3571 - 3572 - 3	$ \begin{array}{c} CPR & 0.953349511559378111111111111111111111111111111111111$	C P H A 1338150076276276245507688316488316883166827300488546582760455762466576838683168854376648273004885543756799926	$ \begin{array}{c} C & P^{H} \\ H & I \\ S & S & 9 \\ I \\ I \\ S & S & 9 \\ I \\ I \\ S & S & 9 \\ I \\ I \\ S & S & 9 \\ I \\ I \\ I \\ S \\ I \\ \mathsf$	UD 2212222222222222222222222222222222222	P 78901234445678901234567890123456789011234567890123455678901123415111111111111111111111111111111111	CPHEAN - 0184 22990 22665 - 101495 22990 22665 - 101495 22990 22665 - 119597 2292292 2273687 - 119597 22327 2237 22327 2237 2337 237	S 169956186636042258498506064356289330322136618F51375 PR 0000000000000000000000111101420976433766618F51375 C 000000000000000000000111111100176433750875	CPHA 3526-77739 774423805 6777739 774423805 6705 557805 557805 55705 57055 570	$ \begin{array}{c} C P N \\ I N \\ I S S C \\ I C S S C \\ I C S S C \\ I S S S \\ S S \\ I S S S \\ I \\ I S \\ I \\ \mathsf$

 AP CPMEAN	CPRMS	CPMAX	CPMIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
- 1366721 3360723323 - 3367233333 - - 129033333 333333 - - 129033333 - 129033333 - 129033333 - 12903333 - 12903333 - 12903333 - 1290333 - 1290333 - 124133 1203333333 - - 12373 - 12413 12076036 - - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 - 12373 <td>CP 000000000000000000000000000000000000</td> <td>X 721930926547513322333470490856067933036812294751332233347049085420555421444306642880 P 19977771632287877797427887775332664995343045066426 P 19777532266449534304506667933036812212228886983932156499534304537421444430666426 P 11633287877797427887775332664495355421444430666426 P 116332878779742788777533266449534304560679330368122122288869856067933036812121222888698560679330368121212228886426</td> <td><math display="block"> \begin{array}{c} PM \ I \\ P \\ H \\ I /math></td> <td>WD 000000000000000000000000000000000000</td> <td>P 71234567890122345678900122345678900122345678900122345678900122345789001223457890012234578800000000000000000000000000000000000</td> <td>C</td> <td>S 6928120973076057892251542200255608238680740989 P 000000000000000000000000000000000000</td> <td>4771 21721050657704423222222222222222222222222222222222</td> <td>C</td> <td>W 000000000000000000000000000000000000</td> <td>P 01234567890112345678901112345678901234567890123 A 555554567890111111111122223 C 11111111111111111122223 C 111111111111111111111111111111111111</td> <td>C</td> <td>S 1649417678080395722133577448070621223655592812 P P 00010000001009977667766212223655592812 C 0001000000100000111111111110001113988</td> <td>$\begin{array}{c} - & 1976\\ 1976\\ 12197\\ 12197\\ 122207\\ 1186322207\\ 11822207\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11999\\ 2227\\ 11999\\ 2221\\ 1222222222222222222222222$</td> <td>$\begin{array}{c} - & -$</td>	CP 000000000000000000000000000000000000	X 721930926547513322333470490856067933036812294751332233347049085420555421444306642880 P 19977771632287877797427887775332664995343045066426 P 19777532266449534304506667933036812212228886983932156499534304537421444430666426 P 11633287877797427887775332664495355421444430666426 P 116332878779742788777533266449534304560679330368122122288869856067933036812121222888698560679330368121212228886426	$ \begin{array}{c} PM \ I \\ P \\ H \\ I	WD 000000000000000000000000000000000000	P 71234567890122345678900122345678900122345678900122345678900122345789001223457890012234578800000000000000000000000000000000000	C	S 6928120973076057892251542200255608238680740989 P 000000000000000000000000000000000000	4771 21721050657704423222222222222222222222222222222222	C	W 000000000000000000000000000000000000	P 01234567890112345678901112345678901234567890123 A 555554567890111111111122223 C 11111111111111111122223 C 111111111111111111111111111111111111	C	S 1649417678080395722133577448070621223655592812 P P 00010000001009977667766212223655592812 C 0001000000100000111111111110001113988	$\begin{array}{c} - & 1976\\ 1976\\ 12197\\ 12197\\ 122207\\ 1186322207\\ 11822207\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11822227\\ 11999\\ 2227\\ 11999\\ 2221\\ 1222222222222222222222222$	$\begin{array}{c} - & - & - & - & - & - & - & - & - & - $

W D	TAP	CPHEAN	CPRMS	CPMAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CP MA X	CPHIN
WD 21100000000000000000000000000000000000	P 23456789012345671234567870123456789012345678901234	H H H H H H H H H H H H H H H H H H H	CPR 13381448266011544335206622771110928092399321110000000111291400000001112000000001110000000000	.051 .056 .032 .067 .014 024 .144 .127 .095	N 93619977822868286862322111980739156876956892486299	W 1000000000000000000000000000000000000	P 567890123456789012345678901123456789011234567890111111111111111111111111111111111111	$ \begin{array}{c} C & - & \mathsf$	S 759275788445621891849366367958775862117617743964378 R 041318776788445621107799119776774543311112989999988877778 C	1919494014325423207304165002445499593144 000000000000000000000004599863144 4301	C	D 2000000000000000000000000000000000000	P 3456789012345567890123458678901234567890122345678901223458678901223458678901223458678901223458678901223458678901223458678900122345867890012234586789001223458678900122000000000000000000000000000000000	N N N N N N N N N N N N N N	S 184213636650306432417466881666627519834021231736220	C	C

WD	TAP	CPNEAN	CPRMS	CPNAX	CPMIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPHAX	CPMIN
D 000000000000000000000000000000000000	P 8901234567890123456789012345678901234 11111111111111111111111111111111111	$\begin{array}{c} - & 108 \\ & 344 \\ & 344 \\ & 428 \\ & 473 \\ & 4268 \\ & 0756 \\ & 3125 \\ & 4268 \\ & 0756 \\ & 3125 \\ & 4268 \\ & 0756 \\ & 3125 \\ & 3125 \\ & 3295 \\ & 4385 \\ & 3957 \\ & 3288 \\ & 3789 \\ & 3288 \\ & 3288 \\ & 2221 \\ & 1278 \\ & 3288 \\ & 2283 \\ & - \\ & 0121 \\ & 2283 \\ & 3789 \\ & 2221 \\ & 1278 \\ & 3283 \\ & - \\ & 0121 \\ & 2283 \\ & 2834 \\ & - \\ & 004$	$\begin{array}{c} 1 \ 0 \ 5 \ 4 \ 1 \ 5 \ 7 \ 0 \ 5 \ 1 \ 5 \ 7 \ 5 \ 1 \ 5 \ 5 \ 5 \ 5 \ 5 \ 5 \ 5 \ 5$	935568939436523480339843071922027112237 93556893943699469901767848430719922027112237	59838574647291263441912202455007837751	222222222222222222222222222222222222222	8901234567890123456789012345678901234 22223333333333333333333333333333333	$\begin{array}{c} 346\\ 346\\ 256\\ 157\\ 047\\ 0007\\ 2116\\ 0007\\ 2116\\ 0007\\ 2116\\ 0007\\ 2116\\ 0007\\ 2116\\ 0007\\ 2016\\ 0007\\ 2016\\ 0007$	$\begin{array}{c} 111\\ 110\\ 110\\ 110\\ 110\\ 110\\ 110\\ 110$	$\begin{array}{c} 90791388666962801411122074850424713216664247132066664111122074885010421962604277524850104221962604277521232222222222222222$		22222222222222222222222222222222222222	8901234567890123456789012345671234567 3333333355555555555555666666667777777777	41204921344364116168004388378803648999921 	632916596820090266604257878480438992255 0000119667705556877555098780655588999255	518673090683950603022455698355339769893 777444516848552709541118880 77744851603022455598355339769893	
220	1242 1243	. 293 174	.124 .962	.902	425	220	1332 1333	. 220 . 356	.098	.547	- 027	220 220	1405	499 522	.092	188 189	- 949 - 928

W D	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
22222222222222222222222222222222222222	$\begin{array}{c} 111111111111111111111111111111111111$	C	S 06653355099279253450837?772647396539997011000 P 2000000000000000000000000000000000	987645034933722644688805336983409268268268102352 1221011889337226446888053369834092626810888673352 11111111111111111111111111111111111	C	D 000000000000000000000000000000000000	F 01102345678901234567890123456789012345678901234 F 991100000000111111111112222222222333333333	C	S 21113684600720324110337721310190927232260244299 R 001221972368460072032411011971999973111000011110008403084023 P	555694456255681189812720375989996621238869583923 438944562556811898127203759899966212349899223	N 607592887301698464704422123476371447906924777660	D 000000000000000000000000000000000000	P 901234512345678901234567890123456789 A 4555555000000000001111111111122222222222	C	S 0506246710247916784044185896322968733992587464 P 0990446247911009111221099680532997806288464 C 090011122009868733992587464	$\begin{array}{c} 638487703438397833066533148043709359450388\\ -1$	

W D	TAP	CPHEAN	CPRMS	CPNAX	CPHIN	¥D.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	
220	2244	396	. 078	089	666	220	2333	307	. 177	. 212	-1.301	220	2406	255	. 127	. 067	-1.450	
220	2245	451	. 085	210	- 911	220	2334	- 290	152	252	- 953	220	2407	- 260	. 139	. 170	-1.189	
220	2246	457	094	- 205	- 905	220	2335	307	172		-1.167	220	2408	- 266	. 126	. 067	874	
220	2247	415	. 099	- 103	- 926	220	2336	- 317	179	081	-1.284	220	2409	- 256	. 110	. 020	755	
220	2248	- 310	1 59	.521	-1.115	220	2337	364	197		-1.457	220	2410	- 233	. 997	034	765	
220	2249	- 269	223	.723	-1.548	220	2338	- 339	. 191		-1.341	220	2411	229	. 089	. 024	852	
220	2250	- 366	079	.008	816	220	2339	325	209			220	2412	246	. 108	020	952	
220	2251	- 441	090	181	- 852	220	2340	- 300	. 170		-1.236	220	2413	277	. 141	. 083	-1.025	
220	2252	364	093	- 046	- 861	220	2341	298	. 179		-1.077	220	2414	286	. 141	. 058	-1.180	
220	2253	- 171	219	622	-1.117	220	2342	324	. 194		-1.375	220	2415	275	. 128	. 06 9	930	
220	2254	- 366	091	- 032	- 795	220	2343	304	. 169	. 1 0 1	-1.085	220	2416	274	. 122	. 079	805	
220	2255	- 367	. 082	062	- 722	220	2344	- 313	. 182	. 124	-1.345	220	2417	229	. 082	004	570	
220	2236	384	083	- 141	- 758	220	2345	307	. 185		-1.381	220	2418	231	. 967	012	561	
220	2257	435	095	- 176	- 971	220	2346	376	. 195		-1.336	220	2419	234	. 078	020	738	
220	2258	- 429	100	- 172	914	220	2347	365	. 177	. 171	-1.261	220	2420	260	. 115	. 065	-1.126	
ŽŽÓ	2259	316	. 095	. 0 2 9	884	220	2348	339	. 296	. 147	-1.318	220	2421	291	. 125	. 058	-1.475	
220	2260	. 010	. 177	.706	616	220	2349	304	. 169		-1.212	220	2422	281	. 134	. 128	817	
220	2261	. 119	. 197	.817	570	220	2350	307	. 173		-1.156	220	24.23	263	. 119	. 108	777	
220	2301	420	. 180	.095	-1.318	220	2351	321	. 188		-1.449	220	2424	232	. 084	006	648 524	
220	2302	371	. 180	.210	-1.215	220	2352	313	. 175		-1.258	220	2425	218	. 058		536	
220	2303	310	. 160	.231	998	220	2353	327	. 186		-1.109	220	2426 2427	215	.051	005	639	
220	2304	305	. 152	.203	947	220	2354	322	. 191		-1.378 -1.879	220 220	2428	- 263	. 078	. 018	810	
220	2305	296	165	.320	-1.146	220	2355 2356	424	. 235		-2.048	220	2429	- 285	150	. 082	- 961	
220	2306	291	.164	. 366	951	220 220	2355	- 363	210		-1.250	220	2430	- 266	128	. 052	795	
220	2307	293	155		-1.048	220	2358	- 346	. 185		-1.389	220	2431	- 231	. 093	038	- 679	
220	2308	276	. 150			220	2359	- 329	177		-1.060	220	2432	- 207	064	- 049	- 547	
220	2309	286	. 162	.107 .297	-1.154	220	2360	342	192		-1.149	220	2433	- 200	. 048	036	467	
220	2310 2311	384 343	. 183	.336	-1.193	220	2361	322	. 177		-1.106	220	2434	- 224	. 059	- 001	- 632	
220	2312	- 321	. 166	180	-1.007	220	2362	- 279	135	138	- 785	220	2435	251	. 072	010	807	
220	2313	286	. 1 37	146	942	220	2363	- 274	. 135	152	- 825	220	2436	- 278	. 145	. 055	943	
220	2314	285	149	.262	- 856	220	2364	- 449	. 261	. 314	-1.660	220	2437	268	. 137	. 051	877	
220	2315	286	153	380	- 935	220	2365	- 355	. 236		-2.401	220	2438	237	. 103	008	774	
220	2316	- 284	143	.129	- 834	220	2366	- 341	206	182	-1.362	220	2439	207	. 070	028	563	
220	2317	- 274	134	142	- 794	220	2367	- 284	. 150	. 177	-1.039	220	2440	200	. 054	036	482	
220	2318	- 292	142	1 1 1	- 932	220	2368	- 234	. 113	. 092	841	220	2441	221	. 065	000	675	
ŽŽÒ	2319	366	206		-1.489	220	2369	444	. 278	. 321	-2.011	220	2442	251	. 077	. 000	605	
220	2320	- 339	. 199	369	-1.224	220	2370	- 420	. 274		-2.453	220	2443	260	. 126	. 031	-1.564	
220	2321	313	. 189	. 236	-1.205	220	2371	314	. 220		-1.646	220	2444	245	. 116	. 026	-1.383	
220	2322	294	. 160	. 1 52	-1.020	220	2372	281	. 174		-1.215	220	2445	223	. 091	014	644	
220	2323	288	. 165		-1.033	220	2373	252	. 156	. 314	855	220	2446	210	. 066	- 005	576	
220	2324	297	. 160	. 209	990	220	2374	254	. 170	. 418	-1.009	220	2447	209	. 058	049	625 786	
220	2325	283	. 146	.130	083	220	2375	229	. 128	. 1 32	756	220	2448	229	. 077	. 040	820	
220	2326	290	. 154	.090	955	220	2376	203	. 102	. 072	640	220	2449	235	.086 .098	.002	690	
220	2327	296	. 163	.088	-1.115	220	2377	207	. 101	. 0.84	755	220 220	2450	227	. 089	. 016	-1.067	
220	2328	362	. 195		-1.602	220	2401	260	. 125	. 1 0 3	886 800	220	2452	- 197	. 052	- 010	465	
220	2329	337	. 193	. 349	-1.232	220 220	2402	- 249	.118	.096	- 807	220	2453	- 213	. 070	. 028	665	
220	2330	319	. 193		-1.272	220	2404	- 222	. 096	.047	- 763	220	2454	- 236	. 090	. 036	826	
220	2331	282	.154	.257 .322	928	220	2405	229	103	. 081	- 832	220	2455	224	098	. 088	- 675	
220	2332	286	.136	. 362	749	~~~	* TVJ					No. 90. V						

2200 2357
230 1122 374 075 134 709 230 1217 .316 .159 .949 009 230 1307 008 .115 .413 454 230 1123 355 .078 075 735 230 1218 .354 .159 .952 011 230 1308 120 .087 .224 434 230 1124 355 .078 0075 735 230 1219 .353 .160 1.133 026 230 1308 120 .087 .224 434 230 1124 350 .073 638 .230 1219 .353 .160 1.133 026 .230 1309 205 .074 .446 487 230 1125 343 .070 115 631 .230 1220 .296 .164 1.095 167 .230 1310 .083 .445 872 230 1126 336 .060 144 .605 .230 <td< td=""></td<>

	. ND	TAP	CPNEAN	CPRMS	CPNAX	CPMIN	ND.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPMIN
230 2214339 .174 .540 -1.332 230 2303239 .125 .146936 230 2353261 .120 .004909	00000000000000000000000000000000000000	0123456789012345678901234567890123455123456789012 2222222223333333333444444444455555550000000000	592989803407035541591339774624052133397500884961180 2334689803407035541591339774624052133397500884961180 23346898034070355415913397746240521333975500884961180 23346898034070355415913397746240521333975500884961180 23346898034070355415913397746240521333975500884961180 23346898034070355415913397746240521333975500884961180 233468980340703555415913397746240521333975500884961180 233468980340703555415913397746240521333975500884961180 23468980521333555500884961180 23468980521333555500884961180 2346898052133355555500884961180 234689805213335555008849611800 234689805213355555008849611800 2346898055555555555555555555555555555555555	577526218116211076834343469944522226886111726444803 111000011612976554434094452222688611199889571122644803	0784127872826843011730755117570291144654588545866347 078412788728826843001730078412770213191076670764092131266 		00000000000000000000000000000000000000	5678901N345678901N3456789012345678901N3456789011 111111222222222233333333344444445555555555		651149447669614402085545371938241324117371012558 6511494476696144402085545371938241324117371012558		3865300012372728282814977776677181154278003642387407	00000000000000000000000000000000000000	56789012345678901234567890123456789012345678901 90000111111111111111111111111111111		666748558992683804612755388847895630568658623916 11111442000011111009904430100112230568658623916 11111111111111111111111111111111111	194484839240080730015648278303696054218971461380 2211100753400834038696054218971461380 	

