NOTES :

DESIGN CRITERIA

- REGION C
- TERRAIN CATEGORY 2.5
- DOOR HEIGHT 3.0M MAX.
- BUILDING IMPORTANCE = LEVEL 2
- REGION WINDSPEED VR = 66m/s
- DOORS ARE RATED UP TO AN ULTIMATE DESIGN WIND PRESSURE OF:
  INWARD RATING = 3.2 kPa
  OUTWARD RATING = 3.4 kPa
- INTERNAL PRESSURE COEFFICIENTS
  C_{pi} = +0.7 AND C_{pi} = -0.65 FOR REGIONS C
  C_{pi} = +0.2 AND C_{pi} = -0.3 FOR REGIONS A1-A5, B1 & B2.
- THE ABOVE WIND RATINGS APPLY TO A MAXIMUM ALLOWABLE OPENING WIDTH OF 3040mm.
- DESIGNERS SHALL TAKE INTO ACCOUNT HIGH LOCAL PRESSURE AREAS WHEN VERIFYING THE DOOR ULTIMATE DESIGN WIND PRESSURE LOADINGS.

LIMITATIONS

- STEEL ABUTMENT POSTS TO BE 2.4mm (MIN.) IN THICKNESS WITH A MINIMUM STRESS GRADE OF G250 UNLESS NOTED OTHERWISE.
- CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF BLOCK WALL UNIT (f'uc) = 15 MPa (MIN.).
- CORE FILLING OF BLOCKWALL (f'c) = 15 MPa (MIN.).
- THE STRUCTURE TO WHICH THE DOOR GUIDES ARE ATTACHED SHALL BE ASSESSED AND CERTIFIED INDEPENDENTLY AS REQUIRED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.
- ALTERNATIVE DESIGN PARAMETERS TO WHAT ARE SPECIFIED ON THESE DRAWINGS ALONG WITH ALTERNATIVE SITE SPECIFIC LOCAL PRESSURE FACTORS SHALL BE ADOPTED IF NEEDED PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE WIND PRESSURE RATINGS GIVEN IN THE DESIGN CRITERIA.
- THE BUILDING DESIGN STRUCTURAL ENGINEER IS TO ENSURE THAT THE SITE SPECIFIC DESIGN WIND LOADINGS DO NOT EXCEED THE MAXIMUM ULTIMATE DESIGN WIND PRESSURE RATINGS GIVEN IN THE DESIGN CRITERIA.
- DOORS MAY BE POSITIONED AT ANY LOCATION ALONG THE BUILDING ENVELOPE INCLUDING ALL LOCAL PRESSURE ZONES (ie. CORNERS OF BUILDINGS), PROVIDED THE CALCULATED ULTIMATE DESIGN WIND PRESSURES DO NOT EXCEED THE WIND PRESSURE RATINGS GIVEN IN THE DESIGN CRITERIA.

BASIS OF DESIGN DRAWINGS

- TEST REPORT NO. TS1316 (CYCLONE TESTING STATION, SCHOOL OF ENGINEERING AND PHYSICAL SCIENCES, JAMES COOK UNIVERSITY).
- PRINCIPLES OF MECHANICS.
- AS/NZS 1170.2:2021 STRUCTURAL DESIGN ACTIONS-PART 2: WIND ACTIONS.
- AS/NZS 1170.0:2002 STRUCTURAL DESIGN ACTIONS-PART 0:GENERAL PRINCIPLES.
- AS/NZS 4505:2012 GARAGE DOORS AND OTHER LARGE ACCESS DOORS.
- AS 4100:2020 STEEL STRUCTURES.
- AS 3700:2018 MASONRY STRUCTURES.
- AS/NZS 1170.1:2002 STRUCTURAL DESIGN ACTIONS - PART 1: PERMANENT, IMPOSED AND OTHER ACTIONS.
- AS/NZS 4600:2018 COLD FORMED STRUCTURES.
- AS/NZS 1664.1:1997 ALUMINIUM STRUCTURES PART 1:LIMIT STATE DESIGN.
- AS 1720.1-2010 TIMBER STRUCTURES PART 1:DESIGN METHODS.
- AS 4055:2021 WIND LOADS FOR HOUSING.
- AS 3600:2018 CONCRETE STRUCTURES.
- THE SERIES 1 ROLL-A-DOORS INCLUDE THE FOLLOWING B&D PRODUCT/MODEL NAMES:
  a) SQUARELINE™ DELUXE ROLL-A-DOOR® (MODEL R1D)
  b) FIRMADOOR (MODEL R1F)
  c) ROLLMASTA (MODEL R1R)
  d) ROLL-A-DOOR™ MINI WAREHOUSE MODEL (MODEL R1M)
  e) ROLL-A-DOOR™ MINI WAREHOUSE (R1ME)
- ALL DOOR COMPONENTS TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 1 ROLL-A-DOOR MANUFACTURING.
- DOOR INSTALLATION TO BE IN ACCORDANCE WITH STANDARD B&D SERIES 1 ROLL-A-DOOR INSTALLATION GUIDELINES.

