

PEER Consulting Engineers Pty Ltd PROJECT MANAGEMENT • CIVIL • STRUCTURAL

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Generic Structural Design Certificate LEVELMASTER – Adjustable Post Heads

01/05/2023

To whom it may concern,

We, **PEER Consulting Engineers** certify that we have designed and reviewed the LevelMaster Adjustable Post Heads as detailed on the listed drawing below, and they have been designed in accordance with widely accepted engineering principles and the referenced codes of practice. This certificate is limited to the structural design only and no responsibility is taken for any loss, damage or failure resulting from the method of construction or wind exceeding the design wind rating nominated.

Referenced Codes of Practice and Manuals:

NCC 2022 Building Code of Australia AS 1170.0 2002 Structural design action – General principals AS 1170.1 2002 Permanent, Imposed and Other Actions AS 1170.2 2021 Structural Design Actions – Wind Actions AS 4100 2020 Steel Structures

Referenced Design Documents:

PEER Consulting Engineers Pty Ltd – Drawing Set PCE2247.1 – Rev 0, MAY 2023

PEER Consulting Engineers maintains indemnity insurance concordant with the scope of the undertaken works to the satisfaction of its Client; however, our involvement in this shall in no way be construed of relieving other parties of their legal obligations.

If you require any further information, please do not hesitate to contact us at any time.