WD	TAP	CPMEAN	CPRMS	CPNAX	CPNIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	
222222222222222222222222222222222222222	456789012345678901234567123 333333335566666678901234567123	2720 231962549 2295549 2295549 2295549 2225645 2225645 2225645 2225645 222580 22250 2250 2500 250	1319 1741 1742 1330 1405 12181 1405 12181 1117 2229 1229 1229 1229 1229 1229 122	- 0108 0108 0111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00111108 00000000	$\begin{array}{c} -& & & & & & & & & & & & & & & & & & &$	00000000000000000000000000000000000000	789012345678901234567890123 222233333333344444444444444444444444	$\begin{array}{c} - & 2336\\ 224334\\ - & 2218\\ 22312\\ - & 2218\\ 22312\\ - & 22312\\ 22312\\ - & 22312\\ 22182\\ 22182\\ 22182\\ 22196\\ - & 22221\\ 118999\\ - & 22221\\ 118950\\ 8999\\ - & 22889\\ - & 11891\\ - & 220899\\ - & 1891\\ - & - & - \\ - & - & - \\ - & - & - \\ - & - &$	179154609489426733435059480 	0150206635 0150206635 0056635 005476 005476 005477 005477 00547773 00547723 00547723 00547723 00547723 00547723 00547723 00547723 00547723 00547723 0054754 00547723 0054754 00547723 0054754 00547754 00547754 00547754 00547754 00547754 0054777 00547754 00547754 00547754 0054777 00547754 0054777 0055777 0055777 0055777 00557777 00557777777777	-1159385 159385 -177544253225 -177544253225 -177544253225 -177544253225 -177545 -17754425 -175454 -175454 -175454 -175454 -17555	40000000000000000000000000000000000000	1100789901111111111111111111111111111111	8316751335820044 3387751335859706020044 111111111111111111111111111111111		$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	62996120995686866191001221848846991 6856455777669210035222848846991 10000000000000000000000000000000000	
00000000000000000000000000000000000000	2377 2401 2402	209 227 215	. 096 . 093 . 085	012 0558 0019 0016 0074 1105 0006 01135 00184 000048 000048 000048 000048 000048 000048 000048 00006 0000000000	734 792 679	230 230 230	2450 2451 2452	209 189 184	079 054 058	.045 027 017	- 538 - 458 - 546	240 240 240	1128 1129 1130	- 291 - 282 - 278	.059 .063 .062	$\begin{array}{c} 140\\ -1.08137739\\ -1.143299266336\\ -1.1432992266336\\ -1.10995336\\ -1.0995336\\ -1.099536\\ -1.09556\\ -1.095667\\ -1.095667\\ -1.095667\\ -1.090666\\ -1.090666\\ -1.090666\\ -1.090666\\ -1.09066\\ -1.09066\\ -1.09066\\ -1.09066\\ -1.0906\\ -1.00$	564 536 539	

ND	TAP	CPNEAN	CPRMS	CPMAX	CPMIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPNIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	
240	1155	291	. 087	013	875	240	1250	064	. 090	. 387	346	240	1340	059	. 090	. 192	745	
240	1201	203	. 148	.749	385	240	1251	. 187	. 090	. 611	026	240	1341	052	. 079	. 190	508	
240	1202	238	. 148	.779	282	240	1252	. 169	. 066	. 623	005	240	1342	.048	. 129	. 532	698 394	
240	1203	. 204	. 144	.654	248	240	1253	. 018	. 075	. 360	2 98	240	1343	081	. 067	. 242	391	
240	1204	. 178	. 144	.752	271	240	1254	034	. 070	. 315	231	240	1344	132	.049	. 101	- 359	
240	1205	. 124	138	. 6 3 9	343	240	1255	100	. 085	. 470	081	240 240	1345 1346	175	169		-1.000	
240	1206	. 028	. 131	.470	488	240	1256	. 238	. 108	.740	001 .046	240	1347	- 234	201	420	-1.123	
240	1207	057	. 125	.403	596	240 240	1257 1258	. 268	084	648	048	240	1348	- 048	. 097	232	- 787	
240	1208	. 245	.142	.695 1.058	207	240	1259	132	067	440	- 040	240	1349	- 040	. 086	238	- 668	
240 240	1209	. 495	.169	1.164	- 054	240	1260	051	. 084	466	- 370	240	1350	- 034	. 074	. 229	478	
240	1211	. 449	181	1.127	- 093	240	1301	- 456	. 231	399	-1.850	240	1351	.061	. 114	. 582	586	
240	1212	379	168	975	- 070	240	1302	- 215	. 191	. 390	- 960	240	1352	086	. 057	. 185	347	
240	1213	171	148	.712	- 299	240	1303	148	. 091	. 270	645	240	1353	136	. 048	. 070	410	
240	1214	- 078	151	532	662	240	1304	159	. 086	. 147	691	240	1354	182	. 049	014	421	
240	1215	. 238	. 138	.743	285	240	1305	122	. 098	. 315	6 32	240	1355	174	. 156		-1.206	
240	1216	. 371	. 164	. 8 5 3	137	240	1306	. 232	. 224	. 963	499	240	1356	127	. 160	. 451 . 347	-1.021	
240	1217	. 478	. 175	1.034	.034	240	1307	103	.091	.358	461	240 240	1357 1358	022	.080	277	- 433	
240	1218	. 450	. 166	. 981	.044	240	1308	155	. 074	. 067	610 581	240	1359	.000	. 055	273	- 427	
240	1219	. 353	. 142	. 847	327	240 240	1309	200 451	229		-1.296	240	1360	039	097	514	- 505	
240	1220	. 113	.108	.533 .353	483	240	1311	- 313	249		-1.223	240	1361	- 077	. 054	206	- 374	
240	1221	101 .201	.129	.632	322	240	1312	- 064	. 091	392	- 909	240	1362	- 138	045	. 059	- 350	
240	1223	. 346	150	.840	257	240	1313	- 049	085	345	- 543	240	1363	186	. 051	012	427	
240	1224	419	158	1.020	004	240	1314	- 047	. 082	. 375	367	240	1364	122	. 124	. 335	824	
240	1225	. 392	147	.993	.026	240	1315	. 226	. 191	1.022	474	240	1365	002	. 071	. 284	- 640	
240	1226	302	124	. 823	.011	240	1316	041	. 097	. 390	442	240	1366	.043	. 080	. 569	405	
240	1227	. 099	. 085	.474	204	240	1317	146	. 065	. 136	451	240	1367	060	. 047	. 197	363	
240	1228	069	. 1 05	. 523	479	240	1318	231	. 068	. 038	521	240	1368	177	. 043	022	399 998	
240	1229	. 128	. 118	. 6 0 2	189	240	1319	427	. 21 9		-1.234	240 240	1369	- 073	. 137	.361 .350	- 895	
240	1230	. 250	. 135	.720	094	2.40	1320	384 048	. 227	. 335	-1.232	240	1371	.058	060	. 385	- 228	
240	1231	. 340	. 141	.861	022	240 240	1321	- 043	. 078	254	617	240	1372	.027	. 055	310	- 219	
240	1232 1233	.330 .256	. 128	.933	026	240	1323	- 037	068	406	- 453	240	1373	.049	056	370	- 179	
240 240	1234	. 083	. 0 82	482	- 161	240	1324	106	. 125	627	- 557	240	1374	135	. 090	. 581	195	
240	1235	037	. 089	305	- 330	240	1325	- 088	. 065	. 338	397	240	1375	004	. 045	. 21.4	168	
240	1236	. 019	107	430	- 370	240	1326	- 161	. 055	. 075	429	240	1376	102	. 036	. 027	-:241	
240	1237	175	. 1 2 2	.641	303	240	1327	207	. 061	. 025	432	240	1377	144	. 942	997	311	
240	1238	. 265	. 1 2 2	. 826	121	240	1328	387	. 197		-1.062	240	1401	309	. 086	. 011	658	
240	1239	. 255	. 107	.785	065	240	1329	338	. 220		-1.072	240	1402	299	. 093	.015	655	
240	1240	. 222	. 097	.673	027	240	1330	058	. 101	. 188 . 321	898 694	240 240	1403	327 336	.092	- 030	- 854	
240	1241	. 087	. 085	.735	201	240	$1331 \\ 1332$	049 053	.081	271	- 617	240	1405	407	. 087	- 121	- 703	
240	1242	031	.104	. 536	395	240 240	1333	.069	. 119	.723	- 707	240	1406	- 408	. 085	- 047	- 811	
240	1243	006	.106	.480	415	240	1334	- 087	063	280	- 587	240	1407	- 416	083	- 101	791	
240 240	1244	.110	.093	639	- 098	240	1335	- 147	. 050	102	- 351	240	1408	- 316	. 977	- 087	653	
240	1246	. 194	. 082	628	- 020	240	1336	- 192	. 051	006	- 389	240	1409	- 318	. 076	056	629	
240	1247	164	. 069	530	- 038	240	1337	- 324	166	. 291	984	240	1410	332	. 073	101	588	
240	1248	071	. 074	. 529	184	249	1338	300	. 190	. 300	-1.096	240	1411	343	. 069	075	597	
240	1249	008	. 094	.434	- 357	249	1339	065	. 114	. 197	798	240	1412	365	. 972	121	679	

WD	TAP	CPNEAN	CPRNS	CPMAX	CPNIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRHS	CPNAX	CPMIN
240	1413	398	. 069	123	659	240	1902	367	. 103	144	884	240	2141	234	. 098	. 245	675
240	1414	392	. 071	152	686	240	1903	381	. 124	. 030	975	240	2142 2143	299 049	. 101	. 026 . 439	812 508
240	1415	272	. 076	.014	478	240	1904	405 434	.080	145	-1.009	240 240	2144	.006	149	618	529
240 240	1416	284 307	.072	021	574 583	240 240	1905	- 434	123		-1.033	240	2145	- 076	147	603	- 546
240	1418	- 310	. 472	- 036	639	240	1907	- 405	. 075	- 161	782	240	2146	247	. 101	. 252	692
240	1419	- 325	. 074	206	604	240	1908	405	. 074	166	776	240	2147	111	. 129	. 547	563
240	1420	348	. 075	047	598	240	1909	441	. 097	177	859	240	2148 2149	181	. 100	. 319	594 571
240	1421		. 078	123 032	701 475	240 240	1910	307 306	.072	094	652 701	240 240	2150	- 070	. 076	235	- 402
240 240	1422 1423	250 251	. 066	.030	481	240	2101	. 108	152	. 822	- 553	240	2151	- 031	. 094	. 394	- 378
240	1424	254	060	.116	593	240	2102	. 175	. 189	. 822	498	240	2152	015	. 132	. 453	485
240	1425	267	. 061	.040	586	240	2103	. 191	. 230	. 971	717	240	2153	084	. 135	. 538	454
240	1426	271	. 967	. 058	594	240	2104	. 078	. 235	.885	- 731 - 767	240 240	2154 2155	064	. 149	.680 .475	474 413
240	1427	306	. 073	.089 009	641 638	240 240	2105 2106	086 155	. 197	. 554	- 845	240	2201	254	216		-1.323
240 240	1428	- 343	.076	- 019	445	240	2107	. 039	. 133	560	- 525	240	2202	- 216	. 181	.714	-1.018
240	1430	- 238	. 055	- 002	- 446	240	2108	. 139	. 179	. 730	518	240	2203	206	. 185		-1.028
240	1431	244	. 054	053	- 458	240	2109	. 132	. 245	1.045	465	240	2204	159	. 220		-1.413
240	1432	254	. 061	.062	484	240	2110	. 008	. 211	. 856	618	240 240	2205	132 181	. 227	1.035	900 858
240	1433	272	. 065	.032	512 659	240 240	2111 2112	- 193	.149	. 473	607 715	240	2206 2207	- 197	198		-1.307
240 240	1434 1435	302 334	.074	.067	755	240	2113	. 007	135	513	- 613	240	2208	- 396	196	189	-1.312
240	1436	- 244	. 061	. 029	498	240	2114	. 062	202	.717	- 587	240	2209	347	. 162	. 130	-1.254
240	1437	257	. 059	010	507	240	2115	. 022	. 236	. 927	566	240	2210	278	. 100	. 230	766
240	1438	255	. 059	- 034	484	240	2116	- 117	. 196	.703	605	240	2211	- 280	.096	. 252	693 718
240	1439	254	. 064	.013	498 541	240 240	2117 2118	- 267 - 350	.118	.349	645 855	240 240	2212 2213	- 327	125		-1.302
240 240	1440	276 326	.076	.202	- 657	240	2119	- 030	. 162	560	- 902	240	2214	325	139		-1.031
240	1442	351	. 085	049	- 728	240	2120	. 014	. 194	. 783	766	240	2215	502	. 207		-1.681
240	1443	268	. 066	080	494	240	2121	056	. 220	. 751	706	240	2216	455	. 180		-1.459
240	1444	255	. 059	081	503	240	2122	178	. 164	. 501	594	240 240	2217 2218	339 327	. 087 . 081	.090	961 752
240	1445	258	.058 .063	- 086	485 613	240	2123 2124	291 337	.101	.340	651 938	240	2219	- 326	. 090	- 061	821
240 240	1446	272 292	.067	.001	- 559	240	2125	050	172	529	- 763	240	2220	- 325	. 112		-1.012
240	1448	- 321	. 071	069	- 630	240	2126	022	. 191	. 642	647	240	2221	327	. 118		-1.163
240	1449	334	. 078	135	742	240	2127	079	. 199	. 778	616	240	2222	411	. 164		-1.550
240	1450	257	. 065	065	513	240	2128	189	. 156	.565	695 706	240	2223 2224	395 341	.146	041	-1.394 824
240	1451	270 291	.055	103	492 552	240 240	2129 2130	268 299	.097	065	657	240	2225	- 310	076	027	- 784
240	1452 1453	322	078	- 095	698	240	2131	- 040	. 145	. 547	666	240	2226	299	. 078	069	734
240	1454	248	061	058	534	240	2132	007	. 168	. 627	603	240	2227	293	. 092	012	880
240	1455	249	. 061	073	525	240	2133	087	. 178	. 580	659	240	2228	286	. 089	039	932
240	1456	257	. 058	071	512	240	2134	195	. 138	. 443	688 659	240 240	2229 2230	383 372	.151		-1.533 -1.568
240	1457	267	. 058	079	494 558	240 240	2135 2136	281 304	.091 .089	. 235	804	240	2230	321	. 084	032	896
240	1458 1459	280 287	.063	.138	591	240	2137	- 048	122	.441	- 895	240	2232	- 302	. 059	086	- 712
240	1460	- 297	. 073	- 054	- 669	240	2138	018	. 142	. 496	640	240	2233	285	. 072	112	742
240	1461	- 300	. 073	- 121	- 656	240	2139	040	. 172	. 709	646	240	2234	282	. 089	082	963
240	1901	409	. 090	105	809	240	2140	131	. 153	. 696	552	240	2235	284	. 097	073	-1.305

. ND	TAP	CPHEAN CPR	IS CPMAX	CPNIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	¥Đ.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
00000000000000000000000000000000000000	67890123456789012345678901123456789011 233334444444444555555555555566000000011 2222222222222222222222222222		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 331\\ 324\\ 3297\\ 688\\ 6997\\ 688\\ 6997\\ 688\\ 6997\\ 688\\ 695\\ 681\\ 695\\ 679\\ 866\\ 816\\ 695\\ 679\\ 893\\ 687\\ 870\\ 870\\ 870\\ 870\\ 870\\ 870\\ 870\\ 8$	00000000000000000000000000000000000000	56789011234567890123456789012345678901 222223333333333344444444555555555555555	6164563611773618280868083009348273804	2516553030736465926137537998364345560 0000000000000000000000000000000000	6443349349364 00846334916 0022916 0022916 0022916 0022916 0022916 0022916 0022916 0022016 000140226 00140014 0014062 0014862		00000000000000000000000000000000000000	5671234567890123456789012345678901234 33344444444444444444444444444444444	5326743764920909073720349729368225128 2223321210133221211332232222111212112090129 222332212122222222222222222222222222	3734912066586035811981062969064831194 6567678887765566666554578754457894445667	8696558312997589627397737714889354454 000000000000000000000000000000000	
240 240	2309 2310	247 .01	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	781 -1.156	240 240	23366345676901223 23366345676901223 2336677772 2222223356678901223 222222233777723	248	.075	$\begin{array}{r} 008 \\ - 016 \\ - 062 \\ - 055 \\ - 055 \\ - 0129 \\ - 014 \\ - 025 \\ - 025 \\ - 025 \\ - 032 \\ $	683 709	240 240	2432 2433	- 201	.051 .069	014	475 707

