

# NOMINAL PIERHEAD/BEARER CONNECTION

TIMBER MGP10 BEARERS USE 1/M10 G4.6 GALVANISED CUP HEAD BOLT PLUS 2/14g GALVANISED SCREWS 50 MIN. LENGTH EQUATES TO 13.7kN UPLIFT RESISTANCE. THIS ACTUAL LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.

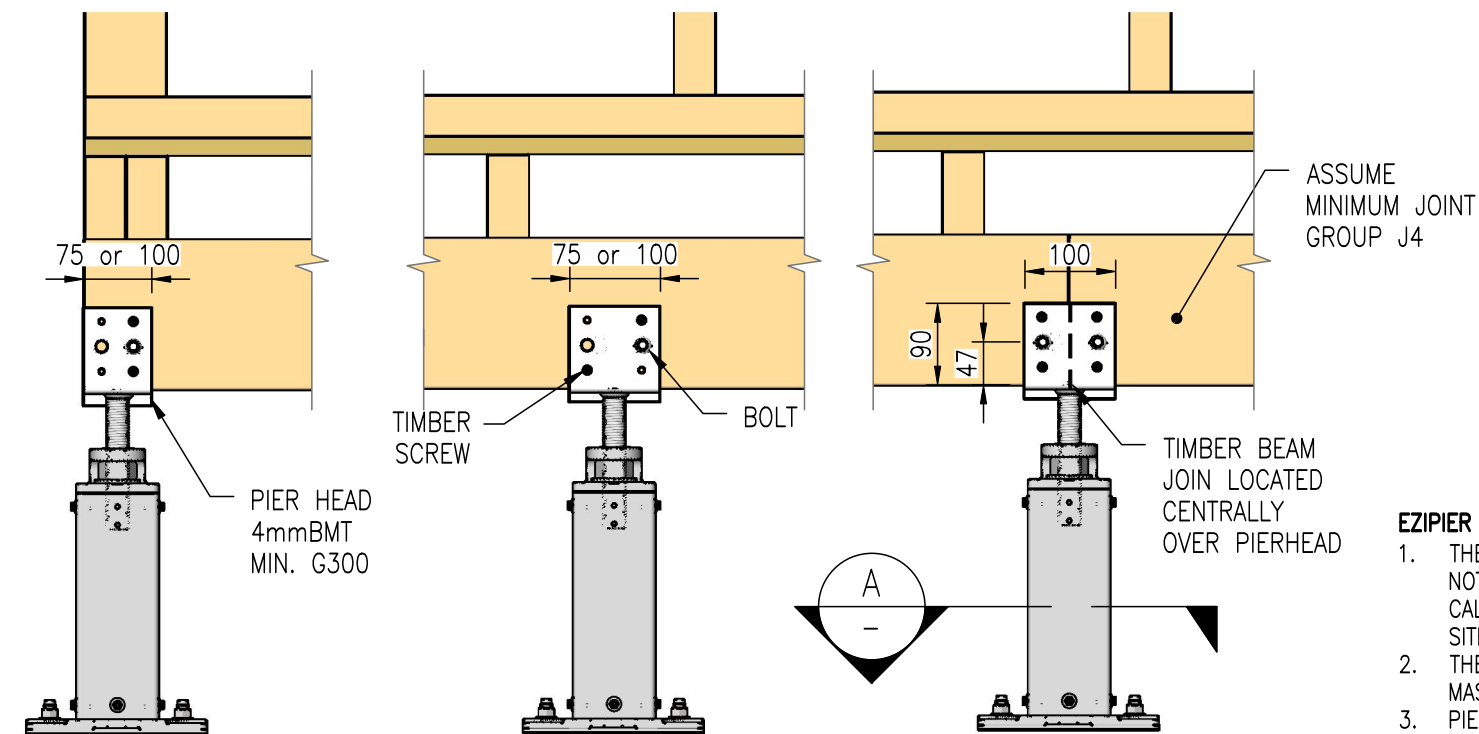


TABLE 1: EZIPIER UPLIFT CAPACITY $P_{uplift}$	
TEK "A" QTY	MAX. UP LOAD (kN)
4	17.3
6	26.0

## EZIPIER UPLIFT CAPACITY NOTES

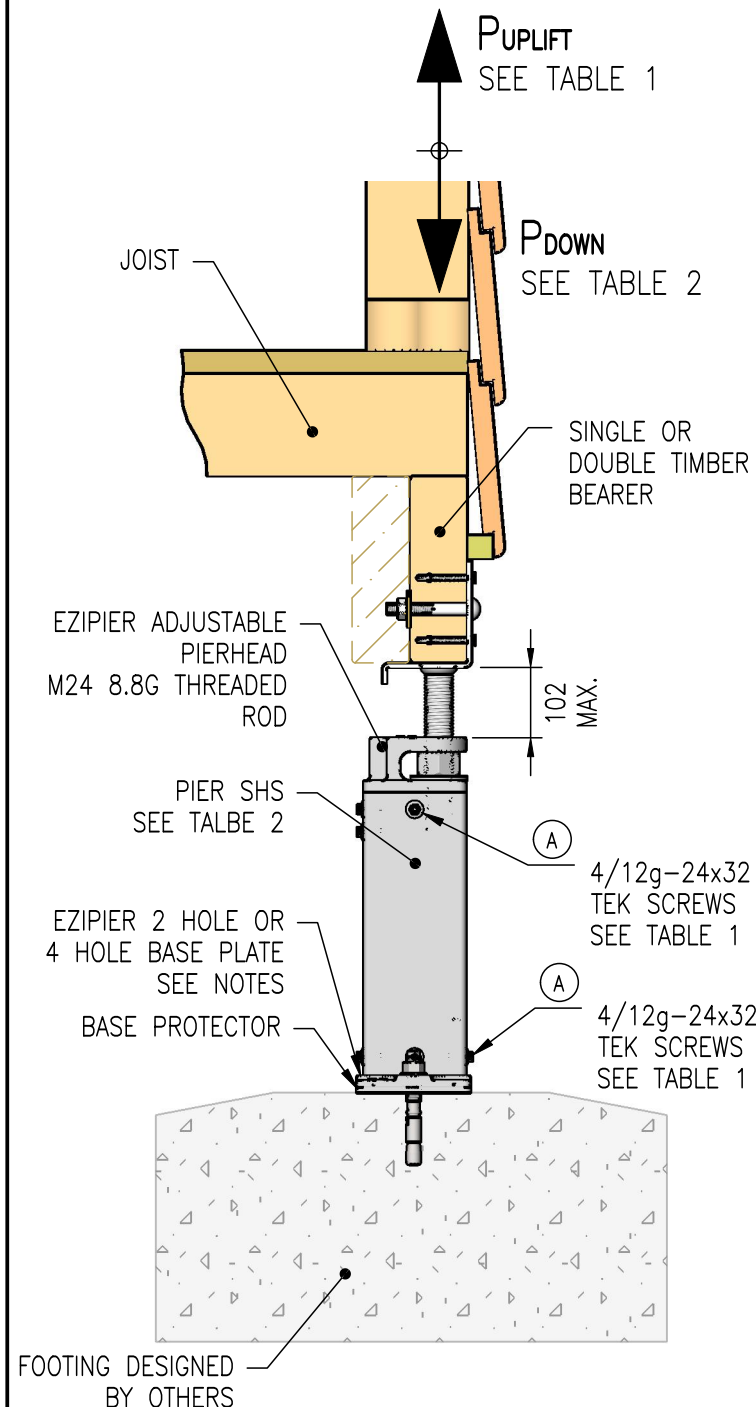
1. THE UPLIFT LOAD ON THE BEAM/PIERHEAD CONNECTION HAS NOT BEEN TAKEN INTO ACCOUNT AND THIS LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.
2. THE ULTIMATE UPLIFT LOAD CAPACITY FOR THE TWO MASONRY ANCHORS AS SPECIFIED BELOW IS 26.4kN.
3. PIER SHS MIN. STEEL GRADE 350 MPa TO AS1163.
4. THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600.