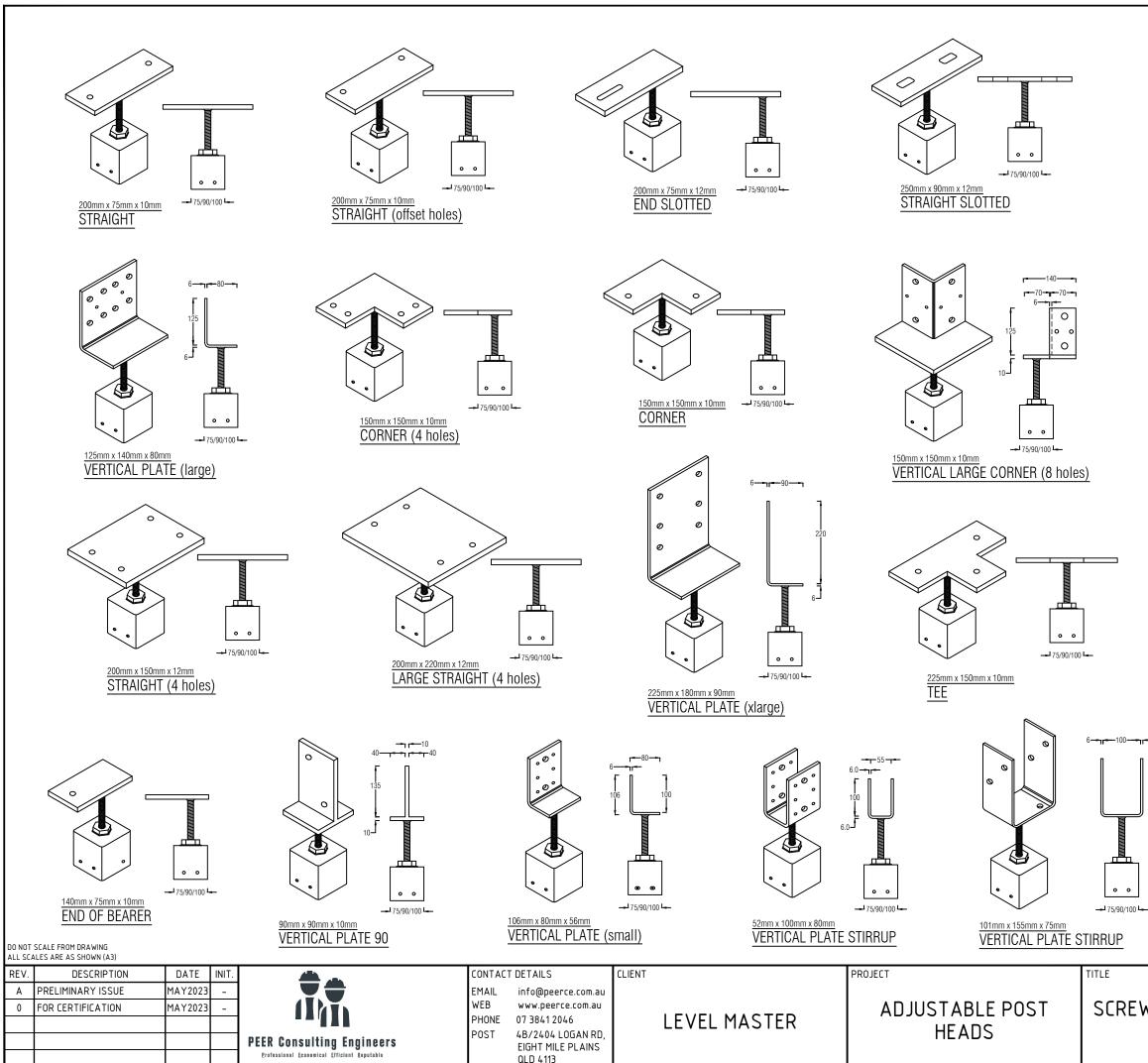
Sincerely,

har

Mengting (Nike) Zhao B.Eng (1st Class Hons.) MIEAust, RPEQ, RPEng Director/ Principal Civil and Structural Engineer

*This certificate expires on 30/04/2024.





GENERAL NOTES

- 1 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION. UNLESS FIXING TO EXISTING COLUMNS AS PER EXISTING COLUMN TABLE.
- 2 ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE CLASS 4 - 12g - 24TPI SCREWS FROM ICCONS PTY LTD.
- 3 *IF NOT CENTRALLY LOADED, ALL UPLIFT & DOWNWARDS CAPACITIES TO BE 13.0 kN.
- 4 ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.)

*PRODUCT CAPACITY

MAX. UPLIFT	36kN

MAX. DOWNWARDS

THE CAPACITIES ARE BASED ON THE ASSUMPTION OF BEING CENTRALLY LOADED ONLY.

THE CAPACITIES ABOVE COVER ALL PRODUCTS SHOWN IN THIS PAGE OF DRAWING (FOR SCREW-ON SHS)

THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

*NET WIND PRESSURE AT STUMP (kN/m^2)						
WIND CLASS	N2	N3	N4	۲1	C2	С3
UPWARDS	-	1.01	1.82	1.20	2.10	3.80
DOWNWARDS	0.41	0.64	1.15	0.76	1.32	2.39

TYPICAL LOADS (kN/m ²)				
DOMESTIC FLOOR	2.85			
SHEET ROOF 0.86				
CLAD WALLS 0.42				

125kN

EXAMPLE:-

 * LEVEL MASTER STUMP SUPPORTING <u>9m</u>² OF ROOF LOAD AND <u>9m</u>² OF FLOOR LOAD <u>3m</u> OF WALL FRAME <u>2.4m</u> HIGH IN AN <u>N3</u> WIND AREA.

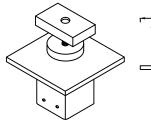
EXAMPLE WORKINGS:-

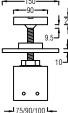
 $\begin{array}{l} \hline \text{DOWNWARDS} = 9\text{m}^2 \ x \ 0.86\text{kN/m}^2 \ (\text{roof}) \ + \\ & 9\text{m}^2 \ x \ 2.85\text{kN/m}^2 \ (\text{floor}) \ + \\ & 3\text{m wall } \ x \ 2.4 \ \text{high } x \ 0.42\text{kN/m}^2 \ (\text{wall}) \\ & = \ 36.4 \ \text{kN total}. \end{array}$

N3 WIND UPLIFT =

 $9m^2 \times 1.01 kN/m^2$ = 9.09 kN total.