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W D	TAP	CPHEAN		CPNAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPMEAN		CPNAX	CPMIN
240 240	2448 2449	211 208	.067	- 002	561 555	250 250	1126	392 351	.114	029	893 851	250 250	1221 1222	205	. 094	. 169 . 831	576
240	2450 2451	223 216	.056	032 044	443 421	250 250	1128 1129	323 299	.088	034	862 663	250 250	1223 1224	.402	. 153	.943 .935	020
240	2452 2453	211 203	.060	028	476 485	250	1130	298 396	.075	057	711	250	1225	.388 .287	. 132	.893 .788	.083 .006
240	2454 2455	210	071	013	944	250 250	1132 1133	385 351	.119	068	853 963	250	1227	.055	. 089	. 569 . 206	223 566
240	2456	229 218	.050	044	540	250	1134	334	.105	086	-1.362	250 250	1229	.201	. 123	. 636	104
240	2458 2459	210	.050	071	- 439	250	1136	- 313 - 381	.092	043	886	250	1231 1232	.394	. 133	. 889	073
240 240	2460	- 204	076		-1.138	250	1138	382	.131	. 030	-1.421	250	1233 1234	.286	. 112	866	.031
240 240	2901 2902	- 153	.145	531	- 756	250	1140	- 357	. 116	~.083	-1.550	250	1235	- 100	088	305	377 239
240 240	2903 2904	030	151	761	- 409	250	1142 1143	- 336	101	068	968	250	1237	.259	130	924	066
240 240	2905 2906	085	137	538	- 516	250 250	1144 1145	- 362	. 129	013	-1.475	250 250	1239	.304	. 120	862	041
240 240	2907	192	.130	.255	856	250	1146	340	.112	085	-1.032	250	1241	.031	078	. 549	- 225
240	2909	- 144	.107	.252 .351 .589	562	250	1148	- 343	. 138	. 030	-1.298	250	1243	.046	102	517	- 269
240	2911 1101	109	103	.348	561	250	1150	- 324	. 135	. 115	-1.304	250 250	1245	.255	. 107	.709	090
250	1102 1103	371	. 096	033	808	250	1152 1153	- 333	131	. 080	-1.588	250	1247	.177	090	. 648	048
250 250	1104	354	.079	093	657	250	1154	323	. 121	015	-1.141	250	1249	074	.075	.314	373
250	1106	342	.074	099	683	250	1201	220	.146	818	471	250	1251 1252	.220	. 094	. 643	015
250	1108	379	.085	- 122	765	250	1203	. 212	. 126	. 682	198	250	1253	063	. 071	. 208	412
250	1109	353 354	.076	126	650	250	1205	.163	.118	. 443	273	250	1254	.001	.079	. 592	356 141
250	1111 1112	345	. 073	102	648 618	250	1207	034	.096	.411	527	250	1256	.279	. 106	.799	.027
250	1113	406 399	. 1.01	- 109	994 960	250	1208	. 342	.158	.902 1.064	228 036	250	1258	.221	.088	. 632	- 139
250	1115	372 352	.084	078	795	250	1210	. 487 . 422	173	1.058	.014 020	250	1260 1301	036 664	.078		344
250	1117	341 338	.075	- 088 - 072	716 719	250	1212 1213	. 334	.140	.889	081 222	250	1302 1303	- 445	.171	. 012	-1.136 591
250	1119 1120	404 391	.116	104	969 865	250	1214 1215	232	. 113	257	690 157	250	1304	220	.072	008	582 506
250	1121 1122	359 332	.084	072	983 728	250	1216	. 446	158	.913	.022	250	1306 1307	.158	.188 .056	.941	464 386
250 250	1123 1124	314	.076	068	703	250	1218 1219	.451	.145	.949	.042	250	1308	- 158	.060	.106	421 488
250	1125	401	. 131	035	-1.018	250	1220	. 045	. 090	.410	265	250	1310	602	. 185	036	-1.326

UD	TAP	CPHEAN CPRHS	CPHAX	CPNIN	WD.	TAP CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRHS	CPNAX	CPHIN
0 000000000000000000000000000000000000	21113 221115678 2211178 221122234 221122234 221122234 221122234 221122256 22112225 22112225 221133334 33334 33334 33334 3334 335	CP MEAN CP RHS .016 .236 .081 .094 .223 .126 .393 .194 .327 .232 .226 .227 .216 .218 .072 .094 .354 .197 .266 .230 .046 .222 .238 .208 .083 .101 .194 .126 .309 .194 .223 .231 .066 .195 .234 .171 .442 .087 .143 .165 .096 .102 .217 .147	89093 7755354 1.019506 1.01950	C	22222222222222222222222222222222222222	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1895 242 1199 114 107 202 202 202 202 202 202 202 202 202 2	7 0353 7 0353 2 2 544 2 3 0 567 4 3 0 0 0 0 188 2 1 149 2 0 0 2 4 9 2 1 1 4 9 2 1 1 2 5 0 2 4 9 2 1 1 2 5 0 2 4 9 2 1 1 2 5 0 2 5 1 1 2 5 0 2 5 1 2	-11	20000000000000000000000000000000000000	7890112345678901123456789012234 2222223333333333333333333333333333	1533239 1353970 1353970 229770 228782 2277882 229971 229970 229970 229970 2299582 229951 228993380 228993380 228993380 228970 228997 228997 228997 228997 228997 228997 228997 2289782 2289782 2289782 2289782 228977 2289782 2289782 2289782 2289782 2289782 2289782 228977 228777 228777 228777 228777 228777 228777 2287777 228777 2287777 2287777 2287777 2287777 22877777777777777777777777777777777777	$\begin{array}{c} 106\\ 0.54\\ 0.559\\ 0.686\\ 0.686\\ 0.74\\ 0.726\\ 0.688\\ 0.6884\\ 0.776\\ 0.6884\\ 0.779\\ 0.6688\\ 0.6555\\ 0.6555\\ 0.6544\\ 0.0555\\ 0.6544\\ 0.0464\\ 0.0464\\ 0.046\\ 0.0466\\ 0.0646\\ 0.0466\\ 0.0664\\ 0.0466\\ 0.0666\\ 0.0666\\ 0.0555\\ 0.0664\\ 0.0464\\ 0.0466\\ 0.0668$	$\begin{array}{c} 298\\ 298\\ 073\\ 078\\ 078\\ 078\\ 078\\ 078\\ 078\\ 078\\ 078$	$\begin{array}{c} -6.692\\ -6.9258\\ -7.58758\\ -7.58758\\ -7.58758\\ -7.58758\\ -7.587359\\ -7.587359\\ -7.587359\\ -7.5575328\\ -7.557528\\ $
00000000000000000000000000000000000000	21443 21443 21445 21445 21445 21445 21445 21445 21152 21155 2222 2222	. 193 . 169 - 009 . 167 - 168 . 165 - 028 . 069 . 134 . 140 - 129 . 143 . 129 . 143 . 026 . 135 - 028 . 071 . 026 . 135 - 088 . 135 . 016 . 071 . 201 . 177 . 119 . 155 - 081 . 177 - 136 . 182 - 081 . 177 - 144 . 199 - 159 . 211	670731007319576220 67073100731997319973199731997319973199731		22222222222222222222222222222222222222	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	057 26478 10742 06531 06531 22981 0659 05581 20953 0599 05581 20953 05490 1590 180	211 1866 044 1609 0278 1335 0373 0373 0373 0373 0373 0373 0373 0		NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	4567890123456789012345 333333333333344444 2222223333333333	-227821091-227791-227791-227791-227791-227791-222678453000489-225604803	0466 0480 0500 0444 0444 0444 0444 0446 0445 0445	$\begin{array}{c} - & 127 \\ - & 111 \\ - & 101 \\ - & 1139 \\ - & 1139 \\ - & 1382 \\ - & 1419 \\ - & 0869 \\ - & 0869 \\ - & 1066 \\ - & 1448 \\ - & 1222 \\ - & 0971 \\ - & 0967 \\ \end{array}$	$\begin{array}{c} - & 433 \\ - & 4859 \\ - & 49591 \\ - & 4971 \\ - & 44735 \\ - & 44735 \\ - & 44735 \\ - & 44738 \\ - & 44738 \\ - & 44738 \\ - & 44738 \\ - & 44738 \\ - & 55061 \\ - & 51689 \\ - &$

WD	TAP	CPHEAN	CPRMS	CPHAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPHIN
00000000000000000000000000000000000000	6789012345678901234567890123456712345671234567890123		26131009487341048105257738575420099473674419016643			00000000000000000000000000000000000000	90123456789012345678901234567890123456789011234567 44444444444444444444444444444444444	- 268 - 266503211 - 266503211 - 266503211 - 226512 - 22651 - 22558474538994 - 226511 - 225584745389727739972440671686631793355 - 22528877266863173355 - 22528877266863173355	69610714914201268795459298699129692266580057762971 0004443714914201268795459298699129692266580057762971	$\begin{array}{c} 1 \\ 2 \\ 9 \\ 9 \\ 2 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$		00000000000000000000000000000000000000	890111234567890123456789012345678901234567890123456789012345678901211111111111111111111111111111111111		122066667671640100558864146983903030393206155990269899076 1115332219013221007558641469839030393206155990269899076	144504812111000273449403249964754365360541520 	$\begin{array}{c} - & 980 \\ -1 & 124 \\ -1 & 1226 \\ -1 & 119 \\ -1 & 109 \\ -1 & 299 \\ -1 &$

NĐ	TAP	CPNEAN	CPRMS	CPNAX	CPRIN	ND	TAP	CPHEAN	CPRMS	CPNAX	GPHIN	WD	TAP	CPREAN	CPRMS	CPMAX	CPNIN
260	1147	- 160	. 135	. 323	999	260	1242	164	. 084	078	551	260	1332	264	. 129	. 165	939
260	1148	183	150	.241	-1.009	260	1243	. 088	115	. 536	276	260	1333	258	. 197		-1.038
269	1142	300	.187	.255	-1.152	260	1244	. 217 . 240	.113	.753	- 109	260 260	1334	- 203	.143	. 258	910 740
260	1150	- 180	129	311	- 690	260	1246	215	089	. 668	025	260	1336	- 131	102	251	- 781
260	1152	- 324	205	.304	-1.493	260	1247	147	. 078	543	- 0 98	260	1337	- 439	150	- 090	-1.134
260	1153	- 382	192	476	-1.543	260	1248	007	. 067	. 336	- 299	260	1338	- 451	. 155		-1.194
260	1154	- 399	187	.015	-1.690	260	1249	129	. 075	. 175	4 4 4	260	1339	296	. 165	. 075	983
260	1155	393	. 188	014	-1.651	260	1250	. 016	. 103	. 417	402	260	1340	254	. 145	. 076	878
260	1201	. 363	. 167	. 903	204	260	1251	. 215	. 079	. 646	. 024	260	1341	221	. 122	. 148	741
260	1202	. 30.8	. 1 49	.734 .589	183	260	1252 1253	. 152	.068	. 513 . 236	010	260	1342 1343	189	. 183	. 409	935 817
260	1203 1204	. 186	. 123	.519	198 187	260 260	1254	001	. 089	. 390	324	269	1344	- 110	095	. 181	548
250	1205	041	089	.520	289	260	1233	150	087	393	- 118	260	1345	112	. 095	225	- 807
260	1206	099	073	330	- 366	260	1256	268	103	. 795	. 042	260	1346	395	. 153		-1.192
260	1207	- 241	075	136	- 532	260	1257	. 266	. 096	. 783	.054	260	1347	394	. 156		-1.072
269	1208	. 444	1.67	. 960	026	260	1258	192	. 079	. 576	.006	260	1348	254	. 162		-1.016
260	1209	. 533	. 176	1.302	.009	260	1259	. 033	. 064	. 348	295	260	1349	226	. 147		-1.021
260	1210	. 473	. 136	1.128	. 647	260	1269	- 074 - 743	. 076	.237 189	569	260	1350 1351	185	. 118	. 132	838 976
260	1211	. 369 . 259	.137	.838 .719	.012	260 260	1301 1302	568	177		-1.767 -1.350	260 260	1352	148	. 181 . 125	278	725
260	1213	- 043	077	321	337	260	1303	- 328	109	- 049	- 859	260	1353	- 083	. 078	170	- 509
260	1214	318	099	.018	- 673	260	1304	- 327	. 112	018	961	260	1354	085	. 074	168	- 536
260	ižij	394	159	. 881	079	269	1305	- 273	. 102	. 177	705	260	1355	350	135	021	-1.035
260	1216	. 477	. 170	1.067	.010	260	1306	039	. 220	.778	865	260	1356	341	. 140		-1.118
260	1217	. 463	. 1 33	1.014	.031	260	1307	203	. 094	. 139	754	260	1357	145	. 126	. 161	859
260	1218	. 375	. 136	. 825	015	260	1308	161	. 084	. 168	538	260	1358	133	. 118	- 146	809 613
260	1219	. 237	.108 .075	.763 .324	072	260 260	1309	- 185	. 093		567	260	1359 1360	090 063	.086	.175	- 755
260	1220 1221	260	. 083	.005	571	260	1311	- 616	187		-1.635	260	1361	- 068	084	. 243	- 564
260	1222	362	152	972	- 010	269	išiż	- 344	149	. 0 0 3	928	260	1362	- 052	. 052	164	- 333
260	i 223	460	156	1.005	. 069	260	1313	- 316	. 141	. 113	- 982	260	1363	056	. 048	147	281
269	1224	. 405	. 136	.845	.075	260	1314	269	. 116	. 069	725	260	1364	306	. 127		-1.014
260	1225	. 332	. 118	.756	.051	260	1315	130	193	. 592	869	260	1365	110	. 117	. 134	985
260	1226	. 210	. 0 97	. 611	013	260	1316	171	. 113	. 208	726	260	1366	002	. 122	. 482	797
260	1227	014	. 071 . 088	.321 .056	241 743	260 260	1317	170	. 086 . 098	152	625 636	260 260	1367 1368	036 032	. 068	. 147	- 254
260	1229	228 .292	. 143	.870	128	260	1319	534	171	- 127	-1.296	260	1369	- 256	147	161	- 975
260	1230	. 381	149	.944	- 023	260	1320	- 534	170		-1.296	260	1370	- 238	146		-1.002
260	i231	394	136	1.073	.042	260	1321	- 373	165	054	- 951	260	1371	046	103	239	- 747
260	1232	. 322	116	.812	.047	260	1322	323	. 161	. 029	997	260	1372	052	. 089	. 176	676
260	1233	. 206	. 093	. 594	018	260	1323	284	136	. 097	764	260	1373	004	. 075	. 362	422
260	1234	031	. 075	. 302	310	260	1324	239	206	. 591	959	260	1374	.116	. 148	. 750	520
260	1235	173	. 086	.141	515	260	1325	- 220	.148	. 224	977	260	1375	.029	. 070	. 372	581
260	1236	. 154	. 1 35	.805	234	260	1326 1327	- 145	.096	. 217	765 788	260 260	1376	007	. 039 . 038	. 186	276
260 260	1237	. 301	.134	.895	- 046	260	1328	- 497	169		-1.368	260	1401	- 195	. 110	.159	- 713
260	1239	251	1101	786	- 003	260	1329	- 569	174		-1.451	260	1402	- 200	liii	115	- 690
260	1240	. 170	. 085	. 586	065	260	1330	- 359	. 182		-1.066	260	1403	251	103	. 096	630
260	1241	- 020	070	281	- 296	260	1331	304	.155	. 085	-1.002	260	1404	292	. 104	. 089	- 797

N D	TAP	CPNEAN	CPRMS	CPMAX	CPNIN	ND	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPNEAN	CPRHS	CPHAX	CPNIN
260	1405	312	. 1 1 3	.110	908	260	1455	058 068	.047	103	- 352	260	2133 2134	.299	. 119	. 769 . 834	- 128
260 260	1406	324 329	. 111	.008	905	260	1456	- 070	. 072	216	457	260	2135	195	143	700	219
260	1408	211	123	139	- 841	260	1458	- 105	. 107	. 343	- 687	260	2136	. 088	148	. 618	388
260	1409	211	. 1 0 3	. 0 92	821	260	1459	160	120	. 188	686	260	2137	018	. 064	. 27 2	277 204
260	1410	247	. 1 93	.116	664	260	1460	186	.131	. 219	709 802	260 260	2139 2139	.084 .232	.075	. 444	093
260	1411	278 290	.105	.017	876 805	260	1461 1901	238 373	108	129	- 890	260	2140	264	123	863	- 143
260	1413	- 307	119	072	- 944	260	1902	358	109	038	- 816	260	2141	.175	. 140	. 778	209
260	1414	324	. 131	.046	-1.013	260	1903	323	. 126	. 137	830	260	2142	.062	. 140	. 615	366
260	1415	144	. 098	.218	678	260	1904	392	.096	- 124	799 868	260	2143 2144	- 033	.061	. 238 . 797	233 097
260	1416	143 183	.090	.164	639 650	260 269	1905	373 363	. 138		-1.079	260	2145	.219	109	. 691	- 031
260	1418	230	. 0 98	082	785	269	1907	382	. 089	114	- 800	260	2146	.058	. 106	. 625	314
260	1419	- 264	103	.053	- 813	260	1908	378	. 091	110	789	260	2147	.230	. 107	. 695	020
260	1420	312	. 121	.079	761	260	1909	348	. 097	093	931	260	2148 2149	.182	. 109 . 121	.769 .922	120 372
260	1421	350	.147	.096	-1.140	260 260	1910	207	.140	. 238	745 866	260 260	2150	.102	. 057	333	- 150
260 260	1422	- 134	.093	.261	- 445	260	2101	. 095	100	394	- 315	260	2151	.125	. 085	. 557	085
260	1424	155	. 078	. 199	- 435	260	2102	. 184	. 114	. 635	- 240	260	2152	. 293	. 120	. 810	017
269	1425	212	. 088	.094	504	260	2103	. 302	. 137	1.057	184	260	2153	.318	. 135	851	107 053
260	1426	264	.103	.110	621	260	2104 2105	.362	155	.922	225 184	260 260	2154 2155	.330	. 148	. 842	154
260 260	1427 1428	317 344	.128	.103	802	260	2105	357	179	1.156	- 221	260	2201	.031	203		-1.103
260	1429	- 113	076	.137	579	260	2107	. 048	. 082	. 374	- 232	260	2202	. 087	. 134	. 571	754
260	1430	110	. 0 68	.137	492	260	2108	. 238	. 107	. 681	116	260	2203	.030	.133	. 573	630
260	1431	140	. 967	.193	450	260	2107	. 450	. 155	1.025	013 .056	260 260	2204 2205	026	.151	. 627 . 790	872
260	1432	194	. 080	.150	522 788	260 260	2110 2111	.534	. 174	1.151	- 078	260	2206	- 137	181	800	984
260	1433 1434	254 313	.099	.071	747	260	2112	340	175	1.018	362	260	2207	- 215	. 152	. 527	827
260	1435	- 348	152	. 062	- 885	260	2113	. 063	. 078	. 371	220	260	2208	031	. 227		-1.019
260	1436	093	. 067	.157	421	260	2114	. 228	. 102	. 591	-:045	260	2209	.029	. 197	.721	914 408
260	1437	094	. 058	.123	341 420	260 260	2115 2116	. 470	.151	.950	063	260	2211	- 059	107	406	567
260 260	1438	122	.061	.053	- 480	260	2117	352	178	1 081	- 216	260	2212	145	. 113	. 311	655
260	1440	- 242	. 090	. 0 8 9	637	260	2118	. 177	. 182	. 873	521	269	2213	248	. 100	. 200	828
260	1441	322	. 122	. 0 0 6	948	260	2119	. 046	. 076	.362	198	260	2214	- 301	. 086	. 269	670
260	1442	368	. 148	.031	984 479	260 260	2120 2121	. 203	. 101	1.045	100	260 260	2215 2216	- 347	. 282		-1.441
260	1443	066	.050	.150	- 265	260	2122	. 429	146	1 020	- 229	260	2217	- 089	121	332	543
260	1445	091	. 047	.129	276	260	2123	. 256	. 171	. 928	353	260	2218	144	. 100	. 271	522
260	1446	137	. 062	.042	504	260	2124	. 074	. 187	. 748	808	260	2219	181	. 083	. 159	501
260	1447	214	. 089	.161	601	260	2125	.059	.073	. 340	161	260 260	2220 2221	- 252	.070	.081	576
260	1448	290 322	. 112 . 128	.059	782 928	260	2126 2127	. 378	134	.897	.059	260	2222	- 417	289	604	-1.634
260	1450	047	.048	.143	285	260	2128	412	156	1.007	001	260	2223	- 258	. 289	. 591	-1:547
260	1451	- 073	. 044	093	291	260	2129	. 247	. 151	. 892	230	260	2224	117	. 134	. 299	817
260	1452	174	. 090	.045	743	260	2130	. 090	. 156	. 716	474	260	2225	155	.111	. 223	538 528
260	1453	266	. 120	.007	-1.042	260	2131 2132	.020	.065 .081	.331 .454	196 086	260	2226 2227	172	.100	. 276	528 619
260	1454	057	. 045	.108	201	200	LIJE	. 193				207	666(. 2 . 3 8			

WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPHEAN	CPRNS	CPNAX	CPHIN	UD	TAP	CPMEAN	CPRMS	CPMAX	CPNIN
260	2228	274	. 073	.141	560	260	2317	354	. 068	152	829	260	2367	319	. 052	130	534
260	2229	394	. 290		-1.573	269	2318	356		167	800	260	2368	326	.049	114	- 509
260	2230	197	.246	.499	-1.319 661	260	2319 2320	335 320	.065 .060	105	725	260 260	2369 2370	283	.062	106 118	558
260	2231 2232	131	. 124	.221	539	260	2321	329	056	- 168	- 619	260	2371	- 292	. 036	104	- 548
260	2233	- 152	. 081	163	- 552	260	2322	- 321	. 054	139	582	260	2372	- 290	. 055	098	546
260	2234	- 213	. 0.69	.113	- 493	260	2323	323	. 052	156	570	260	2373	300	. 051	120	603
260	2235	25.5	. 064	.042	486	260	2324	353	. 055	190	694	260	2374 2375	304	.049	- 115 - 150	603 596
260	2236	296	. 229	.304	-1.469	260 260	2325 2326	351 355	.053	- 192	678 593	260 260	2376	308	. 048	- 158	- 530
260	2237 2238	137 093	.193	.318 .243	784	260	2327	- 359	. 053	- 156	636	260	2377	- 323	. 050	149	- 475
260	2239	- 114	. 072	164	521	260	2328	- 326	. 062	120	685	260	2401	- 367	. 097	043	854
260	2240	- 130	. 059	. 088	383	260	2329	326	.061	109	- 695	260	2402	363	. 096	. 002	-1.135
260	2241	204	. 051	.010	438	260	2330	333	. 057	151	671	260	24 03	370	.092	- 087	776
260	2242	250 218	.051	037	463	260	2331 2332	307 314	.051	149	531 516	260 260	24.04	- 370 - 350	. 06 3	- 138	- 630
260	2244	081	. 121	345	851	260	2333	- 322	. 053	- 147	521	260	24 06	- 331	. 060	- 135	- 627
260	2245	- 063	. 075	.244	- 419	260	2334	314	. 048	- 183	502	260	2407	- 335	. 055	136	538
260	2246	082	. 061	. 1 48	328	260	2335	320	. 050	118	483	260	2408	367	. 05 9	159	730
260	2247	100	. 051	.112	295	260	2336	327	.051	120	498 577	260 260	2409 2410	366 359	.064	- 168	673 598
260	2248	187 233	.046	.003	401	260	2337 2338	297 298	. 059	063 080	- 566	260	2411	- 354	. 052	- 188	546
260	2249	145	148	.380	-1.067	260	2339	- 308	. 057	- 089	614	260	2412	- 337	. 050	- 197	565
260	2251	- 031	076	. 246	- 461	260	2340	297	. 054	037	5 5 3	260	2413	338	. 05.3	177	645
260	2252	086	. 047	.115	328	260	2341	298	. 051	144	521	260	2414	329	. 052	151	526
260	2253	225	. 0.42	- 078	383	260	2342 2343	307 298	.050	146	- 570	260 260	2415 2416	353 357	.056	168 180	541 551
260	2254	. 259	. 127	.984	085	260	2344	- 297	. 052	- 123	- 495	260	2417	- 353	045	- 214	- 505
260	2256	025	142	483	- 814	260	2345	- 318	. 055	- 108	521	260	2419	- 353	. 044	215	511
260	2257	. 432	. 085	.468	302	260	2346	297	. 961	083	568	260	2419	339	. 045	- 186	505
260	2258	. 003	. 068	. 293	235	260	2347	298	. 053	135	500	260	2420	330	.048	172	495 516
260	2257	062	.045	.117	213 316	260 260	2348 2349	- 312	.061	116	708 454	260	2421	- 334	. 058	139	620
260 260	2260 2261	203	.035	- 049	- 414	260	2350	- 296	. 052	- 056	- 459	260	2423	- 340	. 055	- 093	- 599
260	2301	- 332	079	- 093	- 770	260	2351	- 297	052	- 089	- 473	260	2424	340	046	- 187	502
260	2302	327	. 087	- 052	843	260	2352	- 297	. 052	100	465	260	2425	329	. 043	197	483
260	2303	318	. 080	064	? 53	260	2353	302	. 051	- 083	557	260	2426	- 324	044	192	492
260	2304 2305	319	084	075 087	810 671	260 260	2354 2355	- 315	.059	105	543	260 260	2427 2428	- 310 - 310	.046	166	482 486
260	2305	- 317	. 083	- 078	- 789	260	2356	- 313	. 063	- 137	- 595	260	2429	- 334	064	- 137	592
260	2307	- 316	. 077	- 057	- 615	260	2357	- 314	. 058	- 113	- 553	260	2430	326	. \$57	151	603
260	2308	323	. 072	099	- 667	260	2358	- 303	. 058	- 083	498	260	2431	327	. 048	- 163	494
260	2309	333	. 077	109	717	260	2359	307	. 056	109	503	260	2432	325	. 046	150	484
260	2310	345 341	. 089	085 121	889	260	2360 2361	312 313	.055 .054	- 132	- 504	260	2433 2434	306 296	.042	- 168	449
260	2311 2312	- 357	.080	- 131	820	260	2362	- 315	. 058	- 120	- 536	260	2435	- 295	045	- 157	- 466
260	2313	- 347	. 073	- 154	- 641	260	2363	317	. 061	- 082	- 557	260	2436	- 316	. 056	- 080	- 559
260	2314	335	. 069	133	700	260	2364	302	. 055	116	- 536	260	2437	320	. 058	037	679
260	2315	340	. 068	144	685	260	2365	313	. 051	148	548	260	2438 2439	319	. 048	168	625
260	2316	349	. 075	128	-1.150	260	2366	305	. 054	077	562	260	2933	317	. 046	180	9 29

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ND	TAP	CPMEAN C	PRMS	CPMAX	CPHIN	¥D.	TAP	CPMEAN	CPRMS	CPNAX	CPMIN	WD.	TAP	CPHEAN	CPRHS	CPMAX	CPNIN	
22222222222222222222222222222222222222	012345678901234567890112345678901112345678901234567 44444444444455555555555555555555555	$\begin{array}{c} -1.1 \\ -1.2997 \\ -1.2997 \\ -1.2997 \\ -1.1 \\ $	004609192105571664404074499068813229920529418881968 000000000000000000000000000000000000	- 041 - 1183 - 1755 - 7369 - 0891 - 0814 - 0264 - 01248 - 0264 - 11058 - 04732 - 04732 - 1641 - 1232		00000000000000000000000000000000000000	890123456789012345678901234567890123456789012 111222222222233333333333444444444455555550000000111 111111111111	325449 325449 325449 325449 33091 55688538 355688538 355688538 355688538 355688538 33091 1284035 128403 139950 12618840 388408 12955439 12618840 1261880 1261880 126180 	360527699948266856444194409688050619253119165988091 1122387772250966856444194409688050619253119165988091 11222111122222111222221112499961800824154097667641111	29978259925873581148554995051942828259925821110092211435578566995023353581458549955566699503355556667		00000000000000000000000000000000000000	$\begin{array}{c} 34567890123456789012333456789012322222222222222222$	5514692387745911821355146110595679693005902546676266 456032840858863817454545500921157311704659142254241333 01333321012322157311270465910254241333 101232210122210122210122210122210122210144	195410693955194698895641734626440445107248895932741 001111100001111100001111086570867891975733 111100000111100000108678932741		46155211125909688879602235058593475976184022970024999	

	APPEND	IX A	PRESSU	RE DATA	; C	ONFIGURI	ATION A	GATE	WAY PRO	JECT TO	WERS						
WD	TAP	CPHEAN	CPRHS	CPNAX	CPHIN	WD	TAP	CPMEAN	CPRNS	CPNAX	CPHIN	ND	TAP	CPHEAN	CPRNS	CPHAX	CPHÌN
00000000000000000000000000000000000000	345678901222222222222222222222222222222222222	-++1792149789017692439399894259022594333182163512749	$\begin{array}{c} 1117\\ 11061\\ 1113339054000\\ 1112239054000\\ 111223000\\ 111223000\\ 111233200\\ 11123000\\ 11123000\\ 11123000\\ 112300\\ 112300\\ 11230000\\ 11230000\\ 1123000\\ 1123000\\ 1123000\\ 1123000\\ 1123000\\ 1123000$	007651 106075031576821 007651 106075031576821 1217768074333157682315768217592648800795032122001331 10000032122000003212479556339 1000000000000000000000000000000000000		22222222222222222222222222222222222222	34567890123456789012345671234567890123456789012345 355555566666666667777777770000000001111111111	- 12044136611509747888876678290200018543177711722376182876678290200012000185431777117223122312231227	70592562591342184083753841716295014178071042163428 111224306277234944410868331011144881014171858900112348789 001112348789 00011111448810141718071042163428	- 0010774221016811123630366054253222446679018517 0021207742210168531285111110000011483760186251 - 000011108536645611111100000114837601862517	7102063141484441579464224873848011671327337597144702	22222222222222222222222222222222222222	678901234567890123456789012345678901234567890111311111111223	27778538479207714391654185397347605337315802913376 22311112223001112300001225240923322301208304987485748524120 2.2311112230.001112300001225240923322305384987485748524120 2.2311112230.001112300001208304987485748524120 2.2311112230.00111230000012233223023048304987485748524120 2.23111112230.001112300000122332230230498029123376	432605316177913932643412054343333246751394294773056 11357779135655791354457112436133334612183358833200234 1111200000111000000110000100000011111111	2153782930917909870112231482284122 13379940994009123310609672243148228484122 1100066987011223148828484122 110009671243148828484122 1091891897284284122 109189189728484122 109189189728484122 109189189728484122 109189189728484122 109189189728484122 109189189728484122 109189189728484122 109189189189728484122 109189189189728484122 109189189189728484122 109189189189728484122 109189189189189728484122 109189189189189189189189189189189189189189	

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ND	TAP	CPNEAN	CPRMS	CPNAX	CPHIN	WD	TAP	CPNEAN	CPRMS	CPMAX	CPHIN	HD.	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
270	2104	. 34 1	. 148	. 854	093	270	2154	328	. 128	1.088	. 964	270	2249	263	. 048	080	453
270	2105	. 346	149	. 863	154	270	2155	. 279	. 108	826	.014	270	2250	- 061	. 111	. 296	614
270	2106	. 300	150	.821	284	270	2201	061	. 174	. 559	887	270	22.51	.921	. 053	. 238	165
270	2107	. 121	. 1 96	. 536	- 185	270	2202	. 048	. 110	. 434	549	270	2252	- 068	.037	. 181	187 438
270	2108	. 289	. 134	. ? 49	124	270	2203	. 008	. 096	. 397	397 390	270 270	2253 2254	247	106	.799	- 435
270	2109	. 458	. 164	1.033	025	270	2204	016	.093	.494	390 348	270	2255	017	116	. 611	- 421
270	2110	. 505	. 172	1.032	.025	270	2205	029	. 098	404	- 365	270	2256	056	107	431	- 391
270	2111	. 438	. 172	. 968	054 189	270 270	2206 2207	176	. 081	144	- 569	270	2257	085	. 069	. 376	- 111
270	2112	. 330	.168	.924 .564	166	270	2208	. 014	197	651	- 712	279	2258	043	056	309	- 128
270	2113	298	123	.767	- 066	279	2209	138	166	709	- 375	270	2259	- 049	. \$37	140	168
270	2115	. 511	160	1.075	071	270	2210	142	. 101	477	- 144	270	2260	175	. 034	067	306
270	2116	. 54 0	166	1.200	1119	270	2211	. 062	. 086	. 339	191	270	2261	233	. 041	104	395
270	2117	. 407	157	1.013	- 029	270	2212	011	. 078	. 300	- 330	270	2301	- 334	. 066	- 117	583
ŽŻÓ	2118	271	145	850	147	270	2213	- 179	. 061	. 176	446	270	2302	- 336	. 074	083	626
270	2119	. 085	. 095	. 6 0 2	212	270	2214	284	. 058	066	561	270	2303	345	. 082	051	- 674 - 748
270	2120	. 253	. 121	.810	045	270	2215	091	. 155	. 457	756	270	2304	356 352	. 088 . 092	085 100	- 721
270	2121	. 431	. 139	. 921	.056	270	2216	014	. 168	. 529	667 229	270	2305	- 354	. 085	086	- 745
270	2122	. 454	. 140	.961	.074	270 270	2217	- 917	063	311	- 2.99	270	2307	- 345	084	- 088	755
270	2123	. 331	. 1 36	.867	.002 187	270	2219	- 114	054	131	- 343	270	2308	- 352	077	- 095	- 820
270	2124 2125	. 199	.133	.439	- 188	270	2220	- 235	. 049	- 025	- 428	270	2309	- 365	. 081	087	890
27¢ 27¢	2126	.067	107	600	- 054	270	2221	- 310	054	- 025	- 544	270	2310	- 378	. 087	130	859
270	2127	353	132	.870	.011	270	2222	- 142	. 147	473	- 747	270	2311	372	. 084	148	757
270	2128	375	137	. 8 8 3	028	270	2223	- 037	. 159	. 422	638	270	2312	398	. 077	124	717
270	2129	. 283	132	.857	- 084	270	2224	032	, 074	. 353	- 217	270	2313	- 386	. 978	151	- 685
270	2130	169	124	.809	211	270	2225	042	. 060	. 273	313	270	2314	367	. 080	139	763
270	2131	. 027	. 082	.419	290	270	2226	113	. 055	. 171	351	270	2315	370	077	133	738
270	2132	. 147	. 097	.616	198	270	2227	223	. 049	003	441	270	2316	383	.072	166 169	667
270	2133	. 317	. 118	.847	- 015	270	2228	- 285	. 056	078	528 688	270 270	2317 2318	- 393 - 399	. 068	- 194	712
270	2134	. 347	. 125	.914	007	270	2229 2230	139	.150 .127	417	- 603	270	2319	- 344	059	- 086	609
270	2135	. 254	. 126	.765	141	270 270	2231	. 000	. 070	366	- 233	270	2320	- 334	. 057	160	- 604
270	2136	. 174	.124	. 292	- 320	270	2232	- 055	. 058	200	322	270	2321	- 341	. 057	- 101	- 662
270	2137 2138	025	. 089	.444	- 179	270	2233	- 111	. 051	153	- 371	270	2322	- 337	. 055	- 174	- 579
270	2139	. 217	.107	640	- 040	270	2234	- 218	. 049	110	- 441	270	2323	335	. 055	171	586
270	2140	240	. 1 1 3	.726	- 048	270	2235	- 276	. 052	028	- 477	270	2324	344	. 653	173	525
270	2141	. 163	. 1 0 1	.661	202	270	2236	124	. 144	. 431 . 437	660	270	2325	347	. 053	148	564
27¢	2142	. 090	. 099	. 556	274	270	2237	008	.114	. 437	566	270	2326	362	. 054	169	593
270	2143	052	. 969	. 248	253	270	2238	. 004	. 061	.294	2.36	270	2327	375	. 056	171	629 512
270	2144	. 197	. 092	.545	050	270	2239	051	. 047	. 1 56	282	270	2328 2329	317	. 054	124	512 505
270	2145	. 229	. 1 0 3	. 689	034	270	2240	103	.040	- 077	345 433	270 270	2330	- 327	. 052	- 123	531
270	2146	. 102	. 098	.517	145	270 270	2241 2242	- 211	048	098	- 485	270	2331	- 319	050	- 130	- 518
270	2147	. 255	. 1 0 3	.763	.004 205	270	2243	105	128	.357	575	270	2332	315	. 04 9	- 131	- 505
270	2148	. 216	. 1 02	.5.45	190	270	2244	- 004	104	.394	- 477	270	2333	- 320	049	- 149	- 490
27¢ 276	2149 2150	. 129	.070	358	- 176	270	2245	005	061	261	- 210	27ŏ	2334	- 325	053	- 119	- 572
270	2151	. 113	. 087	.504	- 094	270	2246	- 037	. 048	.174	- 211	270	2335	- 357	. 058	166	566
270	2152	. 269	116	.847	007	270	2247	087	. 041	. 109	- 314	270	2336	368	. 059	175	577
270	2153	320	120	.904	.051	270	2248	208	. 042	034	370	270	2337	309	. 058	088	516
			•														