TABLE 2: EZIPIER DOWNWARD CAPACITY  $P_{down}$  (MAX. FFL 2700mm)

PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0

## EZIPIER DOWNWARD CAPACITY NOTES

1. THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY AND IT IS ASSUMED THE PIER IS CENTRICALLY LOADED, IF THE PIER IS ESSENTRICALLY LOADED THEN REDUCE THE VALUES IN THE TABLE ABOVE BY 25%.
2. THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.



END SPAN CONNECTION  
75 OR 100 LONG PIERHEAD

INTERNAL SPAN CONNECTION  
75 OR 100 LONG PIERHEAD

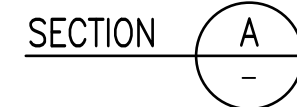
JOIN CONNECTION  
100 LONG PIERHEAD

## TERMITE INSPECTION POINT AND PIERHEAD PREFERRED ORIENTATION

TERMITE INSPECTION SATISFIES NCC REQUIREMENTS BY PROVISION OF A CLEAR INSPECTION POINT.

SPANTEC 2 HOLE OR 4 HOLE BASE PLATE

NOMINAL CONNECTION  
2/M12x100 LG GALV. WEDGE ANCHORS IN 110mm DEEP HOLE WITH 60mm MIN. EMBEDMENT (AFTER TIGHTENING) IN N25 CONCRETE.



NOTE:  
BASE PLATE ORIENTATION IS PARALLEL TO BEARER.

## GENERAL NOTES:

1. THIS DRAWING SHOWS A TIMBER FLOOR FRAME, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
2. THIS PIERHEAD IS TO BE INSTALLED TO THE FLOOR BEAM MANUFACTURERS RECOMMENDED BEARING, BLOCKING AND BRACING SPECIFICATIONS.
3. THE UPLIFT LOAD ON THE BEAM/PIERHEAD CONNECTION HAS NOT BEEN TAKEN INTO ACCOUNT AND THIS LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.
4. THE PIER/FOOTING CONNECTION DETAIL IS VALID FOR SPANTEC PRODUCTS ONLY. IF OTHER PRODUCTS ARE USED THE LOAD CAPACITIES ARE NOT GUARANTEED. SEEK ADVICE FROM A COMPETANT PERSON FOR YOUR SPECIFIC ARRANGEMENT AND LOADING.
5. THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
6. FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
7. BASE PLATE MUST BE SELECTED TO SUIT THE APPLIED LOADS, SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE CAPACITIES OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au)

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REV.	DESCRIPTION	DRN.	DATE
F	PIER HEAD CONNECTION CALCULATION BY OTHERS	M.R.	19/6/22

DESCRIPTION  
EZIPIER ADJUSTABLE "L" PIERHEAD ASSEMBLY  
TIMBER CONNECTION DETAILS

DRAWING NUMBER:	REVISION
P06	F
SCALE @ A3 0.5	DATE DRAWN 5/08/19
DRAWN AP	

## STRUCTURAL DESIGN CERTIFICATION

**HALINA ENGINEERS**

ACN 639-248-114

REF. # 3333

DATE 19/08/2022

SIGNATURE

HA NGUYEN

BE(Hons) PhD MIEAust CPEng NER 4188792  
PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

TABLE 1: EZIPIER UPLIFT CAPACITY P <sub>uplift</sub>	
TEK "A" QTY	MAX. UP LOAD (kN)
4	17.3
6	26.0
8	34.6

EZIPIER UPLIFT CAPACITY NOTES

1. THE UPLIFT LOAD ON THE BEAM/PIERHEAD CONNECTION HAS NOT BEEN TAKEN INTO ACCOUNT AND THIS LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.
2. THE ULTIMATE UPLIFT LOAD CAPACITY FOR THE TWO MASONRY ANCHORS AS SPECIFIED BELOW IS 26.4kN.
3. PIER SHS MIN. STEEL GRADE 350 MPa TO AS1163.
4. THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600.

TABLE 2: EZIPIER DOWNWARD CAPACITY P<sub>down</sub>

(MAX. FFL 2700mm)

PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0


EZIPIER DOWNWARD CAPACITY NOTES

1. THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY AND IT IS ASSUMED THE PIER IS CENTRICALLY LOADED, IF THE PIER IS ESSENICALLY LOADED THEN REDUCE THE VALUES IN THE TABLE ABOVE BY 25%.
2. THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.

STRUCTURAL DESIGN CERTIFICATION

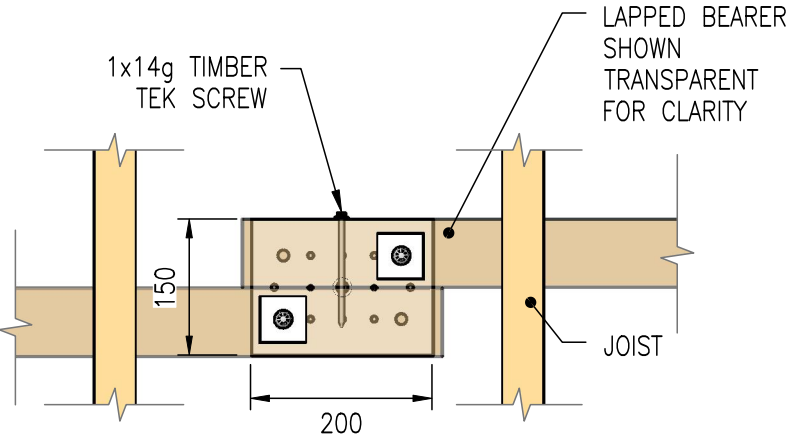
**HALINA ENGINEERS**  
ACN 639-248-114

REF. # 3333  
DATE 23/08/2022

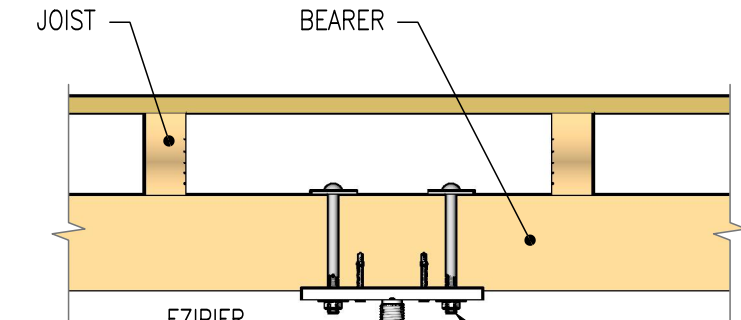
SIGNATURE   
HA NGUYEN  
BE(Hons) PhD MIEAust CPEng NER 4188792  
PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

GENERAL NOTES:

1. THIS DRAWING SHOWS A TIMBER FLOOR FRAME, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
2. THIS PIERHEAD IS TO BE INSTALLED TO THE FLOOR BEAM MANUFACTURERS RECOMMENDED BEARING, BLOCKING AND BRACING SPECIFICATIONS.
3. THE UPLIFT LOAD ON THE BEAM/PIERHEAD CONNECTION HAS NOT BEEN TAKEN INTO ACCOUNT AND THIS LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.
4. THE PIER/FOOTING CONNECTION DETAIL IS VALID FOR SPANTEC PRODUCTS ONLY. IF OTHER PRODUCTS ARE USED THE LOAD CAPACITIES ARE NOT GUARANTEED. SEEK ADVICE FROM A COMPETANT PERSON FOR YOUR SPECIFIC ARRANGEMENT AND LOADING.
5. THE PIERHEAD IS CAPABLE OF TRANSMITTING 18 kN OF HORIZONTAL WIND FORCE INTO THE SUBFLOOR BRACING.
6. THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
7. FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
8. BASE PLATE MUST BE SELECTED TO SUIT THE APPLIED LOADS, SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE CAPACITIES OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au).



