

PROPOSED STEEL STAIRS & FOOTINGS FOR NORTHERN &  
EASTERN ACCESS  
ALTITUDE LODGE  
SMIGGINS HOLE NSW - STRUCTURAL DESIGN

PRACTICAL ENGINEERING SOLUTIONS P/L



ACN 157 931 069



Department of Planning  
Housing and Infrastructure

Issued under the Environmental Planning and Assessment Act 1979

Approved Section 4.55 (1A) Modification Application

No 25/294 (DA 22/7811 MOD 1) granted on the 13 May  
2025 in respect to DA 22/7811

Signed M D'souza

Sheet No 18 of 31

# STRUCTURAL DRAWING LIST

| SHEET NO     | TITLE                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------------|
| S01          | COVER                                                                                                                |
| S02          | SPECIFICATIONS                                                                                                       |
| S03          | NORTHERN STAIRS FOOTING PLAN & SPECIFICATIONS                                                                        |
| S04          | EASTERN STAIRS FOOTING PLAN & SPECIFICATIONS                                                                         |
| APPENDIX 1 - | NORTHERN STAIRS STEEL WORK AS DRAWN BY BY ARDVARK STEEL<br>DETAILING #24-1 - GA 01 & GA 02 - DATED - FOR FABRICATION |
| APPENDIX 2 - | EASTERN STAIRS STEEL WORK AS DRAWN BY BY ARDVARK STEEL<br>DETAILING #24-3 - 01.04.2024                               |

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Drawing Name:

PROPOSED DECK AND STAIRS AT  
ALTITUDE LODGE  
SMIGGINS HOLE NSW -  
STRUCTURAL DESIGN

Client:

Altitude Lodge  
care of Lisa Schweitzer

Structural Sheet No. S01 of 4

Scale: NTS  
Date: 08.11.2024  
Drawing No: 2021030A\_STAIRS  
COVER PAGE

Sheet Size: A3  
Designed: O Boaru  
Drawn: A Sferle  
Checked: O Boaru

Approved:

  
Ovi Boaru MIEAust CPEng

| ISSUE | DATE | AMENDMENT |
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All workmanship and materials to  
conform with latest edition of  
the Building Code of Australia and  
relevant Australian Standards.

The contractor is to confirm all  
dimensions prior to commencing  
any works on site.

Refer to specification for other  
relevant information details.

NOTES:

- 1. All workmanship and materials to conform with the latest edition of the building code of Australia and relevant Australian standards.
- 2. It is not implied or guaranteed that all structural designs and details shown in these plans are complete. The scope of the work has been determined by the Engineer based on the information supplied by the client or the clients consultants. The Engineer will provide further designs if required, but is not responsible for any associated cost where design details have not been specifically requested.
- 3. All dimensions on these plans should be checked on site by the builder and verified using Architectural plans and other contract documents. Discrepancies to be referred to the Architect or Engineer.
- 4. DO NOT SCALE FROM THESE DRAWINGS
- 5. The structural details shown in these plans are applicable to the Architectural plans and building elements by BCM  
Plans No. - MATT MURTAGH  
Plan date. - 05.09.2019  
Roof Structure. - NA  
Wall Structure. - NA  
Floor Structure. - Steel Steel Posts and Bearers
- 6. Reference to UNO = Unless Noted Otherwise & NA = Not Applicable.
- 7. Handrail construction to BCA requirements.
- 8. Where disturbed existing building must have bracing and tie-down investigated by the builder and refered to the Engineer for compliance checking.

SITE CONDITIONS:

- 1. Stability/Vegetation -
- 2. Drainage -
- 3. Soil Type/profile -
- 4. AS2870.1 - 2011 site classification - 'P' -  
see Aitken Rowe Geotechnical dated 23 October 2024  
Engineering report No S24-315
- 5. AS4055 - 2012 wind classification N3 50m/s (Vh,u).
- 6. AS1170.3 - 2003 Ground Design Snow Load  
Smiggin Hole for 1/150 return - Sg = 13.52 KPa



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Sheet No 19 of 31

NA  
NA  
NA

CONCRETE:

- 1. All concrete works to be in accordance with AS3600 2001
- 2. Concrete strength cover and durability details (refer AS3600)  
Footings - 32MPa  
External Slab - 40 MPa
- 3. All reinforcement to be adequately supported on bar chairs in correct positions.
- 4. Concrete to be formed as required by AS3610 and compacted in accordance with AS3600 and AS3610 to achieve specified or relevant density durability and strength.
- 5. All reinforced fabric to be lapped one mesh panel plus 25mm and reinforcement bars lapped 40 bar diameters, UNO.

FOOTINGS:

- 1. Footings and slabs on ground designs conform with AS 2870-2011.

MASONRY:

- 1. All masonry (clay, stone and concrete) to comply with AS3700 2001. masonry code.
- 2. Masonry control joints to AS3700.
- 3. Core fill grout mix for hollow block fill to be 20 MPa.

TIMBER:

- 1. All timber construction to comply with Australian Framing Code AS1684.2 - 2010.
- 2. Bracing and tie down detail to comply with AS 1684.2-2010.
- 3. For external use, use Class 1 or Class 2 HW or Treated Timbers.

STEEL:

- 1. All steel construction to comply with AS4100 steel structures code and AISC Connection Details.