ND	TAP	CPHEAN	CPRNS	CPMAX	CPHIN	ND	TAP	CPNEAN	CPRMS	CPMAX	CPHIN	UD.	TAP	CPHEAN	CPRMS	CPNAX	CPMIN
00000000000000000000000000000000000000	89012345678901234567890123456789012345671234567890 334444444444455555555556666666666777777777					00000000000000000000000000000000000000	12345678901234567890123456789012345678901234567890 222222222222222222222222222222222222	$\begin{array}{c} 38622\\ -& 36622\\ -& 36622\\ -& 36622\\ -& 36622\\ -& 36622\\ -& 36622\\ -& 3662222\\ -& 366222\\ -& 366222\\ -& 366222\\ -& 366222\\ -& 366222\\ -&$	745932313311269681113335256854759705248677902366522364 000000000000000000000000000000000000	3256723211789947216628180072501719429299992423406134756 09776723211662211122220077209087550171112121112211122222111 1122211122222111212189072501719429299992423406134756	<pre>/</pre>	22222222222222222222222222222222222222	112345678901112345678901234567890123456789012345678901234567890111111111111111111111111111111111111	31058889177568300854023386776497923561765474371435 349834635551418254329247235821145929235617654743714754126 4983463555141822543292472358211455929235617654743714754126	0598222277333498149843623799779789440033400964088612 008010110011100496107833209857189866200996539094122998 1012221000122210091221898665200965339094122998	360396927851976850377182888918836607136272 899977922285197685037718285889188366071381220011233001122300112230012220012228514338166272	

WD	TAP	CPHEAN	CPRMS	CPNAX	CPHIN	80	TAP	CPMEAN	CPRHS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRHS	CPNAX	CPMIN
D 000000000000000000000000000000000000	P 456712345678901234567890123456789012345678901234567890123456	$ \begin{array}{c} \mathbf{C} & -1 & -1 & -1 & -1 & -1 & -1 & -1 & -$	$ \begin{array}{c} PR & 119908893565895326177967658991233546266932962053188216\\ PR & 119908895658953261779676589912335462669562053188899000000000000000000000000000000000$	X 658294902291442698976582200579553419906113788700516336 P 5312334547072623411666533070496100001096013755716336 C	C		P 7890123456789011234567890112345678901112111111111111111111111111111111111	$ \begin{array}{c} C \\ P \\ P \\ 134679980 \\ 1284462977651 \\ 1284462977651 \\ 1284462977651 \\ 1284642977662 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 128464297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644297766 \\ 1284644436 \\ 1284644436 \\ 128464444 \\ 128464444 \\ 128464444 \\ 128464444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 12846444 \\ 1284644 \\ 12846444 \\ 12846444 \\ 12846444 \\ 1284644 \\ 1284644 \\ 1284644 \\ 1284644 \\ 1284644 \\ 1284644 $	CP .116667470111022499440633779334915478939844999775979300372237	0290 00233 00419 10235 00419 10235 00419 1085 22531 0859 22531 4888 81858	IN 299916497502602939788888499655634001128231528998805271338		F 56789012345678901234567890123451000000000111111111111111111111111111	12593840012534117390884625881608465562381993860748758881685 - - -	s 78551484899544012049654693088696852373122610545232		L

W D	TAP	CPHEAN	CPRNS	CPHAX	CPHIN	ND.	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPNIN
D 000000000000000000000000000000000000	+ 01234567890123456789012345678901123456789011234567890112345678901234567890123456789012345678901123456789012345	I I		- 1262 - 1532 2359 - 106997 - 301		22222222222222222222222222222222222222	901234567890123456789012345678901233533334444444445555555555555555555555						90123456789012345671234567890123456789012345678901 33353333333333333333333454444444444444	82630171354549612437366923706580085950111607875850 679016666994455555789774198754087765540876664086555640 826301711011111111111111111111111111111111	781817566904299333349512819464461882818575818845665622 00000000000000000000000000000000	132 124 134 147 134 153	

ND	TAP	CPHEAN CPRHS	CPNAX	CPNIN	MD	TAP	CPMEAN	CPRMS	CPHAX	CPHIN	ND	TAP	CPMEAN	CPRHS	CP NA X	CPHIN
	P 234567890123456789012344567890111234 7 444444444444444455555555559000009991111000 1110000000000	CPHEAN CPRNS - 377 039 - 365 038 - 352 037 - 451 083 - 451 083 - 436 077 - 400 039 - 359 056 - 359 056 - 359 056 - 359 056 - 425 083 - 425 083 - 425 083 - 425 083 - 378 067 - 378 067 - 378 067 - 378 067 - 378 077 - 383 077 - 367 066 - 378 077 - 383 077 - 383 077 - 383 077 - 367 066 - 378 077 - 383 077 - 383 077 - 367 066 - 378 077 - 383 077 - 383 077 - 385 076 - 385 077 - 381 077 - 381 077 - 381 077 - 385 077 - 380 077 - 390 07	X 2986 9461 9461 9461 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	D 000000000000000000000000000000000000	P 012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234555555	CPMEAN - 0824 - 23790 - 23790 - 23790 - 23790 - 12607 - 23790 - 12607 - 23790 - 12607 - 23790 - 12607 - 23790 - 12607 - 23790 - 12607 - 23790 - 1207 - 2000 - 117980 - 20208 - 11595 - 20208 - 115922 - 0010 - 11522 - 11522 - 0010 - 11522 - 11522 - 0010 - 11522 - 11522 - 0010 - 00250 - 00250	CPR03775694295287983882407292323934450666978338239145	. 245	C -11 1	D_000000000000000000000000000000000000	P 5678901234567890123456789012345678901234567890 111111111111111111111111111111111111	$ \begin{array}{c} P P \\ P$	CPRN 664994 0044994 115051537780 0044994 115051537780 00447780 00447780 00448390877788 0044405554 11085377788854 1108534 0044405554 1108554 00557778 005655 1108554 005554 005554 005555 100555 0055555 0055555 0055555 0055555 0055555 0055555 0055555 0055555 0055555 0055555 00555555	X 2794417662197658364436388642008844363886420088443638864420088443638864420088864200888642008886420088864200888642009897554260887542947774732005647320056473200550	C

	CPHIN NO			CPMIN
NO TAP CPNEAN CPRNS CPNAX CPNIN NO TAP CPNEAN CPRNS CPNAX		TAP CPHEAN		2
100 1111 111 111 111 <th>$\begin{array}{cccccccccccccccccccccccccccccccccccc$</th> <th>4199 - 4887355555555555555555555555555555555555</th> <th>$\begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$</th> <th>1</th>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4199 - 4887355555555555555555555555555555555555	$\begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	1

	TAP	CPHEAN	CPRHS	CPHÁX	CPHIN	WD	TAP	CPNEAN	CPRHS	CPMAX	CPHIN	WD	TAP	CPHEAN	CPRNS	CPMAX	CPHIN
00000000000000000000000000000000000000	78901112345678901234567890123456789012345678901234567890111111111111111111111111111111111111			106077408677862787413821264189775175408678893026104 10123828647986278741488923078688882674567565378 10123828647986278741488975627877878456755378756538 101238286479862788781588986478975175488858826785338756538 1012382841889756538785338756538 1012382841889756538785338756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 1012382841889756538 10123828418858 10123828418858 10123828418858 10123828418858 10123828418858 10123828418858 10123828418858 1012382841878 101238284 10123828 10123828 10123828 10123828 10123828 10123828 10123828 101238 100248 100248 100248 100248 100248 100248 100248 100248 100248 100248 100248 100248 1	453603570183505365566008152767670713230717246591122832 1.4.1.1.2.3.103053655660081152767670713230717246591122832 1	00000000000000000000000000000000000000	678901234512345678901234567890123456789012345678901234567890 14445555555000000000001111111111120222222222	386330597779548583636391366488902693300794262585906	90337363165230972086701069892798132720379239858934 0109880223165230972086701069892798132720379239858934 1111100000002197355689289279813259239239858934 000000012000000120000012264345927200379239858934	37935 	76192490060667843232079672012386805334415333576424666784324524538680533441533357642462466678443245354558868053544111	22222222222222222222222222222222222222	123456789012345678901123456789011234567890123456789 222222222222222222222222222222222222	62707008476381352137802787780396191006116585674345 2221001221012210001223335755612889799991232444470200 2221001221012210001223335755612889799991232444470200	984433167475425033740955126752220212871797224024133 00114545454551126434478908889099888778855555666755 0000000000000000000000000000		

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ND	TAP	CPNEAN	CPRNS	CPNAX	CPHIN	ND	TĄP	CPHERN	CPRMS	CPNAX	CPMIN	WD	TAP	CPNEAN	CPRMS	CPNAX	CPMIN
300	1131	417	116	087	935	300	1226	054	. 042	. 137	184	300	1316	- 305	052	- 152 - 139	605
300	1132	- 254	076	034	549	300	1227	- 146	032	010	- 259	300 300	1317 1318	- 288	. 053	107	489
300	1134	. 068	. 080	.409	299	300	1229	. 131	. 269	. 814	910	300	1319	- 272	. 044	- 147	443
300	1135	. 122	. 185	.665	793	300 300	1230	.139	. 201 . 088	. 726	-1.058	300	1320	- 267	.042	143	443
300	1137	282	. 089	- 016	- 719	300	1232	. 015	. 056	. 285	147	300	1322	- 268	. 045	114	481
300	1138	- 170	. 067	. 072	415	300	1233 1234	- 060 - 167	. 040 . 034	.110	192 295	300 300	1323	276 278	.043	156 153	541 540
300	1139	. 006	.057	.267	- 202 - 434	300	1233	216	. 038	987	370	300	1325	278	. 047	147	- 566
300	1141	. 096	139	.551	707	300	1236	. 141	. 223	740	818 794	300	1326	- 291 - 312	. 073	193	768 -1.069
300 300	1142	. 081 184	. 1.69 . 080	.610	811 527	300 300	1237 1238	140	148	. 383	- 229	300	1320	- 258	. 040	134	445
300	1144	.010	. 057	.310	- 144	300	1239	016	. 053	239	- 130	300	1329	- 261	. 041	- 136	- 446
300	1145	. 034	. 137	.379	- 234	300 300	1240	- 056	.045	- 021	215 316	300 300	1330	- 271	. 044	- 138	- 450
300	1147	162	. 079	.194	- 566	300	1242	228	. 044	987	402	300	1332	271	. 045	138	465
300 300	1148	0 58 . 032	. 457 . 455	.187	261 116	300 300	1243	. 123	. 177	. 595	-1.029	300	1333	271	045	137	502 506
300	1150	. 106	. 084	. 486	142	300	1245	. 07.1	. 96 0	. 327	134	300	1335	275	. 068	051	739
300	1151	. 024	. 071	. 439	145	300 300	1246	- 020	. 048	.250	125	300 300	1336	284 261	. 084 . 044	036	898 466
300	1152	. 050	.066	.323	109	300	1248	- 145	. 043	. 076	330	300	1338	263	. 044	134	- 472
300	1154	. 087	. 072	512	- 461	300	1247	232	.051	085 .633	- 462	300	1339	274 263	.048	159 141	- 626 - 586
300 300	1155	.034 .035	.110	.468 .562	5?1 860	300 300	1250 1251	. 111	. 063	. 364	146	300	1341	- 276	. 046	163	- 553
300	1201	004	. 688	.278	506	300	1252	044	.040	. 189	161	300	1342	281 279	.050	- 164	- 721
300	1203	083 068	.062	.160 .154	297	300 300	1253 1254	- 232	. 033 . 089	095 .489	- 555	300 300	1343	267	. 071	058	- 684
300	1205	062	. 051	. 1 3 5	291	300	1255	. 109	. 090	. 470	583	300	1345	280	. 021		-1.072
300 300	1206	101 184	.039	.054 065	304 360	300 300	1256	.099	.070	. 496	- 133 - 090	300	1346	- 278	. 054 . 058	138 118	- 701
300	1208	229	. 296	. 847	865	300	1258	028	. 043	. 203	131	300	1348	286	. 063	119	708
300	1209	. 168	. 167	.671	- 842	300 300	1259	- 157	.039	012	361 544	300 300	1349	281 292	.061	109	684 559
300 300	1210	.083	.085	.245	- 158	300	1301	275	. 046	- 126	443	300	1351	296	. 063	132	584
300	1212	030	. 048	. 1 4 5	183	300	1302	- 278	.048	125	- 460	300	1352 1353	294	.064	073	613 838
300	1213	167 253	034	044	- 272	300 300	1304	- 300	. 051	- 138	- 513	300	1354	- 291	. 126	. 069	-1.136
300	1215	. 150	. 3 9 3	. 773	-1.040	300	1305	306	. 053	124	511	300 300	1355	- 302	075	137	673 667
300 300	1216	. 203 . 122	. 198	.727	-1.028	300 300	1306	307	.057	- 123	517	300	1357	- 313	. 077	- 126	- 732
300	1218	. 033	. 063	. 258	- 168	300	1308	294	. 053	135	483	300	1356	307	. 082	071	789
300	1219	058	.044	.138	238	300 300	1309	292 277	. 052	- 134 - 148	483 436	300 300	1359	309	.070	- 074	628 825
300 300	1220	189 256	.040	- 142	423	300	1311	276	. 043	147	- 424	300	1361	- 314	. 082	. 116	732
300	1222	. 121	289	796	771	300	1312 1313	- 284 - 282	045	143	465 438	300	1362	237 259	.095	.053	647 -1.084
300	1223	.150	. 203	.624	816 412	300	1314	299	. 049	153	511	300	1364	323	. 080	157	839
300	1225	. 024	058	. 234	- 185	300	1315	303	. 051	154	~.608	300	13.65	318	. 082	062	980

ND	TAP	CPMEAN CPRN	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPHIN
00000000000000000000000000000000000000	67890123456712345678901234567880012345678800000000000000000000000000000000000	$\begin{array}{c} -340 & 10\\ -369 & 099\\ -3309 & 099\\ -3300 & 088\\ -3310 & 088\\ -3350 & 077\\ -3365 & 077\\ -3528 & 097\\ -3558 & 097\\ -3588 & 097\\ -$	733	1995629982757233798377233430987443953012366851907520 	00000000000000000000000000000000000000	9012345678901234567890112345678901111111222222222222222222222222222222	$\begin{array}{c} -334\\ -5566\\ -71380\\ -11401\\ -115180\\ -11401\\ -115180\\ -11401\\ -115180\\ -11401\\ -115180\\ -11401\\ -115180\\ -11191\\ -1119$	654454692111325505774551242071247430726359132426060 11188754692111325505774551242071646885666420957641114542 1100011164188566664209576411145420 111454209576411145420 111454209576411145420 111454209576411145420 111454209576411145420 111454209576411145420 11145400 111454000 111454000 1114540000000000			00000000000000000000000000000000000000	78901234567890123456789012345678901234567890123456789011 11112222222222222222222222222222222	51116614388714461696991368896166558893201614268446427 52234301233301123220001220002244571906538864484109 	1067776447376902603004683424708800133499578891173565389011121735499578891165342470880011213349957889117356538911715557899113112171555789911311217354995746000000000000000000000000000000000000	042 067 070 .024 013 011 093	

ND	TAP	CPHEAN CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CP MAX .	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
00000000000000000000000000000000000000	23456789012345678901234567890123456789012345678901 222222222222222222222222222222222222	$\begin{array}{c} - 216 & 046 \\ - 286 & 062 \\ - 329 & 073 \\ - 717 & 177 \\ - 727 & 205 \\ - 2222 & 043 \\ - 2268 & 041 \\ - 3322 & 064 \\ - 688 & 2098 \\ - 3322 & 064 \\ - 688 & 2098 \\ - 219 & 094 \\ - 219 & 094 \\ - 219 & 094 \\ - 2215 & 047 \\ - 285 & 047 \\ - 338 & 206 \\ - 520 & 244 \\ - 338 & 206 \\ - 520 & 244 \\ - 338 & 206 \\ - 520 & 244 \\ - 285 & 047 \\ - 285 & 057 \\ - 118 \\ - 038 & 055 \\ - 118 \\ - 228 & 056 \\ - 128 & 057 \\ - 138 & 055 \\ - 228 & 100 \\ - 121 & 113 \\ - 038 \\ - 122 & 054 \\ - 225 \\ - 254 & 053 \\ - 254 \\ $	244987655921950972228325334427754933592361522214431006350311888775286123519142 000100000000000000000000000000000000	97141123206529960121141919257572489299380239435039	00000000000000000000000000000000000000	12345678901134567890123456789012345678901234567890 000000000001111111111112222222222235555555555	$\begin{array}{c} -& 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 $	885802923263331777753355445732491954331449482562544	5322111 000000000000000000000000000000000		00000000000000000000000000000000000000	1234567890123456789012345671234567890123 35555555555555555666666677777777700000000	3236646729023543488152874157333335199337089611488640			$\begin{array}{c} - & - & - & - \\ - & - & - & - \\ - & - &$