PLAN  
CONTINUOUS LAPPED BEARERS



EZIPIER  
ADJUSTABLE PIERHEAD  
M24 8.8G THREADED  
ROD  
PIER SHS  
SEE TABLE 2  
EZIPIER 2 HOLE OR  
4 HOLE BASE PLATE  
SEE NOTES

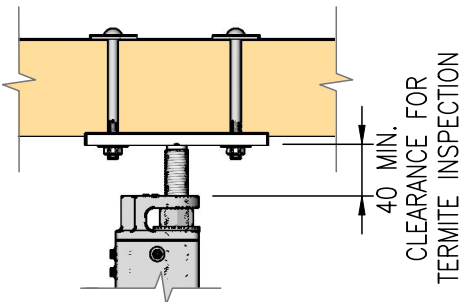
NOMINAL PIERHEAD/BEARER CONNECTION

TIMBER MGP10 BEARERS USE 2/M10 G4.6 GALVANISED CUP HEAD BOLTS AND 50x5 GALV. SQ FLAT WASHER EQUATES TO 33kN UPLIFT RESISTANCE. OR 4/14g TEK SCREWS x 50 CLASS S3 (CAN BE USED IF NO UPLIFT). THIS ACTUAL LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.

4/12g-24x32 TEK SCREWS  
SEE TABLE 1

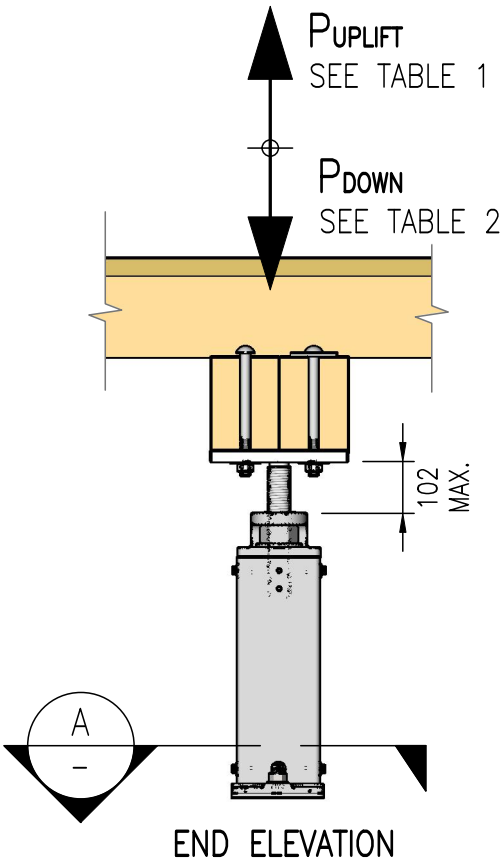
BASE PROTECTOR  
FOOTING DESIGNED  
BY OTHERS

DETAIL A  
TIMBER BEARER LAPPED JOIN



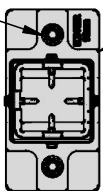
TERMITE INSPECTION POINT AND PIERHEAD  
PREFERRED ORIENTATION

TERMITE INSPECTION SATISFIES NCC REQUIREMENTS  
BY PROVISION OF A CLEAR INSPECTION POINT.



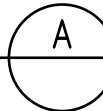
NOMINAL CONNECTION

2/M12x100 LG GALV.  
WEDGE ANCHORS IN  
110mm DEEP HOLE WITH  
60mm MIN. EMBEDMENT  
(AFTER TIGHTENING) IN  
N25 CONCRETE.



SPANTEC  
2 HOLE OR  
4 HOLE  
BASE PLATE

SECTION



NOTE:  
BASE PLATE  
ORIENTATION IS  
PARALLEL TO BEARER.

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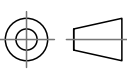
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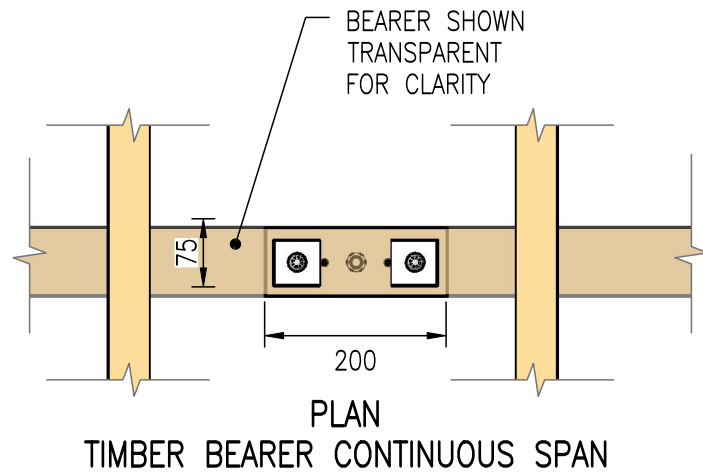
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REV.	DESCRIPTION	DRN.	DATE
E	CERTIFICATION STAMP CHANGED	M.R.	19/6/22

DESCRIPTION  
EZIPIER ADJUSTABLE "T" PIERHEAD ASSEMBLY  
TIMBER CONNECTION DETAILS  
SIZE 150 x 200

DRAWING NUMBER:	REVISION
P11	E
SCALE @ A3 0.5	DATE DRAWN 5/08/19
 DRAWN AP	





#### GENERAL NOTES:

- THIS DRAWING SHOWS A TIMBER FLOOR FRAME, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
- THIS PIERHEAD IS TO BE INSTALLED TO THE FLOOR BEAM MANUFACTURERS RECOMMENDED BEARING, BLOCKING AND BRACING SPECIFICATIONS.
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- THE PIER/FOOTING CONNECTION DETAIL IS VALID FOR SPANTEC PRODUCTS ONLY. IF OTHER PRODUCTS ARE USED THE LOAD CAPACITIES ARE NOT GUARANTEED. SEEK ADVICE FROM A COMPETANT PERSON FOR YOUR SPECIFIC ARRANGEMENT AND LOADING.
- THE PIERHEAD IS CAPABLE OF TRANSMITTING 18 kN OF HORIZONTAL WIND FORCE INTO THE SUBFLOOR BRACING.
- THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
- FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
- BASE PLATE MUST BE SELECTED TO SUIT THE APPLIED LOADS, SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE CAPACITIES OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au).

TABLE 1: EZIPIER UPLIFT CAPACITY $P_{uplift}$	
TEK "A" QTY	MAX. UP LOAD (kN)
4	17.3
6	26.0
8	34.6

#### EZIPIER UPLIFT CAPACITY NOTES

- THE UPLIFT LOAD ON THE BEAM/PIERHEAD CONNECTION HAS NOT BEEN TAKEN INTO ACCOUNT AND THIS LOAD MUST BE CALCULATED BY A COMPETANT PERSON TO SUIT THE ACTUAL SITE CONDITIONS.
- THE ULTIMATE UPLIFT LOAD CAPACITY FOR THE TWO MASONRY ANCHORS AS SPECIFIED BELOW IS 26.4kN.
- PIER SHS MIN. STEEL GRADE 350 MPa TO AS1163.
- THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600.

