TYPICAL DETAIL | SIMPLY SUPPORTED BEAM (FIGURE 6) AND CANTILEVERED BEAM (FIGURE 7)

FIGURE 6
PLAN VIEW SIMPLY SUPPORTED BEAM

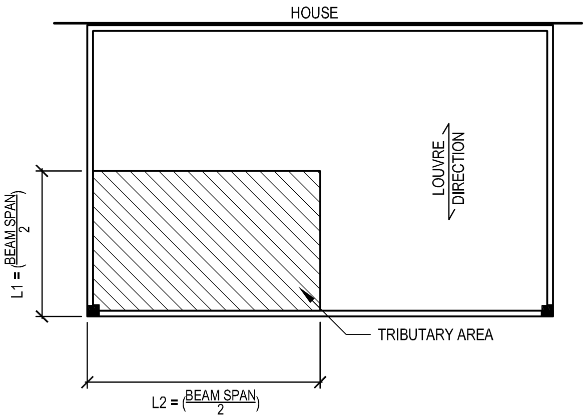


FIGURE 7
PLAN VIEW CANTILEVERED BEAM

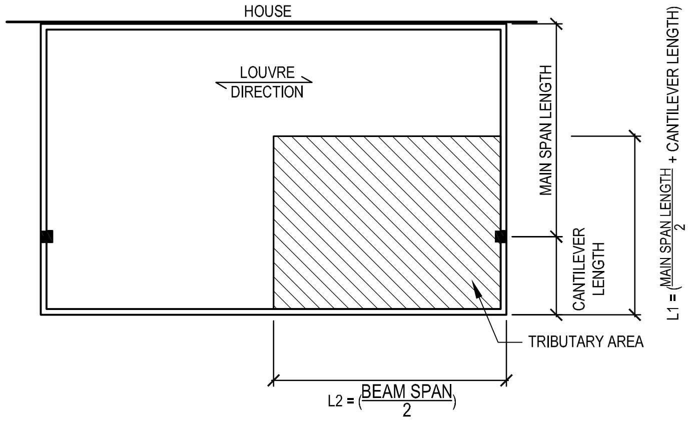
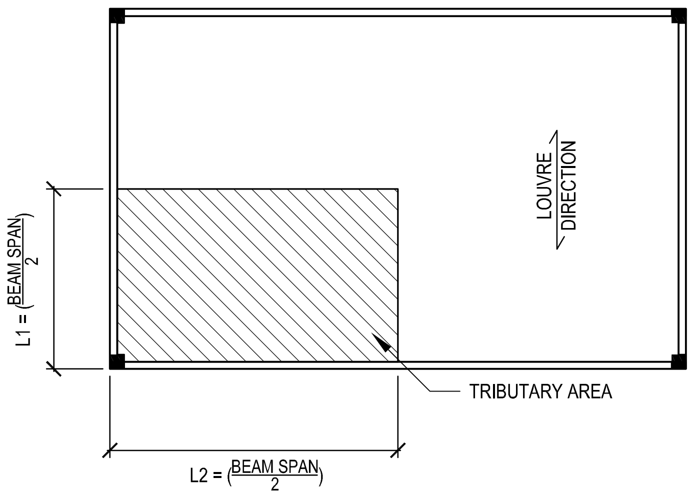