WD	TAP	CPMEAN	CPRMS	CPNAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
300	2424	437	. 101	114	-1.092	310 310	1102	253	.063	.072	543 218	310 310	1152 1153	.109	.075	. 454	061
300 300	2425 2426	410 386	.103	- 114	- 980	310	1104	098	. 089	440	- 195	310	1154	.134	089	556	- 105
300	2427	368	. 082	- 101	- 900	310	1105	. 338	. 137	. 794	094	310	1155	.091	. 083	. 523	325
300	2428 2429	366 504	.081	098 051	894 -1.329	310 310	1106	422	.175	1.086	- 129	310 310	1201	443 181	337		-1.805
300 300	2430	487	.131	- 051	-1.204	310	1108	- 280	071	. 040	- 530	310	1203	- 137	. 050	. 023	516
300	2431	438	. 103	- 060	-1.337	310	1109	. 098	. 084	443	190	310	1204	- 100	. 043	. 036	300
300	2432	408 402	. 102	103	-1.331 954	310 310	1110	. 243 . 461	. 107	.676	108	310 310	1205	072	.042	.098	255 261
300 300	2433 2434	385	. 0 83	- 161	- 922	310	1112	496	181	1.151	- 146	310	1207	- 181	. 030	094	314
300	2435	382	. 084	- 153	803	310	1113	- 404	. 077	165	700	310	1208	417	. 318	. 696	-1.319
300	2436	510	.155	165	-1.375	310 310	1114	215	.061	.020 .395	463	310 310	1209	241	. 301	. 535 . 200	-1.206
300 300	2437 2438	490 457	. 147	091	-1.288	310	1116	253	108	686	- 014	310	1211	- 066	. 044	110	278
300	2439	445	. 128	- 162	-1.434	310	1117	. 434	. 146	. 908	. 0 5 3	310	1212	085	. 035	. 059	- 321
300	2440	418	.114		-1.581	310	1118	. 484	. 159	1.027	.064 797	310	1213	179	. 031 . 036	034	~.305 ~.364
300 300	2441 2442	- 407 - 399	.105	126	-1.067	310 310	1119	443 231	.096 .066	- 160	491	310 310	1214	- 379	. 275		-1.255
300	2443	453	. 133	- 137	-1.118	310	1121	. 083	. 075	. 388	137	310	1216	- 299	. 315	. 421	-1.472
300	2444	448	. 128	135	-1.137	310	1122	. 233	. 102	. 637	045	310	1217	065	. 145	. 254	~.893
300 300	2445 2446	456 478	. 127	105	-1.107	310 310	1123	. 394 . 456	. 141	.924	- 002	310 310	1218	068	.057 .036	. 122	678 375
300	2447	- 464	144	- 084	-1.559	310	1125	- 397	105	097	851	310	1220	- 192	. 034	073	- 379
300	2448	447	. 131	169	-1.407	310	1126	- 210	. 071	. 023	495	310	1221	234	. 039	119	419
300	2449 2450	441 402	. 128	161	-1.257	310 310	1127 1128	.062	.074	. 341 . 622	133 054	310 310	1222	304	. 280		-1.343 -1.425
300 300	2451	441	129	- 084	-1.185	310	1129	329	140	845	- 105	310	1224	0 6 8	156	. 292	-1.029
300	2452	462	. 152	160	-1.528	310	1130	. 367	. 148	. 898	211	310	1225	061	. 061	. 170	485
300	2453 2454	441	.135	145	-1.222	310 310	1131 1132	348 186	.094	.011	689 417	310 310	1226 1227	105	. 039 . 032	.066 056	322 337
300 300	2455	- 379	127	- 020	-1.635	310	1133	.050	. 071	336	- 149	310	1228	- 230	037	120	- 535
300	2456	371	. 116	072	-1.382	310	1134	155	. 090	. 530	- 079	310	1229	244	. 308	. 644	-1.569
300	2457	386	. 126	.186	-1.301	310 310	1135 1136	. 264	. 132	.797 .782	196 380	310	1230 1231	179	.316		-1.502 -1.187
300 300	2458 2459	425 438	136	- 012	-1.982	310	1137	- 214	092	152	- 561	310	1232	- 052	1051	144	327
300	2460	- 416	. 143	099	-1.448	310	1138	106	. 070	. 164	- 428	310	1233	101	. 036	. 043	297
300	2461	419	.154	.013	-1.655	310	1139	. 060	.067	.391	185 160	310	1234 1235	174	. 032	- 074	301 353
300 300	2901 2902	512 518	.099	217	931 -1.092	310 310	1140	. 120	.116	. 373	- 231	310 310	1235	- 206	277		-1.176
300	2903	479	131	. 003	-1.022	310	1142	. 191	. 122	.717	445	310	1237	146	. 266	. 392	-1.314
300	2904	485	. 081	230	976	310	1143	126	. 079	.200	421	310	1238	038	. 115		-1.088
300 300	2905 2906	530 372	. 129	090 .286	-1.212	310 310	1144	.058	.059	300	108 223	310 310	1239 1240	052 100	.054	.151	562 261
300	2907	515	104	- 183	-1.224	310	1146	. 083	095	484	- 425	310	1241	- 175	035	- 036	- 327
300	2908	483	. 147	064	-1.103	310	1147	103	. 075	. 230	498	310	1242	- 218	. 039	103	359
300	2909	429	. 158	.035	-1.276	310	1148 1149	003	.059 .064	. 272 . 431	178 071	310 310	1243 1244	139	. 255	.565	-2.066 -1.199
300 300	2910 2911	. 198	.090 .098	. 575	- 008	310	1150	. 162	.094	711	- 059	310	1245	- 008	. 081	243	618
310	īioi	588	123	- 235	-1.066	310	1151	. 087	097	. 740	- 098	310	1246	- 034	. 047	. 184	- 287

				OFMAN			TAR	CPMEAN	CERKC	CPMAX	CPMIN	WD	TAP	CPMEAN	CODMC	CPMAX	CPMIN
U 000000000000000000000000000000000000	<pre>P 01123456789011234567890123455678901234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789011234556789000000000000000000000000000000000000</pre>	CP 2012245755889009442989902292017776379844206478830711465592697 H 20422457755889900245555568798002238890714655592667 	5 4116383836903101976668488989806127228856569389592440310118887898061111299856556938959249933079992	X 2000770419230785211140903356700584350329574192307852919733886700584350326584357462823359197538867005843501027763482985312 	C	W 333333333333333333333333333333333333	F 89012345678901234512345678901234567890123456789012 22222222222222222222222222222222222	$ \begin{array}{c} & 15246 \\ & 15246 \\ & 10448 \\ & 00189839 \\ & 1044586776621918431477744156636962723199502208720 \\ & 1089839$	R 119982777809081711858127997859482355075312621129329925	747669015314419884543600120832899889976313864943 6664369015314441988845436001240583289988997631380400502124 1000000000000000000000000000000000	10024607388719745199042875299300361987682894273874331 100246673888797451990428752993003619876828942738674331	33333333333333333333333333333333333333	- 345678901234567890123456789011234567890112345678901 - 222222222222222222222222222222222222	1 1	G G G G G G G G G G G G G G G G G G G		

UD TAP CPNEAN CPRNS CPNAX CPMIN UD TAP CPNEAN CPRNS CPNAX	CPHIN NO T	P CPNEAN CPRNS	CPNAX CPMIN
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 483 & 310 & 244 \\ 628 & 310 & 244 \\ 511 & 310 & 244 \\ 723 & 310 & 244 \\ 723 & 310 & 244 \\ 728 & 310 & 244 \\ 788 & 310 & 244 \\ 788 & 310 & 244 \\ - 1 & 249 & 310 & 244 \\ - 1 & 249 & 310 & 244 \\ - 1 & 249 & 310 & 244 \\ - 1 & 255 & 310 & 244 \\ - 1 & 280 & 310 & 244 \\ - 1 & 280 & 310 & 244 \\ - 1 & 280 & 310 & 244 \\ - 1 & 280 & 310 & 244 \\ - 1 & 280 & 310 & 244 \\ - 1 & 368 & 310 & 244 \\ - 1 & 368 & 310 & 244 \\ - 1 & 368 & 310 & 244 \\ - 1 & 368 & 310 & 244 \\ - 1 & 514 & 310 & 244 \\ - 1 & 516 & 310 & 244 \\ - 1 & 516 & 310 & 244 \\ - 1 & 516 & 310 & 244 \\ - 1 & 516 & 310 & 244 \\ - 1 & 516 & 310 & 246 \\ - 1 & 577 & 310 & 290 \\ - 1 & 577 & 310 & 290 \\ - 1 & 577 & 310 & 290 \\ - 1 & 592 & 310 & 290 \\ - 1 & 297 & 320 & 110 \\ - 1 & 592 & 310 & 290 \\ - 1 & 482 & 310 & 290 \\ - 1 & 482 & 310 & 290 \\ - 1 & 537 & 320 & 110 \\ - 1 & 548 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 551 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 553 & 320 & 110 \\ - 1 & 638 & 320 & 111 \\ - 1 & 638 & 320 & 111 \\ - 1 & 638 & 320 & 111 \\ - 1 & 638 & 320 & 111 \\ - 1 & 695 & 320 & 111 \\ - 1 & 695 & 320 & 111 \\ - 1 & 695 & 320 & 111 \\ - 1 & 697 & 320 & 111 \\ - 1 & 697 & 320 & 111 \\ - 1 & 697 & 320 & 111 \\ - 1 & 697 & 320 & 111 \\ - 1 & 697 & 320 & 112 \\ - & 697 & 320$		$\begin{array}{c} 116 & -1 & 234 \\ 036 & -1 & 230 \\ - & 012 & -1 & 836 \\ - & 053 & -1 & 611 \\ - & 013 & -1 & 858 \\ 033 & -1 & 629 \\ 1122 & -2 & 370 \\ 031 & -2 & 370 \\ 035 & -1 & 629 \\ 035 & -1 & 629 \\ 022 & -1 & 224 \\ 119 & -1 & 0642 \\ 136 & -1 & 698 \\ 267 & -1 & 973 \\ 080 & -2 & 648 \\ 299 & -910 \\ 088 \\ 299 & -910 \\ 088 \\ 299 & -915 \\ 088 \\ 299 & -953 \\ 080 & -2 & 648 \\ 299 & -953 \\ 080 & -2 & 648 \\ 299 & -953 \\ 041 & -1 & 096 \\ 299 & -953 \\ 041 & -1 & 096 \\ 299 & -953 \\ 041 & -1 & 096 \\ 299 & -953 \\ 041 & -1 & 096 \\ 299 & -953 \\ 041 & -1 & 096 \\ 299 & -953 \\ 041 & -1 & 095 \\ 088 & -2 & 648 \\ 041 & -1 & 095 \\ 286 & -1 & 330 \\ 059 & -1 & 033 \\ 059 & -1 & 067 \\ 042 & -356 \\ 1 & 075 & -1 & 358 \\ 1 & 045 & -1 & 155 \\ 075 & -1 & 188 \\ 943 & -1 & 166 \\ 1 & 075 & -1 & 188 \\ 1 & 064 & -1 & 164 \\ 1 & 074 & -798 \\ 267 & -577 \\ 817 & -1 & 12 \\ \end{array}$

W D	TAP	CPNEAN CPRN	5 CPNAX	CPMIN	¥0	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD.	TAP	CPMEAN CF	PRMS (CPMAX	CPHIN
 Manual Substantian Control Contro	P 34567890123456789012345678901234567890123456789012345578901234557890123455789012345578901234555555555555555555555555555555555555	CPRM 468 17 468 17 160 468 17 160 1360 07 114 3362 114 3663 32623 120 143 32623 120 07 22663 100 07 22663 100 07 22688 097 12364 1006 07 088 11788 088 07 12888 0933 118 0686 077 128 11788 086 067 1277 1068 067 1277 1068 067 1177 1667 109 1177 1667 0046 11177 1668 067 113545 100 0466 11770 109 22689 113545 0466 057 113545 0466 057 11364 057 0466 11469 0446 057	1 .9996615196445399088497547244499907886290268287123386 1 .9976880564453390884975472444499907886290268287123386 1 .90146273390884975472444499907886290268287123386 1 .901455472444499907886290268287123386 1 .90145547244499907886290268287123386 1 .901455472444499907886290268287123386 1 .901455472444499907886290268287123386 1 .901455473390884973472444499907886290268287123386	C	U 000000000000000000000000000000000000	P 890123456789012345678901234567890123456789012345 A 1122222222222222222222222222222222222	C PM 26502805724527575207697637771778011225584664025722860572457711114977801122119116011602572282437	CPR 11002237879534600598376543197043971408400650 CPR 110022256706548426443600598333447444994439711000200550 CPR 1100022256706548422100002221000023334474449944397110000000550	206119857777809259184959956845479479402212701498259184957277800005520125980445479479402479164467	C	D 000000000000000000000000000000000000	P 890123456789012345678901234567890123456789012345678901234555555		47567324428314870883998192051224669572857983037	CP	CPH 5737965534544435804511216449257944535890520447888680593210

UD TAP CPNEAN CPNAX CPNIN UD TAP CPMEAN CPNIN UD TAP CPMEAN CPNIN UD TAP CPMEAN CPNIN UD TAP 320 1358 213 056 033 345 320 1431 160 .065 .070 591 320 2109 320 1359 229 .047 072 474 320 1432 217 .122 .109 915 320 2110 320 1360 231 .051 065 .536 320 1433 421 .199 .008 .1298 320 2110 320 1361 232 .052 094 497 320 1434 623 .165 144 -1.392 320 2112 320 1362 184 .056 .033 648 .164 224 .1428 .200 2113 320	338 191 227 155 -049 110 2-290 116 3278 226 4327 211 5275 179 6197 149 797 149	CPMAX CPMIN 931 - 344 741 - 382 698 - 448 423 - 718 958 - 458 970 - 326 905 - 200
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$.741382 .688448 .423718 .958458 .970326 .905200
326 336 128 051 460 320 1441 564 .190 035 -1.565 320 2121 320 1370 245 071 070 712 320 1442 559 166 1156 333 320 2121 320 1370 245 071 070 712 320 1444 152 042 035 291 320 2121 320 1372 226 058 050 552 320 1444 077 050 291 320 2123 320 1374 216 077 108 698 320 1444 027 050 917 320 2125 320 1374 216 077 108 698 320 1444 124 051 261 320 2125 320 1375 127 065 077 .035 573 320 1215 .1465 .265 .2275 320 2125 320	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 679 & - & 229 \\ +404 & - & 499 \\ - & 81$

ND	TAP	CPMEAN CPR	NS CPNAX	CPHIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN	UD	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
00000000000000000000000000000000000000	90123456789012345678901234567890123456789012345678 222222222222222222222222222222222222	1 0	9344675504011366936693669366936414136061557421806836655554200000000000000000000000000000000		00000000000000000000000000000000000000	901234567890123456789012345678901234567890123456789012345671		64424278872893838620281739299052874462630806873254 000000000000000000000000000000000000	89566073578030692143664655211079000214556126554744843556 		00000000000000000000000000000000000000	234567890123456789012345678901234567890123456789012345678901 444444444444444444444444444444444444	035824521424659397595697439127598809736496198771345 111926907562111227711112661111225515338814531104364961987713245	3710444501786688205114488004109518457509368415713424 00081722545608844580644448005443475220334531933348615533 1000000122200000122033453368415713424	003031 003031 1174629 113244 003050 113244 0015021 113244 005016 1050597 20052 113304 11324 0050597 20052 116321 113569 116359 116359 116569 1	$\begin{array}{c} & & & & & & & & & & & & & & & & & & &$

W D	TAP	CPMEAN	CPRMS	CPNAX	CPMIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN	CPRHS	CPMAX	CPMIN
00000000000000000000000000000000000000	T 444555678900111199991000005678901112345678901222222222222222222222222222222222222	C	C C C C C C C C C C C C C C C C C C C	$\begin{array}{c} 020\\ 020\\ 020\\ 01728300\\ 1728300\\ 1728300\\ 18253\\ 4154000\\ 01728300\\ 19253\\ 4154000\\ 0172830\\ 1000\\ 1$	$ \begin{array}{c} C & -1 & -1 & -1 & -1 & -1 & -1 & -1 & $	WD 000000000000000000000000000000000000	P 01234567890123456789012345123456789012345678901234 A 333333333444444444455555500000001111111111	CP 2491 - 0911 - 0924 - 10724 - 0924 - 10727 - 0062814 - 0062814 - 006422994 - 00692727 - 0062814 - 0060802725 - 00692725 - 00692725 - 00692725 - 00692725 - 00692725 - 00692725 - 00692725 - 00692725 - 006080 - 006927 - 006080 - 006927 - 006080 - 006927 - 006080 - 000080 - 0000 - 00000 - 00000 - 00000 - 00000 - 00000 - 00000 - 00000 -	5 8748625950087343033035270709390113886746139996226902 11118880259500087343000000000000021115981386746139996226902	3753624359262337592623375926233759262337592623375926233759262337592623375926233759262337592623375926233759232929093444383467211733323617232329292934443847211000300000000000000000000000000000000	L	000000000000000000000000000000000000	F 56789012345678901234567890123456789011234567890123 H 222222333333333334444444445555555555556600000000011111 22222222222222222222222	H 3947036608637958269033526768912822220065117335849021 H 2167863760863795826203552676891282222200000022233335849021 H 2167863608637958221112221075701075744282222200651173335849021	s 774861245976430815896202369892359766147583253344365	1766 0294 0144 0063 0977 1113 0464 00305 01030 01393 11655 1137	<pre>n 06542777636408319044433165878802608782750815655865446</pre>

