Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Cover**

Bob's Tile Depot

Design Loads

Description: New construction of retail store

Project Number: 26-1234

Structural Design Loads per: IBC 2024

Project Location

132 Granite Blvd
Sample Town, NM

Engineering Team

Engineer: ACB

Engineer of Record: WRB

Notes

New construction retail store with tilt-up walls, bar-joist roof

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building Overview**

Main Building

Design Loads

Risk Category: II

Structure Location

132 Granite Blvd
Sample Town, NM

Engineering Team

Engineer: ACB

Engineer of Record: WRB

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Dead Load**

Dead Load Assemblies

Typical Roof Load

Material	Weight
Waterproofing membranes - Bituminous, gravel-covered	5.50 psf
Insulation, Roof Boards - Polystyrene foam - 6 in.	1.20 psf
Deck, metal, 18 gauge	3.00 psf
20K Joists at 4ft OC	2.50 psf
Assembly Weight	**12.20 psf**

Tilt-Up walls

Material	Weight
7 1/4" Tilt-up Panel	87.60 psf
Assembly Weight	**87.60 psf**

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Live Load**

Live Loads Used

Stairs And Exit Ways

Use	Uniform	LL Reduction Permitted	Multistory LL Reduction Permitted	Concentrated
One And Two-Family Dwellings Only	40.0 psf	Yes	Yes	300.0 lbs

Roofs - General

Use	Uniform	LL Reduction Permitted	Multistory LL Reduction Permitted	Concentrated
Ordinary Flat, Pitched, And Curved Roofs	20.0 psf	Yes	N/A	0.0 lbs

Storage Warehouses

Use	Uniform	LL Reduction Permitted	Multistory LL Reduction Permitted	Concentrated
Light	125.0 psf	No	Yes	0.0 lbs

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Rain Load**

Rain Loads

General Rain - Parameters

15 min. Rainfall intensity	5.48 in/hr	ASCE 7-22: §8.2

Roof Region - Main Region

Main Region - Drainage System

Drainage System	Overflow Dam or Standpipe	*User Defined*
Inlet Diameter	6	*User Defined*
Outlet Diameter	4	*User Defined*

Main Region - Design Loads

$$R = 5.2\left(d_s + d_h + d_p\right)$$ ASCE 7-22, (8.2-1)

$$Q = 0.0104\, A\, i$$ ASCE 7-22, (C8.2-1)

Drainage Collection Area (A)	Static Head Pressure (d_s)	Flow Rate (Q)	Hydraulic Head Pressure (d_h)	Ponding Head (d_p)	Design Rain Load (R)
2500.00sqft	1.50in	142.48gal/min	2.35in	2.25in	31.72psf
1325.00sqft	1.50in	75.51gal/min	1.26in	2.25in	26.03psf

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Snow Load**

Snow Load Report

General Snow - Parameters

Ground Snow Load	p_g = 20.0 psf	*ASCE 7-22: Figure s 7.2-1A through 7.2-1D*
Building Risk Category	Risk Category = II	*User Defined*
Winter Wind Parameter	W_2 = 0.5	*ASCE 7-22: Figure 7.6-1*

Roof Region - Main Building

Main Building Design Summary

Balanced Flat Roof Snow Load	p_f = 14.74 psf	*ASCE 7-22: §7.3*
Balanced Sloped Roof Snow Load	p_s = 14.74 psf	*ASCE 7-22: §7.4*
Minimum Roof Snow Load	p_m = 20.0 psf	*ASCE 7-22: §7.3.3*
Rain on Snow p_s Surcharge	$ps_{surcharge}$ = 8.0 psf	*ASCE 7-22: §7.10*
Drift Loads for Roof Steps		*ASCE 7-22: §7.7*

Location	Length of roof upwind of the drift (lu)	Length of roof downwind (lu, lower)	Height of roof step (h)	Uniform pressure, windward face (pw)	Uniform pressure, leeward face (pL)	Height of drift (hd)	Pressure surcharge on leeward face (pLS)	Leeward Surcharge width (ds)
E-W East Roof Step	350.0 ft	400.0 ft	6.25 ft	62.72 psf	79.81 psf	3.78 ft	79.81 psf	30.23 ft

Drift Loads for Roof Projection Parapets	*ASCE 7-22: §7.8*

Location	Length of roof upwind of the drift (lu)	Length of roof downwind (lu, lower)	Height of roof step (h)	Uniform pressure, windward face (pw)	Uniform pressure, leeward face (pL)	Height of drift (hd)	Pressure surcharge on leeward face (pLS)	Leeward Surcharge width (ds)
E-W West parapet	1.0 ft	400.0 ft	2.25 ft	22.61 psf	7.7 psf	1.36 ft	22.61 psf	10.9 ft
N-S High Parapet	1.0 ft	300.0 ft	5.75 ft	56.72 psf	7.7 psf	3.42 ft	56.72 psf	27.33 ft
N-S Low Parapet	1.0 ft	300.0 ft	2.25 ft	22.61 psf	7.7 psf	1.36 ft	22.61 psf	10.9 ft

Main Building Design Detail

Balanced Flat Roof - ASCE 7-22: §7.3

$$p_f = 0.7 C_e C_t p_g$$

ASCE 7-22: Eq. 7.3-1

Exposure Factor	C_e=0.9	*ASCE 7-22: §7.3.1*

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Snow Load**

Thermal Factor	C_t=1.17	*ASCE 7-22: Table 7.3-3*
Ground Snow Load	p_g=20.00 psf	*ASCE 7-22: Figure s 7.2-1A through 7.2-1D*
Balanced Flat Roof Snow Load	**p_f=14.74 psf**	***ASCE 7-22: Eq. 7.3-1***

Balanced Sloped Roof Snow Load - ASCE 7-22: §7.4

$$p_s = C_s p_f$$ ASCE 7-22: Eq. 7.4-1

Roof Obstructions/ Friction	Obstructed	*User Defined*
Roof Slope	θ=1.19°	*User Defined*
Roof Snow Factor	C_s=1.00	*ASCE 7-22: §7.4.1*
Balanced Sloped Roof Snow Load	**p_s=14.74 psf**	***ASCE 7-22: Eq. 7.4-1***

Minimum Snow Load - ASCE 7-22: §7.3.3

$p_m = \min(p_g,\ p_{m,max})$ [where $p_{m,max}$ from Table 7.3-4] ASCE 7-22: Eq. 7.3.3

RC-I: 25 psf
RC-II: 30 psf
RC-III: 35 psf
RC-IV: 40 psf

Risk Category	II	*ASCE 7-22: Table 7.3-4*
Ground Snow Load	p_g=20.00 psf	*ASCE 7-22: Figure s 7.2-1A through 7.2-1D*
Minimum Roof Snow Load	**p_m=20.00 psf**	***ASCE 7-22: Eq. 7.3.3***

Rain on Snow Load - ASCE 7-22: §7.10

$$p_{s_{surcharge}} = 8 \text{ psf}$$ ASCE 7-22: Eq. 7.10

Balanced Sloped Roof Snow Load	p_s=14.74 psf	*ASCE 7-22: Eq. 7.4-1*
Rain on Snow p_s Surcharge	**$ps_{surcharge}$=8.00 psf**	***ASCE 7-22: §7.10***

