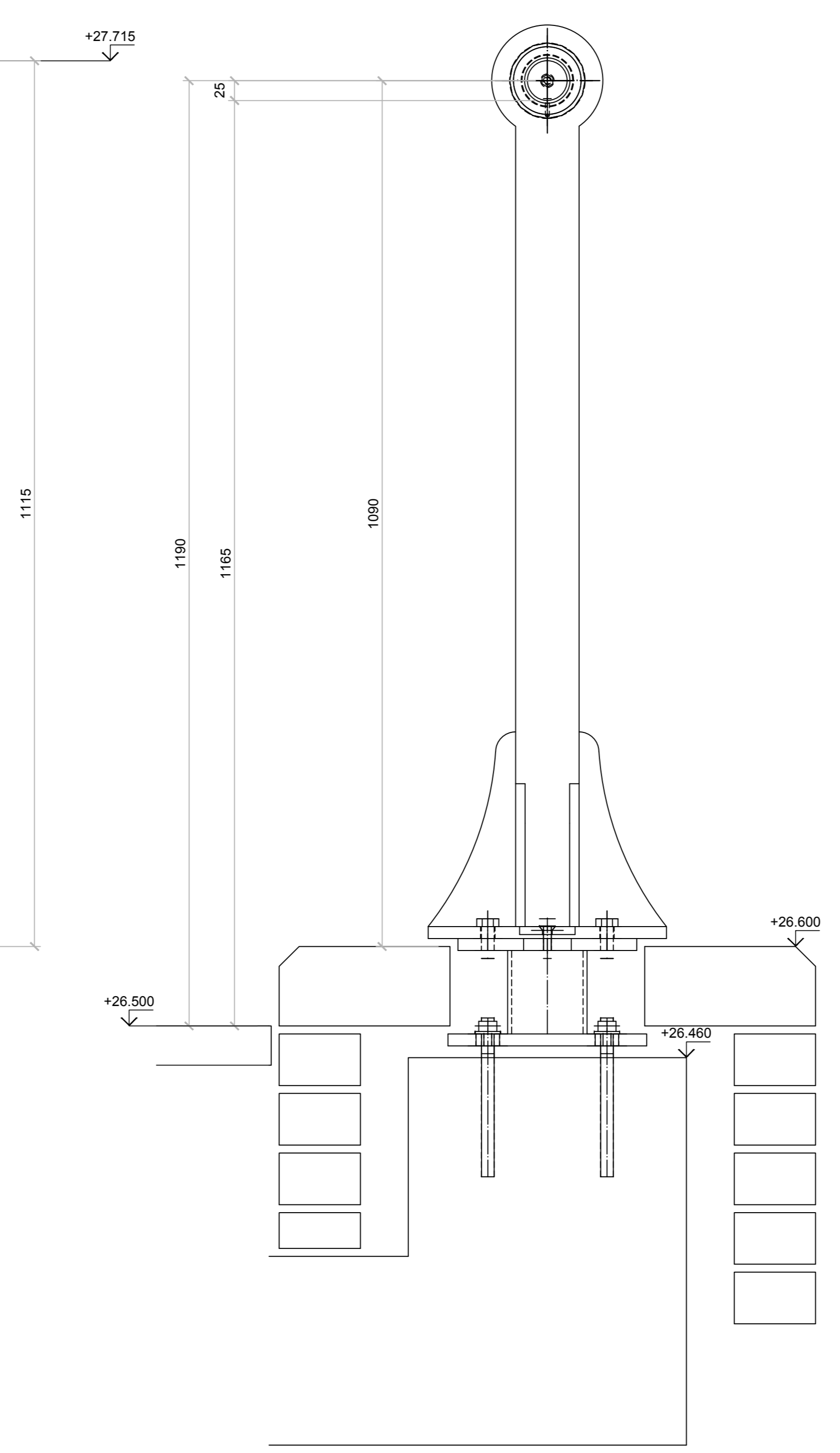
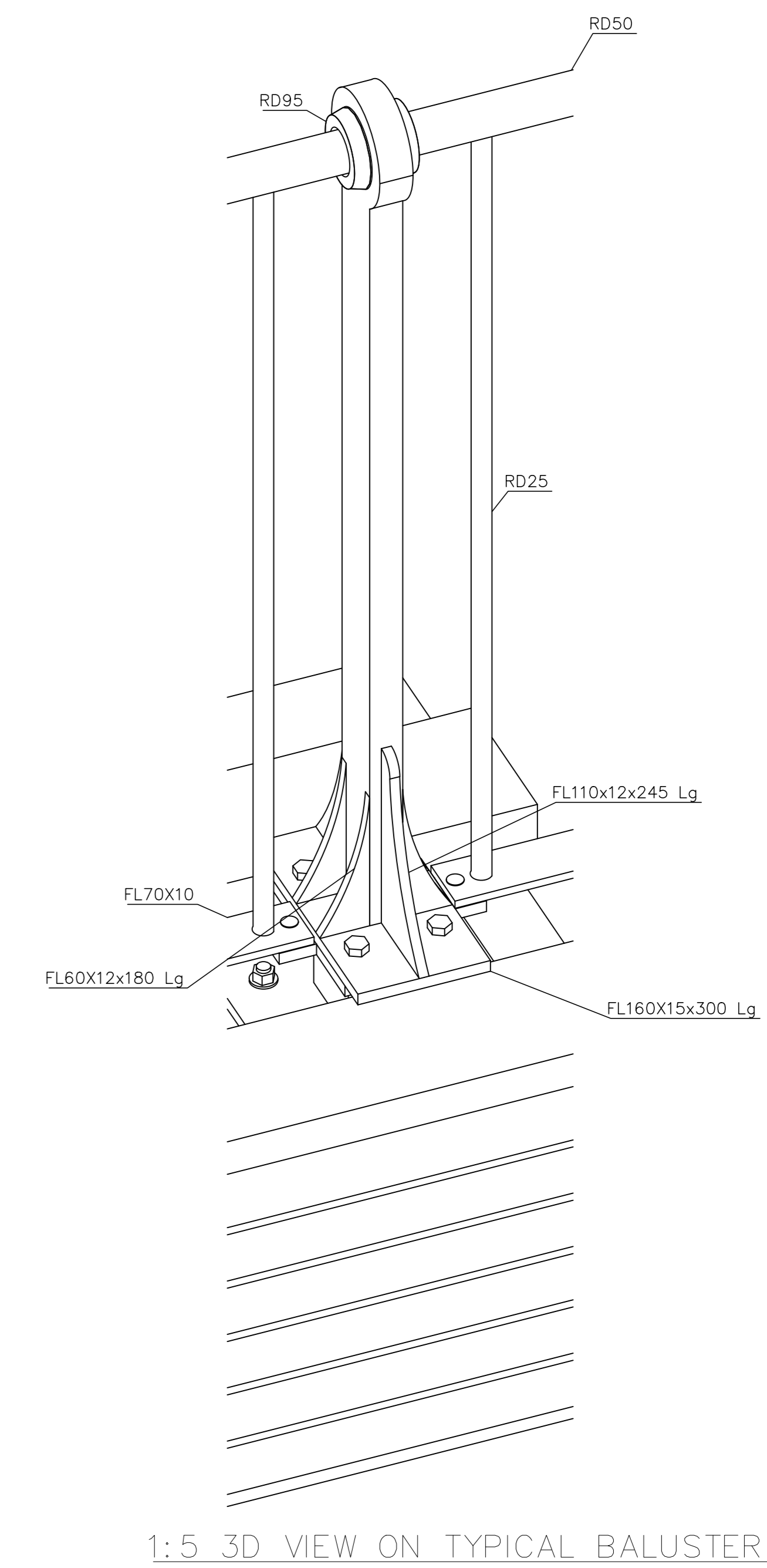


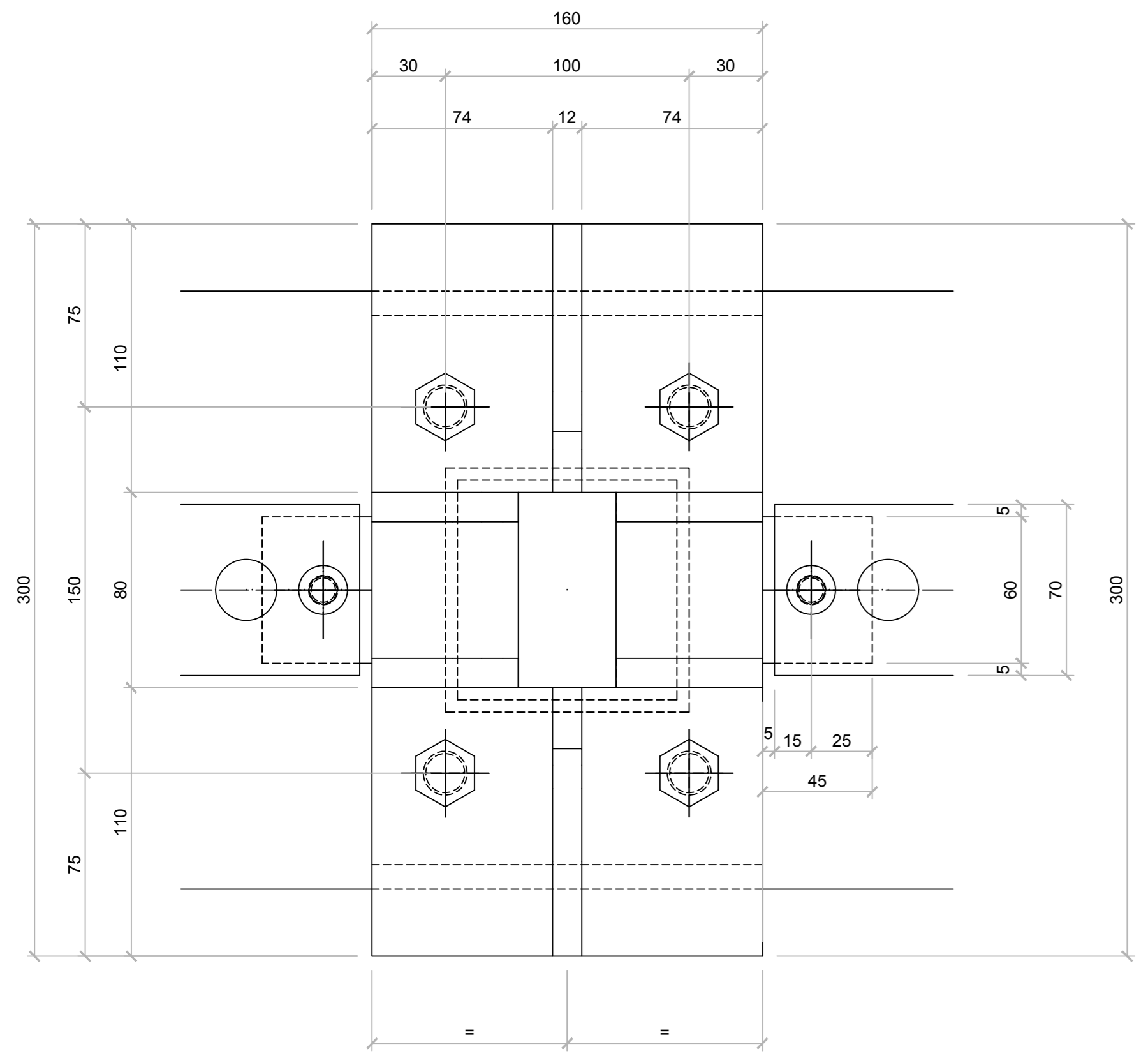
1:5 ELEVATION ON BAL-02



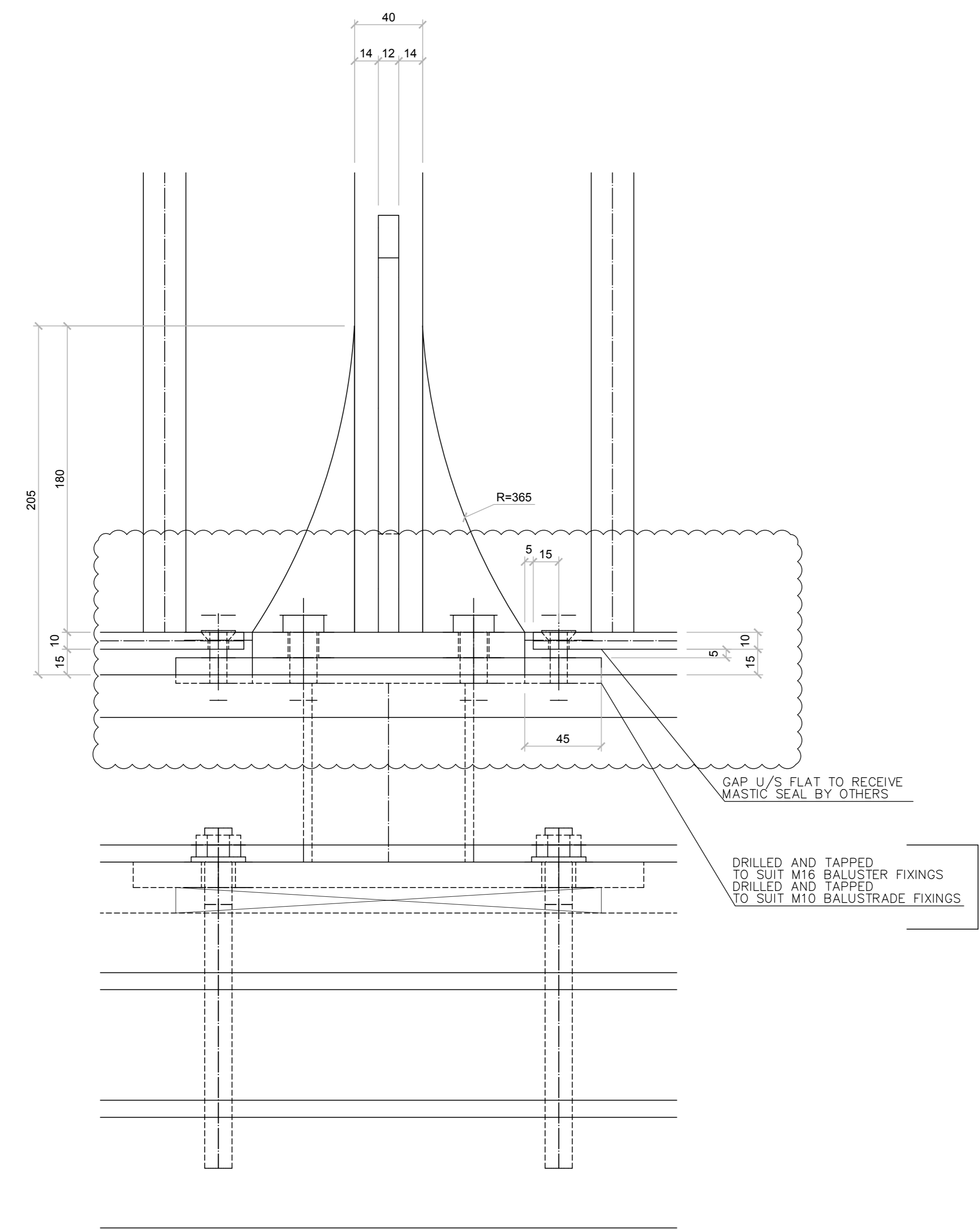
1:5 SIDE ELEVATION ON BAL-02



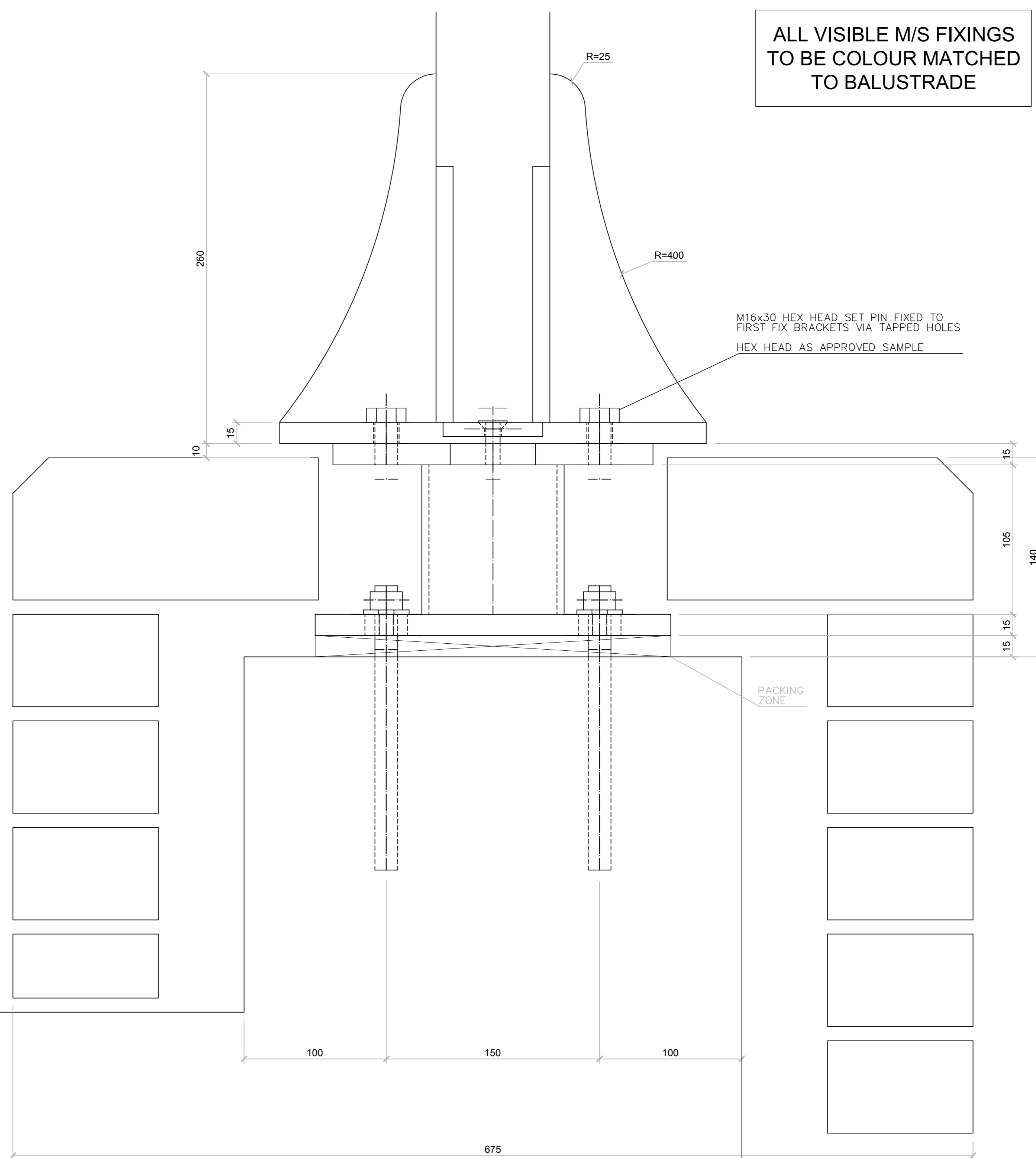
1:5 3D VIEW ON TYPICAL BALUSTER



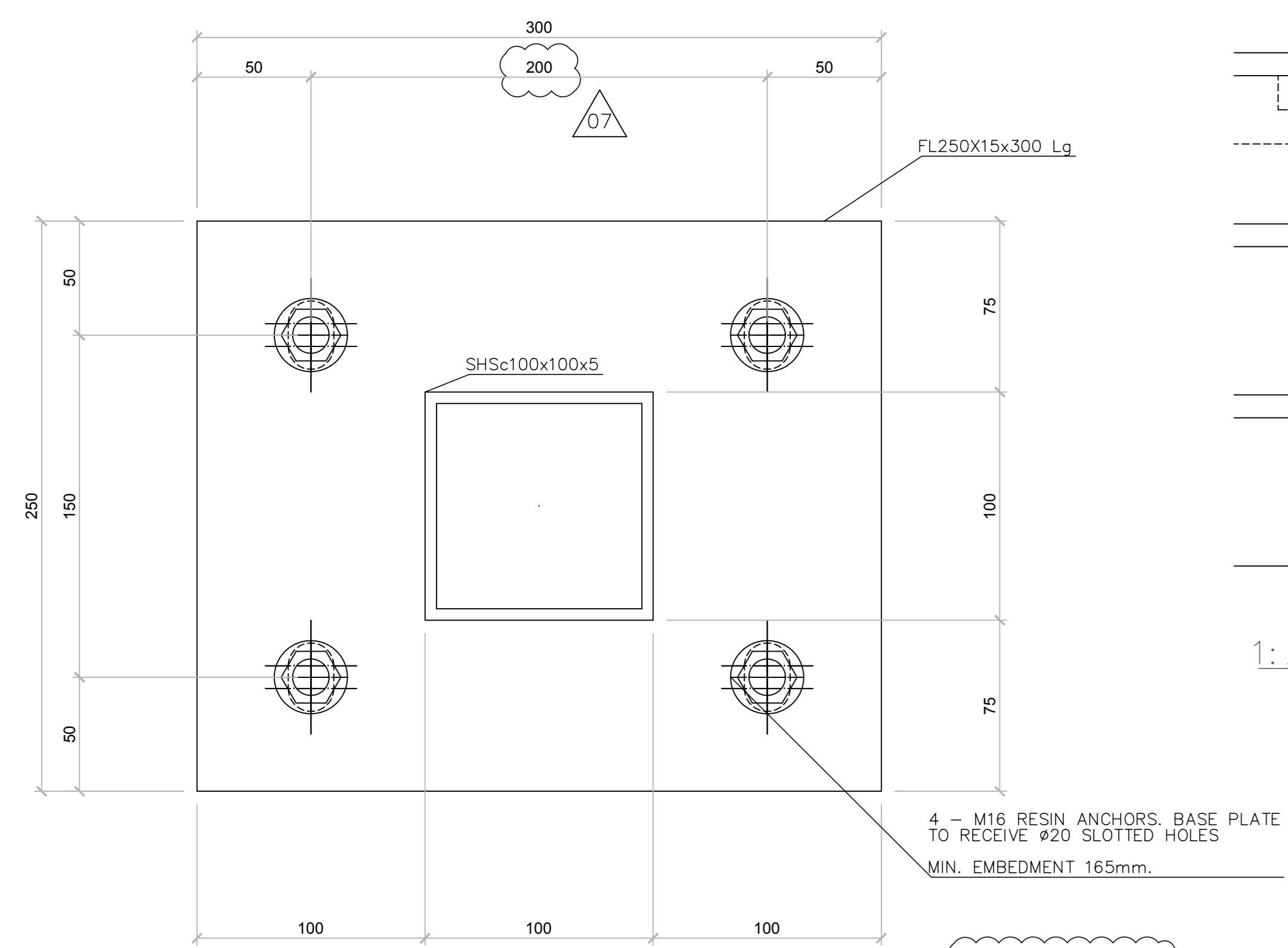
1:2 PLAN VIEW ON BAL-02 BASE PLATE



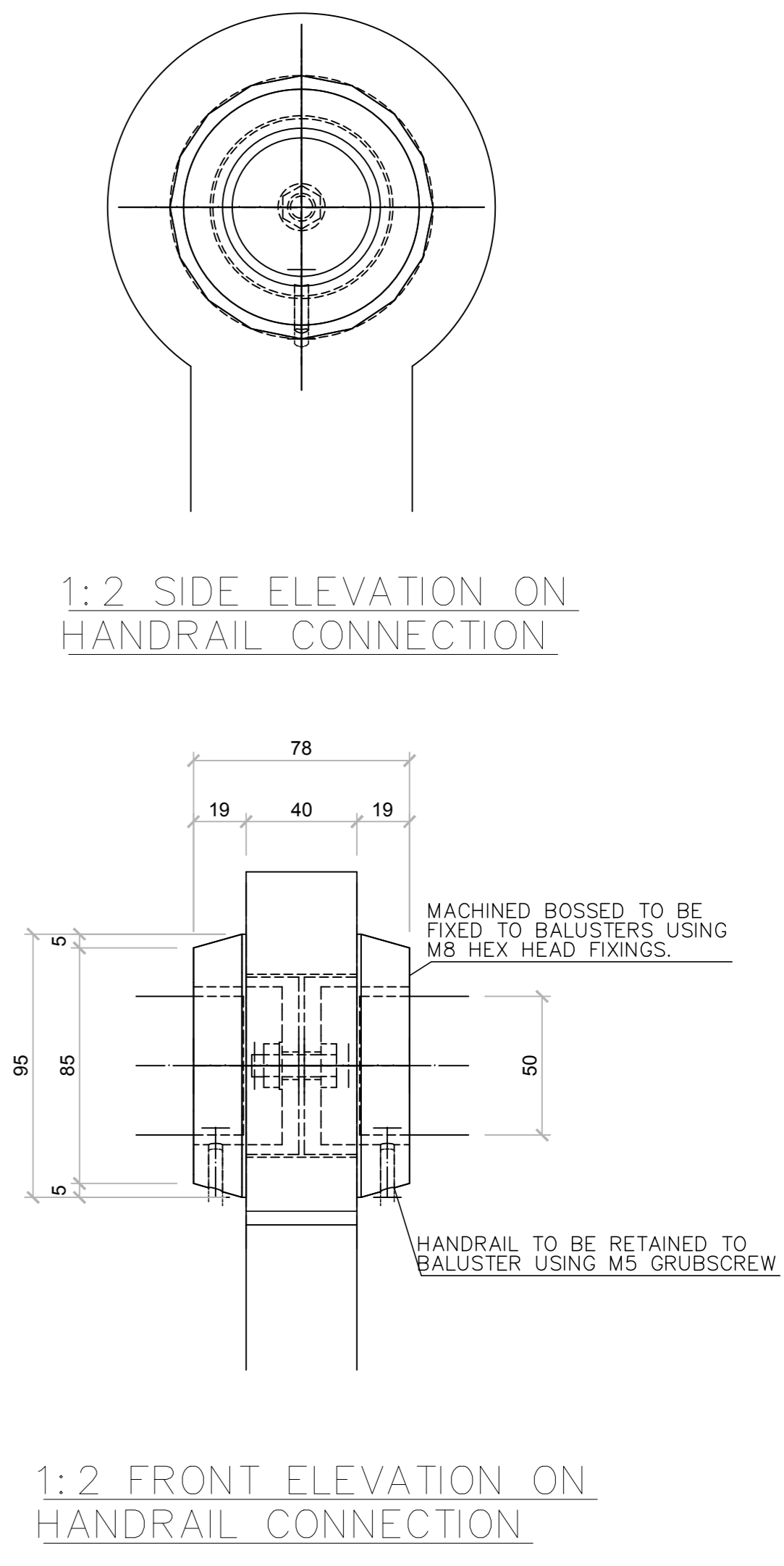
1:2 FRONT ELEVATION ON BAL-02 BASE PLATE



1:2 SIDE ELEVATION ON BAL-02 BASE PLATE



1:2 PLAN VIEW ON BAL-02 1st FIX BASE PLATE



1:2 SIDE ELEVATION ON HANDRAIL CONNECTION

1:2 FRONT ELEVATION ON HANDRAIL CONNECTION

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 4. This drawing has been produced in accordance with our interpretation of the Architects/Engineers drawings and requirements.  
 5. All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be 304 / 316 (U.N.O). See materials below for specific grades.  
 6. All welds continuous 4mm (throat) fillet U.N.O.  
 7. Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Fixing tolerance to be + or - 6mm.  
 8. 1st angle projection  
 9. This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	✓
EXC1	
EXC2	
EXC3	