U TAI 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23311 33300 23312 33300 233333 333300 233333 333300 233333 333300 233333 333300 233333 333330 233333 33330 233333 333333 233333 333333 233333 33333 233333 333333 233333 333333 233333 333333 233333 333333 233333 333333 233333 333333 233333 333333 2333333 3333333333333333333 233333333<	22482 45 2239 5 2239 5 22293 6 22293 6 22293 6 22293 6 22293 6 22293 6 22293 6 22152 7 22	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 991\\ -&-&-&-\\ -&-&-&-&$	U 3333777777777777777777777777777777777	P 456789012345671N3456789012345678901234567890123456 A 666666677777777000000000001111111112222222222	C	S 24862982136705362406457830110172097093034919283149 R 000000000100000000023000001330000133300001333000011233	 C	D 000000000000000000000000000000000000	P 78901234567890123456789011234567890111234567890111234567890111111111111111111111111111111111111	A 01946569601279857133718481882299002330116730864 P 1000000100000110000011259001192990023301165730864 0194656969601279857133718481888229900233011020864	S 08346891301424975739492136879928464741266919244023 R 04472264446070530557394921368799284647412265919244023 C	600155533550 100155533550 1101555 1101555 1101555 110155 110155 110155 110155 110155 110155 110157	C

ND	TAP	CPMEAN	CPRMS	CPHAX	CPMIN	WD	TAP	CPMEAN	CPRHS	CPMAX	CPMIN	ND.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
00000000000000000000000000000000000000	5678901234567890123456789012345 111111111111111111111111111111111111	$\begin{array}{c} 3364\\ 3709\\ 2143\\ 2923\\ 23363\\ 9\\ 1339\\ 2263\\ 2200\\ 2200\\ 2200\\ 1019\\ 2254\\ 2454\\ 2544\\ 1199\\ 1199\\ 1009\\ 1199\\ 1009\\ 10650\\ 1891 \end{array}$	122206311 1468440 11468440 1145515 114551 1145376844321 111011100 1100000 100000 100000 1000000	97276767777899111 97206144107766410076679942659666477899892131 972061612978611 972061612988766664778293666647782938 9780623777777777777777777777777777777777777		00000000000000000000000000000000000000	0123456789012345678901234567890 12222222222222222222233333333333333333	$\begin{array}{c} - 495 \\ - 414 \\ - 3952 \\ - 414 \\ - 3952 \\ - 4677 \\ - 4893 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4693 \\ - 4613 \\ - 4413 \\ - 4418 \\$	$\begin{array}{c} 1561\\ 1148\\ 11483\\ 116896\\ 1164327246\\ 115121157246666\\ 1177470297712\\ 116666971\\ 118787\\ 1167876\\ 1177470297712\\ 11651\\ $	2224333709954037918392640697340222 000000111000049018392640697340022	+ 121376274199007344190073441990073441990073441990073441900900734419011121111111111111111111111111111111	40000000000000000000000000000000000000	0123456789012345678901234567890 23353333333333333333333333333333333333		15550764581972799950751119 1091029988995075119945730 10902099889950751109 10902099889950751109		CP 11.99153443886249615151651042686871
340 340 340	1142 1143 1144	.019 .065 .180	. 105 .090 .106	493 5992 7828 35604 9927 8282 9927 8282 9923 6524 6524 65345 65345 65345 65345 115729 115729 115729	-,488 -,299 -,075	340 340 340	1237 1238 1239	417 423 417	. 187 . 171 . 162	$\begin{array}{c} 0.102\\ 0.102\\ -0.1032\\ -0.0830\\ -0.0830\\ -0.0418\\ -0.0418\\ -0.0104\\ -0.0104\\ -0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.018\\ 0.0104\\ -0.0004\\ -0.00$	-2.295 -1.404 -1.163	340 340 340	1328 1329	- 358	.117	037 047	838 646 687

u n	TAP	CREAN	røøng	CPNAY	CPHIN	MD	TAP	CPMEAN	CPRMS	CPMAX	CPNIN	₩Đ	TAP	CPNEAN	CPRMS	CPMAX	CPMIN
D 000000000000000000000000000000000000	11111111111111111111111111111111111111	C	C	X 80540541472072575089991258195267833772214985533665 P 000000000000000000000000000000000000	C	D 000000000000000000000000000000000000	P 34567890123456789012345678901234567890123456789 9 22222223333333334444444444444444444444	C -	C 000033462630543830905337869813543072875976324890062 R 0000220444580943830905337869813543072875976324890062 11115602489000011141560211000000111156021 1115602178200001111156021 111560217820000000000000000000000000000000000	5380289152201248879012868088277775496522776401452 	N 45857952376253073091652650279480541081978471227352	D 000000000000000000000000000000000000	P 12345678901234567890123456789012335333333334444444444 A 000000001111111111111222222233333333333	A 17316946836273422541459802036610592234209460533415 P 210027658836273422541459802036610592234209460538415 P 2100242241022787912401521117776160460538415 P 1731694683627342254145980203366105922334209460538415 P 1731694683627342254145980203366105922334209460538415 P 17316946836247864053841459800203366105922334209460538415 P 173169468362478640538415 P 17316946836429 P 1732100000000000000000000000000000000000	C PR 72202587577247938499995392098181900024392200598150072 1287000000000000000000000000000000000000	$\begin{array}{c} 1 & .619 \\ .5114 \\ .51142 \\ .53142 \\ .9892 \\ .53142 \\ .9892 \\ .53142 \\ .53142 \\ .531458 \\ .13742 \\ .53355 \\ .1458 \\ .53458 \\ .53458 \\ .53458 \\ .53458 \\ .53458 \\ .53458 \\ .53458 \\ .53458 \\ .5355 \\ .53458 \\ .5588 \\ .5$	C

ND	TAP	CPMEAN	CPRMS	CPHAX	CPHIN	WD	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
340	2151	. 073	. 093	. 539	567	340	2246	103	. 075	. 146	727	340	2335	242	.049	121 118	492 483
340	2152	. 086	. 080	. 4 9 9	100	340	2247	096	. 049	. 080	4 38	340 340	2336 2337	240	107		-1.118
340	2153	. 058	. 063	.361	156 129	340 340	2248 2249	- 124	.053	.080	314 448	340	2338	246	088	- 014	792
340 340	2154 2155	.048	.065 .089	.345	- 140	340	2250	- 367	185	003	-1.191	340	2339	- 255	062	- 098	- 565
340	2201	- 780	224	- 245	-1.713	340	2251	- 128	. 113	265	- 994	340	2340	259	061	104	563
340	2202	- 699	172	- 233	-1.289	340	2252	- 065	. 040	. 101	229	340	2341	254	. 057	114	609
340	2203	493	138	104	-1.343	340	2253	082	. 063	. 131	324	340	2342	246	. 056	096	513
340	2204	501	. 182	021	-1.164	340	2254	. 031	. 056	. 356	130	340 340	2343 2344	251	.058	103	525 493
340	2205	456	. 143	~ . 054	-1.016	340	2255 2256	200	.138	. 278 . 264	-1.027	340	2345	- 244	: 053	- 095	534
340	2206 2207	358 318	.081	088 096	700	340 340	2257	- 078	106	276	671	340	2346	- 263	139		-1.099
340	2208	- 822	.219	- 296	-1.673	340	2258	- 025	053	247	- 224	340	2347	- 244	093	. 070	- 827
340	2209	- 685	176	- 231	-1.415	340	2259	- 050	. 038	. 116	189	340	2348	280	. 078	070	902
340	2210	- 610	. 139	127	-1.205	340	2260	065	. 040	. 073	259	340	2349	284	. 080	112	735
340	2211	375	. 1 0 9	070	884	340	2261	459	. 048	. 092	298	340	2350	271	. 068	108 085	645 620
340	2212	273	. 086	025	755	340	2301	273	. 053	119	477 501	340 340	2351 2352	260	.071	- 100	- 585
340	2213	264	. 072	.070	753 652	340 340	2302 2303	276 272	.054	- 114	455	340	2353	- 255	. 062	103	- 474
340 340	2214 2215	277 558	.068	- 229	-1.276	340	2304	- 270	. 055	- 092	- 480	340	2354	- 247	060	- 106	- 577
340	2216	548	117	- 176	-1.384	340	2305	- 273	. 050	- 113	- 446	340	2355	- 208	. 137		-1.379
340	2217	- 559	. 134	- 025	-1.130	340	2306	274	. 049	- 131	464	340	2356	- 206	. 105	. 127	825
340	2218	480	. 161	.227	-1.128	340	2307	264	. 047	095	517	340	2357	289	. 104	. 064	756
340	2219	349	. 145	. 229	-1.076	340	2308	246	. 046	099	4 37	340	2358	- 305	. 099	.160	775 695
340	2220	263	. 101	.057	807	340	2309	250 282	.045	104	433 713	340 340	2 359 2360	284 290	.082 .095	028	803
340	2221	265	. 095	008 237	884	340 340	231¢ 2311	- 279	.059	- 100	- 526	340	2361	- 303	100	. 017	- 967
340 340	2222 2223	539 545	. 135	- 180	-1.667	340	2312	- 294	056	- 117	- 489	340	2362	- 289	086	- 096	- 700
340	2224	555	150	.011	-1.204	340	2313	- 287	051	- 149	- 462	340	2363	- 287	. 087	092	- 732
340	2225	- 462	173		-1.183	340	2314	292	. 053	154	529	340	2364	113	. 101	. 124	749
340	2226	342	. 157	. 1 20	-1.072	340	2315	298	. 053	135	495	340	2365	242	. 109	. 122	- 688
340	2227	272	. 116	.116	836	340	2316	272	. 052	111	471	340 340	2366 2367	295	. 112	.098 007	-1.132
340	2228	268	.110	.073	906 -1.341	340 340	2317 2318	260 267	.048	116	446 477	340	2368	- 322	102	- 100	- 783
340 340	2229 2230	- 580 - 593	.150	152	-1.538	340	2319	- 288	. 699	- 008	- 958	340	2369	- 072	074	117	- 724
340	2231	- 561	192	136	-1.512	340	2320	- 280	073	- 010	- 782	340	2370	083	. 066	. 148	466
340	2232	392	190	.163	-1.105	340	2321	264	. 049	063	484	340	2371	160	. 112	. 335	791
340	2233	- 236	. 141	.250	-1.044	340	2322	27.9	. 049	130	501	340	2372	198	. 147	. 590	848
340	2234	212	. 0 90	.088	692	340	2323	268	. 046	146	440	340	2373 2374	229	.089	.106	850 831
340	2235	229	. 083	.005	682	340	2324 2325	249	.051	109	474 459	340 340	2375	- 276	. 091	- 024	-1.055
340	2236	566	. 176	054 030	-1.273	340 340	2326	- 243	. 048	098	- 435	340	2376	- 320	196	- 097	- 945
340 340	2237 2238	572 452	. 182 . 221	.103	-1.401	340	2327	- 242	047	- 102	- 432	340	2377	- 319	. 116		-1.221
340	2239	207	154	.167	- 945	340	2328	- 260	. 089	. 032	882	340	2491	153	. 036	019	307
340	2240	- 138	084	122	- 641	340	2329	247	. 073	024	783	340	2402	077	. 040	. 071	228
340	2241	172	. 059	.040	602	340	2330	249	. 053	048	486	340	2403	040	. 051	. 152	231
340	2242	214	. 075	.081	610	340	2331	254	. 050	123	453	340	2404	040	.057	. 153 . 223	268 292
340	2243	498	. 185	073	-1.278	340	2332 2333	247 238	.046	130 059	451 477	340 340	2405 2406	051	. 094	. 379	951
340	2244	458	. 202	.052	-2.100	340 340	2333	246	.049	120	491	340	2407	.106	190		-1.041
340	2245	198	. 166	. 2 2 7	-1.143	344	2334					* * *					

W D	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD	TAP	CPHEAN	CPRMS	CPMAX	CPMIN	WD.	TAP	CPMEAN	CPRNS	CPMAX	GPMIN
00000000000000000000000000000000000000	890123456789012345678901234567890123444444444444444444444444444444444444	- 267 - 00497 - 2000 -	86689150669578083037250258348290494299179441874662 0000013000001200001200001100000117643561664602644			00000000000000000000000000000000000000	890112345678901112345678901234567890123456789012345 55660000000011000000001111111111111111	$\begin{array}{c} 0.64\\ 0.049511\\22414420\\ 0.04511\\363602241201\\363602241201\\3636022512350638269728717\\3896490021235558430021738964900048\\389987177188964900048\\389984\\389984\\38984\\ $	0731739706414472532262786587041564703777606488204338 0009878970641444725322662786587041564703777606488204338	62757106890528930062605360157920418186114759489576 80220535364665046928097816015792041818689 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		**************************************	67890123456789012345123456789012345678901234567890 111111111111111111111111111111111111	7469317096419683732120133084177511122099994818919462 001223326223498483126490237091001377888902677891571829 	816617466361731109344366958237374678222165858981133 00090111007011098893111000000111558778882373746782221658888888888881133	$\begin{array}{c} - & 0212\\ 0019\\ - & 1460\\ - & 1460\\ - & 1461\\ - & 110552\\ - & 06517\\ - & 06527\\ - & 06517\\ - & 0998\\ - & 0998\\ - & 0998\\ - & 1331\\ - & 09147\\ - & 1351\\ \end{array}$	

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	X CPHIN
3350 1231	2553755894704858996599055705085932257004246721129255375589470485899659905570859322570042467211292553797558947048584323543545546334164332324243323299652192804455433416433232243323996521928044554334164332224332245769250799280714

350 2306318 .055 350 2307303 .056 350 2308202 .056	152590						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	350 2355 350 2355 350 2355 350 2355 350 2355 350 2355 350 2364 350 2366 350 2366 350 2366 350 2366 2355 2366 350 2366 2350 2366 2350 2366 2350 2366 2350 23774 350 23774 350 23774 350 23774 350 23774 350 24003 350 24003 350 24004 350 24004 350 24004 350 24114 350 24114 350 24117 350 24117 350 24117	$\begin{array}{c} - & 305 & 0.72 \\ - & 189 & 148 \\ - & 195 & 1225 \\ - & 328 & 117 \\ - & 3228 & 1191 \\ - & 3358 & 1064 \\ - & 3358 & 1055 \\ - & 3358 & 1055 \\ - & 3358 & 1056 \\ - & 2733 & 1206 \\ - & 27334 & 1266 \\ - & 2734 & 1266 \\ - & 2734 & 1269 \\ - & 3346 & 1099 \\ - & 0592 & 0659 \\ - & 05972 & 0646 \\ - & 2773 & 1099 \\ - & 3488 & 1029 \\ - & 0277 & 0782 \\ - & 1488 & 1085 \\ - & 22693 & 1099 \\ - & 3488 & 1222 \\ - & 1374 & 0646 \\ - & 22731 & 1099 \\ - & 3488 & 1222 \\ - & 1376 & 0645 \\ - & 0227 & 076 \\ - & 1388 & 1122 \\ - & 1386 & 1391 \\ - & 2260 & 0582 \\ - & 0227 & 0766 \\ - & 138 & 1129 \\ - & 138 & 1129 \\ - & 0227 & 0766 \\ - & 138 & 1129 \\ - & 1374 & 0432 \\ - & 0455 & 1861 \\ - & 1957 & 0441 \\ - & 1957 & 0441 \\ - & 1957 & 0441 \\ - & 1255 & 185 \\ - & 1255 & 165 \\ - & 255 & 1$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 3500\\ 24426\\ 3550\\ 24428\\ 3550\\ 24428\\ 3550\\ 24428\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24433\\ 3550\\ 24444\\ 4453\\ 244451\\ 244552\\ 24552\\ 24552\\ 24552\\ 2$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} 4409 & - & 090\\ 9799 & - & 3224\\ 1 & 0557 & - & 3855\\ 29799 & - & 3254\\ - & 3855\\ 24150 & - & 4503\\ 24150 & - & 4503\\ 24150 & - & 4503\\ 24150 & - & 4503\\ 2000 & - & 5032\\ 24150 & - & 4503\\ - & 36381 & - & 1171\\ 8000 & - & 45032\\ 2177 & - & 1171\\ 8000 & - & 45032\\ - & 3557 & - & 3577\\ - & 3557 & - & 3577\\ - & 3577 & - & 3577\\ - & 3577 & - & 35856\\ - & 3577 & - & 35856\\ - & 3557 & - & 35856\\ - & 3557 & - & 35856\\ - & 3557 & - & 35856\\ - & 3559 & - & 06691\\ - & 3559 & - & 06955\\ - & 2490 & - & - & 38439\\ - & 00957 & - & 3843\\ - & 00957 & - & 3843\\ - & 00957 & - & 35856\\ - & 3559 & - & 06691\\ - & 3559 & - & 00691\\ - & 3590 & - & 1227\\ - & 2490 & - & - & 3843\\ - & 00957 & - & - & 3843\\ - & 00957 & - & - & 3843\\ - & 00957 & - & - & 3843\\ - & 00957 & - & - & 3843\\ - & 00957 & - & - & - & 3843\\ - & 00957 & - & - & - & - & - & - & - & - & - & $

