

**TENDER No: BMRCL/Travellator (R5 CSB to Ph2A/P1 CSB) / Works /RT/2026/148**



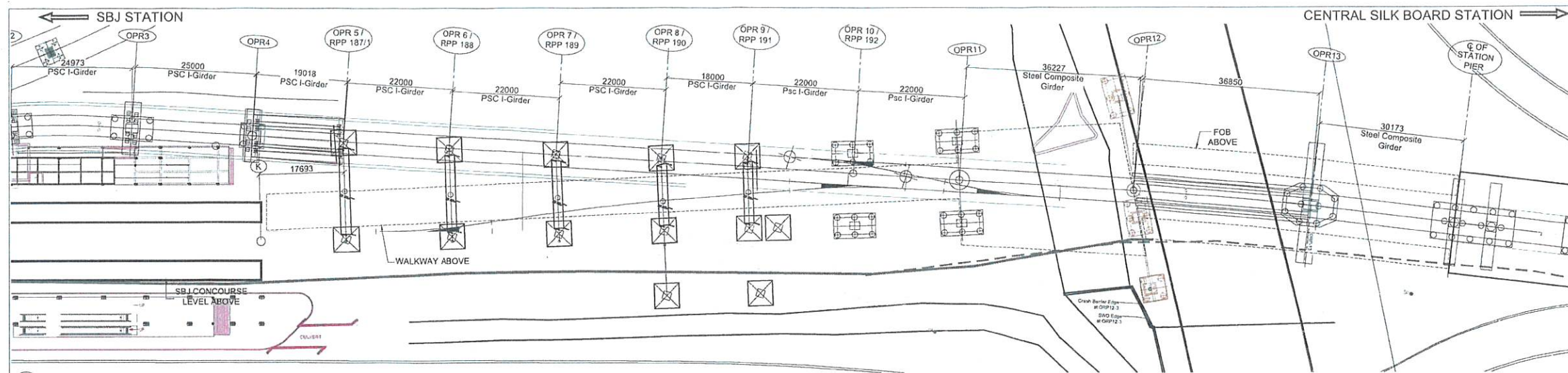
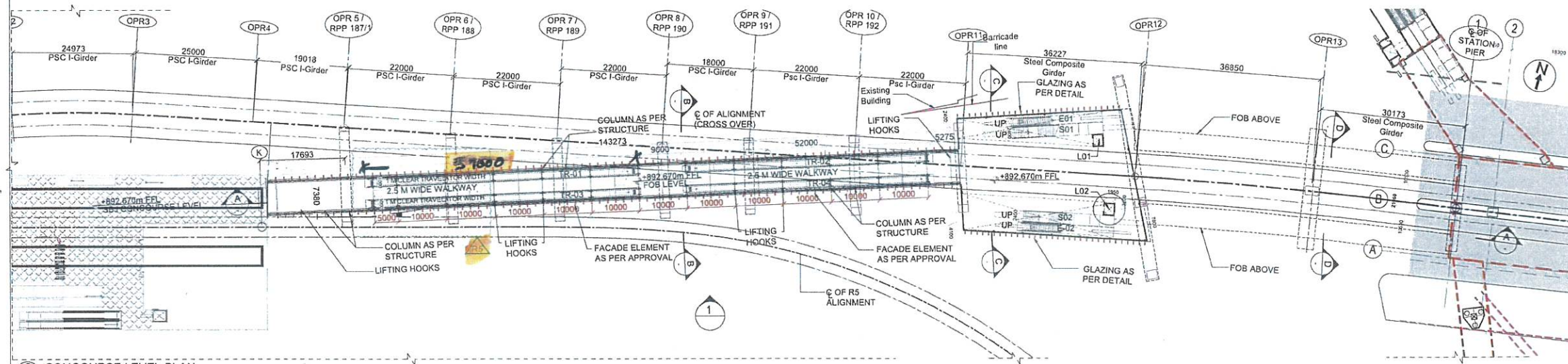
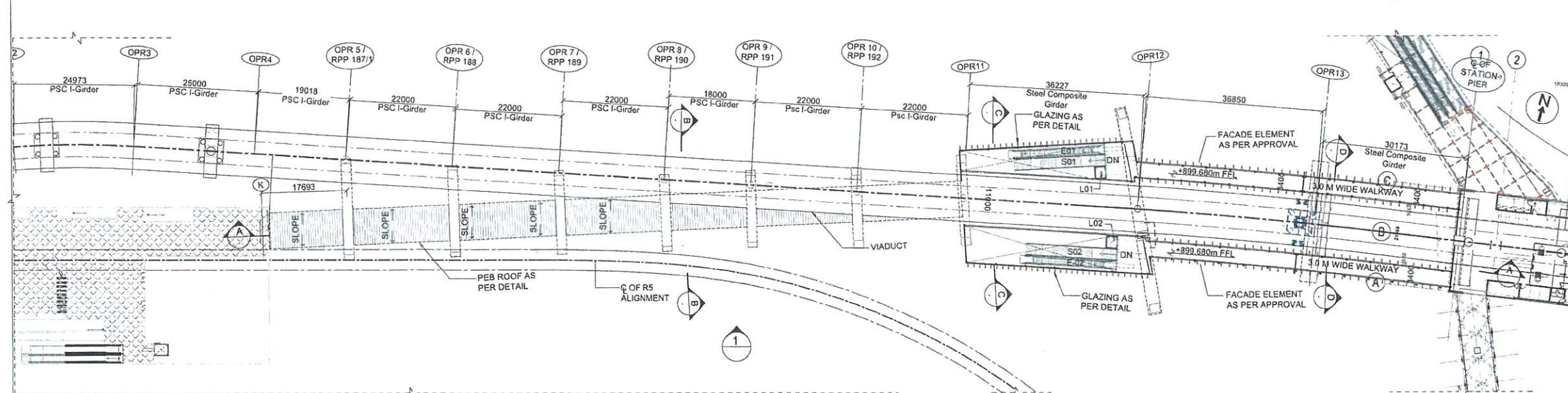
*Driving Bangalore Ahead*

**TECHNICAL DOCUMENT (Volume -3)  
SECTION-K: TENDER DRAWINGS**







1 STREET LEVEL PLAN  
SCALE 1 : 5002 CONCOURSE LEVEL PLAN  
SCALE 1 : 5002 PLATFORM LEVEL PLAN  
SCALE 1 : 500

NOTES

ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS ARE IN METERS (UNLESS NOTED OTHERWISE)

ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED

THIS DRAWING MUST BE READ IN CONJUNCTION WITH GAD, GENERAL NOTES, SPAN ARRANGEMENT AND OTHER RELATED STRUCTURAL DRAWINGS

ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT.

REV	DATE	DESCRIPTION	DRAWN	CHKD	APPR
R5	09-04-2025	REVISED DUE TO SITE CONSTRAINTS	PN	DM	SKP
R5	18-02-2025	GOOD FOR CONSTRUCTION	PN	DM	SKP
R4	17-01-2024	GOOD FOR CONSTRUCTION	NK	DM	SKP
	11-12-2023	FOR APPROVAL	NK	DM	SKP
	31-10-2023	FOR APPROVAL	NK	DM	SKP
	27-10-2023	FOR APPROVAL	NK	DM	SKP
R3	01-02-2023	GOOD FOR CONSTRUCTION	NK	DM	SKP
R2	22-12-2022	GOOD FOR CONSTRUCTION	PN	DM	SKP
R1	15-12-2022	GOOD FOR CONSTRUCTION	PN	DM	SKP
REV	DATE	DESCRIPTION	DRAWN	CHKD	APPR

QUALITY ASSURANCE	CONSULTANT	DDC KEY EXPERT	CONTRACTOR	BMRC APPROVAL	CLIENT
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.	DESIGN CONSULTANT <b>SMC INTERNATIONAL PTY. LTD.</b> 11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India	(SHEKHAR MEHTA) (CHIEF DESIGNER)	<b>AFCONS</b> Contractor Address : 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053	<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED	BANGALORE METRO RAIL CORPORATION LTD.
Drawn By Paornima (PN)	Checked By Debakshi (DM)	Issued By S. Pramod (SPK)	Authorised Rep S. Pramod (SPK)	Drawing Checked By 11/4/25	DRAWING TITLE : CENTRAL SILK BOARD JUNCTION STATION CONNECTING BRIDGE DETAIL PLANS

PROJECT TITLE  
DETAILED DESIGN CONSULTANCY FOR  
PHASE 2A- CH. 0+000 TO CH. 18+433  
PHASE 2B- CH. 0+000 TO CH. 6+740

CONTRACTOR ADDRESS :  
16, SHAH INDUSTRIAL ESTATE,  
VEERA DESAI ROAD,  
AZADNAGAR ANDHERI (WEST)  
MUMBAI - 400053

DATE 09-04-2025 SCALE 1:500 REV R6 STATUS GFC

NOTE:-  
TRAVELATOR HOOKS PROVIDED ARE INDICATIVE  
NEEDS TO BE CONFIRMED BY TRAVELATOR VENDOR  
L-01 & L-02 ARE THROUGH LIFT

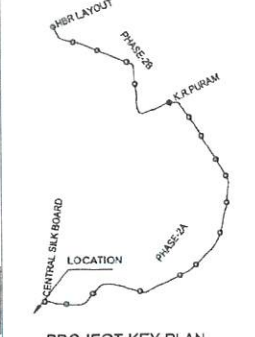
REVISION LOG R6 :-  
TRAVELATOR SPAN HAS BEEN REDUCED  
AT GRID OPR-5 DUE TO SITE  
CONSTRAINT.

PROJECT KEY PLAN

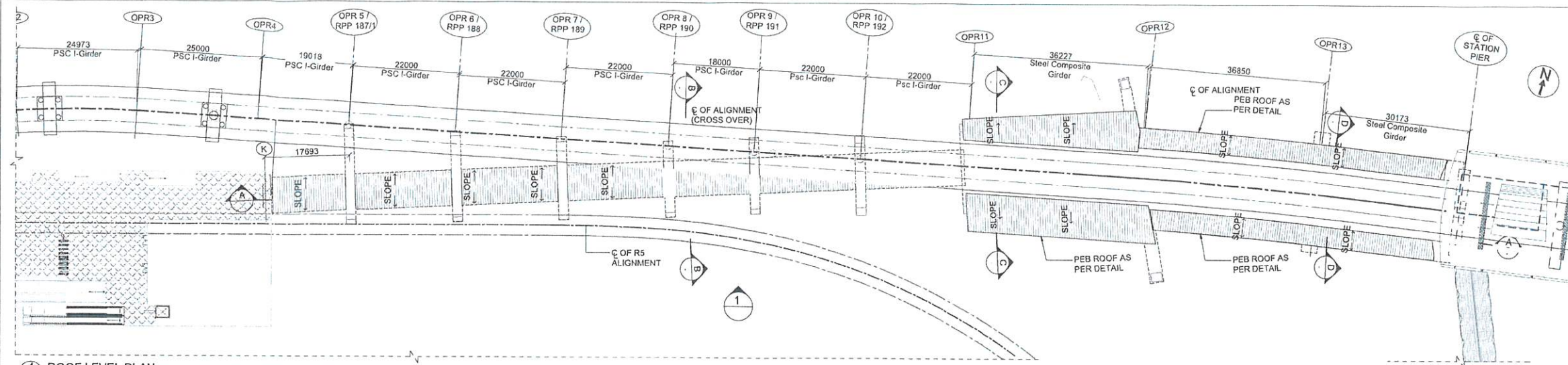
ORIENTATION

DRG.NO. : BMRC-7061581-S01-CSBD-ARC-DWG-520

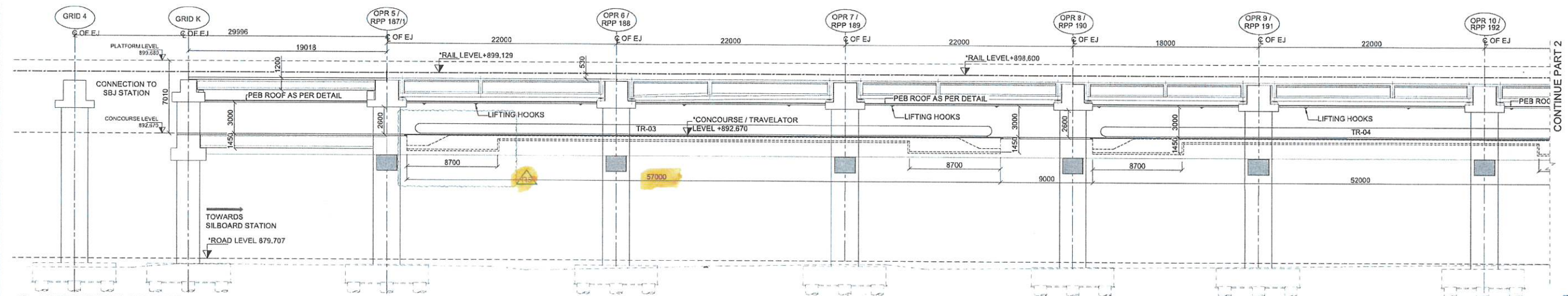
CHIEF ARCHITECT  
(P'ANNING & DESIGN)  
BMRC



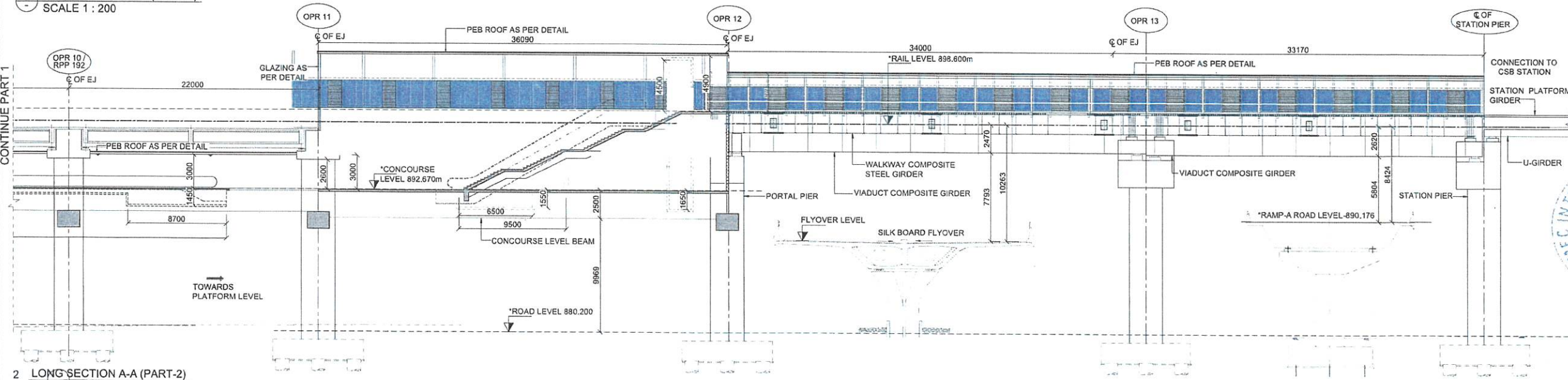




4 ROOF LEVEL PLAN  
SCALE 1 : 500



1 LONG SECTION A-A (PART-1)  
SCALE 1 : 200

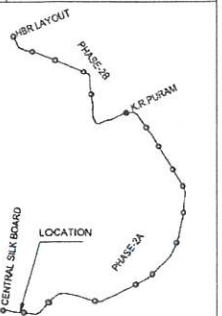


2 LONG SECTION A-A (PART-2)  
SCALE 1 : 200

CHIEF ARCHITECT  
(P'ANNING & DESIGN)  
BMRCL

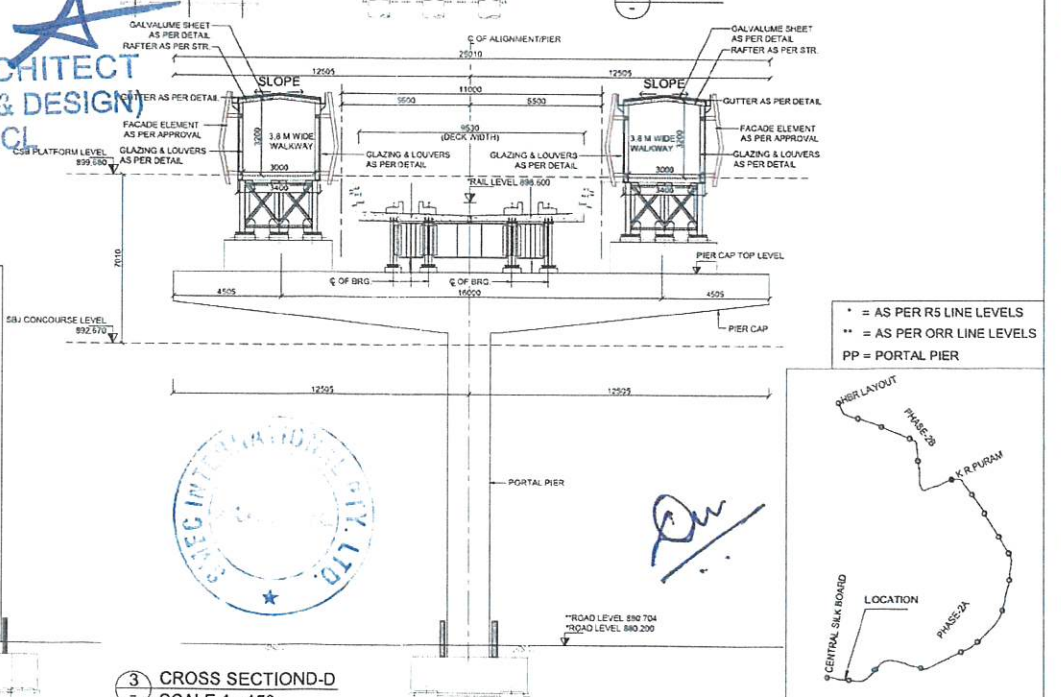
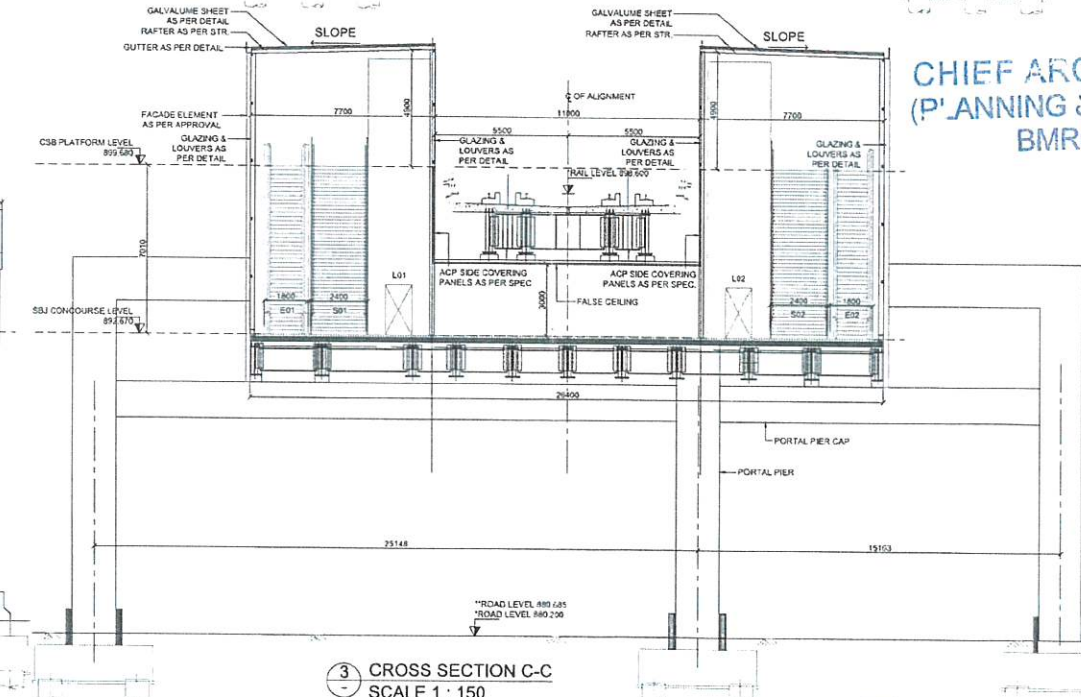
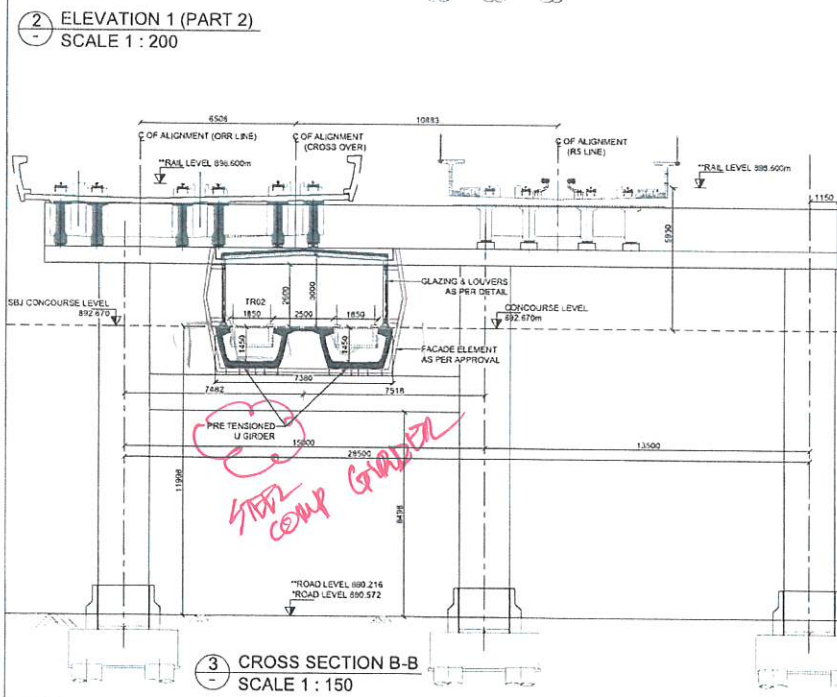
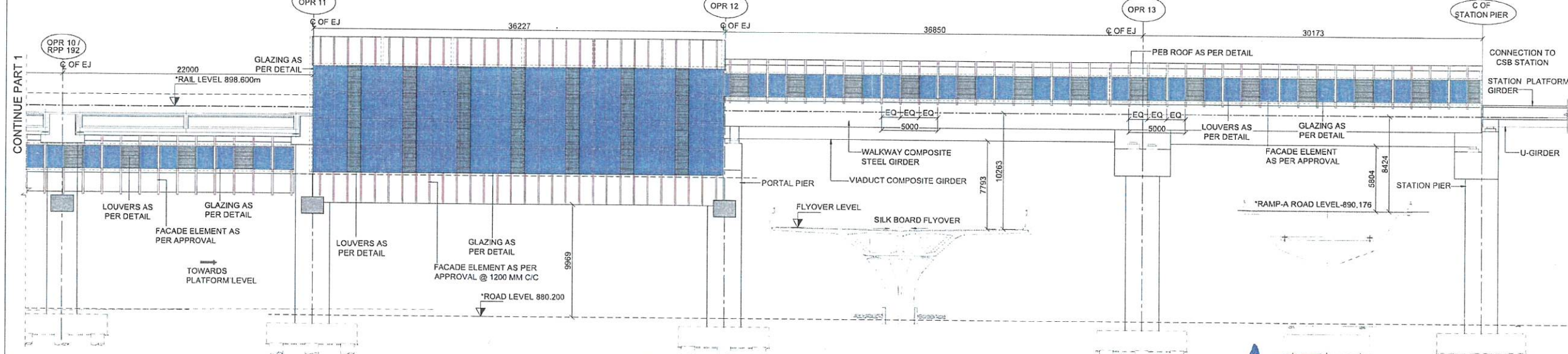
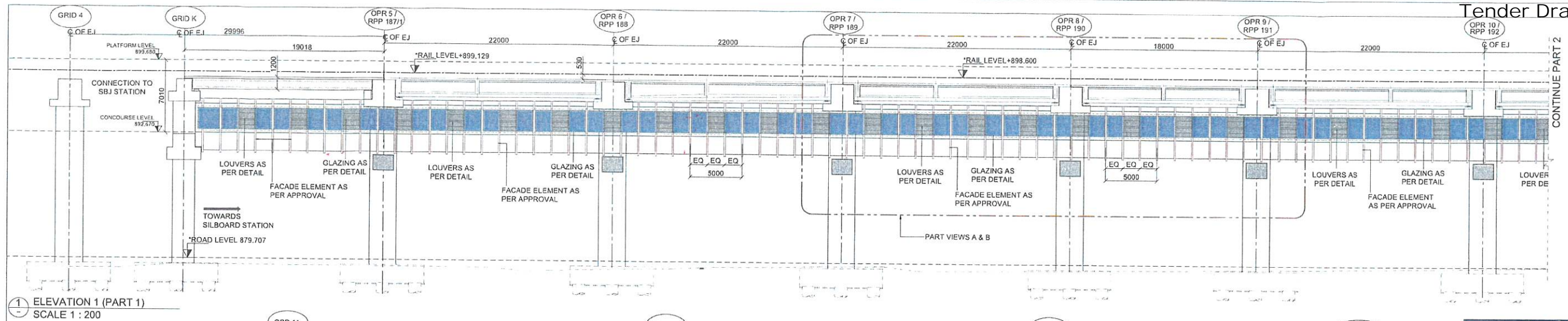