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Drawing Name:

PROPOSED DECK AND STAIRS AT  
ALTITUDE LODGE  
SMIGGINS HOLE NSW -  
STRUCTURAL DESIGN

Client:

Altitude Lodge  
care of Lisa Schweitzer

Structural Sheet No. S02 of 4

Scale: NTS  
Date: 08.11.2024  
Drawing No: 2021030A\_STAIRS  
SPECIFICATIONS

Sheet Size: A3  
Designed: O Boaru  
Drawn: A Sferle  
Checked: O Boaru

Approved:

  
Ovi Boaru MIEAust CPEng

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Refer to specification for other relevant information details.

KEY:

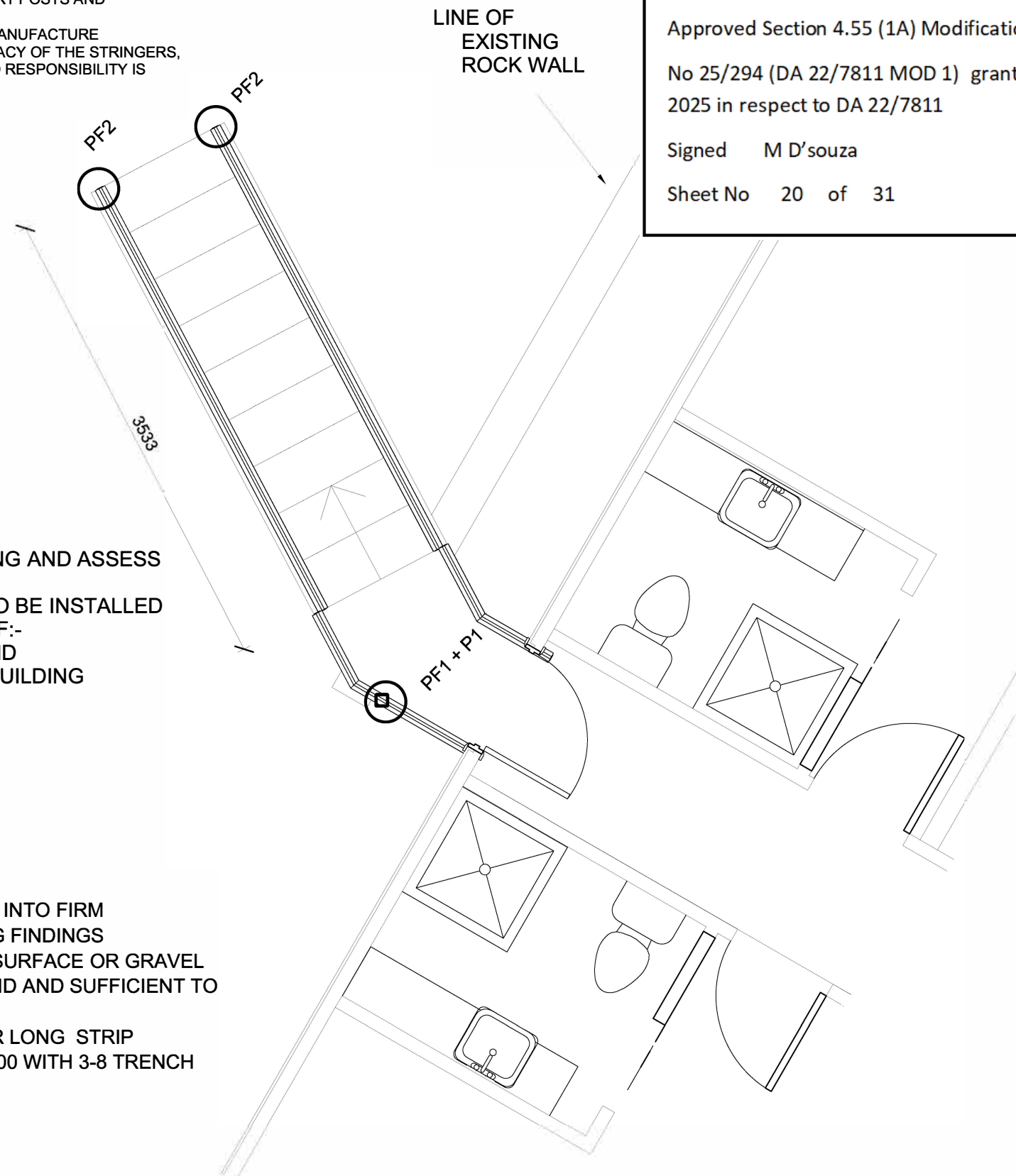
- \* PF1 - 300 Ø PAD FOOTING x MIN 500 DEEP SEE NOTES. BUILT POST P1 - 89 x 3.5 SHS or 76 x 5.9 CHS ON TOP OF PF1 AND BOLT TO STRINGER - 2 M12 MIN.
- \* PF2 - 300 Ø PAD FOOTING x 1,000 DEEP REINFORCED WITH 2 N12 VERTICAL BARS CENTER
- \* ON BOTH PAD FOOTINGS PLACE A CAST IN PLATE - 8 mm THICK - 150 X 150 AND WITH 4 N16 PRONGS x 200 LONG PLACED INTO ET CONCRETE. WELD STAIRS SUPPORT POSTS AND STRINGERS TO THESE CAST IN PLATES
- \* FRAME NORTH STAIRS IN ACCORDANCE WITH APPENDIX 1 AND STEEL MANUFACTURE SPECIFICATIONS. THIS OFFICE SIGNS OFF ON THE STRUCTURAL ADEQUACY OF THE STRINGERS, BALUSTRADE AND STEEL ELEMENTS DRAWN IN APPENDIX 1- EXCEPT NO RESPONSIBILITY IS TAKEN ON DIMENSIONS