**MATERIALS**  
 BALUSTERS - 40mm THK M/S PLATE S275JR  
 FINS - 12mm THK M/S PLATE S275JR  
 BASE PLATE - 15mm THK M/S PLATE S275JR  
 BOSSES - Ø95 M/S SOLID ROUND BAR S275JR  
 HAND RAIL - Ø50 M/S SOLID ROUND BAR S275JR  
 INFILLS - Ø25 M/S SOLID ROUND BAR S275JR  
 BASE RAIL - 70 x 10mm THK M/S S275JR  
 1ST FIX STUB - 100 x 100 x 5mm THK M/S SHS S235

**FINISH**  
 HOT DIPPED GALVANISED TO BS EN ISO 1461:2009, ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

**DESIGN LOADINGS**  
 3kN/m HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

Index	Date	Description	Author
07	11/05/2017	1st FIX BRACKET FIXINGS AMENDED	TH
06	14/02/2017	REVISED TO INCLUDE INSTALLATION TOLERANCE	JD
05	30/01/2017	REVISED TO SUIT COMMENTS	JD
04	12/01/2017	FIXING NOTES ADDED	JD
03	24/11/2016	CHAMFER NOTES REMOVED	JD
02	23/11/2016	CHAMFER REMOVED	JD
01	27/10/2016	1st FIX BRACKET AMENDED TO SUIT CALCULATIONS	DG
00	10/10/2016	ISSUED FOR APPROVAL	DG

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 STRUCTURAL STEELWORK, FERRUGINOUS, BRASS, COPPER, STAINLESS STEEL, ALUMINIUM  
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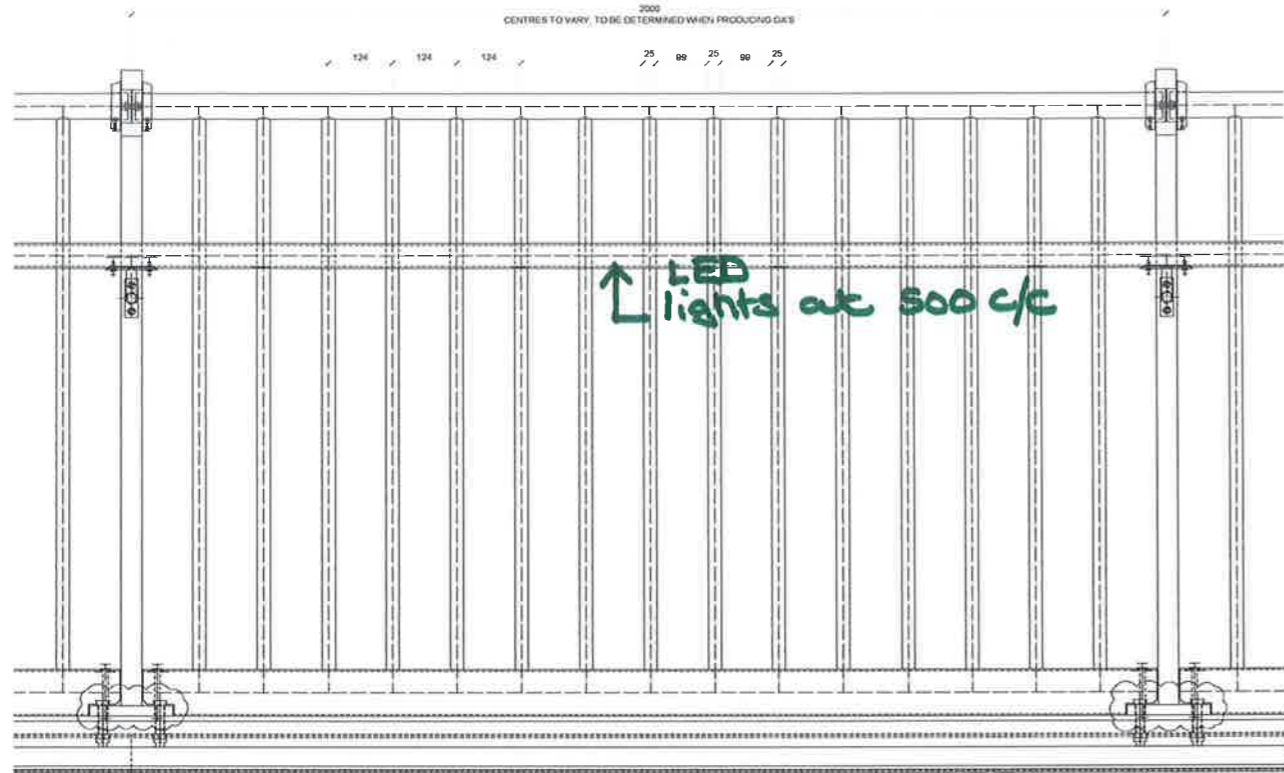
CLIENT  
 BAM CONSTRUCTION

PROJECT  
 KINGS CROSS - COAL DROP YARDS

DRAWING TITLE  
 BALUSTRADE TYPE BAL-02 VIADUCT LEVEL TYPICAL DETAIL

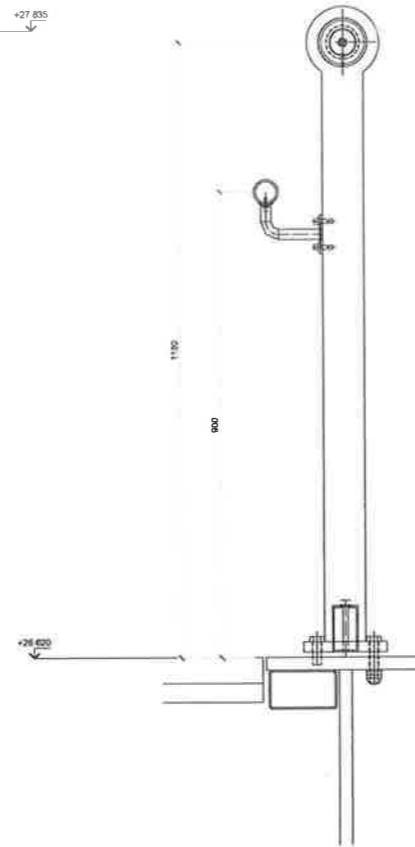
DRAWN BY	CHECKED BY	DATE	SCALE
TH		10/10/2016	As Noted

PROJECT No. 1791-S DRAWING No. KCC-CDY-M0011-SBL-34-501 REV [G]-01 07

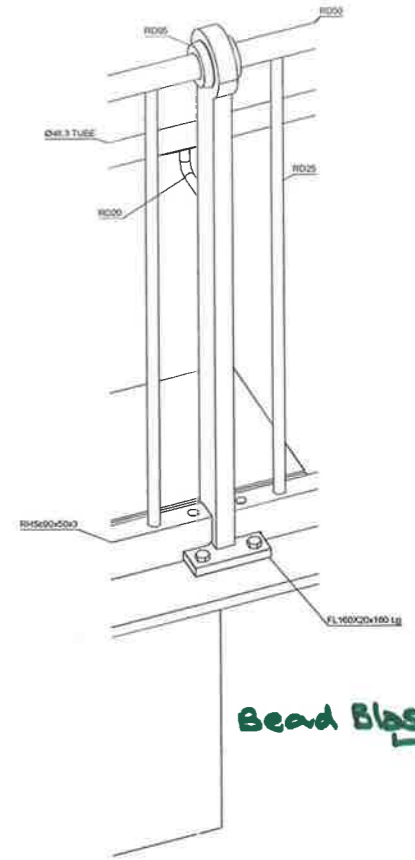


1:5 ELEVATION ON BAL-03

NOTE:  
THE BALUSTRADE WILL FOLLOW  
THE LINE OF THE BRIDGE.  
BALUSTRADE AND SPINDLES  
WILL BE VERTICAL



1:5 SIDE ELEVATION ON BAL-03



1:5 3D VIEW ON TYPICAL BALUSTER

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- This drawing has been produced in accordance with our interpretation of the Architect/Engineers drawings and requirements.
- All MS material to be S275JR / R235 / S355J2 steel (U.N.C.) All ST/ST to be 304 / 316 (U.N.C.) See materials below for specific grades.
- All welds continuous 4mm (1/8") fillet U.N.C.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser (U.N.C.) Filing tolerance to be + or - 0.5mm.
- 1st angle projection.
- This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CORR ITEM	✓
EXC1	
EXC2	
EXC3	

**MATERIALS**

BALUSTERS - 40mm THK MS PLATE S275JR  
FINS - 12mm THK MS PLATE S275JR  
BASE PLATE - 30mm THK MS PLATE S275JR  
BOSSSES - Ø85 MS SOLID ROUND BAR S275JR  
HAND RAIL - Ø50 MS SOLID ROUND BAR S275JR  
INFILLS - Ø25 MS SOLID ROUND BAR S275JR  
BASE RAIL - 80 x 50 x 3mm THK MS S235  
LOWER HANDRAIL - Ø48.3 x 3mm THK ST/ST GR316  
STEM - Ø25 ST/ST SOLID BAR GR316  
FIXING PLATE - 6mm THK ST/ST PLATE GR316

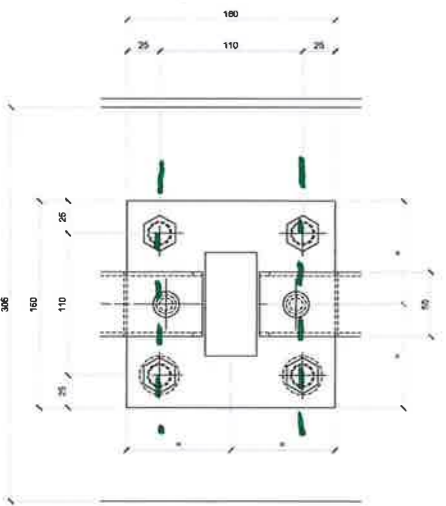
**FINISH**

HOT DIPPED GALVANISED TO BS EN ISO 1461 2000, ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

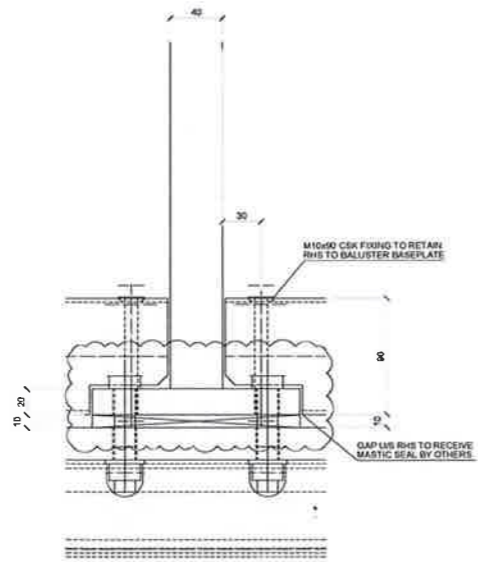
**DESIGN LOADINGS**

3kN/m HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

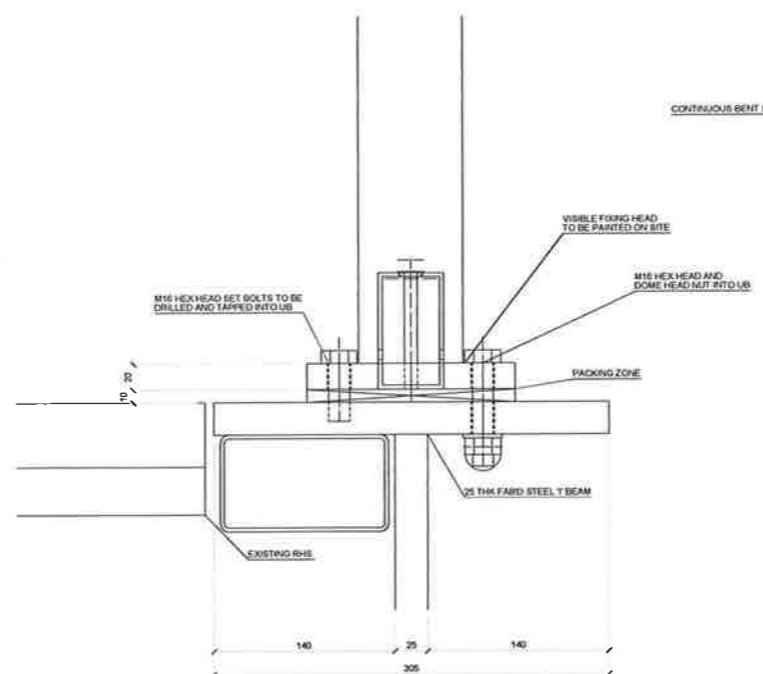
Note: centres of bolts aligned



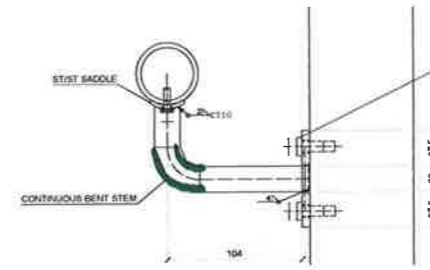
1:2 PLAN VIEW ON BAL-03 BASE PLATE



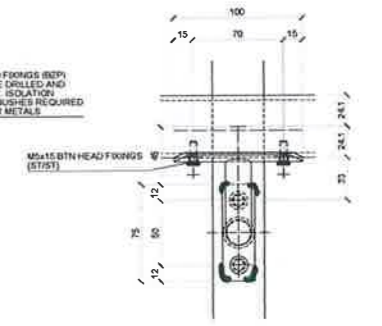
1:2 FRONT ELEVATION ON BAL-01 BASE PLATE



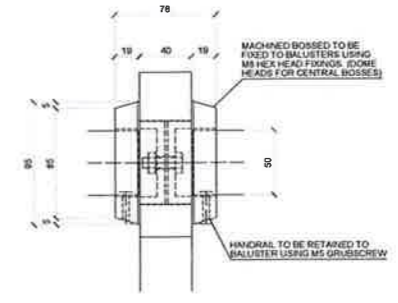
1:2 SIDE ELEVATION ON BAL-03 BASE PLATE



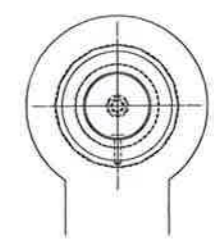
1:2 SIDE ELEVATION ON LOWER HANDRAIL CONNECTION



1:2 FRONT ELEVATION ON LOWER HANDRAIL CONNECTION



1:2 FRONT ELEVATION ON HANDRAIL CONNECTION



1:2 SIDE ELEVATION ON HANDRAIL CONNECTION

Index	Date	Description	Author
05	14/02/2017	REVISED TO INCLUDE INSTALLATION TOLERANCE	JO
06	13/05/2017	REVISED TO SUIT COMMENTS	JO
04	12/01/2017	NOTES ADJUSTED TO SUIT COMMENTS	JO
03	24/11/2016	CHAMFER NOTES REMOVED	JO
02	23/11/2016	CHAMFER REMOVED	JO
01	26/10/2016	FINS OMITTED AND BASE PLATE SIZE AMENDED	DG
00	24/10/2016	ISSUED FOR APPROVAL	DG

REVISIONS

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CLIENT  
BAM CONSTRUCTION

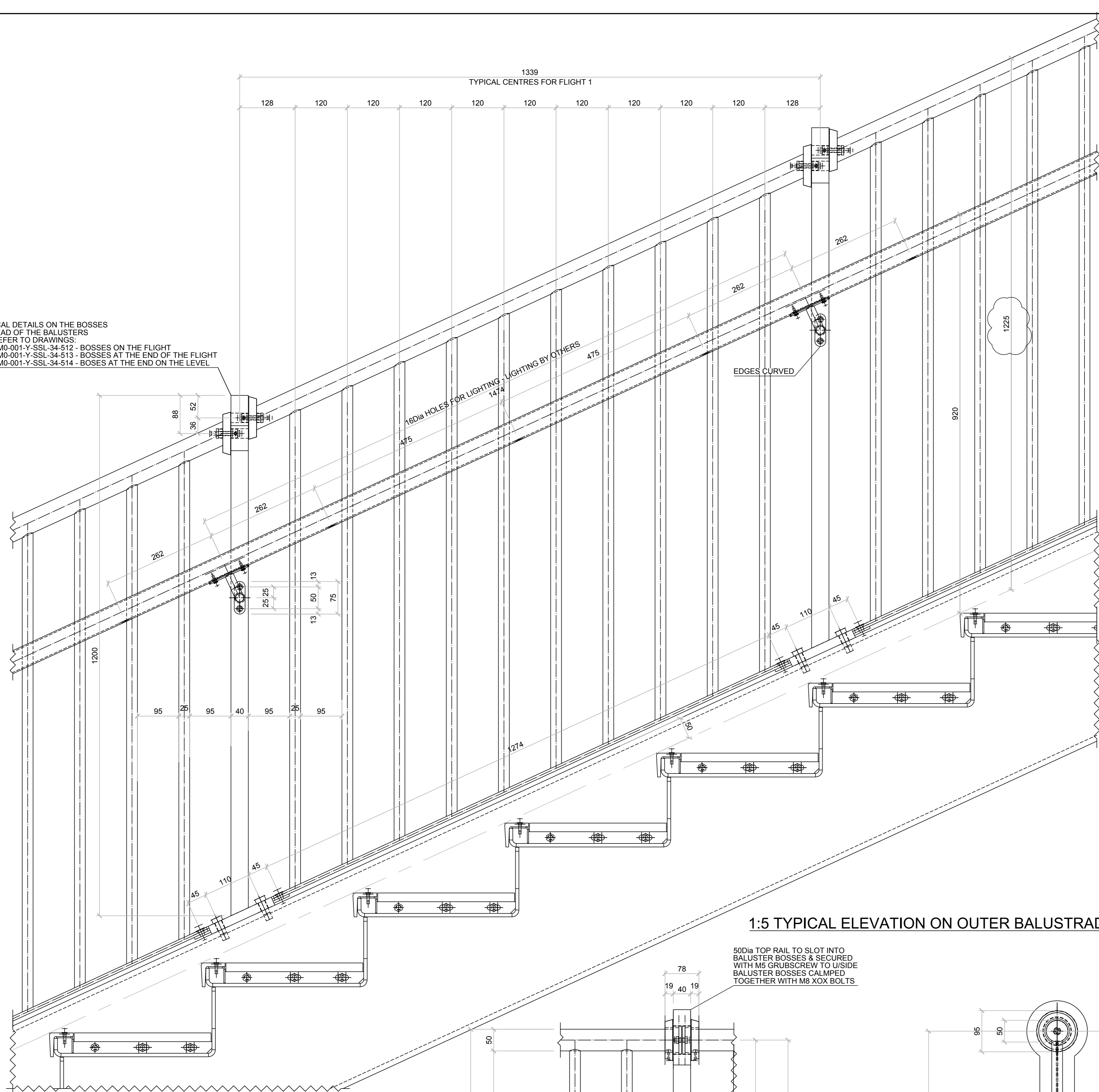
PROJECT  
KINGS CROSS - COAL DROP YARDS

DRAWING TITLE  
BALUSTRADE TYPE BAL-03  
VIADUCT LEVEL  
TYPICAL DETAIL

DRAWN BY	CHECKED BY	DATE	SCALE
DG		24/10/2016	As Noted

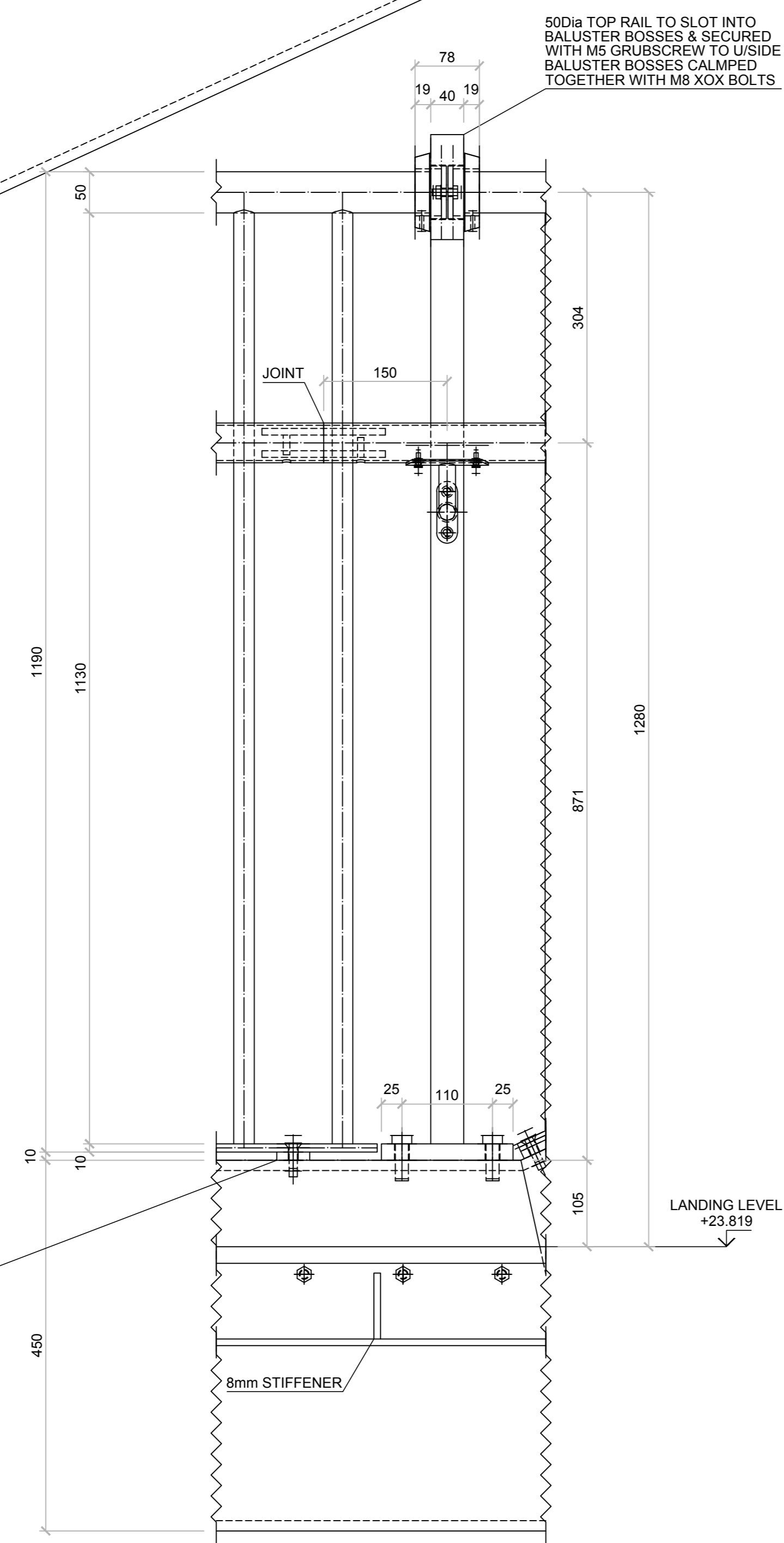
PROJECT No.	DRAWING No.	REV
1791-T	[Q] - 01	06

FOR TYPICAL DETAILS ON THE BOSSES AT THE HEAD OF THE BALUSTERS PLEASE REFER TO DRAWINGS: KXC-CDY-M0-001-Y-SSL-34-512 - BOSSES ON THE FLIGHT KXC-CDY-M0-001-Y-SSL-34-513 - BOSSES AT THE END OF THE FLIGHT KXC-CDY-M0-001-Y-SSL-34-514 - BOSSES AT THE END OF THE LEVEL

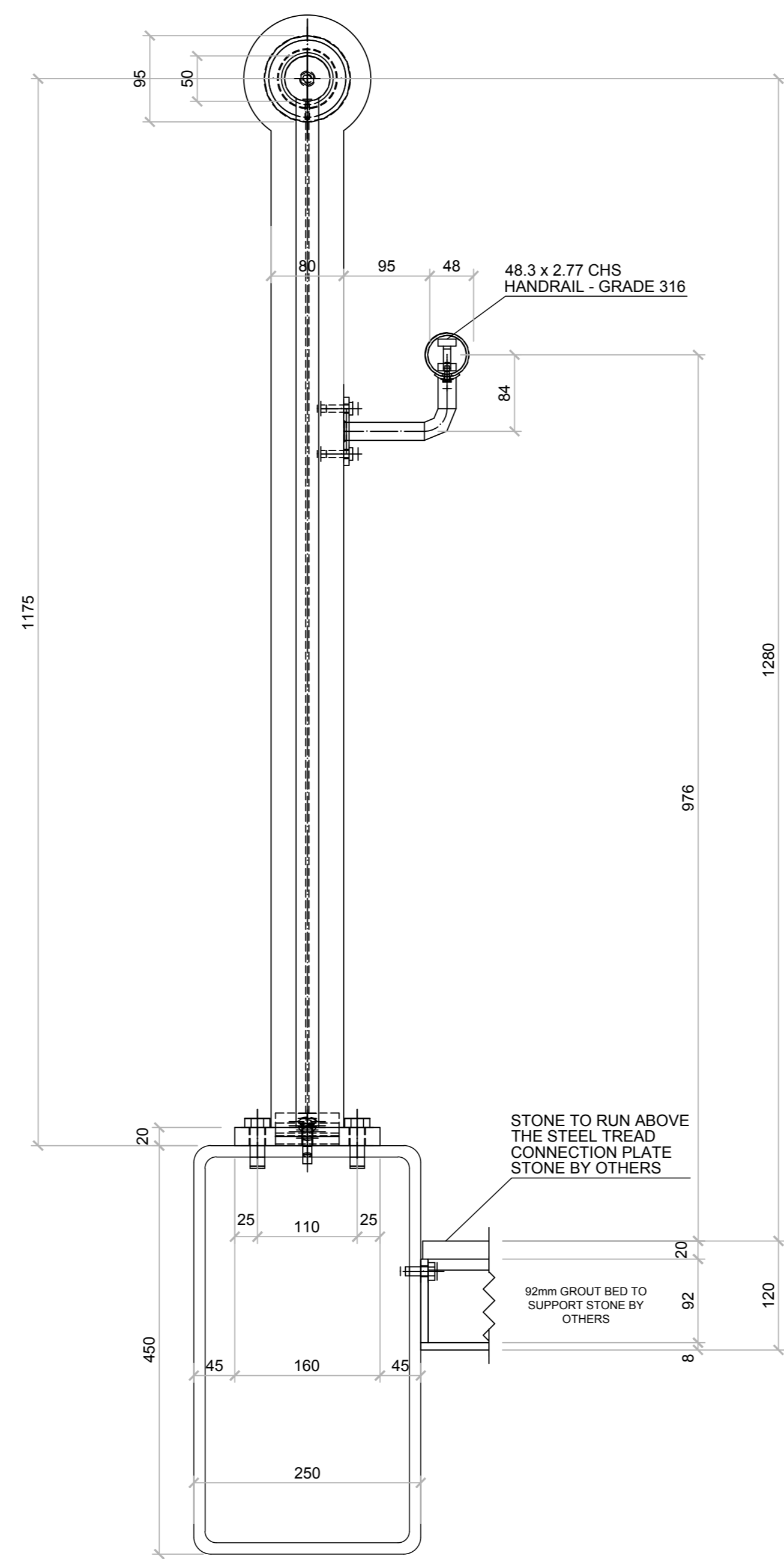


1:5 TYPICAL ELEVATION ON OUTER BALUSTRADE - BAL 05

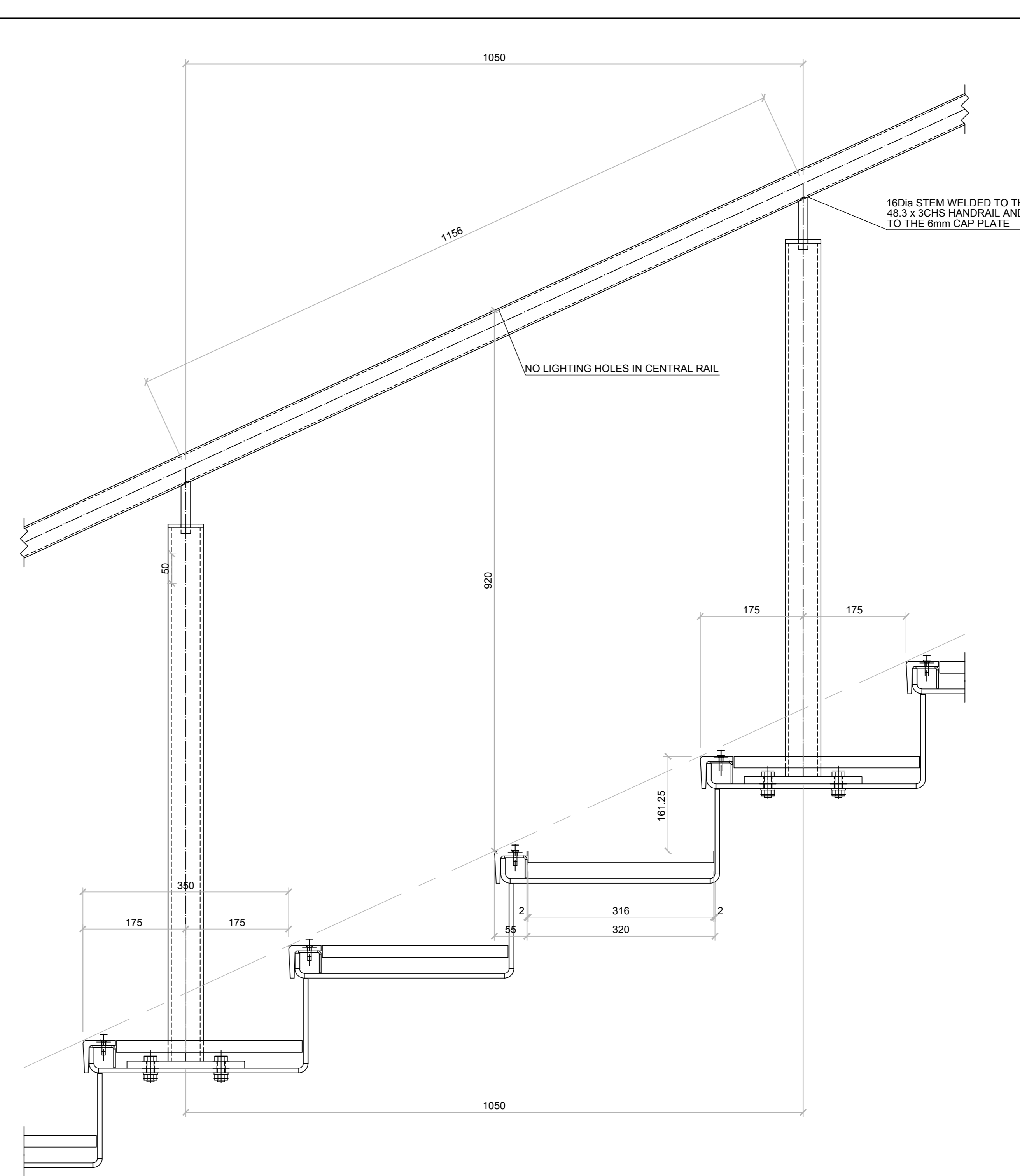
DUE TO BALUSTER CENTRES, BALUSTRADE PANELS CANNOT ALWAYS BE FIXED TO 50mm TAP PLATES. IN THIS INSTANCE THE BALUSTRADE PANEL WILL BE BOLTED STRAIGHT DOWN TO THE BOX SECTION WITH A 10mm THK PACKER