Drift Loads for Roof Steps – ASCE 7-22: §7.7

$\gamma = 0.13 p_g + 14 \le 30$pcf [Snow density] ASCE 7-22: Eq. 7.6-1

$h_b = p_s/\gamma$ [Balanced snow load on lower]

$h_c = h - h_b$ [Clear height from balanced snow to top of obstruction]

$h_d = 1.5\sqrt{\frac{p_g^{0.74} l_u^{0.70} W_2^{1.7}}{\gamma}}$ [Drift height with W2 parameter]

$w = 4h_d$ [Snow drift width]

$p_d = h_d \gamma$ [Max drift load]

Ground Snow Load	p_g=20.00 psf	*ASCE 7-22: Figure s 7.2-1A through 7.2-1D*
Balanced Flat Roof Snow Load	p_f=14.74 psf	*ASCE 7-22: Eq. 7.3-1*
Balanced Sloped Roof Snow Load	p_s=14.74 psf	*ASCE 7-22: Eq. 7.4-1*
Roof Slope	θ=1.19°	*User Defined*
Roof Slope Run for A Rise of One	S=48.14	*Derived from roof slope*

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Snow Load**

Foot								
Snow Density			γ=16.60 pcf			*ASCE 7-22: Figure 7.6-1, 7.7-1, 7.7-2*		
Location	**Length of roof upwind of the drift (lu)**	**Length of roof downwind (lu, lower)**	**Height of roof step (h)**	**Uniform pressure, windward face (pw)**	**Uniform pressure, leeward face (pL)**	**Height of drift (hd)**	**Pressure surcharge on leeward face (pLS)**	**Leeward Surcharge width (ds)**
E-W East Roof Step	350.0 ft	400.0 ft	6.25 ft	62.72 psf	79.81 psf	3.78 ft	79.81 psf	30.23 ft

* Denoted values are enveloped values between windward and leeward drift cases

Drift Loads for Projections and Parapets - ASCE 7-22: §7.8

ASCE 7-22: Eq. 7.6-1

$\gamma = 0.13 p_g + 14 \leq 30\text{pcf}$ [Snow density]

$h_b = p_s/\gamma$ [Balanced snow load on lower]

$h_c = h - h_b$ [Clear height from balanced snow to top of obstruction]

$h_d = 0.75 \times 1.5 \sqrt{\frac{p_g^{0.74} l_u^{0.70} W_2^{1.7}}{\gamma}}$ [Windward drift with W2]

$w = 4 h_d$ [Snow drift width]

$p_d = h_d \gamma$ [Max drift load]

Ground Snow Load		p_g=20.00 psf	*ASCE 7-22: Figure s 7.2-1A through 7.2-1D*
Balanced Flat Roof Snow Load		p_f=14.74 psf	*ASCE 7-22: Eq. 7.3-1*
Balanced Sloped Roof Snow Load		p_s=14.74 psf	*ASCE 7-22: Eq. 7.4-1*
Roof Slope		θ=1.19°	*User Defined*
Roof Slope Run for A Rise of One Foot		S=48.14	*Derived from roof slope*
Snow Density		γ=16.60 pcf	*ASCE 7-22: §7.8*

Location	**Length of roof upwind of the drift (lu)**	**Length of roof downwind (lu, lower)**	**Height of roof step (h)**	**Uniform pressure, windward face (pw)**	**Uniform pressure, leeward face (pL)**	**Height of drift (hd)**	**Pressure surcharge on leeward face (pLS)**	**Leeward Surcharge width (ds)**
E-W West parapet	1.0 ft	400.0 ft	2.25 ft	22.61 psf	7.7 psf	1.36 ft	22.61 psf	10.9 ft
N-S High Parapet	1.0 ft	300.0 ft	5.75 ft	56.72 psf	7.7 psf	3.42 ft	56.72 psf	27.33 ft
N-S Low Parapet	1.0 ft	300.0 ft	2.25 ft	22.61 psf	7.7 psf	1.36 ft	22.61 psf	10.9 ft

* Denoted values are enveloped values between windward and leeward drift cases

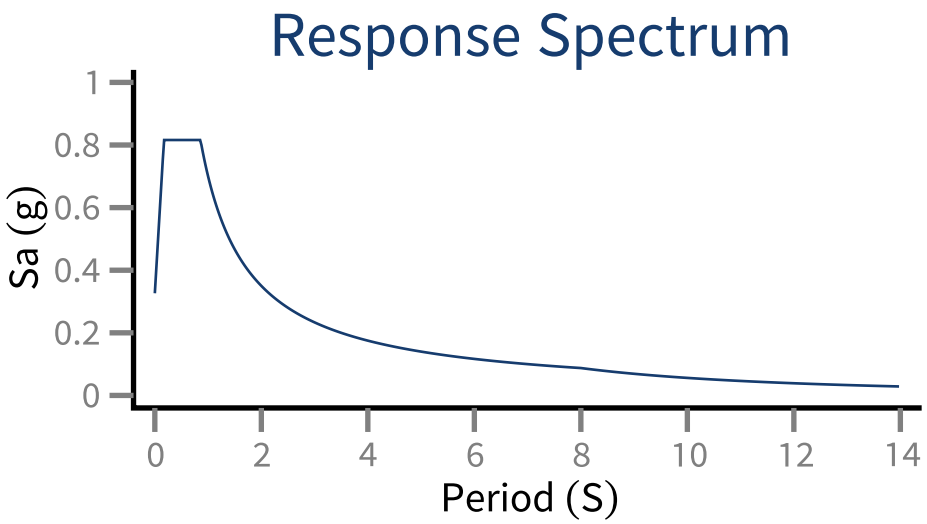
Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Seismic Load - Design Criteria**

Seismic - Design Criteria

Site Parameters

Building Risk Category	Risk Category = II	*ASCE 7-22: §1.5*
Seismic Importance Factor	I_S = 1.0	*ASCE 7-22: Table 1.5-2*
Site Class	D	*ASCE 7-22: §11.4.2*
Special Acceleration at short periods	S_S = 1.2 g	*ASCE 7-22: §11.4.3*
Spectral Acceleration at 1s Period	S_1 = 0.7 g	*ASCE 7-22: §11.4.3*
Long-Period Transition Period	T_L = 8.0 sec	*ASCE 7-22: §11.4.5.2*
MCE_R Spectral Response Acceleration at Short Periods	S_{MS} = 1.224	*ASCE 7-22: §11.4.3*
MCE_R Spectral Response Acceleration at 1s Period	S_{M1} = 1.05	*ASCE 7-22: §11.4.3*
Design Spectral Response Acceleration at Short Periods	S_{DS} = 0.816	*ASCE 7-22: §11.4.4*
Design Spectral Response Acceleration at 1s Period	S_{D1} = 0.7	*ASCE 7-22: §11.4.4*

Horizontal Response Spectrum



Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Seismic Load - Building Design**