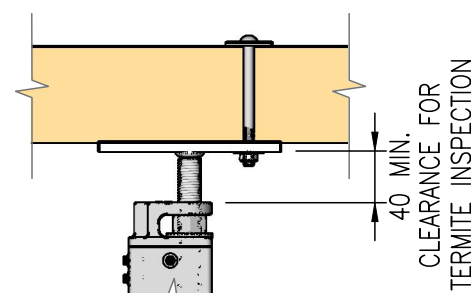
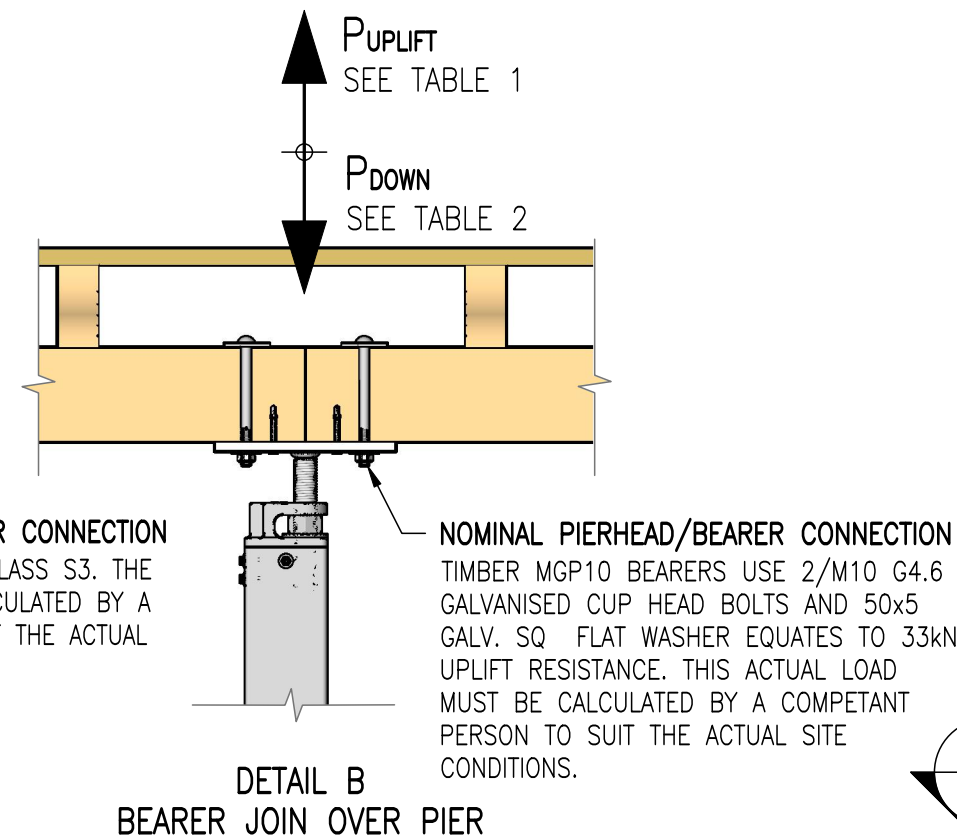
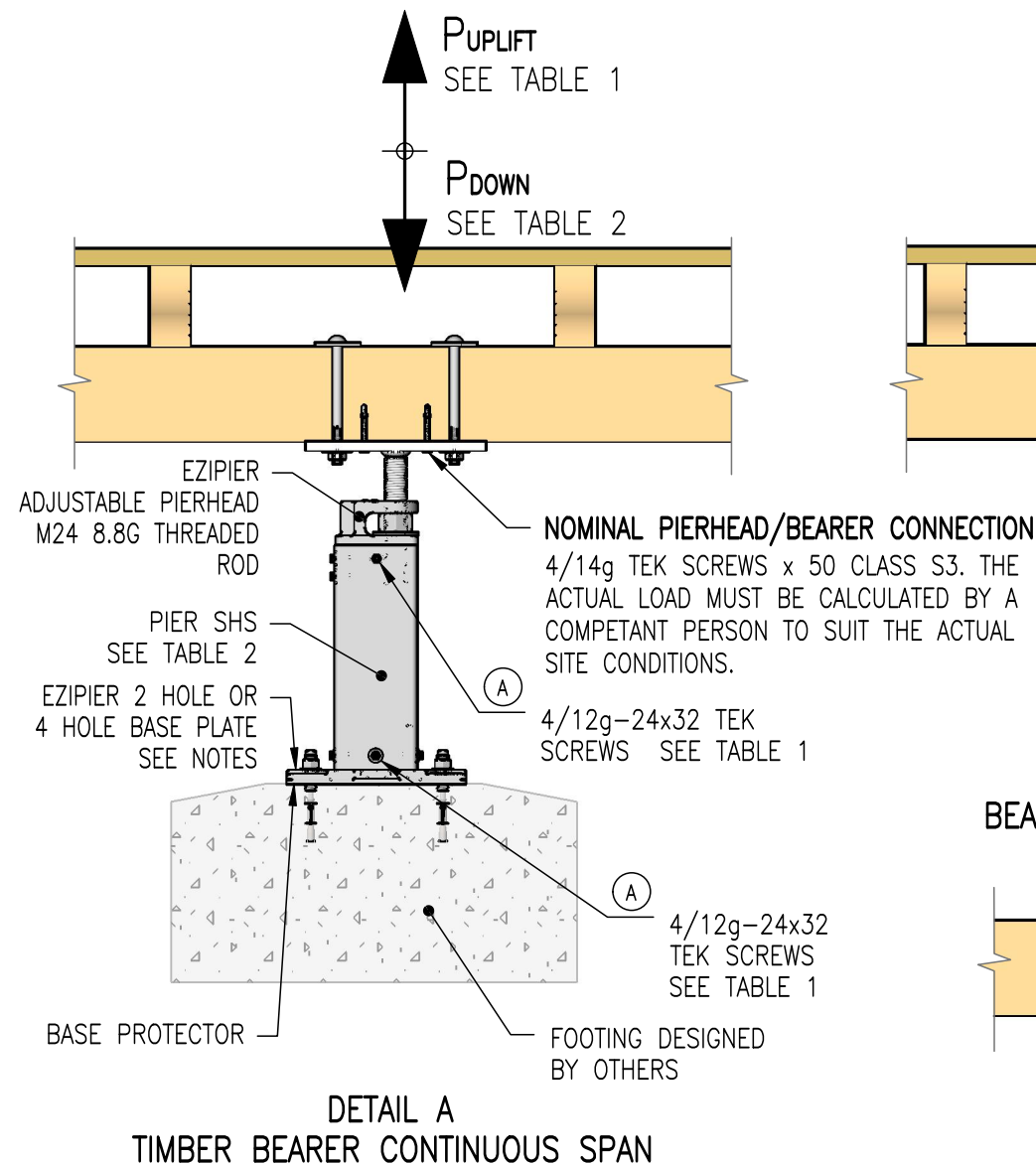
TABLE 2: EZIPIER DOWNWARD CAPACITY  $P_{down}$

(MAX. FFL 2700mm)

PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0

#### EZIPIER DOWNWARD CAPACITY NOTES

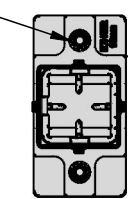
- THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY AND IT IS ASSUMED THE PIER IS CENTRICALLY LOADED, IF THE PIER IS ESSENCRICALLY LOADED THEN REDUCE THE VALUES IN THE TABLE ABOVE BY 25%.
- THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.



#### TERMITE INSPECTION POINT AND PIERHEAD PREFERRED ORIENTATION

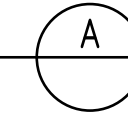
TERMITE INSPECTION SATISFIES NCC REQUIREMENTS BY PROVISION OF A CLEAR INSPECTION POINT.

NOMINAL CONNECTION  
2/M12x100 LG GALV.  
WEDGE ANCHORS IN  
110mm DEEP HOLE WITH  
60mm MIN. EMBEDMENT  
(AFTER TIGHTENING) IN  
N25 CONCRETE.



SPANTEC  
2 HOLE OR  
4 HOLE  
BASE PLATE

SECTION



#### NOTE:

BASE PLATE  
ORIENTATION IS  
PARALLEL TO BEARER.

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REV.	DESCRIPTION	DRN.	DATE
E	CERTIFICATION STAMP CHANGED	M.R.	19/6/22

DESCRIPTION  
EZIPIER ADJUSTABLE "T" PIERHEAD ASSEMBLY  
TIMBER CONNECTION DETAILS  
SIZE 75 x 200

DRAWING NUMBER:	REVISION
P10	E
SCALE @ A3 0.5	DATE DRAWN 5/08/19
DRAWN AP	

#### STRUCTURAL DESIGN CERTIFICATION

**HALINA ENGINEERS**  
ACN 639-248-114

REF. # 3333  
DATE 23/08/2022

SIGNATURE  
HA NGUYEN  
BE(Hons) PhD MIEAust CPEng NER 4188792  
PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