1:5 BAL 05 TYPICAL BALUSTER ELEVATION

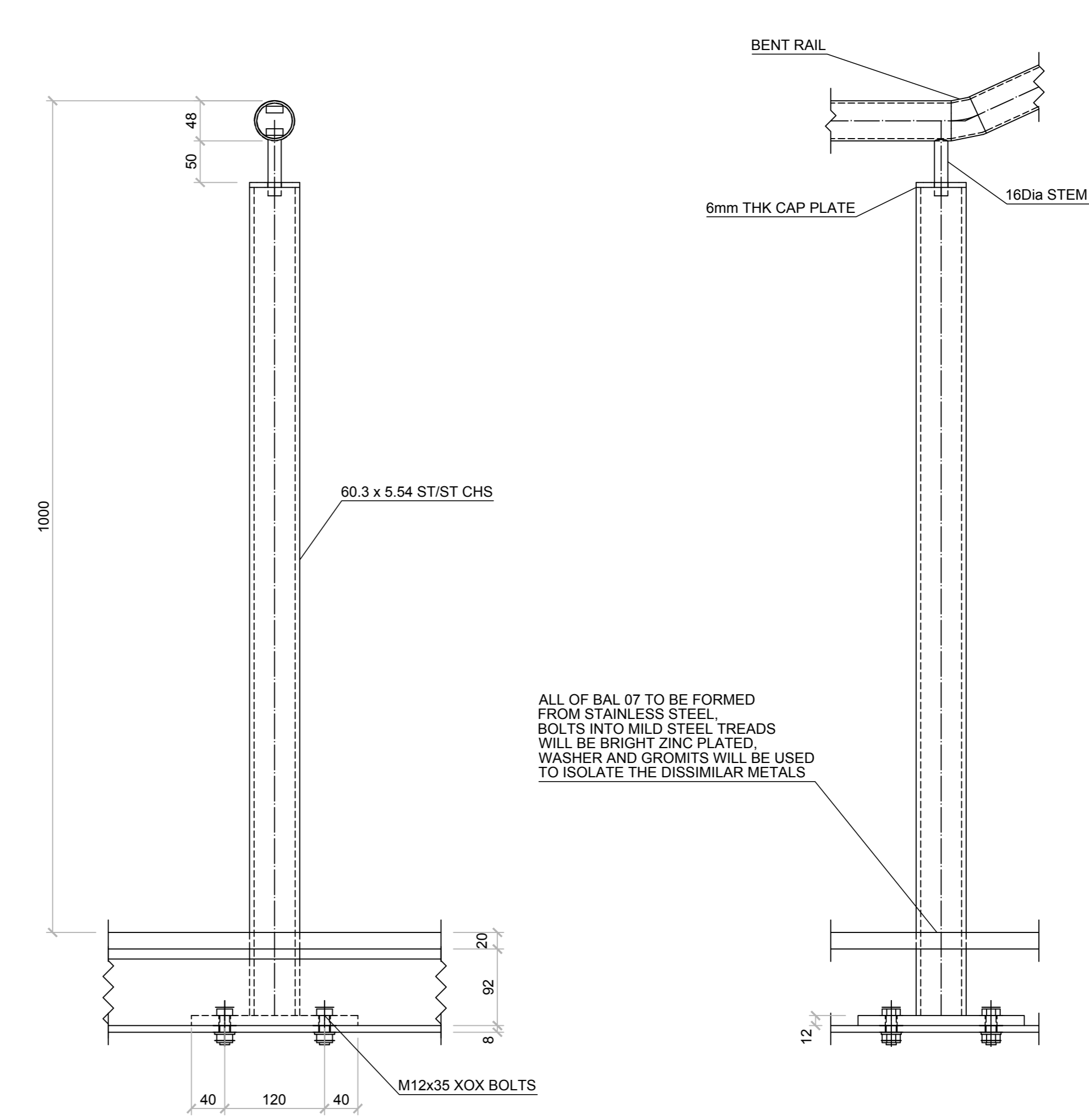


1:5 BAL 05 TYPICAL BALUSTER SECTION



1:5 TYPICAL ELEVATION ON CENTRAL BALUSTRADE - BAL 07

TYPICAL BALUSTER DETAILS ARE OF THE BALUSTERS ON THE HALF LANDING



1:5 BAL 07 TYPICAL BALUSTER SECTION

1:5 BAL 07 TYPICAL BALUSTER ELEVATION

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- All welds continuous 4mm (throat) fillet U.N.O.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Filing tolerance to be + or - 6mm.
- 1st angle projection
- This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	Balustrade
EXC1	
EXC2	Structure
EXC3	

MATERIALS

- STRUCTURE:**  
 450 x 250 x 12.5 RHS STRINGERS - GRADE S355J2H  
 12mm THK BASE PLATE - GRADE S275JR  
 8mm THK FOLDED TREADS - GRADE S275JR  
 8mm THK CONNECTION PLATES - GRADE S275JR  
 AAT-NOSING TYPE SN955 - AS APPROVED SAMPLE
- BAL 05:**  
 40mm THK BALUSTERS - GRADE S275JR  
 70 x 10 FLAT BAR BOTTOM RAIL - GRADE S275JR  
 50Dia SOLID BAR TOP RAIL - GRADE S275JR  
 25Dia SOLID BAR INFILLS - GRADE S275JR  
 48.3 x 2.77 CHS HANDRAIL - GRADE 316  
 19mm THK BALUSTER BOSSES  
 20Dia SOLID BAR STEMS - GRADE 316  
 6mm THK HANDRAIL PLATE - GRADE 316  
 5mm THK BALUSTER TABS  
 3mm THK SADDLE PLATES - GRADE 316  
 3mm THK HANDRAIL CAP PLATES - GRADE 316
- BAL 07:**  
 48.3 x 2.77 CHS HANDRAIL - GRADE 316  
 60.3 x 35.54 CHS BALUSTER - GRADE 316  
 160Dia SOLID BAR STEMS - GRADE 316  
 12mm THK BASE PLATES - GRADE 316  
 3mm THK HANDRAIL CAP PLATES - GRADE 316

FINISH

- BALUSTRADE:**  
 GALVANISED, ETCHED & POWDER COATED RAL 7021  
 BALUSTER POSTS TO BE HOT ZINC SPRAYED
- STRUCTURE:**  
 HOT DIP GALVANISED, & PAINTED COLOUR TBC  
 HANDRAILS: SATIN POLISHED - 240 GRIT
- NOSINGS:** ZINC PLATED BLACK - AS APPROVED SAMPLE

- HANDRAILS:** SATIN POLISHED 240 GRIT  
 FOLLOWED BY BEAD BLASTING - F174 AS PER APPROVED SAMPLE

DESIGN LOADINGS

- BAL 05:**  
 1.5kN/m TO INFILL SPINDLES  
 3kN/m TO BALUSTRADE
- BAL 07:**  
 1.5kN/m TO BALUSTRADE
- STRUCTURE:**  
 4kN/m POINT LOAD

SUBJECT TO SITE SURVEY

Index	Date	Description	Author
04	30/05/2017	Balustrade Height Changed to Suit Intersections	JD
03	07/02/2017	Stringers Issued for Construction	JD
02	16/12/2016	Revised to Suit Comments and Calculations	JD
01	15/11/2016	Stringers Increased to Suit Calculations	JD
00	07/11/2016	Issued for Approval	JD

REVISIONS

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 01938470264 / 01938442322 www.structuralstairways.com

CLIENT  
**BAM CONSTRUCTION**

PROJECT  
**KINGS CROSS - COAL DROP YARDS**

DRAWING TITLE  
**WCD-00 STAIR 01  
 BAL 05 & BAL 07 TYPICAL DETAILS**

DRAWN BY	CHECKED BY	DATE	SCALE
JD		03/11/2016	As Noted

PROJECT No. 1791-A DRAWING No. KXC-CDY-M0-001-Y-SSL-34-504 REV [G] - 01 04

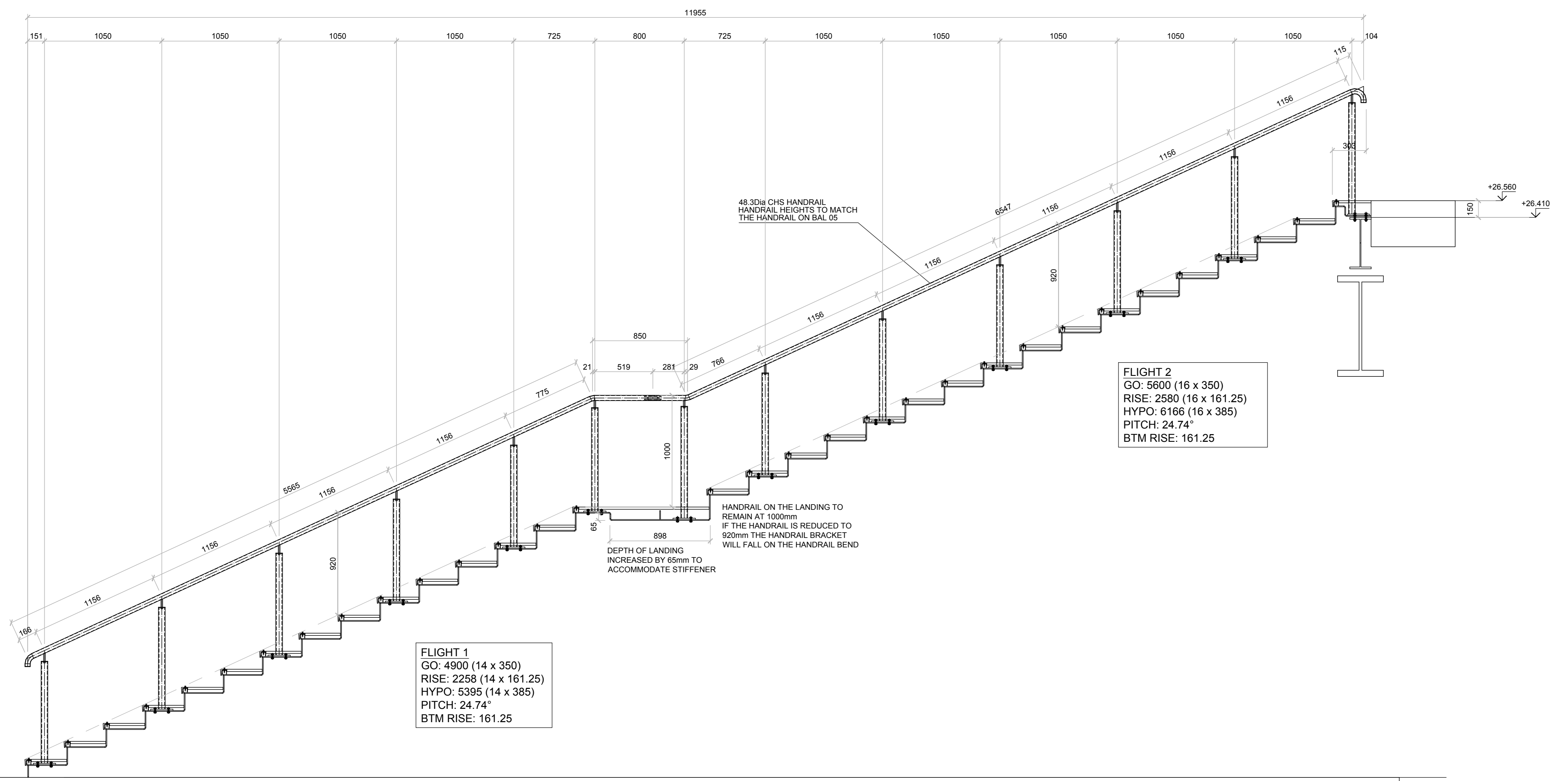
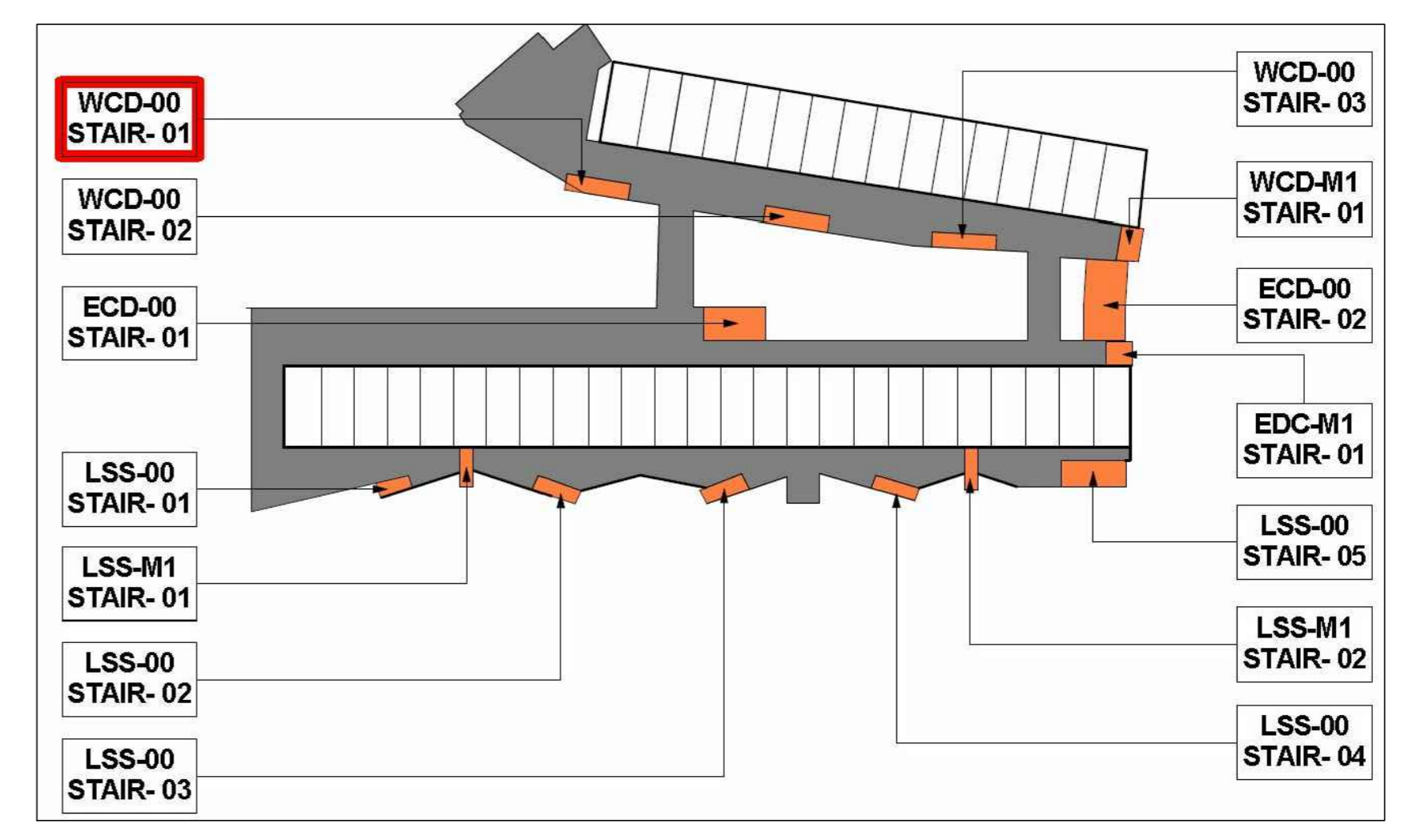
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  - This drawing has been produced in accordance with our interpretation of the Architects/Engineers drawings and requirements.
  - All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be 304 / 316 (U.N.O). See materials below for specific grades.
  - All welds continuous 4mm (throat) fillet U.N.O.
  - Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Fixing tolerance to be + or - 5mm.
  - 1st angle projection
  - This drawing is in accordance with the Execution Class specified below.

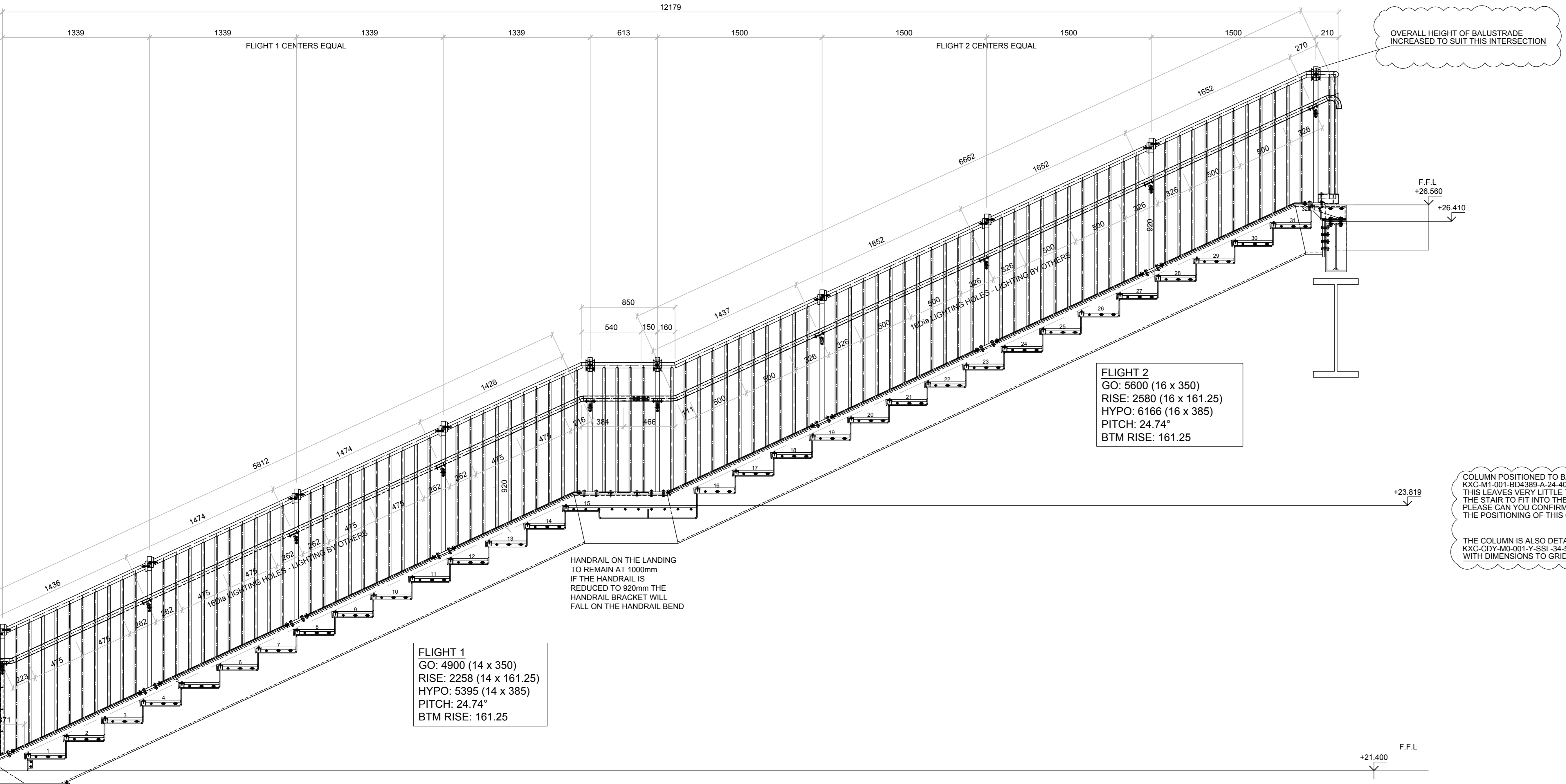
EXC CLASS	APPLICABLE
NON CPR ITEM	Balustrade
EXC1	
EXC2	Structure
EXC3	

- MATERIALS**
- STRUCTURE:**  
450 x 250 x 12.5 RHS STRINGERS - GRADE S355J2H  
12mm THK BASEPLATE - GRADE S275JR  
8mm THK FOLDED TREADS - GRADE S275JR  
8mm THK CONNECTION PLATES - GRADE S275JR  
AATI NOSING TYPE SN955 - AS APPROVED SAMPLE
- BAL 05:**  
CAST STEEL BALUSTERS - GRADE S420/12  
70 x 10 FLAT BAR BOTTOM RAIL - GRADE S275JR  
500a SOLID BAR TOP RAIL - GRADE S275JR  
250a SOLID BAR INFILLS - GRADE S275JR  
48.3 x 2.77 CHS HANDRAIL - GRADE 316  
200a SOLID BAR STEMS - GRADE 316  
6mm THK HANDRAIL PLATE - GRADE 316  
3mm THK SADDLE PLATES - GRADE 316  
3mm THK HANDRAIL CAP PLATES - GRADE 316
- BAL 07:**  
48.3 x 2.77 CHS HANDRAIL - GRADE 316  
160a SOLID BAR STEMS - GRADE 316  
12mm THK BASE PLATES - GRADE 316  
3mm THK HANDRAIL CAP PLATES - GRADE 316

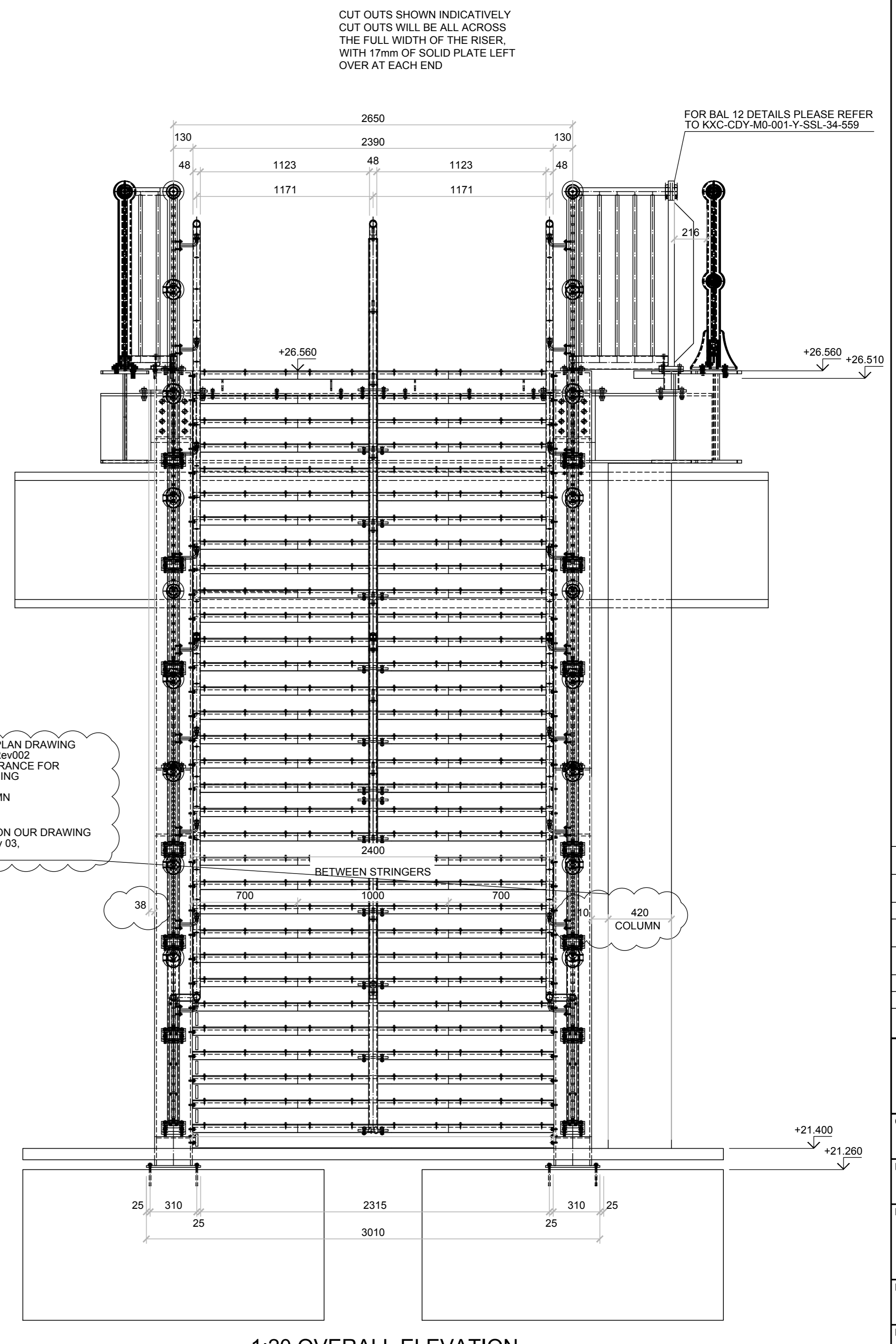
- FINISH**
- BALUSTRADE:** ETCHED & POWDER COATED RAL 7021  
**BALUSTER POSTS:** TO BE HOT ZINC SPRAYED
- STRUCTURE:** HOT DIP GALVANISED, & PAINTED COLOUR TBC  
**HANDRAILS:** SATIN POLISHED - 240 GRIT
- NOSINGS:** ZINC PLATED BLACK - AS APPROVED SAMPLE
- DESIGN LOADINGS**
- LOADINGS TO BE CONFIRMED
- 1.5kN/m TO INFILL SPINDLES  
3kN/m TO BALUSTRADE  
4kN/m POINT LOAD TO STRUCTURE