Seismic - Main Force Resisting System

Building Levels / Seismic Weight

Description	Elevation	Seismic Weight at Level, W_x
Roof	22.00 ft	42.25 k
	Total Seismic Weight, W	**42.2 k**

N-S Resisting System

N-S Resisting System System Parameters

System Category	A. BEARING WALL SYSTEMS
System Name	7. ORDINARY PRECAST SHEAR WALLS
Response Modification Coefficient	R=3.0
Overstrength Factor	Ω_0=2.5
Deflection Amplification Factor	C_d=3.0

N-S Resisting System Design Summary

Level	Seismic Weight at Level, w_x	Level Force, F_x	Diaphragm Force, F_{px}
Roof	42.25 k	11.49 k	11.49 k

N-S Resisting System Design Details

Approximate Building Period, Ta

$$T_a = C_t h_n^x$$ ASCE 7-22, (12.8-8)

Coefficient for the Fundamental Period	Ct = 0.02	*ASCE 7-22: Table 12.8-2*
Exponent for the Fundamental Period	x = 0.75	*ASCE 7-22: Table 12.8-2*
Height of structure	hn = 22.0	*User Defined*
Approximate Fundamental Period	**Ta = 0.20**	***ASCE 7-22: §12.8.2.1***

Base Shear, V

$$V = C_s W$$ ASCE 7-22, (12.8-1)

Seismic Response Coefficient	Cs = 0.27	*ASCE 7-22: §12.8.1.1*
Seismic Weight	W = 42.25 k	*ASCE 7-22: §12.8.1*
Seismic Base Shear	**V = 11.49 k**	***ASCE 7-22: §12.8.1***

Vertical Distribution of Seismic Loads to Main Force Resisting System, Fx

$$F_x = C_{vx} V \quad \text{[Lateral seismic force at level]}$$

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^{n} w_i h_i^k} \quad \text{[Vertical distribution factor]}$$ ASCE 7-22, (12.8-12, 12.8-13)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Seismic Load - Building Design**

Level	w_x	h_x	$w_x h_x^k$	C_{vx}	F_x
Roof	42.25 k	22.00 ft	929.50 k	1.00	11.49 k

Vertical Distribution of Seismic Loads to Diaphragm, Fpx

ASCE 7-22, (12.10-1, 12.10-2, 12.10-3)

$$F_{px} = \frac{\sum_{i=x}^{n} F_i}{\sum_{i=x}^{n} w_i} w_{px} \quad \text{[Diaphragm design force at level]}$$

$$F_{px,min} = 0.2 S_{DS} I_e w_{px} \quad \text{[Minimum req'd diaphragm force at level]}$$

$$F_{px,max} = 0.4 S_{DS} I_e w_{px} \quad \text{[Maximum req'd diaphragm force at level]}$$

Level	w_{px}	Σw_i	ΣF_i	$F_{px,min}$	$F_{px,max}$	F_{px}	Design F_{px}
Roof	42.25 k	42.25 k	11.49 k	6.90 k	13.79 k	11.49 k	11.49 k

E-W System

E-W System System Parameters

System Category	H. STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS
System Name	1. STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS
Response Modification Coefficient	R=3.0
Overstrength Factor	Ω_o=3.0
Deflection Amplification Factor	C_d=3.0

E-W System Design Summary

Level	Seismic Weight at Level, w_x	Level Force, F_x	Diaphragm Force, F_{px}
Roof	42.25 k	11.49 k	11.49 k

E-W System Design Details

Approximate Building Period, Ta

$$T_a = C_t h_n^x$$

ASCE 7-22, (12.8-8)

Coefficient for the Fundamental Period	Ct = 0.02	*ASCE 7-22: Table 12.8-2*
Exponent for the Fundamental Period	x = 0.75	*ASCE 7-22: Table 12.8-2*
Height of structure	hn = 22.0	*User Defined*
Approximate Fundamental Period	**Ta = 0.20**	***ASCE 7-22: §12.8.2.1***

Base Shear, V

$$V = C_s W$$

ASCE 7-22, (12.8-1)

Seismic Response Coefficient	Cs = 0.27	*ASCE 7-22: §12.8.1.1*

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Seismic Load - Building Design**

Seismic Weight	W = 42.25 k	*ASCE 7-22: §12.8.1*
Seismic Base Shear	**V = 11.49 k**	***ASCE 7-22: §12.8.1***

Vertical Distribution of Seismic Loads to Main Force Resisting System, Fx

$$F_x = C_{vx}V \quad \text{[Lateral seismic force at level]}$$

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^{n} w_i h_i^k} \quad \text{[Vertical distribution factor]}$$

ASCE 7-22, (12.8-12, 12.8-13)

Level	w_x	h_x	$w_x h_x^k$	C_{vx}	F_x
Roof	42.25 k	22.00 ft	929.50 k	1.00	11.49 k

Vertical Distribution of Seismic Loads to Diaphragm, Fpx

$$F_{px} = \frac{\sum_{i=x}^{n} F_i}{\sum_{i=x}^{n} w_i} w_{px} \quad \text{[Diaphragm design force at level]}$$

$$F_{px,min} = 0.2 S_{DS} I_e w_{px} \quad \text{[Minimum req'd diaphragm force at level]}$$

$$F_{px,max} = 0.4 S_{DS} I_e w_{px} \quad \text{[Maximum req'd diaphragm force at level]}$$

ASCE 7-22, (12.10-1, 12.10-2, 12.10-3)

Level	w_{px}	Σw_i	ΣF_i	$F_{px,min}$	$F_{px,max}$	F_{px}	Design F_{px}
Roof	42.25 k	42.25 k	11.49 k	6.90 k	13.79 k	11.49 k	11.49 k

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - General Requirements**

Wind - General Requirements

Site Parameters

Basic Wind Speed	V=115.00 mph	*ASCE 7-22: §26.5.1*
Ground Surface Roughness		*ASCE 7-22: §26.7.2*

North Quadrant	South Quadrant	East Quadrant	West Quadrant
D	D	D	D

Exposure Category		*ASCE 7-22: §26.7*

North Quadrant	South Quadrant	East Quadrant	West Quadrant
C	C	C	C

Topographic Factors	N/A	*ASCE 7-22: §26.8*
Ground Elevation from Sea Level	Z=0.00 ft	*User Defined*
Ground Elevation Factor	Ke=1.0000	*ASCE 7-22: §26.9*
Building Rigidity Factor	Rigid	*ASCE 7-22: §26.11.3, 26.11.4*
Gust Factor	G=0.85	*ASCE 7-22: §26.11.1, 26.11.3, 26.11.4*
Enclosure Classification	Enclosed	*ASCE 7-22: §26.12*
Internal Pressure Coefficient	+GCpi=0.18, -GCpi=-0.18	*ASCE 7-22: Table 26.13-1*

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

Wind – Main Force Resisting System

Region - Main Building

Main Building - Building Information

Main Building - General Configuration		
North-South Direction	300.0 ft	*User Defined*
East-West Direction	400.0 ft	*User Defined*
Gust Factor	G = 0.85	*ASCE 7-22: §26.11.1, 26.11.3, 26.11.4*
Internal Pressure Coefficient	GCpi=+/-0.18	*ASCE 7-22: §26.13*