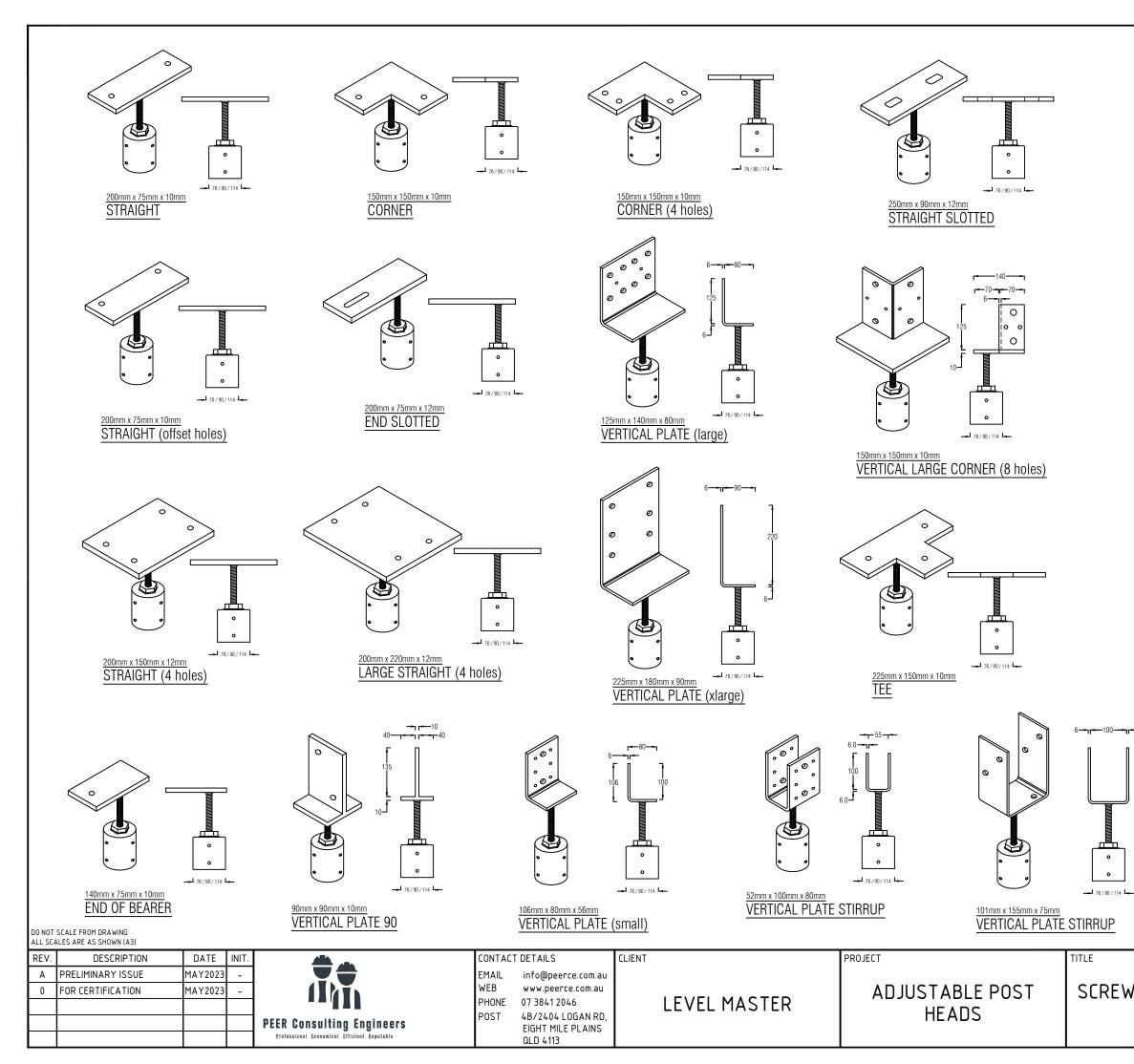
* SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: $36.4\ kN < 150\ kN$ AND $9.09\ kN < 13\ kN.$