1:20 FULL ELEVATION ON BAL 07  
BAL 12 IGNORED FOR CLARITY



1:20 FULL ELEVATION ON BAL 05  
BAL 12 IGNORED FOR CLARITY



1:20 OVERALL ELEVATION

**SUBJECT TO SITE SURVEY IF PROGRAMME ALLOWS**

Index	Date	Description	Author
05	30/05/2017	Balustrade Height Changed to Suit Intersections	JD
04	16/03/2017	Revised to Suit New Stringer Level	JD
03	07/02/2017	Stringers Issued for Construction	JD
02	16/12/2016	Revised to Suit Comments and Calculations	JD
01	15/11/2016	Stringers Increased to Suit Calculations	JD
00	07/11/2016	Issued for Approval	JD

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STRUCTURAL STAIRWAYS LTD, THE PREMIER ESTATE, 125 ROAD,  
BREKID HILL INDUSTRIAL PARK, DUNDEE  
T 01384 70256 F 01384 48342 www.structuralstairways.com

**CLIENT**  
BAM CONSTRUCTION

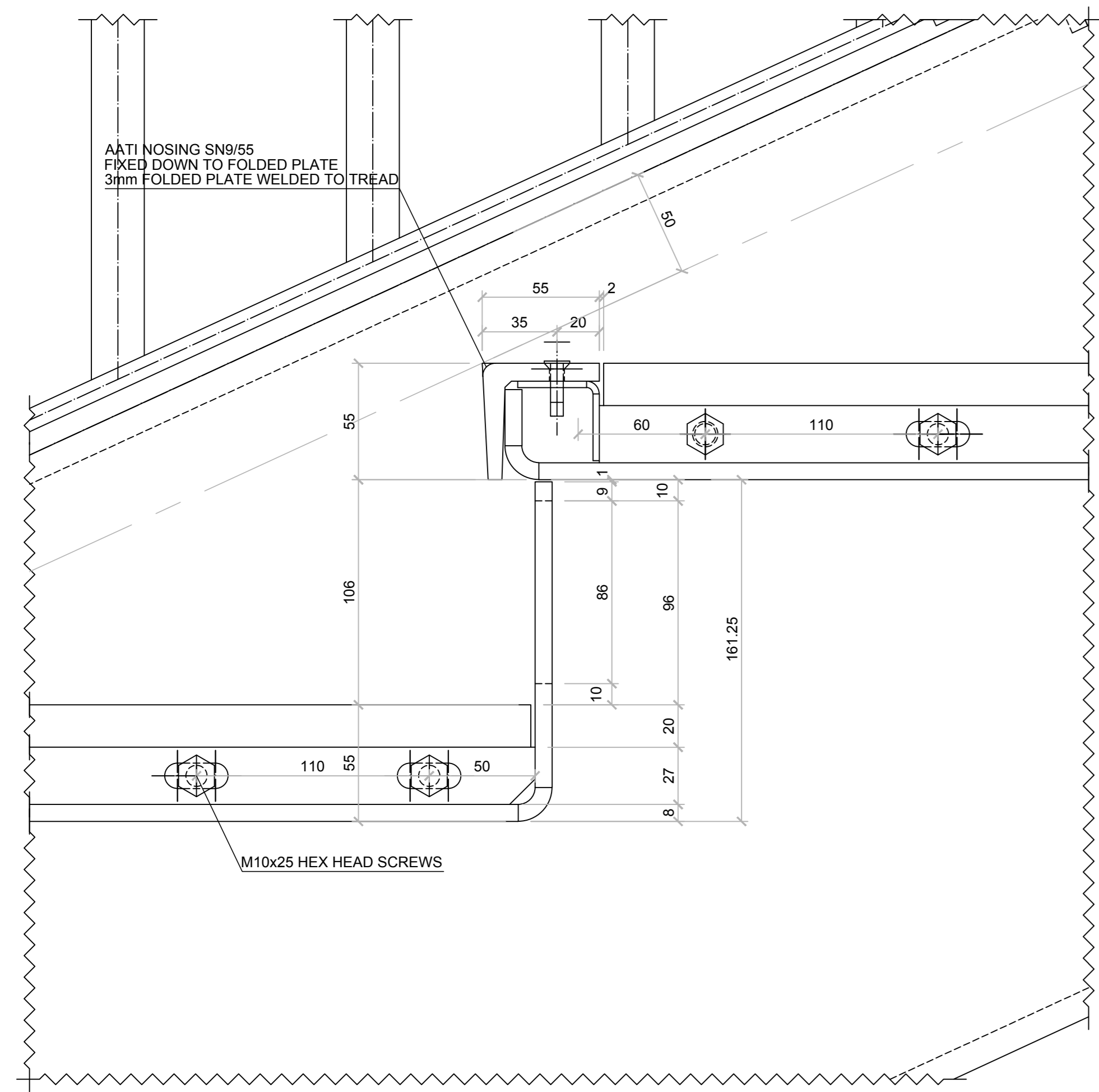
**PROJECT**  
KINGS CROSS - COAL DROP YARDS

**DRAWING TITLE**  
WCD-00 STAIR 01  
BAL 05 & BAL 07 ELEVATIONS  
GENERAL ARRANGEMENT

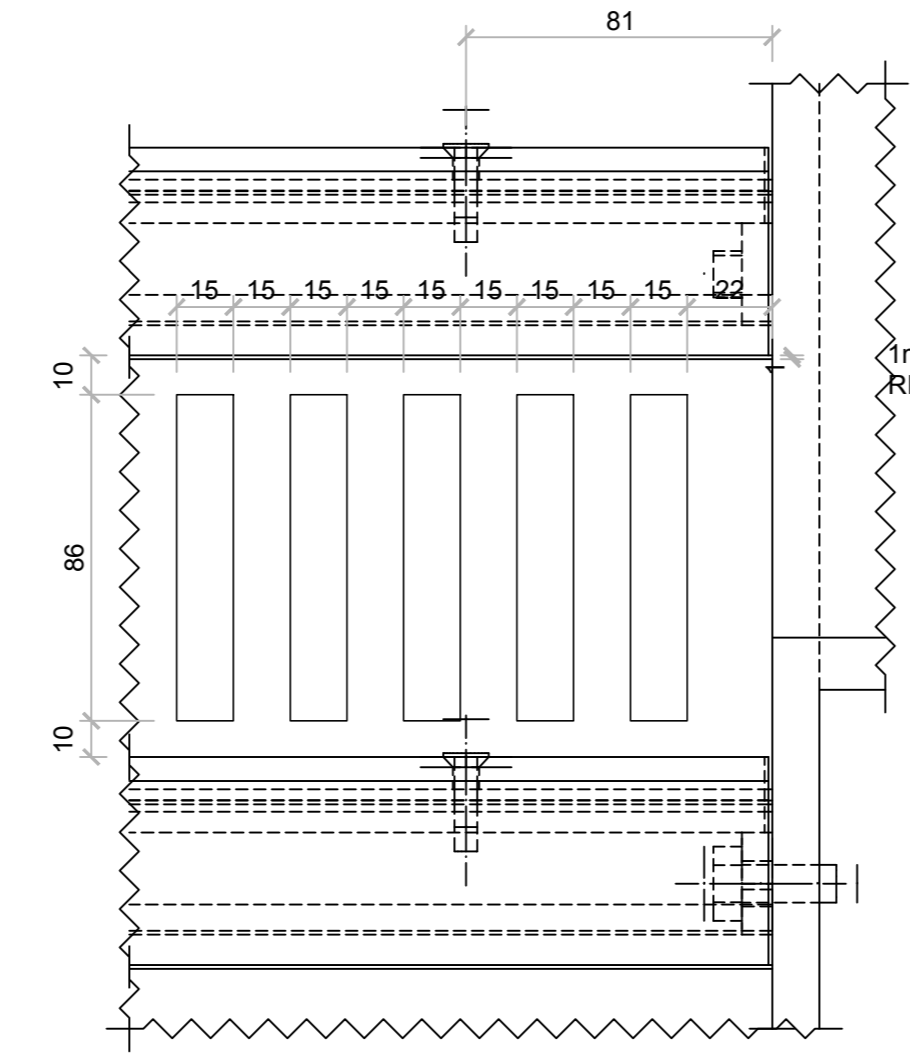
<b>DRAWN BY</b>	<b>CHECKED BY</b>	<b>DATE</b>	<b>SCALE</b>
JD		04/11/2016	As Noted

**PROJECT No.** 1791-A **DRAWING No.** [G] - 02 **REV** 05

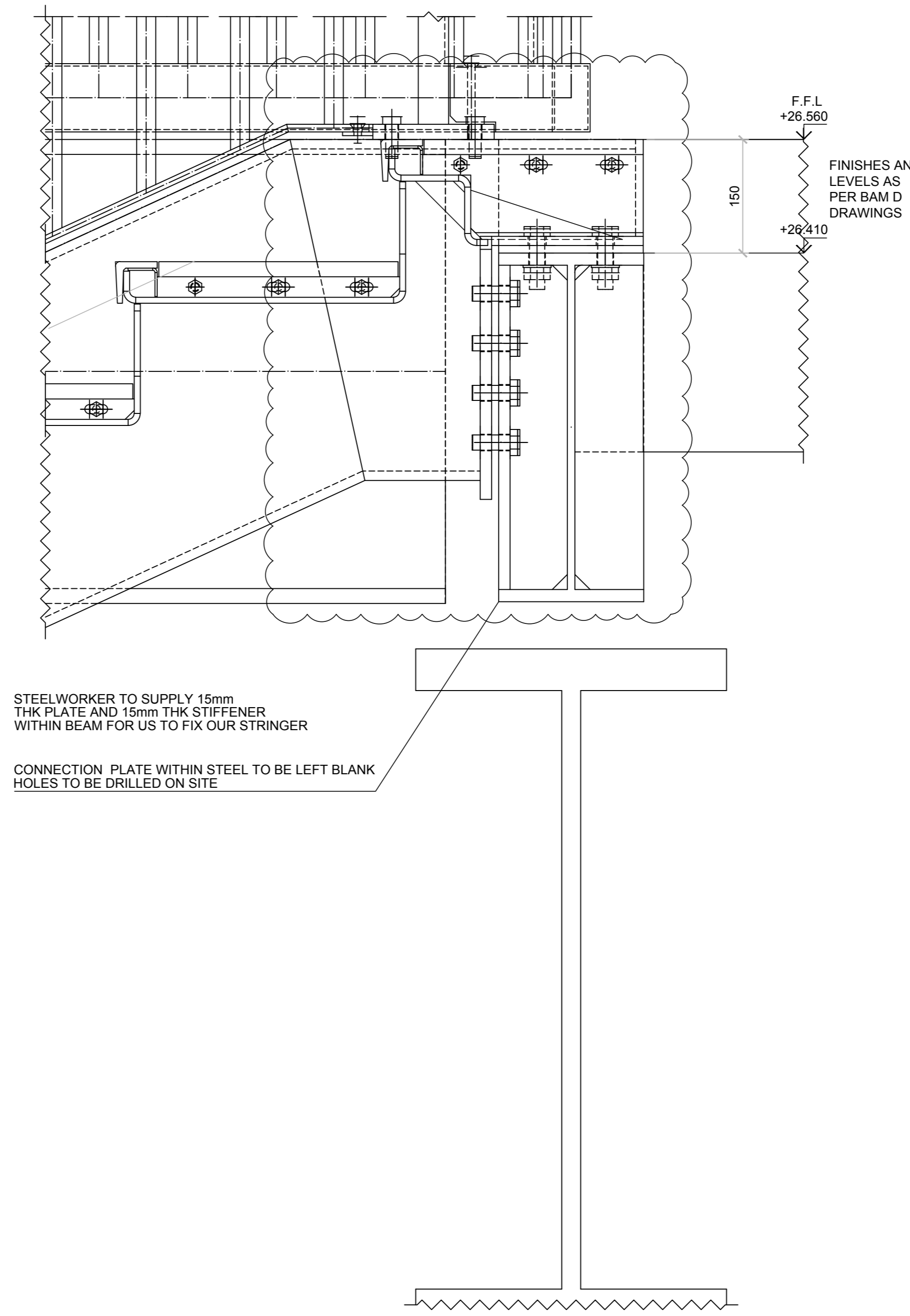
M12 GRADE 8.8 ALL THREAD RESIN ANCHORS  
FIXING INTO SOLID CONCRETE PADSTONE  
RESIN: FISCHER FIX 38 SUPERGROND INJECTION RESIN  
EMBEDMENT: MINIMUM 60mm  
BASEPLATE TO BE GROUTED BY OTHERS



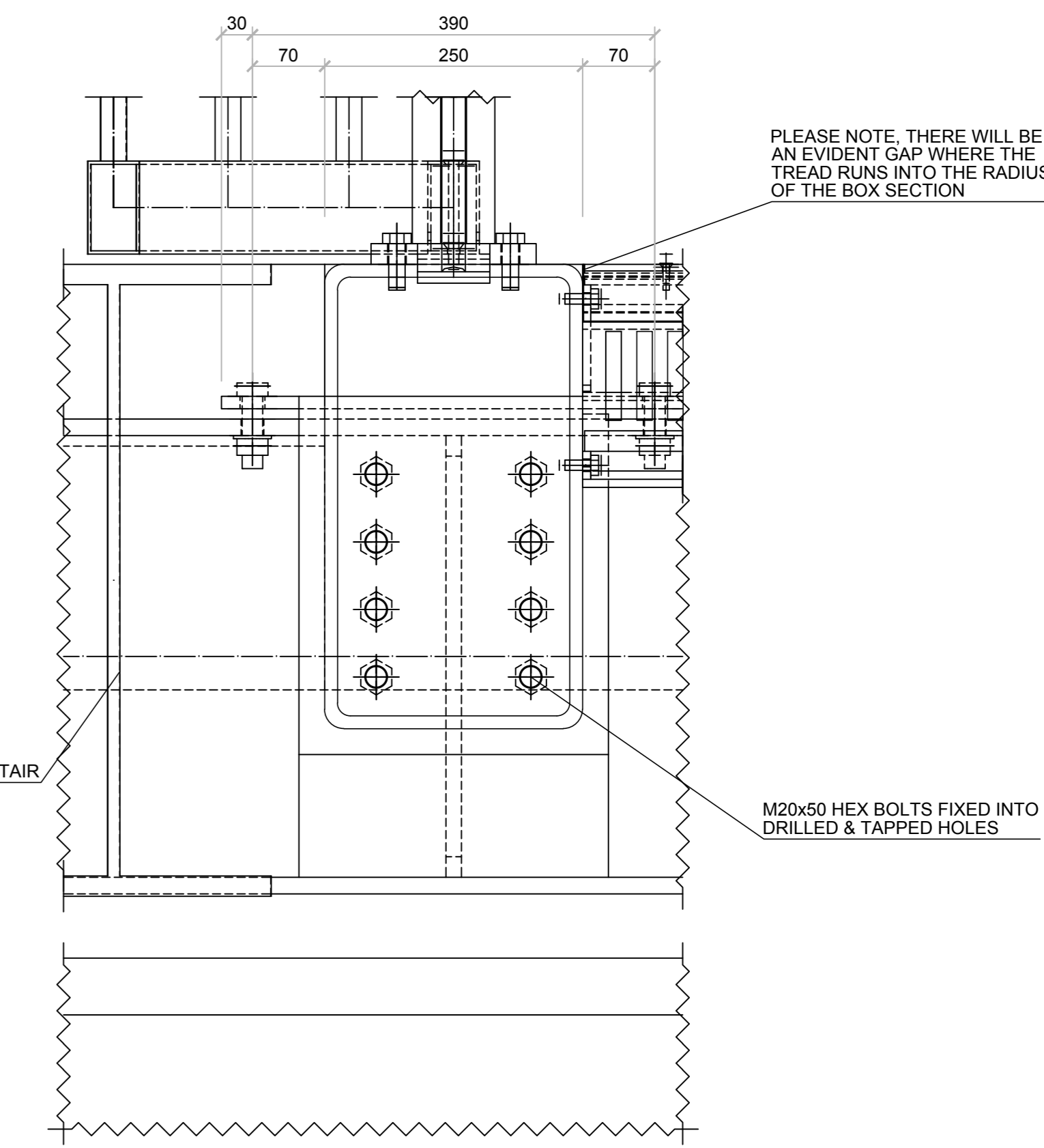
1:2 TYPICAL NOSING DETAIL



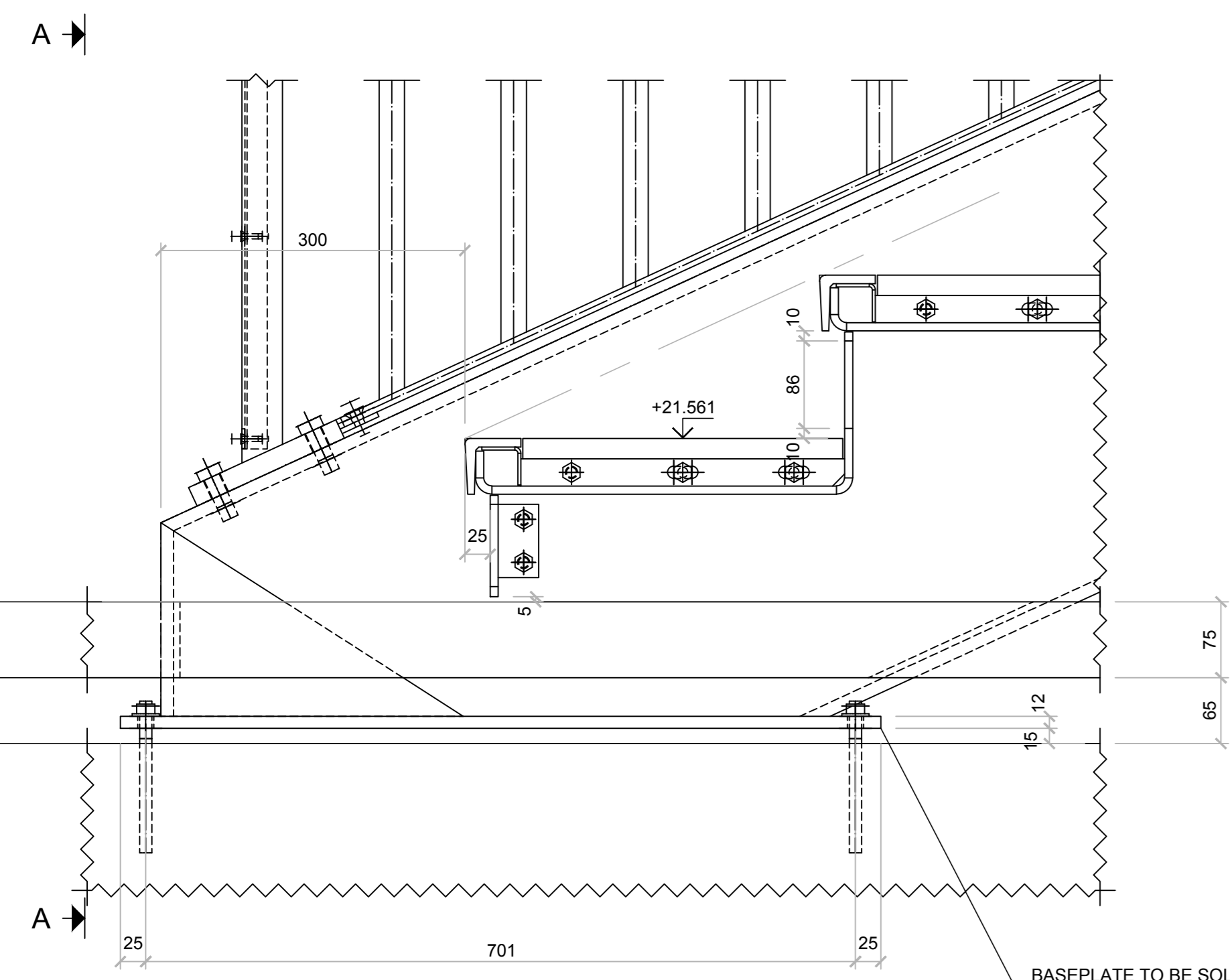
1:2 ELEVATION ON RISER CUT OUTS



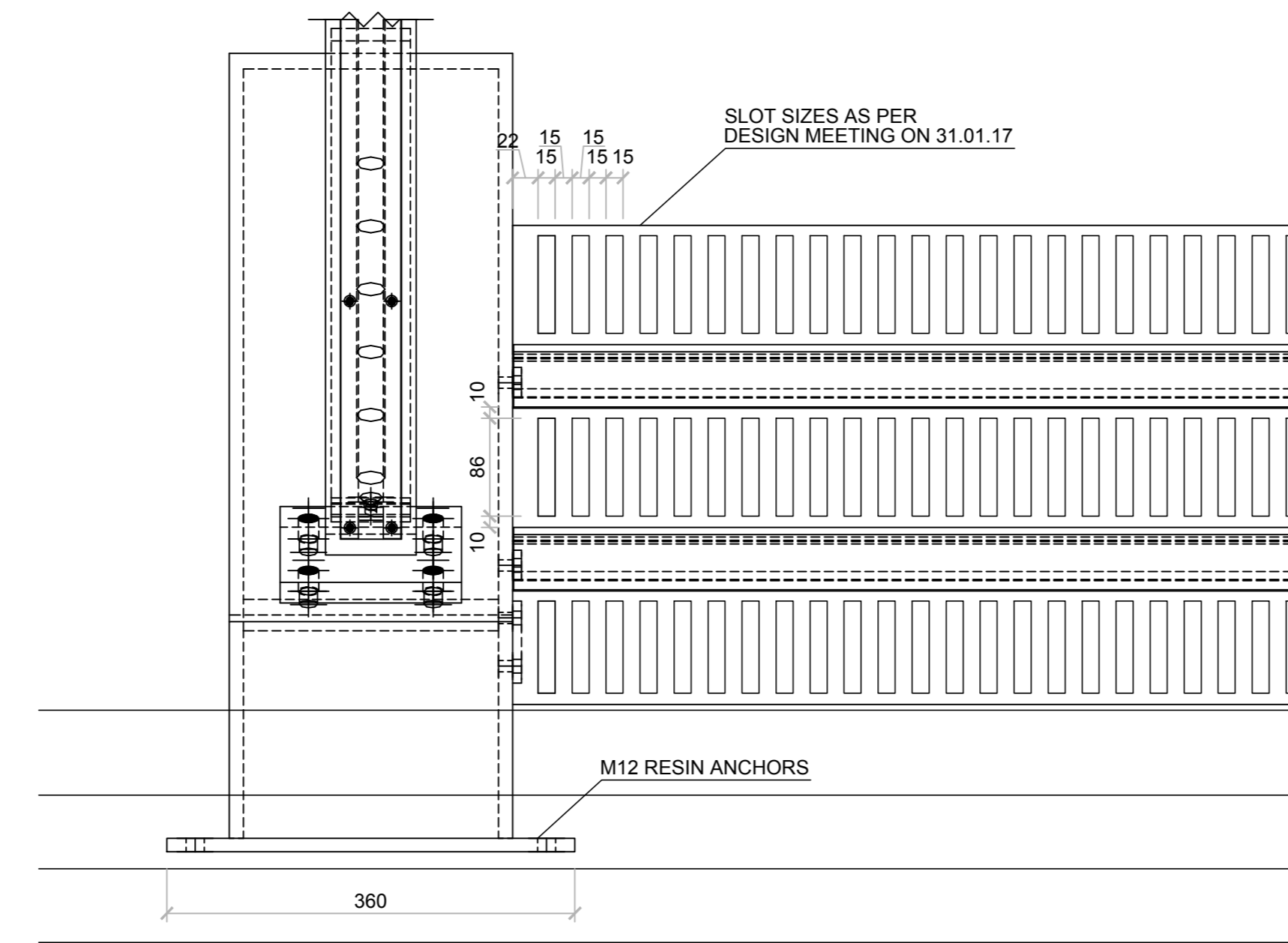
1:5 DETAIL AT THE HEAD OF WCD-00 STAIR-01