Main Building - Levels and Parapets		
Description	**Elevation**	**Parapet**
Level 1	0 ft	No
Roof	22.0 ft	No
S Low Parapet	24.25 ft	Yes
S High Parapet	26.75 ft	Yes

Main Building - Roof Configuration		
Roof Shape	Flat	*User Defined*
Roof slope	1.19°	*User Defined*
Low point of roof	40.0 ft	*User Defined*
High point of roof	41.0 ft	*User Defined*
Mean roof height	**40.5 ft**	*User Defined*

Main Building - Wall Design Pressures (MWFRS)

Main Building - Wall Cp Values

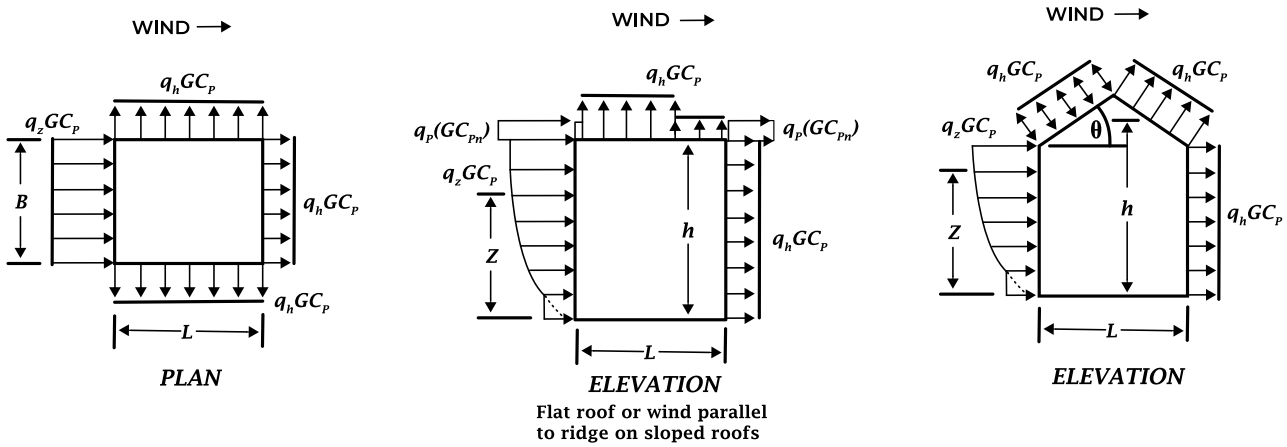
Wall Pressure Coefficients				
Wind Flow Direction	**L/B**	**Cp, Windward**	**Cp, Leeward**	**Cp, Sidewalls**
North	0.75	0.8	-0.5	-0.7
South	0.75	0.8	-0.5	-0.7
East	1.33	0.8	-0.43	-0.7
West	1.33	0.8	-0.43	-0.7

Main Building - Wall Design Pressures – North-South Wind Flow (MWFRS)

$$p = K_d q_h G C_p - K_d q_i (G C_{pi})$$

ASCE 7-22, (27.3-1)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**



FLAT, GABLE, HIP ROOF

Case 1 (+GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	11.26 psf	-18.15 psf	-23.25 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	12.61 psf	-18.15 psf	-23.25 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	12.97 psf	-18.15 psf	-23.25 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	13.34 psf	-18.15 psf	-23.25 psf

Case 2 (-GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	22.06 psf	-7.35 psf	-12.45 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	23.41 psf	-7.35 psf	-12.45 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	23.77 psf	-7.35 psf	-12.45 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	24.14 psf	-7.35 psf	-12.45 psf

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

Case Minimum[1]

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewall}$
Level 1	0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
Roof	22.0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S Low Parapet	24.25 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S High Parapet	26.75 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf

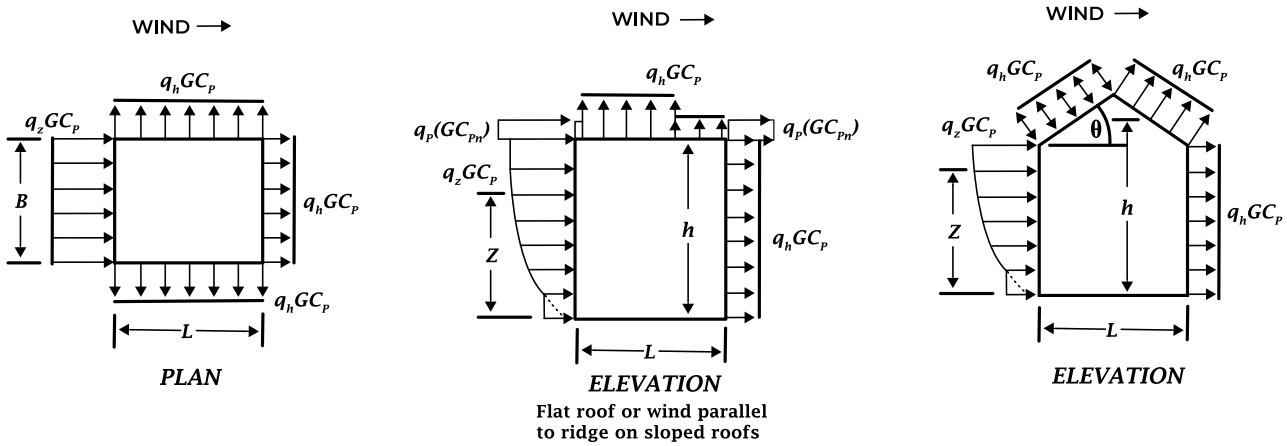
Notes

1. The wind load to be used in the design of the MWFRS for an enclosed or partially enclosed building shall not be less than **16psf** multiplied by the wall area of the building, and **8psf** multiplied by the roof area of the building projected onto a vertical plane normal to the assumed wind direction. Wall and roof loads shall be applied simultaneously. The design wind force for open buildings shall be not less than **16psf** multiplied by the area, A_f.