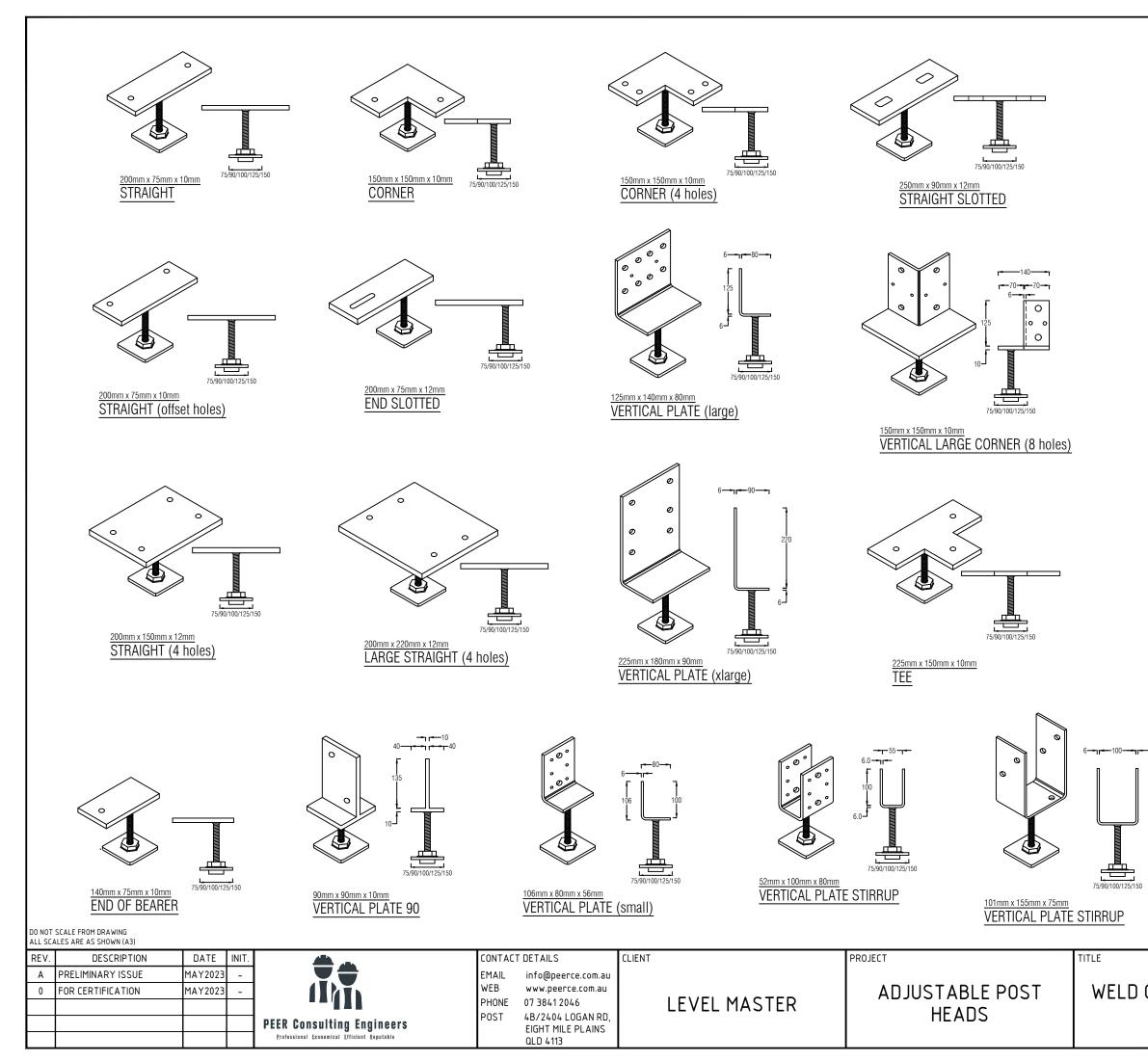


*ORIGINAL DATA PROVIDED BY SUMMERMORE Pty Ltd.				Pty Ltd.
W ON CONNECTORS (SHS)	DRAWN -		^{DATE} ΜΑΥ	′ 2023
	CHECKED N.Z.	APPROVED		
	DRAWING No. PCE224	•7.1 – S01		REV. O



GENERAL NOTES 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION. UNLESS FIXING TO EXISTING COLUMNS AS PER EXISTING COLUMN TABLE. ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE CLASS 4 - 12g - 24TPI SCREWS FROM ICCONS PTY LTD. *IF NOT CENTRALLY LOADED, ALL UPLIFT & DOWNWARDS CAPACITIES TO BE 13.0 kN. ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.) *PRODUCT CAPACITY MAX. UPLIFT 72kN 125kN MAX. DOWNWARDS THE CAPACITIES ARE BASED ON THE ASSUMPTION OF BEING CENTRALLY LOADED ONLY THE CAPACITIES ABOVE COVER ALL PRODUCTS SHOWN IN THIS PAGE OF DRAWING (FOR SCREW-ON SHS) THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER LEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED. *NET WIND PRESSURE AT STUMP (kN/m²) WIND CLASS N2 N3 N4 C1 C2 C3 UPWARDS 1.01 1.82 1.20 2.10 3.80 -0.41 0.64 1.15 0.76 1.32 2.39 DOWNWARDS TYPICAL LOADS (kN/m²) DOMESTIC FLOOR 2.85 SHEET ROOF 0.86 CLAD WALLS 0.42 EXAMPLE:-LEVEL MASTER STUMP SUPPORTING <u>9m²</u> OF ROOF LOAD AND <u>9m²</u> OF FLOOR LOAD <u>3m</u> OF WALL FRAME <u>2.4m</u> HIGH IN AN <u>N3</u> WIND AREA. EXAMPLE WORKINGS:- $\frac{1}{\text{DOWNWARDS}} = 9\text{m}^2 \times 0.86\text{kN/m}^2 \text{ (roof)} + 9\text{m}^2 \times 2.85\text{kN/m}^2 \text{ (floor)} + 9\text{m}^2 \times$ $3m \text{ wall x } 2.4 \text{ high x } 0.42 \text{kN/m}^2 \text{ (wall)}$ = 36.4 kN total. N3 WIND UPLIFT = 9m² x 1.01kN/m² = 9.09 kN total. SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: 36.4 kN < 150 kNAND 9.09 kN < 13 kN. 95mm x 57mm x 20mm CONTAINER LOCK - CL

*ORIGINA	L DATA PROVID	ED BY SUMMERM	ORE Pty Ltd.
W ON CONNECTORS (CHS)	DRAWN —		^{date} MAY 2023
	CHECKED N.Z.	APPROVED	
	DRAWING No. PCE224	₊7.1 – S02	2 0



GENERAL NOTES

- 1 4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR CAP TO COLUMN CONNECTION. UNLESS FIXING TO EXISTING COLUMNS AS PER EXISTING COLUMN TABLE.
- 2 ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE CLASS 4 - 12g - 24TPI SCREWS FROM ICCONS PTY LTD.
- 3 *IF NOT CENTRALLY LOADED, ALL UPLIFT & DOWNWARDS CAPACITIES TO BE 13.0 kN.
- 4 ALL STEEL MATERIALS TO BE (MIN.) G250 (U.N.O.)