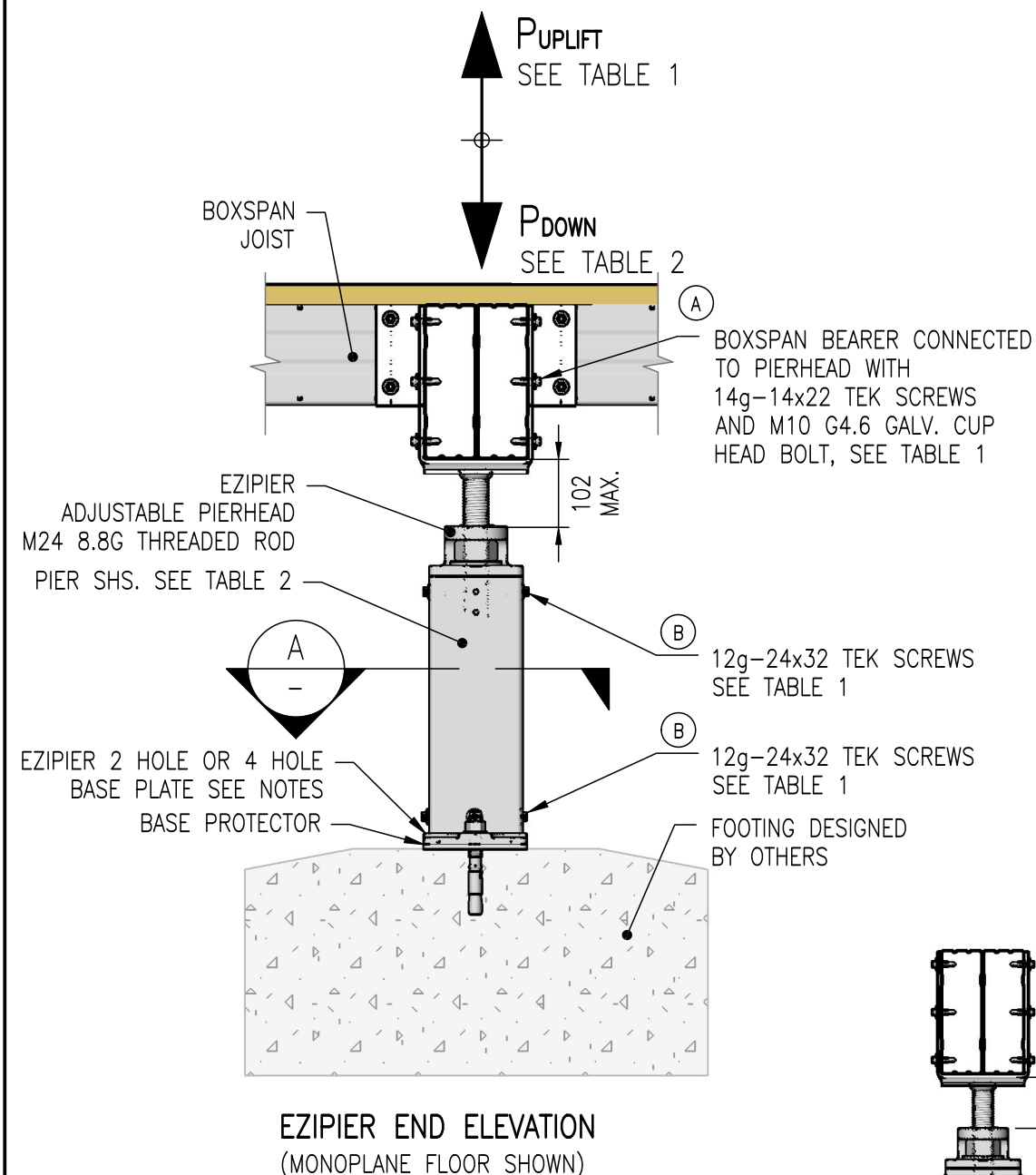
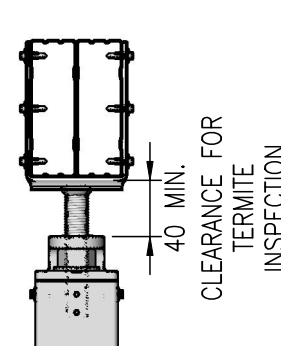


TABLE 1: EZIPIER UPLIFT CAPACITY $P_{uplift}$			
LOCATION		A	B
WEB 0.8BMT LOAD (kN)	WEB 1.0BMT LOAD (kN)	FASTENER QTY	FASTENER QTY
18.0	18.0	12 x 14g TEKS	4 x 12g TEKS
24.9	27.0	12 x 14g TEKS	6 x 12g TEKS
24.9	34.8	12 x 14g TEKS	8 x 12g TEKS
35.8	44.6	12 x 14g TEKS + 1 x M10 BOLT	12 x 12g TEKS

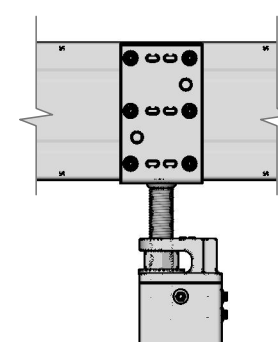
BOXSPAN LEGEND:  
 WEB 0.8BMT = B100-16, B150-16, B200-16  
 WEB 1.0BMT = B150-20, B200-20, B250-20

#### GENERAL NOTES:

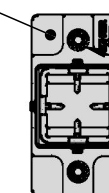
- THIS DRAWING SHOWS A BOXSPAN MONOPLANE FLOOR, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
- THE NOMINAL CONNECTION SHOWN IS THE MINIMUM CONNECTION THAT SHOULD BE USED. A COMPETANT PERSON SHOULD CHECK THE DESIGN FOR UPLIFT TO SUIT THE ACTUAL SITE CONDITIONS.
- THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
- FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
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**TERMITE INSPECTION POINT AND PIERHEAD PREFERRED ORIENTATION**  
 TERMITE INSPECTION SATISFIES NCC REQUIREMENTS BY PROVISION OF A CLEAR INSPECTION POINT.



SPANTEC 2 HOLE OR 4 HOLE BASE PLATE



**NOMINAL CONNECTION**  
 2/M12x100 LG GALV. WEDGE ANCHORS IN 110mm DEEP HOLE WITH 60mm MIN. EMBEDMENT (AFTER TIGHTENING) IN N25 CONCRETE.



**NOTE:**  
 BASE PLATE ORIENTATION IS PARALLEL TO BEARER.

TABLE 2: EZIPIER DOWNWARD CAPACITY $P_{down}$ (MAX. FFL 2700mm)		
PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0

#### EZIPIER DOWNWARD CAPACITY NOTES

- THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY.
- THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL OF 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.
- EZIPIER CAN BE SUPPLIED WITH A 2 OR 4 HOLE BASE PLATE.
- PIER SHS MIN. STEEL GRADE 350MPa TO AS1163.
- THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600.