\* = AS PER R5 LINE LEVELS  
\*\* = AS PER ORR LINE LEVELS  
PP = PORTAL PIER



NOTES				QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRCL APPROVAL		CLIENT :	
<p>ALL DIMENSIONS ARE IN MILLIMETERS &amp; LEVELS ARE IN METERS (UNLESS NOTED OTHERWISE)</p> <p>ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED</p> <p>THIS DRAWING MUST BE READ IN CONJUNCTION WITH GAD, GENERAL NOTES, SPAN ARRANGEMENT AND OTHER RELATED STRUCTURAL DRAWINGS.</p> <p>ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT.</p>				R5	09-04-2025	REVISED DUE TO SITE CONSTRAINTS	PN DM SKP	The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.		DESIGN CONSULTANT <b>SMEC INTERNATIONAL PTY. LTD.</b>		<b>AFCONS</b>		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		BANGALORE METRO RAIL CORPORATION LTD.	
				R4	18-02-2025	GOOD FOR CONSTRUCTION	PN DM SKP	By Designer						<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		DRAWING TITLE :	
				R3	01-02-2023	GOOD FOR CONSTRUCTION	NK DM SKP	Name/Designation		11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India		Contractor Address		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		CENTRAL SILK BOARD JUNCTION STATION	
				R2	22-12-2022	GOOD FOR CONSTRUCTION	PN DM SKP	Drawn By		PROJECT TITLE		16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		CONNECTING BRIDGE DETAIL SECTIONS	
				R1	15-12-2022	GOOD FOR CONSTRUCTION	PN DM SKP	Checked By		DETAILED DESIGN CONSULTANCY FOR		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		DRG.NO. : BMRC-7061581-S01-CSBD-ARC-DWG-521	
				R0	02-12-2022	GAD	PN DM SKP	Approved		PHASE 2A- CH. 0+000 TO CH. 18+433		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		DATE 09-04-2025	
REV				DATE				DRAWN		PHASE 2B- CH. 0+000 TO CH. 6+740		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		SCALE AS SHOWN	
				DESCRIPTION				CHKD				<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		REV R5	
								APPR				<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED		STATUS GFC	





NOTES

ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS ARE IN METERS (UNLESS NOTED OTHERWISE)

ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED

THIS DRAWING MUST BE READ IN CONJUNCTION WITH GAD, GENERAL NOTES, SPAN ARRANGEMENT AND OTHER RELATED STRUCTURAL DRAWINGS.

ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE CONSULTANT.

REV	DATE	DESCRIPTION	DRAWN	CHKD	APPR
R5	09-04-2025	REVISED DUE TO SITE CONSTRAINTS	PN	DM	SKP
R4	18-02-2025	REVISED DUE TO SITE CONSTRAINTS	PN	DM	SKP
R3	01-02-2023	GOOD FOR CONSTRUCTION	NK	DM	SKP
R2	22-12-2022	GOOD FOR CONSTRUCTION	PN	DM	SKP
R1	15-12-2022	GOOD FOR CONSTRUCTION	PN	DM	SKP
R0	02-12-2022	GAD	PN	DM	SKP

QUALITY ASSURANCE			
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultant's			
By Designer	Sig	Issued By	Authorised Rep
Drawn By	Poonima (PN)	Sig	R
Checked By	Debakshi (DM)	Date	09-04-2025
Approved	Suneel (SKP)	Name	S Pramod (SPK)

CONSULTANT	
SMC INTERNATIONAL PTY. LTD.	
11th Floor, RMZ North Star, RMZ Galleria, Ambekar Colony, Yelahanka, Bengaluru, Karnataka 560064, India	
PROJECT TITLE	
DETAILED DESIGN CONSULTANCY FOR	
PHASE 2A- CH 0-000 TO CH 18+433	
PHASE 2B- CH 0-000 TO CH 6+740	

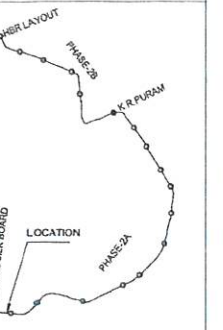
DDC KEY EXPERT	
(SHEKHAR MEHTA)	
(CHIEF DESIGNER)	

CONTRACTOR	
Contractor Address :	
16, SHAH INDUSTRIAL ESTATE,	
VEERA DESAI ROAD,	
AZADNAGAR ANDHERI (WEST)	
MUMBAI - 400053	

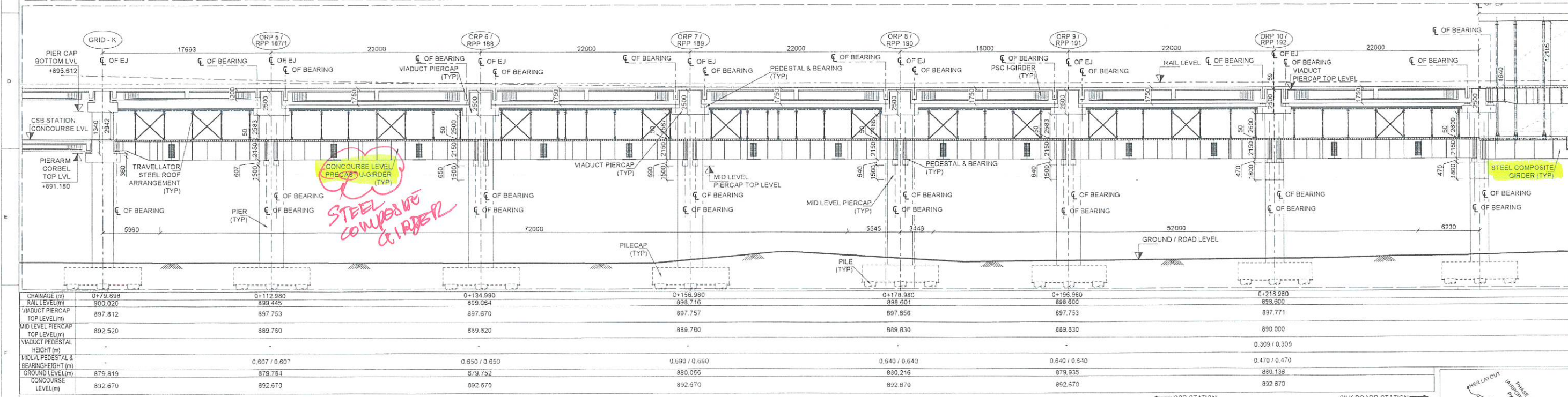
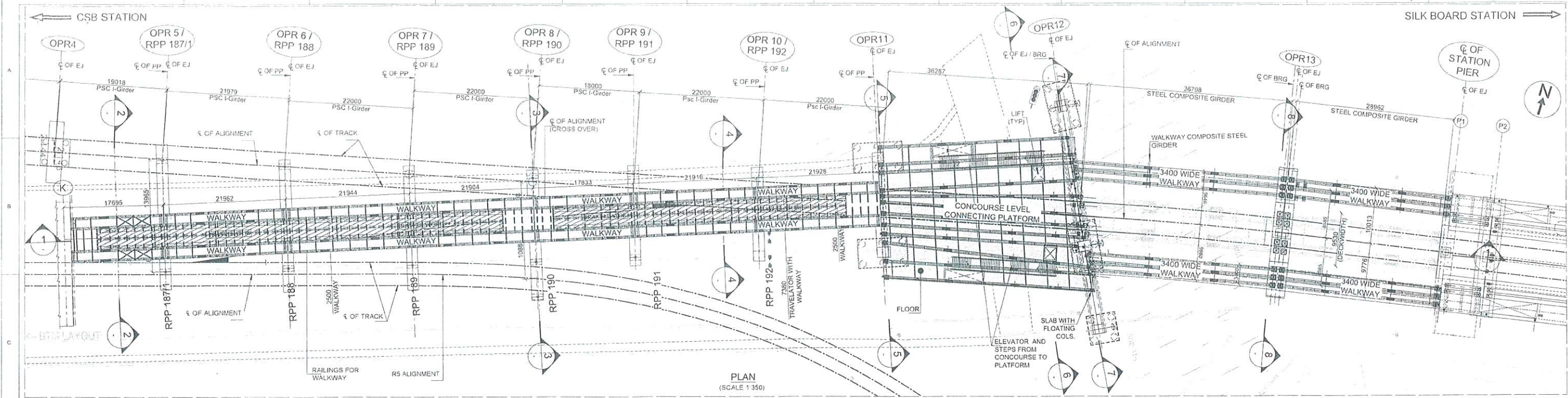
BMRCL APPROVAL	
<input type="checkbox"/> NO OBJECTION <input type="checkbox"/> NO OBJECTION SUBJECT TO COMMENT <input type="checkbox"/> REVISION AND RESUBMISSION REQUIRED	
Drawing Checked By	11/7/25
Checked By	

CLIENT :	
BANGALORE METRO RAIL CORPORATION LTD.	
DRAWING TITLE :	
CENTRAL SILK BOARD JUNCTION STATION CONNECTING BRIDGE DETAIL ELEVATIONS	
DRG.NO. :	
BMRCL-7061581-S01-CSBD-ARC-DWG-522	
DATE	09-04-2025
SCALE	AS SHOWN
REV	R5
STATUS	GFC

\* = AS PER RS LINE LEVELS  
 \*\* = AS PER ORR LINE LEVELS  
 PP = PORTAL PIER







REFERENCE DRAWINGS:-

- FOR GENERAL NOTES REFER DRAWING NO. 7061581-STR-DWG-VIA-01000.
- FOR LAYOUT OF PILE & PILECAP. REFER DRAWING NO. 7061581-STR-DWG-HSR-00464.
- FOR ORP 10 PILE, PILECAP, PIER & PIERCAP. REFER DRAWING NO. 7061581-STR-DWG-VIA-01822.
- FOR ORP 11 PILE, PILECAP, PIER & PIERCAP. REFER DRAWING NO. 7061581-STR-DWG-VIA-01823.
- FOR ORP 12 PILE, PILECAP, PIER & PIERCAP. REFER DRAWING NO. 7061581-STR-DWG-VIA-01827.
- FOR ORP 13 PILE, PILECAP, PIER & PIERCAP. REFER DRAWING NO. 7061581-STR-DWG-VIA-1480, 07260, 7261 & 7262.
- FOR ORP 11 TO ORP 12 TRACK LEVEL COMPOSITE GIRDER. REFER DRAWING NO. 7061581-STR-DWG-VIA-2052.
- FOR ORP 12 TO ORP 13 TRACK LEVEL COMPOSITE GIRDER. REFER DRAWING NO. 7061581-STR-DWG-VIA-2045.
- FOR ORP 12 TO ORP 13 ACCESS WALKWAY PLATFORM LEVEL COMPOSITE GIRDER. REFER DRAWING NO. 7061581-STR-DWG-VIA-2045.
- FOR ORP 13 TO STATION TRACK LEVEL COMPOSITE GIRDER. REFER DRAWING NO. 7061581-STR-DWG-VIA-2047.
- FOR ORP 13 TO STATION ACCESS WALKWAY PLATFORM LEVEL COMPOSITE GIRDER. REFER DRAWING NO. 7061581-STR-DWG-VIA-2075.
- FOR ORP 12 TO STATION ACCESS WALKWAY PLATFORM STEEL ROOF ARRANGEMENT. REFER DRAWING NO. 7061581-STR-DWG-VIA-5136.
- FOR GRID-K TO CSB STATION TRAVELLATOR STEEL ROOF ARRANGEMENT. REFER DRAWING NO. 7061581-STR-DWG-VIA-2144.
- FOR LIFT ARRANGEMENT. REFER DRAWING NO. 7061581-STR-DWG-VIA-2148.
- FOR STEEL STAIRCASE ARRANGEMENT. REFER DRAWING NO. 7061581-STR-DWG-VIA-2151.
- FOR PLAN & PROFILE. REFER DWG NO. 7061581-STR-DWG-VIA-01006-A.
- READ THIS DWG. ALONG WITH DWG NO. 7061581-STR-DWG-VIA-01050.

NOTES:

- ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED.
- ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE DESIGN SECTION BEFORE EXECUTION OF WORK AT SITE.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT GAD, STRUCTURAL, PLUMBING, TRAFFIC MANAGEMENT PLAN AND ELECTRICAL DRAWINGS.

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 17/09/2025

LEGEND:-

- E.G.L. - EXISTING GROUND LEVEL
- TYP. - TYPICAL
- Ld. - DEVELOPMENT LENGTH
- REINF. - REINFORCEMENT
- PCC - PLAIN CEMENT CONCRETE
- RCC - REINFORCED CEMENT CONCRETE
- THK. - THICKNESS
- C - CENTRE LINE
- ALT. - ALTERNATE
- N.T.S. - NOT TO SCALE

0 17-09-25 GOOD FOR CONSTRUCTION

G 16-09-25 SUPER STRUCTURE TYPE FOR TRAVELLATOR CHANGED FROM RCC U-GIRDER TO STEEL COMPOSITE GIRDER

F 07-03-25 REVISED AS PER LATEST ALIGNMENT AND CONCOURSE LEVEL ARRANGEMENT

E 29-03-23 ORP-11 SECTION & BORE LOG DETAILS ADDED

D 01-03-23 REVISED AS PER LATEST ALIGNMENT

C 05-09-22 REVISED AS PER LATEST REVISED PIER LOCATIONS AS PER BMRL

B 29-06-22 FOR APPROVAL

A 03-06-22 FOR APPROVAL

QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.

By Designer: [Signature] Issued By: [Signature]

Name/Designation: [Signature] Authorised Rep. [Signature]

Drawn By: Y.M. Checked By: R.V.G. Date: 17-09-2025

Approved: [Signature] PSH

CONSULTANT

DESIGN CONSULTANT  
SMC International Pty. Ltd.

11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India

PROJECT DETAILED DESIGN CONSULTANCY FOR  
TITLE PHASE 2A-CH 0+000 TO CH 18+433  
PHASE 2B-CH 0+000 TO CH 6+740

DDC KEY EXPERT

(PUNIT SHI)  
(CHIEF DESIGNER)

CONTRACTOR

AFCONS

Contractor Address:  
16 SHASHI INDUSTRIAL ESTATE  
VEERA DESAI ROAD  
AZADNAGAR ANDHERI (WEST)  
MUMBAI - 400053

BMRL APPROVAL

B. Ranganath  
H. H. H.

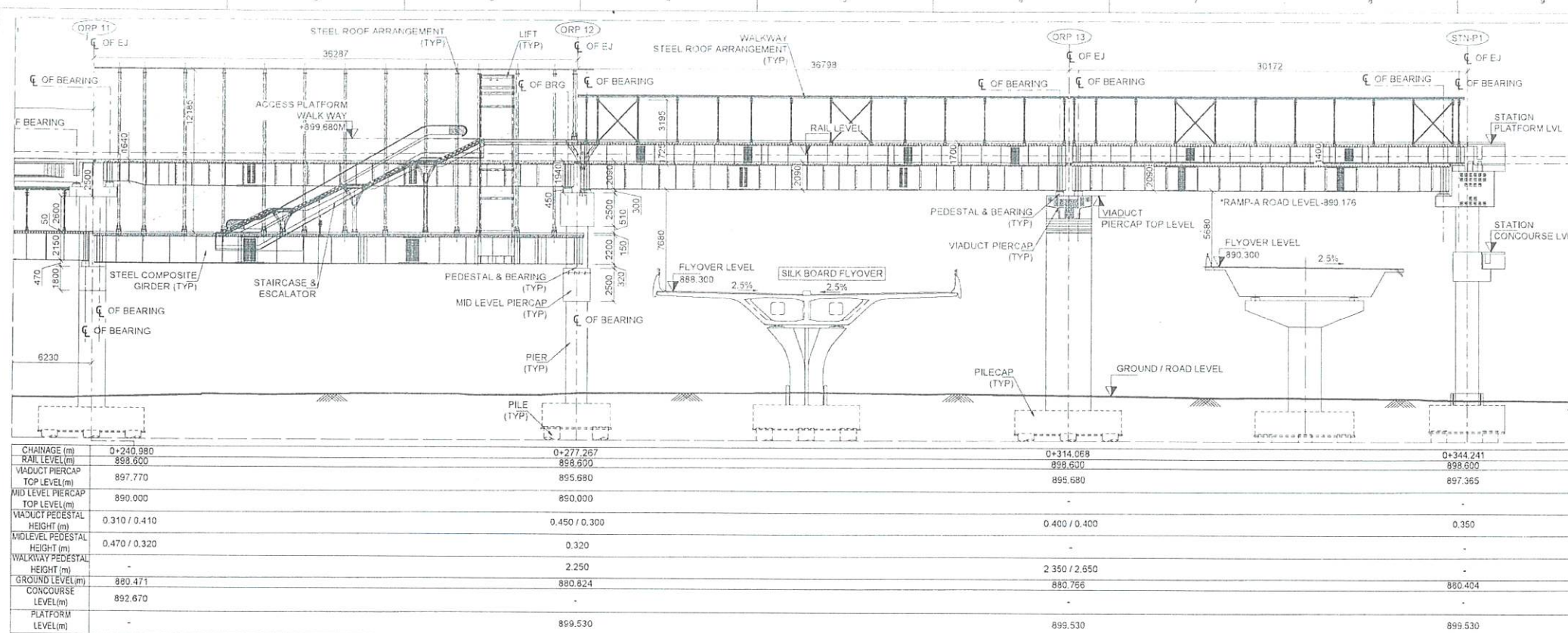
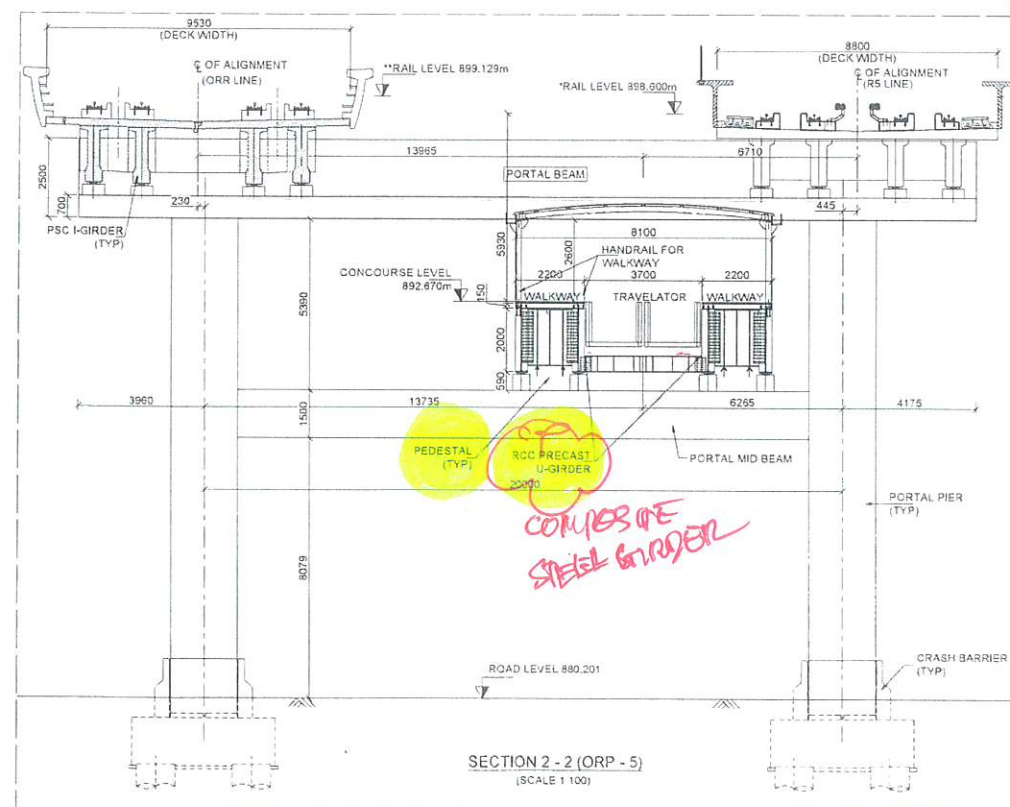
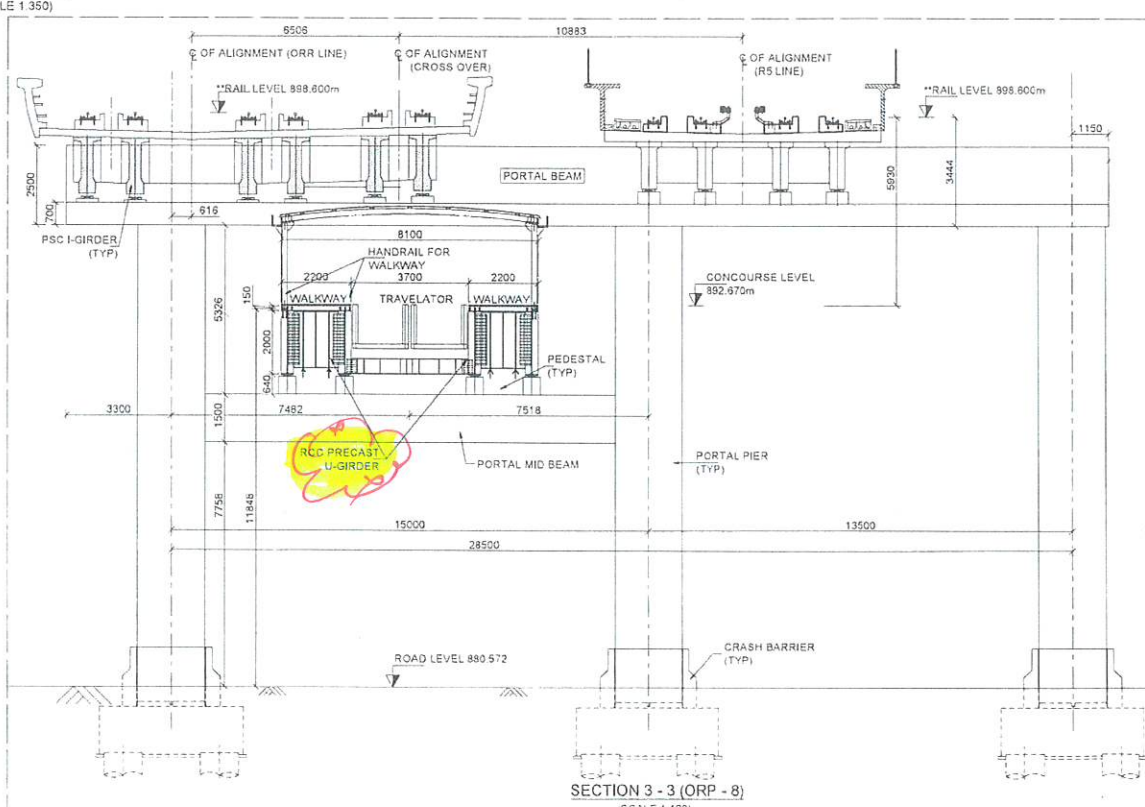
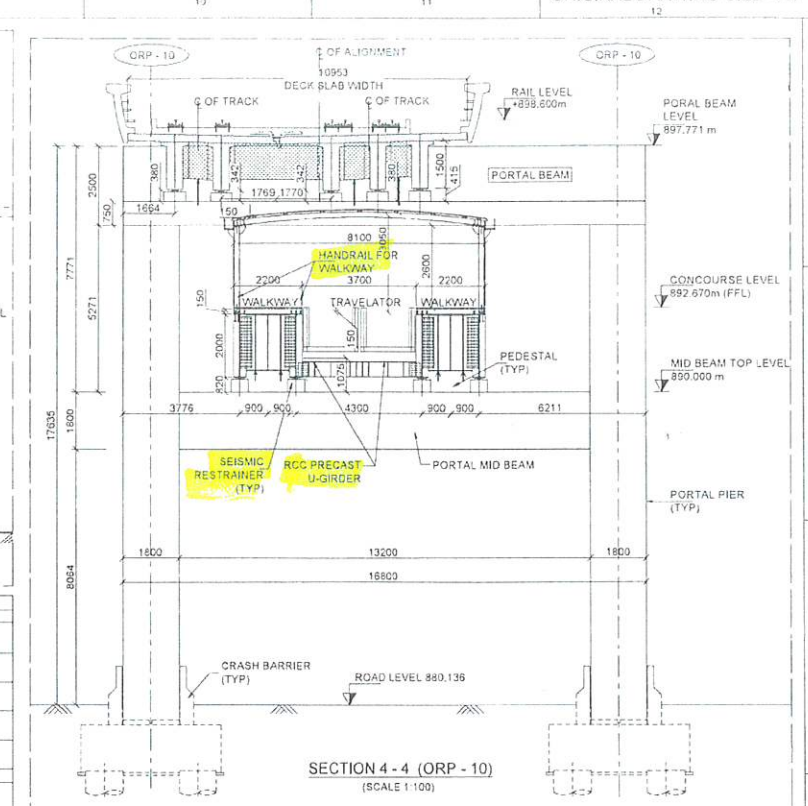
GENERAL ARRANGEMENT DETAILS OF TRAVELLATOR  
PLAN AND SECTION DETAILS  
FROM ORP - 5 TO ORP - 13 AND SILK BOARD JUNCTION