FIGURE 8
PLAN VIEW

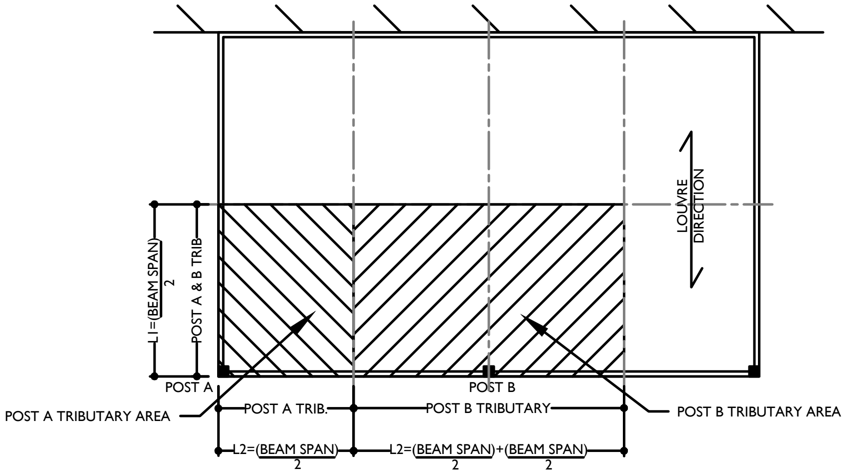


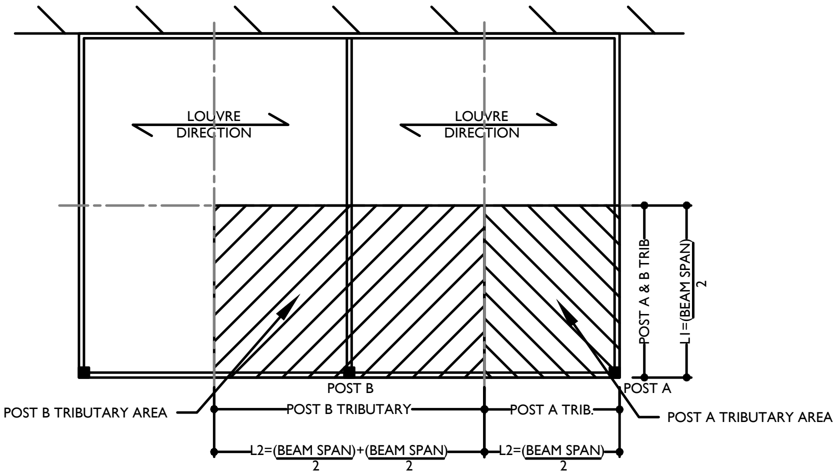
NOTES

1. THE TRIB AREA FOR A POST AND FOOTING IS THE PRODUCT OF HALF THE DISTANCE TO THE ADJACENT SUPPORTS IN EACH DIRECTION ie; L1 X L2 (SEE FIG.6)
2. WHERE A POST SUPPORTS A CANTILEVER, CONSIDER FOR THE FULL CANTILEVER LENGTH (SEE FIG.7)
3. TRIBUTARY EDGE LENGTH (L_E) IS USED TO SELECT POST SIZE.
   FOR A STRUCTURE ATTACHED TO A HOUSE, L_E = L1(PERPENDICULAR TO HOUSE)
   FOR A FREE STANDING STRUCTURE, L_E = THE LONGER OF L1 & L2 (SEE FIG.8)

TYPICAL DETAIL | CONTINUOUS BEAM SPAN OPTION 2

PLAN VIEW POST FOOTING & POST DESIGN



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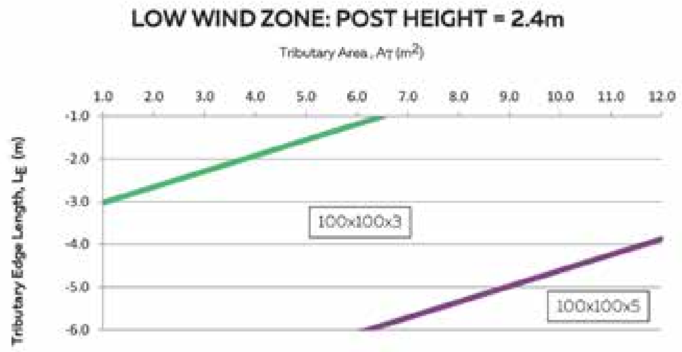

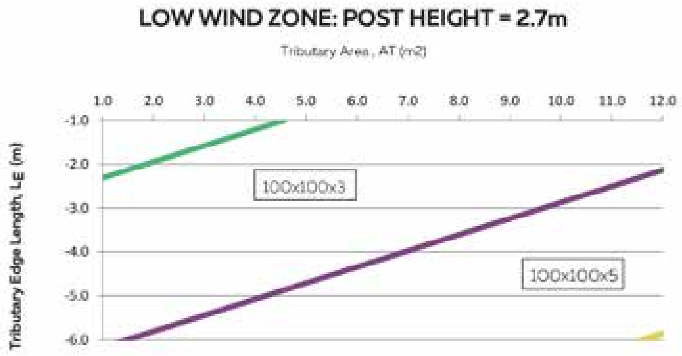

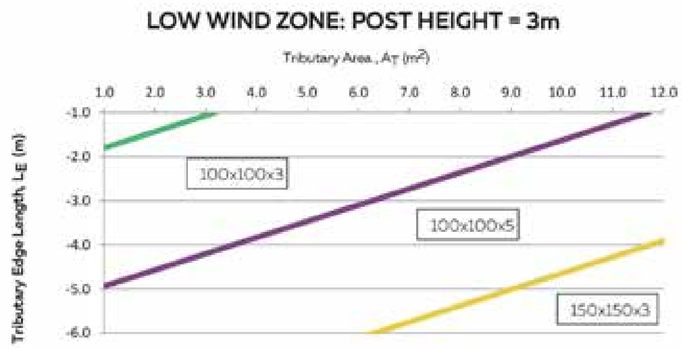

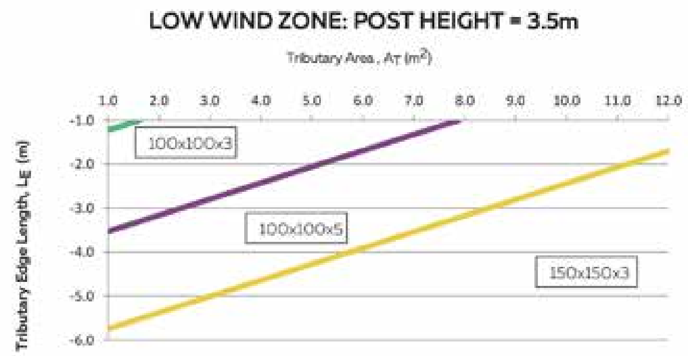

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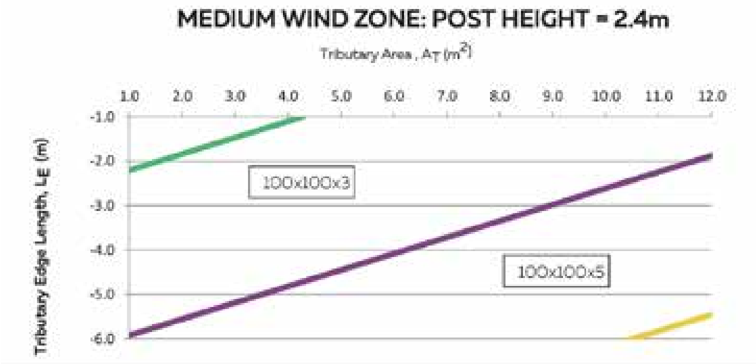