ISSUE	DATE	AMENDMENTS
M	20.04.23	FOR CONSTRUCTION
N	23.01.24	GENERAL REVISION

CLIENT
B&D AUSTRALIA PTY LTD

PROJECT
B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2)
FOR USE IN WIND REGION C, TC2.5

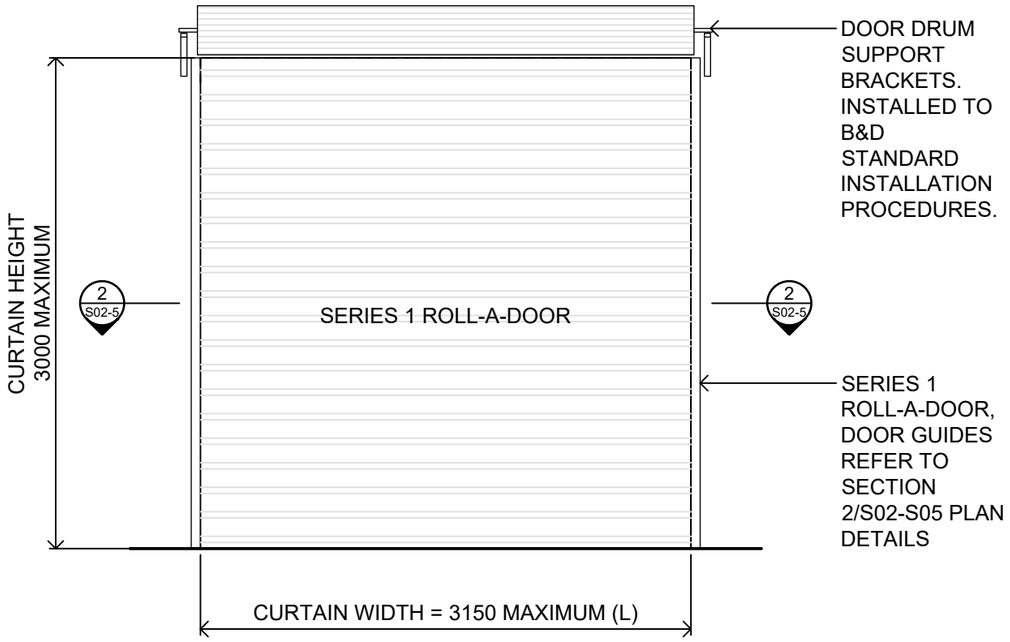
DRAWING SERIES 1 ROLL-A-DOOR NOTES

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE Jan 2024

DRAWING No.
S00 N

PROJECT No.
2212

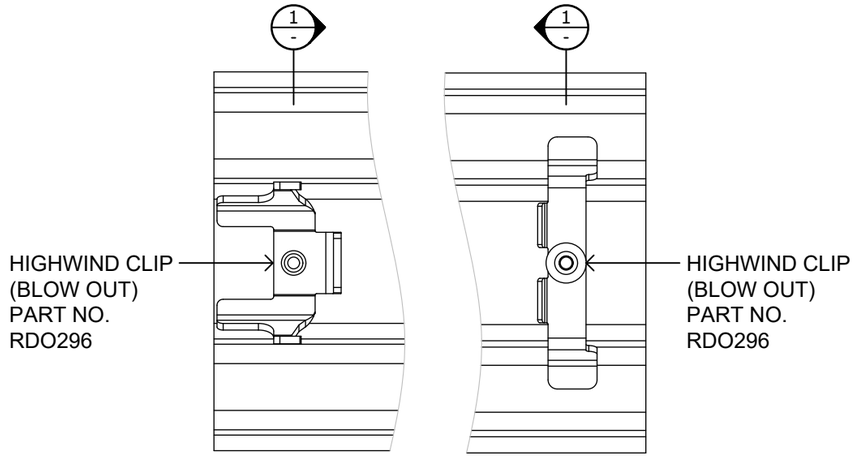


SERIES 1 ROLL-A-DOOR ELEVATION - TYPICAL

SCALE 1:50

NOTE:

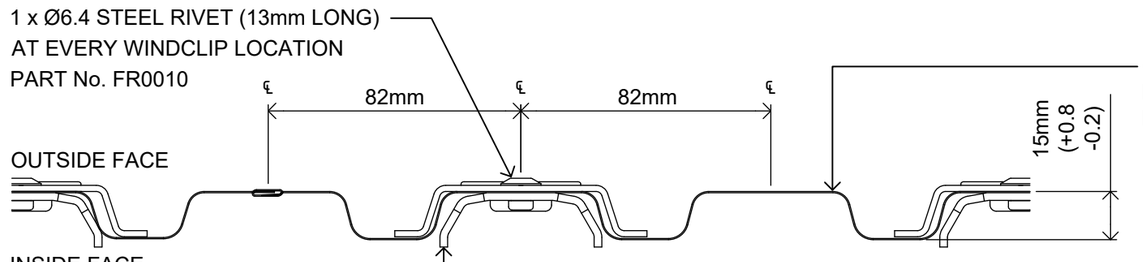
- CURTAIN HEIGHT = OPENING HEIGHT
- OPENING WIDTH = CURTAIN WIDTH - CURTAIN OVERLAP (REFER SECTION 2 ON DRAWINGS S02 - S05)



CURTAIN MATERIAL AND WINDCLIPS - PART PLANS

SCALE 1:2

NOTE: NYLOFELT STRIPS (PART 000477) ARE NOT SHOWN ON PART PLANS FOR CLARITY PURPOSES. NYLOFELT STRIPS TO BE INSTALLED ON EACH OF THE INTERNAL AND EXTERNAL FACES OF THE CURTAIN IN ACCORDANCE WITH STANDARD B&D SERIES 1 ROLL-A-DOOR (V2) MANUFACTURING.



CURTAIN PROFILE

SECTION 1 -

SCALE = 1:2

ISSUE	DATE	AMENDMENTS
J	02.06.14	GENERAL REVISION
K	24.12.14	GENERAL REVISION
L	14.10.21	GENERAL REVISION
M	20.04.23	GENERAL REVISION
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2) FOR USE IN WIND REGION C, TC2.5

DRAWING: SERIES 1 ROLL-A-DOOR ELEVATION, PART PLAN & SECTION

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE

DESIGNED J.E.