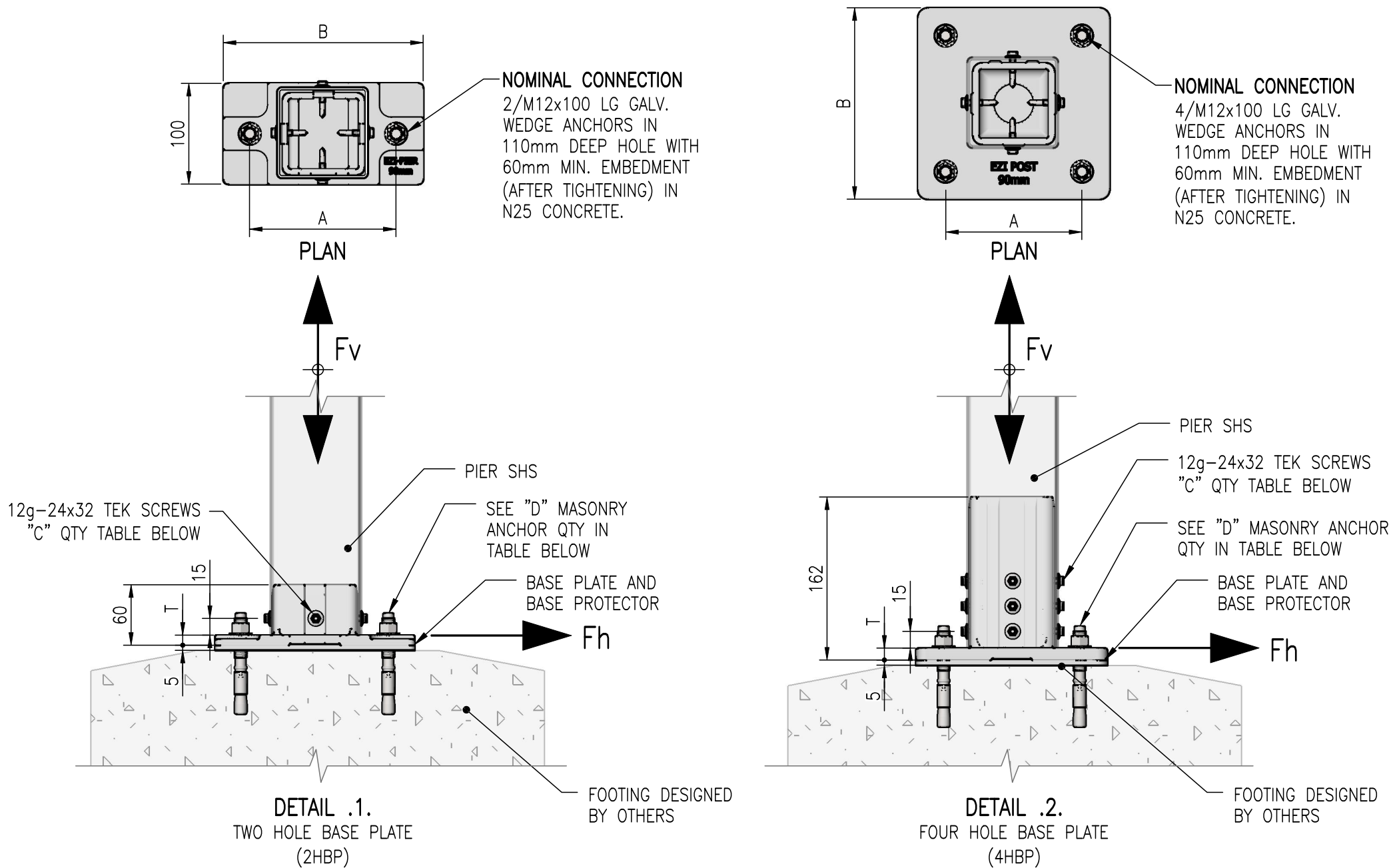
STRUCTURAL DESIGN CERTIFICATION	
 <b>HALINA ENGINEERS</b> ACN 639-248-114	
REF. #	3333
DATE	14/12/2022
SIGNATURE	
HA NGUYEN BE(Hons) PhD MIEAust CPEng NER 4188792 PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808	

REV.	DESCRIPTION	DRN.	DATE
A	FIRST ISSUE	M.R.	9/12/22

DESCRIPTION  
 EZIPIER ADJUSTABLE "U" DOUBLE STEEL PIERHEAD ASSEMBLY  
 BOXSPAN CONNECTION DETAILS

DRAWING NUMBER:	REVISION
P04-04	A
SCALE @ A3 NTS	DATE DRAWN 9/12/22
	DRAWN MR





BASE PLATE ULTIMATE CAPACITIES (FOR M12x100LG MASONRY ANCHORS)									
BASE PLATE	POST SIZE	Fv Up kN	Fv Down kN	Fh kN	A mm	B mm	T mm	C QTY	D QTY
2HBP	75x2.0 SHS	17.3	45	42	146	198	10	4	2
	90x2.0 SHS	17.3	55	42	146	198	10	4	
	89x3.5 SHS	32.0	110	42	146	198	10	4	
	90x2.0 SHS	33.6	55	42	146	198	10	8	
	89x3.5 SHS	33.6	110	42	146	198	10	5	
4HBP	75x2.0 SHS	45.0	45	84	115	155	12	10	4
	90x2.0 SHS	45.0	55	84	135	190	12	10	
	90x2.0 SHS	54.0	55	84	135	190	12	12	
	90x2.0 SHS	67.2	55	84	135	190	12	15	
	89x3.5 SHS	67.2	110	84	135	190	12	9	

#### DESIGN NOTES

- THE FORCES IN THE TABLE ARE BASED ON VERTICAL LOADING ONLY. THIS DESIGN DOES NOT TAKE INTO ACCOUNT LOADS FROM HORIZONTAL WIND AND SUBFLOOR BRACING ATTACHED TO THESE PIERS.
- THE TABLE LISTS ULTIMATE VERTICAL LOAD CAPACITIES FOR THE 2 AND 4 HOLE BASE PLATES (EXCLUDES ANCHORS AND FOOTING DESIGN) AND ARE FOR USE IN NORMAL WIND ONLY AND NOT FOR CYCLONIC WIND CONDITIONS. IT IS ASSUMED THAT THE SUPPORTED FLOOR HAS SUBFLOOR BRACING TO TAKE THE HORIZONTAL WIND.
- THE ANCHORS USED IN THESE CALCULATIONS ARE THE NOMINAL CONNECTION LISTED ABOVE, THE LISTED CAPACITIES REQUIRE A MIN. 100mm EDGE DISTANCE AND THESE LISTED VALUES CAN BE IMPROVED BY USING STRONGER MASONRY ANCHORS.
- THE FOLLOWING STANDARDS HAVE BEEN USED IN THE CALCULATIONS: AS4100, AS1170.1, AS4055, AS4600, AS3600.
- THE POSTS USED IN CONJUNCTION WITH THE 2 AND 4 HOLE BASE PLATES HAVE A MINIMUM STEEL GRADE OF G350 TO AS1163. THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE BASE PLATE/SHS IS BASED ON A MAXIMUM FFL 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.
- THE BASE PLATE IS MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400M MPA CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450 GSM (GRAMS PER SQUARE METER)
- CONCRETE USED IN THE CALCULATIONS IS BASED ON A MIN. COMPRESSIVE STRENGTH  $F'_c$  OF 25MPa.
- THE TABLES GIVE THE MAXIMUM VERTICAL FORCE DOWN/UP AND MAXIMUM HORIZONTAL FORCE. THE LOADS ARE NOT ALL CONCURRENT I.E. THE MAXIMUM UPLIFT IS NOT AT THE MAXIMUM HORIZONTAL FORCE. THE ACTUAL LOADS SHOULD BE COMBINED AND THE FASTENERS AND MEMBERS RE-CHECKED FOR THE COMBINED FORCES BY A COMPETANT PERSON.
- THE MOMENT CAPACITY OF THE BASE PLATE IS NOT STATED. IF THERE ARE MOMENTS ON THE PIERS THEN THE DESIGN ENGINEER SHOULD CONFIRM THE PIER AND ITS CONNECTIONS CAN RESIST THE FORCES.
- THE SUPPORTING FOOTING SHOULD BE SIZED BY THE DESIGN ENGINEER BASED ON THE LOADS AND SOIL TYPE ACCORDING TO THE STANDARD AS2870.
- SEE DRAWINGS P04-01, P04-03 & P06 FOR PIERHEAD AND PIER SHS DETAILS OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au)

#### STRUCTURAL DESIGN CERTIFICATION

**HALINA ENGINEERS**  
ACN 639-248-114

REF. # 3333  
DATE 25/11/2022

SIGNATURE   
HA NGUYEN  
BE(Hons) PhD MIEAust CPEng NER 4188792  
PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

C	UPLIFT CAPACITIES UPDATED	MR	19/08/22
REV.	DESCRIPTION	DRN.	DATE

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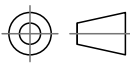
#### DESCRIPTION