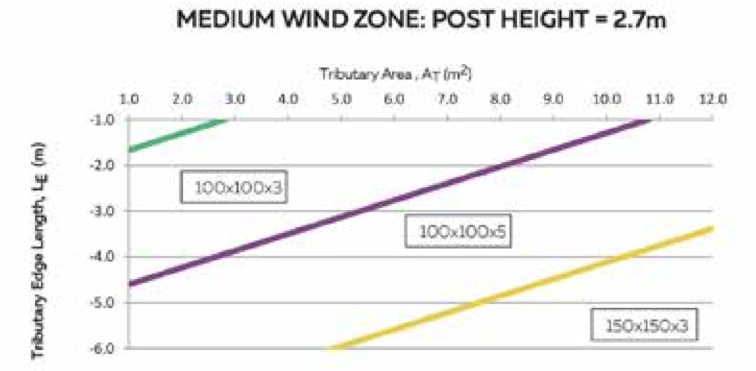

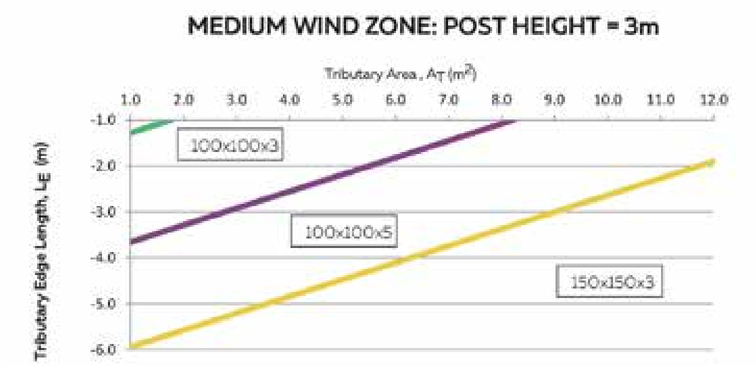

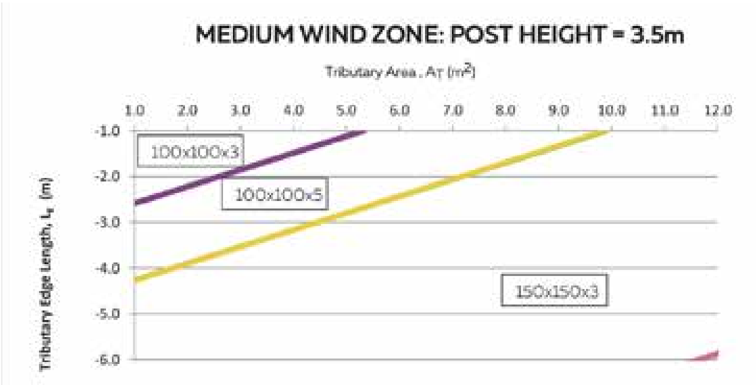

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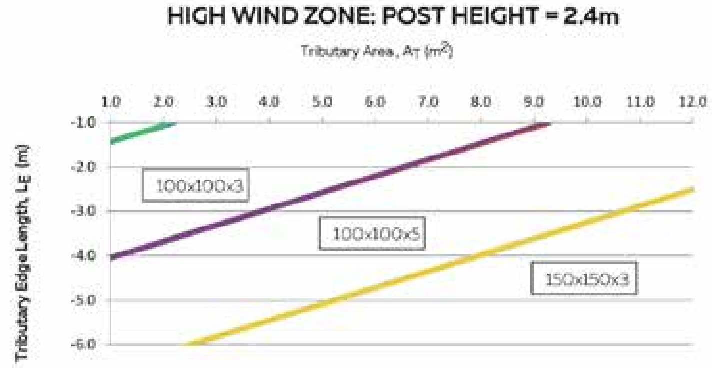