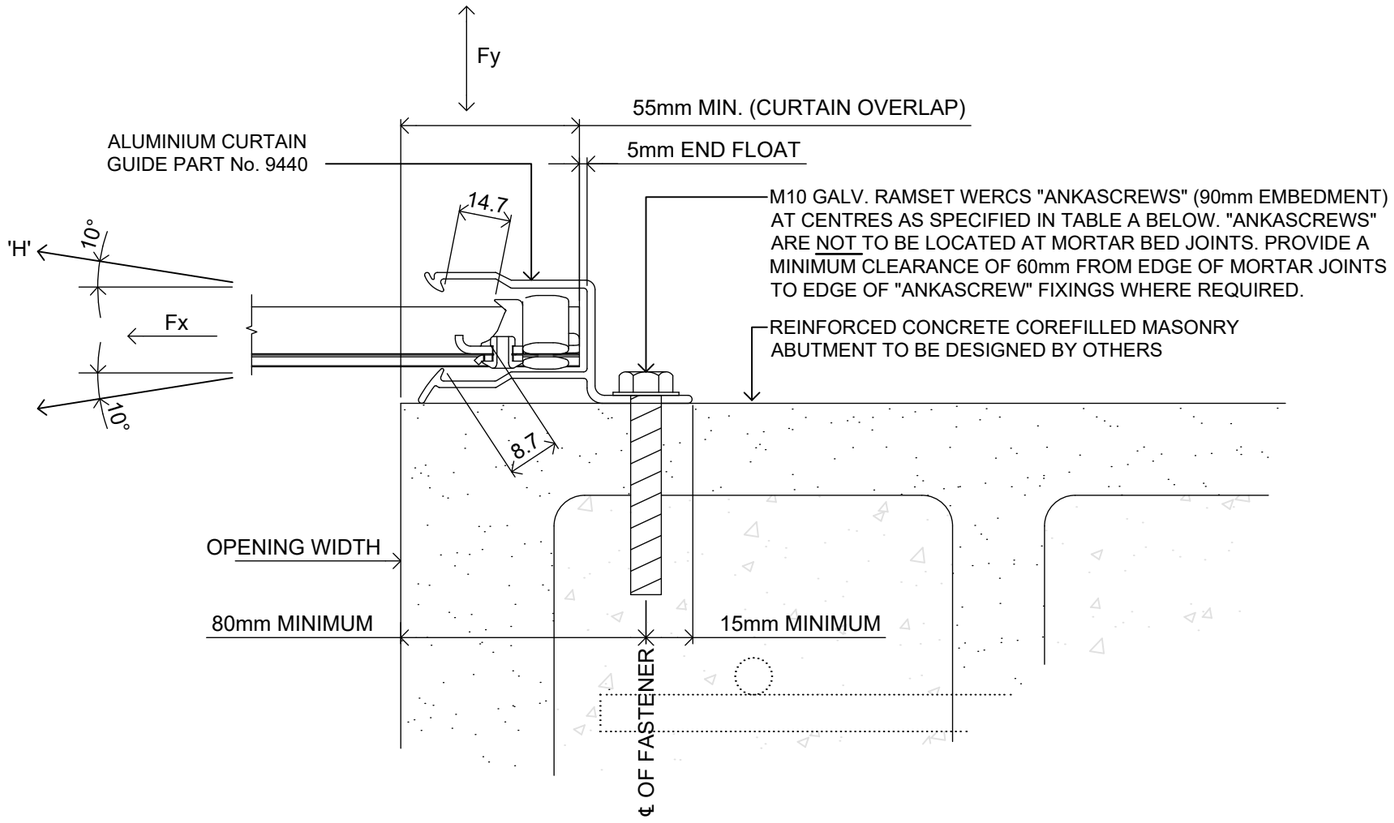
DRAWN AAB

CHECKED& APPROVED

DATE Jan 2024

DRAWING No. S01 N

PROJECT No. 2212



FIXING TO REINFORCED CORE-FILLED BLOCKWORK

SECTION 2/S01 PLAN
SCALE = 1:2

GUIDE SUPPORTED BY REINFORCED CONCRETE COREFILLED MASONRY UNITS FOR A MAXIMUM OPENING WIDTH OF 3040mm IN REGIONS A(1-5), B1, B2 & C IN TERRAIN CATEGORY TC2.5 AND UP TO A MAXIMUM DESIGN WIND PRESSURE RATING AS STIPULATED IN TABLE A.

NOTE:
- FIXINGS INTO REINFORCED CONCRETE COREFILLED BLOCK WALL ABUTMENTS HAVE BEEN DESIGNED USING THE RAMSET-SPECIFIERS RESOURCE BOOK.
- SIMILAR DETAIL APPLIES WHEN FIXING INTO REINFORCED CONCRETE WALL PANELS.

TABLE A

FASTENING SPECIFICATIONS INTO REINFORCED CONCRETE BLOCK WALL

WIND REGION	TERRAIN CATEGORY	MAXIMUM DESIGN WIND PRESSURE (kPa)	SPACING (mm)
A(1-5)	TC2.5	1.12 kPa	400mm
B1	TC2.5	1.62 kPa	300mm
B2	TC2.5	1.98 kPa	300mm
C	TC2.5	3.40 kPa	200mm

ISSUE	DATE	AMENDMENTS
J	02.06.14	GENERAL REVISION
K	24.12.14	GENERAL REVISION
L	14.10.21	GENERAL REVISION
M	20.04.23	GENERAL REVISION
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2) FOR USE IN WIND REGION C, TC2.5

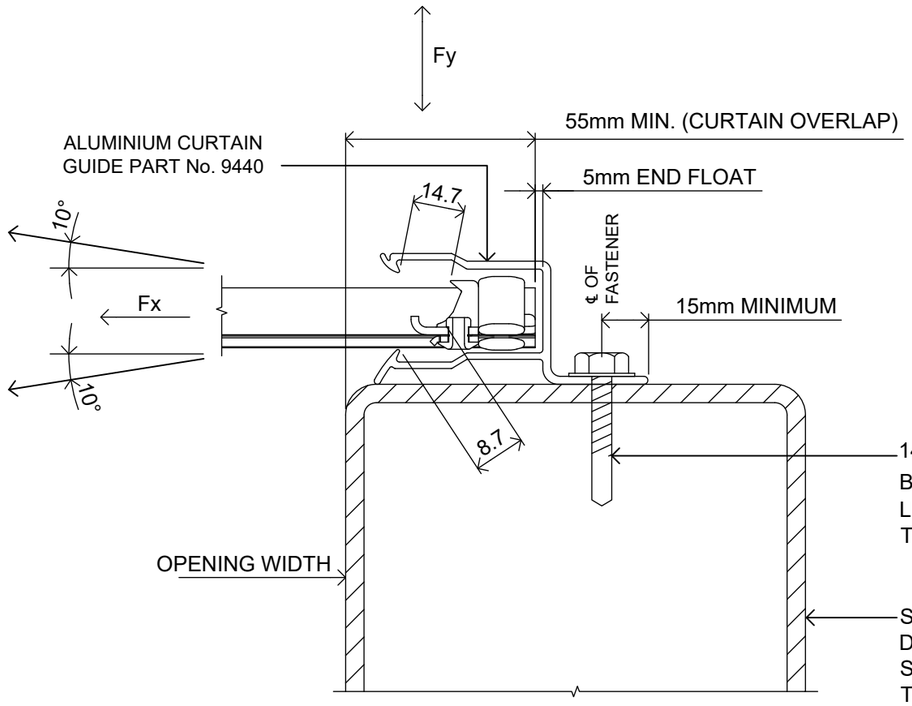
DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT SECTION DETAILS. SHEET 1

