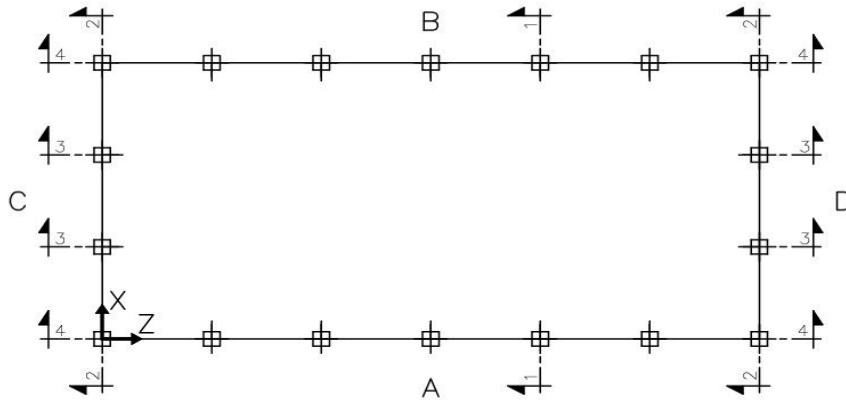
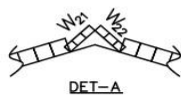


NOTATIONS



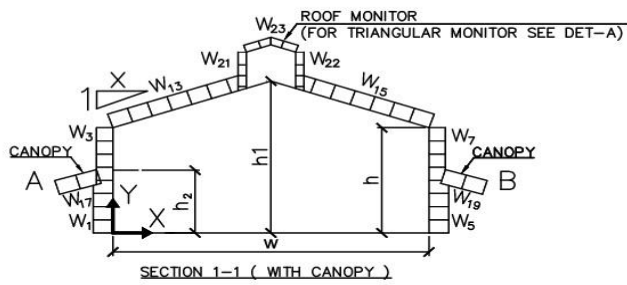
BUILDING PLAN



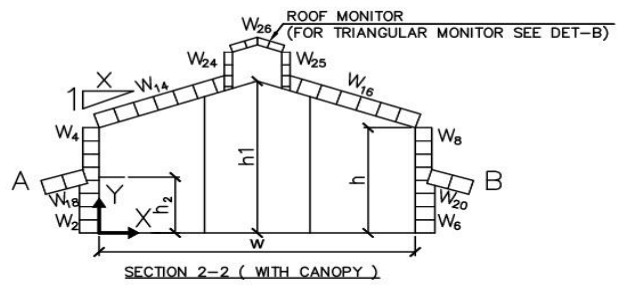
DET-A



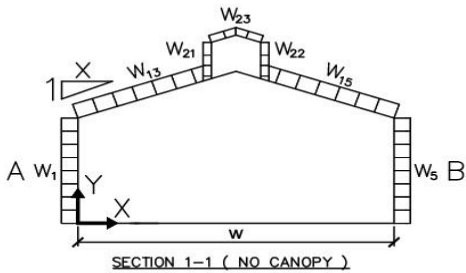
DET-B



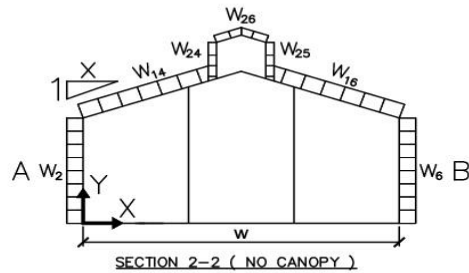
SECTION 1-1 (WITH CANOPY)



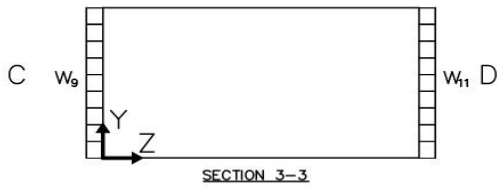
SECTION 2-2 (WITH CANOPY)