DWG. NO.: 7061581-STR-DWG-VIA-01050 (SHEET 1 OF 3)  
DATE: 17-09-2025 SCALE: AS SHOWN REV: 0 STATUS: GOOD FOR CONSTRUCTION

PROJECT KEY PLAN

ORIENTATION



SECTION 1-1  
(SCALE 1:350)SECTION 2-2 (ORP - 5)  
(SCALE 1:100)SECTION 3-3 (ORP - 8)  
(SCALE 1:100)SECTION 4-4 (ORP - 10)  
(SCALE 1:100)

- NOTES:
- ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED.
  - ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE DESIGN SECTION BEFORE EXECUTION OF WORK AT SITE.
  - THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT GAD STRUCTURAL, PLUMBING, TRAFFIC MANAGEMENT, PLAN AND ELECTRICAL DRAWINGS.

- LEGEND:-
- E.G.L. - EXISTING GROUND LEVEL
  - TYP. - TYPICAL
  - LA. - DEVELOPMENT LENGTH
  - REIN. - REINFORCEMENT
  - P.C.C. - PLAIN CEMENT CONCRETE
  - R.C.C. - REINFORCED CEMENT CONCRETE
  - THK. - THICKNESS
  - C. - CENTRE LINE
  - ALT. - ALTERNATE
  - N.T.S. - NOT TO SCALE

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
0	17-09-25	GOOD FOR CONSTRUCTION	YM	RVG	PSH
G	16-09-25	SUPER STRUCTURE TYPE FOR TRAVELLATOR CHANGED FROM RCC U-GIRDER TO STEEL COMPOSITE GIRDER	YM	RVG	PSH
F	07-03-25	REVISED AS PER LATEST ALIGNMENT AND CONCOURSE LEVEL ARRANGEMENT	YM	RVG	PSH
E	29-03-23	ORP-11 SECTION & BORE LOG DETAILS ADDED	ABC	RVG	PSH
D	01-03-23	REVISED AS PER LATEST ALIGNMENT	ABC	RVG	PSH
C	05-09-22	REVISED AS PER LATEST REVISED PIER LOCATIONS AS PER BMRL	SKN	RVG	PSH
B	29-05-22	FOR APPROVAL	KLP	RDG	PSH
A	03-05-22	FOR APPROVAL	KLP	RDG	PSH

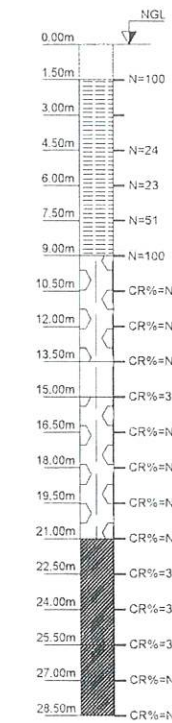
NAME/DESIGNATION	SIG.	ISSUED BY	AUTHORIZED REP.
By Designer			
Drawn By	YM	Sig.	
Checked By	RVG	Date	17-09-2025
Approved	PSH	Name	PSH

QUALITY ASSURANCE	CONSULTANT
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.	DESIGN CONSULTANT SMEC International Pty. Ltd.
	<b>smec</b> engineering positive change
	11th Floor, RMZ North Star, RMZ Galleria, Ambekar Colony, Yelahanka, Bengaluru, Karnataka 560064, India.
	PROJECT DETAILED DESIGN CONSULTANCY FOR TITLE PHASE 2A-CH 0+000 TO CH 18+433 PHASE 2B-CH 0+000 TO CH 6+740

DDC KEY EXPERT	CONTRACTOR
(PUNIT SHI) (CHIEF DESIGNER)	<b>AFCONS</b>
	Contractor Address: 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST), MUMBAI - 400053

CONTRACTOR	BMRL APPROVAL
<b>AFCONS</b>	<b>B. Ranganathan</b> 14/09/25
	Y. CHIEF ENGINEER
	DRG NO.: 7061581-STR-DWG-VIA-01050 (SHEET 1 OF 3)
	DATE: 17-09-2025 SCALE AS SHOWN REV: 0 STATUS: GOOD FOR CONSTRUCTION

CLIENT	ORIENTATION
BANGALORE METRO RAIL CORPORATION LTD. <b>metro</b>	
GENERAL ARRANGEMENT DETAILS OF TRAVELLATOR PLAN AND SECTION DETAILS FROM ORP - 5 TO ORP - 13 AND SILK BOARD JUNCTION	

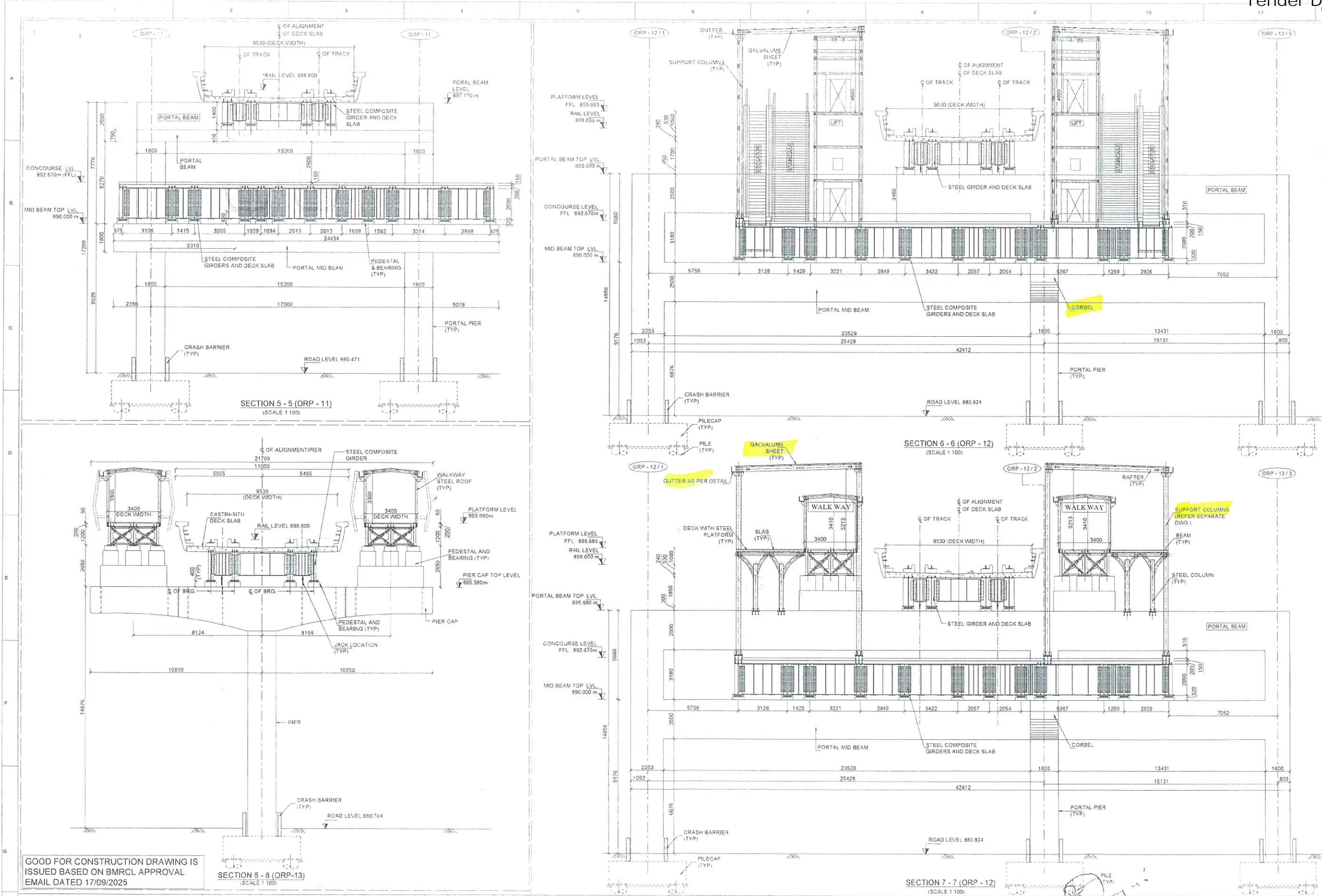
BH-CSBF RA AP-28B  
BORE LOG DETAIL  
(SCALE 1:100)

- LEGEND
- BACKFILL SOIL
  - COARSE SAND
  - SANDY SILT
  - SILT CLAY
  - CLAYEY SAND
  - DISINTEGRATED / COMPLETELY WEATHERED ROCK
  - HIGHLY WEATHERED ROCK
  - MODERATELY TO SLIGHTLY WEATHERED BASALT
  - HARD ROCK
  - GRAVEL
  - CLAY
  - SANDY CLAY

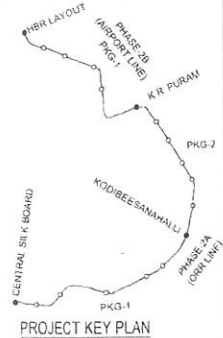


PROJECT KEY PLAN





- NOTES:
1. ALL DIMENSIONS ARE TO BE READ AND NOT MEASURED.
  2. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE DESIGN SECTION BEFORE EXECUTION OF WORK AT SITE.
  3. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT GAD, STRUCTURAL, PLUMBING, TRAFFIC MANAGEMENT PLAN AND ELECTRICAL DRAWINGS.



GOOD FOR CONSTRUCTION DRAWING IS ISSUED BASED ON BMRL APPROVAL EMAIL DATED 17/09/2025

LEGEND -

• E.G.L.	- EXISTING GROUND LEVEL
• TYP.	- TYPICAL
• Ld.	- DEVELOPMENT LENGTH
• REINF.	- REINFORCEMENT
• PCC	- PLAIN CEMENT CONCRETE
• RCC	- REINFORCED CEMENT CONCRETE
• THK.	- THICKNESS
• C	- CENTRE LINE
• ALT.	- ALTERNATE
• N.T.S.	- NOT TO SCALE

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
0	17-09-25	GOOD FOR CONSTRUCTION	YM	RVG	PSH
G	16-09-25	SUPER STRUCTURE TYPE FOR TRAVELLATOR CHANGED FROM RCC GIRDER TO STEEL COMPOSITE GIRDER	YM	RVG	PSH
F	07-03-25	REVISED AS PER LATEST ALIGNMENT AND CONCOURSE LEVEL ARRANGEMENT	YM	RVG	PSH
E	29-03-23	ORP-11 SECTION & BORE LOG DETAILS ADDED	ABC	RVG	PSH
D	01-03-23	REVISED AS PER LATEST ALIGNMENT	ABC	RVG	PSH
C	05-09-22	REVISED AS PER LATEST REVISED PIER LOCATIONS AS PER BMRL	SKN	RVG	PSH
B	29-06-22	FOR APPROVAL	KLP	RDG	PSH
A	03-06-22	FOR APPROVAL	KLP	RDG	PSH

QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.	
By Designer	Issued By
Name/Designation	Sig.
Drawn By	Authorised Rep.
SKN	
Checked By	
RVG	
Approved	
PSH	

CONSULTANT

DESIGN CONSULTANT	SMEC International Pty. Ltd.
11th Floor, RMZ North Star, RMZ Galleria, Ambodkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India	
PROJECT DETAILED DESIGN CONSULTANCY FOR	
TITLE PHASE 2A-CH 0+000 TO CH 18+433	
PHASE 2B-CH 0+000 TO CH 6+740	

DDC KEY EXPERT

(PUNIT SH)	
(CHIEF DESIGNER)	

CONTRACTOR

Contractor Address	16 SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANCHERI (WEST), MUMBAI - 400053
--------------------	--

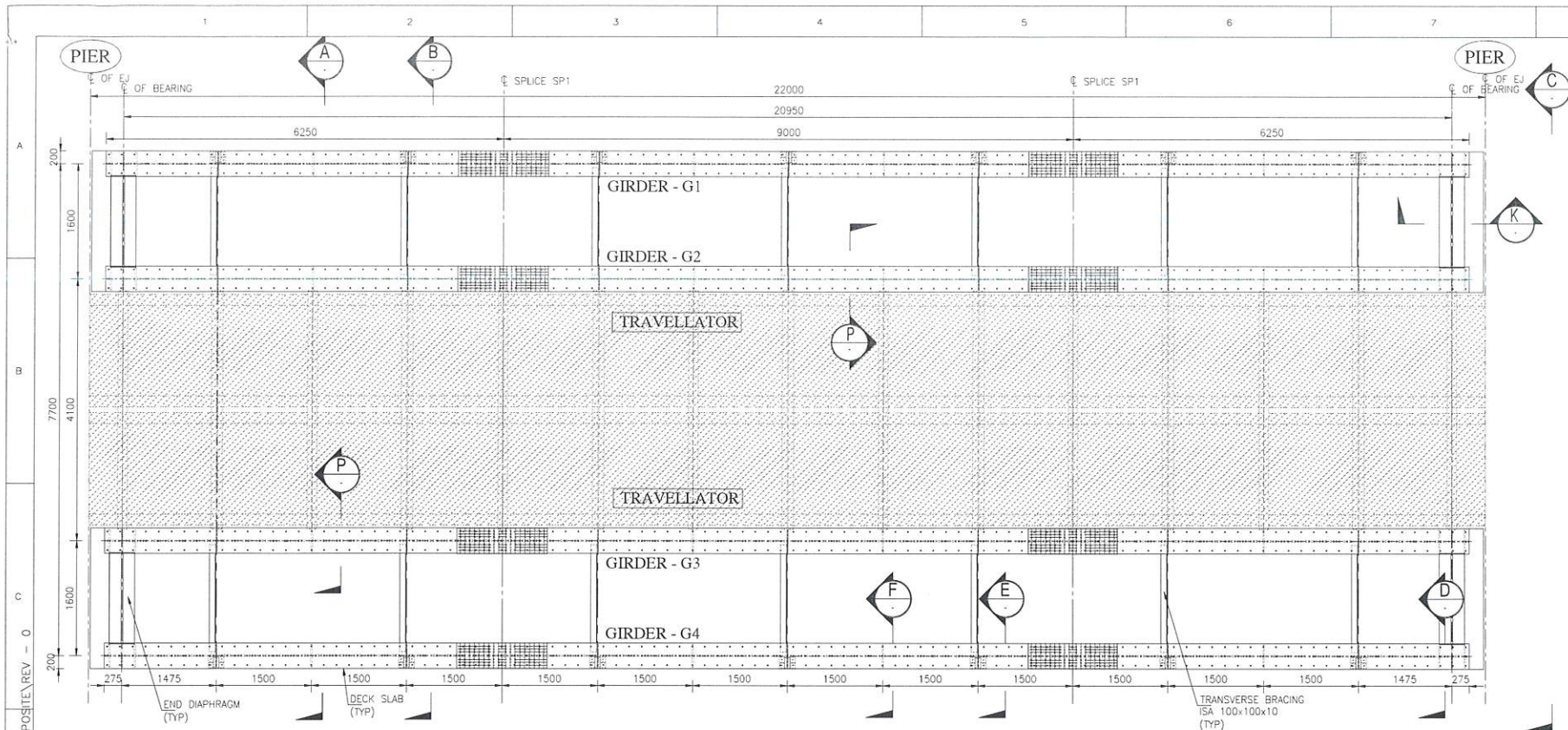
BMRL-APPROVAL

CHIEF ENGINEER	
----------------	--

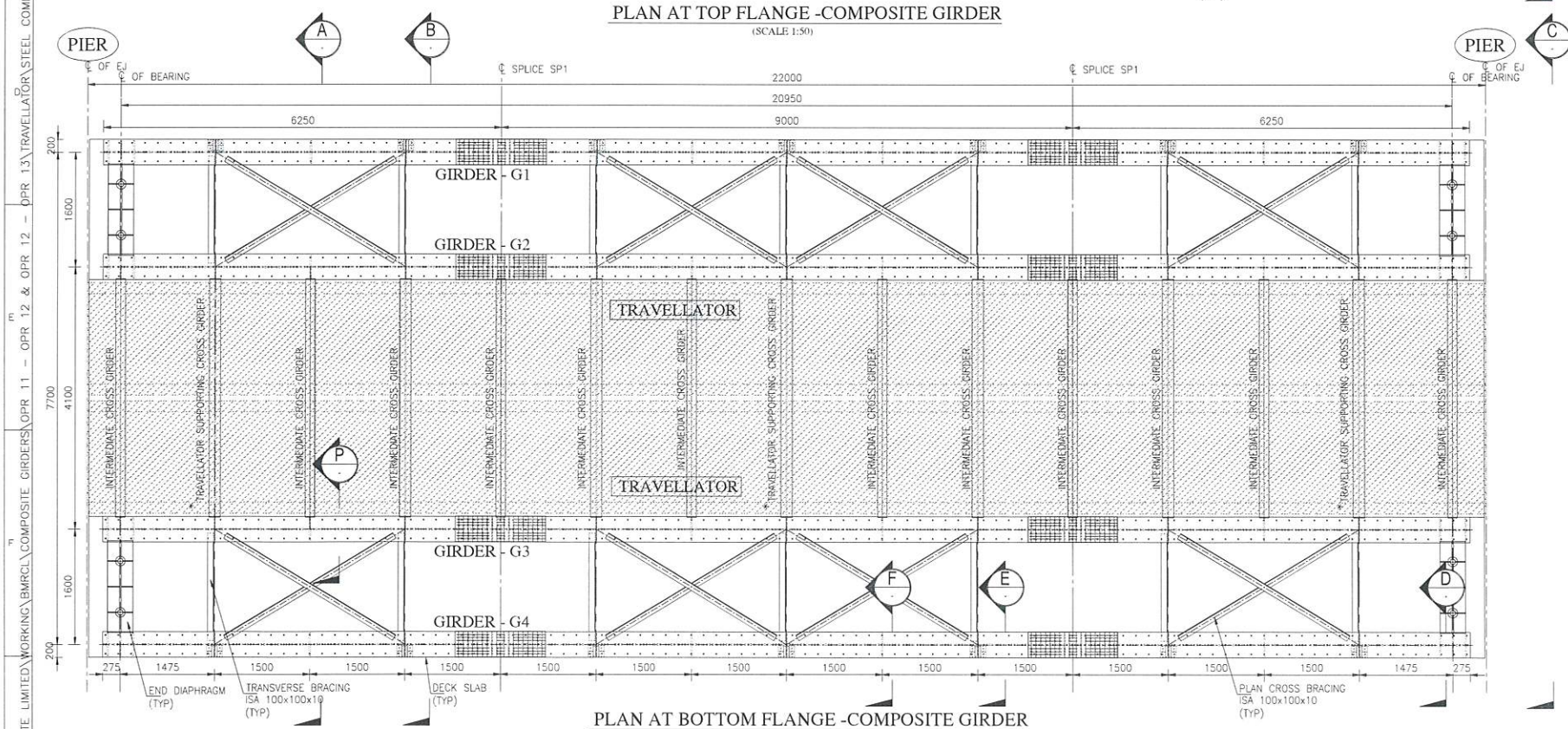
BANGALORE METRO RAIL CORPORATION LTD. metro