- \* FRAME 1 - AS PER APPENDIX 1.
- \* BUILDER TO EXPOSE THE ELEMENTS OF THE BUILDING AND ASSESS WITH ENGINEER ADEQUACY OF SUPPORT.
- \* NEW STRUCTURAL ELEMENTS WILL BE REQUIRED TO BE INSTALLED SUBJECT TO SITE FINDINGS WITH MINIMUM FIXING OF:-
  - 3 M12 COACH BOLTS FOR THE END BALUSTRADE AND
  - 4 M16 BOLTS FOR THE LANDING SUPPORT TO THE BUILDING

NOTES:

1. ENSURE ALL FOOTINGS ARE FOUNDED MINIMUM 150mm INTO FIRM 200 KPa HORISON AS PER GEOTECHNICAL ENGINEERING FINDINGS
2. BUILD FOOTINGS MIN 250 mm ABOVE FINISHED GRASS SURFACE OR GRAVEL AND GRADE SURFACE AWAY FROM FOOTINGS ALL AROUND AND SUFFICIENT TO DRAIN AWAY FROM THE HOUSE SITE.
3. SUBJECT TO PRINCIPAL REQUIREMENTS - A ONE METER LONG STRIP FOOTING ON TOP OF THE TWO PF1 CAN BE BUILT - 300 x 300 WITH 3-8 TRENCH MESH TOP AND BOTTOM AND TIE INTO PF1

For soil conditions see Aitken Rowe Geotechnical dated 23 October 2024  
Engineering report No S24-315



NORTHERN STAIRS - PLAN  
SCALE 1:40



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Signed M D'souza

Sheet No 20 of 31

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SMIGGINS HOLE NSW -  
STRUCTURAL DESIGN

Client:

Altitude Lodge  
care of Lisa Schweitzer

Structural Sheet No. S03 of 4

Scale: AS SHOWN

Date: 08.11.2024

Drawing No: 2021030A\_STAIRS  
NORTH STAIRS FOOTINGS & SPECS

Sheet Size: A3

Designed: O Boaru

Drawn: A Sferle

Checked: O Boaru

Approved:

*Boaru*

Ovi Boaru MIEAust CPEng

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Refer to specification for other relevant information details.

- KEY:
- \* PF23 - 300 Ø PAD FOOTING x 1,000 DEEP REINFORCED WITH 2 N12 VERTICAL BARS CENTER
  - \* ON BOTH PAD FOOTINGS PLACE A CAST IN PLATE - 8 mm THICK - 150 X 150 AND WITH 4 N16 PRONGS x 200 LONG PLACED INTO ET CONCRETE. WELD STAIRS SUPPORT POSTS AND STRINGERS TO THESE CAST IN PLATES
  - \* FRAME NORTH STAIRS IN ACCORDANCE WITH APPENDIX 2 AND STEEL MANUFACTURER SPECIFICATIONS. THIS OFFICE SIGNS OFF ON THE STRUCTURAL ADEQUACY OF THE STRINGERS, BALUSTRADE AND STEEL ELEMENTS DRAWN IN APPENDIX 1- EXCEPT NO RESPONSIBILITY IS TAKEN ON DIMENSIONS



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Sheet No 21 of 31

- \* FRAME 2 - AS PER APPENDIX 2.
- \* BUILDER TO EXPOSE THE ELEMENTS OF THE BUILDING AND ASSESS WITH ENGINEER ADEQUACY OF SUPPORT, INCLUDING EXISTING POSTS.
- \* NEW STRUCTURAL ELEMENTS WILL BE REQUIRED TO BE INSTALLED SUBJECT TO SITE FINDINGS WITH MINIMUM FIXING OF:-
  - 3 M12 COACH BOLTS FOR THE END BALUSTRADE AND
  - 4 M16 BOLTS FOR THE LANDING SUPPORT TO THE BUILDING
  - M12 COACH BOLTS @ 450 CRS FIXED TO NORTHERN WALL ELEMENTS

EASTERN STAIRS - PLAN  
SCALE 1:40

For soil conditions see Aitken Rowe Geotechnical  
dated 23 October 2024  
Engineering report No S24-315

- NOTES:
1. ENSURE ALL FOOTINGS ARE FOUNDED MINIMUM 50mm INTO FIRM 500 KPa HORISON AS PER GEOTECHNICAL ENGINEERING FINDINGS
  2. BUILD FOOTINGS MIN 250 mm ABOVE FINISHED GRASS SURFACE OR GRAVEL AND GRADE SURFACE AWAY FROM FOOTINGS ALL AROUND AND SUFFICIENT TO DRAIN AWAY FROM THE HOUSE SITE.
  3. SUBJECT TO PRINCIPAL REQUIREMENTS - A ONE METER LONG STRIP FOOTING ON TOP OF THE TWO PF1 CAN BE BUILT - 300 x 300 WITH 3-8 TRENCH MESH TOP AND BOTTOM AND TIE INTO PF1

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Drawing Name:

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SMIGGINS HOLE NSW -  
STRUCTURAL DESIGN

Client:

Altitude Lodge  
care of Lisa Schweitzer

Structural Sheet No. S04 of 4

Scale: AS SHOWN  
Date: 08.11.2024  
Drawing No: 2021030A\_STAIRS  
EASTERN STAIRS FOOTINGS & SPECS

Sheet Size: A3  
Designed: O Boaru  
Drawn: A Sferle  
Checked: O Boaru

Approved:



Ovi Boaru MIEAust CPEng

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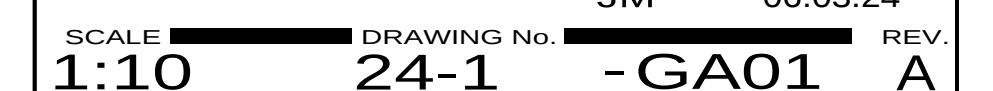
The contractor is to confirm all dimensions prior to commencing any works on site.