Main Building – Wall Design Pressures – South-North Wind Flow (MWFRS)

$$p = K_d q_h G C_p - K_d q_i (G C_{pi})$$

ASCE 7-22, (27.3-1)



FLAT, GABLE, HIP ROOF

Case 1 (+GCpi)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	11.26 psf	-18.15 psf	-23.25 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	12.61 psf	-18.15 psf	-23.25 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	12.97 psf	-18.15 psf	-23.25 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	13.34 psf	-18.15 psf	-23.25 psf

Case 2 (-GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	22.06 psf	-7.35 psf	-12.45 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	23.41 psf	-7.35 psf	-12.45 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	23.77 psf	-7.35 psf	-12.45 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	24.14 psf	-7.35 psf	-12.45 psf

Case Minimum[1]

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewall}$
Level 1	0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
Roof	22.0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S Low Parapet	24.25 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S High Parapet	26.75 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf

Notes

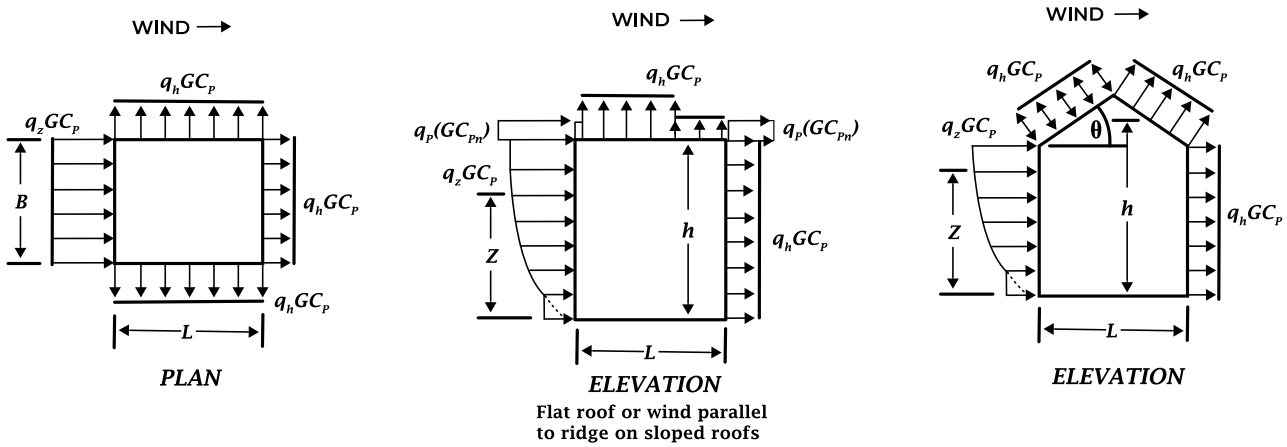
1. The wind load to be used in the design of the MWFRS for an enclosed or partially enclosed building shall not be less than **16psf** multiplied by the wall area of the building, and **8psf** multiplied by the roof area of the building projected onto a vertical plane normal to the assumed wind direction. Wall and roof loads shall be applied simultaneously. The design wind force for open buildings shall be not less than **16psf** multiplied by the area, A_f.

Main Building – Wall Design Pressures – East-West Wind Flow (MWFRS)

$$p = K_d q_h G C_p - K_d q_i (G C_{pi})$$

ASCE 7-22, (27.3-1)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**



FLAT, GABLE, HIP ROOF

Case 1 (+GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	11.26 psf	-18.15 psf	-23.25 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	12.61 psf	-18.15 psf	-23.25 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	12.97 psf	-18.15 psf	-23.25 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	13.34 psf	-18.15 psf	-23.25 psf

Case 2 (-GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	22.06 psf	-7.35 psf	-12.45 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	23.41 psf	-7.35 psf	-12.45 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	23.77 psf	-7.35 psf	-12.45 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	24.14 psf	-7.35 psf	-12.45 psf

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

Case Minimum[1]

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewall}$
Level 1	0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
Roof	22.0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S Low Parapet	24.25 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S High Parapet	26.75 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf

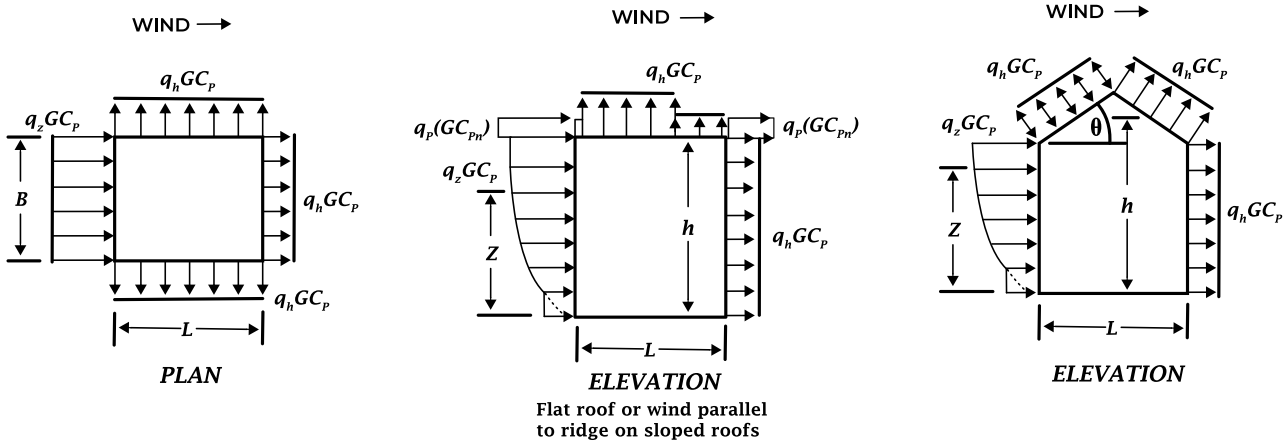
Notes

1. The wind load to be used in the design of the MWFRS for an enclosed or partially enclosed building shall not be less than **16psf** multiplied by the wall area of the building, and **8psf** multiplied by the roof area of the building projected onto a vertical plane normal to the assumed wind direction. Wall and roof loads shall be applied simultaneously. The design wind force for open buildings shall be not less than **16psf** multiplied by the area, A_f.

Main Building – Wall Design Pressures – West-East Wind Flow (MWFRS)

$$p = K_d q_h G C_p - K_d q_i (G C_{pi})$$

ASCE 7-22, (27.3-1)



Flat roof or wind parallel to ridge on sloped roofs

FLAT, GABLE, HIP ROOF

Case 1 (+GCpi)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	11.26 psf	-18.15 psf	-23.25 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	12.61 psf	-18.15 psf	-23.25 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	12.97 psf	-18.15 psf	-23.25 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	13.34 psf	-18.15 psf	-23.25 psf

Case 2 (-GCpi)

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewalls}$
Level 1	0 ft	28.82 psf	35.29 psf	35.29 psf	22.06 psf	-7.35 psf	-12.45 psf
Roof	22.0 ft	31.16 psf	35.29 psf	35.29 psf	23.41 psf	-7.35 psf	-12.45 psf
S Low Parapet	24.25 ft	31.78 psf	35.29 psf	35.29 psf	23.77 psf	-7.35 psf	-12.45 psf
S High Parapet	26.75 ft	32.43 psf	35.29 psf	35.29 psf	24.14 psf	-7.35 psf	-12.45 psf

Case Minimum[1]

Level	Elevation	qz	qh	qi	$p_{windward}$	$p_{leeward}$	$p_{sidewall}$
Level 1	0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
Roof	22.0 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S Low Parapet	24.25 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf
S High Parapet	26.75 ft	N/A	N/A	N/A	16.0 psf	0 psf	0 psf

Notes

1. The wind load to be used in the design of the MWFRS for an enclosed or partially enclosed building shall not be less than **16psf** multiplied by the wall area of the building, and **8psf** multiplied by the roof area of the building projected onto a vertical plane normal to the assumed wind direction. Wall and roof loads shall be applied simultaneously. The design wind force for open buildings shall be not less than **16psf** multiplied by the area, A_f.