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE Jan 2024

DRAWING No. S02 N

PROJECT No. 2212



14-20 HEX HEAD TEK SCREWS AT CENTRES AS SPECIFIED IN TABLE B BELOW. (CLIMASEAL®4 COATING FINISH OR EQUIVALENT U.N.O.). LENGTH OF SCREWS TO BE DETERMINED ON SITE. LENGTH OF SCREWS TO HAVE AT LEAST 3 THREADS PROTRUDING PAST METAL FACE EDGE.

STEEL FRAME (SHS) OR SIMILAR ABUTMENT POST (TO BE DESIGNED BY OTHERS), MINIMUM THICKNESS TO BE 2.4mm. ALL STEEL SURFACES IN CONTACT WITH THE ALUMINUM GUIDE ARE TO BE APPROPRIATELY PAINTED TO AVOID THE ONSET OF CORROSION (SPECIFICATION BY OTHERS).

FIXING TO MILD STEEL MULLION

SECTION 2/S01 PLAN
SCALE = 1:2

GUIDE SUPPORTED BY MILD STEEL MULLION FRAME FOR A MAXIMUM OPENING WIDTH OF 3040mm IN REGIONS A(1-5), B1, B2 & C IN TERRAIN CATEGORY TC2.5 AND UP TO A MAXIMUM DESIGN WIND PRESSURE RATING AS STIPULATED IN TABLE B.

NOTE:

- FIXINGS INTO STRUCTURAL STEEL ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- STAINLESS STEEL TEK SCREWS IN LIEU OF CLIMASEAL®4 COATED TEK SCREWS ARE TO BE USED IN HIGHLY CORROSIVE ENVIRONMENTS.

TABLE B

FASTENING SPECIFICATIONS INTO MILD STEEL FRAMED ABUTMENTS

WIND REGION	TERRAIN CATEGORY	MAXIMUM DESIGN WIND PRESSURE (kPa)	SPACING (mm)
A(1-5)	TC2.5	1.12 kPa	300mm
B1	TC2.5	1.62 kPa	250mm
B2	TC2.5	1.98 kPa	250mm
C	TC2.5	3.40 kPa	150mm

ISSUE	DATE	AMENDMENTS
J	02.06.14	GENERAL REVISION
K	24.12.14	GENERAL REVISION
L	14.10.21	GENERAL REVISION
M	20.04.23	GENERAL REVISION
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2) FOR USE IN WIND REGION C, TC2.5

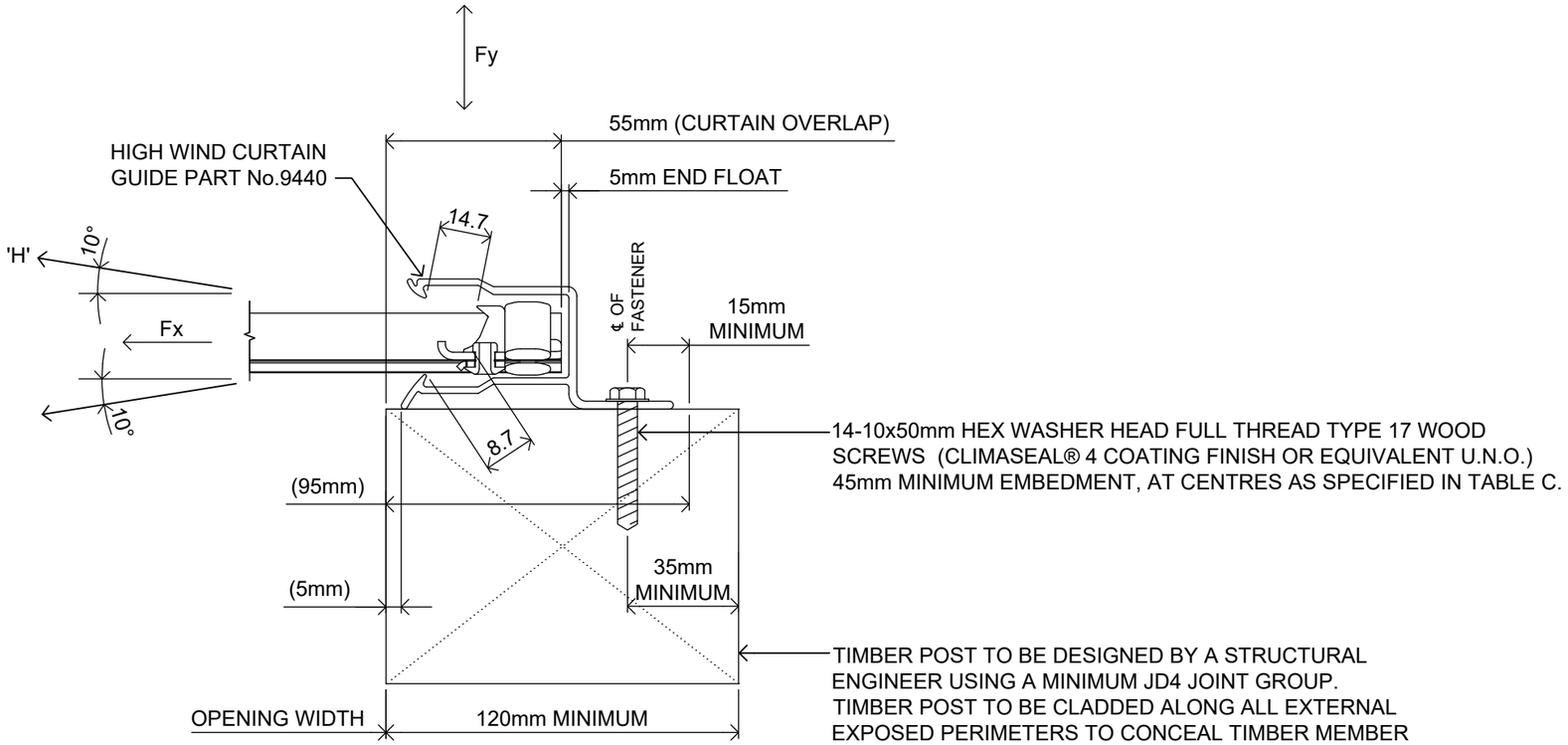
DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT SECTION DETAILS. SHEET 2