ND	TAP	CPHEAN CPRMS	CPNAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	₩D	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
- 8888888888888888888889999999999999999	2907490529074905290749052907490529074905 22233406522222334065222222222222222222222222222222222222	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	X 3822562116455771648455757588133068642577164713845577211645577216471384557721181458657721181451284541446587573890141132108434444658757389014113210843444465875738901414258884	C	N 99999990000000022222224444444446666668888 11111111111111111111	074905790749057	58126685498837886275405903024114120556844333335946499833339462999590302411412055684498333335966299959030241141205568440	04661119046556565650314362036920806536956630 096661119046556565031436203111129865369566320 1111129867010220973202298653208065369566320 11112007311120073111120073111120073111120078611220	0433125035502214506218648951227050223615005111 0110174882145062186489512115112576050501 110127488214506218648951211011111120991151 1101274050505511	-1-21-1121-11-1-32-11-1121-11-1-32-11-1121-11-121-11-121-11-121-11-1	111112220000000002222222244444444666666668888888888	49052907490529074905290749052907490529074 23232334065223340652222334065222233406522223340652222233406522222334065222223244222222324422	467872761499297347561308489912278859515164443263087652266541771154396273210644443287144432271444322371444432	73200703805943574927872389122275139257832	944197854058336483856113518855216142727400 944419785405833648385611351885521642727400 9444197854058336483855611351885524006142727400 94441978540583364838556113518855224006142727400 94441978540583364838556113518855224006142727400 94441978540585521160756000000000000000000000000000000000	250459116155226187831347806114688166912387 -11-1
94	2260	440 .106	185	-1.061 470	108	1222 1229	408 414	126	- 135 - 115 - 151 - 156 - 107 - 135 - 135 - 135 - 145 - 146	-1.224	128 128	1230 1237	405 361	.138	.064 030 .000 .857 148 .613 .104 .104 .135	-1.063

WD	TAP 1	CPMEAN CPR	IS CPHAX	CPHIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	ND	TAP	CPMEAN	CPRMS	CPMAX	CPHIN
2211111122111112221111122211111222111111	255229	CP NE AN CPR 754 3 351 1 351 1 351 1 339 1 299 1 299 1 226 1 3262 1 3262 1 3262 1 3262 1 3262 1 3262 1 208 1 2951 1 2951 1 2951 1 2951 1 2951 1 2251 1 225	$\begin{array}{c} 0 & 0 & 0 & 0 \\ 0 & 0 & 7 & 5 \\ 0 & 0 & 2 & 7 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 0 & 2 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 &$	$\begin{array}{c} -2 & .706\\ - & .201\\ -1 & .201\\ -1 & .196\\ - & .938\\ - & .664\\ -2 & .616\\ - & .207\\ -1 & .386\\ - & .508\\ - & .534\\ -3 & .3085\\ - & .175\\ -1 & .515\end{array}$		P 29074905290749052907490529074905290749052907490529074905	$ \begin{array}{c} C \ P \ ME \ A \\ H \\ H \\ E \ A \\ H \\ H \\ E \ A \\ H \\ $	CPR 0515567016711444601413445611136643564955218879532	70000000000000000000000000000000000000	C	D 666666888888888888900000000000222222244444444666666668888888888	P 077490529074900529007490052900749005290074900529007490052900749005290074900529007490052900749005290074900529007490052900749005290074900529007490052900074900000000000000000000000000000000	NHN PM 905296335326145851387237774231936922434321556111983 	C PR 055510611346386339944352270952219464275073822966231772209 000000000000000000000000000000000	1692270883112590688311259098129000022258497714091500002225849088311710098129000222584977140018155714002862572044908113155714002865572044908812	C

W.D	TAP	CPMEAN	CPRMS	CPNAX	CPMIN	WD-	TAP	CPMEAN	CPRMS	CPMAX	CPMIN	WD.	TAP	CPMEAN	CPRMS	CPMAX	CPMIN
198	1244	052	. 060	.273	274	322	2260	073	. 028	.045	170	336	1222	532	. 264		-3.710
198	1309	. 016	. 107	. 379	349	322	2355	113	. 050	. 052	5 9 3	336	1229 1230	- 498 - 505	. 268		-2.627
198	2269	. 214	. 148	.993	239	324	1222	637	. 234		-3.408 -2.469	336 336	1230	- 445	.254	. 278	-3.521
198	2355	522	. 179	070	-1.644	324 324	1229	640 645	283		-2.597	336	1244	- 393	198		-2.366
312	1222	411	. 262	.498	-1.601	324	1237	- 578	. 276		-2.636	336	1309	257	. 091	031	- 691
312 312	1229	375 321	. 311		-1.540	324	1244	- 444	259	203	-2.290	336	2260	- 066	. 040	. 198	243
312	1237	- 253	273	343	-1.567	324	1309	224	. 067	017	585	336	2355	189	. 126		-1.210
312	1244	- 105	206	.412	-1.316	324	2260	070	. 028	. 0 5 9	162	338	1222	518	. 243	. 033	-2.669 -3.090
312	1309	247	. 054	075	520	324	2355	120	. 062	. 0 9 9	- 671	338 338	1229 1230	- 478 - 484	. 251		-2.169
312	2260	121	. 037	.021	286	326	1222	650 639	. 278 . 293	.231	-2.927 -2.823	338	1237	- 427	220	196	-2.074
312	2355	160	. 053	.044 .498	482 -1.557	326 326	1230	- 643	315		-3.146	338	1244	- 378	188		-2.078
314	1222	- 483 - 438	. 237	.504	-2.021	326	1237	- 545	. 293	101	-2.765	338	1309	- 281	. 096	012	650
314 314	1230	- 395	301	.374	-1.759	326	1244	- 450	.248	. 098	-2.194	338	2260	066	. 041	. 152	289
314	1237	- 305	272	.340	-1.579	326	1309	220	. 066	003	551	338	2355	199	. 133	. 171	-1.196
314	1244	212	. 237		-1.332	326	2260	065	. 031	.080	178	340	1222	485	. 220		-1.891 -2.827
314	1309	252	. 062	071	590	326	2355	128	. 077	. 101	712	340 340	1229 1230	454 461	247		-2.525
314	2260	108	. 037	.069	253	328 328	1222	655 651	. 294	.090	-3.673	340	1237	- 409	180	073	-1.849
314	2355	147 539	.050	.070 .323	-1.727	328	1230	- 653	319	. 091	-3.700	340	1244	- 387	166		-1.828
$316 \\ 316$	1229	- 513	238	.315	-2.765	328	1237	583	287	052	-2.318	340	1309	306	. 101	019	782
316	1230	- 491	286	.264	-1.601	328	1244	471	. 276	. 039	-2.213	3,40	2260	068	. 041	. 080	232
316	1237	401	. 266	. 321	-1.752	328	1309	223	. 071	. 001	619	340 342	2355 1222	197 452	. 137	. 127	-1.150
316	1244	261	. 230	.312	-1.463	328	2260 2355	062	.033	.083	- 182 - 789	342	1229	- 430	190		-1.924
316	1309	242	.062	055	516 240	328 330	1222	- 637	. 272	- 032	-2.684	342	1230	- 437	202	. 083	-1.857
316 316	2260	- 097 - 136	.045	.069	- 589	330	1229	- 632	319	. 0 0 6	-3.293	342	1237	- 413	. 173		-1.603
318	1222	559	228	355	-1.924	330	1230	638	. 344	. 982	-3.265	342	1244	- 402	. 149		-1.523
318	1229	531	. 249	.407	-2.033	330	1237	535	. 295	. 096	-3.219	342	1309	316	. 100	010	720
318	1230	511	. 301	. 298	-2.090	330	1244	430	. 246	.119	-2.356	342 342	2260 2355	- 063 - 189	.041	. 092	- 873
318	1237	430	. 277	.288	-1.866	330 330	1309 2260	- 223	.073	.001	620 175	344	1222	- 419	156	012	-2.188
318	1244 1309	335 235	.248	.199	-1.463	330	2355	- 158	105	129	-1.053	344	1229	- 404	. 133		-1.774
318 318	2260	- 091	. 029	048	- 226	332	1222	629	. 297	- 039	-2.380	344	1230	409	. 138		-1.731
318	2355	- 125	038	.007	- 370	332	1229	622	. 320		-3.894	344	1237	407	. 121		-1.131
320	1222	622	. 204	.069	-1.843	332	1230	625	. 342	. 170	-3.798	344	1244	426	. 152	.089 036	-1.278
320	1229	611	. 241	.147	-2.845	332	1237	536	. 289	.087 .093	-2.891 -1.926	344 344	1309 2260	327	.042	. 064	- 223
320	1230	617	. 282	.181	-3.841 -2.138	332 332	1244 1309	447 229	. 679	- 006	- 729	344	2355	- 191	139	127	- 976
320	1237	528 390	. 271 . 252	.193 .354	-2.302	332	2260	- 062	039	106	- 202	346	1222	- 415	122	043	-1.174
320	1309	240	. 066	- 026	- 620	332	2355	- 180	. 115	. 166	964	346	1229	405	. 117	093	-1.135
320	2260	- 085	031	.047	- 172	334	1222	555	. 266	. 232	-2.647	346	1230	- 412	. 122		-1.280
320	2355	119	. 041	.028	537	334	1229	535	. 280	. 062	-3.726	346	1237	416 418	. 119		-1.219
322	1222	622	. 238	.089	-3.320	334 334	1230 1237	- 538	. 291	.167	-2.810	346 346	1309	- 337	. 097	026	- 719
322	1229	610 613	. 259 . 292	.206	-3.812	334	1237	- 414	211	. 169	-1.753	346	2260	- 067	041	. 074	- 255
322 322	1230 1237	526	286	.147	-2.723	334	1309	- 247	. 086	067	- 643	346	2355	- 196	143	. 156	-1.146
322	1244	392	240	.140	-2.360	334	2260	061	. 041	. 118	224	348	1222	383	. 098		-1.277
322	1309	- 214	. 066	- 022	524	334	2355	190	. 126	. 149	-1.149	348	1229	372	. 094	025	-1.158

APPENDIX A PRESSURE DATA ; CONFIGURATION B ; GA	ATEWAY PROJE	1 100ERS
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ND	TAP	CPMEAN CPRMS	CPMAX	CPHIN	WD	TAP	CPMEAN CPRMS	CPMAX	CPHIN	MD.	TAP	CPNEAN CPRNS	CPMAX	CPMIN
		379 .096					430 .127 332 .092					069 .039 191 .135	.057 .179 -	

MEASUREMENT AND ANALYSIS OF ACCELERATION

APPENDIX B

MEASUREMENT AND ANALYSIS OF ACCELERATION

top components of magnitude entirely within the horizontal x-y plane. P(x,y)two-dimensional floor--of This the appendix deals acceleration vector ω body tall 1 S building. with the acceleration a and a y indicated <u>a</u> can •• It is assumed that the motion occurs be in Figure resolved The motion of B-1. ρυ into given floor--say the At of any two an arbitrary given orthogonal point

$$\underline{a} = a_{\rm X} \underline{i} + a_{\rm y} \underline{j} \tag{B.1}$$

ay, Two the the ficient and therefore point 0 accelerometers acceleration to determine the acceleration at any other point; that is, a_x , (its own z-axis), however the two **|**20 would be both necessary and sufficient at are this given point. functions of x and Since ۷ accelerometers the as well as body can rotate 0f to time are determine insufabout

ables x, y, and The entire acceleration field can be specified $\ddot{\Theta}$, as shown in Figure B-2: using three vari-

$$\underline{a}(\mathbf{x},\mathbf{y}) = \mathbf{\ddot{x}} \ \underline{i} + \mathbf{\ddot{y}} \ \underline{j} + \mathbf{r}\mathbf{\ddot{\theta}} \ \underline{t}$$
(B.2)

where

 $\underline{a}(\mathbf{x},\mathbf{y})$ ×: Ił 11 total acceleration at a point P(x,y) having distance acceleration due H II \bigvee_{x^2} to translation of body along X-axis + y² from center of twist 0

≤:

H

acceleration due to translation

of body along

Y-axis

Φ:

11

angular tion of

body

acceleration (in radians/sec²) due rota-body about Z-axis (assumed center of tw1

twist)

I

unit

tangent

vector =

-(y/r)

|µ. +

 (\mathbf{x}/\mathbf{r})

ات

421

Figure B-2. Total Acceleration Vector as the Sum of Three Components in the X-Y Plane

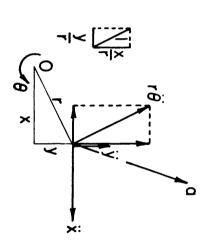
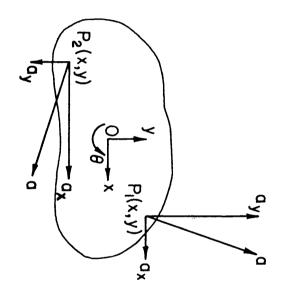


Figure B-1. Total Acceleration Vector at Various Points on a Two-Dimensional Body



which This ya is equation can clearly due ť be easily expanded to both indicates ي: ک that Φ: ×a 18 the due form to both ٥f Equation `≍: θ , and (B.1),

$$\underline{a}(\mathbf{x},\mathbf{y}) = \mathbf{\ddot{x}} \mathbf{\underline{i}} + \mathbf{\ddot{y}} \mathbf{\underline{j}} - (\mathbf{y}/\mathbf{r})(\mathbf{r}\mathbf{\dot{\theta}})\mathbf{\underline{i}} + (\mathbf{x}/\mathbf{r})(\mathbf{r}\mathbf{\ddot{\theta}})\mathbf{\underline{j}}$$
$$= (\mathbf{\ddot{x}} - \mathbf{y}\mathbf{\ddot{\theta}})\mathbf{\underline{i}} + (\mathbf{\ddot{y}} + \mathbf{x}\mathbf{\ddot{\theta}})\mathbf{\underline{j}}$$
$$= \mathbf{a}_{\mathbf{x}} \mathbf{\underline{i}} + \mathbf{a}_{\mathbf{y}} \mathbf{\underline{j}}$$

Now the magnitude of the acceleration 18 given by

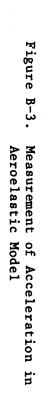
$$a^{2} = a_{x}^{2} + a_{y}^{2} = \dot{x}^{2} - 2y \ddot{x} \ddot{\theta} + y^{2} \dot{\theta}^{2} + \dot{y}^{2} + 2x \ddot{y} \ddot{\theta} + x^{2} \dot{\theta}^{2}$$

= $\dot{x}^{2} + \dot{y}^{2} + (x^{2} + y^{2}) \dot{\theta}^{2} - 2\dot{\theta}(\ddot{x}y - x\ddot{y})$ (B.3)

`≍: Thus instantaneously accelerometers aeroelastic tion corresponding to **ې:** For and θ . continuous the current study, three accelerometers model were computed sums and differences of as analog routed shown the top in the plan view to an analog signals floor. were Electrical signals available proportional processing circuit, which of Figure the were signals B-3, mounted at as an elevafrom ц. shown. the the ť

every ۵ م multiplying acceleration) researchers the impractical, records issue directly from measurements, and then extrapolate an estimated measurement One is concerned. time sample, then select the largest resulting way : ۲ this whether to find peak total acceleration which as **ج:** Ъy of well as 0, compute ω is of The approach taken here, therefore, peak ÷ peaks. is significance, subject to statistical variability factor. р[®] Further, ¢ (the peak acceleration) or according to insofar there 15 15 18 to as the disagreement digitize Equation value. 1 S human to determine م م (B.3) inherent the the rms This response pa among three for 'n 1:S by

423



El.= 136 m

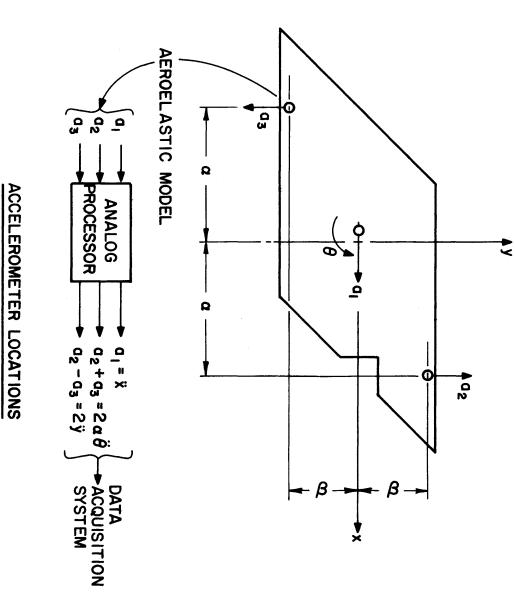
(approx. top floor)

β = 10.0 m

Ω

11

[:] 25.4 m



മറ H 15 as follows: determined by time-averaging Equation (B.3) over a period

$$\overline{a^2} = \frac{1}{T} \int_0^T |a|^2 dt = \frac{1}{T} \int_0^T \frac{1}{(x^2 + y^2 + r^2)^2} - \frac{1}{\theta}(\frac{1}{xy - xy}) dt$$

$$= \frac{1}{x^2} + \frac{1}{y^2} + \frac{1}{r^2 \theta^2} + \frac{1}{x \theta^2} + \frac{1}{y \theta} - \frac{1}{y \theta^2}$$

tional motions, then the cross-correlations vanish, resulting If the rotational motion is assumed to be independent of the H transla-

$$\sigma_{a} = \sqrt{\frac{1}{a^{2}}} = \sqrt{\sigma_{x}^{2}}^{2} + \sigma_{y}^{2}^{2} + \sigma_{r\theta}^{2}^{2}^{2}$$
(B.4)

ing to one been arbitrarily selected as the distance from the center of the buildacquisition The three signals representing \ddot{x} , \ddot{y} , and $r\ddot{\theta}$ were digitized by the vector Then ۵ ه rms is computed off-line by Equation (B.4). of the accelerometer locations, as shown on Figure B-3. acceleration" system, and or., given in Table 10 and Figure 21, where r has **ہ** ع: α **r**θ: were computed This 1 s the on-line. "total data