Main Building - Parapet Design Pressures (MWFRS)

Main Building – Parapet Design Pressures (MWFRS) – East - West Wind Flow

$$p_p = K_d q_p G C_{pn}$$ ASCE 7-22, (27.3-5)

Parapet Design Pressures (E/W)

Level	Elevation	Kd	qp	GCpn Windward	GCpn Leeward	$p_{windward\ parapet}$	$p_{leeward\ parapet}$
S Low Parapet	24.25 ft	0.85	31.78 psf	1.5	-1.0	40.53 psf	-27.02 psf
S High Parapet	26.75 ft	0.85	32.43 psf	1.5	-1.0	41.35 psf	-27.56 psf

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	Main Building - Wind Load - MWFRS Directional

Main Building – Parapet Design Pressures (MWFRS) – West - East Wind Flow

$p_p = K_d q_p G C_{pn}$ ASCE 7-22, (27.3-5)

Parapet Design Pressures (W/E)

Level	Elevation	Kd	qp	GCpn Windward	GCpn Leeward	$p_{windward\ parapet}$	$p_{leeward\ parapet}$
S Low Parapet	24.25 ft	0.85	31.78 psf	1.5	-1.0	40.53 psf	-27.02 psf
S High Parapet	26.75 ft	0.85	32.43 psf	1.5	-1.0	41.35 psf	-27.56 psf

Main Building – Parapet Design Pressures (MWFRS) – North - South Wind Flow

$p_p = K_d q_p G C_{pn}$ ASCE 7-22, (27.3-5)

Parapet Design Pressures (N/S)

Level	Elevation	Kd	qp	GCpn Windward	GCpn Leeward	$p_{windward\ parapet}$	$p_{leeward\ parapet}$
S Low Parapet	24.25 ft	0.85	31.78 psf	1.5	-1.0	40.53 psf	-27.02 psf
S High Parapet	26.75 ft	0.85	32.43 psf	1.5	-1.0	41.35 psf	-27.56 psf

Main Building – Parapet Design Pressures (MWFRS) – South - North Wind Flow

$p_p = K_d q_p G C_{pn}$ ASCE 7-22, (27.3-5)

Parapet Design Pressures (S/N)

Level	Elevation	Kd	qp	GCpn Windward	GCpn Leeward	$p_{windward\ parapet}$	$p_{leeward\ parapet}$
S Low Parapet	24.25 ft	0.85	31.78 psf	1.5	-1.0	40.53 psf	-27.02 psf
S High Parapet	26.75 ft	0.85	32.43 psf	1.5	-1.0	41.35 psf	-27.56 psf

Main Building - Roof Design Pressures (MWFRS) ASCE 7-22 27.3.1

Main Building – Roof Cp Values

Case 1 (+GCpi) - Normal and Parallel to Ridge

Wind Flow Direction	h/L	0 to h/2	h/2 to h	h to 2h	> 2h
North	0.14	-0.9	-0.9	-0.5	-0.3
South	0.14	-0.9	-0.9	-0.5	-0.3

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

East	0.1	-0.9	-0.9	-0.5	-0.3
West	0.1	-0.9	-0.9	-0.5	-0.3

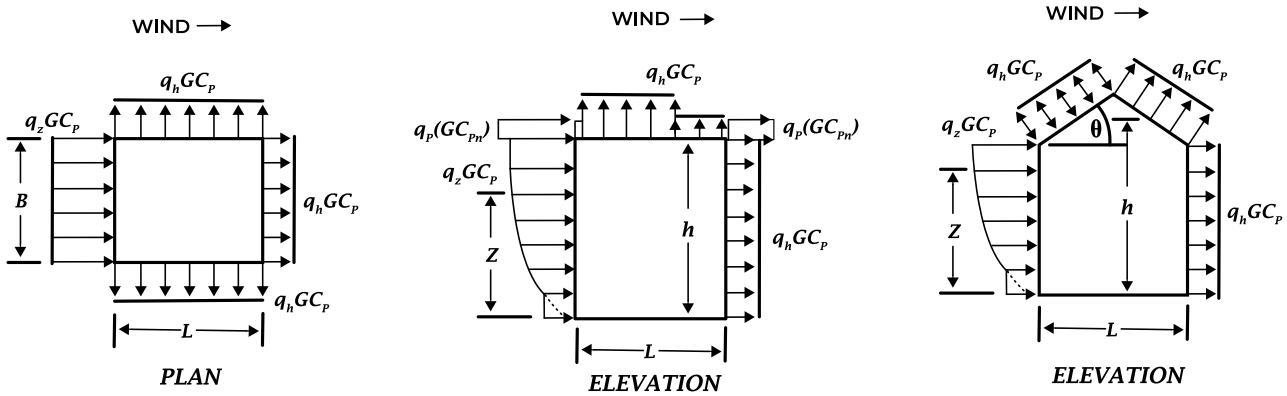
Case 2 (-GCpi) - Normal and Parallel to Ridge

Wind Flow Direction	h/L	0 to h/2	h/2 to h	h to 2h	> 2h
North	0.14	-0.18	-0.18	-0.18	-0.18
South	0.14	-0.18	-0.18	-0.18	-0.18
East	0.1	-0.18	-0.18	-0.18	-0.18
West	0.1	-0.18	-0.18	-0.18	-0.18

Main Building – Roof Design Pressures (MWFRS)

$$p = K_d q_h G C_p - K_d q_i (G C_{pi})$$

ASCE 7-22, (27.3-1)



Flat roof or wind parallel to ridge on sloped roofs

FLAT, GABLE, HIP ROOF

Case 1 (+GCPi)

Wind Flow Direction	qh & qi	0 to h/2	h/2 to h	h to 2h	> 2h

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - MWFRS Directional**

North	35.29	-28.35 psf	-28.35 psf	-18.15 psf	-13.05 psf
South	35.29	-28.35 psf	-28.35 psf	-18.15 psf	-13.05 psf
East	35.29	-28.35 psf	-28.35 psf	-18.15 psf	-13.05 psf
West	35.29	-28.35 psf	-28.35 psf	-18.15 psf	-13.05 psf

Case 2 (-GCPi)

Wind Flow Direction	qh & qi	0 to h/2	h/2 to h	h to 2h	> 2h
North	35.29	0.81 psf	0.81 psf	0.81 psf	0.81 psf
South	35.29	0.81 psf	0.81 psf	0.81 psf	0.81 psf
East	35.29	0.81 psf	0.81 psf	0.81 psf	0.81 psf
West	35.29	0.81 psf	0.81 psf	0.81 psf	0.81 psf

Case Minimum[1,2]

Wind Flow Direction	qh & qi	0 to h/2	h/2 to h	h to 2h	> 2h
North	N/A	8.0 psf	8.0 psf	8.0 psf	8.0 psf
South	N/A	8.0 psf	8.0 psf	8.0 psf	8.0 psf
East	N/A	8.0 psf	8.0 psf	8.0 psf	8.0 psf
West	N/A	8.0 psf	8.0 psf	8.0 psf	8.0 psf

Notes

1. The wind load to be used in the design of the MWFRS for an enclosed or partially enclosed building shall not be less than **16psf** multiplied by the wall area of the building, and **8psf** multiplied by the roof area of the building projected onto a vertical plane normal to the assumed wind direction. Wall and roof loads shall be applied simultaneously. The design wind force for open buildings shall be not less than **16psf** multiplied by the area, A_f.
2. This load shall be applied horizontally onto the projected roof surface when considering the minimum load case.