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE Jan 2024

DRAWING No. S03 N

PROJECT No. 2212



FIXING TO TIMBER FRAMED ABUTMENTS

SECTION 2/S01 PLAN
SCALE = 1:2

GUIDE SUPPORTED BY TIMBER FRAMED WALLS FOR A MAXIMUM DOOR SPAN (L) OF 3150mm IN REGIONS A(1-5), B1, B2 & C IN TERRAIN CATEGORY TC2.5 AND UP TO A MAXIMUM ULTIMATE DESIGN WIND PRESSURE AS NOMINATED IN TABLE B.

NOTE:

- FIXINGS INTO TIMBER FRAMED ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- STAINLESS STEEL TEK SCREWS IN LIEU OF CLIMASEAL® 4 COATED TEK SCREWS ARE TO BE USED IN HIGHLY CORROSIVE ENVIRONMENTS.

TABLE C

FASTENING SPECIFICATIONS INTO TIMBER FRAMED ABUTMENTS

WIND REGION	TERRAIN CATEGORY	MAXIMUM DESIGN WIND PRESSURE (kPa)	SPACING (mm)
A(1-5)	TC2.5	1.12 kPa	250mm
B1	TC2.5	1.62 kPa	200mm
B2	TC2.5	1.98 kPa	150mm
C	TC2.5	3.40 kPa	100mm

ISSUE	DATE	AMENDMENTS
J	02.06.14	GENERAL REVISION
K	24.12.14	GENERAL REVISION
L	14.10.21	GENERAL REVISION
M	20.04.23	GENERAL REVISION
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2)
FOR USE IN WIND REGION C, TC2.5

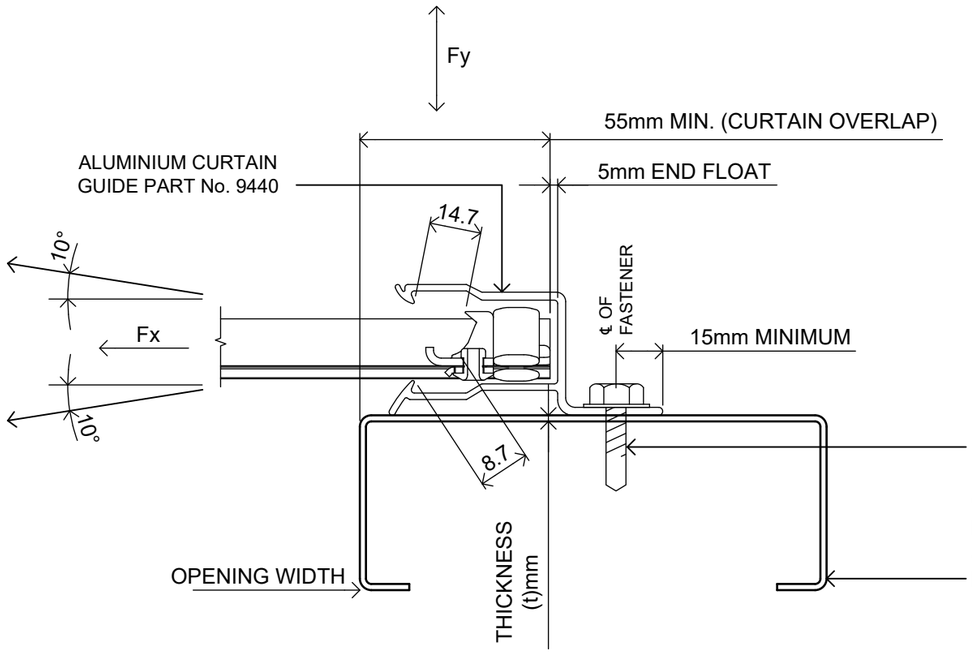
DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT
SECTION DETAILS. SHEET 3