*PRODUCT CAPACITY

MAX. UPLIFT

MAX. DOWNWARDS

THE CAPACITIES ARE BASED ON THE ASSUMPTION OF BEING CENTRALLY LOADED ONLY.

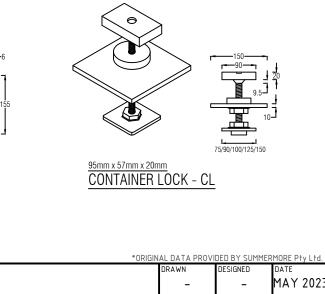
THE CAPACITIES ABOVE COVER ALL PRODUCTS SHOWN IN THIS PAGE OF DRAWING (FOR SCREW-ON SHS)

THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

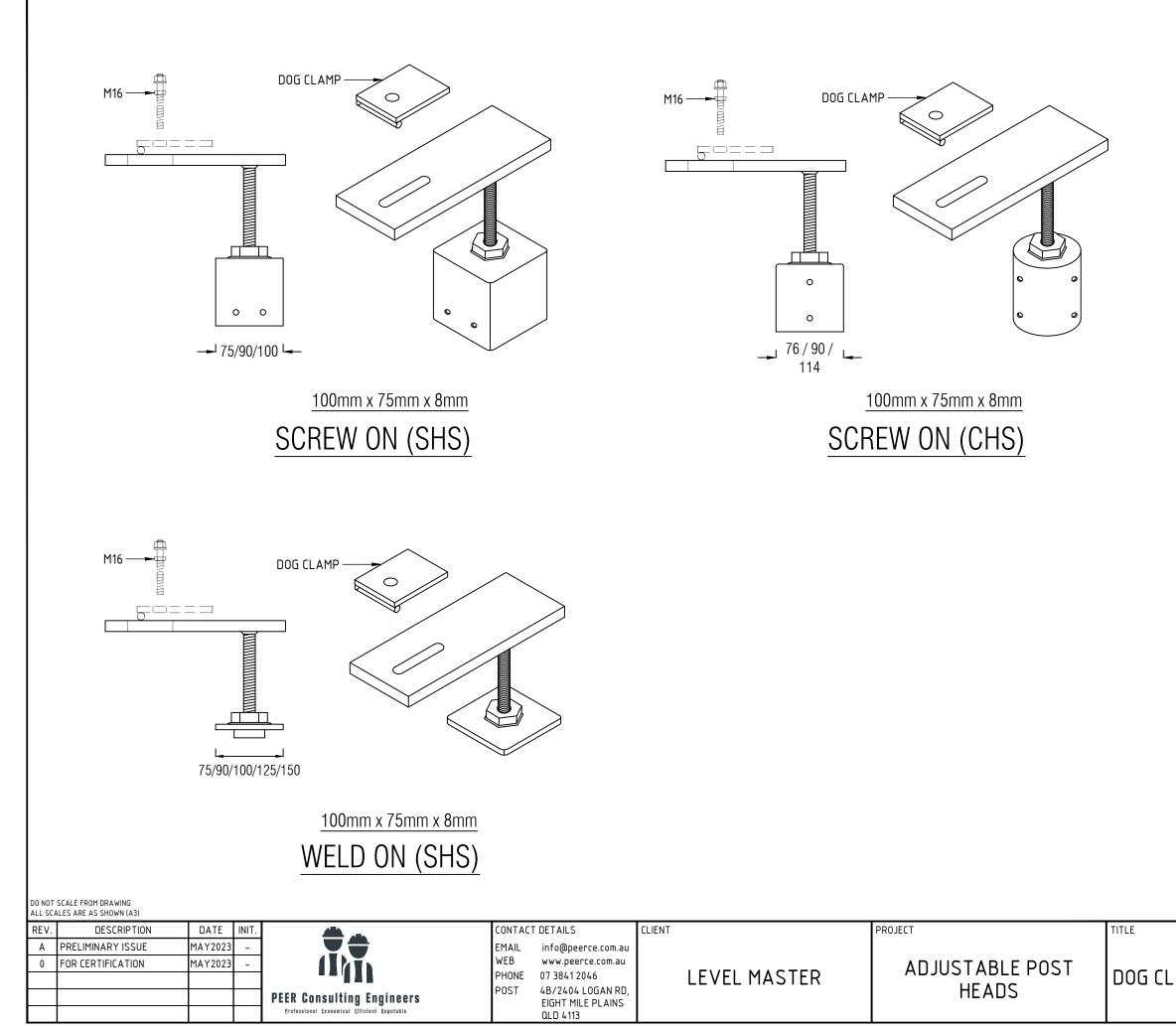
*NET WIND PRESSURE AT STUMP (kN/m^2)						
WIND CLASS	N2	N3	N4	C1	C2	С3
UPWARDS	-	1.01	1.82	1.20	2.10	3.80
DOWNWARDS	0.41	0.64	1.15	0.76	1.32	2.39