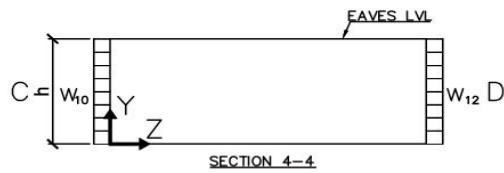
SECTION 1-1 (NO CANOPY)




SECTION 2-2 (NO CANOPY)



SECTION 3-3



SECTION 4-4

	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ - Designation: WLO
	Rev.	Ppd. by	Date	Chd. by	Date	
Project:	The Warehouse Park	2				Sht. 1 of 6
Structure:	-	1				
Type:	PEB	0	-	-	-	

WIND LOADS AS PER IS 875 (Part3):2015

BUILDING DIMENSIONS:

Length, l = 177.00 m; Width, w = 105.00 m; Eaves height, h = 12.50 m
 h/w = 0.12; l/w = 1.69
 Roof angle, a = 2.86 degrees; Ridge height, h1 = 15.13 m
 Max spg. of main frame cols. = 8.00 m
 Max spg. of wind cols. = 6.50 m

WIND DATA:

Basic wind speed, Vb = 47 m/s...(Fig. 1)
 Design life of structure: 50 years
 Terrain category: 3; Building category: Others
 Upwind slope < 3 degrees; Permeability: Normal (Cpi = +/- 0.2)
 Building ht. at eaves lvl., z = 12.50 m
 k1 (Risk coefficient) = 1.00...(Table-1)
 k3 (Topography factor) = 1.00...(Cl. 6.3.3.1)
 k4 (Importance factor) = 1.00...(Cl. 6.3.4)

COLUMN & RAFTER:

k2 (Terrain roughness & ht. factor) = 0.94...(Table-2)
 Design wind speed at ht. z, Vz = Vb.k1.k2.k3.k4 = 47 x 1.00 x 0.94 x 1.00 x 1.00 = 44.2 m/s
 Wind pressure at ht. z, pz = 0.6 Vz² = 0.6 x 44.2² = 1.171 kN/sq.m
 Wind directionality factor, Kd = 0.90...(Cl. 7.2.1)
Area averaging factor, ka (Table 4):
 Ka,column = 0.80; Ka,rafter = 0.80
 Combination factor, Kc = 0.90...(Cl. 7.3.3.13)
Design wind pressure, pd (Cl. 7.2):
 pd,column = Kd x Ka,column x Kc x pz = 0.90 x 0.80 x 0.90 x 1.171 = 0.82
 pd,rafter = Kd x Ka,rafter x Kc x pz = 0.90 x 0.80 x 0.90 x 1.171 = 0.82

CANOPY:


Location: Side-A; Height, hc = 5.50 m
 h/hc = 12.50/ 5.50 = 2.27 => h/hc > 1.8 => Cpe (a/s) = 0.31

 pd,canopy = Kd x Ka,canopy x Kc x pz = 0.90 x 0.90 x 0.90 x 1.171 = 0.85

ROOF MONITOR:

Ka,monitor (column) = 1.00; Ka,monitor (roof) = 1.00
 pd,monitor (column) = Kd x Ka,monitor (column) x Kc x pz = 0.90 x 1.00 x 0.90 x 1.171 = 0.95
 pd,monitor (roof) = Kd x Ka,monitor (roof) x Kc x pz = 0.90 x 1.00 x 0.90 x 1.171 = 0.95

Values of Cpe, Cpi, Cp,net and UDL are given in tabular form in the tables that follow.