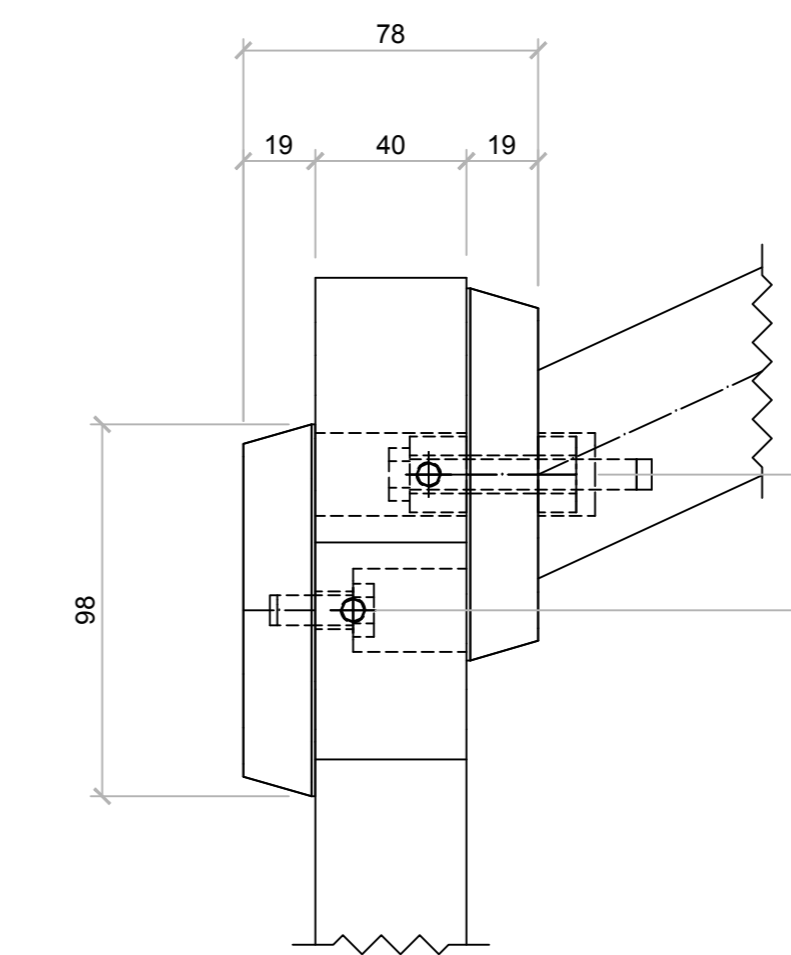
1:5 HEAD OF WCD-00 STAIR-01 SECTION



1:5 DETAIL AT THE BASE OF WCD-00 STAIR-01

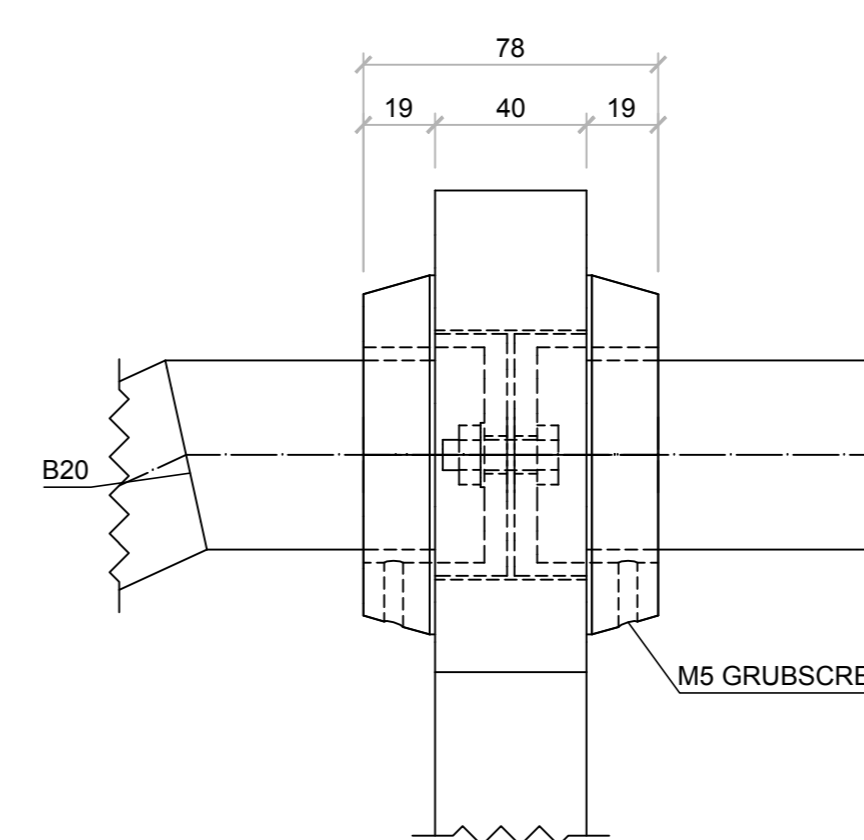


VIEW A - A

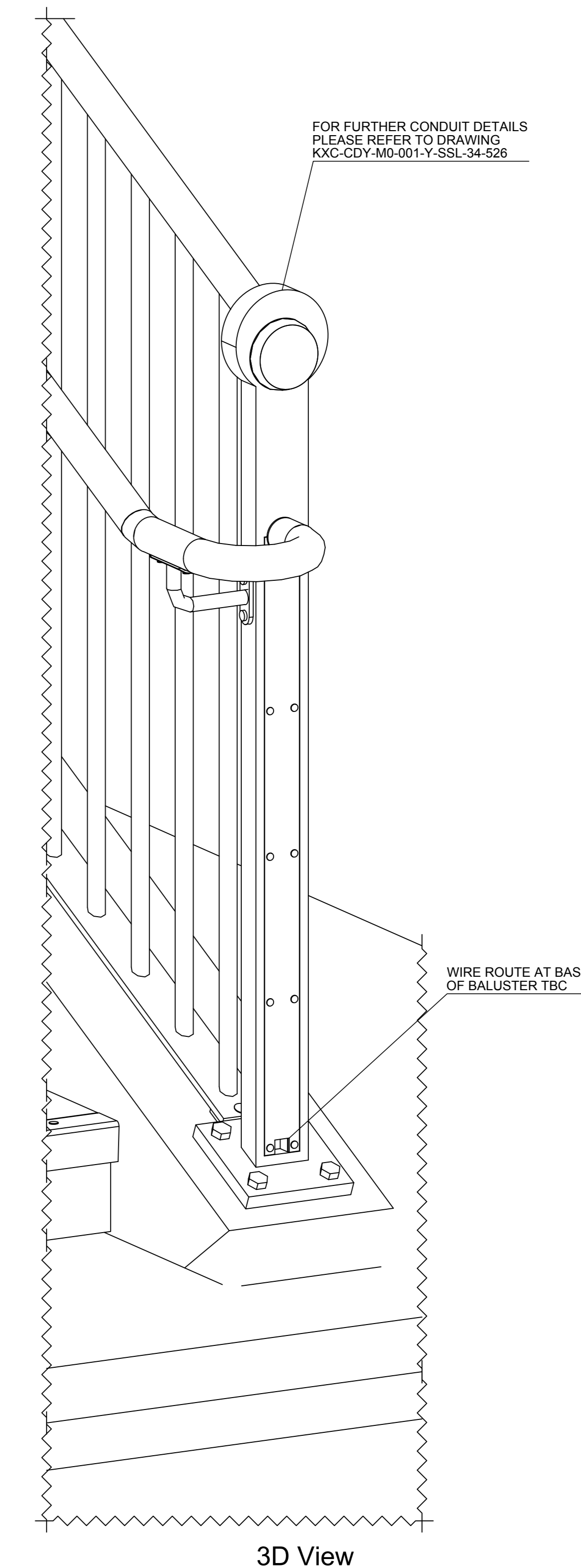


1:2 BASE OF FLIGHT TOP RAIL

FOR FURTHER DETAILS ON THE BOSSES PLEASE REFER TO DRAWINGS KXC-CDY-M0-001-Y-SSL-34-512, KXC-CDY-M0-001-Y-SSL-34-513 & KXC-CDY-M0-001-Y-SSL-34-514



1:2 HEAD OF FLIGHT TOP RAIL



3D View

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- All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be 304 / 316 (U.N.O). See materials below for specific grades.
- All welds continuous 4mm (throat) fillet U.N.O.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Filing tolerance to be + or - 6mm.
- 1st angle projection
- This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	Balustrade
EXC1	
EXC2	Structure
EXC3	

MATERIALS

STRUCTURE:  
450 x 250 x 12.5 RHS STRINGERS - GRADE S355J2H  
12mm THK BASEPLATE - GRADE S275JR  
8mm THK FOLDED TREADS - GRADE S275JR  
8mm THK CONNECTION PLATES - GRADE S275JR  
AA171 NOSING TYPE SN9/55 - AS APPROVED SAMPLE

BAL 05  
CAST STEEL BALUSTERS - GRADE S420/12  
70 x 10 FLAT BAR BOTTOM RAIL - GRADE S275JR  
50dia SOLID BAR TOP RAIL - GRADE S275JR  
25dia SOLID BAR INFILLS - GRADE S275JR  
48.3 x 2.77 CHS HANDRAIL - GRADE 316  
20dia SOLID BAR STEMS - GRADE 316  
6mm THK HANDRAIL PLATE - GRADE 316  
3mm THK SADDLE PLATES - GRADE 316  
3mm THK HANDRAIL CAP PLATES - GRADE 316

BAL 07:  
48.3 x 2.77 CHS HANDRAIL - GRADE 316  
18dia SOLID BAR STEMS - GRADE 316  
12mm THK BASE PLATES - GRADE 316  
3mm THK HANDRAIL CAP PLATES - GRADE 316

FINISH

BALUSTRADE:  
GALVANISED, ETCHED & POWDER COATED RAL 7021  
BALUSTER POSTS TO BE HOT ZINC SPRAYED

STRUCTURE:  
HOT DIP GALVANISED, & PAINTED COLOUR TBC  
HANDRAILS: SATIN POLISHED - 240 GRIT

NOSINGS: ZINC PLATED BLACK - AS APPROVED SAMPLE

DESIGN LOADINGS

LOADINGS TO BE CONFIRMED  
1.5kN/m TO INFILL SPINDLES  
3kN/m TO BALUSTRADE  
4kN/m POINT LOAD TO STRUCTURE

SUBJECT TO SITE SURVEY IF PROGRAMME ALLOWS

Index	Date	Description	Author
05	30/05/2017	Balustrade Height Changed to Suit Intersections	JD
04	16/03/2017	Revised to Suit New Stringer Level	JD
03	07/02/2017	Stringers Issued for Construction	JD
02	16/12/2016	Revised to Suit Comments and Calculations	JD
01	15/11/2016	Stringers Increased to Suit Calculations	JD
00	07/11/2016	Issued for Approval	JD

REVISIONS

**StructuralStairways**  
ARCHITECTURAL METALWORK  
STRUCTURAL STEELWORK LTD, THE PENINSULA (0345) 4761400,  
BREWERY WISE, WEST MIDLANDS, B95 5JF  
t: 01828 7026 f: 01828 48262 www.structuralstairways.com

CLIENT  
BAM CONSTRUCTION  
PROJECT  
KINGS CROSS - COAL DROP YARDS  
DRAWING TITLE  
WCD-00 STAIR 01  
CONNECTION DETAILS  
GENERAL ARRANGEMENT


DRAWN BY	CHECKED BY	DATE	SCALE
JD		30/05/2017	As Noted

PROJECT No. 1791-A DRAWING No. [G]-03 REV 05

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- All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be S34 / S16 (U.N.O). See materials below for specific grades.
- All welds continuous 4mm (throat) fillet U.N.O.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Filing tolerance to be + or - 6mm.
- 1st angle projection 
- This drawing is in accordance with the Execution Class specified below

EXC CLASS	APPLICABLE
NON CPR ITEM	Balustrade
EXC1	
EXC2	Structure
EXC3	

MATERIALS

**STRUCTURE:**  
 300 x 200 x 8 RHS STRINGERS - GRADE S355JR  
 12mm THK BASEPLATE - GRADE S275JR  
 8mm THK FOLDED THREADS - GRADE S275JR  
 8mm THK CONNECTION PLATES - GRADE S275JR  
 AATI NOSING TYPE SN655 - AS APPROVED SAMPLE

**BAL 05:**  
 CAST STEEL BALUSTERS - GRADE S420/12  
 70 x 10 FLAT BAR BOTTOM RAIL - GRADE S275JR  
 50dia SOLID BAR TOP RAIL - GRADE S275JR  
 25dia SOLID BAR INFILLS - GRADE S275JR  
 48.3 x 2.77 CHS HANDRAIL - GRADE 316  
 20dia SOLID BAR STEMS - GRADE 316  
 6mm THK HANDRAIL PLATE - GRADE 316  
 3mm THK SADDLE PLATES - GRADE 316  
 3mm THK HANDRAIL CAP PLATES - GRADE 316

**BAL 07:**  
 48.3 x 2.77 CHS HANDRAIL - GRADE 316  
 16dia SOLID BAR STEMS - GRADE 316  
 12mm THK BASE PLATES - GRADE 316  
 3mm THK HANDRAIL CAP PLATES - GRADE 316

**FINISH:**  
**BALUSTRADE:**  
 GALVANISED, ETCHED & POWDER COATED RAL 7021  
 BALUSTER POSTS TO BE HOT ZINC SPRAYED

**STRUCTURE:**  
 HOT DIP GALVANISED, & PAINTED COLOUR TBC  
 HANDRAILS: SATIN POLISHED - 240 GRIT

**NOSINGS:** ZINC PLATED BLACK - AS APPROVED SAMPLE

**HANDRAILS:** SATIN POLISHED 240 GRIT  
 FOLLOWED BY BEAD BLASTING - F174 AS PER APPROVED SAMPLE

DESIGN LOADINGS

**LOADINGS TO BE CONFIRMED**  
 1.5kN/m TO INFILL SPINDLES  
 3kN/m TO BALUSTRADE  
 4kN/m POINT LOAD TO STRUCTURE

**SUBJECT TO  
 SITE SURVEY  
 IF PROGRAMME  
 ALLOWS**

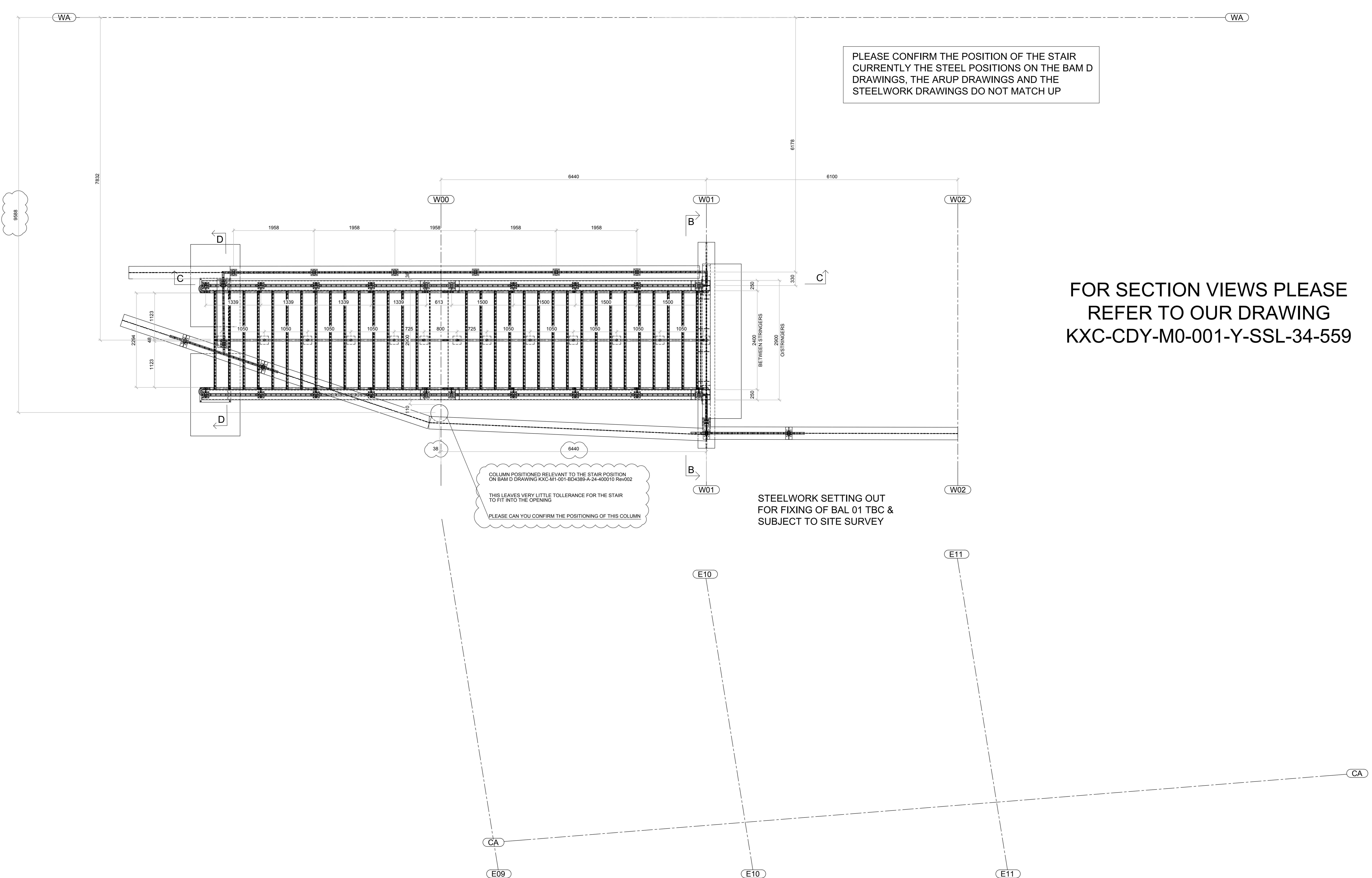
Index	Date	Description	Author
05	30/05/2017	BAL12 Added	JD
04	16/03/2017	Revised to Suit New Stringer Level	JD
03	07/02/2017	Stringers Issued for Construction	JD
02	16/12/2016	Revised to Suit Comments and Calculations	JD
01	15/11/2016	Stringers Increased to Suit Calculations	JD
00	07/11/2016	Issued for Approval	JD

REVISIONS



ARCHITECTURAL METALWORK  
 STRUCTURAL STEELWORK  
 WELDED FABRICATIONS  
 103384 7026 121384 48322 www.structuralstairways.com

CLIENT BAM CONSTRUCTION			
PROJECT KINGS CROSS - COAL DROP YARDS			
DRAWING TITLE WCD-00 STAIR 01 OVERALL PLAN GENERAL ARRANGEMENT			
DRAWN BY	CHECKED BY	DATE	SCALE
JD		07/11/2016	As Noted
PROJECT No.	DRAWING No.	REV	
1791-A	KXC-CDY-M0-001-Y-SSL-34-607 [G] - 04	05	

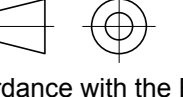


1:33 - PLAN ON WCD-00 STAIR-01

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4. This drawing has been produced in accordance with our interpretation of the Architects/Engineers drawings and requirements.
5. All MS material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST1 to be S04 / S16 (U.N.O). See materials below for specific grades.
6. All welds continuous 4mm (throat) fillet U.N.O.
7. Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Filing tolerance to be + or - 6mm.
8. 1st angle projection 
9. This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	Balustrade
EXC1	
EXC2	Structure
EXC3	

CORNERS NEED TO BE MITRED DUE TO THE MINIMUM BENDING RADIUS OF THE 500a BAR

OVERALL BALUSTRADE HEIGHT CHANGED TO ALLOW THE TOP BALUSTER TO BE THE SAME HEIGHT AS THE LANDING BALUSTERS

BAL 12 - DESIGN OF RETURN BALUSTRADE TO MATCH BAL 03 - WITHOUT HANDRAIL

+25,889

+25,989

+25,739

1:5 3D VIEW AT HEAD OF WCD-00 STAIR 01

CORNERS NEED TO BE MITRED DUE TO THE MINIMUM BENDING RADIUS OF THE 500a BAR

STEELWORK CONNECTION DICTATES THE POSITION OF THE FINAL BALUSTER

BAL 01 TO BE DETAILED TO UP TO DATE STEELWORK DRAWINGS SUPPLIED BY BAM

OVERALL BALUSTRADE HEIGHT CHANGED TO ALLOW THE TOP BALUSTER TO BE THE SAME HEIGHT AS THE LANDING BALUSTERS

FIRST FIX BRACKET REQUIRED

+26,560

+22,607

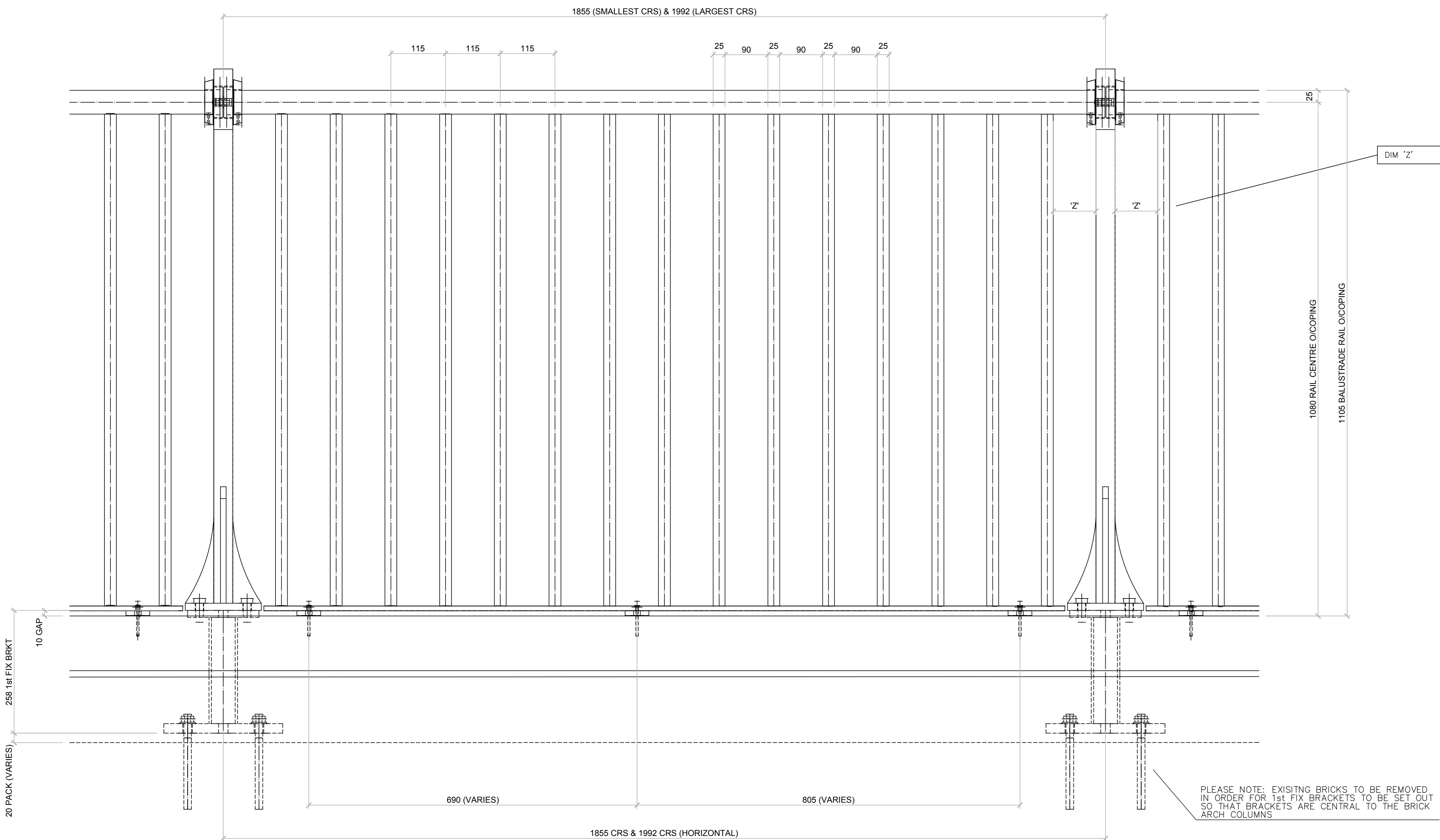
1:5 3D VIEW AT HEAD OF WCD-00 STAIR 01

Index	Date	Description	Author
03	30/05/2017	Balustrade Height Changed to Suit Intersections	JD
02	16/03/2017	Revised to Suit New Stringer Level	JD
01	07/02/2017	Balustrade Return Added	JD

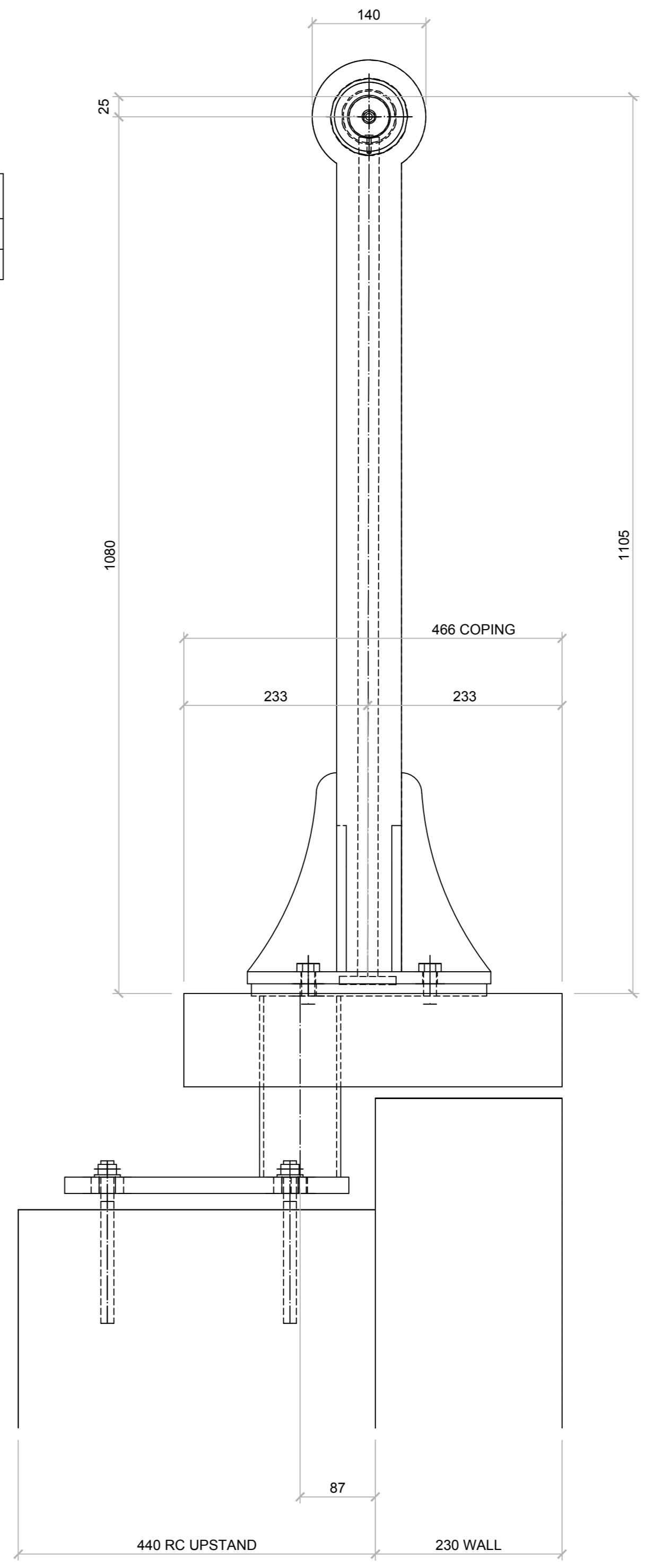
REVISIONS

<b>StructuralStairways</b>			
<small>ARCHITECTURAL METALWORK STRUCTURAL STEELWORK LTD, THE PEASING GREEN, LONDON, W14 9LW, UK 02038 7026 / 02038 4832 www.structuralstairways.com</small>			