TYPICAL LOADS (kN/m ²)			
DOMESTIC FLOOR	2.85		
SHEET ROOF 0.86			
CLAD WALLS 0.42			

125kN 125kN



WELD ON CONNECTORS (SHS) DRAWING NO. PCE2247.1 - S03 0



GENERAL NOTES

4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR COLUMN TO BASEPLATE CONNECTION.

- 2 ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE CLASS 4 – 12g – 24 TPI SCREWS FROM ICCONS PTY LTD.
- 3 *IF NOT CENTRALLY LOADED, ALL DOWNWARDS CAPACITIES TO BE 13.0 kN.
- 4 ALL STEEL BASEPLATES TO BE G250 (U.N.O.). ALL STEEL TUBES TO BE G350. (U.N.O.)

*PRODUCT CAPACITY MAX. UPLIFT 4kN MAX. DOWNWARDS 125kN CLAMPING CAPACITY 38kN THE CLAMPING FORCE MAY VARY DEPENDING ON THE APPLIED TORQUE DURING CONSTRUCTION. THE CLAMPING CAPACITY IS ESTIMATED BASED ON THE TYPICAL TIGHTENING TORQUE OF M16 BOLT (GRADE 8.8). THE CAPACITIES ARE BASED ON THE ASSUMPTION OF BEING CENTRALLY LOADED ONLY. THE CAPACITIES ABOVE COVER ALL PRODUCTS SHOWN IN THIS PAGE OF DRAWING (FOR DOG CLAMP)

THE CAPACITIES ARE FOR THE POST HEAD PRODUCT ITSELF. OTHER ELEMENTS SUCH AS SCREWS AND TIMBER ARE NOT CONSIDERED.