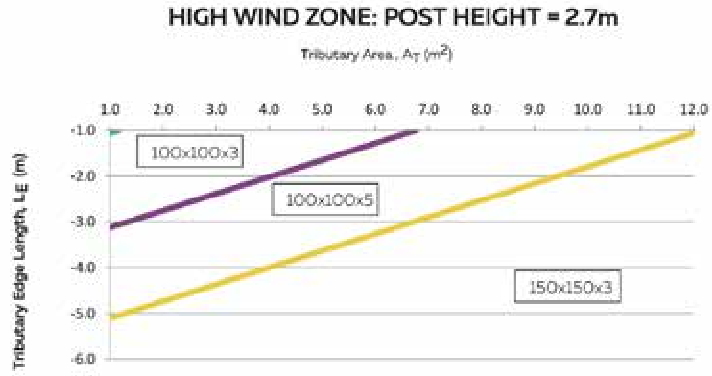

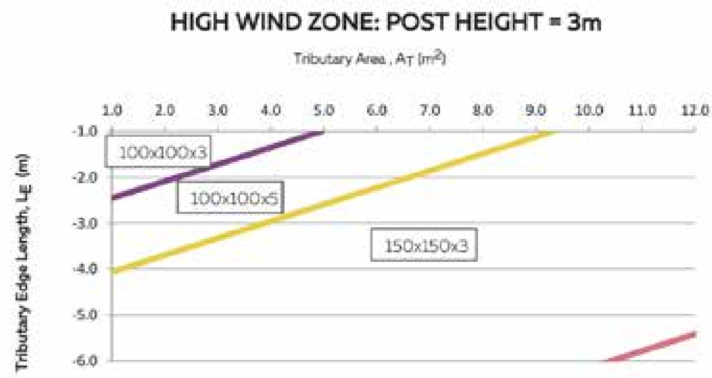

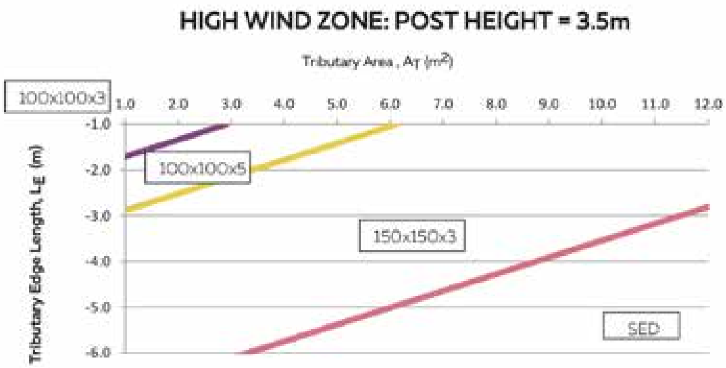

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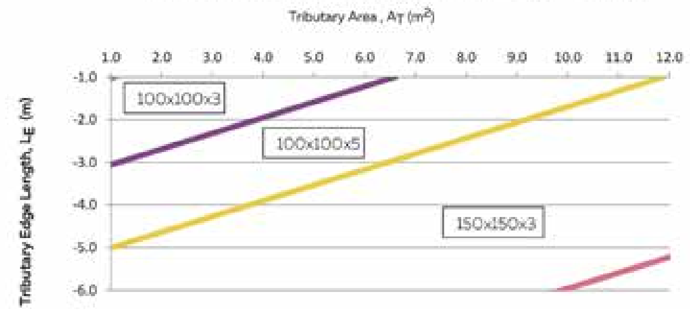
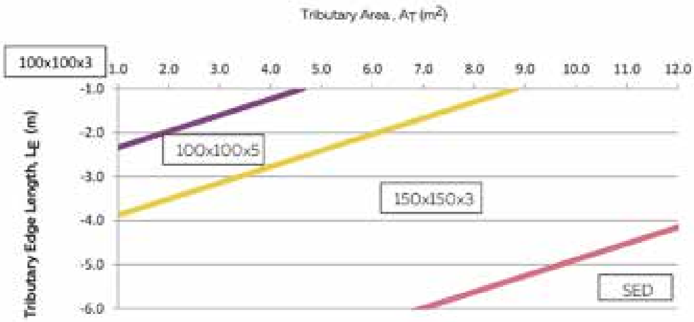
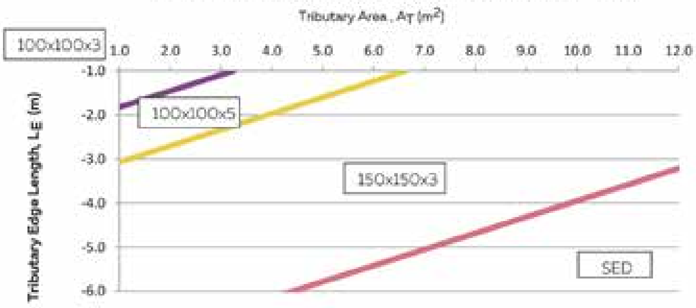
VERY HIGH WIND ZONE: POST HEIGHT = 2.4m



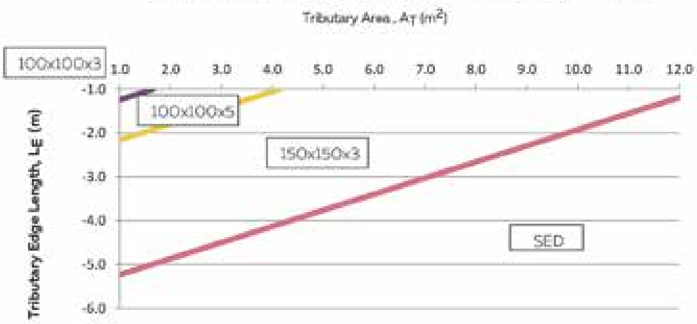
VERY HIGH WIND ZONE: POST HEIGHT = 2.7m



VERY HIGH WIND ZONE: POST HEIGHT = 3m



VERY HIGH WIND ZONE: POST HEIGHT = 3.5m



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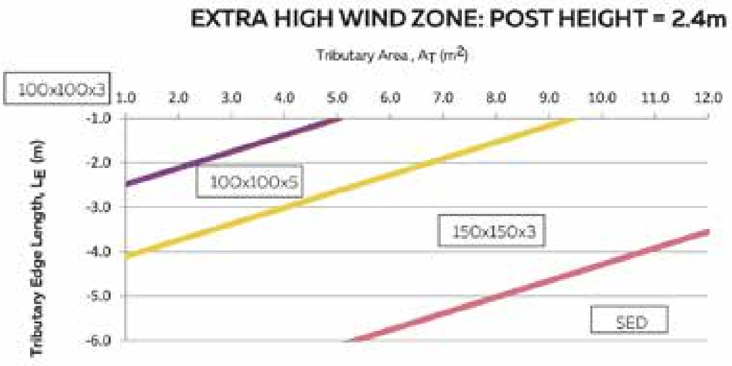