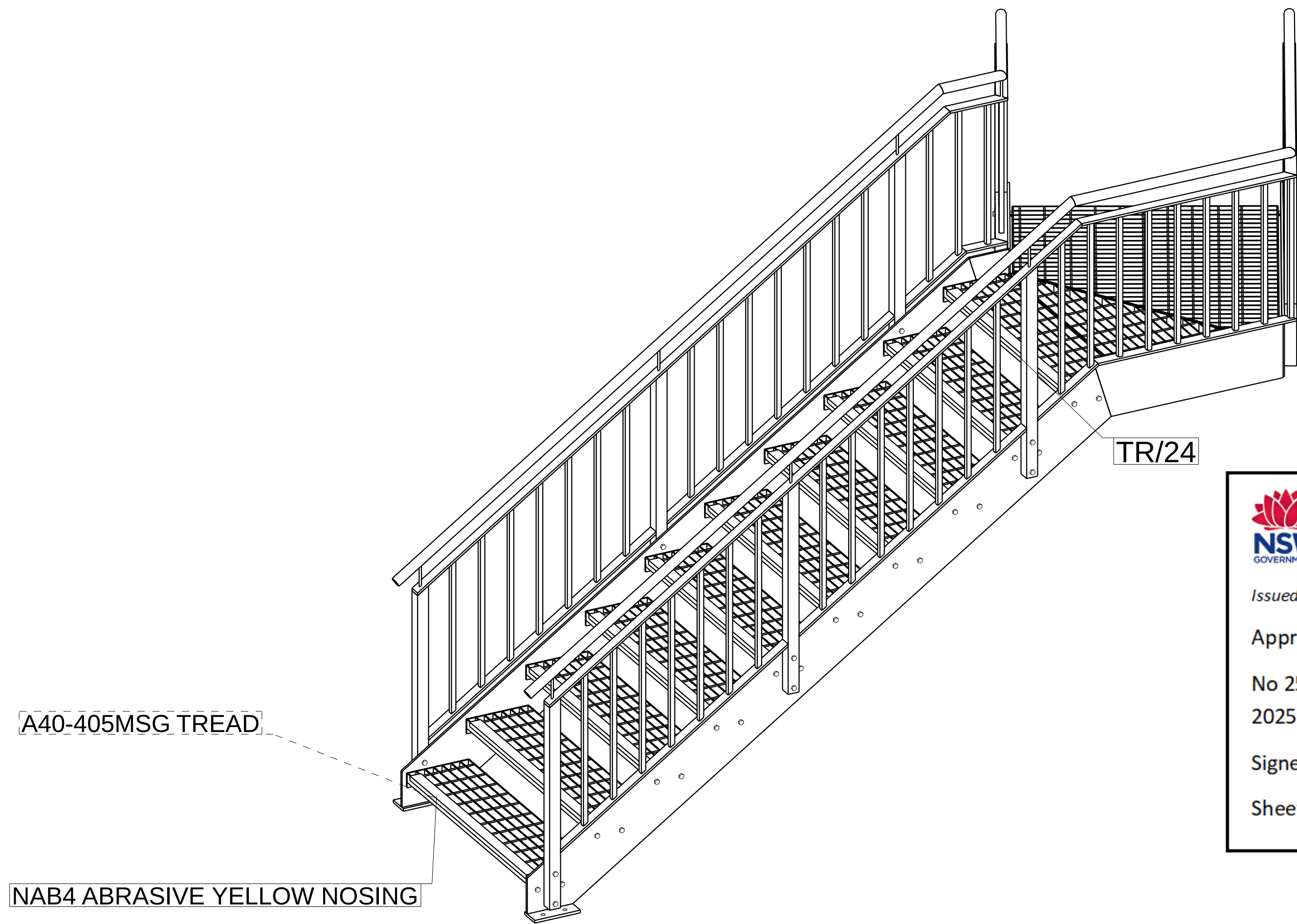
Refer to specification for other relevant information details.

1030A - 08.11.2024

3D perspective view of the proposed pedestrian bridge structure, showing the bridge deck, railings, and stairs. The structure is labeled with various components: P/1 (Pedestal), P/2 (Pedestal), ST/1 (Stair), ST/3 (Stair), TR/1 (Tread), TR/24 (Tread), TR/3 (Tread), and TR/24 (Tread).


