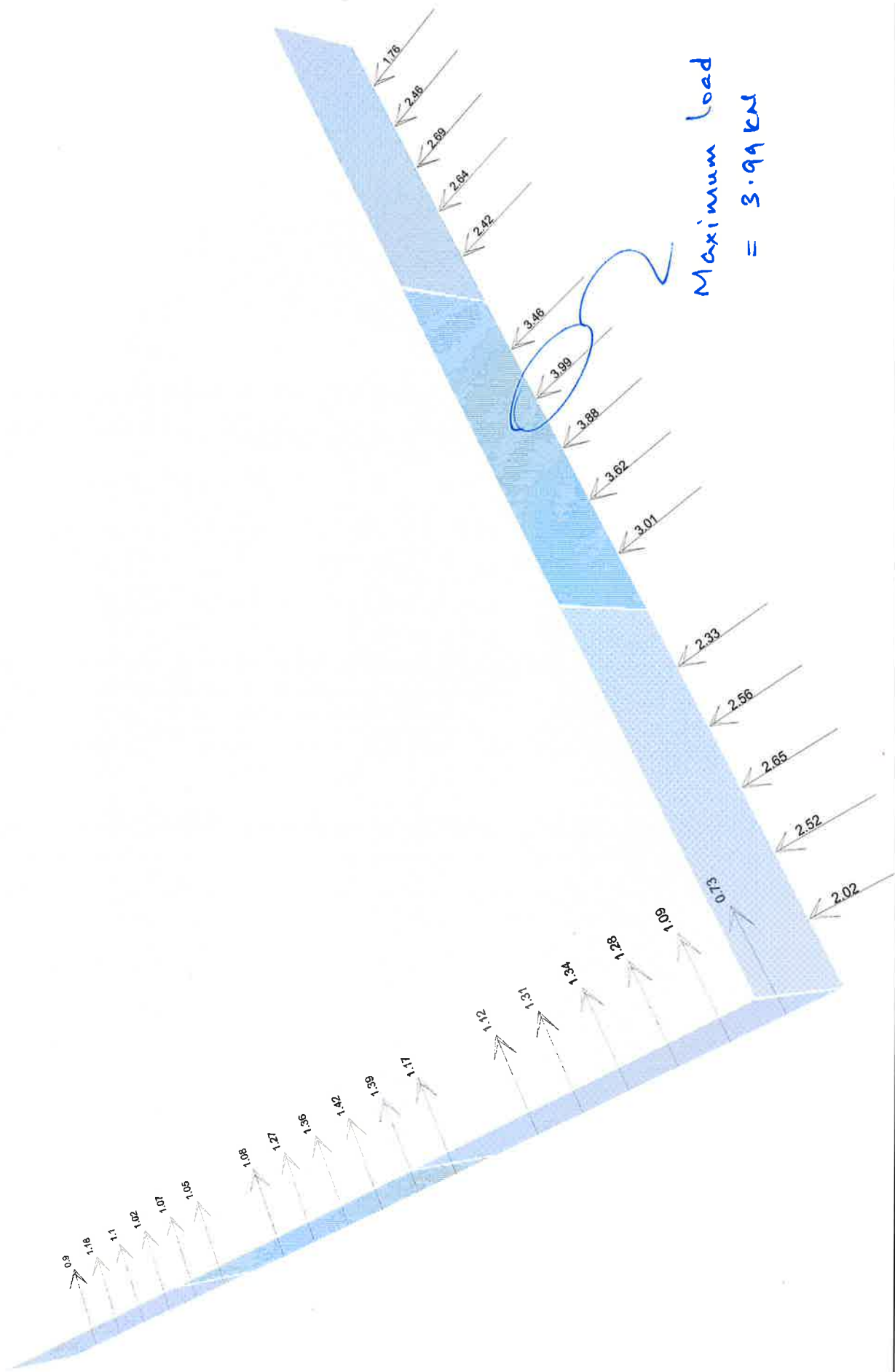


Wall Panel Over Retaining Wall - EQ load @ dowels

30/01/2019



Ref: 1710168
Sc 215

Again Overturning moment for strength.

$$0.8 \times 9.9 \times \frac{1}{3} \times 1.8 + 0.8 \times 0.3 \times 3.06 \times \frac{1.8}{2} + 4 \times 2 = 13.4 \text{ kNm}$$

This is less than load combination of DL and LL.
refer to page SC162

Stability:

$$\text{Ult. Horiz. Force} = 1.25 \times Q + \psi_c Q + 1.0 F_{eq}$$

$$= 1.25 \times 9.9 + 0.3 \times 3.06 + 4$$

$$= 17.3 \text{ kN} > \text{previously calculated.}$$

However still less than Capacity - refer to

page SC162 \rightarrow Capacity = 17.48 kN.

Ultimate overturning moment -

$$= 1.25 \times 9.9 \times 0.6 + 0.3 \times 3.06 \times 0.9 + 4 \times 2$$

$$= 16.25 \text{ kNm.}$$

Total resistance from previous calculation = 15.60 kNm.

Increase the width of base to 1.25m.

$$\phi M (\text{overturning}) = 17.11 \text{ kNm} > \text{req. (OK)}$$

$$\text{And } \phi \text{ sliding} = 17.84 \text{ kN} > \text{req. (OK)}$$

\rightarrow Refer to calcs beyond.

Redesign of Retaining wall - Allowing for Horizontal Load from Earthquake.

Max. retaining height = 1.8m.

Ultimate horizontal load from EQ = 3.99 ~ 4kN

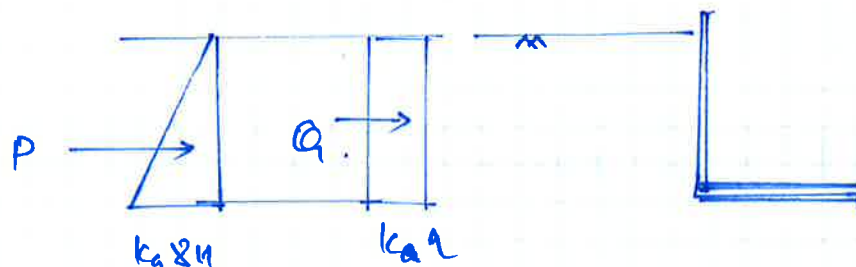
Say dowel @ 200 above ground level.

\therefore Additional Moment = $4 \times 2 = 8 \text{ kNm}$.
(Ultimate)

Load Combination

$0.8 (G + \gamma_c Q) + 1.0 F_{eq}$ - Strength limit state

$$1.25 G + \gamma_c Q + 1.0 F_{eq} < 0.8 (G + \gamma_c Q)$$



$$k_a = 0.34, \quad \gamma = 18 \text{ kN/m}^3, \quad H = 1.8 \text{ m}, \quad q = 5 \text{ kPa}.$$

$$P = \frac{1}{2} k_a \gamma H^2 = 0.5 \times 0.34 \times 18 \times 1.8^2 = 9.9 \text{ kN}.$$

$$Q = k_a q \times H = 0.34 \times 5 \times 1.8 = 3.06 \text{ kN}.$$

$$F_{eq}^* = 4 \text{ kN}.$$

$$\text{Ultimate Horizontal for strength} = 0.8 (9.9 + 0.3 \times 3.06) + 4 = 12.7 \text{ kN}.$$

Total sliding force is less than
the load combination of D.L and L.L.
(Refer to page SC162)

Checked :

Date : / /

RETAINING WALL DESIGN

This design is in accordance with AS4678 — 2002 Earth-retaining Structures

WALL TYPE: REINFORCED CONCRETE

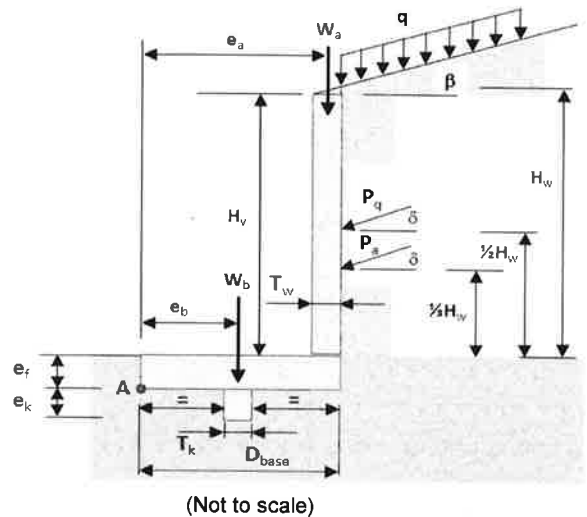
Design input parameters:

a) Geometry

H_v = Vertical height of wall =	1.88 m
T_w = Overall wall thickness =	0.200 m
D_{base} = Width of wall base (must be $\geq T_w$) =	1.25 m
β = Angle of backfill surface =	0.00 degrees
e_f = Embedment depth of footing =	0.25 m
T_k = Width of shear key =	0.25 m
e_k = Embedment depth of shear key =	0.25 m

b) Material Properties

δ = Friction angle between wall and soil =	18 degrees
γ_w = Density of wall material =	24.00 kN/m ³
Concrete compressive strength, f_c =	32 MPa
Reinforcement yield stress =	500 MPa
Vertical reinforcement bar diameter =	12 mm
Vertical reinforcement bar spacing =	200 mm



Retained soil type = Firm clay of medium to high plasticity, silty clay, sandy clay (AS 4678-2002 Table D4)

Cohesion, c_r :	5 kPa	Density, $\gamma_{s,r}$:	18.0 kN/m ³
Friction Angle, ϕ_r :	27 degrees		

Foundation soil type = Firm clay of medium to high plasticity, silty clay, sandy clay (AS 4678-2002 Table D4)

Cohesion, c_f :	5 kPa	Density, $\gamma_{s,f}$:	18.0 kN/m ³
Friction Angle, ϕ_f :	27 degrees	Bearing Strength, $q_{u,f}$:	360 kPa

c) Other

q_s = Surcharge on top of backfill surface = 5.00 kPa (Ref. AS 4678 — 2002 Table 1.1 for minimum value)

Design factors:

$k_1 = 1 / \sin(90^\circ) =$	1.00	$k_2 = \sin(90 - \phi_r) =$	0.89
$k_3 = \sin(90 + \delta) =$	0.95	$k_4 = \sin(\phi_r + \delta) =$	0.71
$k_5 = \sin(\phi_r - \beta) =$	0.45	$k_6 = \sin(90 - \beta) =$	1.00

Design height, $H_w = H_v + T_w \cdot \tan \beta =$ 1.88 m

Forces acting on the wall:

$K_a = (k_1 * k_2 / (k_3 + (k_4 * k_5 / k_6)^{0.5}))^2 =$	0.34
$P_a = 0.5 * K_a * \gamma_{s,r} * H_w^2 =$	10.96 kN/m
$P_q = K_a * q_s * H_w =$	3.24 kN/m

NOTE:

Dead Load Factor =	1.2
Live Load Factor =	1.5
$\Phi_{overturning} =$	0.8
$\Phi_{sliding} =$	0.7
$\Phi_{bearing} =$	0.33

Check Overturning (Limit State Condition)

1. Overturning moments (about point A).

(a) Soil pressure

$$M_{a,A}^* = 1.2 * P_a * \cos(\delta) * (\frac{1}{3}H_w + e) = 10.97 \text{ kNm/m}$$

(b) Surcharge on top of backfill surface

$$M_{q,A}^* = 1.5 * P_q * \cos(\delta) * (\frac{1}{2}H_w + e) = 5.50 \text{ kNm/m}$$

$$\Rightarrow \text{Total Overturning Moment is } 16.47 \text{ kNm/m} \leftarrow$$

2. Restoring moments (about point A).

$$M_{R,A} = 0.8 * [(W_a * e_a + W_b * e_b) + (P_a + P_q) * \sin(\delta) * D_{base}] = 17.11 \text{ kNm/m}$$

where

$$W_a \text{ (weight of the wall)} = \gamma_w * H_w * T_w = 9.02 \text{ kN/m}$$

$$e_a = D_{base} - T_w / 2 = 1.15 \text{ m}$$

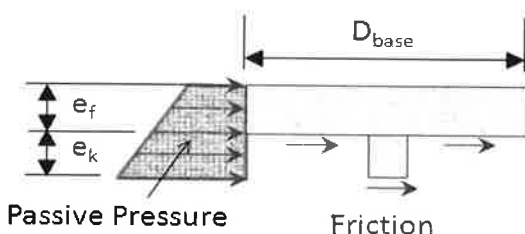
$$W_b \text{ (weight of footing, including shear key)} = 8.83 \text{ kN/m}$$

$$\therefore e_b = D_{base} / 2 = 0.63 \text{ m}$$

$$\Rightarrow \text{Total Restoring Moment is } 17.11 \text{ kNm/m} \leftarrow$$

i.e. Restoring Moment > Overturning Moment \therefore Resistance to Overturning is OK

Check Sliding of Footing (Limit State Condition)



Resistance to horizontal sliding (Limit State Design)

a) Soil friction

$$N_f = W_a + W_b + (P_a + P_q) * \sin(\delta) = 22.24 \text{ kN/m}$$

$$\mu_f = \tan(\phi_f) = 0.51$$

$$\text{Friction resistance, } F_{\phi,f} = N_f * \mu_f = 11.33 \text{ kN/m}$$

b) Passive soil resistance

$$\text{Passive pressure strength at surface} = 16.32 \text{ kPa}$$

$$\text{Passive pressure strength at embedment depth, } (e_f + e_k) = 40.28 \text{ kPa}$$

$$\text{Passive soil resistance, } F_{p,f} = 14.15 \text{ kN/m}$$

Total Resistance, $F_{t,f}$

$$F_{t,f} = \Phi_{sliding} * (F_{\phi,f} + F_{p,f}) = 0.7 * (11.33 + 14.15) \text{ kN/m} = 17.84 \text{ kN/m} \leftarrow$$