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE Jan 2024

DRAWING No. S04 N

PROJECT No. 2212



14-20 HEX HEAD TEK SCREWS AT CENTRES AS SPECIFIED IN TABLE D. (CLIMASEAL®4 COATING FINISH OR EQUIVALENT U.N.O.). LENGTH OF SCREWS TO BE DETERMINED ON SITE. LENGTH OF SCREWS TO HAVE AT LEAST 3 THREADS PROTRUDING PAST METAL FACE EDGE.

COLD FORMED STEEL FRAME ABUTMENT POST TO BE DESIGNED BY OTHERS. POST THICKNESS AND GRADE IS AS SPECIFIED IN TABLE 1. ALL STEEL SURFACES IN CONTACT WITH THE ALUMINUM GUIDE ARE TO BE APPROPRIATELY PAINTED TO AVOID THE ONSET OF CORROSION (SPECIFICATION BY OTHERS).

FIXING TO COLD FORMED MULLIONS

SECTION 2 S01 PLAN
SCALE = 1:2

GUIDE SUPPORTED BY COLD FORMED STEEL MULLION FRAME FOR A MAXIMUM OPENING WIDTH OF 3040mm IN REGIONS A(1-5), B1, B2 & C IN TERRAIN CATEGORY TC2.5 AND UP TO A MAXIMUM DESIGN WIND PRESSURE RATING AS STIPULATED IN THE DESIGN CRITERIA.

NOTE:
- FIXINGS INTO COLD FORMED STEEL ABUTMENTS HAVE BEEN DESIGNED USING TECHNICAL DATA PROVIDED BY BUILDEX FASTENERS.
- STAINLESS STEEL TEK SCREWS IN LIEU OF CLIMASEAL®4 COATED TEK SCREWS ARE TO BE USED IN HIGHLY CORROSIVE ENVIRONMENTS.

TABLE D

FASTENING SPECIFICATIONS INTO COLD FORMED STEEL ABUTMENT SUPPORTS COMPLYING WITH AS 1397-2021

REGION	MAXIMUM DESIGN WIND PRESSURE (kPa)	THICKNESS (t)mm	GRADE	YIELD STRENGTH	TENSILE STRENGTH	SPACING (mm)
A(1-5)	1.12 kPa	1mm	G550	550 MPa	550 MPa	200mm
		1.2mm	G500	500 MPa	520 MPa	250mm
		1.5mm	G450	450 MPa	480 MPa	300mm
		1.9mm	G450	450 MPa	480 MPa	300mm
B1	1.62 kPa	1mm	G550	550 MPa	550 MPa	150mm
		1.2mm	G500	500 MPa	520 MPa	200mm
		1.5mm	G450	450 MPa	480 MPa	250mm
		1.9mm	G450	450 MPa	480 MPa	250mm
B2	1.98 kPa	1mm	G550	550 MPa	550 MPa	150mm
		1.2mm	G500	500 MPa	520 MPa	200mm
		1.5mm	G450	450 MPa	480 MPa	250mm
		1.9mm	G450	450 MPa	480 MPa	250mm
C	3.40 kPa	1mm	G550	550 MPa	550 MPa	100mm
		1.2mm	G500	500 MPa	520 MPa	125mm
		1.5mm	G450	450 MPa	480 MPa	150mm
		1.9mm	G450	450 MPa	480 MPa	150mm

ISSUE	DATE	AMENDMENTS
J	02.06.14	GENERAL REVISION
K	24.12.14	GENERAL REVISION
L	14.10.21	GENERAL REVISION
M	20.04.23	GENERAL REVISION
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2) FOR USE IN WIND REGION C, TC2.5