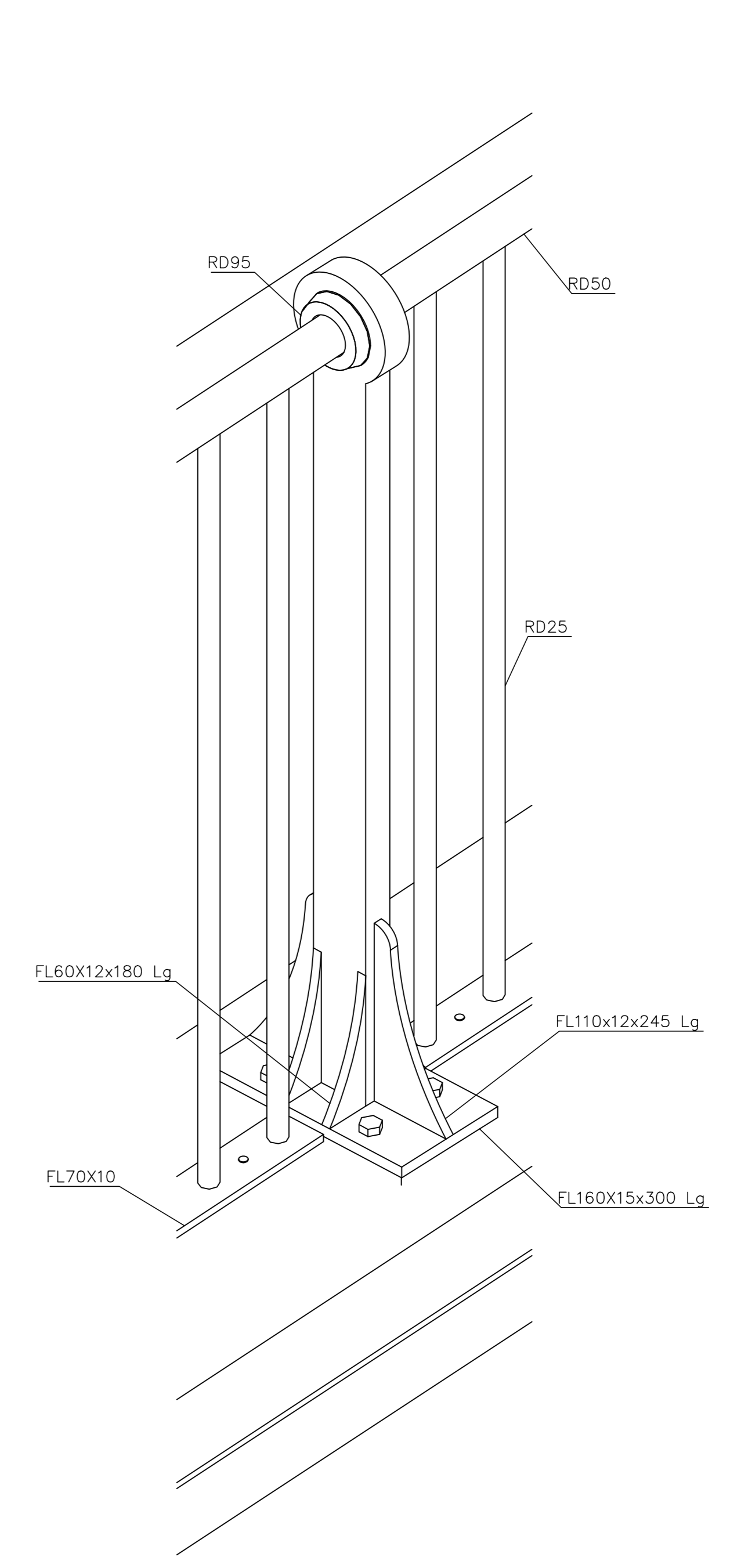
CLIENT BAM CONSTRUCTION			
PROJECT KINGS CROSS - COAL DROP YARDS			
DRAWING TITLE WCD-00 STAIR 01 BAL 05 INTERFACE WITH BAL 01 3D VIEWS			
DRAWN BY	CHECKED BY	DATE	SCALE
JD		16/12/2016	As Noted
PROJECT No.	DRAWING No.	REV	
1791-A	KSC-001-001-Y-581-34-616 [G] - 05	03	



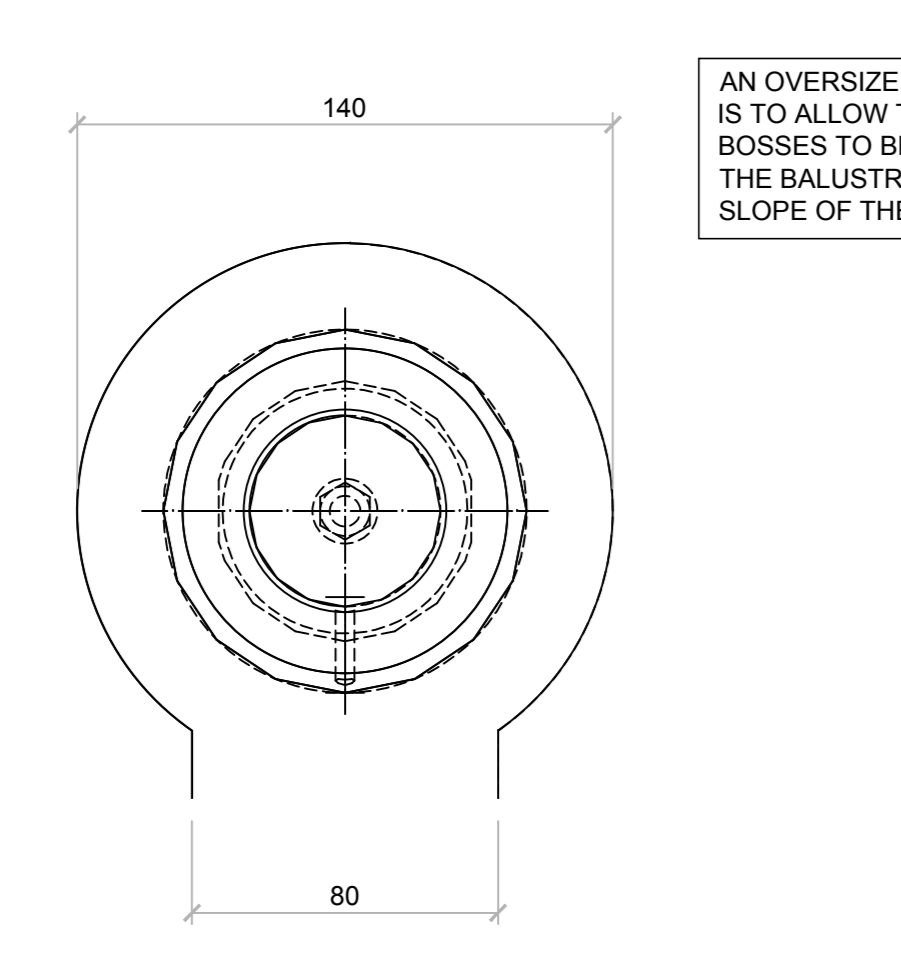
ELEVATION OF BAL-04 PANEL – COAL DROPS BALUSTRADE (1:5)



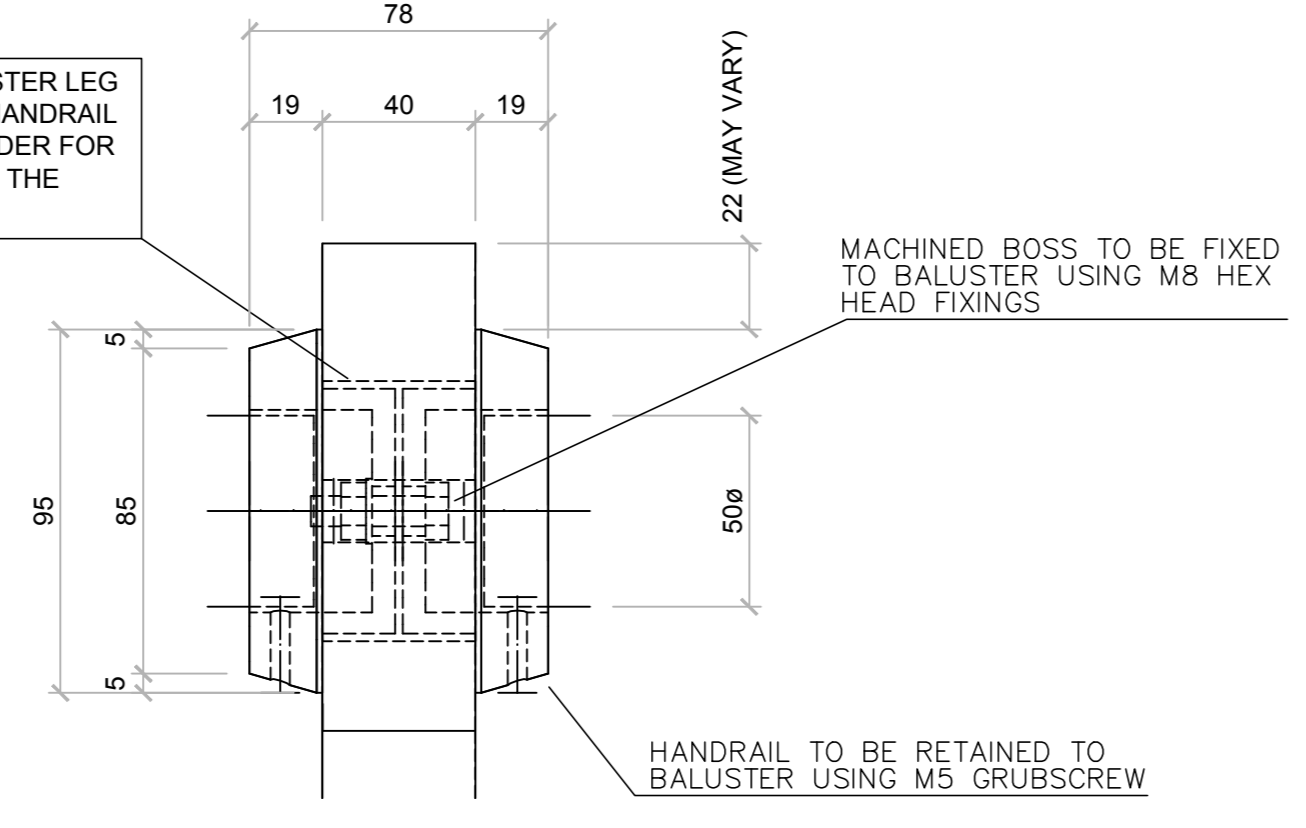
SECTION DETAIL – COAL DROPS BALUSTRADE (1:5)



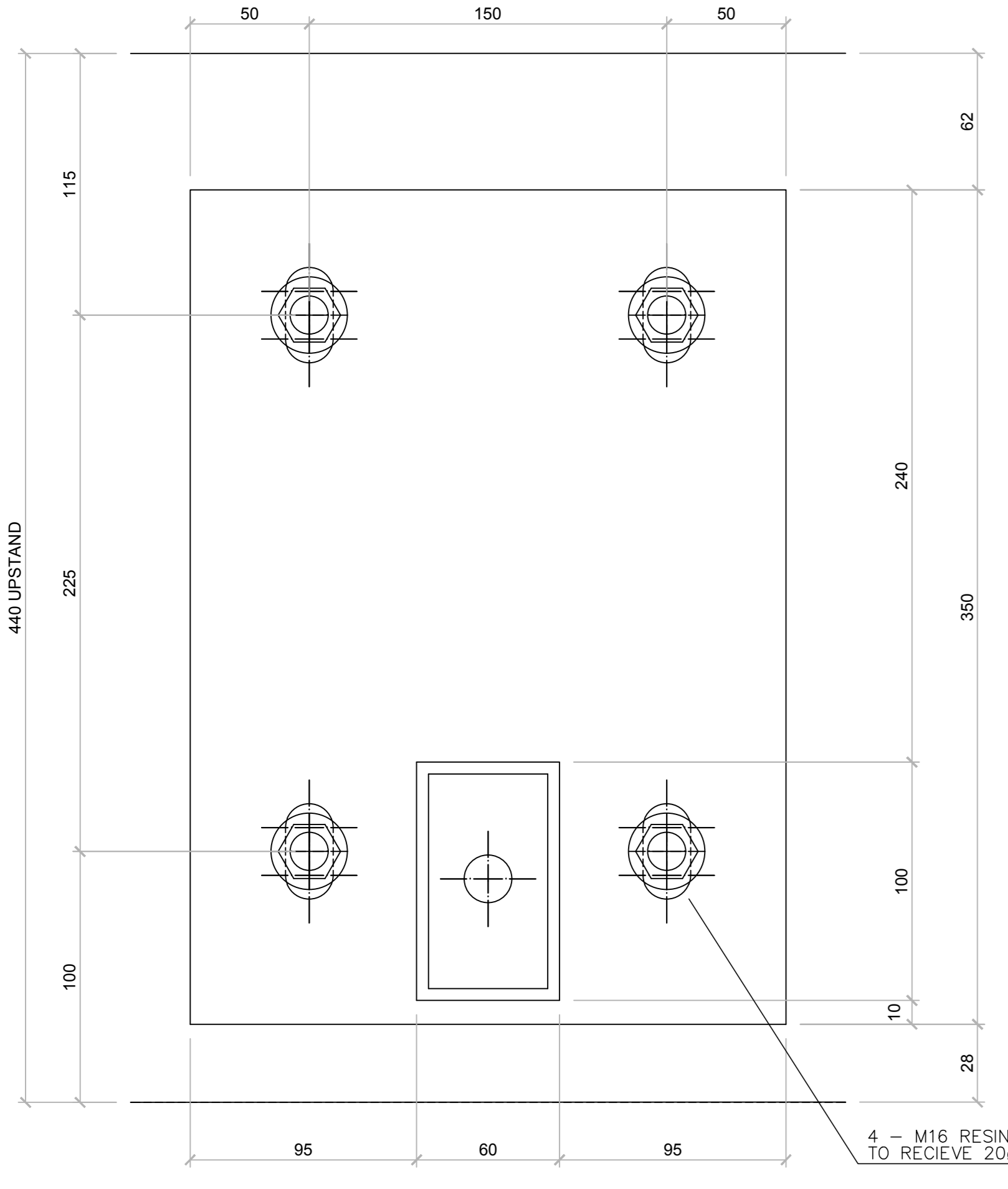
1:5 3D VIEW ON TYPICAL BALUSTER



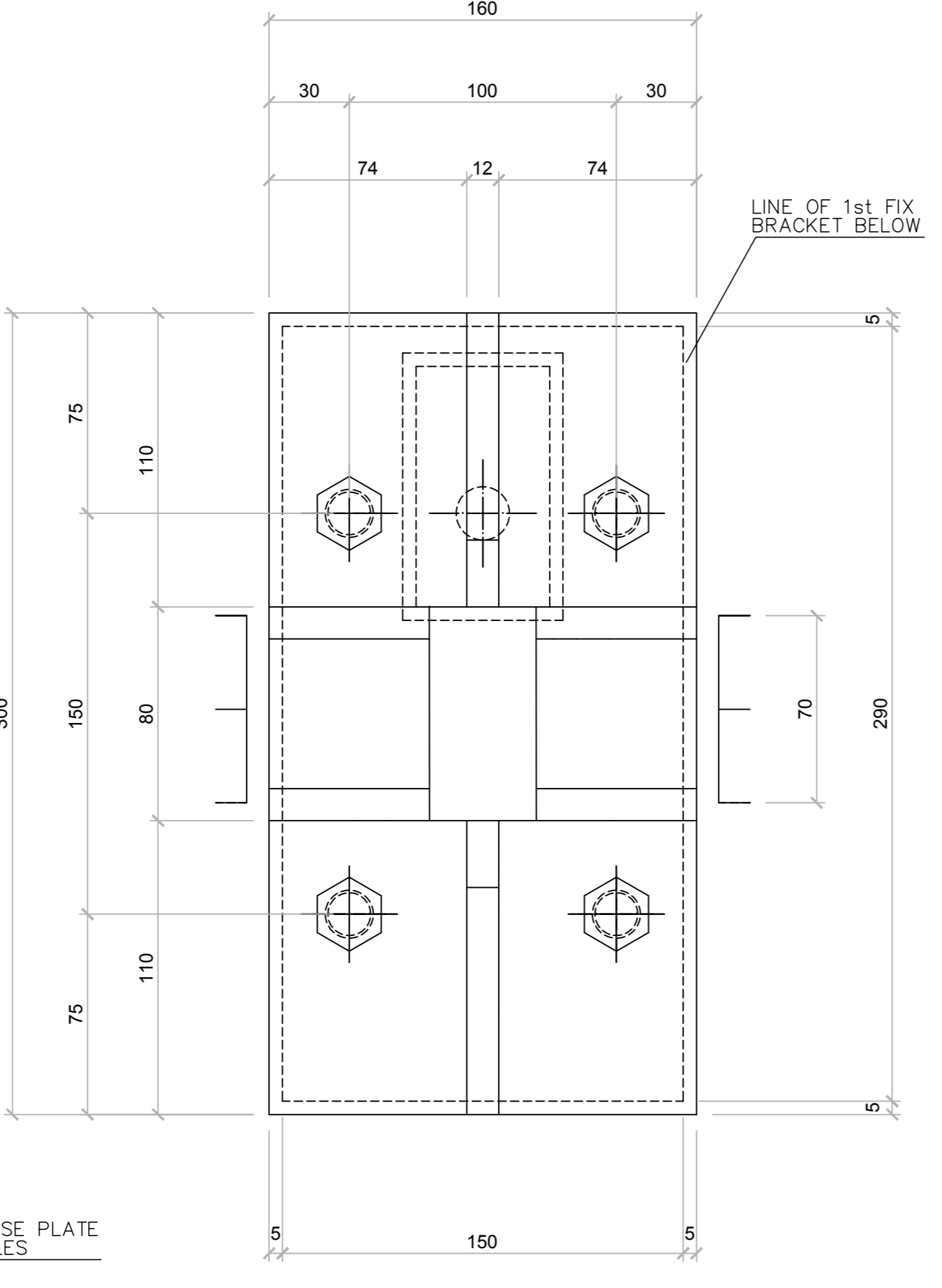
SIDE ELEVATION ON HANDRAIL CONNECTION (1:2)



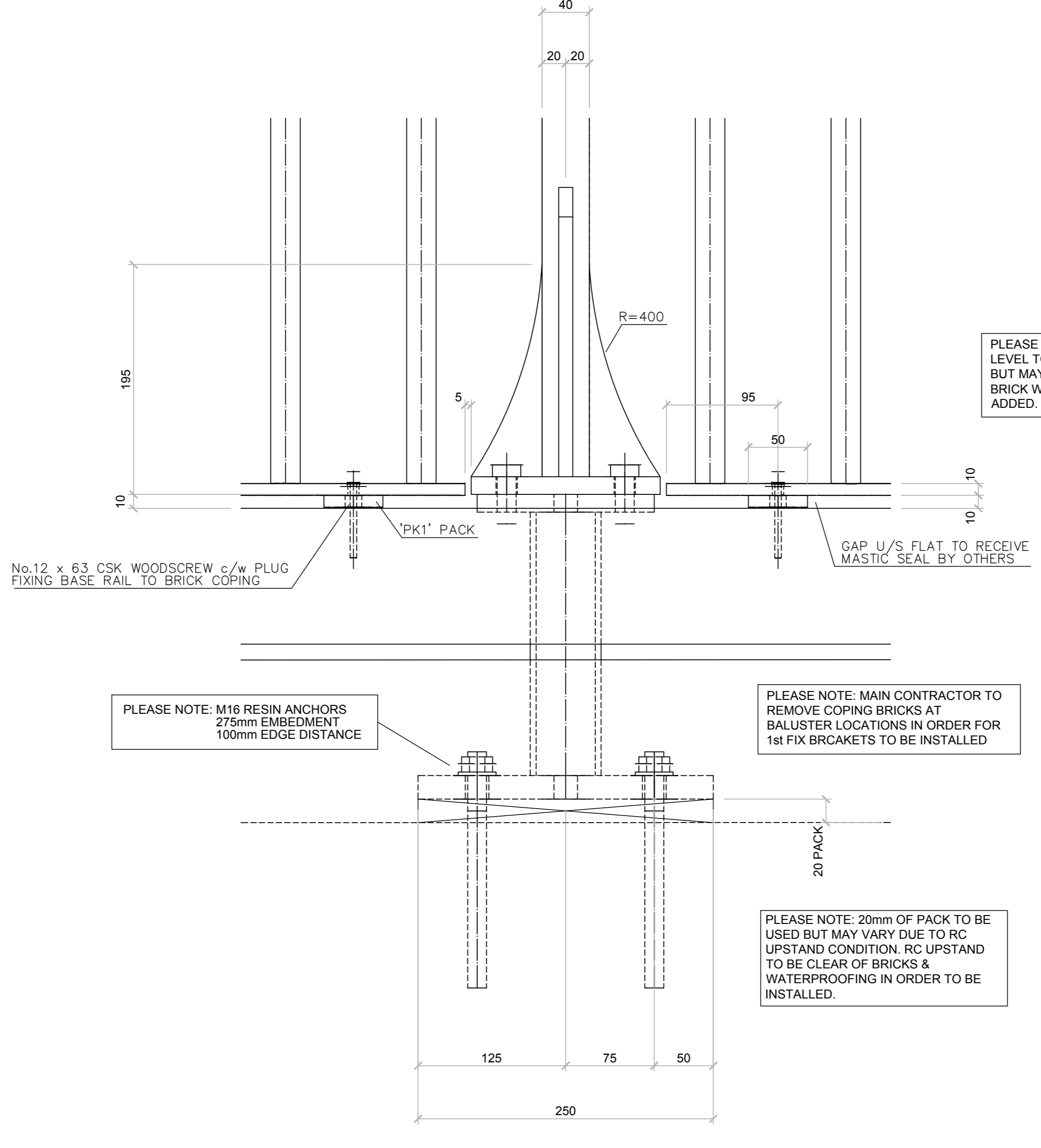
FRONT/END ELEVATION ON HANDRAIL CONNECTION (1:2)



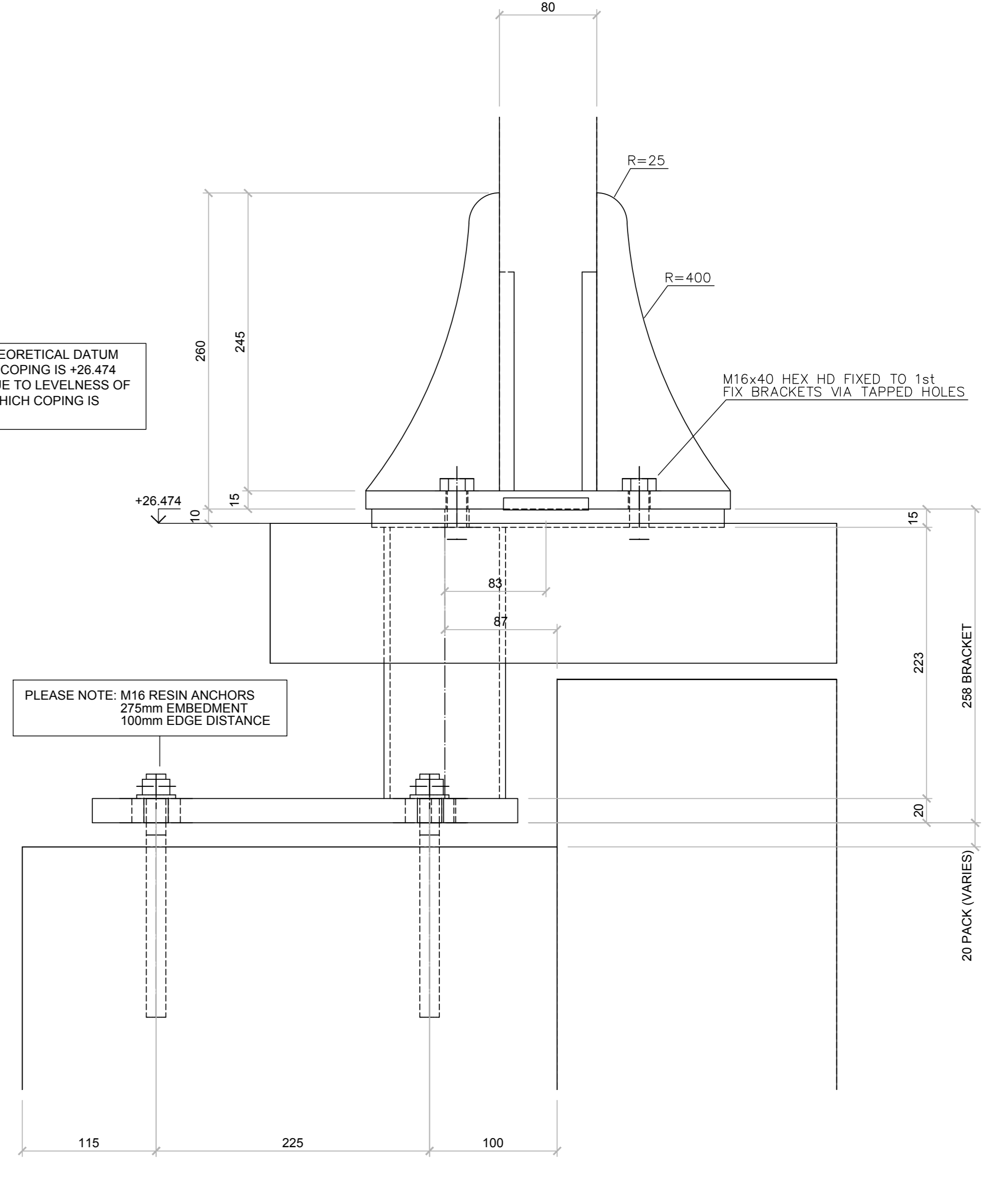
PLAN VIEW – 1st FIX BASE PLATE (1:2)



PLAN VIEW – BALUSTER BASE PLATE (1:2)



FRONT VIEW – BALUSTRADE BASE DETAIL (1:3)



END VIEW – BALUSTRADE BASE DETAIL (1:3)

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 6. All welds continuous 4mm (throat) fillet U.N.O.  
 7. Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Fixing tolerance to be + or - 6mm.  
 8. 1st angle projection  
 9. This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	✓
EXC1	
EXC2	✓
EXC3	

**MATERIALS**  
 BALUSTERS - 40mm THK M/S PLATE S275JR  
 FINIS - 12mm THK M/S PLATE S275JR  
 BASE PLATE - 15 & 20mm THK M/S PLATE S275JR  
 BOSSES - Ø95 M/S SOLID ROUND BAR S275JR  
 HAND RAIL - Ø50 M/S SOLID ROUND BAR S275JR  
 INFILLS - Ø25 M/S SOLID ROUND BAR S275JR  
 BASE RAIL - 70 x 10mm THK M/S S275JR  
 1st FIX STUB - 100 x 60 x 5mm THK M/S RHS S355 J2H  
**FINISH**  
 HOT DIPPED GALVANISED TO BS EN ISO 1461:2009. ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

**DESIGN LOADINGS**  
 3kN/m HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

Index	Date	Description	Author
00	10/03/2017	ISSUED FOR APPROVAL	TH

**REVISIONS**

**StructuralStairways**  
 ARCHITECTURAL METALWORKER  
 STRUCTURAL STEELWORKERS, THE REVEREND STREET, LONDON, E16 1JH, UK  
 BRITNEY HILL, WEST MIDLANDS, B51 3JF  
 T: 0121 705 1133 W: www.structuralstairways.com

CLIENT  
 BAM CONSTRUCTION

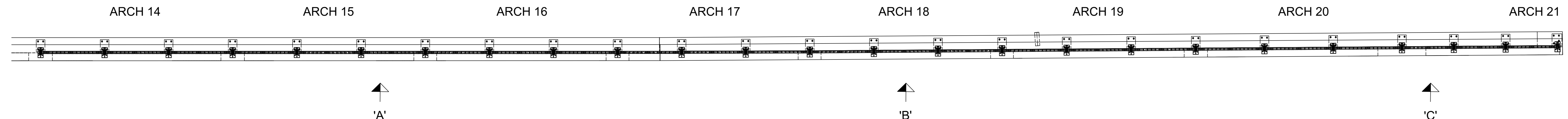
PROJECT  
 FISHER & COAL COAL DROPS

DRAWING TITLE  
 TYPICAL BALUSTRADE DETAIL BAL-04  
 ARCH 14 TO ARCH 21  
 COAL DROPS YARD VIADUCT

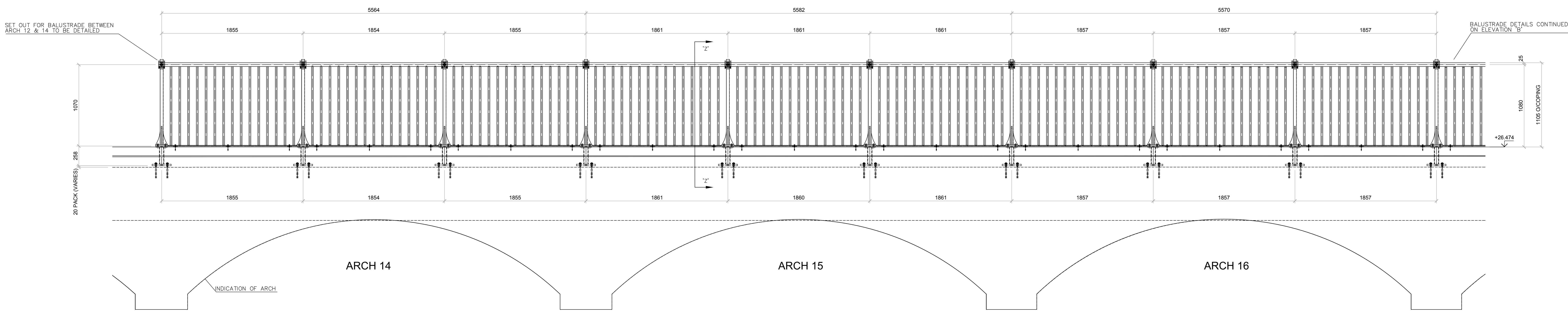
DRAWN BY	CHECKED BY	DATE	SCALE
TH		09/03/2017	As Noted