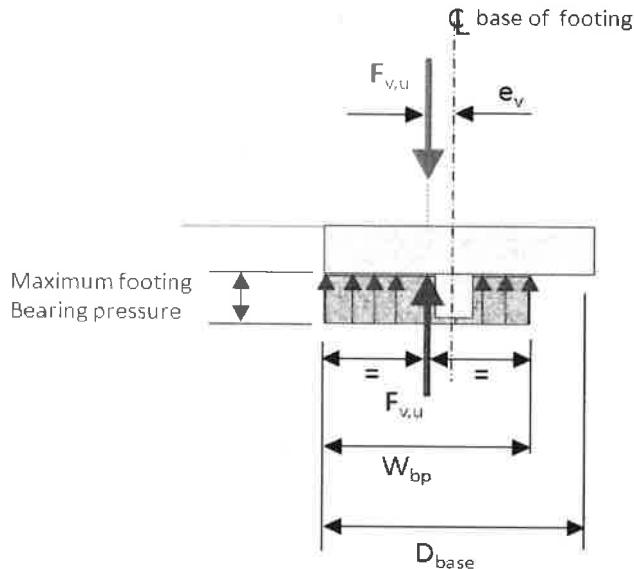
Total Sliding Force, $F_{s,f}$

$$F_{s,f} = (1.2 * P_a + 1.5 * P_q) * \cos(\delta) = 17.14 \text{ kN/m} \leftarrow$$

i.e. Footing Sliding Resistance > Maximum Footing Sliding Force

\therefore Resistance to Sliding of Footing is OK

Check Soil Bearing Pressure (Limit State Condition)



Soil bearing pressure (Limit State Design)

Maximum Bearing Resistance, $\Phi \cdot q_{u,f}$

$$\Phi_{\text{bearing}} \cdot q_{u,f} = 0.33 \cdot 360 \text{ kPa} = 118.8 \text{ kPa} \quad \leftarrow$$

Maximum Bearing Pressure, $P_{m,f}$

Total Vertical Force acting on Footing =

$$F_{v,u} = 1.2 \cdot (W_a + W_b) + (1.2 \cdot P_a + 1.5 \cdot P_q) \cdot \sin(\delta) = 26.69 \text{ kN/m}$$

Overturning Moment About Centre of Base:

$$M_{a,f} = 1.2 \cdot P_a \cdot \cos(\delta) \cdot [\frac{1}{3} H_w + e_f] = 10.97 \text{ kNm/m}$$

$$M_{q,f} = 1.5 \cdot P_q \cdot \cos(\delta) \cdot [\frac{1}{2} H_w + e_f] = 5.50 \text{ kNm/m}$$

Restoring Moment About Centre of Base:

$$M_{r,f} = 1.2 \cdot W_a \cdot (\frac{1}{2} D_{\text{base}} - e_a) = -5.69 \text{ kNm/m}$$

$$\text{Net Moment About Centre of Base} = M_{\text{net},f} = M_{a,f} + M_{q,f} + M_{r,f} = 10.79 \text{ kNm/m}$$

$$\text{Width of wall footing} = D_{\text{base}} = 1.25 \text{ m}$$

$$\text{Load Eccentricity About Centre of Base} = e_v = M_{\text{net},f} / F_{v,u} = 0.404 \text{ m}$$

$$\text{Width of Bearing Pressure Block} = W_{bp} = 2 \cdot (\frac{1}{2} D_{\text{base}} - e_v) = 0.442 \text{ m}$$

$$\text{The Maximum Soil Bearing Pressure, } P_{m,f} = F_{v,u} / W_{bp} = 60 \text{ kPa} \quad \leftarrow$$

i.e. Footing Bearing Resistance > Maximum Footing Bearing Pressure

\therefore Soil Bearing Pressure Beneath Footing is OK

SUMMARY FOR REINFORCED CONCRETE RETAINING WALL FOOTING

WALL HEIGHT = 1.88 m

WALL WIDTH = 0.20 m

FOOTING = 1.25 m wide x 0.250 m deep. Grade N20 concrete.

Type additional information
into these three
lines of text

End of calculation

Floor beam.

End connection upto 200 UB / PFC is 4 M16 ferrules.

Max. Size Used = 200 UB 25 - 2F31.

Reaction at precast panel = $R_{DL} = 15 \text{ kN}$ $R_{LL} = 6 \text{ kN}$
 $N \approx 27 \text{ kN}$

Capacity of 4 M16 Ferrules if 150 apart - refer to S406

Shear capacity from design table.

$$\phi V_{urc} = \phi V_{uc} + X_{vc} + X_{vd} + X_{va} + X_{vn}$$

where $\phi V_{uc} = 49.6 \text{ kN}$ ~~with~~ for 150 edge distance

$X_{vc} = 1.12$ for 40 MPa Concrete

$X_{vd} = 1$

$X_{va} = 0.7$ (for edge distance = 150 & anchor spacing 150)

$X_{vn} = 0.75$ (for anchor spacing / edge distance = 1 & 4 anchors)

$$\therefore \phi V_{urc} = 49.6 + 1.12 + 1 + 0.7 + 0.75 = 30.7 \text{ kN for each.}$$

$$\therefore \text{Total Capacity} = 4 \times 30.7 = 122.8 \text{ kN} > \text{reqd } (016)$$

$$\begin{aligned} 30\% \text{ of } \phi V_u \text{ of } 200 \text{ UB } 30 &= 0.3 \times 225 \\ &= 67.5 \text{ kN} < \text{Capacity of Connection.} \end{aligned}$$

\therefore Upto 200 UB \rightarrow Adopted 4 M16 Ferrules.

(016)

Checked :

Date :/...../.....

Upto 250 UB / PFC.

4 M20 ferrules — 200 apart
refer to S406

$$\text{Capacity of each} = 76.4 \times 1.12 \times 1 \times 0.7 \times 0.79 = 47.3 \text{ kN}$$

$$\therefore \text{Capacity of 4-ferrules} = 47.3 \times 4 = 189 \text{ kN}$$

Reaction from beams are much smaller

$$30\% \text{ of } \phi_{VV} \text{ of } 250 \text{ UB } 37$$

$$= 0.3 \times 283$$

$$= 84.9 \text{ kN} < \text{Capacity of ferrules connection (OK)}$$

Upto 300 PFC / 310 UB.

6 M20 ferrules. — 200 apart
refer to S406.

$$\text{Capacity of each} = 76.4 \times 1.12 \times 1 \times 0.7 \times 0.71$$

$$= 42.53 \text{ kN}$$

$$\therefore \text{Capacity of 6 ferrules} = 6 \times 42.53$$

$$= 255.2 \text{ kN}$$

3FB2 — 300 PF

$$\text{Max reaction} = 90 \text{ kN} < \text{Capacity (OK)}$$

$$30\% \text{ of } \phi_{VV} \text{ of } 310 \text{ UB } 46 = 0.3 \times 356$$

$$= 106.8 \text{ kN} < \text{Capacity}$$

\therefore (OK)

Roof Beams.

Max. beam = 250 UB 26. i.e. R22.

Max. reaction from d.l. & ll = 30 kN \downarrow (N_{dl+ll}^*)

Max reaction from d.l. & wl = 27 kN \uparrow (N_{dl+wl}^*)

Checking with 2 M16 ferrules. 150 apart

$$\phi V_{urc} = \phi V_{uc} * X_{vc} * X_{vd} * X_{va} * X_{vn}.$$

$$= 49.6 * 1.12 * 1 * 0.7 * 1$$

$$= 38.9 \text{ kN}.$$

\therefore Total capacity of 2-ferrules = 77.8 kN $>>$ req.

Since the Connection Capacity allowed for smallest beam is greater than the Connection required for biggest beam

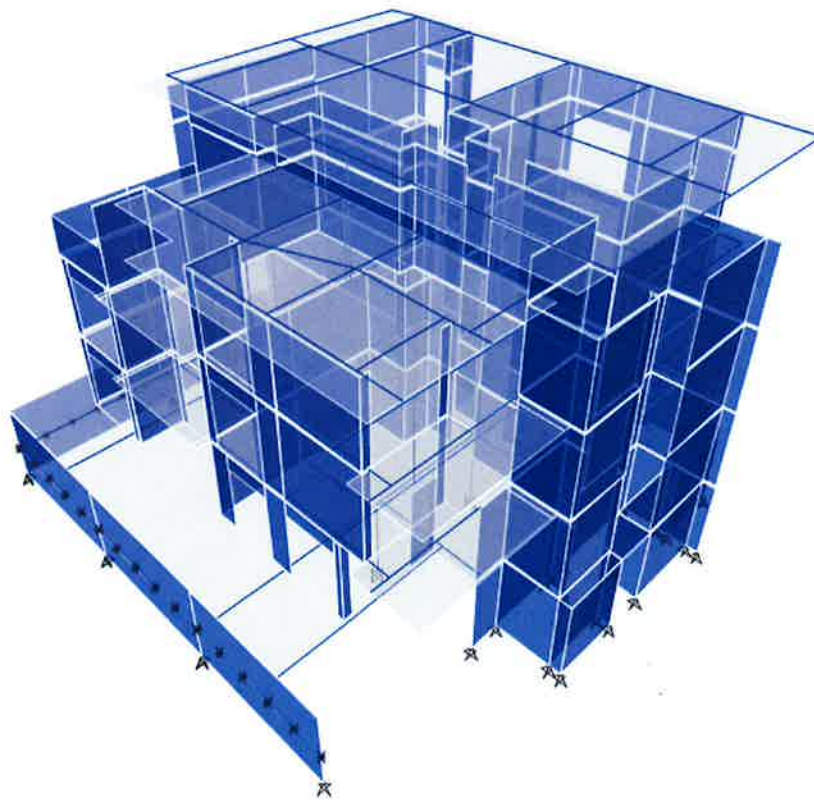
\therefore All the Connection of roof beams ~~checked~~ documented for connection with precast panel is considered adequate.

1710168

SC224

ETABS[®] version 17

Integrated Building Design Software



Stability Report

Proposed Apartments

Model File: Model 01, Revision 0

30/01/2019

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1 Loads

This chapter provides loading information as applied to the model.

1.1 Auto Wind Loading

Table 1.1 - Auto Wind - AS/NZS 1170.2:2011 (Part 1 of 2)

Load Pattern	Loading Method	Exposure Width Type	Angle deg	e	Cp,wind	Cp,lee	Ka	Kc	Kl	Kp
Wind (1/4)	Diaphragms	From Diaphragms	0	0.2	0.8	0.5	1	1	1	1
Wind (2/4)	Diaphragms	From Diaphragms	90	0.2	0.8	0.5	1	1	1	1
Wind (3/4)	Diaphragms	From Diaphragms	180	0.2	0.8	0.5	1	1	1	1
Wind (4/4)	Diaphragms	From Diaphragms	270	0.2	0.8	0.5	1	1	1	1

Table 1.1 - Auto Wind - AS/NZS 1170.2:2011 (Part 2 of 2)

Top Story	Bottom Story	Include Parapet	Vr meter/sec	Terrain Category	Md	Ms	Mt	Cdyn
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1
Upper Roof	Base	No	45	3	1	1	1	1

1.2 Auto Seismic Loading

Table 1.2 - Auto Seismic - AS 1170:2007 (Part 1 of 2)

Load Pattern	Type	Direction	Eccentricity %	Ecc. Overridden	Period Method	User T sec	Top Story	Bottom Story	Site Class	kp
EQ X	Seismic	X		No	User Specified	0.34	Lower Roof	Base	D	1
EQ X	Seismic	X + Ecc. Y	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ X	Seismic	X - Ecc. Y	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y		No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y + Ecc. X	10	No	User Specified	0.34	Lower Roof	Base	D	1
EQ Y	Seismic	Y - Ecc. X	10	No	User Specified	0.34	Lower Roof	Base	D	1

Table 1.2 - Auto Seismic - AS 1170:2007 (Part 2 of 2)

Z	Sp	μ	Period Used sec	Coeff Used	Weight Used kN	Base Shear kN
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502
0.1	0.77	2	0.34	0.14168	11848.8864	1678.7502

AS 1170 2007 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQ X according to AS 1170 2007, as calculated by ETABS.

Direction and Eccentricity

Direction = Multiple

Eccentricity Ratio = 10% for all diaphragms

Structural Period

Period Calculation Method = User Specified

User Period

$$T = 0.34 \text{ sec}$$

Factors and Coefficients

Probability Factor, k_p [AS Table 3.1]

$$k_p = 1$$

Hazard Factor, Z [AS Table 3.2]

$$Z = 0.1$$

Structural Performance Factor, S_p [AS Table 6.5(A)]

$$S_p = 0.77$$

Structural Ductility Factor, μ [AS Table 6.5(A)]

$$\mu = 2$$

Site Sub-soil Class [AS 4.1.1] = De - Deep or Soft Soil

Equivalent Lateral Forces

Seismic Design Action Coefficient,
 $C_{d(T)}$ [AS 6.2.1]

$$C_{d(T)} = \frac{k_p Z C_h(T_1) S_p}{\mu}$$

Calculated Base Shear

Direction	Period Used (sec)	$C_{d(T)}$	W (kN)	V (kN)
X	0.34	0.14168	11848.8864	1678.7502
X + Ecc. Y	0.34	0.14168	11848.8864	1678.7502
X - Ecc. Y	0.34	0.14168	11848.8864	1678.7502

Applied Story Forces

Loads

30/01/2019

Lateral Load to Stories - X

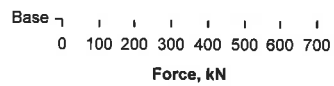
Upper Roof -

Lower Roof ← 314.4688kN

Story3 ← 589.7848kN

Story2 ← 373.072kN

Story1 ← 401.4246kN



Story	Elevation m	X-Dir kN	Y-Dir kN
Upper Roof	13.925	0	0
Lower Roof	12.575	314.4688	0
Story3	9.615	589.7848	0
Story2	6.405	373.072	0
Story1	3.195	401.4246	0
Base	0	0	0

AS 1170 2007 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQ Y according to AS 1170 2007, as calculated by ETABS.