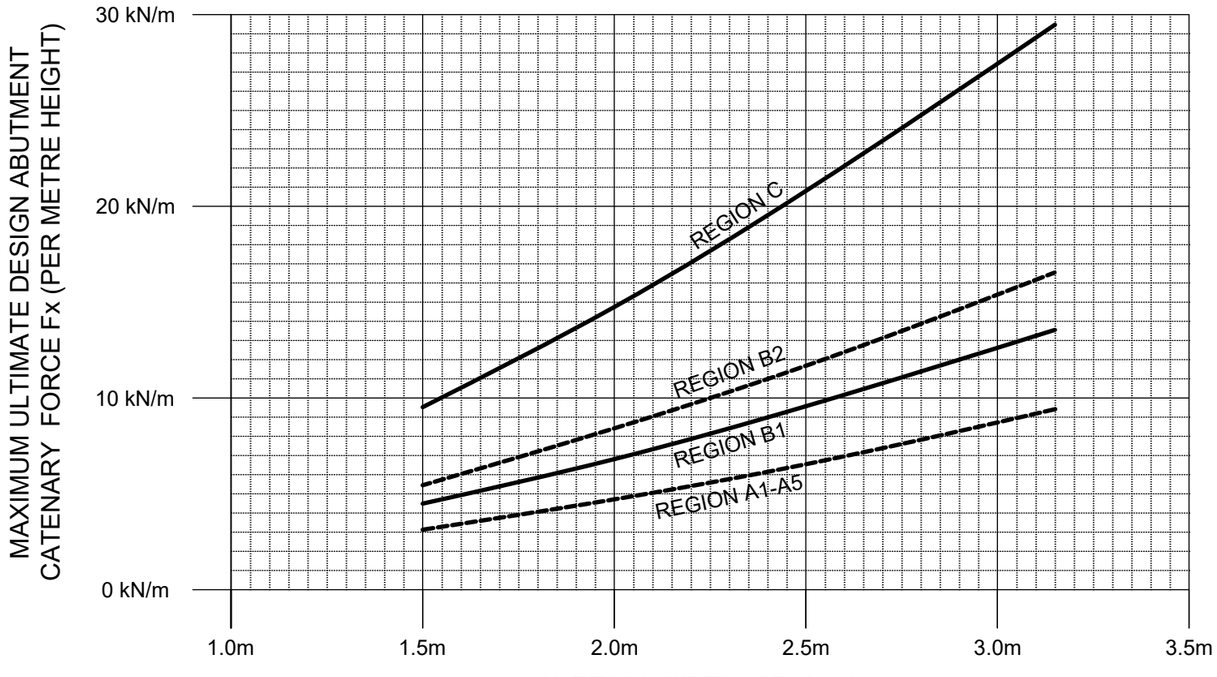
DRAWING: SERIES 1 ROLL-A-DOOR SUPPORT SECTION DETAILS. SHEET 4

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE
DESIGNED J.E.
DRAWN AAB
CHECKED& APPROVED
DATE Jan 2024

DRAWING No. S05 N

PROJECT No. 2212



CURTAIN WIDTH (SPAN) (L)

NOTE: CURTAIN WIDTH = OPENING WIDTH + CURTAIN OVERLAP

FIGURE 1

MAXIMUM ULTIMATE DESIGN ABUTMENT CATENARYFORCE Fx (PER METRE HEIGHT) FOR VARIOUS SPANS IN REGIONS A(1-5), B1,B2 & C, TERRAIN CATEGORY TC2.5 AND UP TO A MAXIMUM ULTIMATE DESIGN WIND PRESSURE AS SPECIFIED IN TABLES A-D

NOTE 1: $Fy = \frac{WL}{2}$

WHERE Fy = MAXIMUM OUT OF PLANE ULTIMATE DESIGN ABUTMENT FORCE (PER METRE HEIGHT)

W = ULTIMATE DESIGN WIND PRESSURE (kPa)

L = CURTAIN WIDTH (SPAN) (m)

ISSUE	DATE	AMENDMENTS
N	23.01.24	GENERAL REVISION

CLIENT: B&D AUSTRALIA PTY LTD

PROJECT: B&D SERIES 1 WINDLOCKED ROLL-A-DOOR (V2) FOR USE IN WIND REGION C, TC2.5

DRAWING: SERIES 1 ROLL-A-DOOR GRAPH OF CATENARY FORCE VS SPAN

JAMES ELLIS & ASSOCIATES PTY LTD
Consulting Structural Engineers
www.jamesellisengineers.com.au
PO Box 251, Padstow NSW 2211
Ph: 8764 1035

SCALE

DESIGNED J.E.

DRAWN AAB

CHECKED& APPROVED

DATE Jan 2024

DRAWING No. S06 N

PROJECT No. 2212