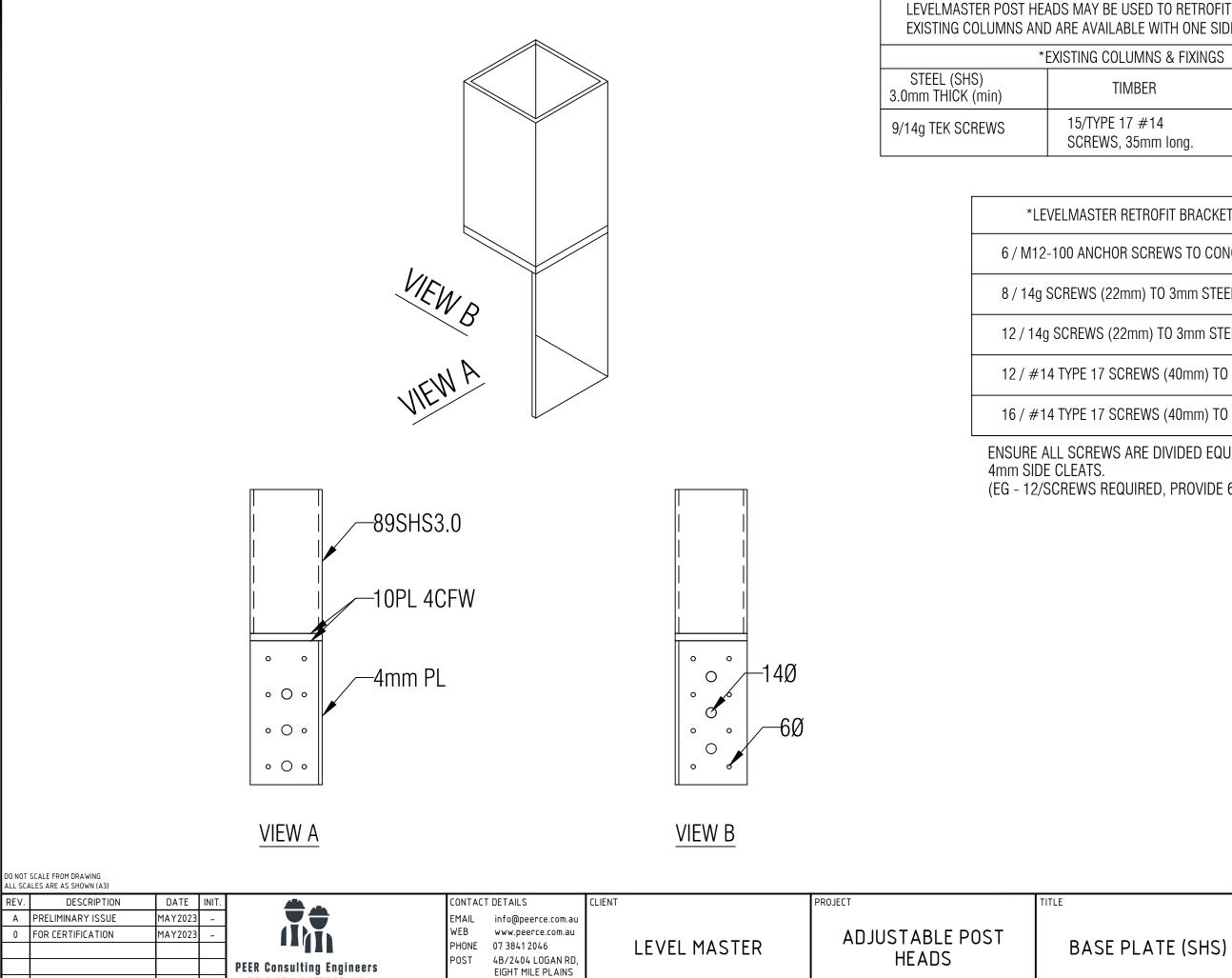
*NET WIND PRESSURE AT STUMP (kN/m^2)						
WIND CLASS	N2	N3	N4	C1	C2	С3
UPWARDS	-	1.01	1.82	1.20	2.10	3.80
DOWNWARDS	0.41	0.64	1.15	0.76	1.32	2.39

TYPICAL LOADS (kN/m ²)			
DOMESTIC FLOOR	2.85		
SHEET ROOF 0.86			
CLAD WALLS 0.42			

	JMP SUPPORTING <u>9m</u> ² OF ROOF LOAD AND <u>9m</u> ² OF F WALL FRAME <u>2.4m</u> HIGH IN AN <u>N3</u> WIND AREA.
EXAMPLE WORKINGS: DOWNWARDS=9m ² x (
N3 WIND UPLIFT=	$9m^2 x 1.01 kN/m^2$ = 9.09 kN total.
* SO USE LEVEL MA BECAUSE: 36.4 kN	STER CENTRE LOADED ADJUSTABLE TOP/POST HEAD

AND 9.09 kN < 13 kN.

*BASED ON THE ORIGINAL DATA PROVIDED BY SUMMERMORE Pty Ltd.				
	DRAWN -		date MA`	Y 2023
AMP CONNECTORS	CHECKED N.Z.	APPROVED		
	DRAWING No. PCE224	.7.1 – S0		rev. 0



QLD 4113

REV

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Professional Economical Efficient Reputable

EXISTING COLUMNS AND ARE AVAILABLE WITH ONE SIDE REMOVED.

*EXISTING COLUMNS & FIXINGS

TIMBER

CONCRETE

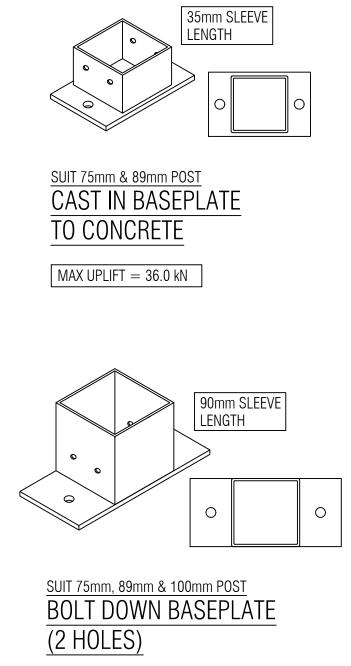
15/TYPE 17 #14 SCREWS, 35mm long.