EZIEPIER 2 AND 4 HOLE BASE PLATES  
ULTIMATE CAPACITIES WITHOUT HORIZONTAL LOAD

#### DRAWING NO.

P14

SCALE @ A3  
NTS



DRAWN  
MR

#### REVISION

C

DATE DRAWN  
17/11/22

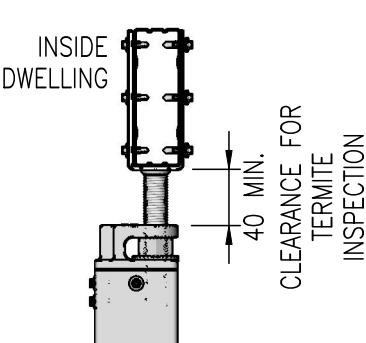
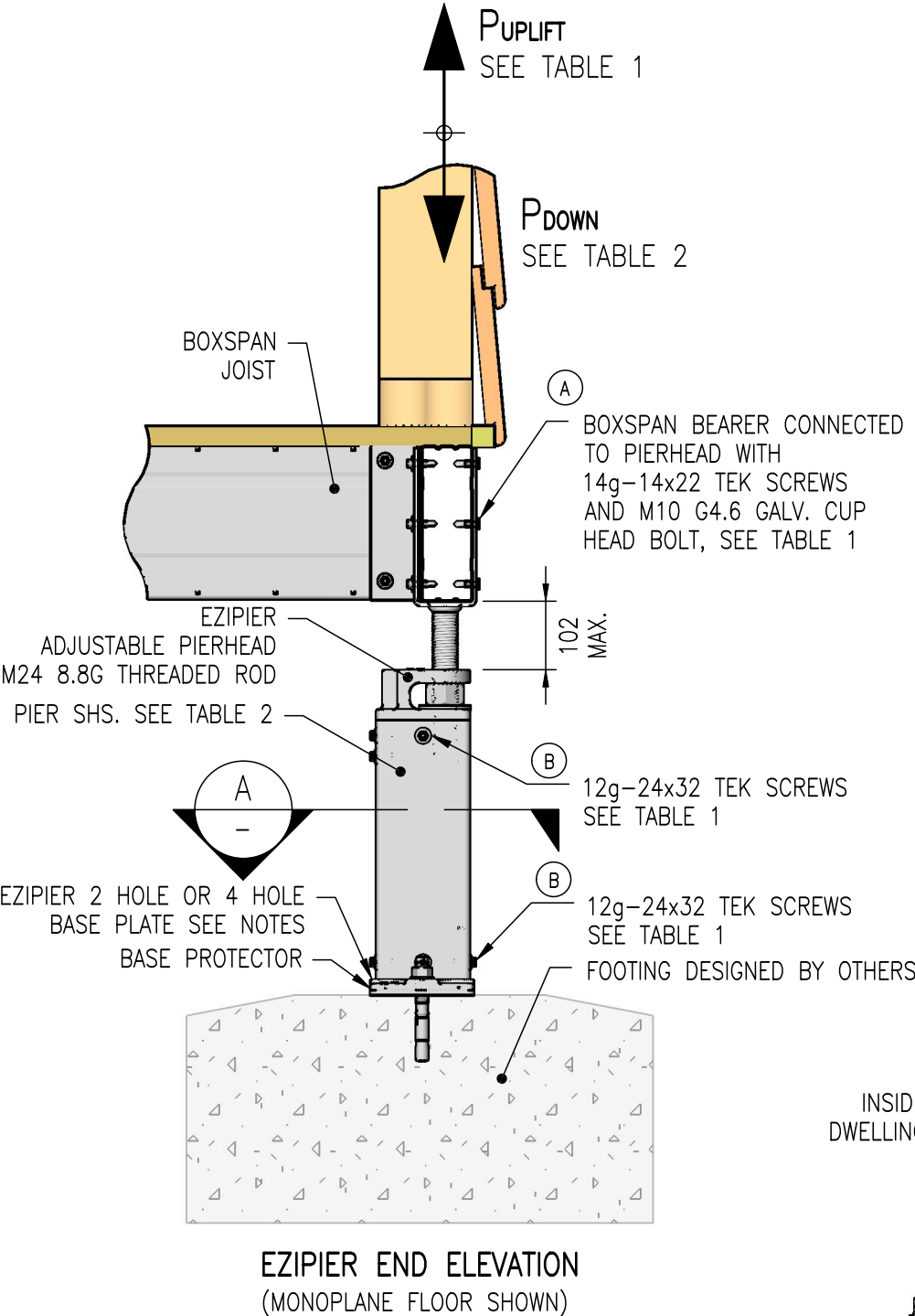
TABLE 1: EZIPIER UPLIFT CAPACITY $P_{uplift}$			
LOCATION		A	B
WEB 0.8BMT LOAD (kN)	WEB 1.0BMT LOAD (kN)	FASTENER QTY	FASTENER QTY
18.0	18.0	12 x 14g TEKS	4 x 12g TEKS
24.9	27.0	12 x 14g TEKS	6 x 12g TEKS
24.9	34.8	12 x 14g TEKS	8 x 12g TEKS
35.8	44.6	12 x 14g TEKS + 1 x M10 BOLT	12 x 12g TEKS

BOXSPAN LEGEND:  
WEB 0.8BMT = B100-16, B150-16, B200-16  
WEB 1.0BMT = B150-20, B200-20, B250-20

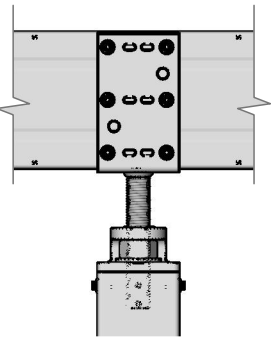
- GENERAL NOTES:**
- THIS DRAWING SHOWS A BOXSPAN MONOPLANE FLOOR, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
  - THE NOMINAL CONNECTION SHOWN IS THE MINIMUM CONNECTION THAT SHOULD BE USED. A COMPETANT PERSON SHOULD CHECK THE DESIGN FOR UPLIFT TO SUIT THE ACTUAL SITE CONDITIONS.
  - THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
  - FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
  - BASE PLATE MUST BE SELECTED TO SUIT THE APPLIED LOADS, SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE CAPACITIES OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au)

TABLE 2: EZIPIER DOWNWARD CAPACITY $P_{down}$ (MAX. FFL 2700mm)		
PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0

- EZIPIER DOWNWARD CAPACITY NOTES**
- THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY.
  - THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL OF 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.
  - EZIPIER CAN BE SUPPLIED WITH A 2 OR 4 HOLE BASE PLATE.
  - PIER SHS MIN. STEEL GRADE 350MPa TO AS1163.
  - THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600.



**TERMITE INSPECTION POINT AND PIERHEAD  
PREFERRED ORIENTATION**  
TERMITE INSPECTION SATISFIES NCC REQUIREMENTS  
BY PROVISION OF A CLEAR INSPECTION POINT.



**NOMINAL CONNECTION**  
2/M12x100 LG GALV. WEDGE  
ANCHORS IN 110mm DEEP  
HOLE WITH 60mm MIN.  
EMBEDMENT (AFTER TIGHTENING)  
IN N25 CONCRETE.

**SECTION A**  
NOTE:  
BASE PLATE ORIENTATION  
IS PARALLEL TO BEARER.

STRUCTURAL DESIGN CERTIFICATION

**HALINA ENGINEERS**  
ACN 639-248-114

REF. # 3333  
DATE 25/11/2022

SIGNATURE   
HA NGUYEN  
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REV.	DESCRIPTION	DRN.	DATE
E	CERTIFICATION STAMP CHANGED	M.R.	23/08/22

DESCRIPTION  
**EZIPIER ADJUSTABLE "U" PIERHEAD ASSEMBLY  
BOXSPAN CONNECTION DETAILS**

DRAWING NUMBER:		REVISION
<b>P04-01</b>		<b>E</b>
SCALE @ A3 NTS	DRAWN AP	DATE DRAWN 15/11/20

TABLE 1: EZIPIER UPLIFT CAPACITY  $P_{uplift}$

TEK "A" QTY	TEK "B" QTY	WEB 0.8MT LOAD (kN)	WEB 1.0MT LOAD (kN)
6	4	12.7	17.7

BOXSPAN LEGEND:

WEB 0.8BMT = B100-16, B150-16, B200-16

WEB 1.0BMT = B150-20, B200-20, B250-20

GENERAL NOTES:

1. THIS DRAWING SHOWS A BOXSPAN MONOPLANE FLOOR, IT IS ASSUMED THE FLOOR SUPPORTED BY THE PIERS IS FULLY BRACED AND THE LOADS SUPPORTED ARE DEAD LOADS, LIVE LOADS AND WIND UPLIFT ONLY.
2. THE NOMINAL CONNECTION SHOWN IS THE MINIMUM CONNECTION THAT SHOULD BE USED. A COMPETANT PERSON SHOULD CHECK THE DESIGN FOR UPLIFT TO SUIT THE ACTUAL SITE CONDITIONS.
3. THE ADJUSTABLE HEAD AND BASE PLATE ARE MADE FROM DUCTILE CAST IRON WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 400MPa CONFORMING TO AS1831-2007 (ISO1083) AND HOT DIPPED GALVANISED TO 450gsm (GRAMS PER SQUARE METER).
4. FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
5. BASE PLATE MUST BE SELECTED TO SUIT THE APPLIED LOADS, SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE CAPACITIES OR VISIT OUR WEBSITE [www.spantec.com.au](http://www.spantec.com.au)