Direction and Eccentricity

Direction = Multiple

Eccentricity Ratio = 10% for all diaphragms

Structural Period

Period Calculation Method = User Specified

User Period

$$T = 0.34 \text{ sec}$$

Factors and Coefficients

Probability Factor, k_p [AS Table 3.1]

$$k_p = 1$$

Hazard Factor, Z [AS Table 3.2]

$$Z = 0.1$$

Structural Performance Factor, S_p [AS Table 6.5(A)]

$$S_p = 0.77$$

Structural Ductility Factor, μ [AS Table 6.5(A)]

$$\mu = 2$$

Site Sub-soil Class [AS 4.1.1] = De - Deep or Soft Soil

Equivalent Lateral Forces

Seismic Design Action Coefficient,
 $C_{d(T)}$ [AS 6.2.1]

$$C_{d(T)} = \frac{k_p Z C_n(T_i) S_p}{\mu}$$

Calculated Base Shear

Direction	Period Used (sec)	$C_{d(T)}$	W (kN)	V (kN)
Y	0.34	0.14168	11848.8864	1678.7502
Y + Ecc. X	0.34	0.14168	11848.8864	1678.7502
Y - Ecc. X	0.34	0.14168	11848.8864	1678.7502

Applied Story Forces

Loads

Lateral Load to Stories - Y

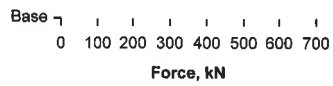
Upper Roof -

Lower Roof -  314.4688kN

Story3 -  589.7848kN

Story2 -  373.072kN

Story1 -  401.4246kN



Story	Elevation m	X-Dir kN	Y-Dir kN
Upper Roof	13.925	0	0
Lower Roof	12.575	0	314.4688
Story3	9.615	0	589.7848
Story2	6.405	0	373.072
Story1	3.195	0	401.4246
Base	0	0	0

2 Analysis Results

This chapter provides analysis results.

2.1 Story Results

Table 2.1 - Story Max/Avg Displacements

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Modal 1	X	0.045	0.033	1.365
Upper Roof	Modal 1	Y	0.06	0.051	1.178
Lower Roof	Modal 1	X	0.039	0.033	1.167
Lower Roof	Modal 1	Y	0.041	0.038	1.079
Story3	Modal 1	X	0.029	0.022	1.308
Story3	Modal 1	Y	0.041	0.034	1.227
Story2	Modal 1	X	0.016	0.013	1.298
Story2	Modal 1	Y	0.025	0.02	1.221
Upper Roof	Dead	X	0.746	0.389	1.921
Upper Roof	Dead	Y	0.732	0.443	1.652
Lower Roof	Dead	X	0.652	0.356	1.834
Lower Roof	Dead	Y	0.203	0.048	4.225
Story3	Dead	X	0.449	0.259	1.734
Story3	Dead	Y	0.44	0.212	2.077
Story2	Dead	X	0.238	0.145	1.644
Story2	Dead	Y	0.229	0.13	1.767
Upper Roof	Live	X	0.148	0.08	1.84
Upper Roof	Live	Y	0.115	0.061	1.892
Lower Roof	Live	X	0.145	0.081	1.802
Story3	Live	X	0.089	0.053	1.671
Story3	Live	Y	0.073	0.03	2.408
Story2	Live	X	0.045	0.028	1.577
Story2	Live	Y	0.04	0.021	1.859
Upper Roof	SDead	X	0.05	0.026	1.887
Upper Roof	SDead	Y	0.046	0.027	1.697
Lower Roof	SDead	X	0.042	0.022	1.847
Lower Roof	SDead	Y	0.015	0.005	2.991
Story3	SDead	X	0.029	0.017	1.672
Story3	SDead	Y	0.029	0.014	1.994
Story2	SDead	X	0.014	0.009	1.583
Story2	SDead	Y	0.015	0.009	1.675
Upper Roof	Wind 1	X	0.211	0.205	1.032
Upper Roof	Wind 1	Y	0.036	0.032	1.142
Lower Roof	Wind 1	X	0.215	0.209	1.026
Lower Roof	Wind 1	Y	0.028	0.024	1.169
Story3	Wind 1	X	0.145	0.139	1.039
Story3	Wind 1	Y	0.022	0.016	1.384
Story2	Wind 1	X	0.085	0.08	1.062
Story2	Wind 1	Y	0.014	0.01	1.322
Upper Roof	Wind 2	Y	0.245	0.189	1.294
Lower Roof	Wind 2	X	0.068	0.034	2.028
Lower Roof	Wind 2	Y	0.156	0.138	1.135
Story3	Wind 2	Y	0.175	0.125	1.393
Story2	Wind 2	Y	0.107	0.075	1.435
Upper Roof	Wind 3	X	0.309	0.217	1.429

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Wind 3	X	0.258	0.19	1.359
Lower Roof	Wind 3	Y	0.117	0.083	1.42
Story3	Wind 3	X	0.205	0.145	1.411
Story2	Wind 3	X	0.121	0.086	1.406
Upper Roof	Wind 4	X	0.118	0.029	4.018
Upper Roof	Wind 4	Y	0.202	0.136	1.484
Lower Roof	Wind 4	Y	0.274	0.239	1.148
Story3	Wind 4	X	0.08	0.02	3.993
Story3	Wind 4	Y	0.197	0.125	1.575
Story2	Wind 4	X	0.047	0.014	3.258
Story2	Wind 4	Y	0.12	0.078	1.532
Upper Roof	EQ X 1	X	1.509	1.402	1.076
Upper Roof	EQ X 1	Y	0.249	0.16	1.549
Lower Roof	EQ X 1	X	1.262	1.228	1.028
Lower Roof	EQ X 1	Y	0.237	0.215	1.105
Story3	EQ X 1	X	1.071	0.985	1.087
Story2	EQ X 1	X	0.647	0.592	1.092
Upper Roof	EQ X 2	X	1.689	1.426	1.185
Lower Roof	EQ X 2	X	1.337	1.205	1.109
Lower Roof	EQ X 2	Y	0.387	0.318	1.217
Story3	EQ X 2	X	1.187	0.999	1.188
Story2	EQ X 2	X	0.716	0.602	1.19
Upper Roof	EQ X 3	X	1.431	1.379	1.038
Upper Roof	EQ X 3	Y	0.251	0.207	1.211
Lower Roof	EQ X 3	X	1.315	1.251	1.051
Story3	EQ X 3	X	1.016	0.967	1.051
Story3	EQ X 3	Y	0.176	0.11	1.602
Story2	EQ X 3	X	0.594	0.563	1.056
Story2	EQ X 3	Y	0.115	0.071	1.614
Upper Roof	EQ Y 1	Y	1.481	1.392	1.064
Lower Roof	EQ Y 1	X	0.199	0.19	1.045
Lower Roof	EQ Y 1	Y	1.318	1.313	1.004
Story3	EQ Y 1	Y	1.086	1.033	1.052
Story2	EQ Y 1	X	0.104	0.065	1.583
Story2	EQ Y 1	Y	0.686	0.645	1.063
Upper Roof	EQ Y 2	Y	1.657	1.449	1.144
Lower Roof	EQ Y 2	X	0.303	0.214	1.416
Lower Roof	EQ Y 2	Y	1.262	1.215	1.039
Story3	EQ Y 2	Y	1.209	1.039	1.163
Story2	EQ Y 2	Y	0.755	0.648	1.165
Upper Roof	EQ Y 3	X	0.22	0.156	1.404
Upper Roof	EQ Y 3	Y	1.381	1.339	1.031
Lower Roof	EQ Y 3	X	0.273	0.167	1.637
Lower Roof	EQ Y 3	Y	1.469	1.412	1.04
Story3	EQ Y 3	X	0.19	0.113	1.675
Story3	EQ Y 3	Y	1.117	1.027	1.088
Story2	EQ Y 3	X	0.105	0.076	1.387
Story2	EQ Y 3	Y	0.672	0.632	1.064
Upper Roof	RESPONSE SPECTRUM Max.	X	2.466	2.141	1.152

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	RESPONSE SPECTRUM Max	Y	2.495	2.113	1.181
Lower Roof	RESPONSE SPECTRUM Max	X	1.963	1.789	1.098
Lower Roof	RESPONSE SPECTRUM Max	Y	2.109	1.908	1.105
Story3	RESPONSE SPECTRUM Max	X	1.625	1.425	1.14
Story3	RESPONSE SPECTRUM Max	Y	1.698	1.448	1.173
Story2	RESPONSE SPECTRUM Max	X	0.944	0.827	1.142
Story2	RESPONSE SPECTRUM Max	Y	0.989	0.857	1.154
Upper Roof	Serv 01 (G)	X	0.796	0.415	1.918
Upper Roof	Serv 01 (G)	Y	0.779	0.471	1.654
Lower Roof	Serv 01 (G)	X	0.694	0.378	1.835
Lower Roof	Serv 01 (G)	Y	0.219	0.053	4.107
Story3	Serv 01 (G)	X	0.478	0.276	1.73
Story3	Serv 01 (G)	Y	0.468	0.226	2.072
Story2	Serv 01 (G)	X	0.252	0.154	1.64
Story2	Serv 01 (G)	Y	0.244	0.139	1.761
Upper Roof	Serv 02 (G+0.7Q)	X	0.9	0.471	1.909
Upper Roof	Serv 02 (G+0.7Q)	Y	0.859	0.513	1.674
Lower Roof	Serv 02 (G+0.7Q)	X	0.796	0.435	1.83
Lower Roof	Serv 02 (G+0.7Q)	Y	0.24	0.05	4.748
Story3	Serv 02 (G+0.7Q)	X	0.54	0.313	1.723
Story3	Serv 02 (G+0.7Q)	Y	0.52	0.247	2.101
Story2	Serv 02 (G+0.7Q)	X	0.283	0.174	1.633
Story2	Serv 02 (G+0.7Q)	Y	0.272	0.154	1.771
Upper Roof	Serv 03 (G+Wx) Max	X	0.663	0.278	2.386
Upper Roof	Serv 03 (G+Wx) Max	Y	0.94	0.596	1.577
Lower Roof	Serv 03 (G+Wx) Max	X	0.557	0.241	2.312
Lower Roof	Serv 03 (G+Wx) Max	Y	0.323	0.146	2.219
Story3	Serv 03 (G+Wx) Max	X	0.387	0.183	2.112
Story3	Serv 03 (G+Wx) Max	Y	0.581	0.309	1.884
Story2	Serv 03 (G+Wx) Max	X	0.199	0.1	1.976
Story2	Serv 03 (G+Wx) Max	Y	0.312	0.188	1.665
Upper Roof	Serv 03 (G+Wx) Min	X	1.003	0.56	1.791
Upper Roof	Serv 03 (G+Wx) Min	Y	0.732	0.38	1.924
Lower Roof	Serv 03 (G+Wx) Min	X	0.867	0.505	1.715
Lower Roof	Serv 03 (G+Wx) Min	Y	0.296	0.107	2.774
Story3	Serv 03 (G+Wx) Min	X	0.615	0.374	1.646
Story3	Serv 03 (G+Wx) Min	Y	0.433	0.145	2.987
Story2	Serv 03 (G+Wx) Min	X	0.332	0.211	1.575
Story2	Serv 03 (G+Wx) Min	Y	0.219	0.087	2.505
Upper Roof	Serv 04 (G-Wx) Max	X	0.589	0.27	2.183
Upper Roof	Serv 04 (G-Wx) Max	Y	0.826	0.561	1.471
Lower Roof	Serv 04 (G-Wx) Max	X	0.521	0.251	2.075
Lower Roof	Serv 04 (G-Wx) Max	Y	0.355	0.213	1.665
Story3	Serv 04 (G-Wx) Max	X	0.34	0.179	1.906
Story3	Serv 04 (G-Wx) Max	Y	0.504	0.307	1.641
Story2	Serv 04 (G-Wx) Max	X	0.172	0.097	1.784
Story2	Serv 04 (G-Wx) Max	Y	0.269	0.19	1.418
Upper Roof	Serv 04 (G-Wx) Min	X	0.93	0.552	1.685
Upper Roof	Serv 04 (G-Wx) Min	Y	0.617	0.345	1.788

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Serv 04 (G-Wx) Min	X	0.831	0.515	1.611
Story3	Serv 04 (G-Wx) Min	X	0.568	0.369	1.54
Story3	Serv 04 (G-Wx) Min	Y	0.356	0.144	2.476
Story2	Serv 04 (G-Wx) Min	X	0.306	0.207	1.477
Story2	Serv 04 (G-Wx) Min	Y	0.176	0.09	1.963
Upper Roof	Serv 05 (G+Wy)	X	0.796	0.415	1.918
Upper Roof	Serv 05 (G+Wy)	Y	0.779	0.471	1.654
Lower Roof	Serv 05 (G+Wy)	X	0.694	0.378	1.835
Lower Roof	Serv 05 (G+Wy)	Y	0.219	0.053	4.107
Story3	Serv 05 (G+Wy)	X	0.478	0.276	1.73
Story3	Serv 05 (G+Wy)	Y	0.468	0.226	2.072
Story2	Serv 05 (G+Wy)	X	0.252	0.154	1.64
Story2	Serv 05 (G+Wy)	Y	0.244	0.139	1.761
Upper Roof	Serv 06 (G-Wy)	X	0.796	0.415	1.918
Upper Roof	Serv 06 (G-Wy)	Y	0.779	0.471	1.654
Lower Roof	Serv 06 (G-Wy)	X	0.694	0.378	1.835
Lower Roof	Serv 06 (G-Wy)	Y	0.219	0.053	4.107
Story3	Serv 06 (G-Wy)	X	0.478	0.276	1.73
Story3	Serv 06 (G-Wy)	Y	0.468	0.226	2.072
Story2	Serv 06 (G-Wy)	X	0.252	0.154	1.64
Story2	Serv 06 (G-Wy)	Y	0.244	0.139	1.761
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.703	0.319	2.204
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.892	0.559	1.596
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.598	0.282	2.121
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.292	0.118	2.473
Story3	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.414	0.211	1.962
Story3	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.548	0.284	1.929
Story2	Serv 07 (G+0.7Wx+0.3Wy) Max	X	0.215	0.116	1.844
Story2	Serv 07 (G+0.7Wx+0.3Wy) Max	Y	0.292	0.173	1.688
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.941	0.517	1.822
Upper Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.746	0.407	1.831
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.815	0.467	1.744
Lower Roof	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.241	0.059	4.091
Story3	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.574	0.345	1.666
Story3	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.443	0.169	2.622
Story2	Serv 07 (G+0.7Wx+0.3Wy) Min	X	0.308	0.194	1.59
Story2	Serv 07 (G+0.7Wx+0.3Wy) Min	Y	0.226	0.103	2.205
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.729	0.345	2.109
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.861	0.534	1.611
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.625	0.309	2.024
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.272	0.1	2.713
Story3	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.432	0.229	1.885
Story3	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.526	0.268	1.962
Story2	Serv 08 (G+0.5Wx+0.5Wy) Max	X	0.225	0.127	1.776
Story2	Serv 08 (G+0.5Wx+0.5Wy) Max	Y	0.279	0.163	1.705
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.901	0.489	1.845
Upper Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.755	0.425	1.777
Lower Roof	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.782	0.443	1.765
Story3	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.547	0.326	1.681