3/M10-50 CONCRETE SCREWS (offset)

TER RETROFIT BRACKET CAPACITIES (kN)	
CHOR SCREWS TO CONCRETE	43.8
(22mm) TO 3mm STEEL COLUMN (min)	39.6
S (22mm) TO 3mm STEEL COLUMN (min)	43.8
7 SCREWS (40mm) TO HWD COLUMN	36.4
7 SCREWS (40mm) TO HWD COLUMN	43.8

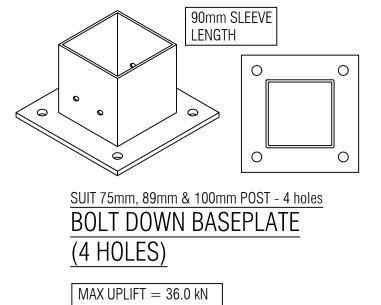
ENSURE ALL SCREWS ARE DIVIDED EQUALLY TO BOTH (EG - 12/SCREWS REQUIRED, PROVIDE 6/SCREWS EACH CLEAT)

*ORIGINA	*ORIGINAL DATA PROVIDED BY SUMMERMORE Pty Ltd.					
	DRAWN -		^{date} MAY 2023			
SE PLATE (SHS)	CHECKED N.Z.	APPROVED				
	DRAWING No. PCE224	•7.1 – S05	5 0			



MAX UPLIFT = 36.0 kN

BOLT DOWN OPTIONS (2 HOLES) - 20MPa concrete (min) - 90mm edge distance (min)				
RAMSET CHEMSET '101' 2 x M12-200 CHEMSETS (1 x each side)				
WERCS ANKASCREW	2 x M12-90 WERCS ANKASCREWS (1 x each side)			



BOLT DOWN OPTIONS (4 HOLES) - 20MPa concrete (min) - 90mm edge distance (min)				
RAMSET CHEMSET '101' 4 x M12-100 CHEMSETS (1 x each corner)				
WERCS ANKASCREW	4 x M12-60 WERCS ANKASCREWS (1 x each corner)			

		SCALE FROM DRAWING LES ARE AS SHOWN (A3)									
R	EV.	DESCRIPTION	DATE	INIT.		CONTAC	T DETAILS	CLIENT		PROJECT	TITLE
Г	Α	PRELIMINARY ISSUE	MAY2023	-		EMAIL	info@peerce.com.au				
Г	0	FOR CERTIFICATION	MAY2023	-		WEB	www.peerce.com.au			ADJUSTABLE POST	
						PHONE	07 3841 2046		LEVEL MASTER		RETI
					PEER Consulting Engineers	POST	4B/2404 LOGAN RD, EIGHT MILE PLAINS			HEADS	
					<u>Professional Economical Efficient R</u> eputable		QLD 4113				

GENERAL NOTES

4 SCREWS (2 EACH OPPOSITE FACE) TO BE USED FOR COLUMN TO BASEPLATE CONNECTION.

- ALL SCREWS FOR CAP TO COLUMN CONNECTION TO BE CLASS 4 – 12g – 24TPI SCREWS FROM ICCONS PTY LTD.
- 3 *IF NOT CENTRALLY LOADED, ALL UPLIFT & DOWNWARDS CAPACITIES TO BE 13.0 kN.
- ALL STEEL BASEPLATES TO BE G250 (U.N.O.). ALL STEEL TUBES TO BE G350. (U.N.O.)

*REFERENCE COLUMN HEIGHTS					
COLUMN TYPE MAX. COMPRESSION MAX. HEIGHT (kN) (mm)					
89SHS3.5 OR 100SHS4.0	150	4500			
75SHS3.0	150	2500			
75SHS4.0	150	3000			
ALL OTHER COLUMNS/HEIGHTS TO BE SITE SPECIFIC DESIGNED.					

*NET WIND PRESSURE AT STUMP (kN/m^2)							
WIND CLASS	N2	N3	N4	C1	C2	С3	
UPWARDS	-	1.01	1.82	1.20	2.10	3.80	
DOWNWARDS	0.41	0.64	1.15	0.76	1.32	2.39	

TYPICAL LOADS (kN/m ²)					
2.85					
0.86					
CLAD WALLS 0.42					

	tump supporting <u>9m²</u> of roof load and <u>9m²</u> of DF wall frame <u>2.4m</u> high in an <u>N3</u> wind area.
EXAMPLE WORKINGS DOWNWARDS=9m ² x	
N3 WIND UPLIFT=	$9m^2 \times 1.01 \text{kN/m}^2$ = 9.09 kN total.
* SO USE LEVEL MA BECAUSE: 36.4 ki AND 9.09 kN < 13	

*ORIGINAL DATA PROVIDED BY SUMMERMORE Pty Ltd.					
	DRAWN -		date MAY 2023		
TROFIT JOINER	CHECKED N.Z.	APPROVED			
	DRAWING No. PCE224	7.1 – SO	6 0		