	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ -
	Rev.	Ppd. by	Date	Chd. by	Date	
	Project: The Warehouse Park	2				
Structure: -	1					
Type: PEB	0	-	-	-	-	Sht. 2 of 6

WIND PRESSURE VALUES FOR LOAD CASE (WL+X)

UDL ID	WL+XP					WL+XS				
	Cpe	Cpi (+ve)	Cp,net	UDL (kN/m)	Dirn.	Cpe	Cpi (-ve)	Cp,net	UDL (kN/m)	Dirn.
w1	0.700	0.20	0.500	3.28	GX	0.700	-0.20	0.900	5.90	GX
w2	0.700	0.20	0.500	1.64	GX	0.700	-0.20	0.900	2.95	GX
w3	0.700	0.20	0.500	3.28	GX	0.700	-0.20	0.900	5.90	GX
w4	0.700	0.20	0.500	1.64	GX	0.700	-0.20	0.900	2.95	GX
w5	-0.250	0.20	-0.450	2.95	GX	-0.250	-0.20	-0.050	0.33	GX
w6	-0.250	0.20	-0.450	1.48	GX	-0.250	-0.20	-0.050	0.16	GX
w7	-	-	-	-	-	-	-	-	-	-
w8	-	-	-	-	-	-	-	-	-	-
w9	-0.600	0.20	-0.800	-4.26	GZ	-0.600	-0.20	-0.400	-2.13	GZ
w10	-0.600	0.20	-0.800	-2.13	GZ	-0.600	-0.20	-0.400	-1.07	GZ
w11	-0.600	0.20	-0.800	4.26	GZ	-0.600	-0.20	-0.400	2.13	GZ
w12	-0.600	0.20	-0.800	2.13	GZ	-0.600	-0.20	-0.400	1.07	GZ
w13	-0.600	0.20	-0.800	5.25	LY	-0.600	-0.20	-0.400	2.62	LY
w14	-0.600	0.20	-0.800	2.62	LY	-0.600	-0.20	-0.400	1.31	LY
w15	-0.500	0.20	-0.700	4.59	LY	-0.500	-0.20	-0.300	1.97	LY
w16	-0.500	0.20	-0.700	2.30	LY	-0.500	-0.20	-0.300	0.98	LY
w17	0.309	0.00	0.309	-2.11	LY	0.309	0.00	0.309	-2.11	LY
w18	0.309	0.00	0.309	-1.06	LY	0.309	0.00	0.309	-1.06	LY
w19	-	-	-	-	-	-	-	-	-	-
w20	-	-	-	-	-	-	-	-	-	-
w21	0.400	0.20	0.200	1.52	GX	0.400	-0.20	0.600	4.55	GX
w22	-0.600	0.20	-0.800	6.07	GX	-0.600	-0.20	-0.400	3.04	GX
w23	-	-	-	-	-	-	-	-	-	-
w24	0.400	0.20	0.200	0.76	GX	0.400	-0.20	0.600	2.28	GX
w25	-0.600	0.20	-0.800	3.04	GX	-0.600	-0.20	-0.400	1.52	GX
w26	-	-	-	-	-	-	-	-	-	-

LEGEND/ SIGN CONVENTION:

- (a) WL+XP: 'WL' indicates Wind Load, '+XP' indicates +ve X dirn. with pressure (+ve) inside the building.
- (b) WL+XS: 'WL' indicates Wind Load, '+XS' indicates +ve X-dirn. with suction (-ve) inside the building.
- (c) UDL: Uniformly distributed load acting on the structural element as a result of the wind pressure.
- (d) 'Cpe' and 'Cpi' values follow the sign convention given in IS 875-2015 (Part3), namely, towards the roof/wall/canopy/monitor as +ve and away from the element as -ve.
- (e) 'GX' & 'GZ' values correspond to building reference axes shown in 'Notation' Sheet, while 'LY' is member local Y-axis viz. normal to slope outwards.