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - Components & Cladding**

Components and Cladding

C&C - Walls - Mean Roof Height ≤ 60 ft - Main Building

Mean Roof Height	h = 22.0 ft	*ASCE 7-22: §26.2*
Roof Slope	θ = 1.19 °	*User Defined*
Least Horizontal Dimension	LHD = 300.0 ft	*User Defined*
Velocity Pressure at mean roof height	qh = 31.16 psf	*ASCE 7-22: §26.10*
Internal Pressure Coefficient	GCpi = ±0.18	*ASCE 7-22: Table 26.13-1*
Edge Distance	a = 12.0	*ASCE 7-22: §30.3*

C&C – Walls – Mean Roof Height ≤ 60ft - Main Building - GCp *ASCE 7-22: §30.3*

Effective Area	All Zones (+GCp)	4 (-GCp)	5 (-GCp)
10.0 sqft	0.9	-0.99	-1.26
100.0 sqft	0.74	-0.83	-0.94
250.0 sqft	0.68	-0.77	-0.82
550.0 sqft	0.63	-0.72	-0.72

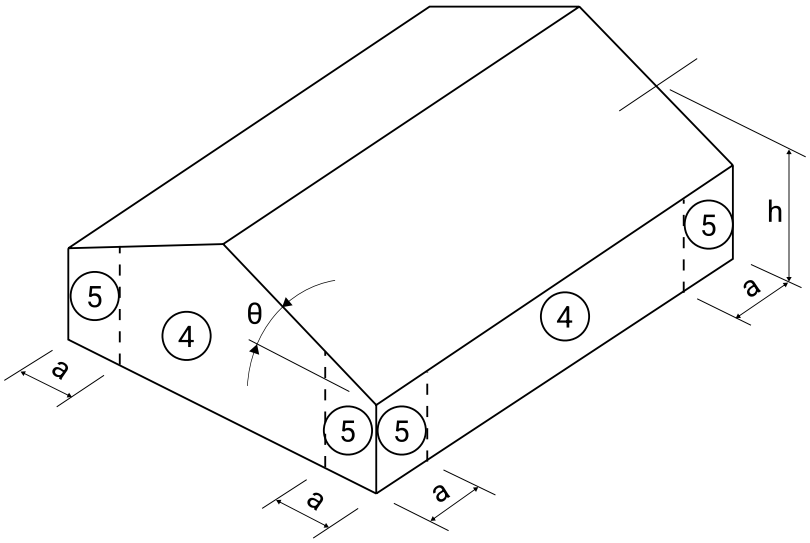
Notes

1. Values of GCp for walls have been reduced by 10% per Figure 30.3-1 Note 5 (θ ≤ 10°).

C&C – Walls – Mean Roof Height ≤ 60ft - Main Building - Design Pressures

$$p = K_d q_h[(GC_p) - (GC_{pi})]$$

ASCE 7-22, (30.3-1)



Case 1 (+GCpi)

Effective Area	All Zones (+GCp)	Zone 4 (-GCp)	Zone 5 (-GCp)

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - Components & Cladding**

10.0 sqft	19.07 psf	-30.99 psf	-38.14 psf
100.0 sqft	14.86 psf	-26.78 psf	-29.72 psf
250.0 sqft	13.18 psf	-25.1 psf	-26.37 psf
550.0 sqft	11.92 psf	-23.84 psf	-23.84 psf

Case 2 (-GCpi)

Effective Area	All Zones (+GCp)	Zone 4 (-GCp)	Zone 5 (-GCp)
10.0 sqft	28.6 psf	-21.45 psf	-28.6 psf
100.0 sqft	24.39 psf	-17.24 psf	-20.19 psf
250.0 sqft	22.72 psf	-15.57 psf	-16.83 psf
550.0 sqft	21.45 psf	-14.3 psf	-14.3 psf

Notes

1. Positive numbers mean towards the surface; negative numbers mean away from the surface.
2. Net C&C pressures shall not be less than ±16psf

C&C - Roofs

Enclosure Classification	Enclosed	*User Defined*
Mean Roof Height	h = 22.0 ft	*User Defined*
Roof Shape	Flat	*User Defined*
Roof Slope	θ = 1.19 °	*User Defined*
Least Horizontal Dimension	LHD = 300.0 ft	*User Defined*
Velocity Pressure at mean roof height	qh = 31.16 psf	*ASCE 7-22: §26.10*
Internal Pressure Coefficient	GCpi = ±0.18	*ASCE 7-22: Table 26.13-1*
Edge Distance	a = 12.0	*ASCE 7-22: §30.3*

C&C - Roof - GCp *ASCE 7-22: §30.3*

C&C – Roof -- Enclosed Building - GCp

ASCE 7-22: §30.3

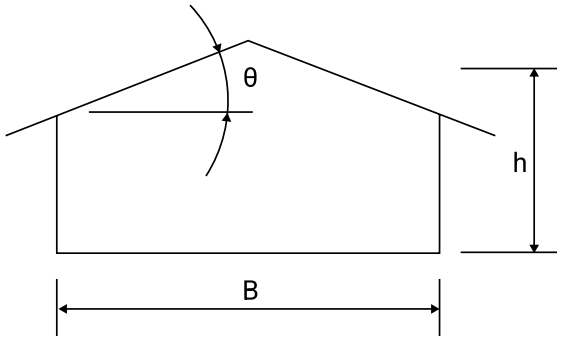
Effective Area	All Zones (+GCp)	Zone 1	Zone 1'	Zone 2	Zone 3
10.0 sqft	0.3	-1.7	-0.9	-2.3	-3.2
20.0 sqft	0.27	-1.58	-1.25	-2.14	-2.88
50.0 sqft	0.23	-1.41	-1.05	-1.93	-2.46
100.0 sqft	0.2	-1.29	-0.9	-1.77	-2.14
200.0 sqft	0.2	-1.16	-0.75	-1.61	-1.82