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.45	0.185	2.436
Story2	Serv 08 (G+0.5Wx+0.5Wy) Min	X	0.293	0.183	1.602
Story2	Serv 08 (G+0.5Wx+0.5Wy) Min	Y	0.231	0.113	2.054
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.756	0.374	2.022
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.827	0.508	1.627
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.653	0.337	1.936
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.25	0.081	3.091
Story3	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.451	0.248	1.814
Story3	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.502	0.251	2.003
Story2	Serv 09 (G+0.3Wx+0.7Wy) Max	X	0.236	0.138	1.713
Story2	Serv 09 (G+0.3Wx+0.7Wy) Max	Y	0.264	0.153	1.726
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.858	0.458	1.872
Upper Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.765	0.444	1.723
Lower Roof	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.745	0.416	1.791
Story3	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.519	0.305	1.699
Story3	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.458	0.202	2.268
Story2	Serv 09 (G+0.3Wx+0.7Wy) Min	X	0.276	0.171	1.616
Story2	Serv 09 (G+0.3Wx+0.7Wy) Min	Y	0.237	0.123	1.918
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.651	0.313	2.078
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.812	0.534	1.519
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.573	0.289	1.981
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.314	0.165	1.9
Story3	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.381	0.208	1.836
Story3	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.494	0.283	1.743
Story2	Serv 10 (G-0.7Wx-0.3Wy) Max	X	0.196	0.114	1.726
Story2	Serv 10 (G-0.7Wx-0.3Wy) Max	Y	0.262	0.174	1.5
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.89	0.511	1.742
Upper Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.665	0.383	1.739
Lower Roof	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.79	0.474	1.664
Story3	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.541	0.341	1.586
Story3	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.389	0.168	2.314
Story2	Serv 10 (G-0.7Wx-0.3Wy) Min	X	0.29	0.191	1.516
Story2	Serv 10 (G-0.7Wx-0.3Wy) Min	Y	0.196	0.104	1.883
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.691	0.342	2.024
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.803	0.517	1.553
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.606	0.314	1.932
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.288	0.134	2.142
Story3	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.408	0.227	1.8
Story3	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.487	0.267	1.82
Story2	Serv 11 (G-0.5Wx-0.5Wy) Max	X	0.212	0.125	1.697
Story2	Serv 11 (G-0.5Wx-0.5Wy) Max	Y	0.257	0.165	1.561
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.864	0.484	1.783
Upper Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.697	0.407	1.712
Lower Roof	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.763	0.448	1.704
Story3	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.524	0.323	1.62
Story3	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.411	0.184	2.232
Story2	Serv 11 (G-0.5Wx-0.5Wy) Min	X	0.279	0.181	1.545
Story2	Serv 11 (G-0.5Wx-0.5Wy) Min	Y	0.209	0.114	1.842
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.735	0.372	1.975

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.793	0.498	1.593
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.642	0.34	1.888
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.259	0.101	2.569
Story3	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.437	0.247	1.768
Story3	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.479	0.25	1.914
Story2	Serv 12 (G-0.3Wx-0.7Wy) Max	X	0.228	0.137	1.67
Story2	Serv 12 (G-0.3Wx-0.7Wy) Max	Y	0.252	0.154	1.635
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.836	0.456	1.834
Upper Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.73	0.433	1.686
Lower Roof	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.735	0.419	1.753
Story3	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.505	0.304	1.661
Story3	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.435	0.201	2.158
Story2	Serv 12 (G-0.3Wx-0.7Wy) Min	X	0.268	0.17	1.581
Story2	Serv 12 (G-0.3Wx-0.7Wy) Min	Y	0.224	0.124	1.805
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.703	0.319	2.204
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.892	0.559	1.596
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.598	0.282	2.121
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.292	0.118	2.473
Story3	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.414	0.211	1.962
Story3	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.548	0.284	1.929
Story2	Serv 13 (G+0.7Wx-0.3Wy) Max	X	0.215	0.116	1.844
Story2	Serv 13 (G+0.7Wx-0.3Wy) Max	Y	0.292	0.173	1.688
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.941	0.517	1.822
Upper Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.746	0.407	1.831
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.815	0.467	1.744
Lower Roof	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.241	0.059	4.091
Story3	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.574	0.345	1.666
Story3	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.443	0.169	2.622
Story2	Serv 13 (G+0.7Wx-0.3Wy) Min	X	0.308	0.194	1.59
Story2	Serv 13 (G+0.7Wx-0.3Wy) Min	Y	0.226	0.103	2.205
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.729	0.345	2.109
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.861	0.534	1.611
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.625	0.309	2.024
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.272	0.1	2.713
Story3	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.432	0.229	1.885
Story3	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.526	0.268	1.962
Story2	Serv 14 (G+0.5Wx-0.5Wy) Max	X	0.225	0.127	1.776
Story2	Serv 14 (G+0.5Wx-0.5Wy) Max	Y	0.279	0.163	1.705
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.901	0.489	1.845
Upper Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.755	0.425	1.777
Lower Roof	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.782	0.443	1.765
Story3	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.547	0.326	1.681
Story3	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.45	0.185	2.436
Story2	Serv 14 (G+0.5Wx-0.5Wy) Min	X	0.293	0.183	1.602
Story2	Serv 14 (G+0.5Wx-0.5Wy) Min	Y	0.231	0.113	2.054
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.756	0.374	2.022
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.827	0.508	1.627
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.653	0.337	1.936
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.25	0.081	3.091

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.451	0.248	1.814
Story3	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.502	0.251	2.003
Story2	Serv 15 (G+0.3Wx-0.7Wy) Max	X	0.236	0.138	1.713
Story2	Serv 15 (G+0.3Wx-0.7Wy) Max	Y	0.264	0.153	1.726
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.858	0.458	1.872
Upper Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.765	0.444	1.723
Lower Roof	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.745	0.416	1.791
Story3	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.519	0.305	1.699
Story3	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.458	0.202	2.268
Story2	Serv 15 (G+0.3Wx-0.7Wy) Min	X	0.276	0.171	1.616
Story2	Serv 15 (G+0.3Wx-0.7Wy) Min	Y	0.237	0.123	1.918
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.651	0.313	2.078
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.812	0.534	1.519
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.573	0.289	1.981
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.314	0.165	1.9
Story3	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.381	0.208	1.836
Story3	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.494	0.283	1.743
Story2	Serv 16 (G-0.7Wx+0.3Wy) Max	X	0.196	0.114	1.726
Story2	Serv 16 (G-0.7Wx+0.3Wy) Max	Y	0.262	0.174	1.5
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.89	0.511	1.742
Upper Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.665	0.383	1.739
Lower Roof	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.79	0.474	1.664
Story3	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.541	0.341	1.586
Story3	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.389	0.168	2.314
Story2	Serv 16 (G-0.7Wx+0.3Wy) Min	X	0.29	0.191	1.516
Story2	Serv 16 (G-0.7Wx+0.3Wy) Min	Y	0.196	0.104	1.883
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.691	0.342	2.024
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.803	0.517	1.553
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.606	0.314	1.932
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.288	0.134	2.142
Story3	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.408	0.227	1.8
Story3	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.487	0.267	1.82
Story2	Serv 17 (G-0.5Wx+0.5Wy) Max	X	0.212	0.125	1.697
Story2	Serv 17 (G-0.5Wx+0.5Wy) Max	Y	0.257	0.165	1.561
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.864	0.484	1.783
Upper Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.697	0.407	1.712
Lower Roof	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.763	0.448	1.704
Story3	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.524	0.323	1.62
Story3	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.411	0.184	2.232
Story2	Serv 17 (G-0.5Wx+0.5Wy) Min	X	0.279	0.181	1.545
Story2	Serv 17 (G-0.5Wx+0.5Wy) Min	Y	0.209	0.114	1.842
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.735	0.372	1.975
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.793	0.498	1.593
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.642	0.34	1.888
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.259	0.101	2.569
Story3	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.437	0.247	1.768
Story3	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.479	0.25	1.914
Story2	Serv 18 (G-0.3Wx+0.7Wy) Max	X	0.228	0.137	1.67
Story2	Serv 18 (G-0.3Wx+0.7Wy) Max	Y	0.252	0.154	1.635

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.836	0.456	1.834
Upper Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.73	0.433	1.686
Lower Roof	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.735	0.419	1.753
Story3	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.505	0.304	1.661
Story3	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.435	0.201	2.158
Story2	Serv 18 (G-0.3Wx+0.7Wy) Min	X	0.268	0.17	1.581
Story2	Serv 18 (G-0.3Wx+0.7Wy) Min	Y	0.224	0.124	1.805
Upper Roof	Ult 01 (1.35G)	X	1.075	0.56	1.918
Upper Roof	Ult 01 (1.35G)	Y	1.051	0.635	1.654
Lower Roof	Ult 01 (1.35G)	X	0.937	0.511	1.835
Lower Roof	Ult 01 (1.35G)	Y	0.295	0.072	4.107
Story3	Ult 01 (1.35G)	X	0.645	0.373	1.73
Story3	Ult 01 (1.35G)	Y	0.632	0.305	2.072
Story2	Ult 01 (1.35G)	X	0.34	0.208	1.64
Story2	Ult 01 (1.35G)	Y	0.329	0.187	1.761
Upper Roof	Ult 02 (1.2G+1.5Q)	X	1.177	0.618	1.903
Upper Roof	Ult 02 (1.2G+1.5Q)	Y	1.107	0.656	1.687
Lower Roof	Ult 02 (1.2G+1.5Q)	X	1.051	0.575	1.828
Lower Roof	Ult 02 (1.2G+1.5Q)	Y	0.308	0.058	5.304
Story3	Ult 02 (1.2G+1.5Q)	X	0.706	0.411	1.718
Story3	Ult 02 (1.2G+1.5Q)	Y	0.672	0.317	2.12
Story2	Ult 02 (1.2G+1.5Q)	X	0.369	0.227	1.628
Story2	Ult 02 (1.2G+1.5Q)	Y	0.353	0.199	1.777
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.815	0.325	2.507
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Max	Y	1.222	0.777	1.573
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.687	0.281	2.441
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.431	0.2	2.15
Story3	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.473	0.214	2.212
Story3	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.76	0.407	1.869
Story2	Ult 03 (1.2G+Wx+0.4Q) Max	X	0.24	0.116	2.068
Story2	Ult 03 (1.2G+Wx+0.4Q) Max	Y	0.411	0.248	1.656
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Min	X	1.323	0.746	1.773
Upper Roof	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.91	0.454	2.005
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Min	X	1.148	0.676	1.7
Lower Roof	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.424	0.176	2.404
Story3	Ult 03 (1.2G+Wx+0.4Q) Min	X	0.814	0.498	1.633
Story3	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.538	0.162	3.317
Story2	Ult 03 (1.2G+Wx+0.4Q) Min	X	0.44	0.281	1.564
Story2	Ult 03 (1.2G+Wx+0.4Q) Min	Y	0.271	0.099	2.754
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.706	0.314	2.25
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Max	Y	1.051	0.724	1.451
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.633	0.297	2.135
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.478	0.301	1.587
Story3	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.404	0.207	1.95
Story3	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.645	0.405	1.593
Story2	Ult 04 (1.2G-Wx+0.4Q) Max	X	0.201	0.11	1.821
Story2	Ult 04 (1.2G-Wx+0.4Q) Max	Y	0.346	0.251	1.378
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Min	X	1.214	0.734	1.653
Upper Roof	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.739	0.402	1.84