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 2025 in respect to DA 22/7811  
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 Sheet No 22 of 31





 **Department of Planning  
Housing and Infrastructure**

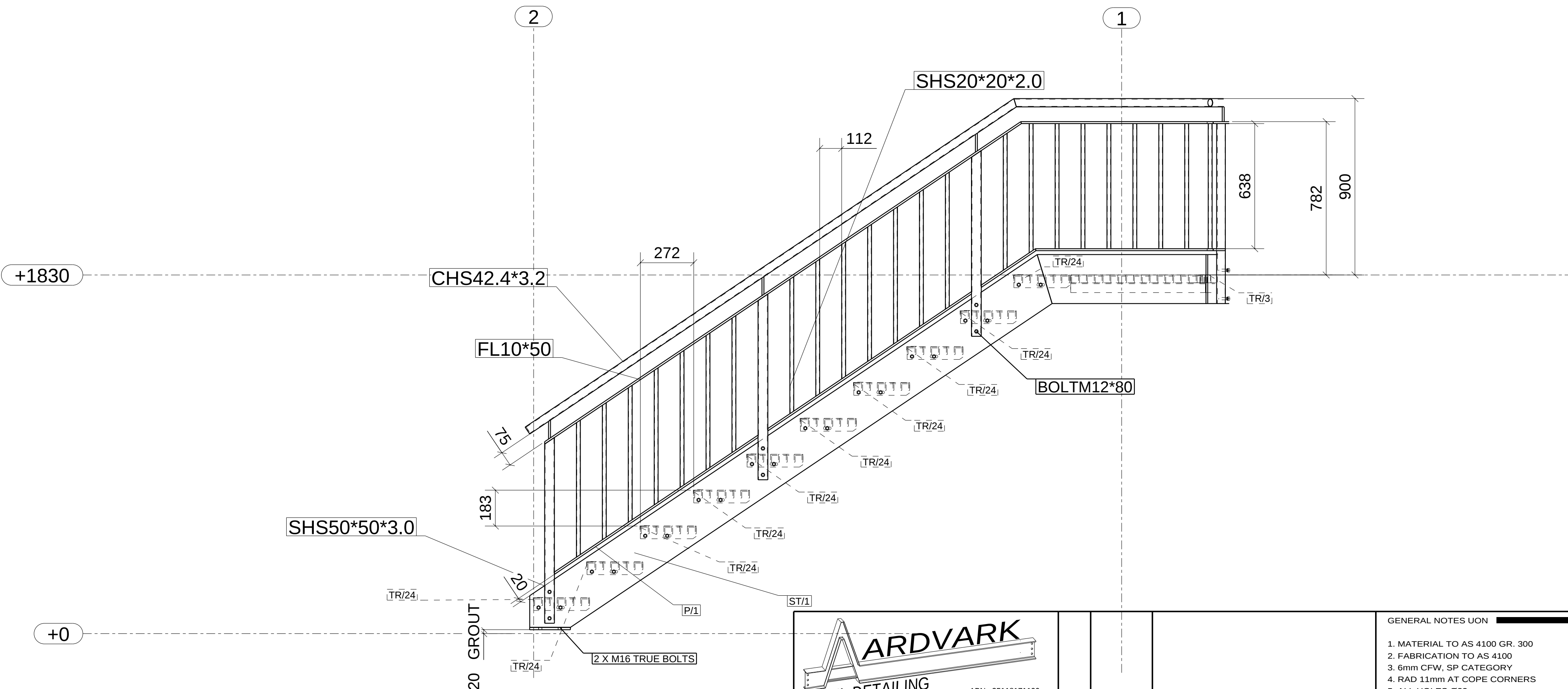
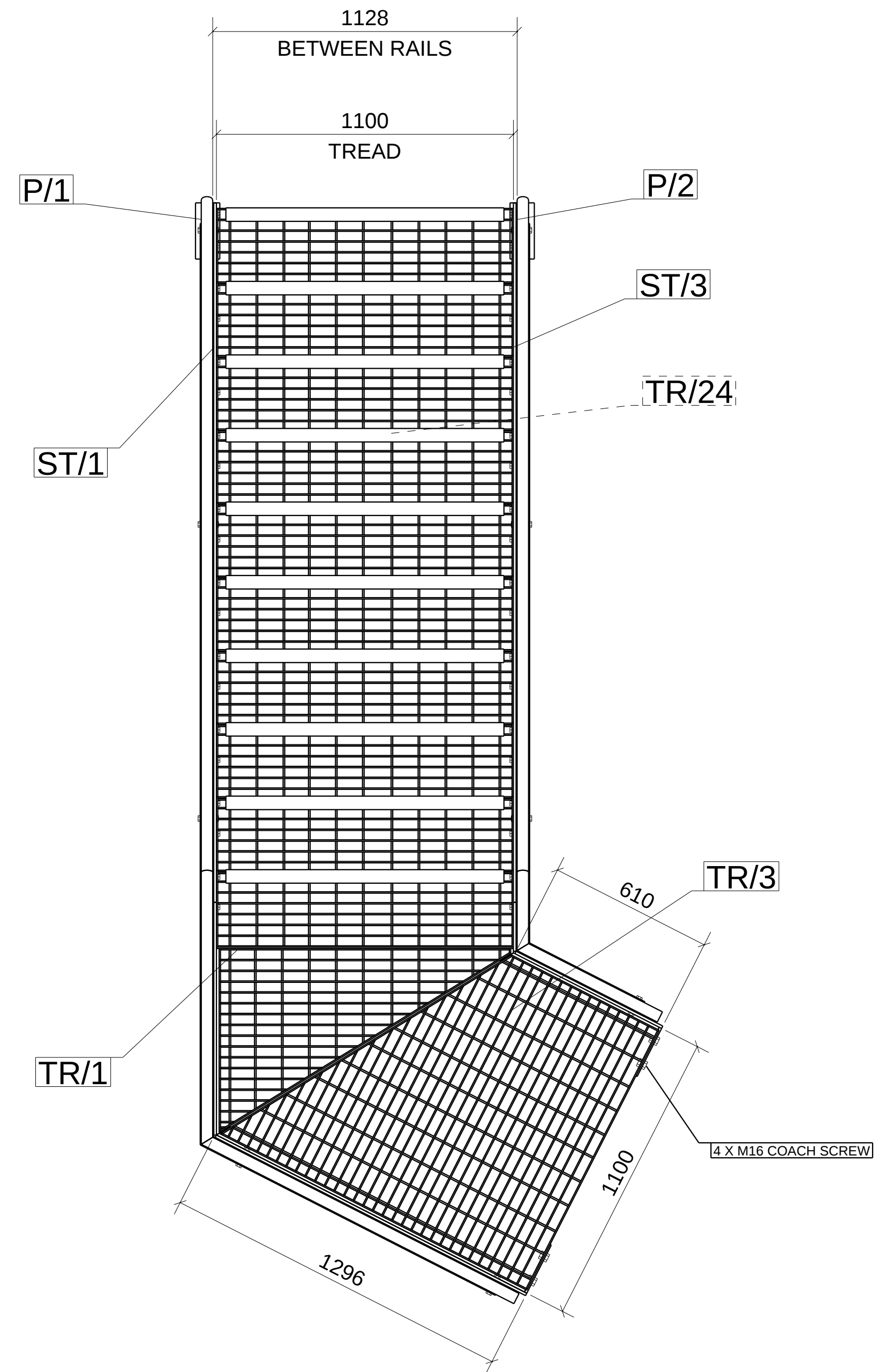
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Sheet No 23 of 31