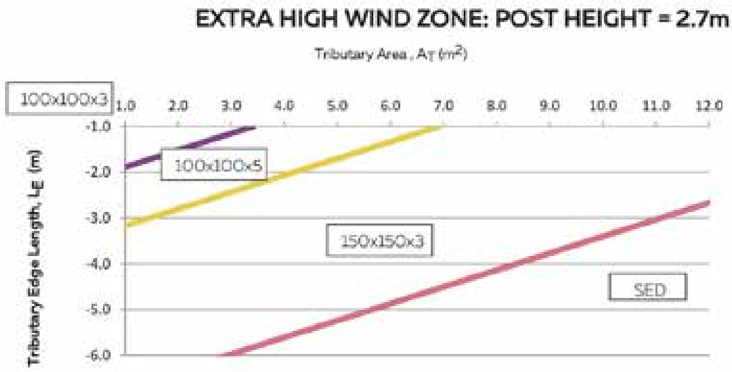

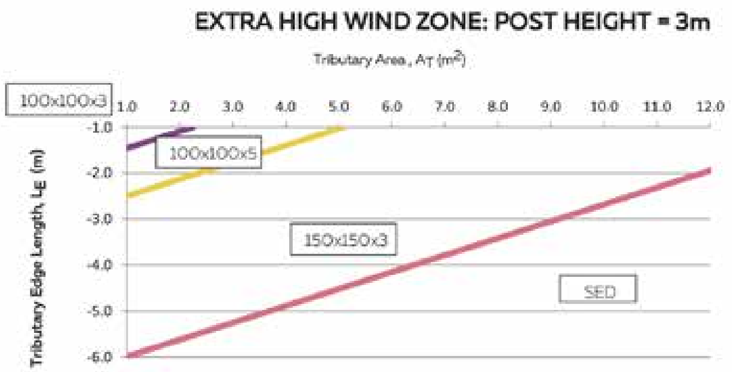

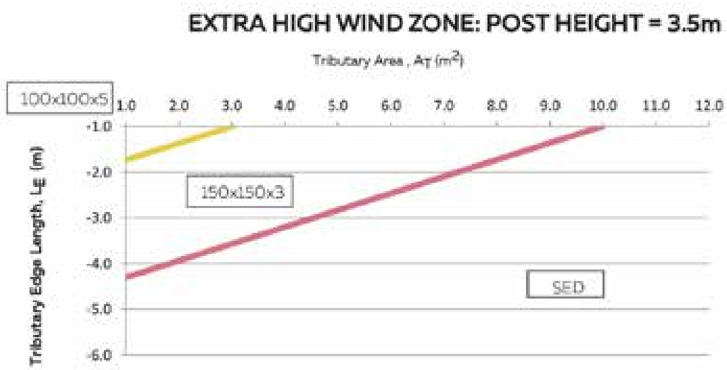

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Post Footing Calculations

GOOD GROUND

Ground conditions are considered a minimum of "good ground" as per NZS3604, within minimum soil properties as follow:

Geotechnical ultimate bearing capacity = 300kPa (apply 0.5 safety factor)

Undrained shear strength = 100kPa (apply 0.5 safety factor)

Geotechnical ultimate skin friction capacity = 20kPa (apply 0.5 safety factor)

Questionable ground conditions must be reviewed by Engineer

- If Louvre frame is supported by building on less than 2 sides, **uplift AND bracing** must be considered for Footing Calculations (Tables 1a, 1b & 2).
  If Louvre frame is supported by building on 2 or more sides, **uplift** only needs to be considered (Tables 1a & 1b only).

TABLE 1a MINIMUM CONCRETE VOLUME FOR ROOF TRIBUTARY ROOF AREA ON POST TO RESIST *UPLIFT*

	Concrete Volume Required (m^3)				
Wind Zone:	L	M	H	VH	EH
Tributary Area (m^2)					
1.0	0.03	0.04	0.06	0.08	0.10
2.0	0.06	0.09	0.12	0.16	0.20
3.0	0.09	0.13	0.19	0.25	0.30
4.0	0.12	0.17	0.25	0.33	0.40
5.0	0.15	0.21	0.31	0.41	0.50
6.0	0.18	0.26	0.37	0.49	0.60
7.0	0.22	0.30	0.44	0.57	0.70
8.0	0.25	0.34	0.50	0.65	0.80
9.0	0.28	0.38	0.56	0.74	0.90

DESIGN PROCEDURE

(1) Determine the tributary area on post (determined previously for post design)

(2) From Table 1a, determine the minimum concrete volume to resist uplift based on tributary area.

(3) From Table 1b, determine the Footing Dimensions required for minimum volume calculated in (2). If bracing is required to be considered, please follow steps (4) and (5) below.