	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ -
	Rev.	Ppd. by	Date	Chd. by	Date	
	Project: The Warehouse Park	2				
Structure: -	1					
Type: PEB	0	-	-	-	-	Sht. 3 of 6

WIND PRESSURE VALUES FOR LOAD CASE (WL-X)

UDL ID	WL-XP					WL-XS				
	Cpe	Cpi (+ve)	Cp,net	UDL (kN/m)	Dirn.	Cpe	Cpi (-ve)	Cp,net	UDL (kN/m)	Dirn.
w1	-0.250	0.20	-0.450	-2.95	GX	-0.250	-0.20	-0.050	-0.33	GX
w2	-0.250	0.20	-0.450	-1.48	GX	-0.250	-0.20	-0.050	-0.16	GX
w3	-0.400	0.20	-0.600	-3.93	GX	-0.400	-0.20	-0.200	-1.31	GX
w4	-0.400	0.20	-0.600	-1.97	GX	-0.400	-0.20	-0.200	-0.66	GX
w5	0.700	0.20	0.500	-3.28	GX	0.700	-0.20	0.900	-5.90	GX
w6	0.700	0.20	0.500	-1.64	GX	0.700	-0.20	0.900	-2.95	GX
w7	-	-	-	-	-	-	-	-	-	-
w8	-	-	-	-	-	-	-	-	-	-
w9	-0.600	0.20	-0.800	-4.26	GZ	-0.600	-0.20	-0.400	-2.13	GZ
w10	-0.600	0.20	-0.800	-2.13	GZ	-0.600	-0.20	-0.400	-1.07	GZ
w11	-0.600	0.20	-0.800	4.26	GZ	-0.600	-0.20	-0.400	2.13	GZ
w12	-0.600	0.20	-0.800	2.13	GZ	-0.600	-0.20	-0.400	1.07	GZ
w13	-0.500	0.20	-0.700	4.59	LY	-0.500	-0.20	-0.300	1.97	LY
w14	-0.500	0.20	-0.700	2.30	LY	-0.500	-0.20	-0.300	0.98	LY
w15	-0.600	0.20	-0.800	5.25	LY	-0.600	-0.20	-0.400	2.62	LY
w16	-0.600	0.20	-0.800	2.62	LY	-0.600	-0.20	-0.400	1.31	LY
w17	-0.325	0.00	-0.325	2.22	LY	-0.325	0.00	-0.325	2.22	LY
w18	-0.325	0.00	-0.325	1.11	LY	-0.325	0.00	-0.325	1.11	LY
w19	-	-	-	-	-	-	-	-	-	-
w20	-	-	-	-	-	-	-	-	-	-
w21	-0.600	0.20	-0.800	-6.07	GX	-0.600	-0.20	-0.400	-3.04	GX
w22	0.400	0.20	0.200	-1.52	GX	0.400	-0.20	0.600	-4.55	GX
w23	-	-	-	-	-	-	-	-	-	-
w24	-0.600	0.20	-0.800	-3.04	GX	-0.600	-0.20	-0.400	-1.52	GX
w25	0.400	0.20	0.200	-0.76	GX	0.400	-0.20	0.600	-2.28	GX
w26	-	-	-	-	-	-	-	-	-	-

LEGEND/ SIGN CONVENTION:

- (a) WL-XP: 'WL' indicates Wind Load, '-XP' indicates -ve X dirn. with pressure (+ve) inside the building.
- (b) WL-XS: 'WL' indicates Wind Load, '-XS' indicates -ve X-dirn. with suction (-ve) inside the building.
- (c) UDL: Uniformly distributed load acting on the structural element as a result of the wind pressure.
- (d) 'Cpe' and 'Cpi' values follow the sign convention given in IS 875-2015 (Part3), namely, towards the roof/wall/canopy/monitor as +ve and away from the element as -ve.
- (e) 'GX' & 'GZ' values correspond to building reference axes shown in 'Notation' Sheet, while 'LY' is member local Y-axis viz. normal to slope outwards.