DRAWING TITLE: BMRL STATION & VIADUCT	ORIENTATION
GENERAL ARRANGEMENT DETAILS OF TRAVELLATOR PLAN AND SECTION DETAILS FROM ORP - 5 TO ORP - 13 AND SILK BOARD JUNCTION	
DRG NO.: 7061581-STR-DWG-VIA-01050 (SHEET 3 OF 3)	
DATE: 17-09-2025	SCALE: AS SHOWN
REV: 0	STATUS: GOOD FOR CONSTRUCTION

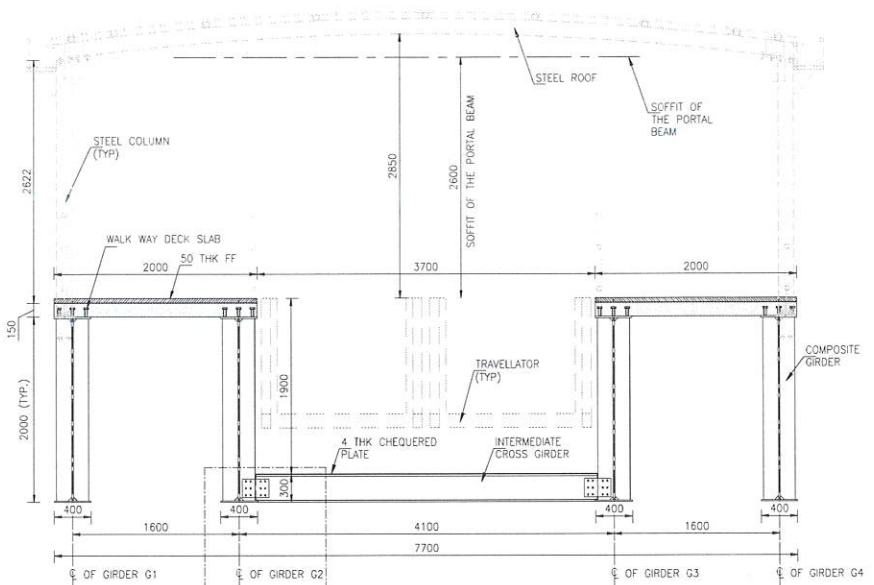




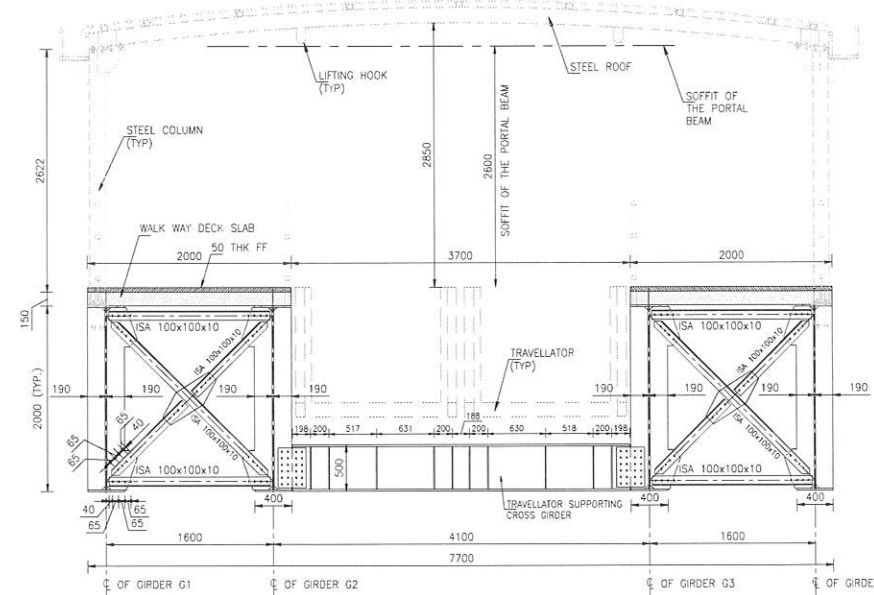
PLAN AT TOP FLANGE - COMPOSITE GIRDER (SCALE 1:50)



PLAN AT BOTTOM FLANGE - COMPOSITE GIRDER (SCALE 1:50)



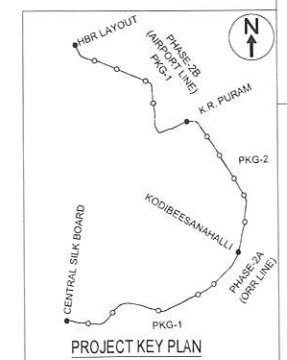
SECTION A - A (SCALE 1:40)



SECTION B - B (SCALE 1:40)

LOCATION OF TRAVELLATOR SUPPORTING CROSS GIRDER SHALL BE AS PER TRAVELLATOR SUPPORT DETAILS TABLE.

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
  - STRUCTURAL STEEL PLATE GIRDER/ PLATE MEMBERS SHALL BE HIGH STRENGTH STEEL (HTS) GRADE 450 (BR) CONFORMING TO IS:2062. FOR HOT ROLLED STRUCTURAL MEMBERS SHALL BE E250 CONFORMING TO IS:2062-2011.
  - FOR ANY BENT PLATE USED, PLATES MUST BE BENT HOT FREE FROM CRACK.
  - CONNECTIONS SHALL BE WELDED (BOLTED (HSFG)).
  - BEFORE EXECUTION OF WORK, SHOP DRAWINGS SHALL HAVE TO BE GOT APPROVED BY THE ENGINEER, COMPETENT AUTHORITY.
  - GRADE OF CONCRETE SHALL BE M35.
  - GRADE OF REINFORCEMENT STEEL F<sub>y</sub>500.
  - ALL HSFG BOLTS SHALL BE 24mm DIA. 8.8 GRADE CONFORMING TO IS:4000 AND BOLT HOLES ARE 25.5mm DIA. UNLESS OTHERWISE STATED.
  - WELDING SHOULD COMPLY WITH RDSO SPECIFICATIONS. SPECIAL CARE SHOULD BE TAKEN FOR WELDING SEQUENCE.
  - AUTOMATIC SUB-MERGED ARC WELDING SHOULD BE EMPLOYED FOR ALL BUTT & FILLET WELDED WHEREVER SHOWN.
  - ALL FILLET WELDS ARE 8mm THK. UNLESS OTHERWISE SPECIFIED.
  - THE GRADE OF STUD IS 355MPa.
  - THE GRADE OF BRACING E250 (BR) CONFORMING TO IS:2062-2011.
  - FILLET WELDS IN FLANGES TO WEB CONNECTION SHALL BE MADE ONLY BY AUTOMATIC SUBMERGED ARC WELDING TECHNIQUE. ALL OTHER WELDS SHOULD BE DONE BY SAW AS FAR AS POSSIBLE. IN CASE SAW IS NOT POSSIBLE OR DIFFICULT TO BE DONE, OTHER WELDS SHALL BE PREFERABLY MADE BY GAS METAL ARC WELDING (GMAW) FLUX-CORED ARC WELDING (FCW), MANUAL METAL ARC WELDING (MMAW) MAY BE USED IF APPROVED BY ENGINEER-IN-CHARGE.
  - END STIFFENERS AND INTERMEDIATE STIFFENERS USING FOR CONNECT THE TRANSVERSE CROSS BRACING TO THE GIRDER SHALL BE CONNECTED TO WEB BY 10MM FILLET WELD ALL AROUND INCLUDING WITH FLANGES.
  - ALL INTERMEDIATE STIFFENERS SHALL BE CONNECTED TO THE WEB BY FILLET WELDS AND NOT WELDED TO THE FLANGE. THE INTERMEDIATE STIFFENERS SHALL BE MACHINE FIT WHEREVER THESE TOUCH THE FLANGES.
  - ALL HSFG BOLTS SHALL CONFORM TO DRAWING NO. RDSO-B-17601 R1.
  - STUD SHEAR CONNECTOR SHOULD BE WELDED TO TOP FLANGE COVER PLATE. SHEAR CONNECTORS TO BE WELDED TO TOP FLANGE/SPICE TOP COVER PLATE USING AUTOMATIC STUD WELDING GUN.



RELEVANT DOCUMENTS

TYPICAL DESIGN OF STEEL-CONCRETE COMPOSITE SUPERSTRUCTURE FOR TRAVELLATOR-22M SPAN BETWEEN ORP 5 TO ORP 11

7061581-STR-RP1-VIA-01412

REFERENCE DRAWINGS:

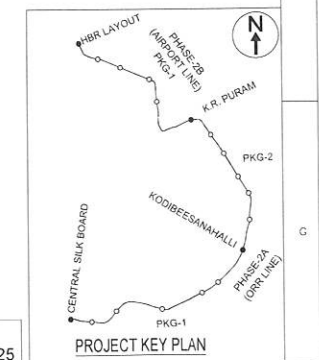
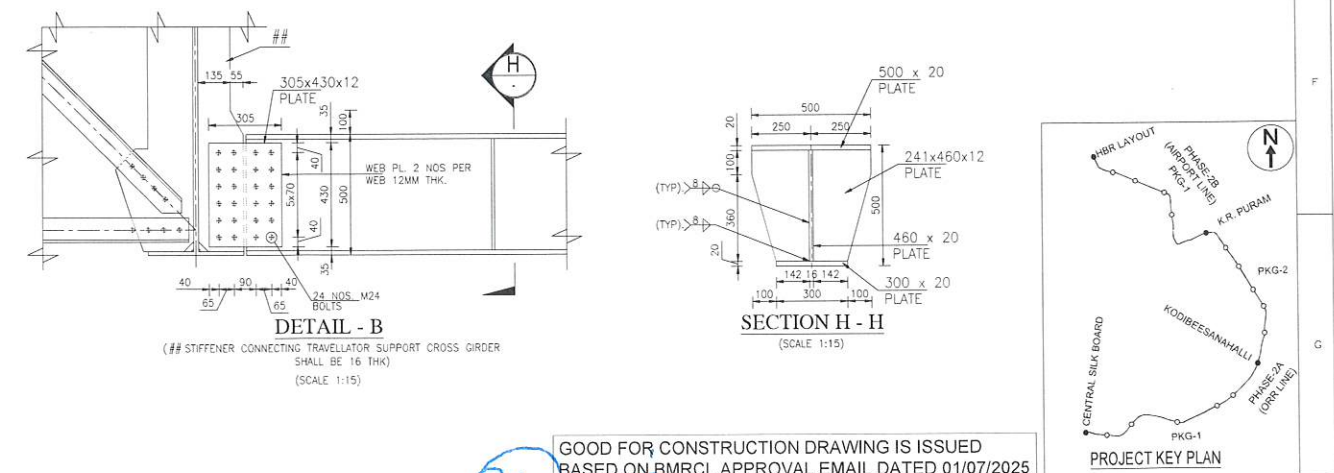
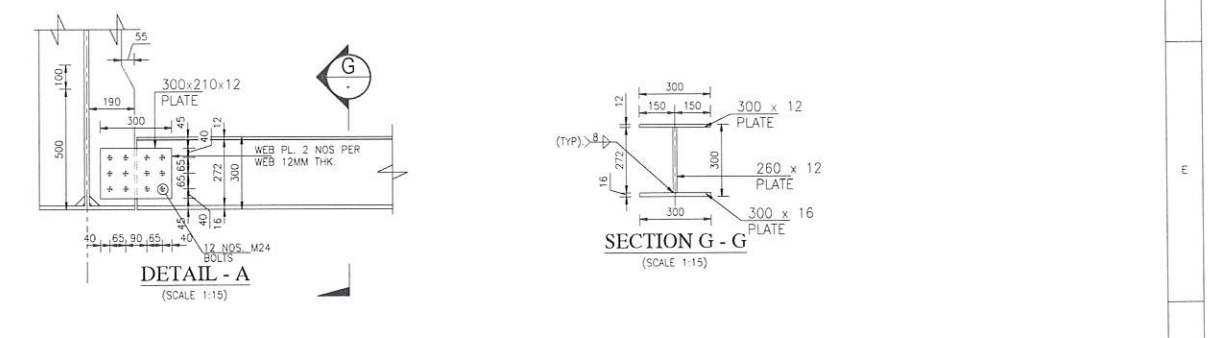
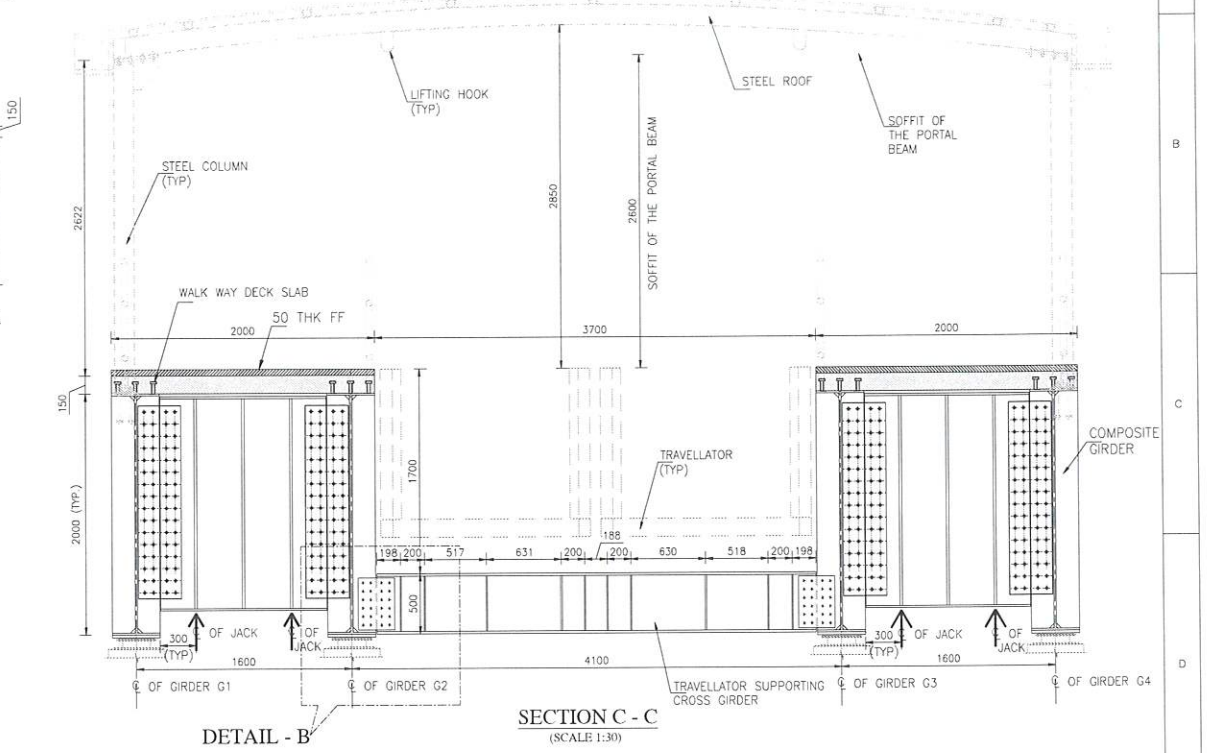
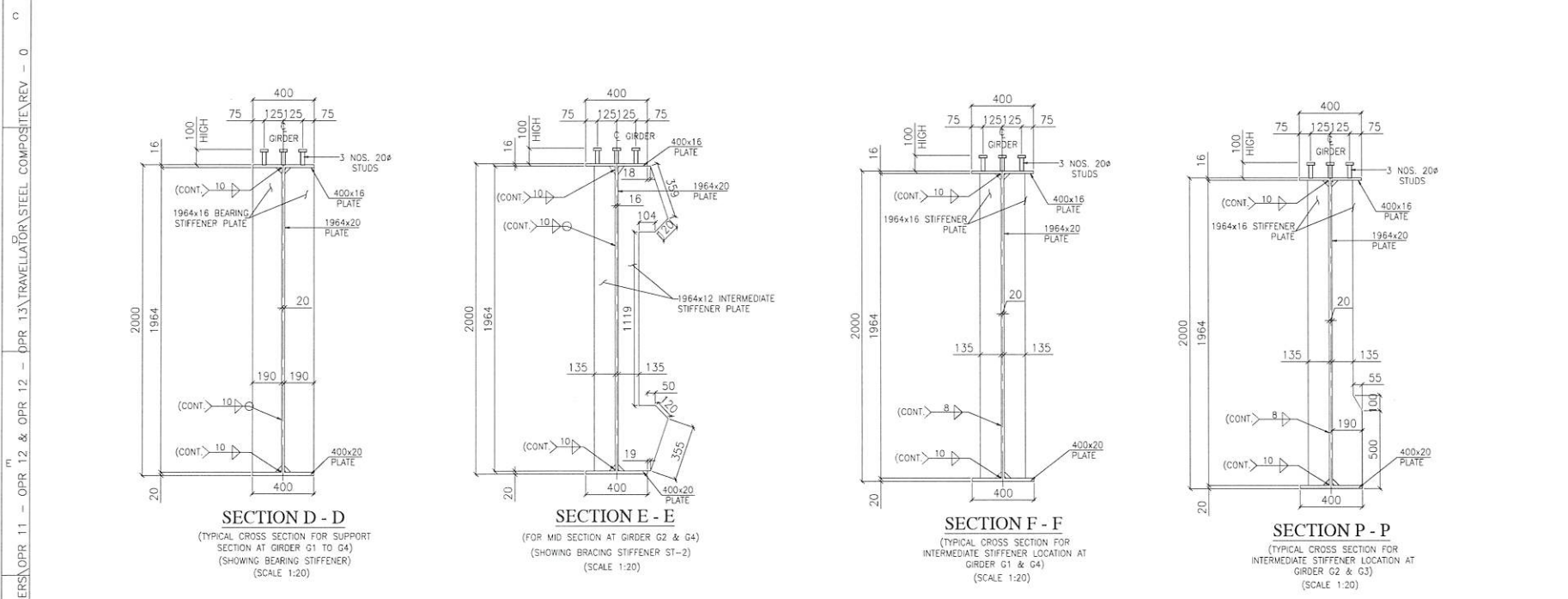
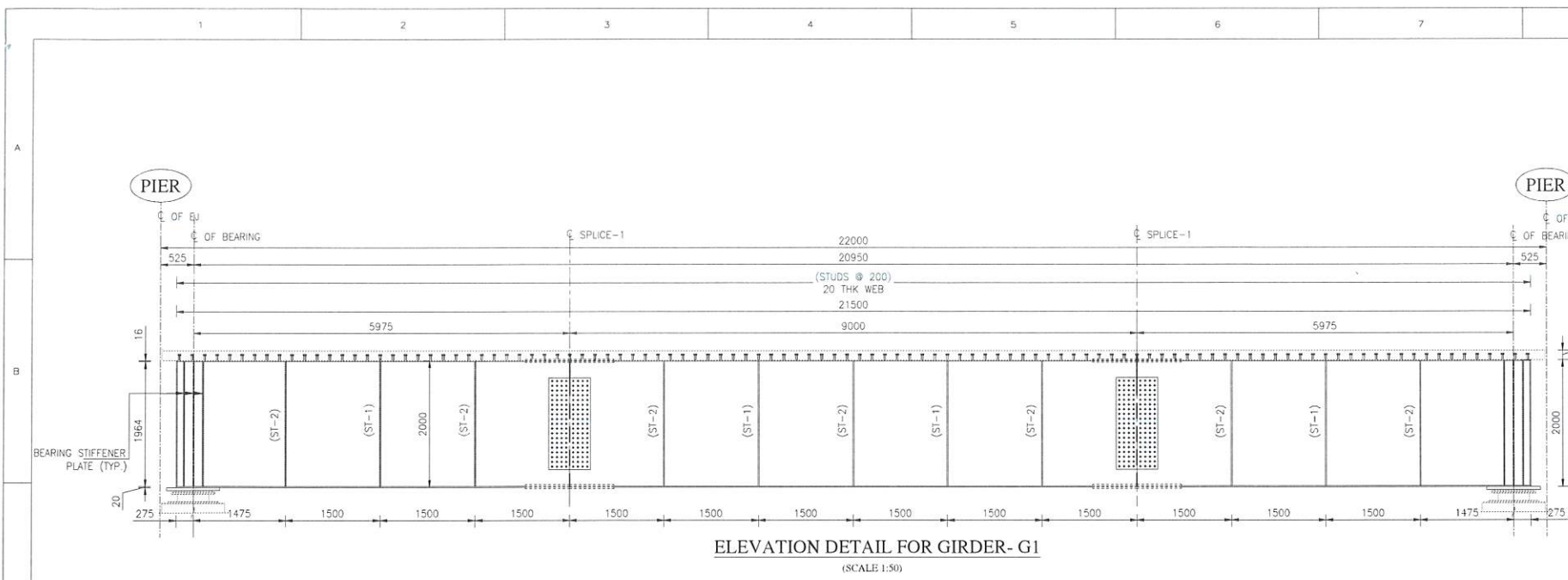
- GIRDER ELEVATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 2 OF 4).
- WEB SPLICE AND CROSS GIRDER WEB SPLICE CONNECTION DETAILS FOR STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 3 OF 4).
- RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 4 OF 4).

THE BASE PLATE TEMPLATE SHALL BE POSITIONED BEFORE CONCRETING THE DECK SLAB, IN ACCORDANCE WITH THE RELEVANT ROOF DRAWINGS.