(4) From Table 2, determine Footing Dimensions based on the post size selected. For ease of comparing, select same Footing Type as selected in (3)

(5) Please use maximum of dimensions from (3) and (4)

TABLE 1b FOOTING DIMENSIONS REQUIRED FOR PARTICULAR VOLUMES FOR *UPLIFT* RESISTANCE

	ROUND PILES				SQUARE PADS	
Volume (m^2)	300 diameter	400 diameter	450 diameter	600 diameter	Square pad 300mm deep	Square pad 600mm deep
	minimum depth (mm)				minimum dimension (mm)	
0.1	700	650	600	550	600	400
0.2	950	800	750	650	800	600
0.3	1150	950	850	700	1000	700
0.4	1350	1100	1000	800	1150	800
0.6	1800	1400	1250	1000	1400	1000
0.8	2250	1700	1550	1200	1650	1150
1.0	2650	2000	1800	1400	1850	1300

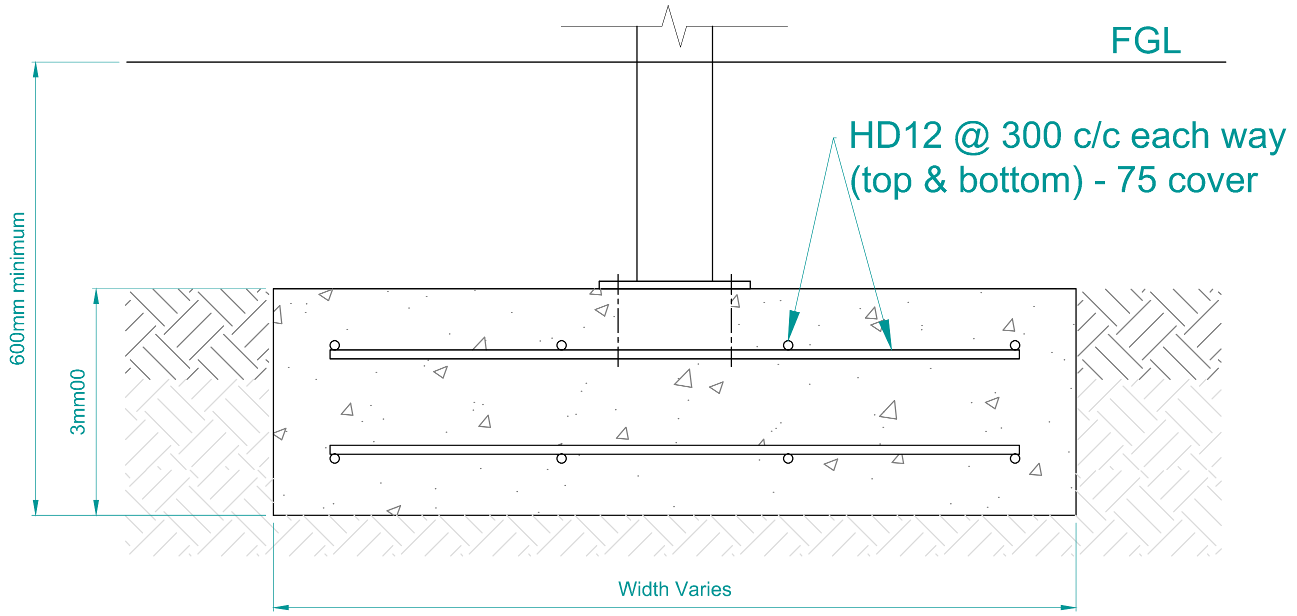
NB: Round piles depths are calculated including skin friction so final concrete volume will differ to that in first column.

TABLE 2 MINIMUM FOOTING SIZES REQUIRED FOR *BRACING* OF EACH POST SIZE

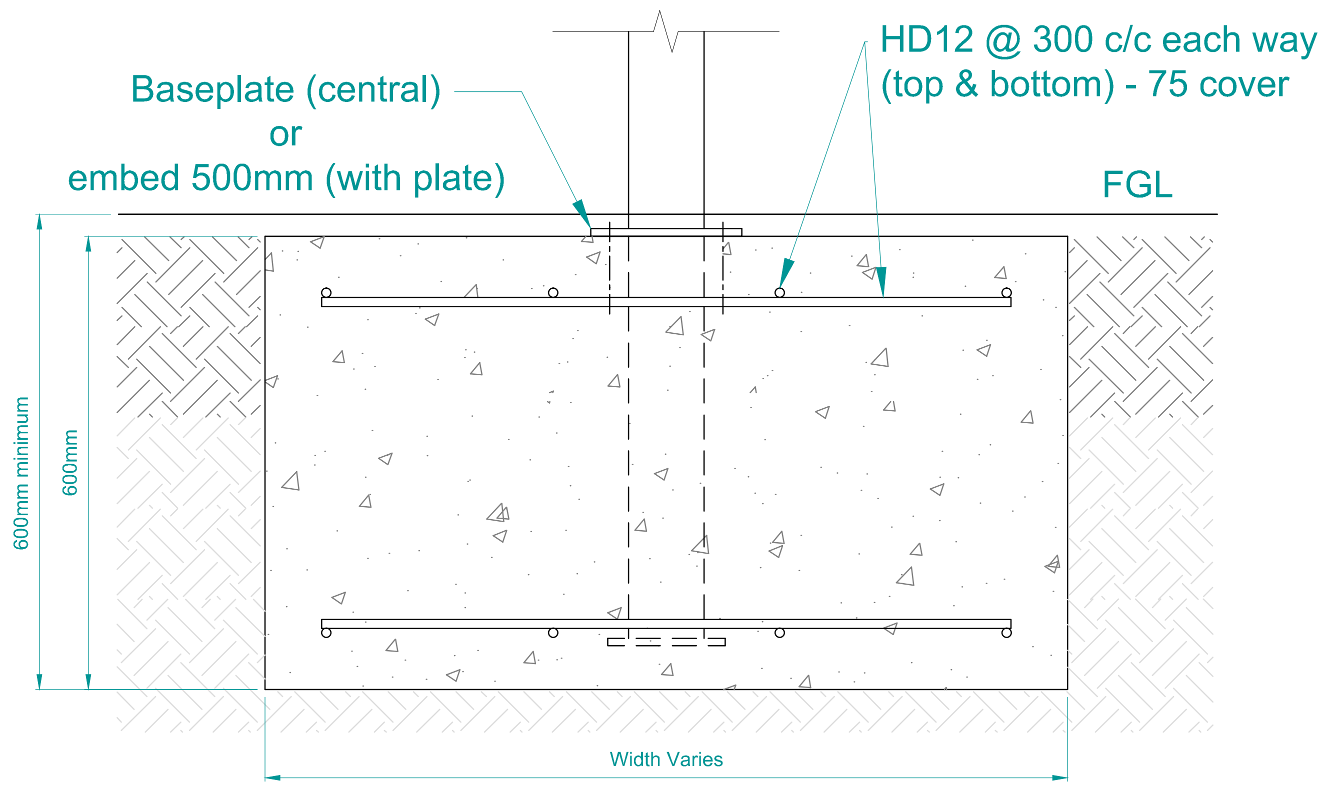
	ROUND PILES				SQUARE PADS	
Post Size	300 diameter	400 diameter	450 diameter	600 diameter	Square pad 300mm deep	Square pad 600mm deep
	minimum depth (mm)				minimum dimension (mm)	
100x100x3	1100	1000	1000	900	1000	800
100x100x5	-	1100	1100	1000	1200	900
150x150x3	-	1300	1200	1200	1400	1100
100x100x4 SHS	-	1300	1200	1200	1400	1100