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Min	X	1.095	0.691	1.584
Lower Roof	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.27	0.076	3.558
Story3	Ult 04 (1.2G-Wx+0.4Q) Min	X	0.744	0.491	1.515
Story3	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.423	0.16	2.637
Story2	Ult 04 (1.2G-Wx+0.4Q) Min	X	0.4	0.275	1.454
Story2	Ult 04 (1.2G-Wx+0.4Q) Min	Y	0.207	0.102	2.034
Upper Roof	Ult 05 (1.2G-Wy+0.4Q)	X	1.015	0.53	1.914
Upper Roof	Ult 05 (1.2G-Wy+0.4Q)	Y	0.981	0.589	1.664
Lower Roof	Ult 05 (1.2G-Wy+0.4Q)	X	0.891	0.486	1.832
Lower Roof	Ult 05 (1.2G-Wy+0.4Q)	Y	0.274	0.062	4.404
Story3	Ult 05 (1.2G-Wy+0.4Q)	X	0.609	0.353	1.726
Story3	Ult 05 (1.2G-Wy+0.4Q)	Y	0.591	0.283	2.086
Story2	Ult 05 (1.2G-Wy+0.4Q)	X	0.32	0.196	1.637
Story2	Ult 05 (1.2G-Wy+0.4Q)	Y	0.309	0.175	1.766
Upper Roof	Ult 06 (1.2G-Wy+0.4Q)	X	1.015	0.53	1.914
Upper Roof	Ult 06 (1.2G-Wy+0.4Q)	Y	0.981	0.589	1.664
Lower Roof	Ult 06 (1.2G-Wy+0.4Q)	X	0.891	0.486	1.832
Lower Roof	Ult 06 (1.2G-Wy+0.4Q)	Y	0.274	0.062	4.404
Story3	Ult 06 (1.2G-Wy+0.4Q)	X	0.609	0.353	1.726
Story3	Ult 06 (1.2G-Wy+0.4Q)	Y	0.591	0.283	2.086
Story2	Ult 06 (1.2G-Wy+0.4Q)	X	0.32	0.196	1.637
Story2	Ult 06 (1.2G-Wy+0.4Q)	Y	0.309	0.175	1.766
Upper Roof	Ult 07 (0.9G+Wx) Max	X	0.518	0.169	3.07
Upper Roof	Ult 07 (0.9G+Wx) Max	Y	0.942	0.611	1.542
Lower Roof	Ult 07 (0.9G+Wx) Max	X	0.421	0.136	3.1
Lower Roof	Ult 07 (0.9G+Wx) Max	Y	0.353	0.186	1.899
Story3	Ult 07 (0.9G+Wx) Max	X	0.295	0.11	2.68
Story3	Ult 07 (0.9G+Wx) Max	Y	0.59	0.327	1.807
Story2	Ult 07 (0.9G+Wx) Max	X	0.147	0.059	2.496
Story2	Ult 07 (0.9G+Wx) Max	Y	0.322	0.198	1.625
Upper Roof	Ult 07 (0.9G+Wx) Min	X	1.025	0.59	1.739
Upper Roof	Ult 07 (0.9G+Wx) Min	Y	0.631	0.289	2.185
Lower Roof	Ult 07 (0.9G+Wx) Min	X	0.882	0.53	1.664
Lower Roof	Ult 07 (0.9G+Wx) Min	Y	0.375	0.191	1.966
Story3	Ult 07 (0.9G+Wx) Min	X	0.635	0.394	1.611
Story3	Ult 07 (0.9G+Wx) Min	Y	0.368	0.082	4.479
Story2	Ult 07 (0.9G+Wx) Min	X	0.346	0.224	1.548
Story2	Ult 07 (0.9G+Wx) Min	Y	0.182	0.048	3.767
Upper Roof	Ult 08 (0.9G-Wx) Max	X	0.408	0.157	2.597
Upper Roof	Ult 08 (0.9G-Wx) Max	Y	0.771	0.559	1.38
Lower Roof	Ult 08 (0.9G-Wx) Max	X	0.367	0.151	2.432
Lower Roof	Ult 08 (0.9G-Wx) Max	Y	0.4	0.287	1.396
Story3	Ult 08 (0.9G-Wx) Max	X	0.225	0.103	2.185
Story3	Ult 08 (0.9G-Wx) Max	Y	0.475	0.325	1.463
Story2	Ult 08 (0.9G-Wx) Max	X	0.107	0.053	2.03
Story2	Ult 08 (0.9G-Wx) Max	Y	0.257	0.201	1.278
Upper Roof	Ult 08 (0.9G-Wx) Min	X	0.916	0.578	1.586
Upper Roof	Ult 08 (0.9G-Wx) Min	Y	0.459	0.236	1.946
Lower Roof	Ult 08 (0.9G-Wx) Min	X	0.828	0.545	1.52

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 08 (0.9G-Wx) Min	Y	0.221	0.09	2.448
Story3	Ult 08 (0.9G-Wx) Min	X	0.565	0.387	1.46
Story3	Ult 08 (0.9G-Wx) Min	Y	0.253	0.08	3.149
Story2	Ult 08 (0.9G-Wx) Min	X	0.307	0.218	1.409
Story2	Ult 08 (0.9G-Wx) Min	Y	0.118	0.052	2.283
Upper Roof	Ult 09 (0.9G+Wy)	X	0.717	0.374	1.918
Upper Roof	Ult 09 (0.9G+Wy)	Y	0.701	0.424	1.654
Lower Roof	Ult 09 (0.9G+Wy)	X	0.625	0.34	1.835
Lower Roof	Ult 09 (0.9G+Wy)	Y	0.197	0.048	4.107
Story3	Ult 09 (0.9G+Wy)	X	0.43	0.249	1.73
Story3	Ult 09 (0.9G+Wy)	Y	0.422	0.203	2.072
Story2	Ult 09 (0.9G+Wy)	X	0.227	0.138	1.64
Story2	Ult 09 (0.9G+Wy)	Y	0.22	0.125	1.761
Upper Roof	Ult 10 (0.9G-Wy)	X	0.717	0.374	1.918
Upper Roof	Ult 10 (0.9G-Wy)	Y	0.701	0.424	1.654
Lower Roof	Ult 10 (0.9G-Wy)	X	0.625	0.34	1.835
Lower Roof	Ult 10 (0.9G-Wy)	Y	0.197	0.048	4.107
Story3	Ult 10 (0.9G-Wy)	X	0.43	0.249	1.73
Story3	Ult 10 (0.9G-Wy)	Y	0.422	0.203	2.072
Story2	Ult 10 (0.9G-Wy)	X	0.227	0.138	1.64
Story2	Ult 10 (0.9G-Wy)	Y	0.22	0.125	1.761
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.577	0.23	2.509
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.87	0.555	1.568
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.482	0.197	2.444
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.306	0.145	2.118
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.335	0.152	2.212
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.54	0.29	1.863
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	X	0.171	0.083	2.067
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Max	Y	0.291	0.176	1.654
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.933	0.525	1.777
Upper Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.652	0.329	1.98
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.805	0.473	1.701
Lower Roof	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.293	0.119	2.458
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.573	0.35	1.636
Story3	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.384	0.119	3.24
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	X	0.311	0.198	1.567
Story2	Ult 11 (0.9G+0.7Wx+0.3Wy) Min	Y	0.193	0.071	2.714
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.617	0.271	2.276
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.822	0.517	1.588
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.523	0.238	2.195
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.275	0.117	2.351
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.362	0.179	2.021
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.506	0.265	1.909
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	X	0.187	0.099	1.896
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Max	Y	0.271	0.161	1.678
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.871	0.482	1.808
Upper Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.666	0.356	1.869
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.753	0.435	1.731
Lower Roof	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.238	0.071	3.333

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.532	0.321	1.657
Story3	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.395	0.143	2.764
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	X	0.287	0.181	1.583
Story2	Ult 12 (0.9G+0.5Wx+0.5Wy) Min	Y	0.201	0.087	2.322
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.657	0.312	2.105
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.773	0.48	1.611
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.563	0.279	2.019
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.244	0.089	2.728
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.389	0.207	1.881
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.472	0.24	1.964
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	X	0.203	0.115	1.772
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Max	Y	0.25	0.147	1.706
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.809	0.438	1.846
Upper Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.68	0.383	1.774
Lower Roof	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.702	0.397	1.766
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.491	0.292	1.682
Story3	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.406	0.167	2.427
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	X	0.263	0.164	1.602
Story2	Ult 13 (0.9G+0.3Wx+0.7Wy) Min	Y	0.208	0.102	2.047
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.501	0.222	2.254
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.75	0.518	1.447
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.444	0.208	2.138
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.339	0.215	1.578
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.287	0.147	1.954
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.459	0.288	1.592
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	X	0.143	0.079	1.824
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Max	Y	0.246	0.178	1.38
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.856	0.516	1.658
Upper Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.532	0.292	1.819
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.767	0.484	1.586
Lower Roof	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.185	0.049	3.791
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.525	0.346	1.518
Story3	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.304	0.117	2.589
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	X	0.283	0.194	1.458
Story2	Ult 14 (0.9G-0.7Wx-0.3Wy) Min	Y	0.148	0.074	2.017
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.562	0.265	2.119
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.736	0.491	1.498
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.496	0.246	2.018
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.298	0.167	1.785
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.328	0.176	1.863
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.448	0.264	1.697
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	X	0.167	0.096	1.748
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Max	Y	0.238	0.163	1.463
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.816	0.476	1.716
Upper Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.58	0.33	1.759
Lower Roof	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.726	0.443	1.641
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.498	0.318	1.565
Story3	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.337	0.142	2.377
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	X	0.267	0.178	1.499

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 15 (0.9G-0.5Wx-0.5Wy) Min	Y	0.169	0.088	1.914
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.624	0.309	2.022
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.722	0.464	1.555
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.547	0.284	1.93
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.258	0.119	2.157
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.368	0.205	1.798
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.438	0.24	1.824
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	X	0.191	0.113	1.695
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Max	Y	0.231	0.148	1.564
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.776	0.435	1.786
Upper Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.628	0.367	1.71
Lower Roof	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.686	0.402	1.706
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.471	0.29	1.622
Story3	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.371	0.167	2.228
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	X	0.251	0.162	1.547
Story2	Ult 16 (0.9G-0.3Wx-0.7Wy) Min	Y	0.189	0.103	1.84
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.577	0.23	2.509
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.87	0.555	1.568
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.482	0.197	2.444
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.306	0.145	2.118
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.335	0.152	2.212
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.54	0.29	1.863
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	X	0.171	0.083	2.067
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Max	Y	0.291	0.176	1.654
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.933	0.525	1.777
Upper Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.652	0.329	1.98
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.805	0.473	1.701
Lower Roof	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.293	0.119	2.458
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.573	0.35	1.636
Story3	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.384	0.119	3.24
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	X	0.311	0.198	1.567
Story2	Ult 17 (0.9G+0.7Wx-0.3Wy) Min	Y	0.193	0.071	2.714
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.617	0.271	2.276
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.822	0.517	1.588
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.523	0.238	2.195
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.275	0.117	2.351
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.362	0.179	2.021
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.506	0.265	1.909
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	X	0.187	0.099	1.896
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Max	Y	0.271	0.161	1.678
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.871	0.482	1.808
Upper Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.666	0.356	1.869
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.753	0.435	1.731
Lower Roof	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.238	0.071	3.333
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.532	0.321	1.657
Story3	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.395	0.143	2.764
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	X	0.287	0.181	1.583
Story2	Ult 18 (0.9G+0.5Wx-0.5Wy) Min	Y	0.201	0.087	2.322
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.657	0.312	2.105

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.773	0.48	1.611
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.563	0.279	2.019
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.244	0.089	2.728
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.389	0.207	1.881
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.472	0.24	1.964
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	X	0.203	0.115	1.772
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Max	Y	0.25	0.147	1.706
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.809	0.438	1.846
Upper Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.68	0.383	1.774
Lower Roof	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.702	0.397	1.766
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.491	0.292	1.682
Story3	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.406	0.167	2.427
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	X	0.263	0.164	1.602
Story2	Ult 19 (0.9G+0.3Wx-0.7Wy) Min	Y	0.208	0.102	2.047
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.501	0.222	2.254
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.75	0.518	1.447
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.444	0.208	2.138
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.339	0.215	1.578
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.287	0.147	1.954
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.459	0.288	1.592
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	X	0.143	0.079	1.824
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Max	Y	0.246	0.178	1.38
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.856	0.516	1.658
Upper Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.532	0.292	1.819
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.767	0.484	1.586
Lower Roof	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.185	0.049	3.791
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.525	0.346	1.518
Story3	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.304	0.117	2.589
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	X	0.283	0.194	1.458
Story2	Ult 20 (0.9G-0.7Wx+0.3Wy) Min	Y	0.148	0.074	2.017
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.562	0.265	2.119
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.736	0.491	1.498
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.496	0.246	2.018
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.298	0.167	1.785
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.328	0.176	1.863
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.448	0.264	1.697
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	X	0.167	0.096	1.748
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Max	Y	0.238	0.163	1.463
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.816	0.476	1.716
Upper Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.58	0.33	1.759
Lower Roof	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.726	0.443	1.641
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.498	0.318	1.565
Story3	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.337	0.142	2.377
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	X	0.267	0.178	1.499
Story2	Ult 21 (0.9G-0.5Wx+0.5Wy) Min	Y	0.169	0.088	1.914
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.624	0.309	2.022
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.722	0.464	1.555
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.547	0.284	1.93
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.258	0.119	2.157

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.368	0.205	1.798
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.438	0.24	1.824
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	X	0.191	0.113	1.695
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Max	Y	0.231	0.148	1.564
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.776	0.435	1.786
Upper Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.628	0.367	1.71
Lower Roof	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.686	0.402	1.706
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.471	0.29	1.622
Story3	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.371	0.167	2.228
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	X	0.251	0.162	1.547
Story2	Ult 22 (0.9G-0.3Wx+0.7Wy) Min	Y	0.189	0.103	1.84
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.875	0.387	2.263
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	1.15	0.72	1.596
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.748	0.343	2.182
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.384	0.159	2.415
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.514	0.256	2.011
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.709	0.37	1.919
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	X	0.264	0.14	1.887
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Max	Y	0.38	0.226	1.681
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	1.231	0.681	1.806
Upper Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.931	0.495	1.883
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	1.071	0.619	1.731
Lower Roof	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.342	0.105	3.262
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	0.752	0.455	1.655
Story3	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.554	0.199	2.79
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	X	0.404	0.256	1.581
Story2	Ult 23 (1.2G+0.7Wx+0.3Wy+0.4Q) Min	Y	0.283	0.121	2.327
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.915	0.428	2.139
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	1.101	0.683	1.612
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.789	0.384	2.055
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.353	0.131	2.684
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.541	0.283	1.91
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.676	0.345	1.958
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	X	0.28	0.156	1.797
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Max	Y	0.36	0.211	1.701
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	1.169	0.638	1.831
Upper Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.945	0.522	1.812
Lower Roof	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	1.02	0.581	1.755
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	0.711	0.425	1.672
Story3	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.565	0.223	2.534
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	X	0.38	0.239	1.594
Story2	Ult 24 (1.2G+0.5Wx+0.5Wy+0.4Q) Min	Y	0.29	0.137	2.122
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.955	0.469	2.037
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	1.053	0.645	1.631
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.83	0.425	1.953
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.321	0.104	3.097
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.568	0.311	1.826
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.642	0.32	2.004
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	X	0.296	0.172	1.724