	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ -
	Rev.	Ppd. by	Date	Chd. by	Date	
	Project: The Warehouse Park	2				
Structure: -	1					
Type: PEB	0	-	-	-	-	Sht. 4 of 6

WIND PRESSURE VALUES FOR LOAD CASE (WL+Z)

UDL ID	WL+ZP					WL+ZS				
	Cpe	Cpi (+ve)	Cp,net	UDL (kN/m)	Dirn.	Cpe	Cpi (-ve)	Cp,net	UDL (kN/m)	Dirn.
w1	-0.500	0.20	-0.700	-4.59	GX	-0.500	-0.20	-0.300	-1.97	GX
w2	-0.500	0.20	-0.700	-2.30	GX	-0.500	-0.20	-0.300	-0.98	GX
w3	-0.500	0.20	-0.700	-4.59	GX	-0.500	-0.20	-0.300	-1.97	GX
w4	-0.500	0.20	-0.700	-2.30	GX	-0.500	-0.20	-0.300	-0.98	GX
w5	-0.500	0.20	-0.700	4.59	GX	-0.500	-0.20	-0.300	1.97	GX
w6	-0.500	0.20	-0.700	2.30	GX	-0.500	-0.20	-0.300	0.98	GX
w7	-	-	-	-	-	-	-	-	-	-
w8	-	-	-	-	-	-	-	-	-	-
w9	0.700	0.20	0.500	2.66	GZ	0.700	-0.20	0.900	4.80	GZ
w10	0.700	0.20	0.500	1.33	GZ	0.700	-0.20	0.900	2.40	GZ
w11	-0.100	0.20	-0.300	1.60	GZ	-0.100	-0.20	0.100	-0.53	GZ
w12	-0.100	0.20	-0.300	0.80	GZ	-0.100	-0.20	0.100	-0.27	GZ
w13	-0.400	0.20	-0.600	3.93	LY	-0.400	-0.20	-0.200	1.31	LY
w14	-0.800	0.20	-1.000	3.28	LY	-0.800	-0.20	-0.600	1.97	LY
w15	-0.400	0.20	-0.600	3.93	LY	-0.400	-0.20	-0.200	1.31	LY
w16	-0.800	0.20	-1.000	3.28	LY	-0.800	-0.20	-0.600	1.97	LY
w17	-0.500	0.00	-0.500	3.41	LY	-0.500	0.00	-0.500	3.41	LY
w18	-0.500	0.00	-0.500	1.71	LY	-0.500	0.00	-0.500	1.71	LY
w19	-	-	-	-	-	-	-	-	-	-
w20	-	-	-	-	-	-	-	-	-	-
w21	-0.500	0.20	-0.700	-5.31	GX	-0.500	-0.20	-0.300	-2.28	GX
w22	-0.500	0.20	-0.700	5.31	GX	-0.500	-0.20	-0.300	2.28	GX
w23	-	-	-	-	-	-	-	-	-	-
w24	-0.500	0.20	-0.700	-2.66	GX	-0.500	-0.20	-0.300	-1.14	GX
w25	-0.500	0.20	-0.700	2.66	GX	-0.500	-0.20	-0.300	1.14	GX
w26	-	-	-	-	-	-	-	-	-	-

LEGEND/ SIGN CONVENTION:

- (a) WL+ZP: 'WL' indicates Wind Load, '+ZP' indicates +ve Z dirn. with pressure (+ve) inside the building.
- (b) WL+ZS: 'WL' indicates Wind Load, '+ZS' indicates +ve Z-dirn. with suction (-ve) inside the building.
- (c) UDL: Uniformly distributed load acting on the structural element as a result of the wind pressure.
- (d) 'Cpe' and 'Cpi' values follow the sign convention given in IS 875-2015 (Part3), namely, towards the roof/wall/canopy/monitor as +ve and away from the element as -ve.
- (e) 'GX' & 'GZ' values correspond to building reference axes shown in 'Notation' Sheet, while 'LY' is member local Y-axis viz. normal to slope outwards.