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRCL APPROVAL EMAIL DATED 01/07/2025

QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRCL APPROVAL		CLIENT	
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT SMEC International Pty. Ltd.				AFCONS		B. Ranganayak		BANGALORE METRO RAIL CORPORATION LTD. metro	
By Designer				Name/Designation		Issued By		Authorised Rep.		Drawing Checked By		Drawing Title	
Drawn By				YM		RVG		PSH		19/07/25		NUMERATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER	
Checked By				RVG		RVG		PSH		17-07-2025		22m SPAN FOR CSBD STATION GRID - K TO ORP 11	
Approved				PSH		PSH		PSH		17-07-2025		DRG NO. : 7061581-STR-DWG-VIA-06070 (SHEET 1 OF 4)	
Date				17-07-2025		17-07-2025		17-07-2025		17-07-2025		DATE: 17-07-2025 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION	
Description				GOOD FOR CONSTRUCTION		FOR APPROVAL (STEEL COMPOSITE OPTION BMRCL REQUIREMENT)		FOR PRELIMINARY STEEL COMPOSITE OPTION BMRCL REQUIREMENT					
Drawn				YM		RVG		PSH					
Checked				RVG		RVG		PSH					
Approved				PSH		PSH		PSH					





TRAVELLATOR SUPPORT DETAILS :

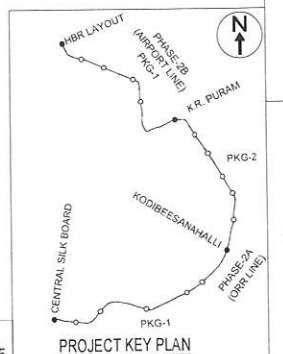
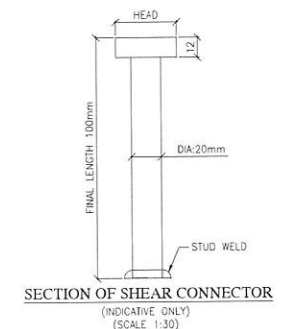
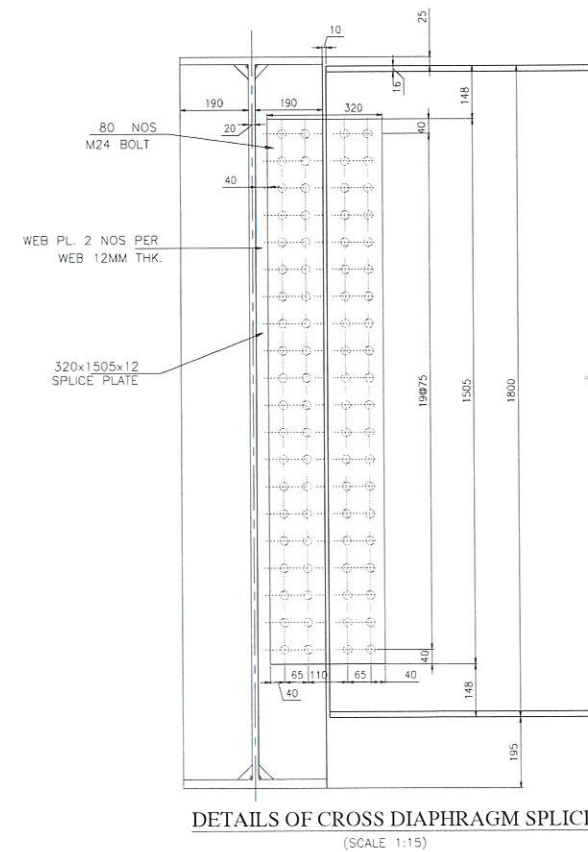
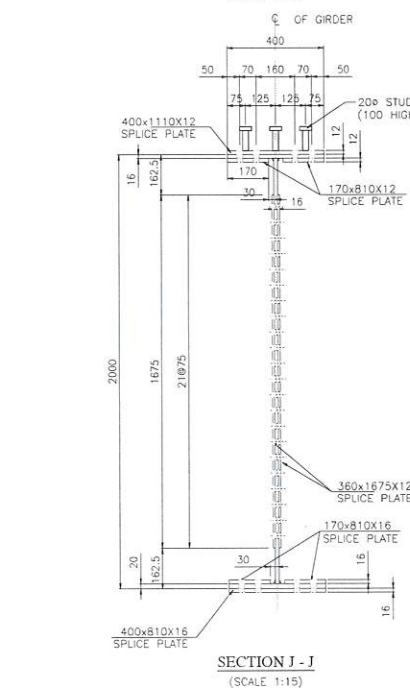
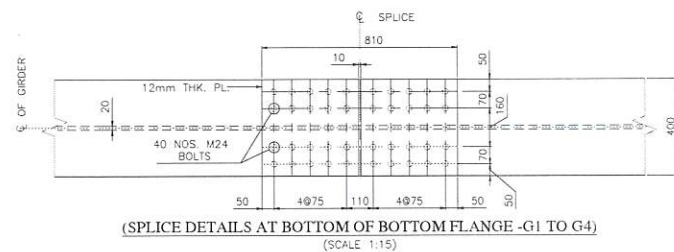
Sl.NO	SPAN ID	SPAN LENGTH (M)	TRAVELLATOR LENGTH (M)	EJ TO FIRST SUPPORT (M)	EJ TO INTERMEDIATE SUPPORT (M)	EJ TO INTERMEDIATE SUPPORT (M)
1	CSBD GRID - K TO ORP - 5	17.693	72.000	6.624	16.654	-
2	ORP - 5 TO ORP - 6	22.000		-	9.761	20.561
3	ORP - 6 TO ORP - 7	22.000		-	9.361	20.161
4	ORP - 7 TO ORP - 8	22.000		-	6.401	16.931
5	ORP - 8 TO ORP - 9	18.000	52.000	3.931	13.961	-
6	ORP - 9 TO ORP - 10	22.000		-	6.761	17.561
7	ORP - 10 TO ORP - 11	22.000		-	5.401	16.113

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - DIMENSION ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- REFERENCE DRAWINGS:**
- NUMERATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 1 OF 4).
  - WEB SPICE AND CROSS GIRDER WEB SPICE CONNECTION DETAILS FOR STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 3 OF 4).
  - RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11 REFER DRG NO. 7061581-STR-DWG-VIA-06070 (SHEET 4 OF 4).

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 01/07/2025

QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRL APPROVAL		CLIENT	
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT <b>SMEC International Pty. Ltd.</b>				<b>AFCONS</b>		<b>B. Ranganayasi</b> 18/7/25 JY. CHIEF ENGINEER		BANGALORE METRO RAIL CORPORATION LTD. <b>metro</b>	
By Designer Y.M.				11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India		(PUNIT SH) (CHIEF DESIGNER)		Contractor Address: 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		Drawing Checked By Design Checked By		DRAWING TITLE : BMRL VIADUCT GIRDER ELEVATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORP 11	
O 17-07-25 GOOD FOR CONSTRUCTION				PROJECT DETAILED DESIGN CONSULTANCY FOR TITLE PHASE 2A-CH: 0+000 TO CH: 18+433 PHASE 2B-CH: 0+000 TO CH: 6+740						DATE: 17-07-2025 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION		DRAWING NO. : 7061581-STR-DWG-VIA-06070 (SHEET 2 OF 4)	
B 16-06-25 FOR APPROVAL (STEEL COMPOSITE OPTION BMRL REQUIREMENT)													
A 15-05-25 FOR PRELIMINARY (STEEL COMPOSITE OPTION BMRL REQUIREMENT)													
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.								





1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
2. DO NOT SCALE THE DRAWING. FOLLOW THE FIGURED DIMENSIONS ONLY.
3. THIS DRAWING MUST READ IN CONJUNCTION WITH GAD, GENERAL NOTES, ELECTRICAL, & OTHER RELATED STRUCTURAL DRAWINGS.
4. GRADE OF CONCRETE. CAST-IN-SITU DECK SLAB-M35
5. STRUCTURE STEEL PLATE GIRDER SHALL BE HIGH STRENGTH STEEL (HTS)- GRADE E450BR CONFORMING TO IS 2062-2011
6. REINFORCEMENT (HYSD TMT REINFORCEMENT) GRADE FE 500 IS 1786
7. THE DESIGN IS IN ACCORDANCE WITH THE IRS BRIDGE RULES, STEEL BRIDGE CODE, WELDED BRIDGE CODE, CONCRETE BRIDGE CODE SHEAR CONNECTOR DESIGN CODE IRC 22 AND UIC BEARING DESIGN CODE (772-2R.)
8. AUTOMATIC SUBMERGED ARC WELDING SHOULD BE EMPLOYED FOR FILLET WELDS IN FLANGES TO WEB. OTHER WELDS SHOULD ALSO BE DONE BY SUBMERGED ARC WELDING TO THE MAXIMUM EXTENT POSSIBLE.
9. ALL WELDS TO BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS ONLY. (IS-9595)
10. ALL STIFFENERS SHALL BE CONNECTED WITH WEB BY 8mm FILLET WELD ALL AROUND UNLESS OTHERWISE STATED.
11. WELDING CONSUMABLES (IF ANY) THE WELDING CONSUMABLES TO CONFORM TO IS 814:1991 AND OF STRENGTH REQUIREMENTS APPROPRIATE FOR PREHEATED HT STEEL OR UN-HEATED MILD STEEL.
12. THE GRADE OF STUD IS 385MPa.
  - a) GENERAL NOTES FOR STRUCTURAL STEEL.
13. ALL STRUCTURAL STEEL PLATES SHALL BE OF E450 (BR) GRADE CONFORMING TO IS:2062-2011.
14. ALL MATERIALS SHOULD HAVE TEST CERTIFICATED (TC) OF THE MAIN PRODUCER. IF REQUIRED ALL THE STRUCTURAL STEEL SHALL BE TESTED FOR MECHANICAL AND CHEMICAL PROPERTIES AS PER VARIOUS IS CODES AS MAY BE APPLICABLE AND SHALL CONFIRM TO THE REQUIREMENTS SPECIFIED IN IS 2062-2011.
15. ROLLING AND CUTTING TOLERANCES SHALL BE AS PER IS 1852. THE THICKNESS TOLERANCES CHECK MEASUREMENTS FOR THE PLATES AND ROLLED SECTIONS SHALL BE TAKEN AT NOT LESS THAN 15mm FROM EDGE.
16. LAMINATION CHECK IN PLATES SHALL BE CARRIED OUT BY ULTRASONIC TESTING OR ANY OTHER APPROVED METHODS OR SHOULD HAVE THE MILL TEST CERTIFICATE FOR THE TESTING.
17. CAMBER IS TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSIONS INDICATED ABOVE.
18. FLANGE SPlice PLATES ARE TO BE BENT TO SUIT THE CAMBER PROFILE OF GIRDER. IF IT IS EXPECTED THAT THE PLATES WILL BEND DURING BOLT TIGHTENING. HOWEVER, IF ANY PROBLEM EXPERIENCED, THE FLANGE SPlice PLATES MAY PRE-BEND HYDRAULICALLY.
19. CAMBER TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSION INDICATED IN CAMBER DIAGRAM. THE HEIGHT OF WEB PLATE SHOULD BE MAINTAINED AS 1964MM.

B) FABRICATION:	
FABRICATION SHALL BE DONE AS PER STIPULATIONS OF IRSB1.ALL WELDS SHALL BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS.	
DIMENSIONS FOR CHANNELS, ANGLES ETC.,	IS 808-1989
DIMENSIONS FOR STEEL PLATES, SHEETS, FLATS ETC.,	IS 1730-1989
ROLLING & CUTTING TOLERANCES FOR HOT ROLLED STEEL PRODUCTS	IS 1852-1973
STEEL FOR GENERAL STRUCTURAL PURPOSES	IS 2062-2011
HSPG BOLTS	IS 3757-1985
ELECTRODES FOR MANUAL METAL ARC WELDING	IS 814-1991
GLOSSARY OF TERMS OF WELDING & CUTTING OF METAL	IS 812-1957
CODE OF PRACTICE FOR METAL ARC WELDING	IS 816-1969
CODE OF PRACTICE FOR INSPECTION OF WELDS	IS 822-1970
CODE OF PRACTICE FOR USE OF WELDING IN BRIDGES	IS 1024-1979

**REFERENCE DRAWINGS:**

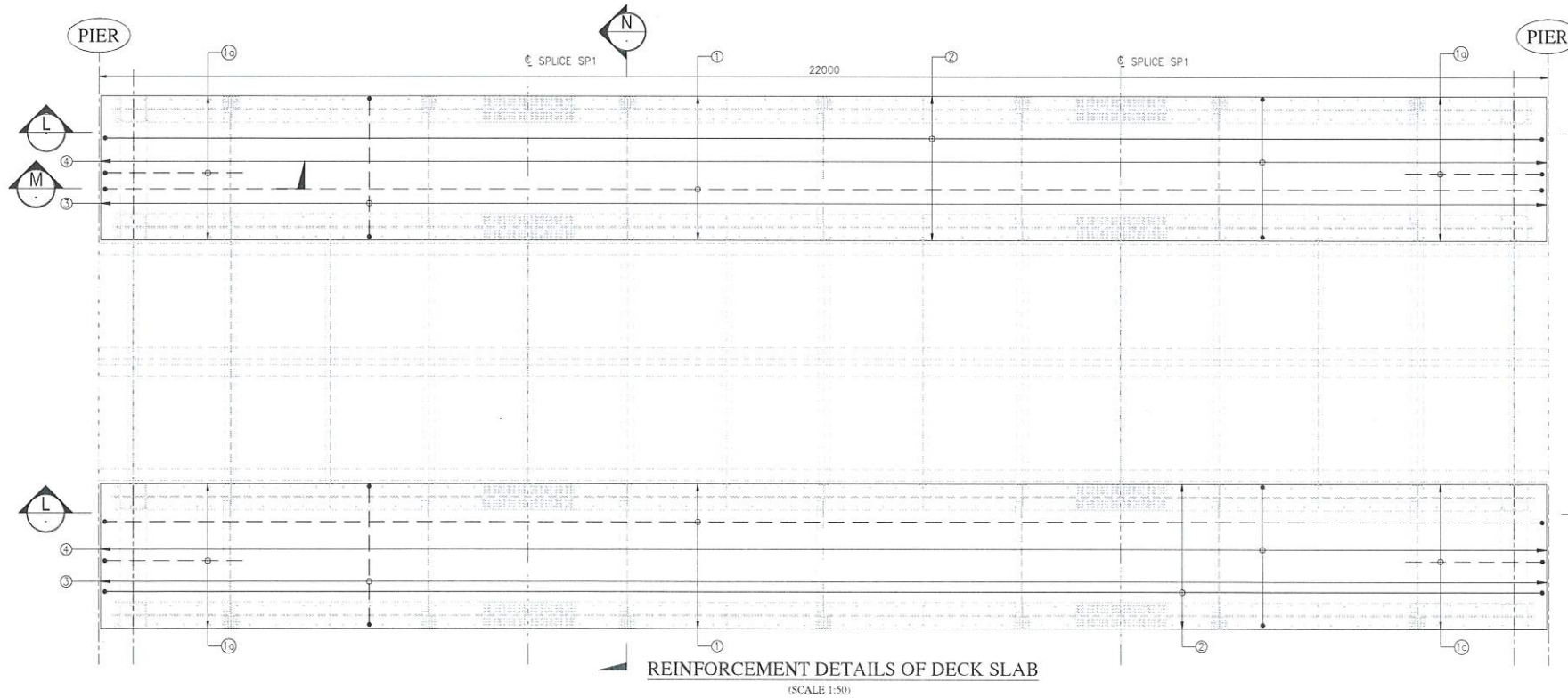
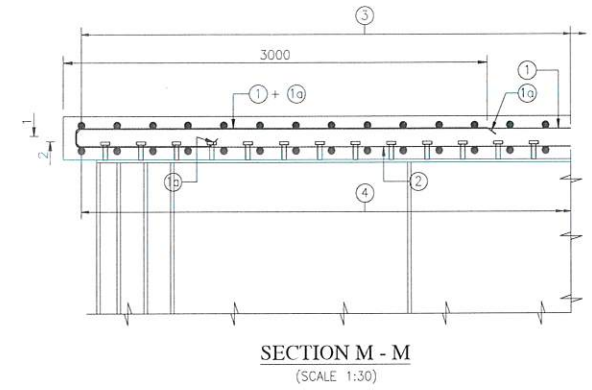
1. NUMERATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORDP 11 REFER DRG NO: 7061581-STR-DWG-VIA-06070 (SHEET 1 OF 4).
2. GIRDER ELEVATION AND CROSS SECTION DETAILS OF STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORDP 11 REFER DRG NO: 7061581-STR-DWG-VIA-06070 (SHEET 2 OF 4).
3. RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER 22m SPAN FOR CSBD STATION GRID - K TO ORDP 11 REFER DRG NO: 7061581-STR-DWG-VIA-06070 (SHEET 4 OF 4).

OUTER GIRDER & INNER GIRDER (G1, G2, G3 & G4)	19	25	19
---	----	----	----






CHAMBER DIAGRAM

[illegible]

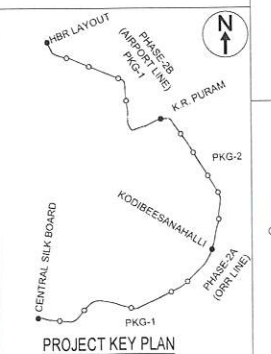




- #### SCHEDULE OF REINFORCEMENT FOR DECK SLAB

BAR MARK	DESCRIPTION	SHAPE	REMARKS
①	Y12 AT 200		
①c	Y12 AT 200		
②	Y12 AT 200		
③	Y12 AT 200		
④	Y12 AT 200		

- LEGEND:**  
 BOTTOM R/F BARS \_\_\_\_\_  
 TOP R/F BARS - - - - -

[illegible]





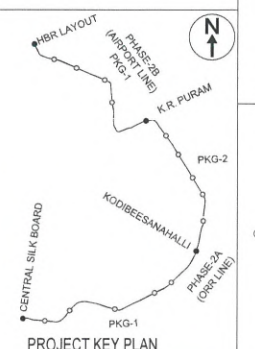
PIER NO.	SPAN	RADIUS	GRADIENT
ORP11 - ORP12	VARIABLE	---m	FLAT

RELEVANT DOCUMENTS	
STEEL CONCRETE COMPOSITE TURE 36.287m SPAN BETWEEN ORP11 AT CONCOURSE LEVEL	7061581-STR-RPT-VIA-01512

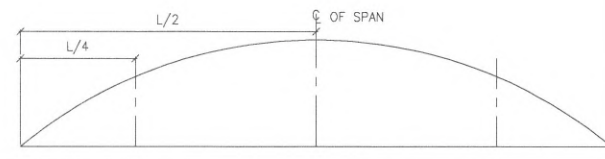
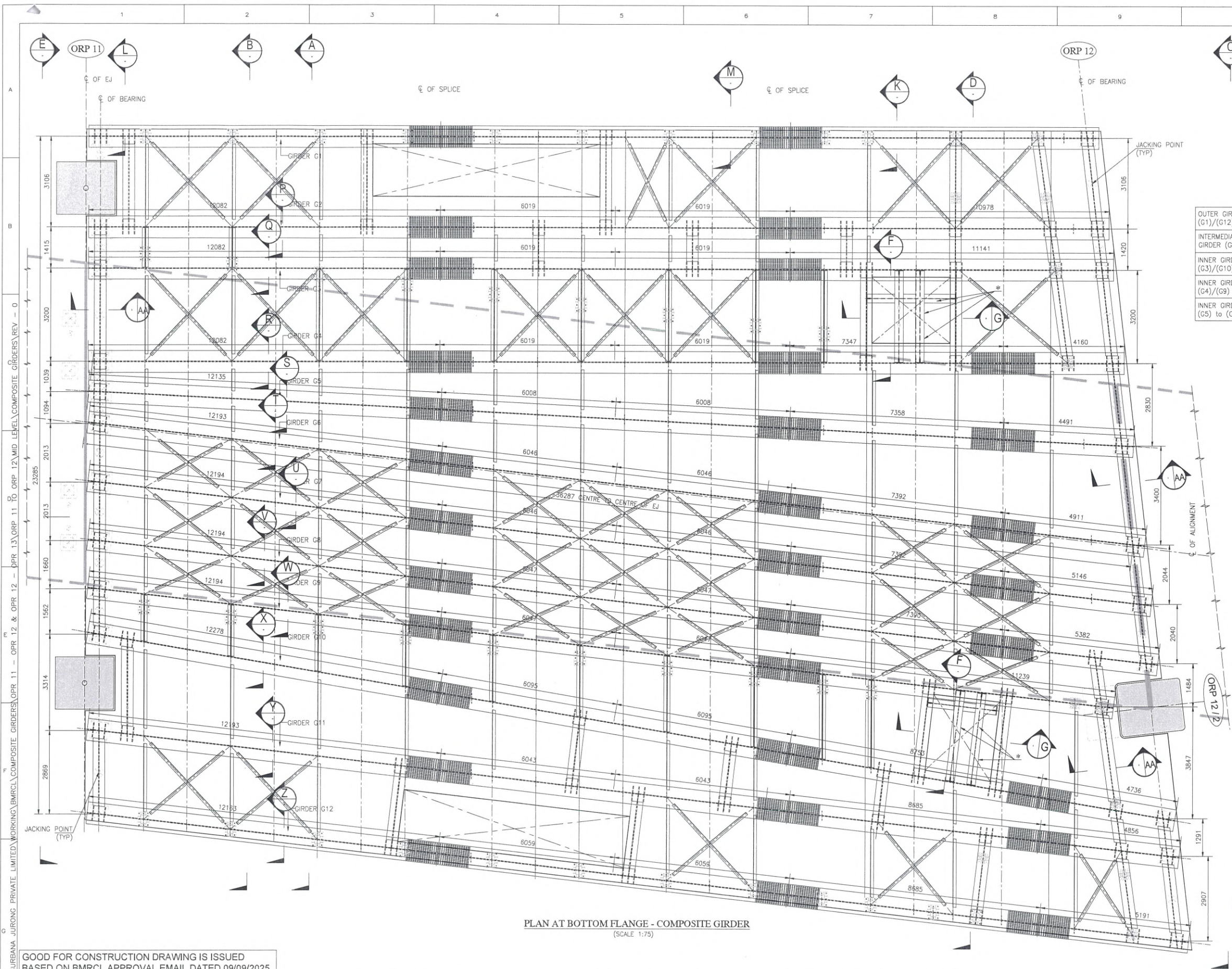
1251  
2907  
408

B. Ranganayagi  
11/09/25

JOY. CHIEF ENGINEER  
DESIGN-1  
BMROL

[illegible]





OUTER GIRDER (G1)/(G12)	65	88	65
INTERMEDIATE GIRDER (G2)/(G11)	92	122	92
INNER GIRDER (G3)/(G10)	94	125	94
INNER GIRDER (G4)/(G9)	61	82	61
INNER GIRDER (G5) to (G8)	58	77	58

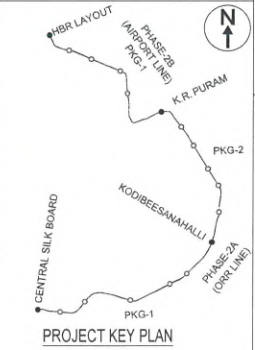
CHAMBER DIAGRAM

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

- REFERENCE DRAWINGS:
- TOP PLAN NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 1 OF 8)
  - BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 3 OF 8)
  - TRANSVERSE BRACING, SECTIONAL ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 4 OF 8)
  - SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 5 OF 8)
  - SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 6 OF 8)
  - SECTIONAL, SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 7 OF 8)
  - RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084, (SHEET : 8 OF 8)

\* THE POSITION OF THE LIFT PIT CROSS BEAM SHALL BE MODIFIED AND RELOCATED IN ACCORDANCE WITH THE SUPPLIER'S REQUIREMENTS.