ABN : 35118171190  
393 Abington Park Rd, Moonbah  
Tel : 0412 212 124

A  
1  
28.02.2024

FOR FABRICATION  
DRAFT SETOUT

DESCRIPTION

- GENERAL NOTES UON
1. MATERIAL TO AS 4100 GR. 300
  2. FABRICATION TO AS 4100
  3. 6mm CFW, SP CATEGORY
  4. RAD 11mm AT COPE CORNERS
  5. ALL HOLES Ø22mm
  6. ALL BOLTS M20 8.8/S
  7. HOLES ARE LOCATED ON OR ABOUT C/L
  8. THIRD ANGLE PROJECTION USED

PROJECT  
ALTITUDE STAIR  
JSW

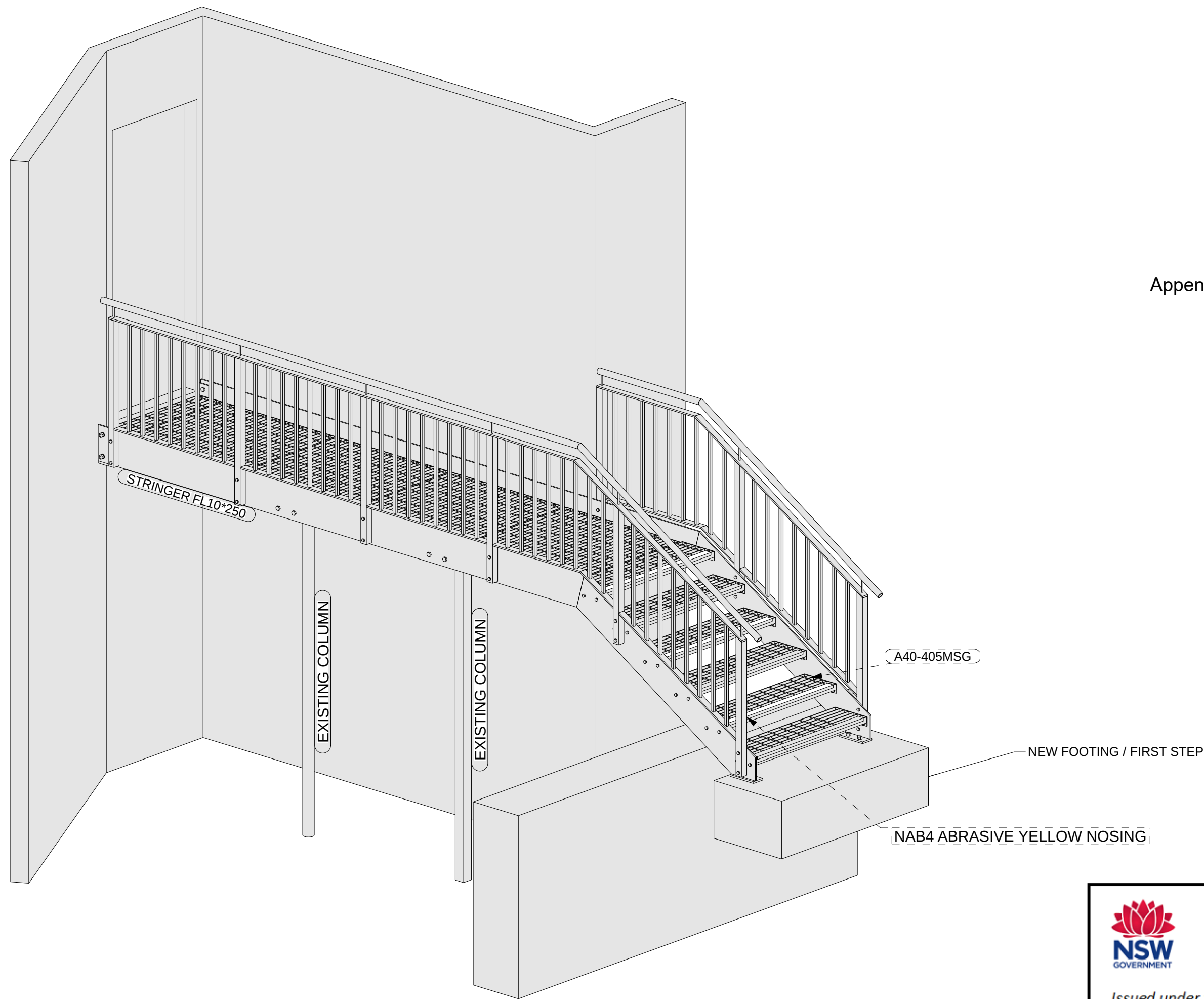
CLIENT  
JINDY STEELWORX  
26-28 LEE AVE, LEESVILLE