	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ -
	Rev.	Ppd. by	Date	Chd. by	Date	
	Project: The Warehouse Park	2				Designation: WLO
	Structure: -	1				
Type: PEB	0	-	-	-	-	Sht. 5 of 6

WIND PRESSURE VALUES FOR LOAD CASE (WL-Z)

UDL ID	WL-ZP					WL-ZS				
	Cpe	Cpi (+ve)	Cp,net	UDL (kN/m)	Dirn.	Cpe	Cpi (-ve)	Cp,net	UDL (kN/m)	Dirn.
w1	-0.500	0.20	-0.700	-4.59	GX	-0.500	-0.20	-0.300	-1.97	GX
w2	-0.500	0.20	-0.700	-2.30	GX	-0.500	-0.20	-0.300	-0.98	GX
w3	-0.500	0.20	-0.700	-4.59	GX	-0.500	-0.20	-0.300	-1.97	GX
w4	-0.500	0.20	-0.700	-2.30	GX	-0.500	-0.20	-0.300	-0.98	GX
w5	-0.500	0.20	-0.700	4.59	GX	-0.500	-0.20	-0.300	1.97	GX
w6	-0.500	0.20	-0.700	2.30	GX	-0.500	-0.20	-0.300	0.98	GX
w7	-	-	-	-	-	-	-	-	-	-
w8	-	-	-	-	-	-	-	-	-	-
w9	-0.100	0.20	-0.300	-1.60	GZ	-0.100	-0.20	0.100	0.53	GZ
w10	-0.100	0.20	-0.300	-0.80	GZ	-0.100	-0.20	0.100	0.27	GZ
w11	0.700	0.20	0.500	-2.66	GZ	0.700	-0.20	0.900	-4.80	GZ
w12	0.700	0.20	0.500	-1.33	GZ	0.700	-0.20	0.900	-2.40	GZ
w13	-0.400	0.20	-0.600	3.93	LY	-0.400	-0.20	-0.200	1.31	LY
w14	-0.800	0.20	-1.000	3.28	LY	-0.800	-0.20	-0.600	1.97	LY
w15	-0.400	0.20	-0.600	3.93	LY	-0.400	-0.20	-0.200	1.31	LY
w16	-0.800	0.20	-1.000	3.28	LY	-0.800	-0.20	-0.600	1.97	LY
w17	-0.500	0.00	-0.500	3.41	LY	-0.500	0.00	-0.500	3.41	LY
w18	-0.500	0.00	-0.500	1.71	LY	-0.500	0.00	-0.500	1.71	LY
w19	-	-	-	-	-	-	-	-	-	-
w20	-	-	-	-	-	-	-	-	-	-
w21	-0.500	0.20	-0.700	-5.31	GX	-0.500	-0.20	-0.300	-2.28	GX
w22	-0.500	0.20	-0.700	5.31	GX	-0.500	-0.20	-0.300	2.28	GX
w23	-	-	-	-	-	-	-	-	-	-
w24	-0.500	0.20	-0.700	-2.66	GX	-0.500	-0.20	-0.300	-1.14	GX
w25	-0.500	0.20	-0.700	2.66	GX	-0.500	-0.20	-0.300	1.14	GX
w26	-	-	-	-	-	-	-	-	-	-

LEGEND/ SIGN CONVENTION:

- (a) WL-ZP: 'WL' indicates Wind Load, '-ZP' indicates -ve Z dirn. with pressure (+ve) inside the building.
- (b) WL-ZS: 'WL' indicates Wind Load, '-ZS' indicates -ve Z-dirn. with suction (-ve) inside the building.
- (c) UDL: Uniformly distributed load acting on the structural element as a result of the wind pressure.
- (d) 'Cpe' and 'Cpi' values follow the sign convention given in IS 875-2015 (Part3), namely, towards the roof/wall/canopy/monitor as +ve and away from the element as -ve.
- (e) 'GX' & 'GZ' values correspond to building reference axes shown in 'Notation' Sheet, while 'LY' is member local Y-axis viz. normal to slope outwards.

	Client : EPICENTER CONSULTING ENGINEERS					Element: Gable Frame
	Project:	1000	Doc. No.:	1000-CAL-ST-10		Location/ -
	Rev.	Ppd. by	Date	Chd. by	Date	
	Project: The Warehouse Park	2				
Structure: -	1					
Type: PEB	0	-	-	-	-	Sht. 6 of 6