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Max	Y	0.339	0.197	1.724
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	1.107	0.595	1.861
Upper Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.959	0.549	1.749
Lower Roof	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.968	0.543	1.783
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.67	0.396	1.691
Story3	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.575	0.247	2.329
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	X	0.356	0.221	1.609
Story2	Ult 25 (1.2G+0.3Wx+0.7Wy+0.4Q) Min	Y	0.298	0.152	1.958
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.799	0.379	2.108
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	1.03	0.684	1.506
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.711	0.353	2.01
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.417	0.229	1.817
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.465	0.251	1.856
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.629	0.368	1.707
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	X	0.237	0.136	1.741
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Max	Y	0.335	0.228	1.467
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	1.154	0.673	1.715
Upper Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.811	0.458	1.772
Lower Roof	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	1.034	0.629	1.642
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	0.703	0.45	1.564
Story3	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.473	0.197	2.4
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	X	0.376	0.251	1.497
Story2	Ult 26 (1.2G-0.7Wx-0.3Wy+0.4Q) Min	Y	0.238	0.124	1.92
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.86	0.422	2.038
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	1.016	0.657	1.546
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.762	0.391	1.947
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.376	0.182	2.071
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.506	0.28	1.809
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.618	0.344	1.796
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	X	0.261	0.153	1.703
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Max	Y	0.328	0.213	1.537
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	1.114	0.632	1.762
Upper Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.86	0.495	1.735
Lower Roof	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.993	0.589	1.687
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.676	0.422	1.603
Story3	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.507	0.222	2.285
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	X	0.36	0.236	1.53
Story2	Ult 27 (1.2G-0.5Wx-0.5Wy+0.4Q) Min	Y	0.258	0.138	1.864
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.922	0.465	1.981
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	1.002	0.63	1.591
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.814	0.429	1.895
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.335	0.134	2.505
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.547	0.309	1.771
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.607	0.32	1.899
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	X	0.285	0.17	1.672
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Max	Y	0.32	0.198	1.618
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	1.074	0.591	1.817
Upper Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.908	0.533	1.704
Lower Roof	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.952	0.548	1.739

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.649	0.394	1.647
Story3	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.541	0.247	2.194
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	X	0.344	0.22	1.568
Story2	Ult 28 (1.2G-0.3Wx-0.7Wy+0.4Q) Min	Y	0.278	0.153	1.819
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.875	0.387	2.263
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	1.15	0.72	1.596
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.748	0.343	2.182
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.384	0.159	2.415
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.514	0.256	2.011
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.709	0.37	1.919
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	X	0.264	0.14	1.887
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Max	Y	0.38	0.226	1.681
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	1.231	0.681	1.806
Upper Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.931	0.495	1.883
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	1.071	0.619	1.731
Lower Roof	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.342	0.105	3.262
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	0.752	0.455	1.655
Story3	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.554	0.199	2.79
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	X	0.404	0.256	1.581
Story2	Ult 29 (1.2G+0.7Wx-0.3Wy+0.4Q) Min	Y	0.283	0.121	2.327
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.915	0.428	2.139
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	1.101	0.683	1.612
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.789	0.384	2.055
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.353	0.131	2.684
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.541	0.283	1.91
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.676	0.345	1.958
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	X	0.28	0.156	1.797
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Max	Y	0.36	0.211	1.701
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	1.169	0.638	1.831
Upper Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.945	0.522	1.812
Lower Roof	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	1.02	0.581	1.755
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	0.711	0.425	1.672
Story3	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.565	0.223	2.534
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	X	0.38	0.239	1.594
Story2	Ult 30 (1.2G+0.5Wx-0.5Wy+0.4Q) Min	Y	0.29	0.137	2.122
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.955	0.469	2.037
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	1.053	0.645	1.631
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.83	0.425	1.953
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.321	0.104	3.097
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.568	0.311	1.826
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.642	0.32	2.004
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	X	0.296	0.172	1.724
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Max	Y	0.339	0.197	1.724
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	1.107	0.595	1.861
Upper Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.959	0.549	1.749
Lower Roof	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.968	0.543	1.783
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.67	0.396	1.691
Story3	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.575	0.247	2.329
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	X	0.356	0.221	1.609

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	Ult 31 (1.2G+0.3Wx-0.7Wy+0.4Q) Min	Y	0.298	0.152	1.958
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.799	0.379	2.108
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	1.03	0.684	1.506
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.711	0.353	2.01
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.417	0.229	1.817
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.465	0.251	1.856
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.629	0.368	1.707
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	X	0.237	0.136	1.741
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Max	Y	0.335	0.228	1.467
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	1.154	0.673	1.715
Upper Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.811	0.458	1.772
Lower Roof	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	1.034	0.629	1.642
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	0.703	0.45	1.564
Story3	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.473	0.197	2.4
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	X	0.376	0.251	1.497
Story2	Ult 32 (1.2G-0.7Wx+0.3Wy+0.4Q) Min	Y	0.238	0.124	1.92
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.86	0.422	2.038
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	1.016	0.657	1.546
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.762	0.391	1.947
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.376	0.182	2.071
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.506	0.28	1.809
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.618	0.344	1.796
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	X	0.261	0.153	1.703
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Max	Y	0.328	0.213	1.537
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	1.114	0.632	1.762
Upper Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.86	0.495	1.735
Lower Roof	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.993	0.589	1.687
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.676	0.422	1.603
Story3	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.507	0.222	2.285
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	X	0.36	0.236	1.53
Story2	Ult 33 (1.2G-0.5Wx+0.5Wy+0.4Q) Min	Y	0.258	0.138	1.864
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.922	0.465	1.981
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	1.002	0.63	1.591
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.814	0.429	1.895
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.335	0.134	2.505
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.547	0.309	1.771
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.607	0.32	1.899
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	X	0.285	0.17	1.672
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Max	Y	0.32	0.198	1.618
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	1.074	0.591	1.817
Upper Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.908	0.533	1.704
Lower Roof	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.952	0.548	1.739
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.649	0.394	1.647
Story3	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.541	0.247	2.194
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	X	0.344	0.22	1.568
Story2	Ult 34 (1.2G-0.3Wx+0.7Wy+0.4Q) Min	Y	0.278	0.153	1.819
Upper Roof	Ult 35 (G+EQX+0.3Q) Max	X	1.392	1.12	1.243
Upper Roof	Ult 35 (G+EQX+0.3Q) Max	Y	1.064	0.769	1.383
Lower Roof	Ult 35 (G+EQX+0.3Q) Max	X	1.248	0.923	1.351

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 35 (G+EQX+0.3Q) Max	Y	0.478	0.369	1.296
Story3	Ult 35 (G+EQX+0.3Q) Max	X	0.917	0.78	1.176
Story3	Ult 35 (G+EQX+0.3Q) Max	Y	0.666	0.469	1.42
Story2	Ult 35 (G+EQX+0.3Q) Max	X	0.529	0.459	1.152
Story2	Ult 35 (G+EQX+0.3Q) Max	Y	0.371	0.265	1.4
Upper Roof	Ult 35 (G+EQX+0.3Q) Min	X	1.125	0.806	1.396
Upper Roof	Ult 35 (G+EQX+0.3Q) Min	Y	0.719	0.535	1.342
Lower Roof	Ult 35 (G+EQX+0.3Q) Min	X	1.005	0.727	1.382
Lower Roof	Ult 35 (G+EQX+0.3Q) Min	Y	0.387	0.174	2.223
Story3	Ult 35 (G+EQX+0.3Q) Min	X	0.74	0.581	1.274
Story3	Ult 35 (G+EQX+0.3Q) Min	Y	0.424	0.236	1.798
Story2	Ult 35 (G+EQX+0.3Q) Min	X	0.448	0.359	1.246
Story2	Ult 35 (G+EQX+0.3Q) Min	Y	0.235	0.153	1.536
Upper Roof	Ult 36 (G-EQX+0.3Q) Max	X	2.169	1.685	1.288
Upper Roof	Ult 36 (G-EQX+0.3Q) Max	Y	0.908	0.443	2.051
Lower Roof	Ult 36 (G-EQX+0.3Q) Max	X	1.924	1.532	1.256
Story3	Ult 36 (G-EQX+0.3Q) Max	X	1.459	1.179	1.237
Story3	Ult 36 (G-EQX+0.3Q) Max	Y	0.581	0.247	2.355
Story2	Ult 36 (G-EQX+0.3Q) Max	X	0.833	0.69	1.206
Story2	Ult 36 (G-EQX+0.3Q) Max	Y	0.317	0.157	2.026
Upper Roof	Ult 36 (G-EQX+0.3Q) Min	X	2.529	1.998	1.266
Upper Roof	Ult 36 (G-EQX+0.3Q) Min	Y	0.563	0.209	2.694
Lower Roof	Ult 36 (G-EQX+0.3Q) Min	X	2.074	1.728	1.2
Lower Roof	Ult 36 (G-EQX+0.3Q) Min	Y	0.507	0.265	1.914
Story3	Ult 36 (G-EQX+0.3Q) Min	X	1.666	1.371	1.215
Story2	Ult 36 (G-EQX+0.3Q) Min	X	0.972	0.81	1.201
Upper Roof	Ult 37 (G+EQY+0.3Q) Max	Y	2.463	1.996	1.234
Lower Roof	Ult 37 (G+EQY+0.3Q) Max	Y	1.584	1.464	1.082
Story3	Ult 37 (G+EQY+0.3Q) Max	Y	1.7	1.388	1.224
Story2	Ult 37 (G+EQY+0.3Q) Max	Y	1.011	0.859	1.178
Upper Roof	Ult 37 (G+EQY+0.3Q) Min	X	0.99	0.46	2.15
Upper Roof	Ult 37 (G+EQY+0.3Q) Min	Y	2.112	1.759	1.201
Lower Roof	Ult 37 (G+EQY+0.3Q) Min	X	0.613	0.31	1.978
Lower Roof	Ult 37 (G+EQY+0.3Q) Min	Y	1.49	1.267	1.176
Story3	Ult 37 (G+EQY+0.3Q) Min	X	0.584	0.306	1.912
Story3	Ult 37 (G+EQY+0.3Q) Min	Y	1.454	1.152	1.262
Story2	Ult 37 (G+EQY+0.3Q) Min	X	0.303	0.155	1.958
Story2	Ult 37 (G+EQY+0.3Q) Min	Y	0.873	0.724	1.205
Upper Roof	Ult 38 (G-EQY+0.3Q) Max	X	0.695	0.413	1.682
Upper Roof	Ult 38 (G-EQY+0.3Q) Max	Y	1.076	0.78	1.379
Lower Roof	Ult 38 (G-EQY+0.3Q) Max	X	0.863	0.495	1.742
Lower Roof	Ult 38 (G-EQY+0.3Q) Max	Y	1.291	1.163	1.11
Story3	Ult 38 (G-EQY+0.3Q) Max	X	0.449	0.283	1.588
Story3	Ult 38 (G-EQY+0.3Q) Max	Y	0.89	0.675	1.317
Story2	Ult 38 (G-EQY+0.3Q) Max	X	0.228	0.17	1.344
Story2	Ult 38 (G-EQY+0.3Q) Max	Y	0.548	0.445	1.232
Upper Roof	Ult 38 (G-EQY+0.3Q) Min	X	1.06	0.73	1.452
Upper Roof	Ult 38 (G-EQY+0.3Q) Min	Y	1.2	1.017	1.18
Lower Roof	Ult 38 (G-EQY+0.3Q) Min	X	1.01	0.69	1.464

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Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 38 (G-EQY+0.3Q) Min	Y	1.591	1.36	1.17
Story3	Ult 38 (G-EQY+0.3Q) Min	X	0.669	0.482	1.386
Story3	Ult 38 (G-EQY+0.3Q) Min	Y	1.117	0.911	1.226
Story2	Ult 38 (G-EQY+0.3Q) Min	X	0.366	0.285	1.285
Story2	Ult 38 (G-EQY+0.3Q) Min	Y	0.638	0.551	1.157
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	1.505	1.209	1.245
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	1.558	1.221	1.276
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	1.339	1.01	1.326
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	0.885	0.793	1.117
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	0.982	0.835	1.177
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	1.029	0.807	1.274
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	X	0.575	0.495	1.161
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Max	Y	0.597	0.475	1.258
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	1.157	0.8	1.446
Upper Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	1.108	0.916	1.21
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	1.024	0.755	1.355
Lower Roof	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.766	0.539	1.422
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	0.756	0.577	1.31
Story3	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.713	0.511	1.396
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	X	0.469	0.365	1.284
Story2	Ult 39 (G+1.0EQX+0.3EQY+0.3Q) Min	Y	0.42	0.327	1.285
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.865	0.489	1.769
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.762	1.382	1.275
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.742	0.404	1.834
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.031	0.917	1.125
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.527	0.338	1.559
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	1.183	0.929	1.274
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	X	0.312	0.21	1.484
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Max	Y	0.691	0.569	1.215
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.597	0.173	3.446
Upper Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	1.415	1.147	1.234
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.499	0.209	2.391
Lower Roof	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.939	0.721	1.303
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.348	0.134	2.607
Story3	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.939	0.694	1.353
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	X	0.212	0.1	2.111
Story2	Ult 40 (G+0.5EQX+0.5EQY+0.3Q) Min	Y	0.554	0.439	1.262
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.768	0.325	2.362
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	2.538	2.08	1.22
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.63	0.283	2.225
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.659	1.559	1.064
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.448	0.222	2.017
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.752	1.458	1.202
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	X	0.271	0.146	1.848
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Max	Y	1.046	0.9	1.162
Upper Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	2.083	1.773	1.175
Lower Roof	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	1.538	1.303	1.18
Story3	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	1.434	1.152	1.245
Story2	Ult 41 (G+0.3EQX+1.0EQY+0.3Q) Min	Y	0.867	0.727	1.192

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	2.125	1.677	1.267
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	1.962	1.56	1.257
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	Y	0.559	0.434	1.287
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	1.461	1.186	1.232
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Max	X	0.822	0.693	1.186
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	2.595	2.086	1.244
Upper Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.555	0.243	2.283
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	2.156	1.815	1.188
Lower Roof	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.947	0.689	1.376
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	1.723	1.432	1.203
Story3	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.641	0.327	1.961
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	X	1.004	0.848	1.184
Story2	Ult 42 (G-1.0EQX-0.3EQY+0.3Q) Min	Y	0.334	0.184	1.809
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	1.432	1.049	1.365
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.549	0.169	3.252
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	1.393	1.014	1.375
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.75	0.616	1.216
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	0.954	0.731	1.305
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.489	0.214	2.281
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	X	0.529	0.429	1.232
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Max	Y	0.26	0.136	1.911
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.795	1.365	1.315
Upper Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.672	0.404	1.664
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.542	1.209	1.275
Lower Roof	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	1.049	0.812	1.291
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	1.167	0.927	1.259
Story3	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.714	0.448	1.594
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	X	0.667	0.547	1.219
Story2	Ult 43 (G-0.5EQX-0.5EQY+0.3Q) Min	Y	0.385	0.266	1.446
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	1.093	0.787	1.39
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	1.132	0.794	1.425
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	1.219	0.834	1.461
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	1.317	1.199	1.098
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	0.754	0.558	1.351
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	0.91	0.67	1.359
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	X	0.401	0.33	1.217
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Max	Y	0.567	0.444	1.277
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.567	1.198	1.308
Upper Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.293	1.101	1.174
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.411	1.088	1.297
Lower Roof	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.706	1.455	1.173
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	1.025	0.81	1.265
Story3	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	1.204	0.975	1.236
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	X	0.576	0.477	1.207
Story2	Ult 44 (G-0.3EQX-1.0EQY+0.3Q) Min	Y	0.688	0.587	1.172
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	1.364	1.128	1.209
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.674	0.388	1.736
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	1.23	0.896	1.373
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	0.906	0.776	1.167