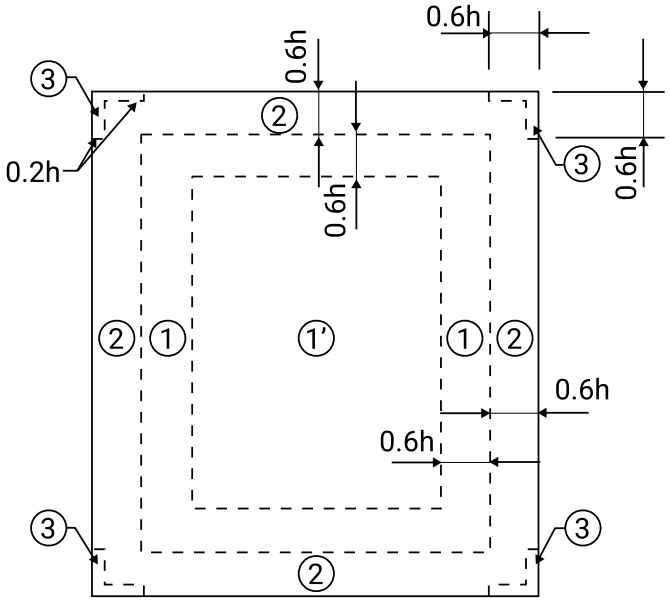
C&C – Roof - Design Pressures

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - Components & Cladding**

$$p = K_d q_h [(GC_p) - (GC_{pi})]$$

ASCE 7-22, (30.3-1)





Case 1 (+GCpi)

Effective Area	All Zones (+GCp)	Zone 1	Zone 1'	Zone 2	Zone 3
10.0 sqft	3.18 psf	-49.79 psf	-28.6 psf	-65.68 psf	-89.52 psf
20.0 sqft	2.38 psf	-46.51 psf	-37.86 psf	-61.46 psf	-81.07 psf
50.0 sqft	1.33 psf	-42.17 psf	-32.59 psf	-55.88 psf	-69.91 psf
100.0 sqft	0.53 psf	-38.88 psf	-28.6 psf	-51.65 psf	-61.46 psf
200.0 sqft	0.53 psf	-35.6 psf	-24.62 psf	-47.43 psf	-53.01 psf

Case 2 (-GCpi)

Effective Area	All Zones (+GCp)	Zone 1	Zone 1'	Zone 2	Zone 3
10.0 sqft	12.71 psf	-40.26 psf	-19.07 psf	-56.15 psf	-79.99 psf
20.0 sqft	11.92 psf	-36.97 psf	-28.33 psf	-51.93 psf	-71.54 psf
50.0 sqft	10.86 psf	-32.63 psf	-23.06 psf	-46.34 psf	-60.37 psf
100.0 sqft	10.06 psf	-29.35 psf	-19.07 psf	-42.12 psf	-51.92 psf
200.0 sqft	10.06 psf	-26.06 psf	-15.08 psf	-37.9 psf	-43.48 psf

Notes

1. Positive numbers mean towards the surface; negative numbers mean away from the surface.
2. Net C&C pressures shall not be less than ±16psf

C&C - Parapets - Typical Parapet

Mean Roof Height	h = 22.0 ft	*ASCE 7-22: §26.2*
Roof Shape	Flat	*User Defined*

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - Components & Cladding**

Roof Slope	θ = 1.19 °	*User Defined*
Structure Width	B = 300.0 ft	*User Defined*

C&C – Parapet - Typical Parapet - GCp *ASCE 7-22: §30.6*

Top of Parapet Elevation	Effective Area	Wall Zone below parapet	Roof Zone at parapet [1]	Parapet Porosity	P1	P2	P3	P4
24.25 ft	10.0 sqft	Zone 4	Zone 2	Fully Enclosed	0.9	-2.3	0.9	-0.99
24.25 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	0.82	-2.65	0.82	-1.1
26.75 ft	10.0 sqft	Zone 4	Zone 2	Fully Enclosed	0.9	-2.3	0.9	-0.99
26.75 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	0.82	-2.03	0.82	-1.1

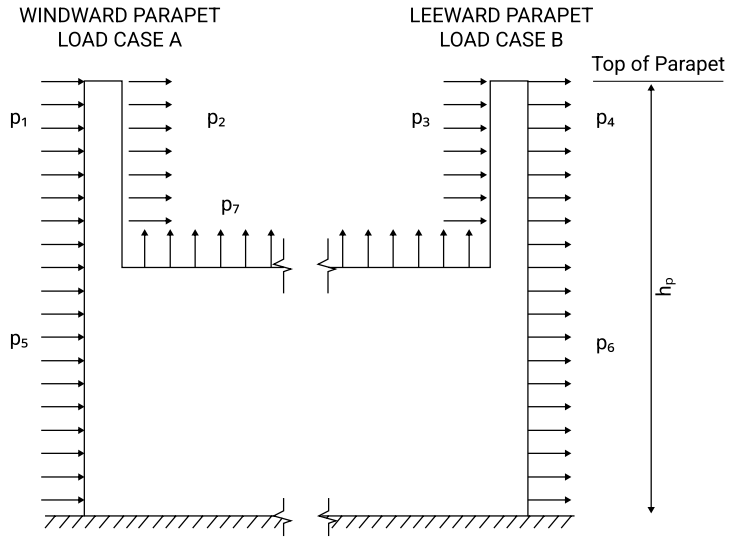
Notes

1. If more than one zone type exists for a particular zone (e.g. zone 2e and 2r), the worst case GCp is used for that zone.
2. GCp values are determined from the applicable wall and roof figures from the row's information provided.

C&C – Parapet - Typical Parapet - Design Pressures

$$p = K_d q_p [(GC_p) - (GC_{pi})]$$

ASCE 7-22, (30.6-1)



Case 1 (+GCpi)

Top of Parapet Elevation	Effective Area	Wall Zone below parapet	Roof Zone at parapet [1]	Parapet Porosity	P1	P2	P3	P4
24.25 ft	10.0 sqft	Zone 4	Zone 2	Fully	19.45 psf	-67.0 psf	19.45 psf	-31.61 psf

Project Title:	Bob's Tile Depot
Engineer:	ACB
Project Id:	26-1234
Structural Design Loads per:	IBC 2024
Subject:	**Main Building - Wind Load - Components & Cladding**

				Enclosed				
24.25 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	17.23 psf	-76.48 psf	17.23 psf	-34.45 psf
26.75 ft	10.0 sqft	Zone 4	Zone 2	Fully Enclosed	19.85 psf	-68.36 psf	19.85 psf	-32.25 psf
26.75 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	17.57 psf	-60.79 psf	17.57 psf	-35.15 psf

Case 2 (-GCpi)

Top of Parapet Elevation	Effective Area	Wall Zone below parapet	Roof Zone at parapet [1]	Parapet Porosity	P1	P2	P3	P4
24.25 ft	10.0 sqft	Zone 4	Zone 2	Fully Enclosed	29.18 psf	-57.28 psf	29.18 psf	-21.88 psf
24.25 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	26.95 psf	-66.75 psf	26.95 psf	-24.73 psf
26.75 ft	10.0 sqft	Zone 4	Zone 2	Fully Enclosed	29.77 psf	-58.43 psf	29.77 psf	-22.33 psf
26.75 ft	33.0 sqft	Zone 5	Zone 3	Fully Enclosed	27.5 psf	-50.86 psf	27.5 psf	-25.23 psf

Notes

1. If more than one zone type exists for a particular zone (e.g. zone 2e and 2r), the worst case GCp is used for that zone.
2. Net C&C pressures shall not be less than +/-16psf