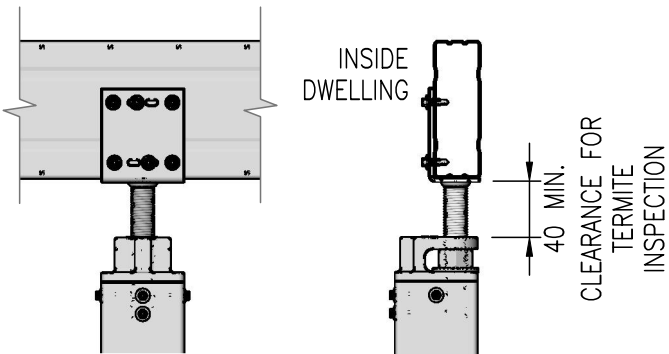
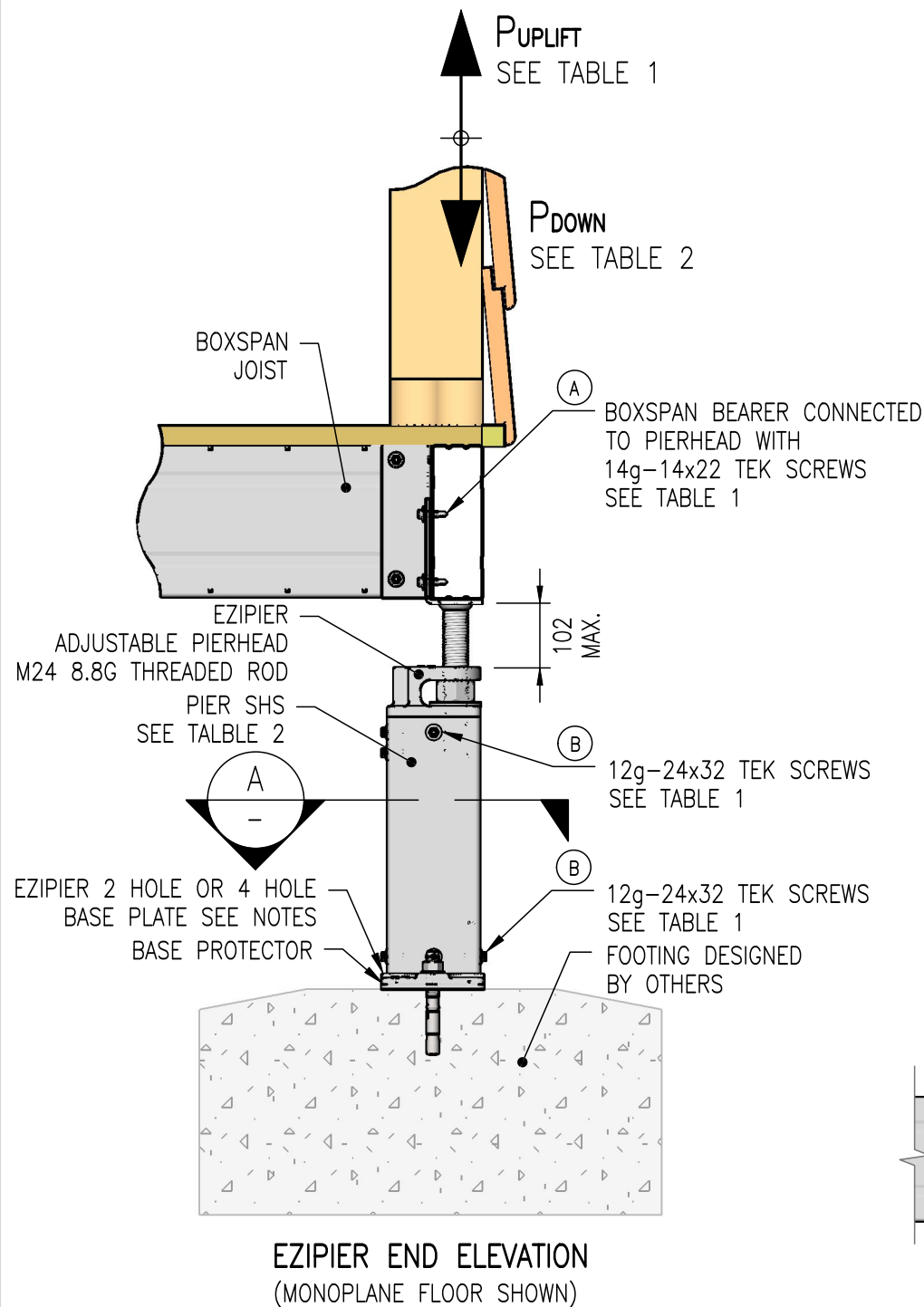
TABLE 2: EZIPIER DOWNWARD CAPACITY  $P_{down}$

(MAX. FFL 2700mm)

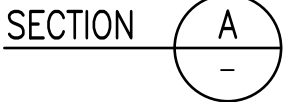
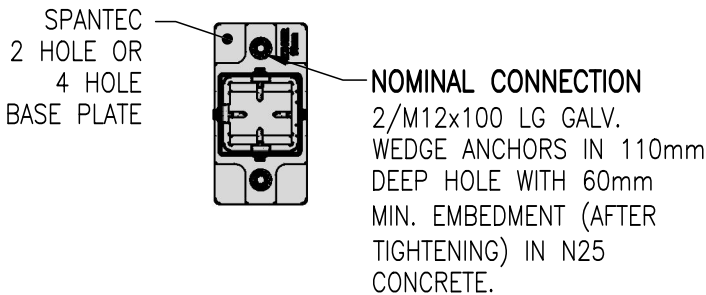
PIER HEAD	PIER SHS SIZE (mm)	MAX. DOWN LOAD (kN)
75LPH	75x75x2.0	45.0
90LPH	90x90x2.0	55.0
89LPH	89x89x3.5	110.0

EZIPIER DOWNWARD CAPACITY NOTES

1. THE CAPACITY OF PIERHEAD IS BASED ON THE STRENGTH OF THE WHOLE PIER ASSEMBLY AND IT IS ASSUMED THE PIER IS CENTRICALLY LOADED, IF THE PIER IS ESSENTICALLY LOADED THEN REDUCE THE VALUES IN THE TABLE ABOVE BY 25%.
2. THE ULTIMATE DOWNWARD LOAD CAPACITY OF THE PIER IS BASED ON A MAXIMUM FFL OF 2700 (FINISHED FLOOR LEVEL), FOR FLOOR HEIGHTS ABOVE 2700 THE PIER CAPACITY MUST BE CHECKED BY A COMPETANT PERSON.
3. PIER SHS MIN. STEEL GRADE 350MPa TO AS1163.
4. THE CAPACITIES IN THE TABLES ARE CALCULATED USING AUSTRALIAN LOADING CODE AS1170 AND AS4600. IF A HIGHER CAPACITY IS NEEDED USE A "U" PIER HEAD.



TERMITE INSPECTION POINT AND PIERHEAD  
PREFERRED ORIENTATION  
TERMITE INSPECTION SATISFIES NCC REQUIREMENTS  
BY PROVISION OF A CLEAR INSPECTION POINT.



NOTE:  
BASE PLATE ORIENTATION  
IS PARALLEL TO BEARER.

STRUCTURAL DESIGN CERTIFICATION



REF. # 3333  
DATE 23/08/2022

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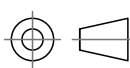
REV.	DESCRIPTION	DRN.	DATE
E	CERTIFICATION STAMP CHANGED	M.R.	23/08/22

DESCRIPTION  
EZIPIER ADJUSTABLE "L" PIERHEAD ASSEMBLY  
BOXSPAN CONNECTION DETAILS

DRAWING NUMBER:

P04-03

SCALE @ A3  
NTS



DRAWN  
AP

REVISION

E

DATE DRAWN  
15/11/20