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.377	0.184	2.05
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	X	0.514	0.456	1.125
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Max	Y	0.186	0.077	2.423
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	1.017	0.719	1.413
Upper Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.224	0.084	2.685
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.915	0.641	1.427
Lower Roof	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.479	0.249	1.922
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.686	0.53	1.294
Story3	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.281	0.107	2.636
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	X	0.424	0.334	1.268
Story2	Ult 45 (G+1.0EQX-0.3EQY+0.3Q) Min	Y	0.131	0.048	2.733
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.63	0.354	1.783
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.56	0.214	2.615
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.516	0.397	1.299
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.4	0.256	1.567
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.309	0.106	2.912
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	X	0.209	0.145	1.441
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Max	Y	0.194	0.095	2.052
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.363	0.038	9.486
Upper Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.424	0.241	1.76
Lower Roof	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.815	0.593	1.375
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.222	0.051	4.386
Story3	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.535	0.341	1.568
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	X	0.117	0.039	2.976
Story2	Ult 46 (G+0.5EQX-0.5EQY+0.3Q) Min	Y	0.283	0.202	1.399
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.983	0.696	1.412
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	1.176	1.068	1.102
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.802	0.611	1.312
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Max	Y	0.527	0.425	1.242
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.662	0.357	1.856
Upper Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.144	1.003	1.14
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.654	0.351	1.862
Lower Roof	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.566	1.323	1.183
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.385	0.218	1.769
Story3	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	1.096	0.897	1.223
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	X	0.197	0.118	1.664
Story2	Ult 47 (G+0.3EQX-1.0EQY+0.3Q) Min	Y	0.626	0.537	1.166
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	2.103	1.597	1.317
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	1.403	0.895	1.568
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	1.843	1.446	1.274
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.475	0.354	1.344
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	1.425	1.126	1.265
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.935	0.588	1.59
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	X	0.801	0.652	1.23
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Max	Y	0.536	0.367	1.461
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	2.573	2.005	1.283
Upper Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.953	0.59	1.615
Lower Roof	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	2.037	1.701	1.198
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	1.69	1.374	1.23

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story3	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.622	0.285	2.179
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	X	0.983	0.807	1.218
Story2	Ult 48 (G-1.0EQX+0.3EQY+0.3Q) Min	Y	0.361	0.196	1.845
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	1.395	0.914	1.526
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	1.685	1.219	1.382
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	1.195	0.823	1.451
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	0.826	0.697	1.185
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	0.893	0.634	1.41
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	1.128	0.811	1.39
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	X	0.497	0.362	1.374
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Max	Y	0.648	0.499	1.297
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.758	1.229	1.43
Upper Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	1.337	0.984	1.359
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.343	1.019	1.318
Lower Roof	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.733	0.501	1.464
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	1.125	0.838	1.342
Story3	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.884	0.576	1.534
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	X	0.634	0.481	1.32
Story2	Ult 49 (G-0.5EQX+0.5EQY+0.3Q) Min	Y	0.512	0.367	1.396
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	1.022	0.516	1.98
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	2.492	1.983	1.257
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.821	0.454	1.809
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.536	1.427	1.076
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.633	0.362	1.748
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.719	1.388	1.239
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	X	0.334	0.193	1.729
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Max	Y	1.017	0.856	1.189
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	1.496	0.928	1.612
Upper Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	2.037	1.675	1.216
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	1.014	0.708	1.433
Lower Roof	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	1.414	1.172	1.207
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	0.933	0.628	1.485
Story3	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	1.401	1.081	1.295
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	X	0.513	0.348	1.474
Story2	Ult 50 (G-0.3EQX+1.0EQY+0.3Q) Min	Y	0.839	0.682	1.229
Upper Roof	ENVELOPE Max	X	1.505	1.209	1.245
Upper Roof	ENVELOPE Max	Y	2.538	2.08	1.22
Lower Roof	ENVELOPE Max	X	1.339	1.01	1.326
Lower Roof	ENVELOPE Max	Y	1.659	1.559	1.064
Story3	ENVELOPE Max	X	0.982	0.835	1.177
Story3	ENVELOPE Max	Y	1.752	1.458	1.202
Story2	ENVELOPE Max	X	0.575	0.495	1.161
Story2	ENVELOPE Max	Y	1.046	0.9	1.162
Upper Roof	ENVELOPE Min	X	2.595	2.086	1.244
Upper Roof	ENVELOPE Min	Y	1.293	1.101	1.174
Lower Roof	ENVELOPE Min	X	2.156	1.815	1.188
Lower Roof	ENVELOPE Min	Y	1.706	1.455	1.173
Story3	ENVELOPE Min	X	1.723	1.432	1.203
Story3	ENVELOPE Min	Y	1.204	0.975	1.236

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	ENVELOPE Min	X	1.004	0.848	1.184
Story2	ENVELOPE Min	Y	0.688	0.587	1.172
Upper Roof	DStIS1	X	1.075	0.56	1.918
Upper Roof	DStIS1	Y	1.051	0.635	1.654
Lower Roof	DStIS1	X	0.937	0.511	1.835
Lower Roof	DStIS1	Y	0.295	0.072	4.107
Story3	DStIS1	X	0.645	0.373	1.73
Story3	DStIS1	Y	0.632	0.305	2.072
Story2	DStIS1	X	0.34	0.208	1.64
Story2	DStIS1	Y	0.329	0.187	1.761
Upper Roof	DStIS2	X	1.177	0.618	1.903
Upper Roof	DStIS2	Y	1.107	0.656	1.687
Lower Roof	DStIS2	X	1.051	0.575	1.828
Lower Roof	DStIS2	Y	0.308	0.058	5.304
Story3	DStIS2	X	0.706	0.411	1.718
Story3	DStIS2	Y	0.672	0.317	2.12
Story2	DStIS2	X	0.369	0.227	1.628
Story2	DStIS2	Y	0.353	0.199	1.777
Upper Roof	DStIS3 Max	X	0.815	0.325	2.507
Upper Roof	DStIS3 Max	Y	1.222	0.777	1.573
Lower Roof	DStIS3 Max	X	0.687	0.281	2.441
Lower Roof	DStIS3 Max	Y	0.431	0.2	2.15
Story3	DStIS3 Max	X	0.473	0.214	2.212
Story3	DStIS3 Max	Y	0.76	0.407	1.869
Story2	DStIS3 Max	X	0.24	0.116	2.068
Story2	DStIS3 Max	Y	0.411	0.248	1.656
Upper Roof	DStIS3 Min	X	1.323	0.746	1.773
Upper Roof	DStIS3 Min	Y	0.91	0.454	2.005
Lower Roof	DStIS3 Min	X	1.148	0.676	1.7
Lower Roof	DStIS3 Min	Y	0.424	0.176	2.404
Story3	DStIS3 Min	X	0.814	0.498	1.633
Story3	DStIS3 Min	Y	0.538	0.162	3.317
Story2	DStIS3 Min	X	0.44	0.281	1.564
Story2	DStIS3 Min	Y	0.271	0.099	2.754
Upper Roof	DStIS4 Max	X	0.706	0.314	2.25
Upper Roof	DStIS4 Max	Y	1.051	0.724	1.451
Lower Roof	DStIS4 Max	X	0.633	0.297	2.135
Lower Roof	DStIS4 Max	Y	0.478	0.301	1.587
Story3	DStIS4 Max	X	0.404	0.207	1.95
Story3	DStIS4 Max	Y	0.645	0.405	1.593
Story2	DStIS4 Max	X	0.201	0.11	1.821
Story2	DStIS4 Max	Y	0.346	0.251	1.378
Upper Roof	DStIS4 Min	X	1.214	0.734	1.653
Upper Roof	DStIS4 Min	Y	0.739	0.402	1.84
Lower Roof	DStIS4 Min	X	1.095	0.691	1.584
Lower Roof	DStIS4 Min	Y	0.27	0.076	3.558
Story3	DStIS4 Min	X	0.744	0.491	1.515
Story3	DStIS4 Min	Y	0.423	0.16	2.637
Story2	DStIS4 Min	X	0.4	0.275	1.454

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Story2	DStIS4 Min	Y	0.207	0.102	2.034
Upper Roof	DStIS5 Max	X	0.756	0.293	2.58
Upper Roof	DStIS5 Max	Y	1.176	0.752	1.563
Lower Roof	DStIS5 Max	X	0.629	0.249	2.524
Lower Roof	DStIS5 Max	Y	0.419	0.202	2.073
Story3	DStIS5 Max	X	0.438	0.193	2.272
Story3	DStIS5 Max	Y	0.731	0.394	1.852
Story2	DStIS5 Max	X	0.223	0.105	2.12
Story2	DStIS5 Max	Y	0.395	0.239	1.649
Upper Roof	DStIS5 Min	X	1.264	0.714	1.77
Upper Roof	DStIS5 Min	Y	0.864	0.43	2.011
Lower Roof	DStIS5 Min	X	1.09	0.644	1.694
Lower Roof	DStIS5 Min	Y	0.409	0.175	2.339
Story3	DStIS5 Min	X	0.778	0.477	1.631
Story3	DStIS5 Min	Y	0.509	0.15	3.39
Story2	DStIS5 Min	X	0.422	0.27	1.564
Story2	DStIS5 Min	Y	0.255	0.09	2.84
Upper Roof	DStIS6 Max	X	0.647	0.282	2.297
Upper Roof	DStIS6 Max	Y	1.005	0.7	1.435
Lower Roof	DStIS6 Max	X	0.575	0.264	2.176
Lower Roof	DStIS6 Max	Y	0.466	0.302	1.539
Story3	DStIS6 Max	X	0.368	0.186	1.982
Story3	DStIS6 Max	Y	0.616	0.393	1.568
Story2	DStIS6 Max	X	0.183	0.099	1.849
Story2	DStIS6 Max	Y	0.33	0.243	1.361
Upper Roof	DStIS6 Min	X	1.155	0.702	1.645
Upper Roof	DStIS6 Min	Y	0.693	0.377	1.837
Lower Roof	DStIS6 Min	X	1.037	0.659	1.574
Lower Roof	DStIS6 Min	Y	0.254	0.074	3.429
Story3	DStIS6 Min	X	0.709	0.47	1.507
Story3	DStIS6 Min	Y	0.394	0.148	2.656
Story2	DStIS6 Min	X	0.383	0.264	1.449
Story2	DStIS6 Min	Y	0.191	0.093	2.05
Upper Roof	DStIS7 Max	X	0.518	0.169	3.07
Upper Roof	DStIS7 Max	Y	0.942	0.611	1.542
Lower Roof	DStIS7 Max	X	0.421	0.136	3.1
Lower Roof	DStIS7 Max	Y	0.353	0.186	1.899
Story3	DStIS7 Max	X	0.295	0.11	2.68
Story3	DStIS7 Max	Y	0.59	0.327	1.807
Story2	DStIS7 Max	X	0.147	0.059	2.496
Story2	DStIS7 Max	Y	0.322	0.198	1.625
Upper Roof	DStIS7 Min	X	1.025	0.59	1.739
Upper Roof	DStIS7 Min	Y	0.631	0.289	2.185
Lower Roof	DStIS7 Min	X	0.882	0.53	1.664
Lower Roof	DStIS7 Min	Y	0.375	0.191	1.966
Story3	DStIS7 Min	X	0.635	0.394	1.611
Story3	DStIS7 Min	Y	0.368	0.082	4.479
Story2	DStIS7 Min	X	0.346	0.224	1.548
Story2	DStIS7 Min	Y	0.182	0.048	3.767

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	DStIS8 Max	X	0.408	0.157	2.597
Upper Roof	DStIS8 Max	Y	0.771	0.559	1.38
Lower Roof	DStIS8 Max	X	0.367	0.151	2.432
Lower Roof	DStIS8 Max	Y	0.4	0.287	1.396
Story3	DStIS8 Max	X	0.225	0.103	2.185
Story3	DStIS8 Max	Y	0.475	0.325	1.463
Story2	DStIS8 Max	X	0.107	0.053	2.03
Story2	DStIS8 Max	Y	0.257	0.201	1.278
Upper Roof	DStIS8 Min	X	0.916	0.578	1.586
Upper Roof	DStIS8 Min	Y	0.459	0.236	1.946
Lower Roof	DStIS8 Min	X	0.828	0.545	1.52
Lower Roof	DStIS8 Min	Y	0.221	0.09	2.448
Story3	DStIS8 Min	X	0.565	0.387	1.46
Story3	DStIS8 Min	Y	0.253	0.08	3.149
Story2	DStIS8 Min	X	0.307	0.218	1.409
Story2	DStIS8 Min	Y	0.118	0.052	2.283
Upper Roof	DStIS9 Max	X	1.392	1.12	1.243
Upper Roof	DStIS9 Max	Y	1.064	0.769	1.383
Lower Roof	DStIS9 Max	X	1.248	0.923	1.351
Lower Roof	DStIS9 Max	Y	0.478	0.369	1.296
Story3	DStIS9 Max	X	0.917	0.78	1.176
Story3	DStIS9 Max	Y	0.666	0.469	1.42
Story2	DStIS9 Max	X	0.529	0.459	1.152
Story2	DStIS9 Max	Y	0.371	0.265	1.4
Upper Roof	DStIS9 Min	X	1.125	0.806	1.396
Upper Roof	DStIS9 Min	Y	0.719	0.535	1.342
Lower Roof	DStIS9 Min	X	1.005	0.727	1.382
Lower Roof	DStIS9 Min	Y	0.387	0.174	2.223
Story3	DStIS9 Min	X	0.74	0.581	1.274
Story3	DStIS9 Min	Y	0.424	0.236	1.798
Story2	DStIS9 Min	X	0.448	0.359	1.246
Story2	DStIS9 Min	Y	0.235	0.153	1.536
Upper Roof	DStIS10 Max	X	2.169	1.685	1.288
Upper Roof	DStIS10 Max	Y	0.908	0.443	2.051
Lower Roof	DStIS10 Max	X	1.924	1.532	1.256
Story3	DStIS10 Max	X	1.459	1.179	1.237
Story3	DStIS10 Max	Y	0.581	0.247	2.355
Story2	DStIS10 Max	X	0.833	0.69	1.206
Story2	DStIS10 Max	Y	0.317	0.157	2.026
Upper Roof	DStIS10 Min	X	2.529	1.998	1.266
Upper Roof	DStIS10 Min	Y	0.563	0.209	2.694
Lower Roof	DStIS10 Min	X	2.074	1.728	1.2
Lower Roof	DStIS10 Min	Y	0.507	0.265	1.914
Story3	DStIS10 Min	X	1.666	1.371	1.215
Story2	DStIS10 Min	X	0.972	0.81	1.201
Upper Roof	DStIS11 Max	Y	2.463	1.996	1.234
Lower Roof	DStIS11 Max	Y	1.584	1.464	1.082
Story3	DStIS11 Max	Y	1.7	1.388	1.224
Story2	DStIS11 Max	Y	1.011	0.859	1.178