DRAWING TITLE  
ALTITUDE STEEL STAIR

CHECKED APPR DESIGN DRAWN DATE  
JM 06.03.24

SCALE 1:15 DRAWING No. 24-1 -GA02 REV. A

Appendix 2 - PES Design 2021030A - 08.11.2024



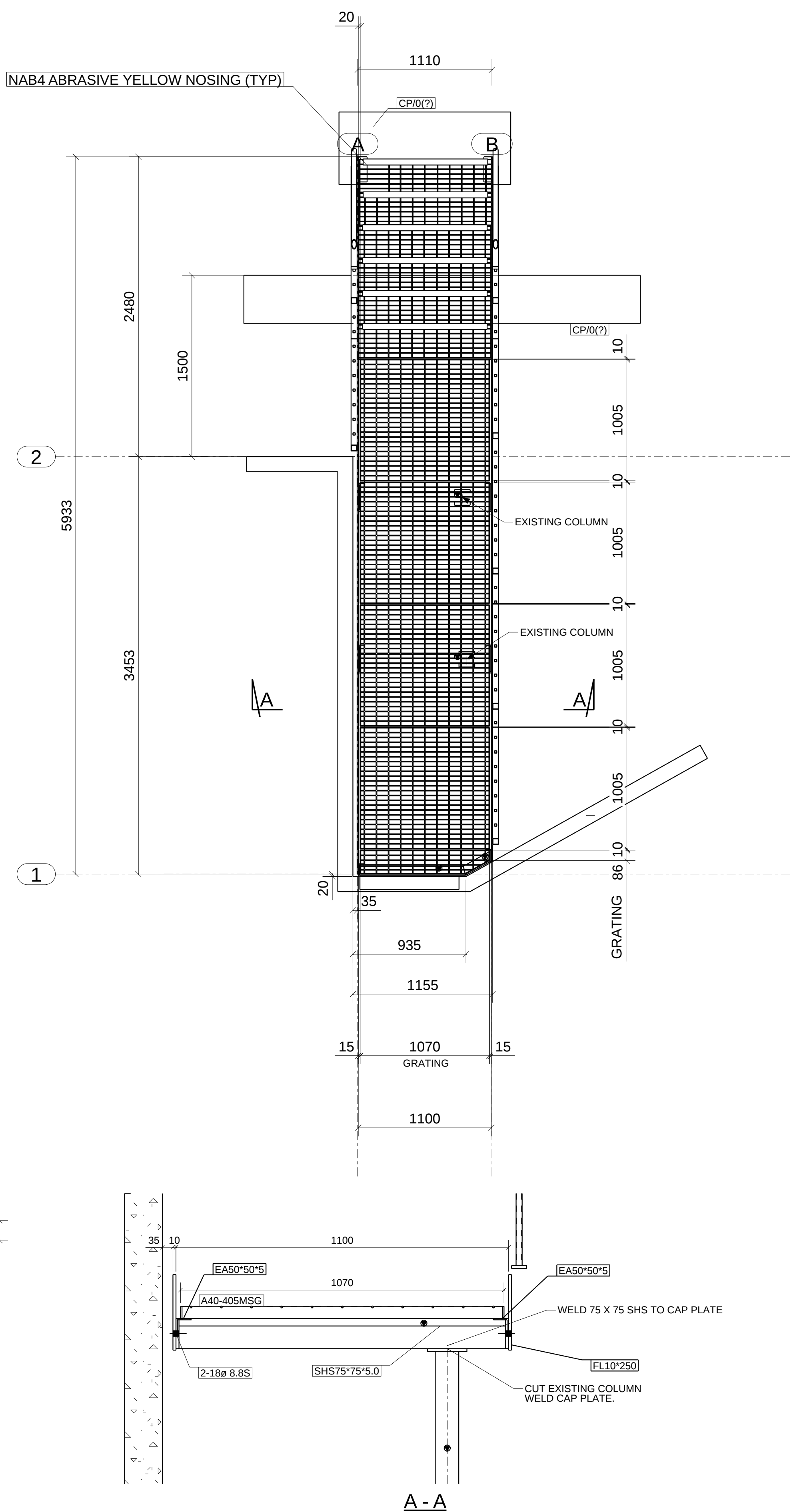
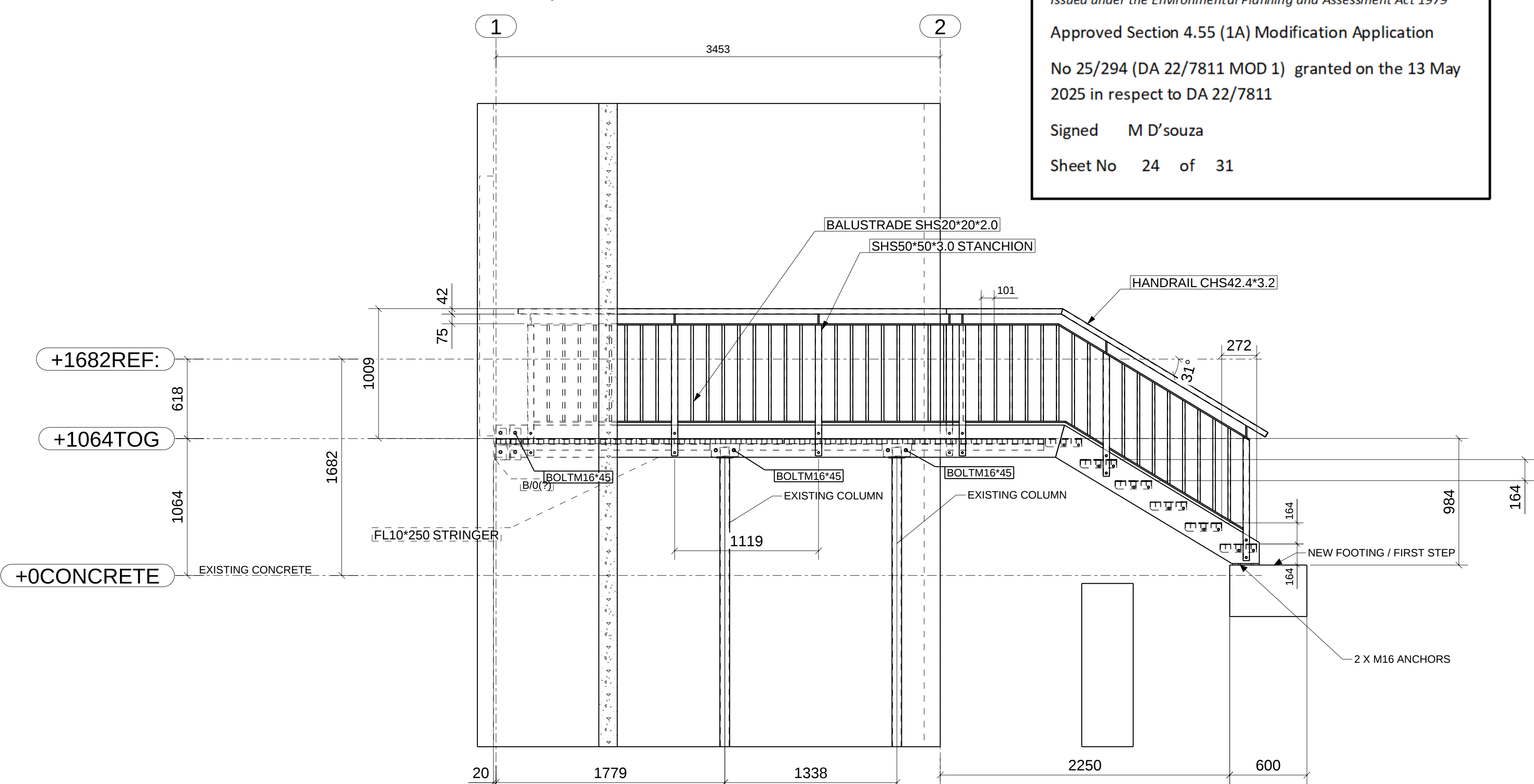
**NSW** GOVERNMENT  
Department of Planning  
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Sheet No 24 of 31