PROJECT No.	DRAWING No.	REV
1791-U	KXC-CZY-AB-001-Y-SSL-34-532	[G] - 01



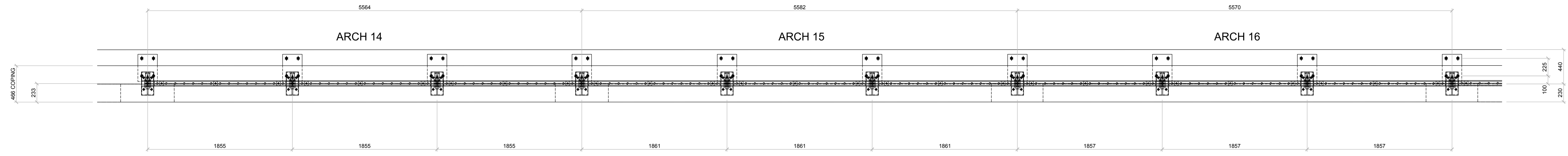


LOCATION PLAN – BALUSTRADE BAL-04 TO COAL DROPS VIADUCT – ARCH 14 TO ARCH 21 (1:50)

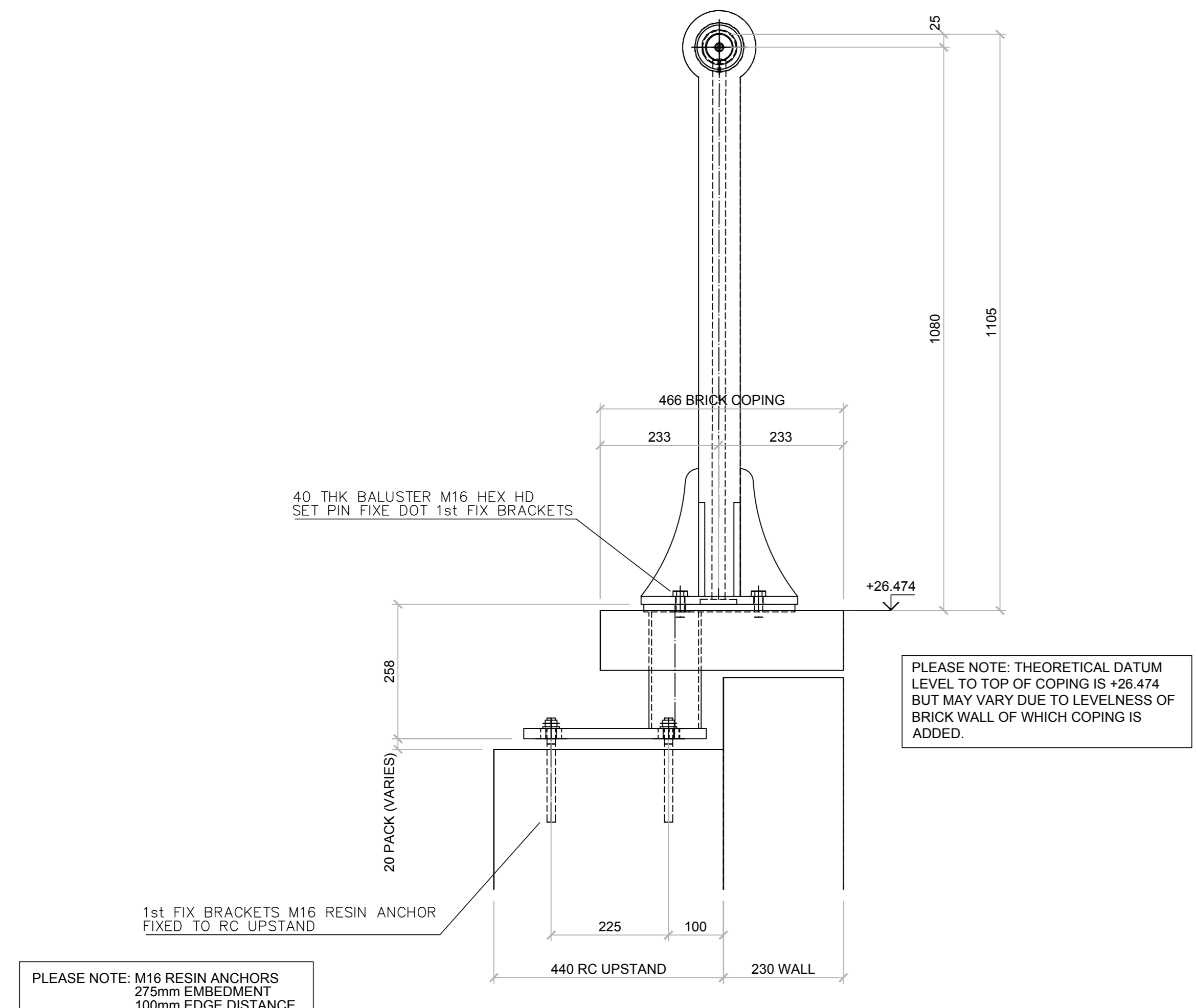


ELEVATION VIEW 'A' – BALUSTRADE BAL-04 TO ARCH 14, 15 & 16 (1:20)

PLEASE NOTE: HORIZONTAL DIMENSIONS SHOWN FOR BALUSTER CENTRE SET OUT.



PLAN VIEW ON 'A' – BALUSTRADE BAL-04 TO ARCH 14, 15 & 16 (1:20)



SECTION VIEW 'Z' – BAL-04 (1:7.5)

PLEASE NOTE: FOR ALL DETAILS OF BALUSTRADE BAL-04 TO COAL DROPS YARD VIADUCT ARCH 14 TO 21 REFER TO DRAWINGS 1791-U-(G)-01, 02 & 03

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  - This drawing has been produced in accordance with our interpretation of the Architects/Engineers drawings and requirements.
  - All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be 304 / 316 (U.N.O). See materials below for specific grades.
  - All welds continuous 4mm (throat) fillet U.N.O.
  - Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Fixing tolerance to be + or - 6mm.
  - 1st angle projection
  - This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	✓
EXC1	
EXC2	
EXC3	

**MATERIALS**

BALUSTERS - 40mm THK M/S PLATE S275JR  
 FINS - 12mm THK M/S PLATE S275JR  
 BASE PLATE - 15 & 20mm THK M/S PLATE S275JR  
 BOSSES - Ø95 M/S SOLID ROUND BAR S275JR  
 HAND RAIL - Ø50 M/S SOLID ROUND BAR S275JR  
 INFILLS - Ø25 M/S SOLID ROUND BAR S275JR  
 BASE RAIL - 70 x 10mm THK M/S S275JR  
 1st FIX STUB - 100 x 60 x 5mm THK M/S RHS S355 J2H

**FINISH**

HOT DIPPED GALVANISED TO BS EN ISO 1461:2009, ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

**DESIGN LOADINGS**

3kNm HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

Index	Date	Description	Author
00	10/03/2017	ISSUED FOR APPROVAL	TH

**REVISIONS**

**StructuralStairways**  
 ARCHITECTURAL METALWORK  
 STRUCTURAL STEELWORK, FABRICATION, ERECTION, SUPPLY, MAINTENANCE, REPAIR, MODIFICATION, SUPPLY  
 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

**CLIENT**  
 BAM CONSTRUCTION

**PROJECT**  
 FISH & COAL/COAL DROPS

**DRAWING TITLE**  
 ELEVATION & PLAN DETAILS FOR BAL-04 BALUSTRADE TO ARCH 14 TO 21 COAL DROPS YARD VIADUCT

DRAWN BY	CHECKED BY	DATE	SCALE
TH		09/03/2017	As Noted

PROJECT No.	DRAWING No.	REV
1791-U	[G]-02	00

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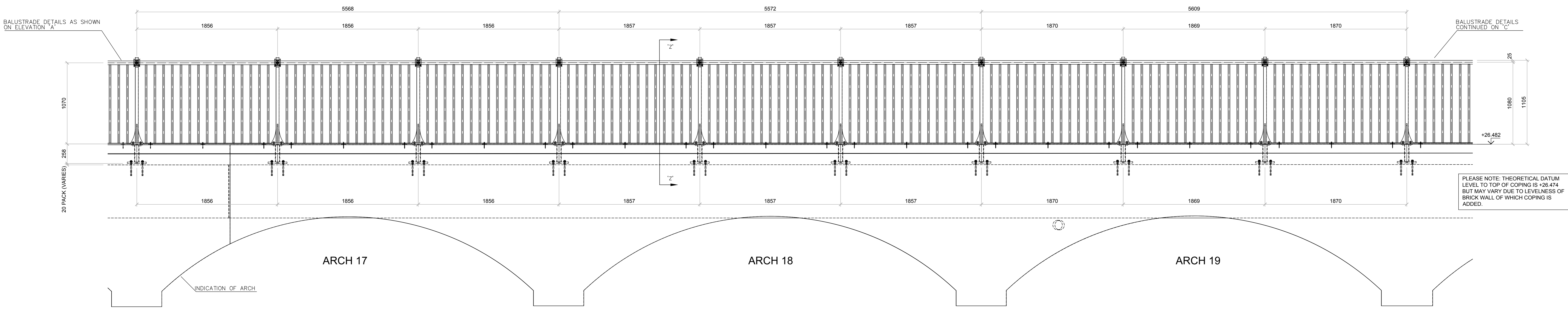
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- All welds continuous 4mm (throat) fillet U.N.O.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Fixing tolerance to be + or - 6mm.
- 1st angle projection
- This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	✓
EXC1	
EXC2	
EXC3	

**MATERIALS**  
BALUSTERS: 40mm THK M/S PLATE S275JR  
FINS: 12mm THK M/S PLATE S275JR  
BASE PLATE: 15 & 20mm THK M/S PLATE S275JR  
BOSSES: Ø95 M/S SOLID ROUND BAR S275JR  
HAND RAIL: Ø50 M/S SOLID ROUND BAR S275JR  
INFILLS: Ø25 M/S SOLID ROUND BAR S275JR  
BASE RAIL: 70 x 10mm THK M/S S275JR  
1st FIX STUB: 100 x 60 x 5mm THK M/S RHS S355 J2H

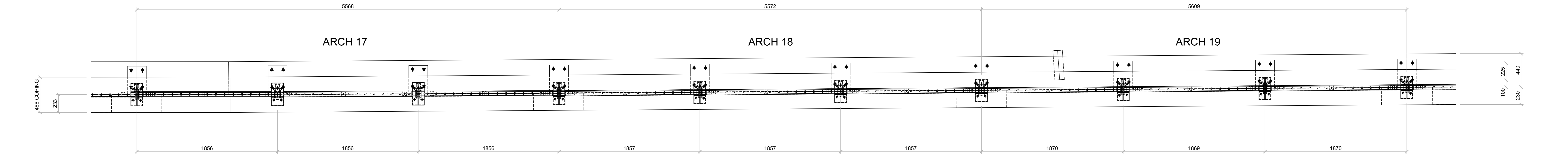
**FINISH**  
HOT DIPPED GALVANISED TO BS EN ISO 1461:2009. ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

**DESIGN LOADINGS**  
3kN/m HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

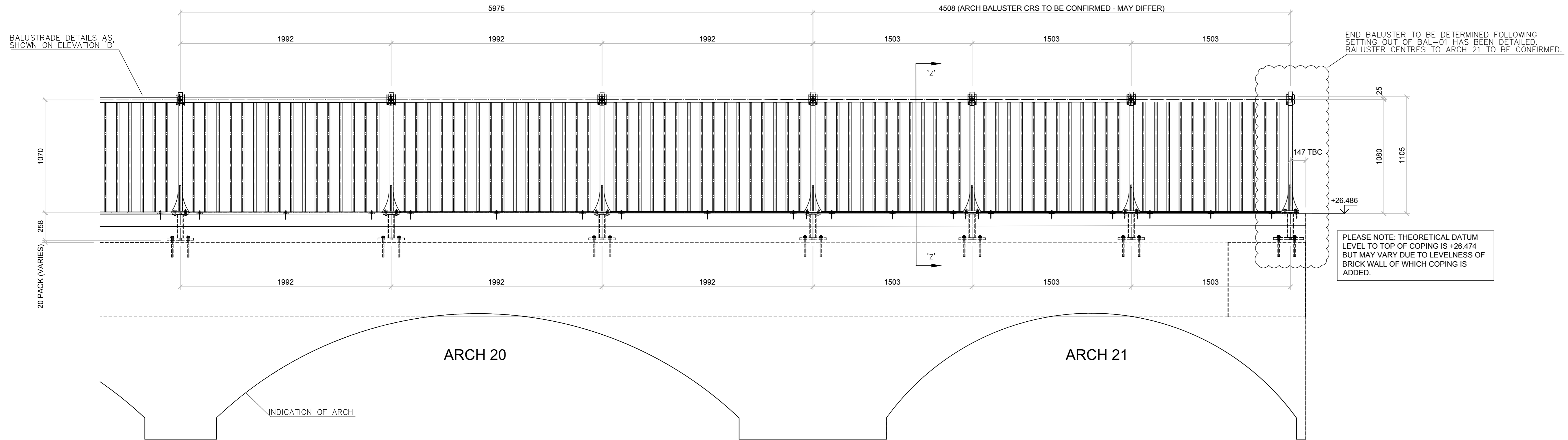


ELEVATION VIEW 'B' - BALUSTRADE BAL-04 ARCH 17, 18 & 19 (1:20)

PLEASE NOTE: HORIZONTAL DIMENSIONS SHOWN FOR BALUSTER CENTRE SET OUT.

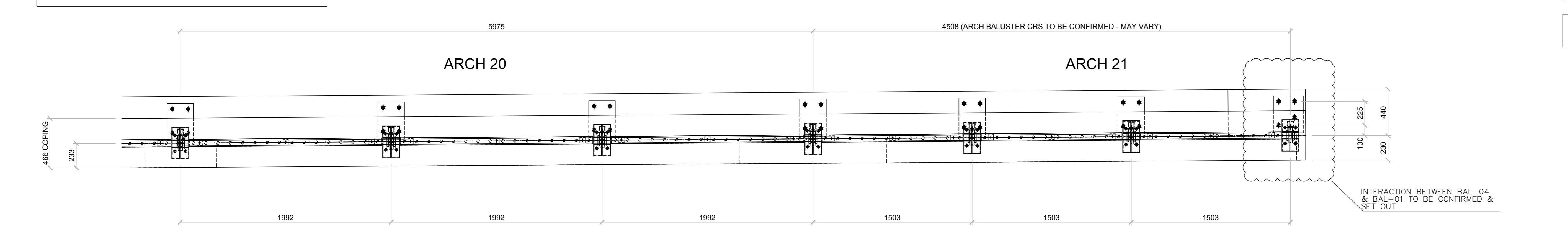


PLAN VIEW ON 'B' - BALUSTRADE BAL-04 ARCH 17, 18 & 19 (1:20)

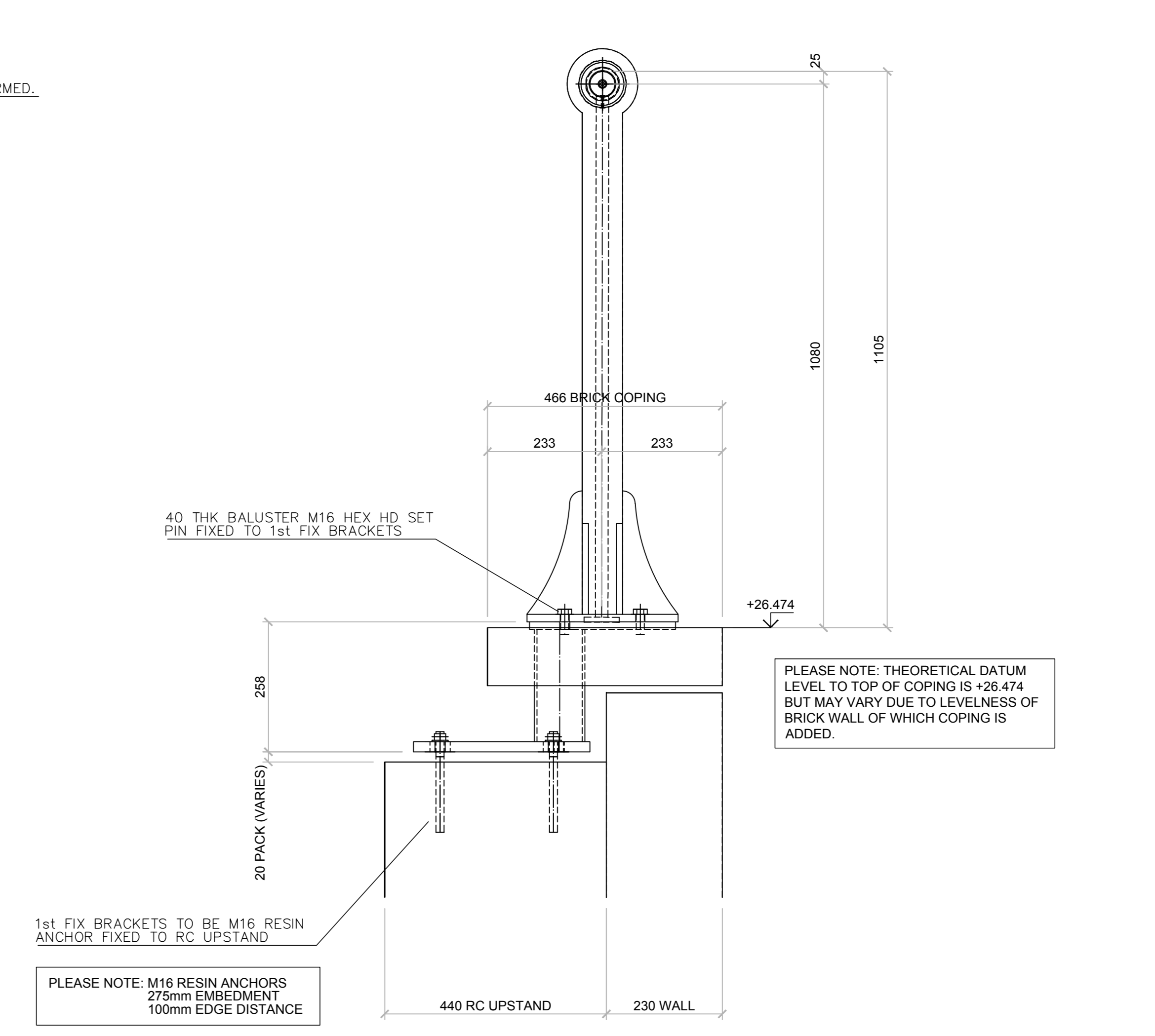


ELEVATION VIEW 'C' - BALUSTRADE BAL-04 ARCH 20 & 21 (1:20)

PLEASE NOTE: HORIZONTAL DIMENSIONS SHOWN FOR BALUSTER CENTRE SET OUT.



PLAN VIEW ON 'C' - BALUSTRADE BAL-04 ARCH 20 & 21 (1:20)



SECTION VIEW 'Z' - BAL-04 (1:7.5)

PLEASE NOTE: M16 RESIN ANCHORS 275mm EMBEDMENT 100mm EDGE DISTANCE

PLEASE NOTE: FOR ALL DETAILS OF BALUSTRADE BAL-04 TO COAL DROPS YARD VIADUCT ARCH 14 TO 21 REFER TO DRAWINGS 1791-U-(G)-01, 02 & 03

Index	Date	Description	Author
00	10/03/2017	ISSUED FOR APPROVAL	TH

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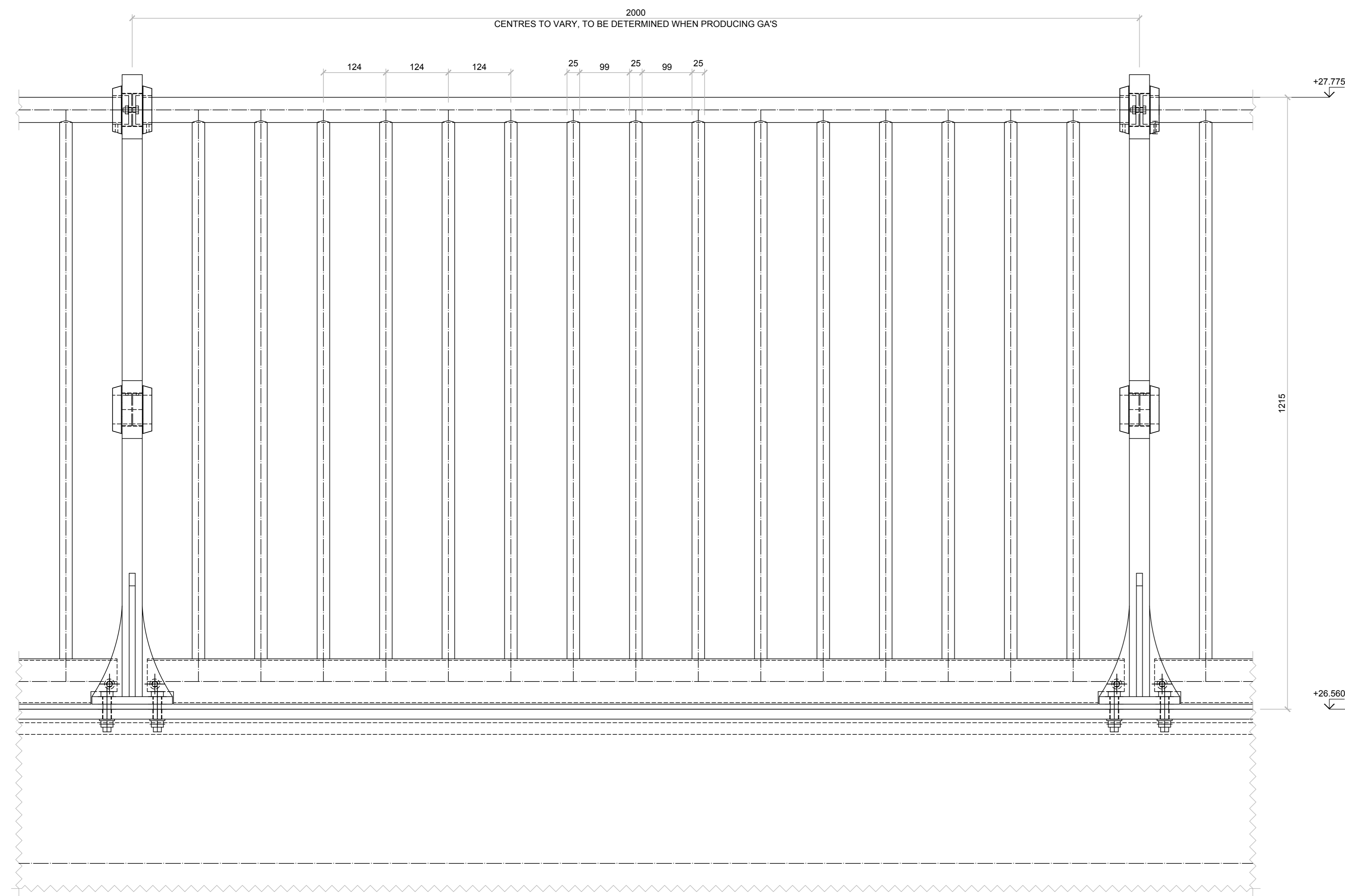
CLIENT  
BAM CONSTRUCTION

PROJECT  
FISH & COAL/COAL DROPS

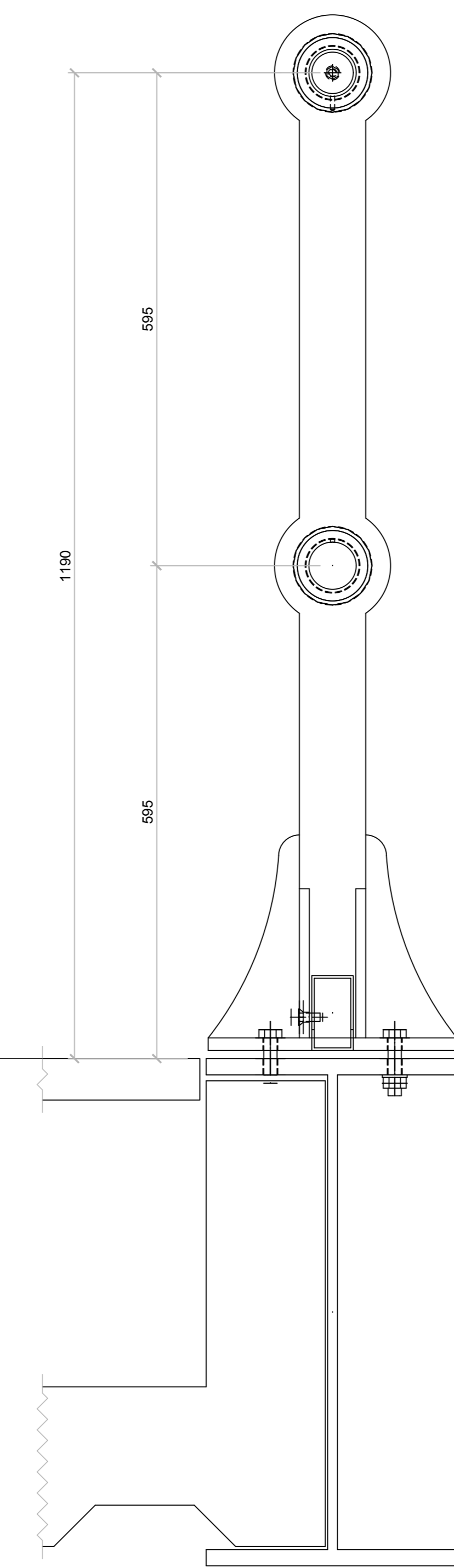
DRAWING TITLE  
PLANS & ELEVATION DETAILS OF BAL-04 BALUSTRADE TO ARCH 14 TO 21 COAL DROPS YARD VIADUCT