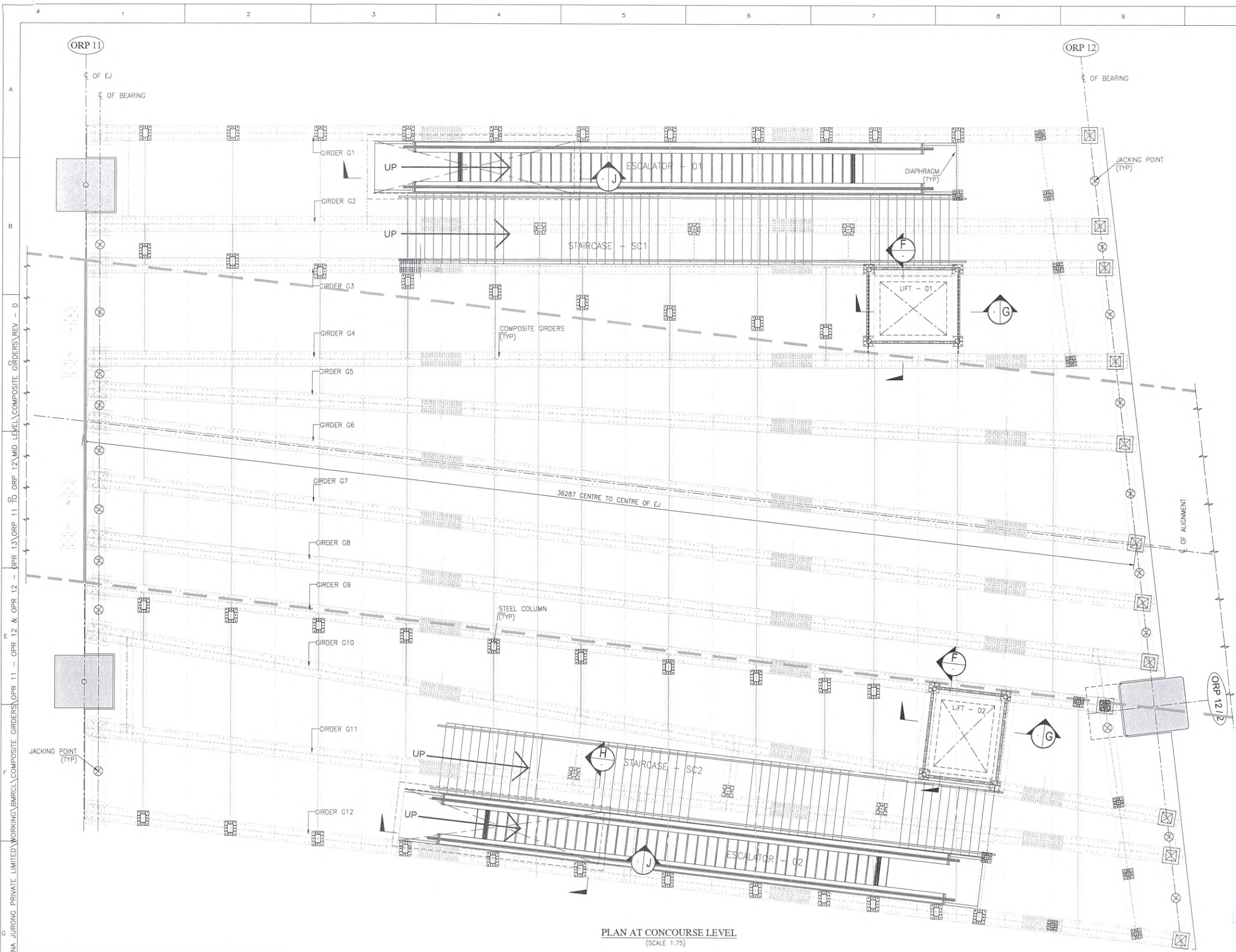
*B. Ranganayagi*  
11/09/25  
DY. CHIEF ENGINEER  
DESIGN-1  
BMROL



GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 09/09/2025

QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT	CONTRACTOR	BMRL APPROVAL	CLIENT :		
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT SMEC International Pty. Ltd.			<b>AFCONS</b>		BANGALORE METRO RAIL CORPORATION LTD. <i>metro</i>		
By Designer Name/Designation Sg.				Issued By Authorised Rep.					DRAWING TITLE : BMRL VIADUCT		
Drawn By YM				Sg.					ORIENTATION :		
Checked By RVG				Date 10-09-2025					BOTTOM PLAN NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL		
Approved PSH				Name PSH					PROJECT DETAILED DESIGN CONSULTANCY FOR TITLE PHASE 2A- CH: 0+000 TO CH: 18+433 PHASE 2B- CH: 0+000 TO CH: 6+740		
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.				Drawing Checked By Design Checked By		
0	10-09-25	GOOD FOR CONSTRUCTION	YM	RVG	PSH				DRC NO. 7061581-STR-DWG-VIA-02084 (SHEET 2 OF 8)		
C	02-09-25	LOCATION OF TRANSVERSE BRACINGS ARE REVISED AS PER ROOF	YM	RVG	PSH				DATE: 10-09-2025 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION		
B	21-05-25	REVISED AS PER LATEST ALIGNMENT DATED 28.04.25 AND BMRL MAIL DATED 03.11.2023 (AS PER REVISED ARCHITECTURAL SUBMISSION LT NO SMEC/BMRC 2A2B/BMRL/Contracts/10-23/3034)	YM	RVG	PSH						
A	06-06-23	FOR APPROVAL	PVB	RVG	PSH						



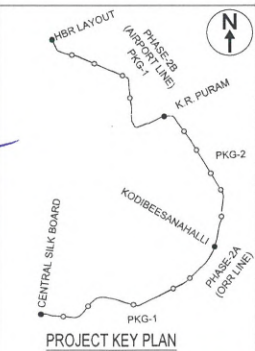


- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  2. DIMENSION ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
- REFERENCE DRAWINGS:
1. TOP PLAN NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 1 OF 8)
  2. BOTTOM PLAN NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 2 OF 8)
  3. TRANSVERSE BRACING, SECTIONAL ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 4 OF 8)
  4. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 5 OF 8)
  5. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 6 OF 8)
  6. SECTIONAL SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 7 OF 8)
  7. RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084 . (SHEET : 8 OF 8)

PLAN AT CONCOURSE LEVEL  
(SCALE 1:75)

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRCL APPROVAL EMAIL DATED 09/09/2025



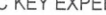

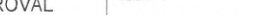



*B. Ranganayagi*  
11/09/25  
DY. CHIEF ENGINEER  
DESIGN-1  
BMRCL



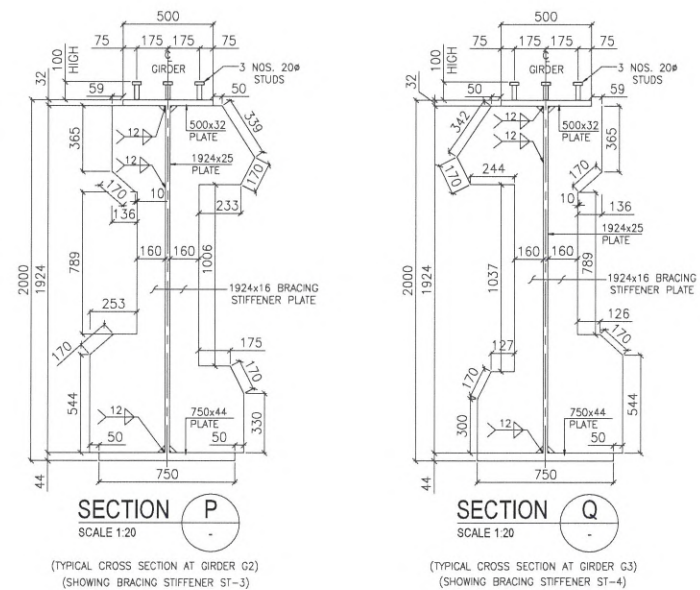
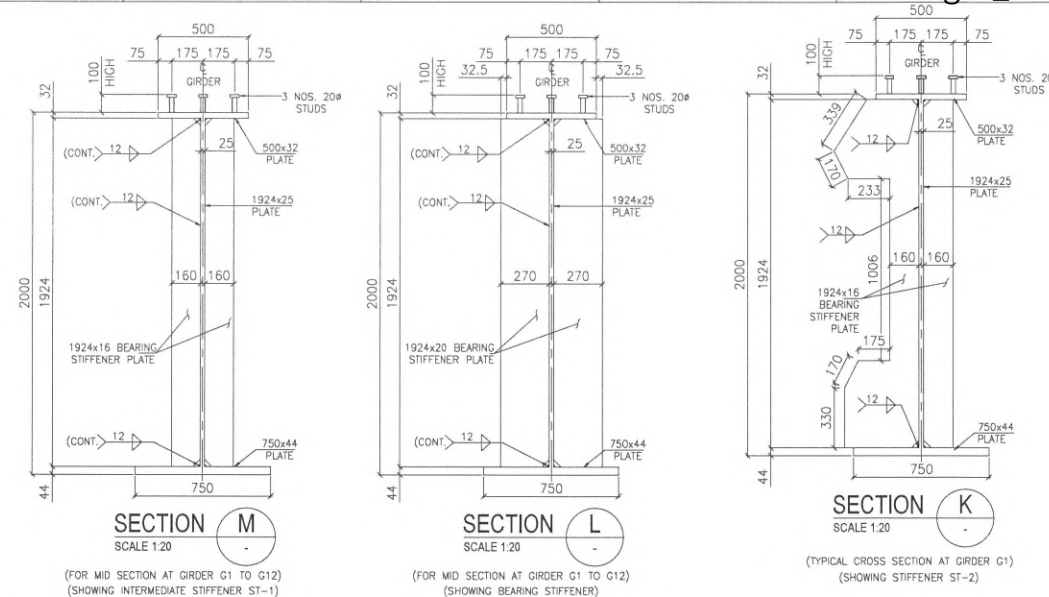
QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT	CONTRACTOR	BMRCL APPROVAL	CLIENT :		
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT SMEC International Pty. Ltd.			<b>AFCONS</b>		BANGALORE METRO RAIL CORPORATION LTD.		
				<b>engineering positive change</b>			Contractor Address : 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		DRAWING TITLE : BMRCL VIADUCT BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL		
				PROJECT DETAILED DESIGN CONSULTANCY FOR TITLE PHASE 2A- CH: 0+000 TO CH: 18+433 PHASE 2B- CH: 0+000 TO CH: 6+740		(PUNIT SH) (CHIEF DESIGNER)			DRAWING NO. 7061581-STR-DWG-VIA-02084 (SHEET 3 OF 8)		
									DATE: 10-09-2025 SCALE: AS SHOWN REV: 0 STATUS: GOOD FOR CONSTRUCTION		
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.	NAME			Drawing Checked By:		
0	10-09-25	GOOD FOR CONSTRUCTION	YM	RVG	PSH	By Designer					
C	02-09-25	LOCATION OF TRANSVERSE BRACINGS ARE	YM	RVG	PSH	Name/Designation					
B	21-05-25	REVISED AS PER ROOF REVISED AS PER LATEST ALIGNMENT DATED 28.04.25 AND BMRCL MAIL DATED 03.11.2023 (AS PER REVISED ARCHITECTURAL SUBMISSION LT NO. SMEC/BMRCL 2A2B/BMRCL/Contracts/10-23/3034)	YM	RVG	PSH	Drawn By					
A	06-06-23	FOR APPROVAL	PVB	RVG	PSH	Checked By					
						Approved					
						PSH					





					QUALITY ASSURANCE			CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRCL APPROVAL		CLIENT :	
					The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.			DESIGN CONSULTANT <b>SMEC International Pty. Ltd.</b>						BMRCL APPROVAL		BANGALORE METRO RAIL CORPORATION LTD. 	
					By Designer			 <b>engineering positive change</b>								DRAWING TITLE : BMRCL VIADUCT	
					Name/Designation S/g.			11th Floor, RMZ North Star, RMZ Galleria, Ambekar Colony, Yelahanka, Bengaluru, Karnataka 560064, India		(PUNIT SH) (CHIEF DESIGNER)		Contractor Address :				TRANSVERSE BRACING, SECTIONAL, ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL	
					Drawn By Y M			S/g. 									
					Checked By RVG			Date 10-09-2025		PROJECT DETAILED DESIGN CONSULTANCY FOR		16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		DESIGN-1		DRG.NO. 7061581-STR-DWG-VIA-02084 (SHEET 4 OF 8)	
					Approved PSH			Name PSH		TITLE PHASE 2A-CH: 0+000 TO CH:18+433 PHASE 2B-CH: 0+000 TO CH: 6+740						DATE: 10-09-2025 SCALE: AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION	
					Rev. 0												





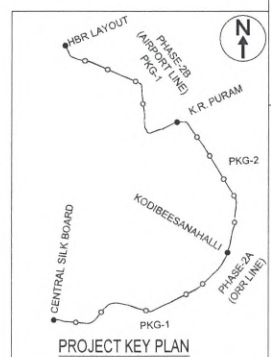
SPACING OF BEARING STIFFENERS SHALL BE 250 MM. HOWEVER, THE SAME MAY BE SLIGHTLY ADJUSTED TO FACILITATE SPLICING OF THE DIAPHRAGM IN CASE OF CLOSED STIFFENER SPACING

#### REFERENCE DRAWINGS:

1. TOP PLAN NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 1 OF 8)
2. BOTTOM PLAN NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 2 OF 8)
3. BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 3 OF 8)
4. TRANSVERSE BRACING, SECTIONAL ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 4 OF 8)
5. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 5 OF 8)
6. SECTIONAL SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 6 OF 8)
7. RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084. (SHEET : 7 OF 8)

#### NOTES:

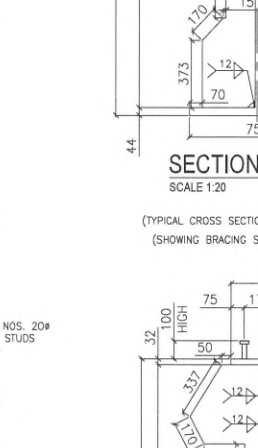
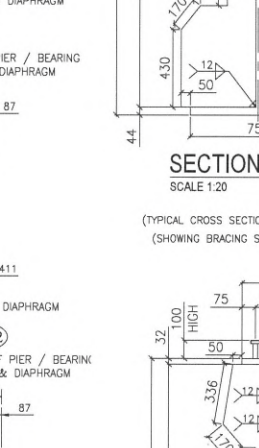
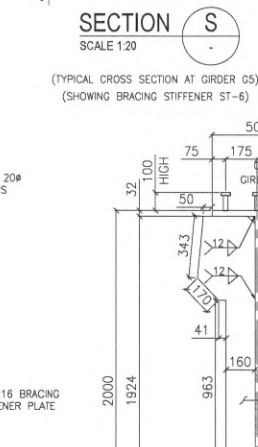
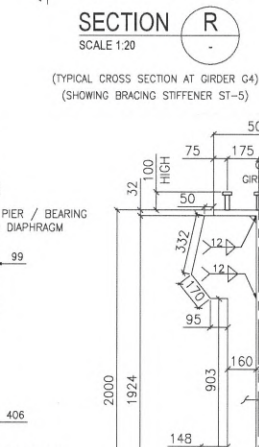
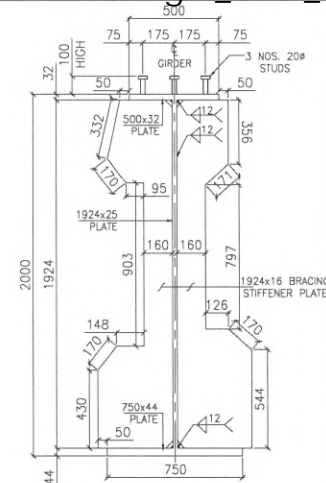
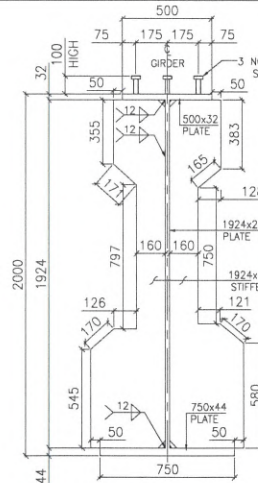
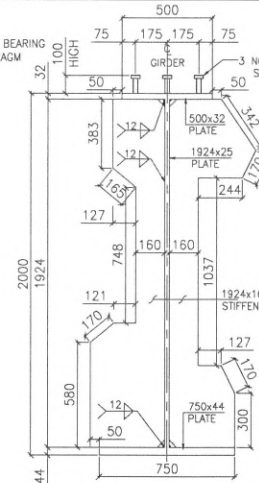
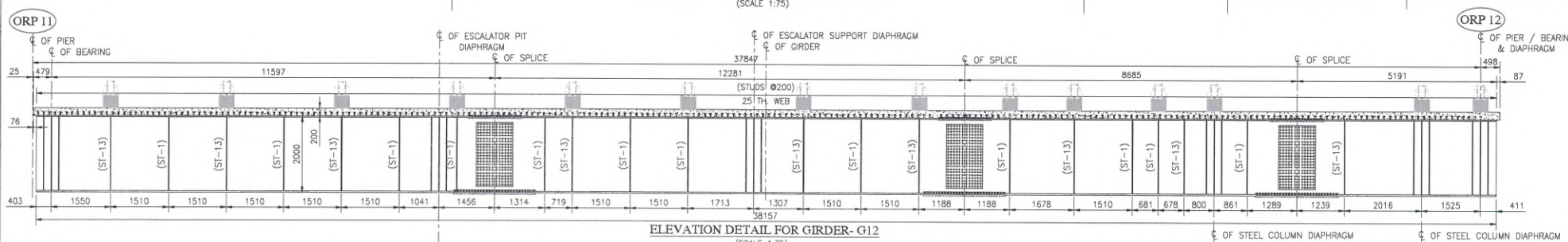
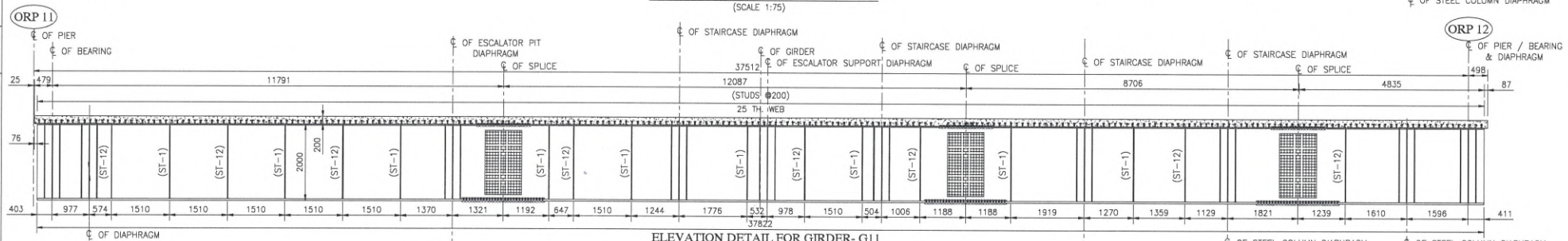
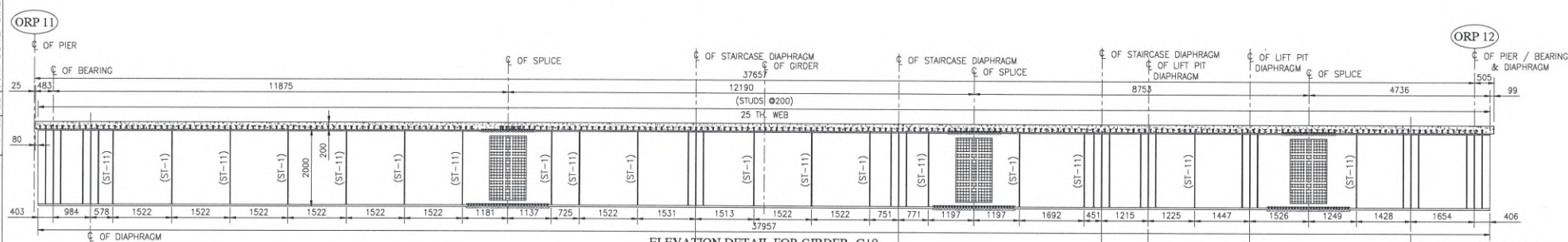
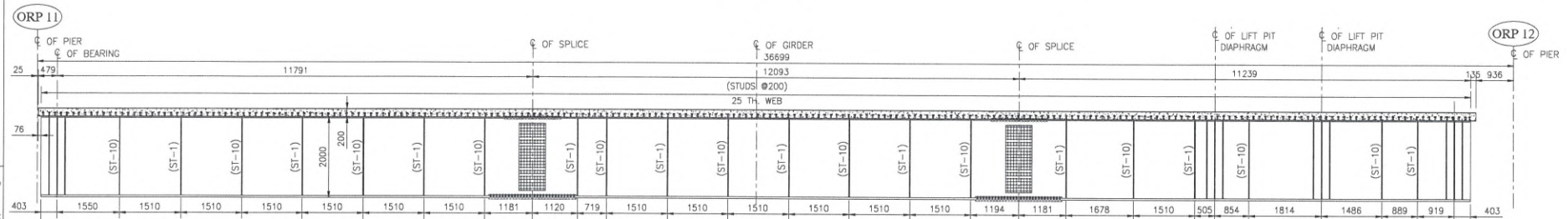
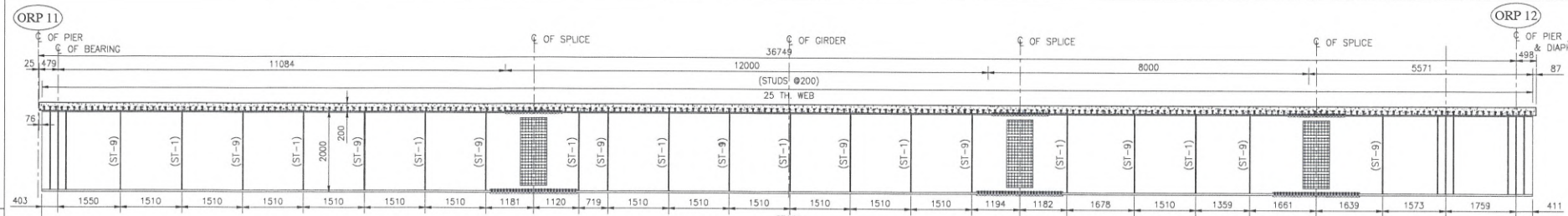
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSION ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.



GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRC APPROVAL EMAIL DATED 09/09/2025

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--





## REFERENCE DRAWINGS:

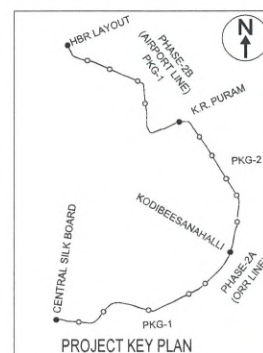
1. TOP PLAN NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 1 OF 8)
2. BOTTOM PLAN NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 2 OF 8)
3. BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 3 OF 8)
4. TRANSVERSE BRACING, SECTIONAL, ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 4 OF 8)
5. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 5 OF 8)
6. SECTIONAL, SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 7 OF 8)
7. RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SHEET : 8 OF 8)

## NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. DIMENSION ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

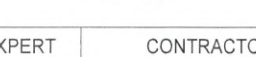
SPACING OF BEARING STIFFENERS SHALL BE 250 MM. HOWEVER, THE SAME MAY BE SLIGHTLY ADJUSTED TO FACILITATE SPLICING OF THE DIAPHRAGM IN CASE OF CLOSED STIFFENER SPACING

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 09/09/2025



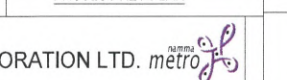
				QUALITY ASSURANCE				CONSULTANT				DDC KEY EXPERT				CONTRACTOR				BMRL APPROVAL				CLIENT :																			
				The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT SMEC International Pty. Ltd.								AFCONS				B. Ranganayak 10/09/25				BANGALORE METRO RAIL CORPORATION LTD. metro																			
				By Designer				Issued By				11th Floor, RMZ North Star, RMZ Galleria, Ambekar Colony, Yelahanka, Bengaluru, Karnataka 560064, India				(PUNIT SH) (CHIEF DESIGNER)				Contractor Address :				DRAWING TITLE : BMRL VIADUCT				ORIENTATION :															
O 10-09-25				GOOD FOR CONSTRUCTION				YM RVG PSH				Name/Designation Sig.				Authorized Rep.				PROJECT DETAILED DESIGN CONSULTANCY FOR				16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053				Dy. CHIEF ENGINEER				SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL				ORP 11 & ORP 12 AT CONCOURSE LEVEL							
C 02-09-25				LOCATION OF TRANSVERSE BRACINGS ARE REVISED AS PER ROOF				YM RVG PSH				Drawn By YM				Sig.				Checked By RVG				Date 10-09-2025				Title PHASE 2A- CH: 0+000 TO CH: 18+433				PHASE 2B- CH: 0+000 TO CH: 6+740				Drawing Checked By				DRG. NO. 7061581-STR-DWG-VIA-02084 (SHEET 6 OF 8)			
B 21-05-25				REVISED AS PER LA TEST ALIGNMENT DATED 28.04.25 AND BMRL MAIL DATED 03.11.2023. (AS PER REVISED ARCHITECTURAL SUBMISSION LT NO SMEC/BMRC 2A2B/BMRL/Contracts/10-23/3034).				YM RVG PSH				Checked By RVG				Date 10-09-2025				Title PHASE 2A- CH: 0+000 TO CH: 18+433				PHASE 2B- CH: 0+000 TO CH: 6+740				Drawing Checked By				DRG. NO. 7061581-STR-DWG-VIA-02084 (SHEET 6 OF 8)											
A 06-06-23				FOR APPROVAL				PVB RVG PSH				Approved PSH				Name PSH				Title PHASE 2A- CH: 0+000 TO CH: 18+433				PHASE 2B- CH: 0+000 TO CH: 6+740				Drawing Checked By				DRG. NO. 7061581-STR-DWG-VIA-02084 (SHEET 6 OF 8)											
REV.				DATE				DESCRIPTION				DRAWN				CHKD.				APPR.				STATUS: GOOD FOR CONSTRUCTION																			





1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.  
2. DIMENSION ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.


1. TOP PLATE NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 1 OF 8)
2. BOTTOM PLATE NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 2 OF 8)
3. BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 3 OF 8)
4. TRANSVERSE BRACING, SECTIONAL, ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 4 OF 8)
5. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 5 OF 8)
6. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 6 OF 8)
7. RC DETAILS OF DECK SLAB FOR STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO. 7061581-STR-DWG-VIA-02084. (SUB: 7 OF 8)



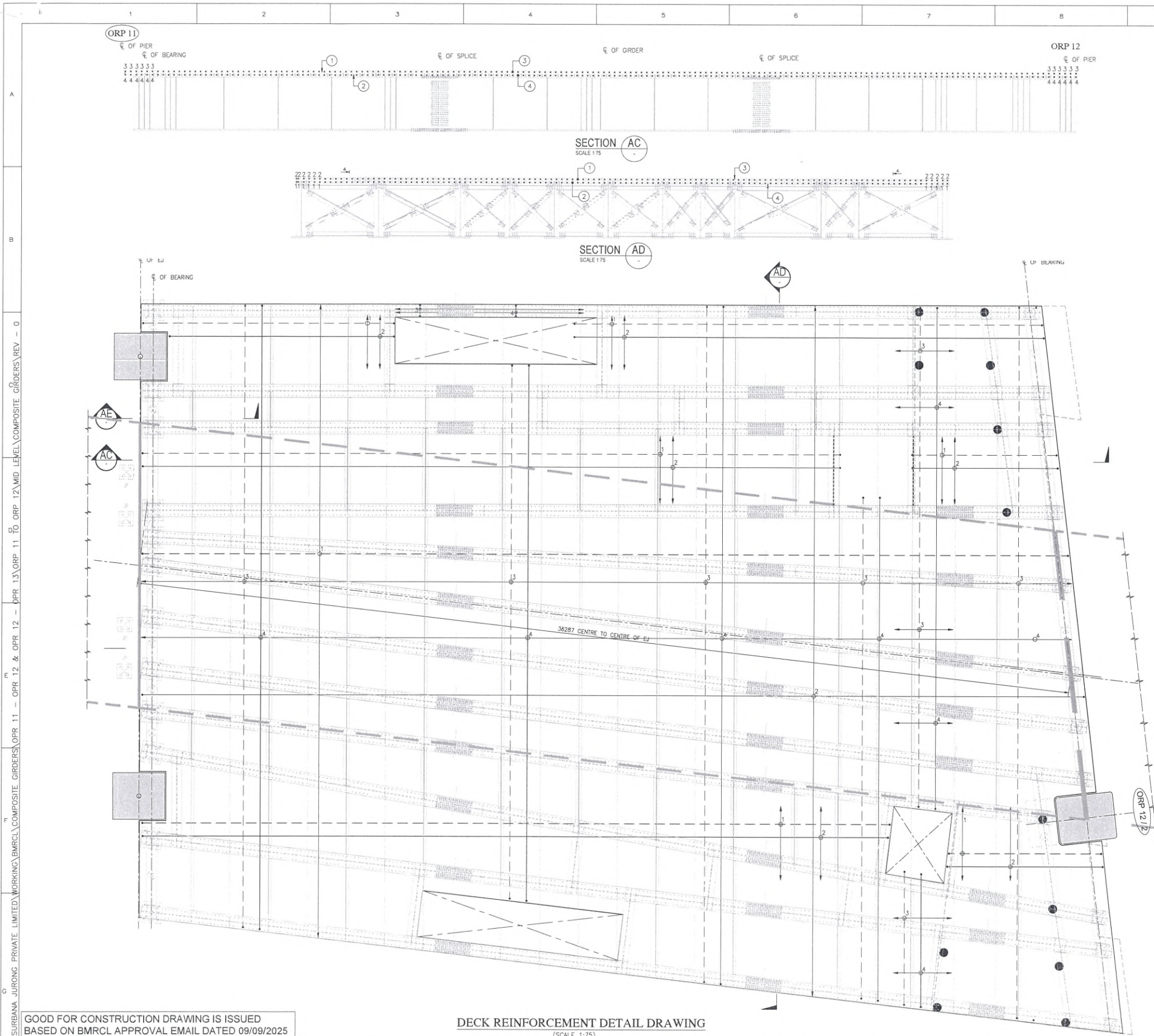

[illegible]

<p>The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.</p>				<p>DESIGN CONSULTANT  <b>SMEC International Pty. Ltd.</b></p>			
By Designer		Issued By				<p>engineering positive change</p>	
Name/Designation Sg.		Authorised Rep.					
Drawn By YM		Sg.		<p>11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560064, India</p>			
Checked By RVG		Date					
Approved PSH		Name					
		PSH		<p>PROJECT DETAILED DESIGN CONSULTANCY FOR  <b>TITLE</b> PHASE 2A-CH 0+000 TO CH 18+433            PHASE 2B-CH 0+000 TO CH 6+740</p>			

 <p>(PUNIT SH) (CHIEF DESIGNER)</p>		<p>B. Ranganayak</p>
	<p>Contractor Address : 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053</p>	<p>11/09/19 DY. CHIEF ENGINEER DESIGN-1 B.MROL</p>
		<p>Drawing Checked By Design Checked By</p>

BANGALORE METRO RAIL CORPORATION LTD. <i>metro</i>			
DRAWING TITLE : BMRCL VIADUCT		ORIENTATION :	 STRUCTURAL
SECTIONAL, SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL			
DRG NO. 7061581-STR-DWG-VIA-02084 (SHEET 7 OF 8)			
DATE: 10-09-2025	SCALE AS SHOWN	REV. 0	STATUS: GOOD FOR CONSTRUCTION





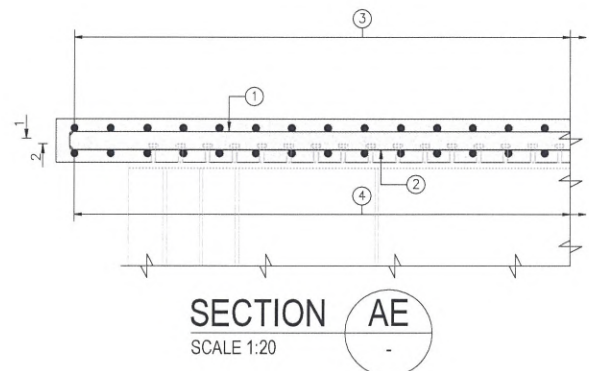
- REFERENCE DRAWINGS:
1. TOP PLAN NUMERATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 1 OF 8)
  2. BOTTOM PLAN NUMERATION AND CHAMBER DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 2 OF 8)
  3. BASE PLATE LOCATION AND ARRANGEMENT OF ESCALATOR, STAIRCASE, LIFT AND ACCESS PLATFORM ON STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 3 OF 8)
  4. TRANSVERSE BRACING, SECTIONAL ELEVATION AND CONNECTION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 4 OF 8)
  5. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 5 OF 8)
  6. SECTIONAL AND ELEVATION DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 6 OF 8)
  7. SECTIONAL, SPLICE AND DIAPHRAGM DETAILS OF STEEL COMPOSITE GIRDER FOR ORP 11 & ORP 12 AT CONCOURSE LEVEL REFER DWG NO.: 7061581-STR-DWG-VIA-02084, (SHEET : 7 OF 8)

SCHEDULE OF REINFORCEMENT FOR DECK SLAB

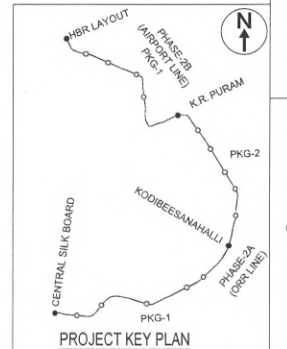
BAR MARK	DESCRIPTION	SHAPE
①	Y12 AT 200	
②	Y12 AT 200	
③	Y16 AT 200	
④	Y12 AT 200	

LEGEND

-----	TOP REINFORCEMENT
-----	BOTTOM REINFORCEMENT



- NOTES :-
1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
  3. GRADE OF CONCRETE FOR DECK SLAB SHALL BE M40.
  4. GRADE OF ALL REINFORCING BARS SHALL BE HYSD-FE 500D CONFORMING TO IS:1786 STANDARDS.
  5. CLEAR COVER TO ANY REINFORCEMENT SHALL BE 35mm.
  6. MINIMUM DEVELOPMENT LENGTH SHALL BE 47 TIMES DIA OF BAR.
  7. NOT MORE THAN 50% OF THE BARS SHALL BE LAPPED AT ANY SECTION, MINIMUM LAP LENGTH SHALL BE 58 TIMES DIAMETER OF BARS.

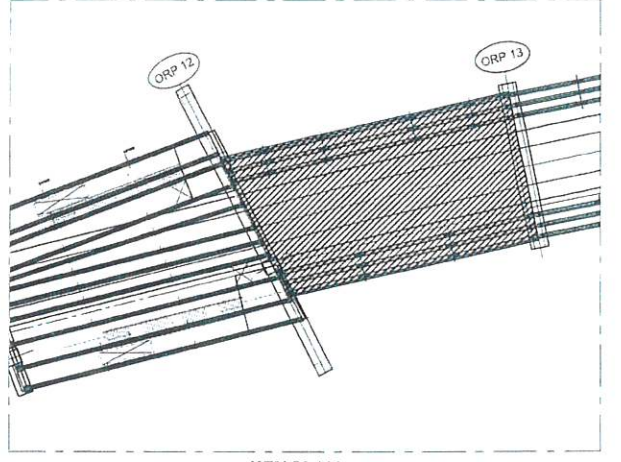
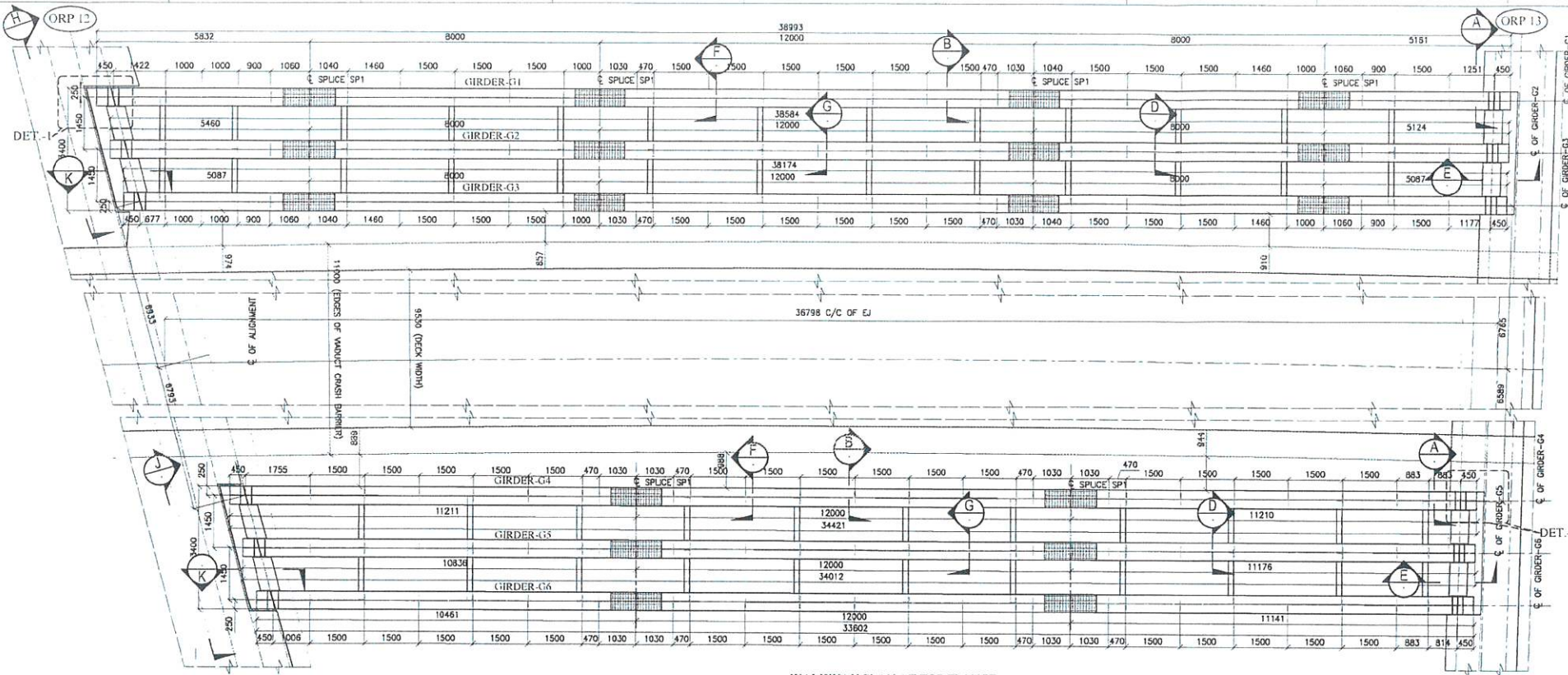


GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRCL APPROVAL EMAIL DATED 09/09/2025

DECK REINFORCEMENT DETAIL DRAWING  
(SCALE 1:75)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--





KEY PLAN

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
  2. STRUCTURAL STEEL PLATE GIRDER/ PLATE MEMBERS SHALL BE HIGH STRENGTH STEEL (HTS) GRADE 550 (B) CONFORMING TO IS 2062.
  3. FOR ANY BENT PLATE USED, PLATES MUST BE BENT HOT FREE FROM CRACK.
  4. CONNECTIONS SHALL BE WELDED / BOLTED (HFG).
  5. BEFORE EXECUTION OF WORK, SHOP DRAWINGS SHALL HAVE TO BE GOT APPROVED BY THE ENGINEER, COMPETENT AUTHORITY.
  6. GRADE OF CONCRETE SHALL BE M30.
  7. GRADE OF REINFORCEMENT STEEL: F450.
  8. ALL BOLTS TO BE HFG OF GRADE 8.8 M24 FOR MAIN GIRDER SPLICE, INTERMEDIATE AND END CROSS GIRDER CONFORMING TO IS 4000 UNLESS OTHERWISE STATED. BOLT HOLES FOR M24 SHALL BE 24+1.5+25.5mm UNLESS OTHERWISE STATED.
  9. WELDING SHOULD COMPLY WITH RDSO SPECIFICATIONS. SPECIAL CARE SHOULD BE TAKEN FOR WELDING SEQUENCE.
  10. AUTOMATIC SUB MERGED ARC WELDING SHOULD BE EMPLOYED FOR ALL BUTT & FILLET WELDED WHEREVER SHOWN.
  11. ALL FILLET WELDS ARE 6mm THK. UNLESS OTHERWISE SPECIFIED.
  12. THE GRADE OF STUD IS J55MP.
  13. THE GRADE OF BRACING IS 550 (B) CONFORMING TO IS 2062-2011.
  14. FILLET WELDS IN FLANGES TO WEB CONNECTION SHALL BE MADE ONLY BY AUTOMATIC SUB MERGED ARC WELDING TECHNIQUE. ALL OTHER WELDS SHOULD BE DONE BY SAW AS FAR AS POSSIBLE. IN CASE SAW IS NOT POSSIBLE OR DIFFICULT TO BE DONE, OTHER WELDS SHALL BE PREFERABLY MADE BY GAS METAL ARC WELDING (GMAW) / FLUX-CORED ARC WELDING (FCAW). MANUAL METAL ARC WELDING (MMAW) MAY BE USED IF APPROVED BY ENGINEER-IN-CHARGE.
  15. END STIFFENERS AND INTERMEDIATE STIFFENERS USING FOR CONNECT THE TRANSVERSE CROSS BRACING TO THE GIRDER SHALL BE CONNECTED TO WEB BY 12MM FILLET WELD ALL AROUND INCLUDING WITH FLANGES.
  16. ALL INTERMEDIATE STIFFENERS SHALL BE CONNECTED TO THE WEB BY FILLET WELDS AND NOT WELDED TO THE FLANGE. THE INTERMEDIATE STIFFENERS SHALL BE MACHINE FIT WHEREVER THESE TOUCH THE FLANGES.
  17. ALL HFG BOLTS SHALL CONFORM TO DRAWING NO. RDSO-B-17501 R1.
  18. STUD SHEAR CONNECTOR SHOULD BE WELDED TO TOP FLANGE COVER PLATE. SHEAR CONNECTORS TO BE WELDED TO TOP FLANGE/SPLICE TOP COVER PLATE USING AUTOMATIC SUB WELDING GUN.

- REFERENCE DRAWINGS:**
1. TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 2 OF 4).
  2. TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 3 OF 4).
  3. DECK SLAB REINFORCEMENT DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 4 OF 4).

THE BASE PLATE TEMPLATE SHALL BE POSITIONED BEFORE CONCRETING THE DECK SLAB, IN ACCORDANCE WITH THE RELEVANT WALKWAY ROOF DRAWINGS.