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Upper Roof	DStIS11 Min	X	0.99	0.46	2.15
Upper Roof	DStIS11 Min	Y	2.112	1.759	1.201
Lower Roof	DStIS11 Min	X	0.613	0.31	1.978
Lower Roof	DStIS11 Min	Y	1.49	1.267	1.176
Story3	DStIS11 Min	X	0.584	0.306	1.912
Story3	DStIS11 Min	Y	1.454	1.152	1.262
Story2	DStIS11 Min	X	0.303	0.155	1.958
Story2	DStIS11 Min	Y	0.873	0.724	1.205
Upper Roof	DStIS12 Max	X	0.695	0.413	1.682
Upper Roof	DStIS12 Max	Y	1.076	0.78	1.379
Lower Roof	DStIS12 Max	X	0.863	0.495	1.742
Lower Roof	DStIS12 Max	Y	1.291	1.163	1.11
Story3	DStIS12 Max	X	0.449	0.283	1.588
Story3	DStIS12 Max	Y	0.89	0.675	1.317
Story2	DStIS12 Max	X	0.228	0.17	1.344
Story2	DStIS12 Max	Y	0.548	0.445	1.232
Upper Roof	DStIS12 Min	X	1.06	0.73	1.452
Upper Roof	DStIS12 Min	Y	1.2	1.017	1.18
Lower Roof	DStIS12 Min	X	1.01	0.69	1.464
Lower Roof	DStIS12 Min	Y	1.591	1.36	1.17
Story3	DStIS12 Min	X	0.669	0.482	1.386
Story3	DStIS12 Min	Y	1.117	0.911	1.226
Story2	DStIS12 Min	X	0.366	0.285	1.285
Story2	DStIS12 Min	Y	0.638	0.551	1.157
Upper Roof	DStIS13 Max	X	1.396	1.144	1.22
Upper Roof	DStIS13 Max	Y	1.029	0.751	1.371
Lower Roof	DStIS13 Max	X	1.253	0.948	1.322
Lower Roof	DStIS13 Max	Y	0.469	0.37	1.267
Story3	DStIS13 Max	X	0.922	0.795	1.16
Story3	DStIS13 Max	Y	0.644	0.46	1.4
Story2	DStIS13 Max	X	0.533	0.468	1.139
Story2	DStIS13 Max	Y	0.359	0.257	1.399
Upper Roof	DStIS13 Min	X	1.129	0.83	1.36
Upper Roof	DStIS13 Min	Y	0.684	0.517	1.323
Lower Roof	DStIS13 Min	X	1.01	0.752	1.344
Lower Roof	DStIS13 Min	Y	0.378	0.175	2.156
Story3	DStIS13 Min	X	0.745	0.597	1.248
Story3	DStIS13 Min	Y	0.402	0.227	1.773
Story2	DStIS13 Min	X	0.455	0.369	1.231
Story2	DStIS13 Min	Y	0.223	0.147	1.524
Upper Roof	DStIS14 Max	X	2.125	1.66	1.28
Upper Roof	DStIS14 Max	Y	0.874	0.425	2.058
Lower Roof	DStIS14 Max	X	1.881	1.508	1.247
Story3	DStIS14 Max	X	1.436	1.165	1.232
Story3	DStIS14 Max	Y	0.56	0.238	2.352
Story2	DStIS14 Max	X	0.82	0.682	1.202
Story2	DStIS14 Max	Y	0.306	0.15	2.034
Upper Roof	DStIS14 Min	X	2.485	1.974	1.259
Lower Roof	DStIS14 Min	X	2.031	1.704	1.191

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	DStIS14 Min	Y	0.496	0.264	1.879
Story3	DStIS14 Min	X	1.641	1.356	1.21
Story2	DStIS14 Min	X	0.959	0.801	1.197
Upper Roof	DStIS15 Max	Y	2.429	1.978	1.228
Lower Roof	DStIS15 Max	Y	1.575	1.465	1.075
Story3	DStIS15 Max	Y	1.678	1.379	1.216
Story2	DStIS15 Max	Y	0.999	0.852	1.173
Upper Roof	DStIS15 Min	X	0.946	0.436	2.168
Upper Roof	DStIS15 Min	Y	2.077	1.74	1.194
Lower Roof	DStIS15 Min	X	0.569	0.286	1.993
Lower Roof	DStIS15 Min	Y	1.481	1.268	1.168
Story3	DStIS15 Min	X	0.558	0.289	1.927
Story3	DStIS15 Min	Y	1.432	1.143	1.253
Story2	DStIS15 Min	X	0.29	0.146	1.98
Story2	DStIS15 Min	Y	0.861	0.718	1.199
Upper Roof	DStIS16 Max	X	0.65	0.389	1.672
Upper Roof	DStIS16 Max	Y	1.078	0.799	1.35
Lower Roof	DStIS16 Max	X	0.819	0.471	1.739
Lower Roof	DStIS16 Max	Y	1.28	1.162	1.102
Story3	DStIS16 Max	X	0.426	0.269	1.585
Story3	DStIS16 Max	Y	0.886	0.684	1.295
Story2	DStIS16 Max	X	0.217	0.162	1.336
Story2	DStIS16 Max	Y	0.552	0.453	1.22
Upper Roof	DStIS16 Min	X	1.016	0.706	1.438
Upper Roof	DStIS16 Min	Y	1.202	1.035	1.161
Lower Roof	DStIS16 Min	X	0.967	0.666	1.451
Lower Roof	DStIS16 Min	Y	1.58	1.359	1.163
Story3	DStIS16 Min	X	0.644	0.467	1.378
Story3	DStIS16 Min	Y	1.113	0.92	1.21
Story2	DStIS16 Min	X	0.353	0.276	1.277
Story2	DStIS16 Min	Y	0.639	0.556	1.15
Upper Roof	DStID1	X	0.796	0.415	1.918
Upper Roof	DStID1	Y	0.779	0.471	1.654
Lower Roof	DStID1	X	0.694	0.378	1.835
Lower Roof	DStID1	Y	0.219	0.053	4.107
Story3	DStID1	X	0.478	0.276	1.73
Story3	DStID1	Y	0.468	0.226	2.072
Story2	DStID1	X	0.252	0.154	1.64
Story2	DStID1	Y	0.244	0.139	1.761
Upper Roof	DStID2	X	0.944	0.495	1.906
Upper Roof	DStID2	Y	0.894	0.532	1.682
Lower Roof	DStID2	X	0.839	0.459	1.829
Lower Roof	DStID2	Y	0.249	0.049	5.045
Story3	DStID2	X	0.566	0.329	1.72
Story3	DStID2	Y	0.542	0.257	2.112
Story2	DStID2	X	0.297	0.182	1.63
Story2	DStID2	Y	0.284	0.16	1.774
Upper Roof	DCmpD1	X	0.796	0.415	1.918
Upper Roof	DCmpD1	Y	0.779	0.471	1.654

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	DCmpD1	X	0.694	0.378	1.835
Lower Roof	DCmpD1	Y	0.219	0.053	4.107
Story3	DCmpD1	X	0.478	0.276	1.73
Story3	DCmpD1	Y	0.468	0.226	2.072
Story2	DCmpD1	X	0.252	0.154	1.64
Story2	DCmpD1	Y	0.244	0.139	1.761
Upper Roof	DCmpD2	X	0.944	0.495	1.906
Upper Roof	DCmpD2	Y	0.894	0.532	1.682
Lower Roof	DCmpD2	X	0.839	0.459	1.829
Lower Roof	DCmpD2	Y	0.249	0.049	5.045
Story3	DCmpD2	X	0.566	0.329	1.72
Story3	DCmpD2	Y	0.542	0.257	2.112
Story2	DCmpD2	X	0.297	0.182	1.63
Story2	DCmpD2	Y	0.284	0.16	1.774
Upper Roof	DCmpS1	X	1.075	0.56	1.918
Upper Roof	DCmpS1	Y	1.051	0.635	1.654
Lower Roof	DCmpS1	X	0.937	0.511	1.835
Lower Roof	DCmpS1	Y	0.295	0.072	4.107
Story3	DCmpS1	X	0.645	0.373	1.73
Story3	DCmpS1	Y	0.632	0.305	2.072
Story2	DCmpS1	X	0.34	0.208	1.64
Story2	DCmpS1	Y	0.329	0.187	1.761
Upper Roof	DCmpS2	X	1.296	0.681	1.905
Upper Roof	DCmpS2	Y	1.224	0.727	1.684
Lower Roof	DCmpS2	X	1.155	0.632	1.828
Lower Roof	DCmpS2	Y	0.34	0.066	5.159
Story3	DCmpS2	X	0.778	0.452	1.719
Story3	DCmpS2	Y	0.742	0.351	2.116
Story2	DCmpS2	X	0.407	0.25	1.63
Story2	DCmpS2	Y	0.389	0.219	1.775
Upper Roof	DCmpC1	X	1.119	0.583	1.921
Upper Roof	DCmpC1	Y	1.099	0.665	1.652
Lower Roof	DCmpC1	X	0.979	0.534	1.834
Lower Roof	DCmpC1	Y	0.305	0.072	4.225
Story3	DCmpC1	X	0.674	0.389	1.734
Story3	DCmpC1	Y	0.659	0.317	2.077
Story2	DCmpC1	X	0.357	0.217	1.644
Story2	DCmpC1	Y	0.343	0.194	1.767
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Max	X	2.17	1.801	1.205
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Max	Y	3.302	2.639	1.251
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Max	X	1.896	1.448	1.31
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Max	Y	1.994	1.959	1.018
Story3	Ult 51 (G+0.3Q+Spectrum) Max	X	1.351	1.13	1.196
Story3	Ult 51 (G+0.3Q+Spectrum) Max	Y	2.188	1.794	1.22
Story2	Ult 51 (G+0.3Q+Spectrum) Max	X	0.746	0.65	1.147
Story2	Ult 51 (G+0.3Q+Spectrum) Max	Y	1.245	1.043	1.194
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Min	X	3.307	2.721	1.215
Upper Roof	Ult 51 (G+0.3Q+Spectrum) Min	Y	1.692	1.516	1.116
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Min	X	2.475	2.25	1.1

N/A

Table 2.1 - Story Max/Avg Displacements (continued)

Story	Load Case/Combo	Direction	Maximum mm	Average mm	Ratio
Lower Roof	Ult 51 (G+0.3Q+Spectrum) Min	Y	2.231	1.856	1.202
Story3	Ult 51 (G+0.3Q+Spectrum) Min	X	2.114	1.780	1.175
Story3	Ult 51 (G+0.3Q+Spectrum) Min	Y	1.551	1.25	1.241
Story2	Ult 51 (G+0.3Q+Spectrum) Min	X	1.2	1.022	1.174
Story2	Ult 51 (G+0.3Q+Spectrum) Min	Y	0.853	0.711	1.2

N/A

Expected maximum displacement = 2.6 mm @ top.

Expected maximum displacement = 1.8 mm @ 3rd Floor.

$$\begin{aligned} \text{height difference} &= 13.925 - 9.615 \\ &= 4.31 \text{ m.} \end{aligned}$$

$$\begin{aligned} d_i &= d_{ie} \times h / S_p \\ &= (2.6 - 1.8) \times \frac{2}{0.77} = 2.04 \text{ mm.} \end{aligned}$$

$$1.5\% \text{ of storey height} = 64.65 \text{ mm}$$

>> than design deflection.

OK

$$\text{Base Shear} = 1678.8 \text{ kN.}$$

Precast panel & lift & stair shaft shell OK

$$\text{Shear on dowels} = 1678.8 \text{ kN.}$$

Capacity of 1 No dowels.

$$V_{Rdc} = V_{Rdc} + f_{bv} A_{sv} f_{bv}$$

$$\text{where } V_{Rdc} = 12.5 \text{ kN.}$$

$$f_{bv} = 1.27$$

$$f_{sv} = 3.67 \text{ for } C_{min} = 2.4 \text{ \& } S_{min} = \frac{1200}{-85} = 14$$

$$\begin{aligned} \therefore V_{Rdc} &= 12.5 + 1.27 + 3.67 \\ &= 58 \text{ kN.} \end{aligned}$$

$$\begin{aligned} \text{No. of dowels required} &= \frac{1678.8}{58} = 29 \\ &\sim 30 \text{ dowels.} \end{aligned}$$

Spread at least 200mm
because of reo each side
(Conservative)

Checked :

Date : .../.../...

No. of dowels along grid ① and ⑤
 Dowels @ 300 from each end and @ 1200 ξ

$$\text{Along 1} = 6 \times 3 = 18$$

$$\text{Along 5} = 3 + 2 + 2 + 2 = 9$$

$$\text{Total} = 27.$$

$$\begin{aligned} \text{Dowels on Lift shaft \& stair shaft} &= \text{@ } 900 \xi \\ &= 3 \times 3 = 9 \end{aligned}$$

\therefore Minimum number of dowels available = 36 > req.

\therefore (OK)

On other side length of wall is bigger \therefore more dowels
 \therefore (OK)