Concrete to be minimum 20MPa

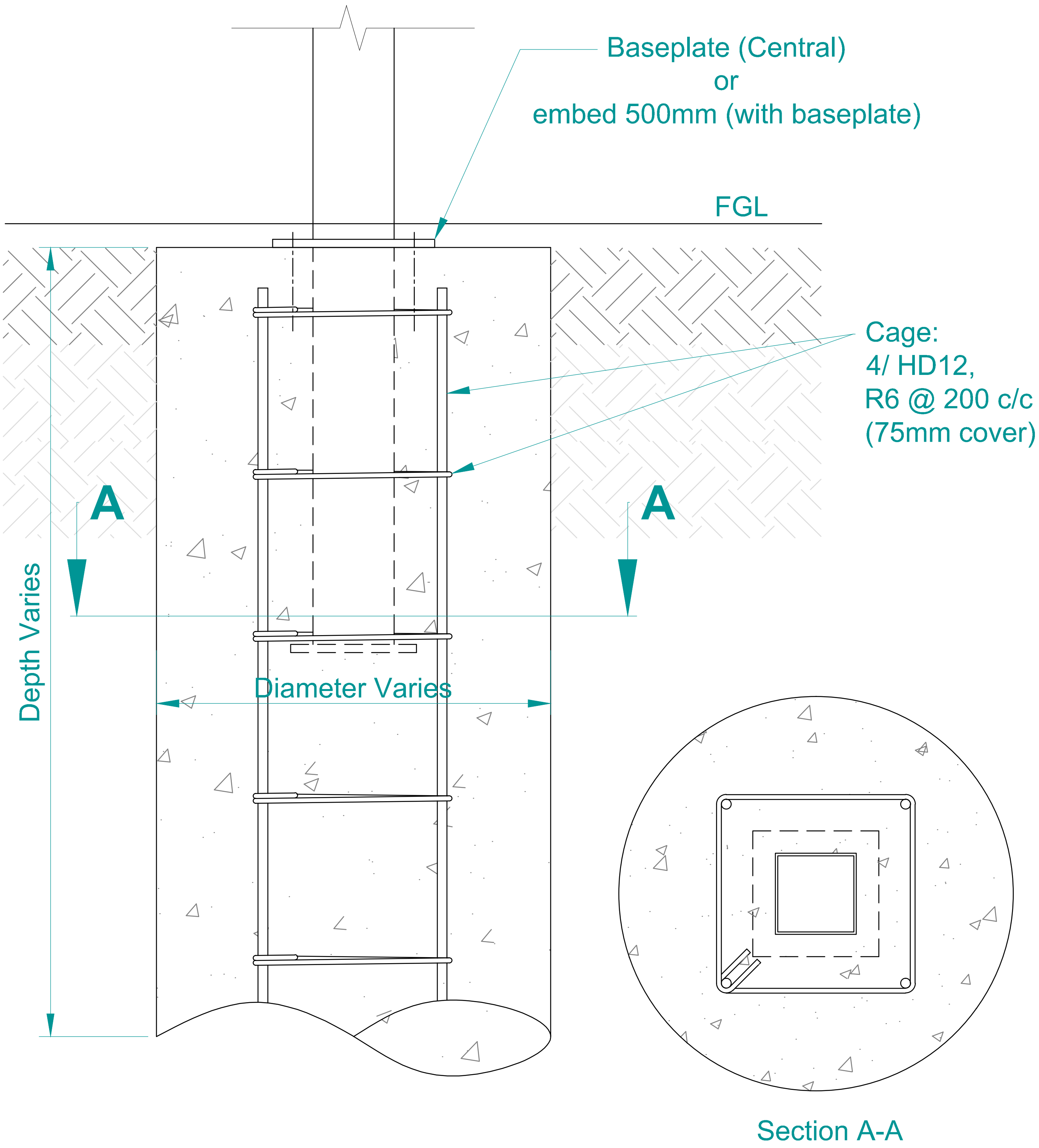
SQUARE PAD FOOTINGS 300 DEEP



SQUARE PAD FOOTINGS 600 DEEP



ROUND PILE FOOTINGS



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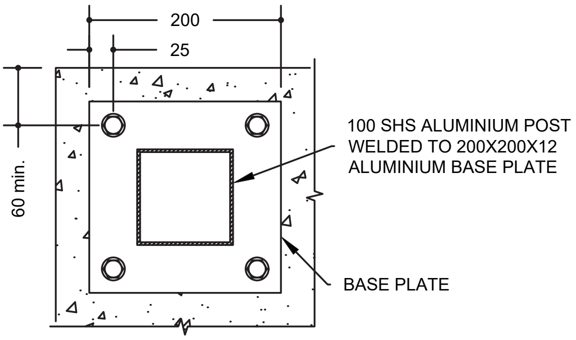
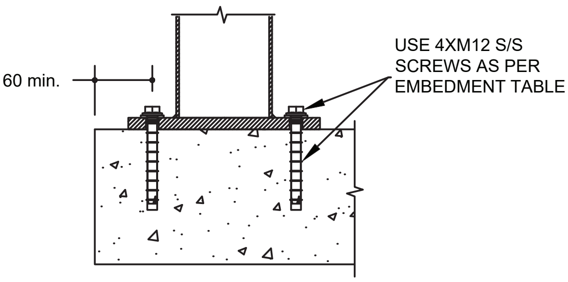
TYPICAL DETAIL BASE PLATE SIZES FOR VARIOUS POSTS, SUBSTRATES & FIXINGS

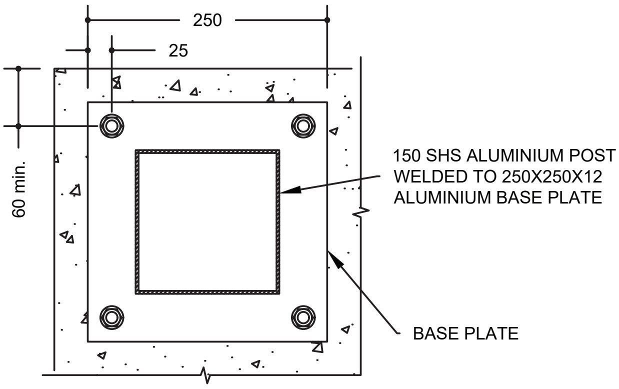
100X100 ALUMINIUM POST BASE PLATE CONCRETE SUBSTRATE

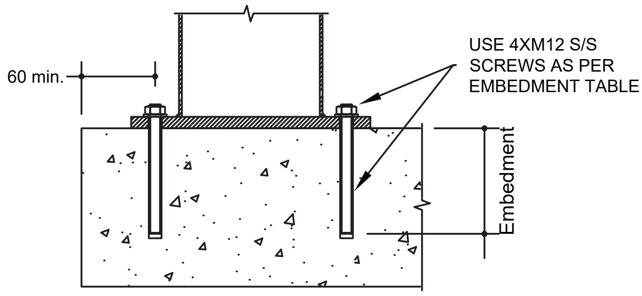




Type	Embedment 100x3 SHS	Embedment 100x5 SHS
Chemset Threaded Rod	80	100