|                                                                                                                                                |  |  |     |            |                    |                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----|------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>ABN : 35118171190<br/>393 Abington Park Rd, Mooribah<br/>Tel : 0412 212 124</p>                                                             |  |  | 1   | 01.04.2024 | ISSUE FOR APPROVAL | <p>GENERAL NOTES UON</p> <ul style="list-style-type: none"><li>1. MATERIAL TO AS 4100 GR. 300</li><li>2. FABRICATION TO AS 4100</li><li>3. 6mm CFW, SP CATEGORY</li><li>4. RAD 11mm AT COPE CORNERS</li><li>5. ALL HOLES Ø22mm</li><li>6. ALL BOLTS M20 8.8/S</li><li>7. HOLES ARE LOCATED ON OR ABOUT C/L</li><li>8. THIRD ANGLE PROJECTION USED</li></ul> | <p>PROJECT<br/>ALTITUDE LANDING STAIR<br/>JSW</p> <p>CLIENT<br/>JINDY STEELWORX<br/>26-28 LEE AVE, LEESVILLE</p> | <p>DRAWING TITLE<br/>PLAN + 3D</p> <p>CHECKED <input type="checkbox"/> APPR. <input type="checkbox"/> DESIGN <input type="checkbox"/> DRAWN <input type="checkbox"/> DATE <input type="checkbox"/></p> <p>SCALE <input type="checkbox"/> 1:10 <input type="checkbox"/> 24-3 <input type="checkbox"/> -GA01 <input type="checkbox"/> 1</p> |
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