DRAWN BY	CHECKED BY	DATE	SCALE
TH		09/03/2017	As Noted

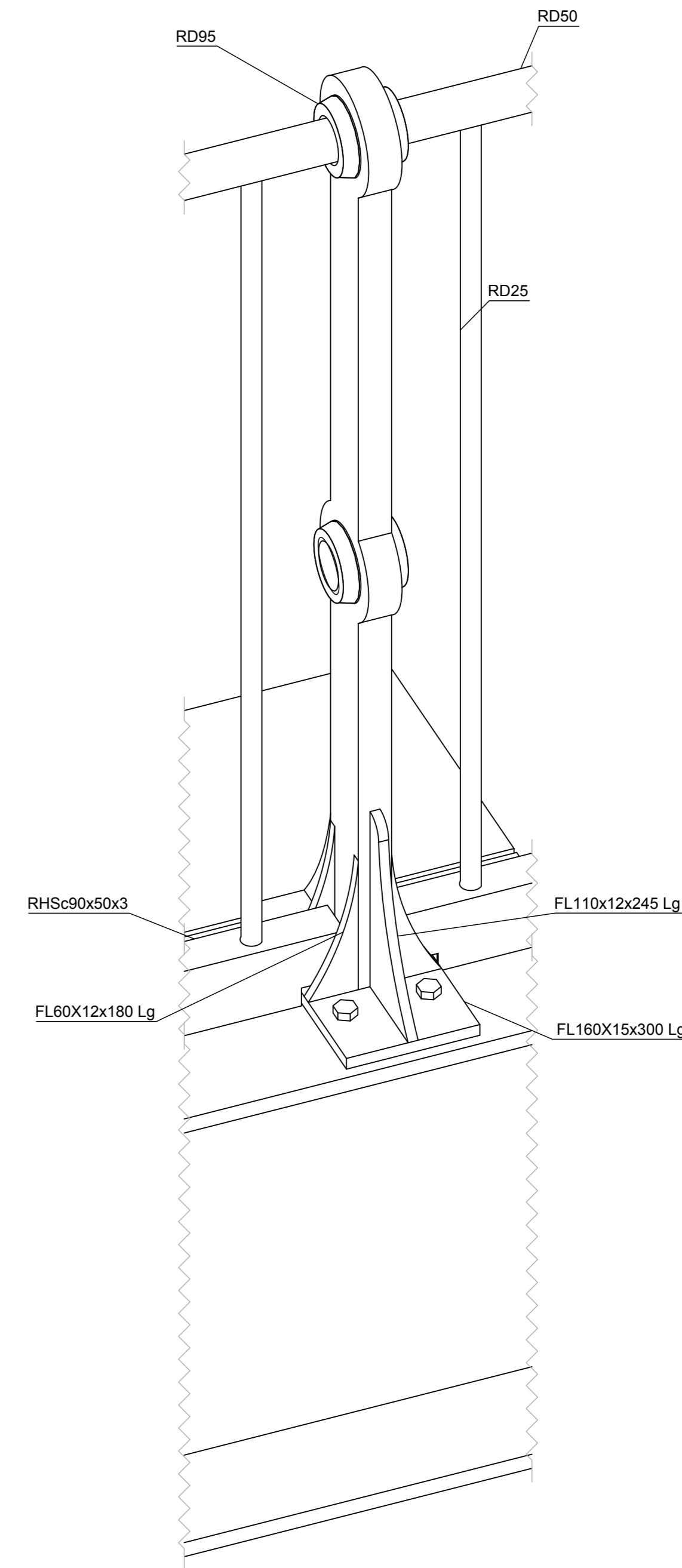
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1791-U	KXC-COY-AND-001-V-BEL-34434 [G]-03	00



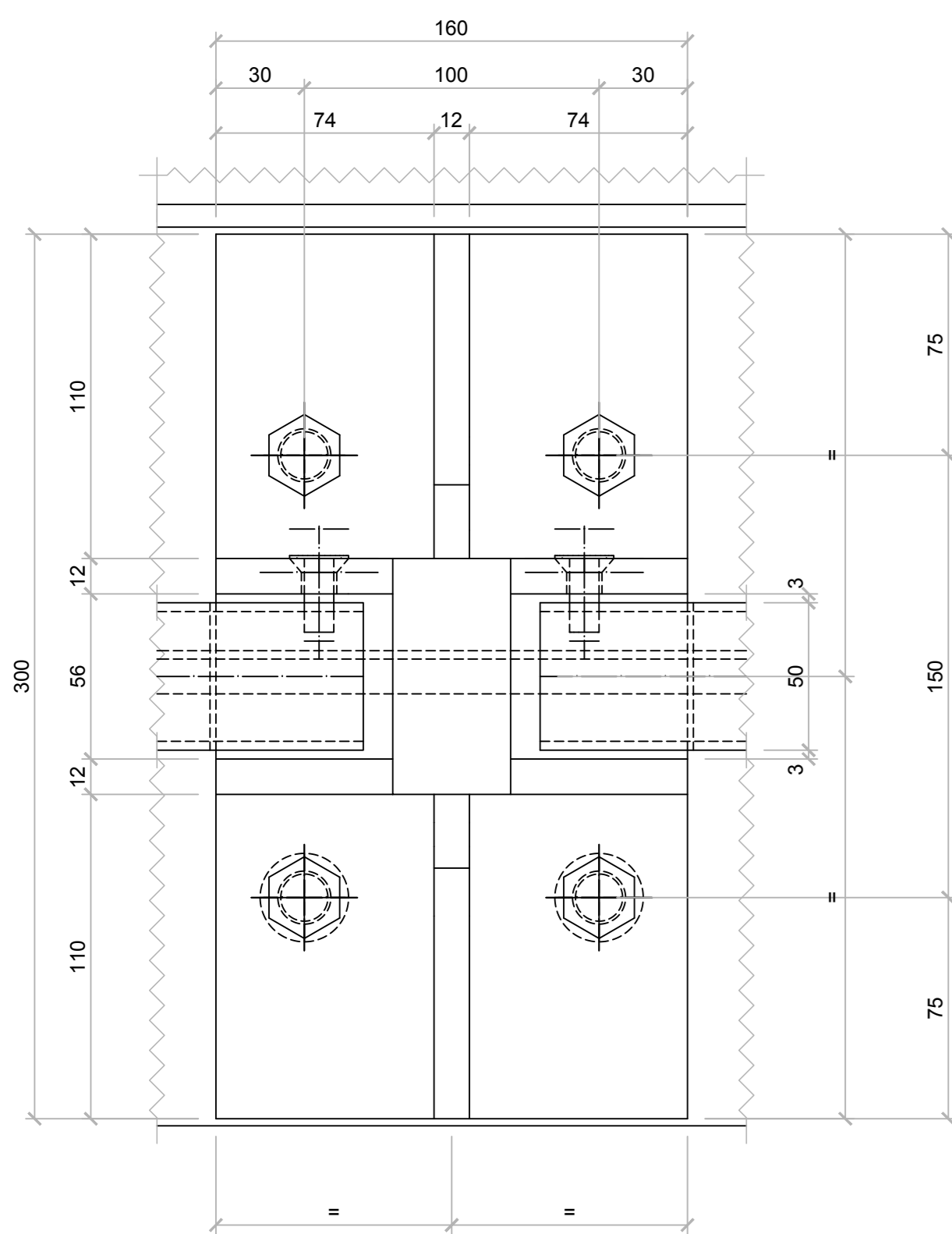
1:5 ELEVATION ON BAL-01



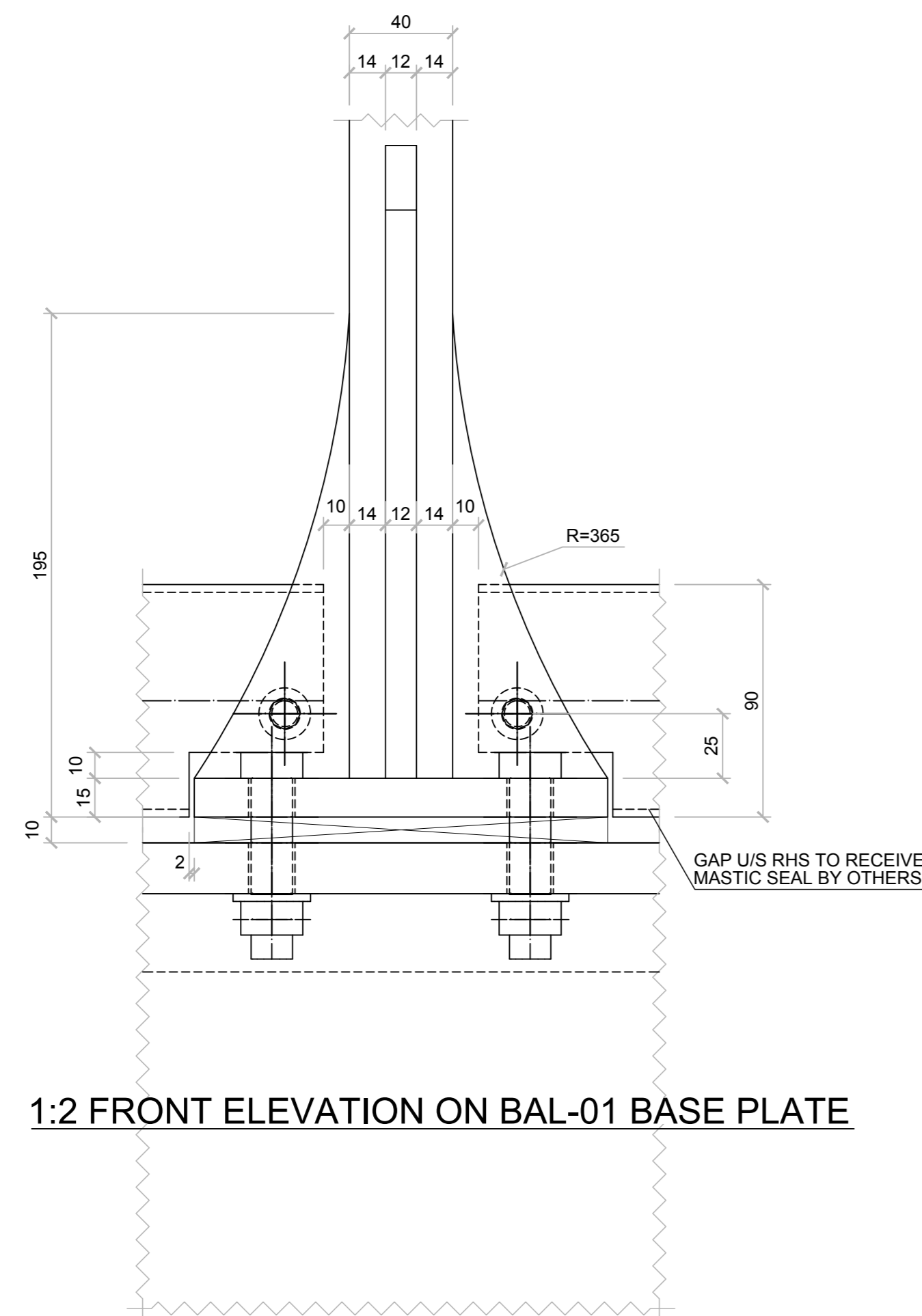
1:5 SIDE ELEVATION ON BAL-01



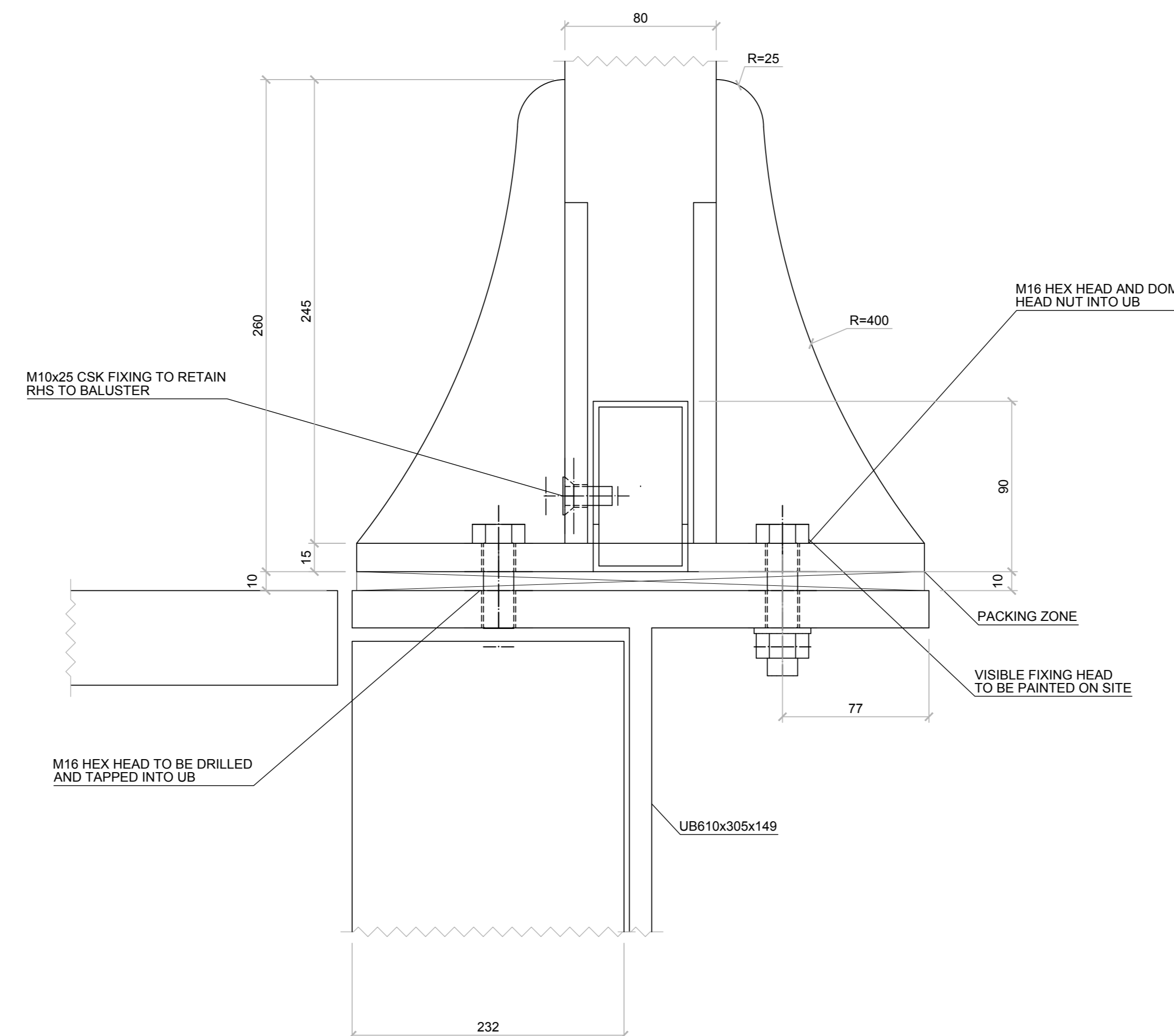
1:5 3D VIEW ON TYPICAL BALUSTER



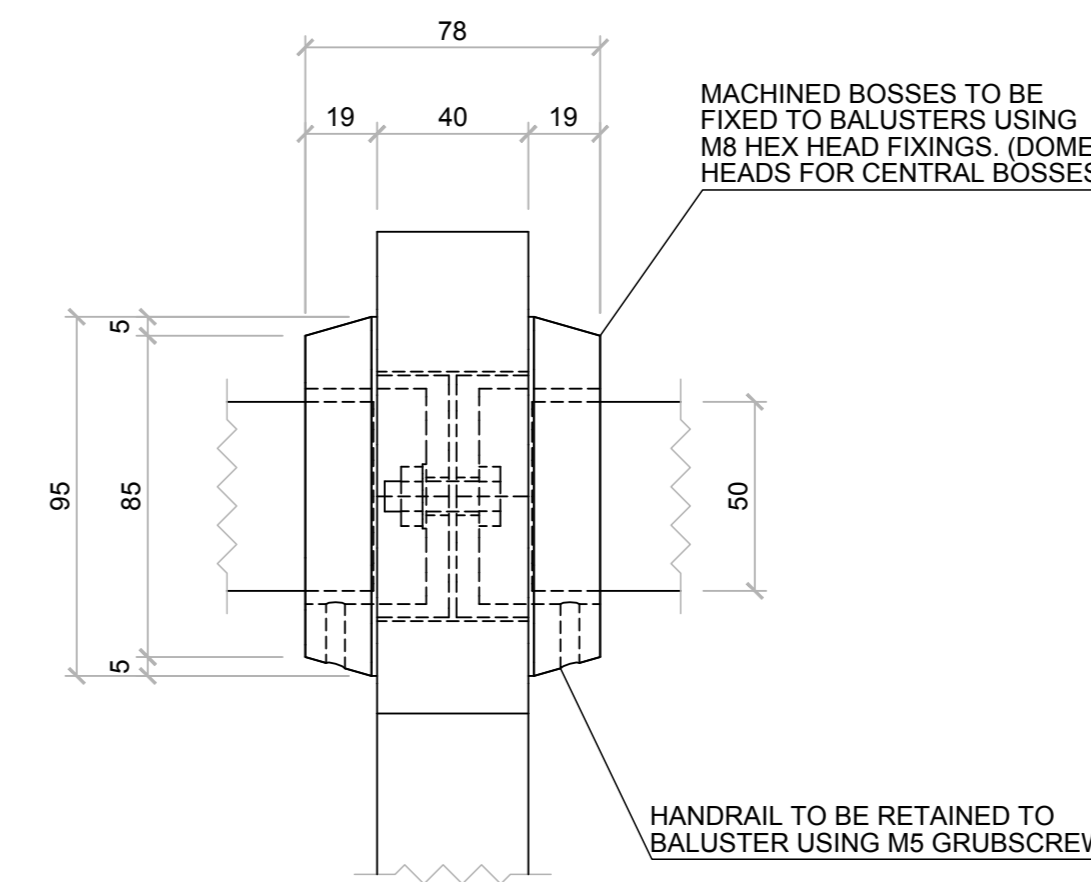
1:2 PLAN VIEW ON BAL-01 BASE PLATE



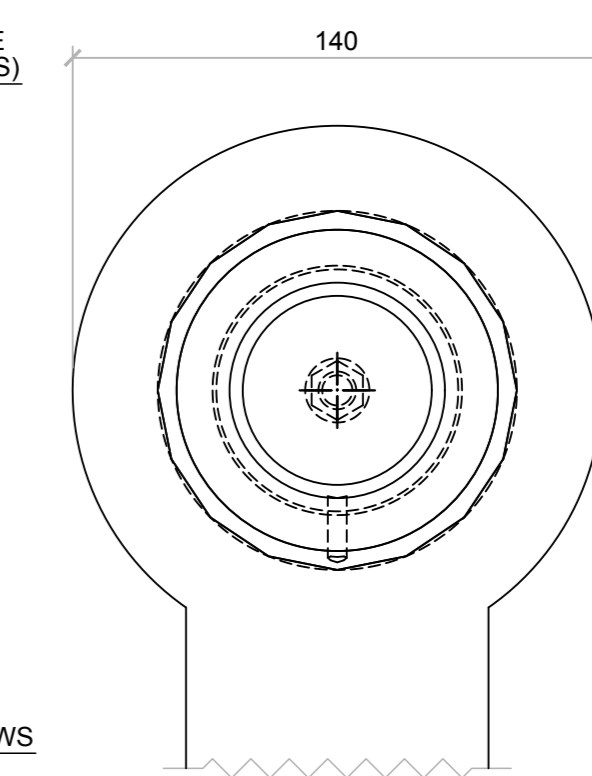
1:2 FRONT ELEVATION ON BAL-01 BASE PLATE



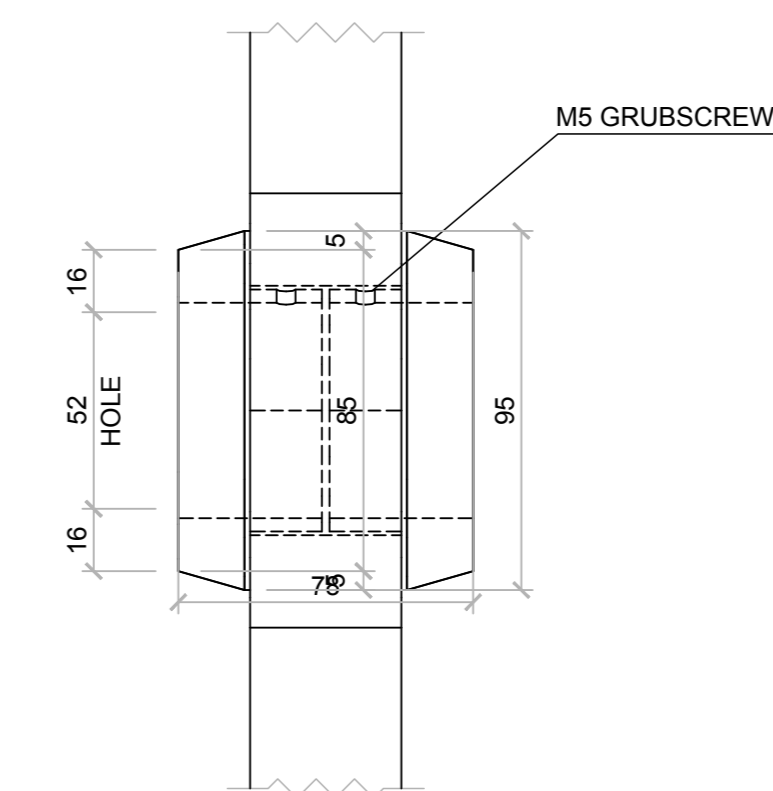
1:2 SIDE ELEVATION ON BAL-01 BASE PLATE



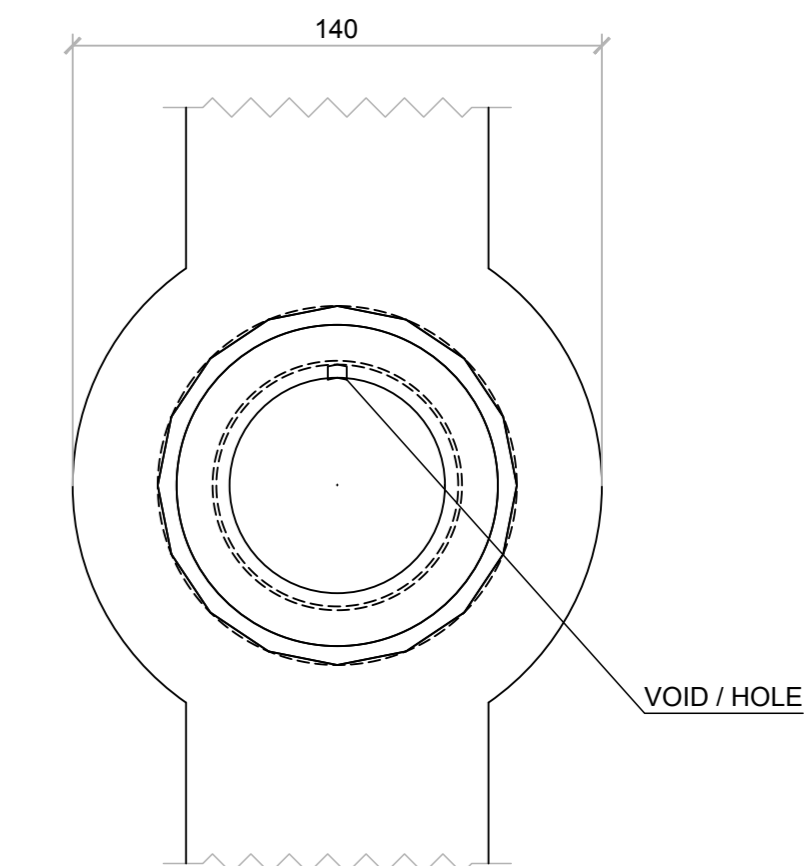
1:2 FRONT ELEVATION ON HANDRAIL CONNECTION



1:2 SIDE ELEVATION ON HANDRAIL CONNECTION



1:2 FRONT ELEVATION ON CENTRAL BALUSTER FEATURE



1:2 SIDE ELEVATION ON CENTRAL BALUSTER FEATURE

General Notes

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- This drawing must not be scaled.
- All components to be hard stamped or permanently marked on non-visible faces with Job No. & Mark No.
- This drawing has been produced in accordance with a site survey. Any variations/additions etc to the surveyed area must be notified in writing to Structural Stairways Ltd. Failure to do so may result in cost and program implications.
- This drawing has been produced in accordance with our interpretation of the Architects/Engineers drawings and requirements.
- All M/S material to be S275JR / S235 / S355J2 steel (U.N.O). All ST/ST to be 304 / 316 (U.N.O). See materials below for specific grades.
- All welds continuous 4mm (throat) fillet U.N.O.
- Fabrication tolerance to be + or - 3mm or within 2% of the given dimension, whichever is the lesser. (U.N.O). Filing tolerance to be + or - 6mm.
- 1st angle projection
- This drawing is in accordance with the Execution Class specified below.

EXC CLASS	APPLICABLE
NON CPR ITEM	✓
EXC1	
EXC2	
EXC3	

MATERIALS

BALUSTERS - 40mm THK M/S PLATE S275JR  
 FINS - 12mm THK M/S PLATE S275JR  
 BASE PLATE - 15mm THK M/S PLATE S275JR  
 BOSSES - Ø95 M/S SOLID ROUND BAR S275JR  
 HAND RAIL - Ø50 M/S SOLID ROUND BAR S275JR  
 INFILLS - Ø25 M/S SOLID ROUND BAR S275JR  
 BASE RAIL - 90 x 50 x 3mm THK M/S S235

FINISH

HOT DIPPED GALVANISED TO BS EN ISO 1461:2009. ETCHED AND POLYESTER POWDER COATED - RAL 7021 - BLACK GREY - 30% GLOSS

DESIGN LOADINGS

3kN/m HORIZONTAL UNIFORMLY DISTRIBUTED LINE LOAD

Index	Date	Description	Author
10	16/03/2017	Revised to Add Tolerance Based on Sample	JD
09	14/02/2017	REVISED TO INCLUDE INSTALLATION TOLERANCE	JD
08	30/01/2017	REVISED TO SUIT COMMENTS	JD
07	12/01/2017	RHS MOVED 5mm TO ALIGN WITH BASEPLATE	JD
06	24/11/2016	CHAMFER NOTES REMOVED	JD
05	23/11/2016	CHAMFER REMOVED	JD
04	18/10/2016	SIDE FIN PROFILE UPDATED	DG
03	12/10/2016	FIN PROFILES UPDATED	DG
02	07/10/2016	CHAMFER ADDED TO BALUSTER RESIN ANCHORS OMITTED.	DG
01	03/10/2016	BASEPLATE POSITION ADJUSTED AND UPSTAND ARRANGEMENT UPDATED	DG
00	21/09/2016	ISSUED FOR APPROVAL	DG

REVISIONS	
Date	Description
16/03/2017	Revised to Add Tolerance Based on Sample
14/02/2017	REVISED TO INCLUDE INSTALLATION TOLERANCE
30/01/2017	REVISED TO SUIT COMMENTS
12/01/2017	RHS MOVED 5mm TO ALIGN WITH BASEPLATE
24/11/2016	CHAMFER NOTES REMOVED
23/11/2016	CHAMFER REMOVED
18/10/2016	SIDE FIN PROFILE UPDATED
12/10/2016	FIN PROFILES UPDATED
07/10/2016	CHAMFER ADDED TO BALUSTER RESIN ANCHORS OMITTED.
03/10/2016	BASEPLATE POSITION ADJUSTED AND UPSTAND ARRANGEMENT UPDATED
21/09/2016	ISSUED FOR APPROVAL

CLIENT		BAM CONSTRUCTION	
PROJECT		KINGS CROSS - COAL DROP YARDS	
DRAWING TITLE		BALUSTRADE TYPE BAL-01 VIADUCT LEVEL TYPICAL DETAIL	
DRAWN BY	CHECKED BY	DATE	SCALE
TH		24/11/2016	As Noted
PROJECT No.	DRAWING No.	REV	
1791-R	[G] - 01	10	