Masonry Screw	85	100

150X150 ALUMINIUM POST BASE PLATE CONCRETE SUBSTRATE



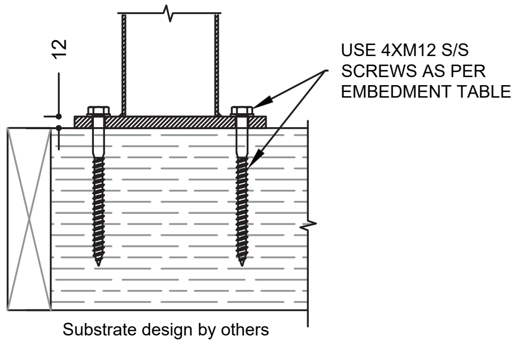


Type	Embedment 150x3 SHS
Chemset Threaded Rod	110*
Masonry Screw	120

*Ramset C6 Plus

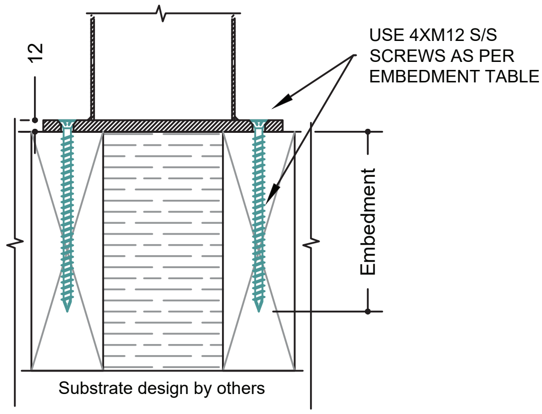
100X100 ALUMINIUM POST BASE PLATE TIMBER SUBSTRATE

Type	Embedment 100x3 SHS	Embedment 100x5 SHS
Coach	120	190
Spax	120	190



150X150 ALUMINIUM POST BASE PLATE TIMBER SUBSTRATE

Type	Embedment 150x3 SHS
Coach	265
Spax	260



NOTE: ALL POST TO BASE PLATE WELDS MUST BE FULL PENETRATION BUTT WELDS ALL AROUND