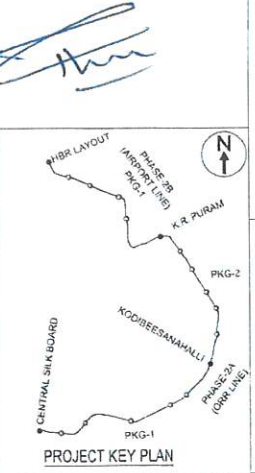
APPLICABLE SPANS DETAIL

PIER NO.	SPAN	RADIUS	GRADIENT
ORP12 - ORP13	36.798m	R900 + TRN	FLAT

RELEVANT DOCUMENTS

DESIGN OF STEEL COMPOSITE WALKWAY SUPERSTRUCTURE 36.798m SPAN BETWEEN ORP12 TO ORP 13	7061581-STR-RPT-VIA-01405
---	---------------------------

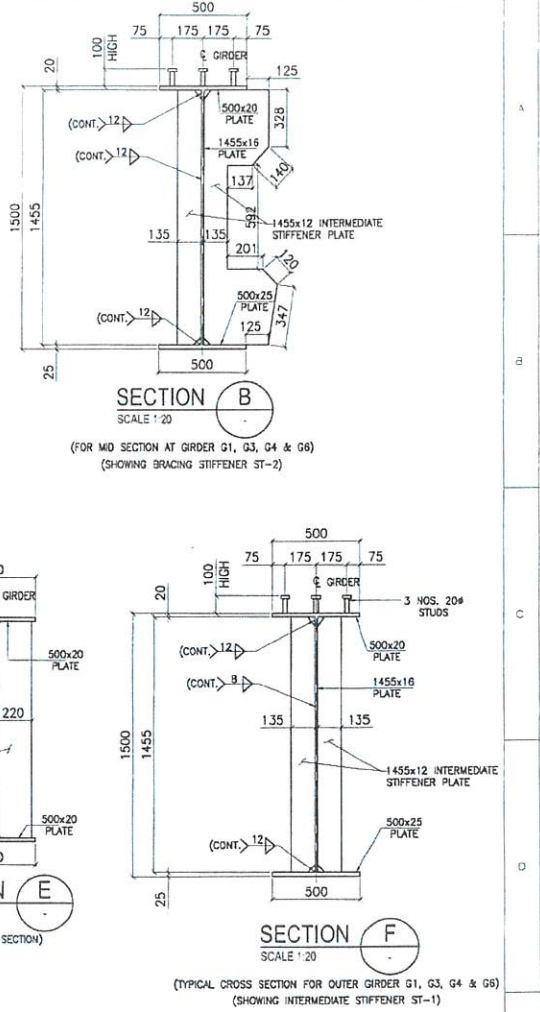
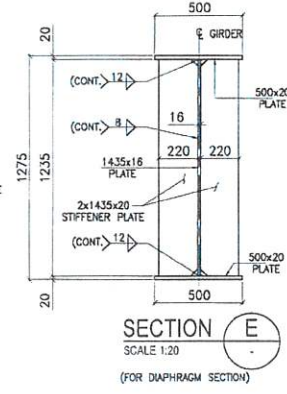
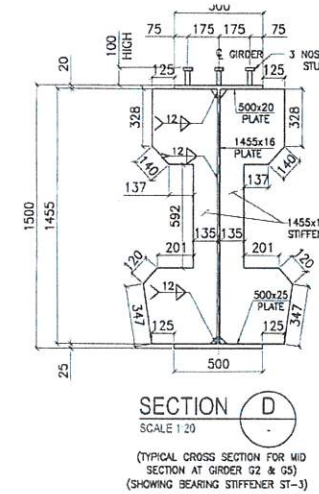
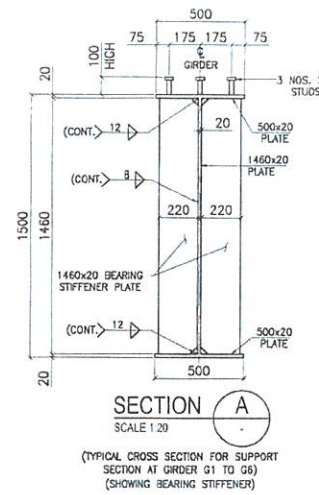
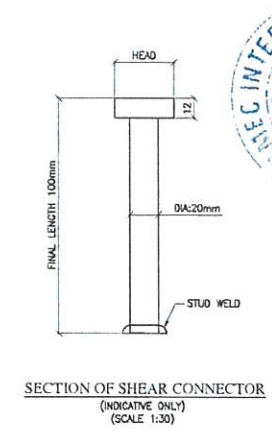
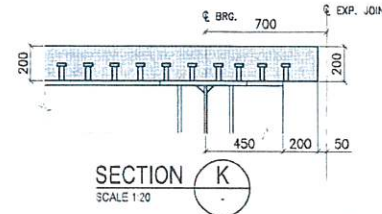
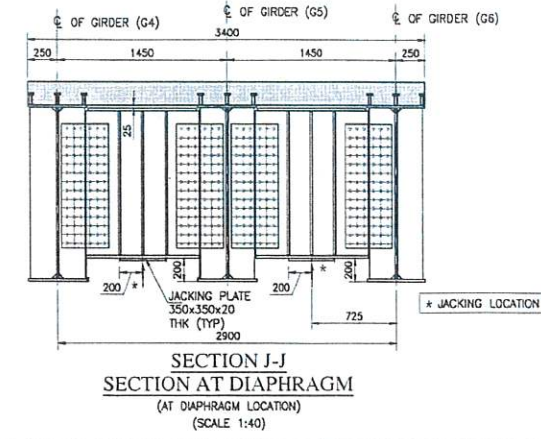
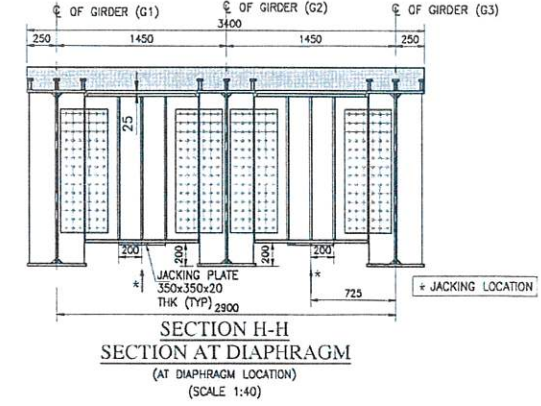
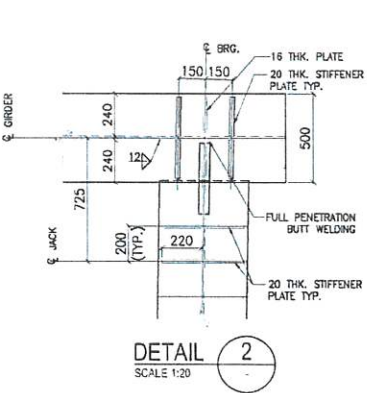
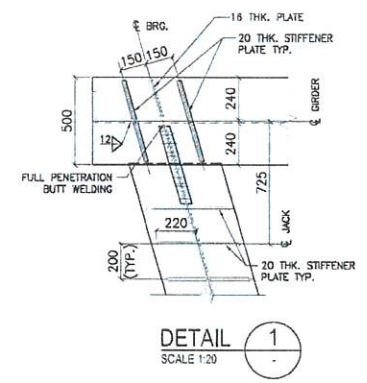
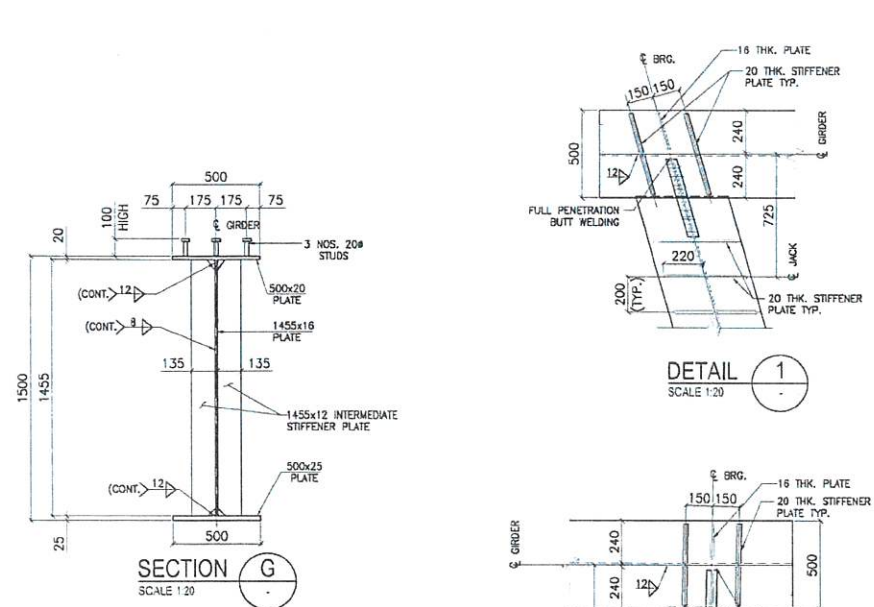
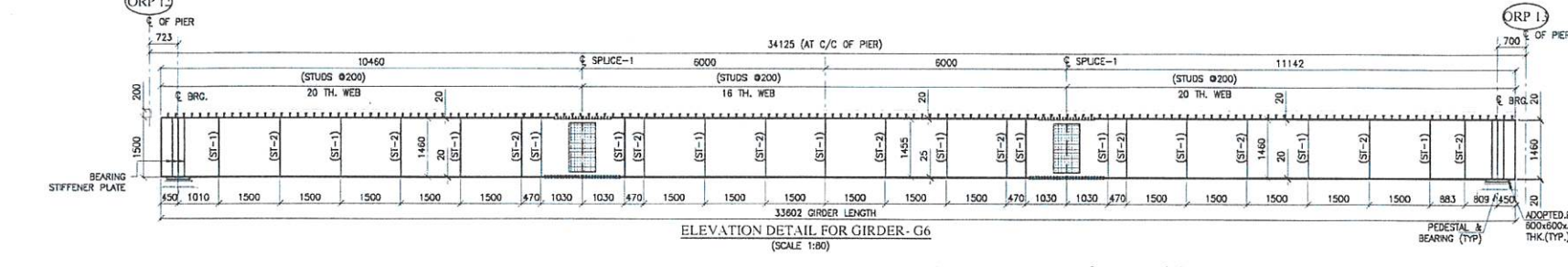
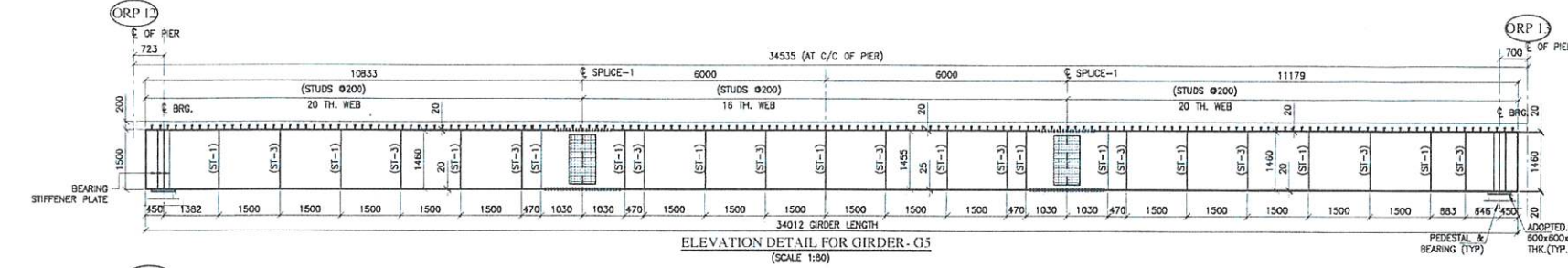
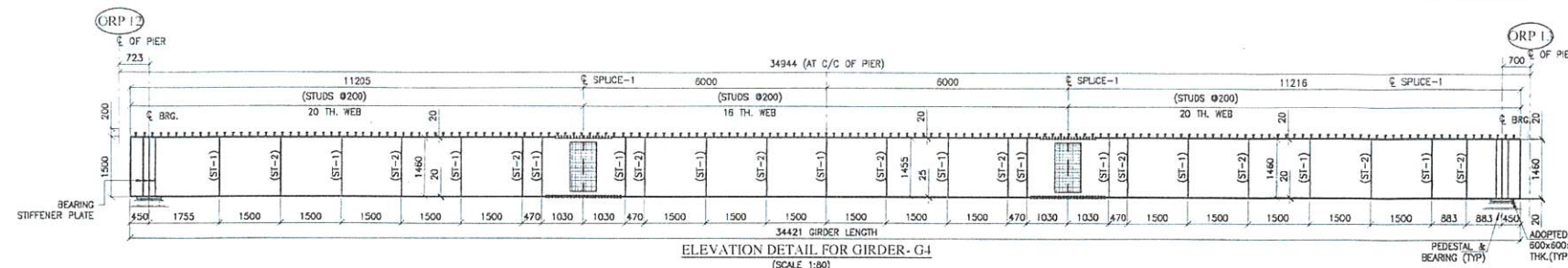
GOOD FOR CONSTRUCTION DRAWING IS ISSUED AS PER BMRL APPROVAL IN THE TEAM'S MEETING DATED 24/04/2024



PROJECT KEY PLAN

QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRL APPROVAL		CLIENT	
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT <b>SMC International Pty. Ltd.</b>						 B. Ranganathan CHIEF ENGINEER		BANGALORE METRO RAIL CORPORATION LTD.	
By Designer				Name/Designation		Issued By		Contractor Address :		Drawing Checked By		DRG NO. : 7061581-STR-DWG-VIA-2074 (SHEET 1 OF 4)	
Drawn By				Sig.		Sig.		15, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		Design Checked By		DATE: 24-04-2025	
Checked By				Date		Date				Status		SCALE AS SHOWN	
Approved				Name		Name				REV. 0		STATUS: GOOD FOR CONSTRUCTION	
REV.	DATE	DESCRIPTION		DRAWN	CHKD.	APPR.							
D	24-04-25	GOOD FOR CONSTRUCTION		YM	RVG	PSH							
D	01-10-24	REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING		YM	RVG	PSH							
C	02-08-24	REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING		YM	RVG	PSH							
B	05-06-23	REVISED AS PER RELOCATION OF PIER ORP 13 FOR SITE CONSTRAINTS		ABC	RVG	PSH							
A	22-02-23	FOR APPROVAL		PVB	RVG	SNS							



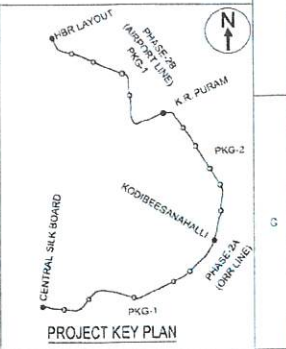


CHAMBER DIAGRAM			
OUTER GIRDER (G1 & G4)	83	110	83
INTERMEDIATE GIRDER (G2 & G5)	96	128	96
INNER GIRDER (G3 & G6)	83	110	83

- REFERENCE DRAWINGS:
- TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 1 OF 4)
  - TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 3 OF 4)
  - DECK SLAB REINFORCEMENT DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074 (SHEET 4 OF 4)

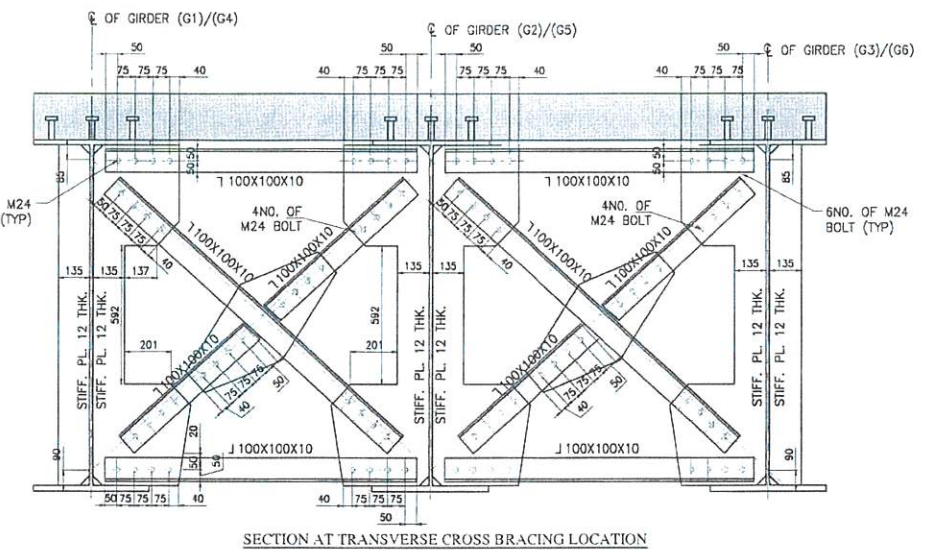
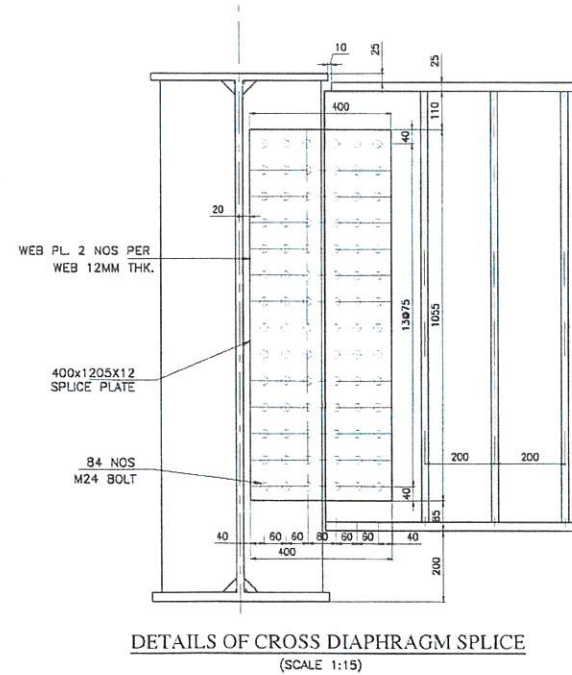
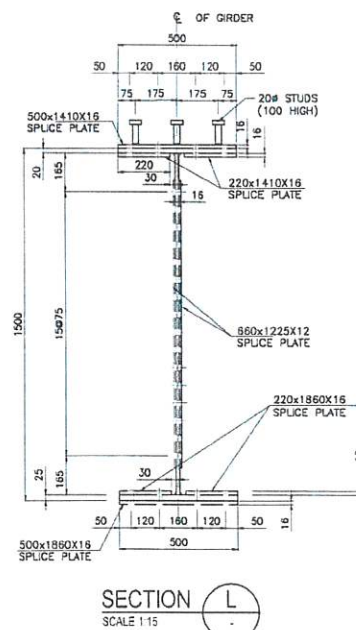
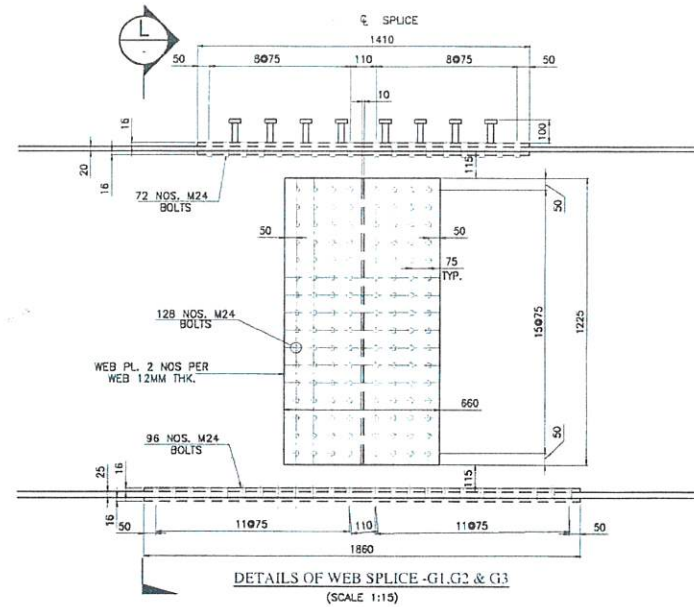
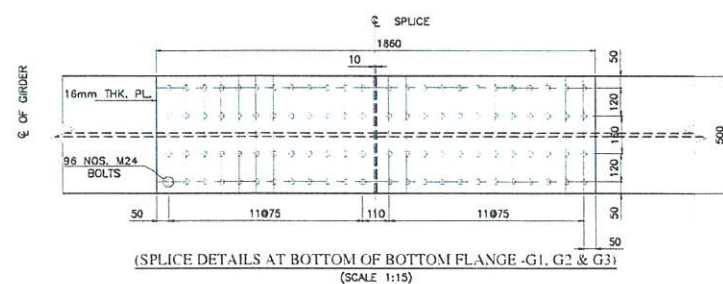
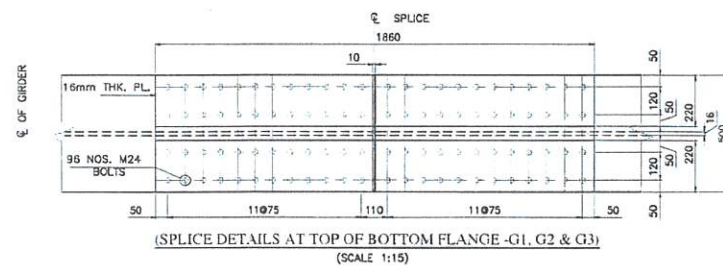
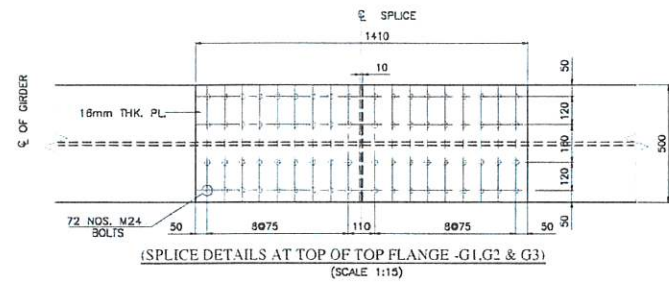
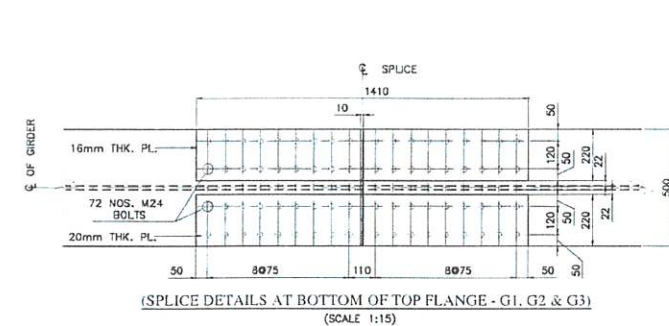
- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - DIMENSION ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

GOOD FOR CONSTRUCTION DRAWING IS ISSUED AS PER BMRL APPROVAL IN THE TEAM'S MEETING DATED 24/04/2024



				QUALITY ASSURANCE				CONSULTANT				DDC KEY EXPERT				CONTRACTOR				BMRL APPROVAL				CLIENT :			
				The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT SMC International Pty. Ltd.																BANGALORE METRO RAIL CORPORATION LTD.			
								engineering positive change																DRAWING TITLE : BMRL VIADUCT			
								11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yalahanka, Bengaluru, Karnataka 560064, India				(SHEKHAR MEHTA) (CHIEF DESIGNER)				Contractor Address :								TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13			
								PROJECT DETAILED DESIGN CONSULTANCY FOR								16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST), MUMBAI - 400053				DESIGN-1				DRG. NO. : 7061581-STR-DWG-VIA-2074 (SHEET 2 OF 4)			
								TITLE PHASE 2A-CH: 0+000 TO CH: 18+433																DATE: 24-04-2025 SCALE AS SHOWN			
								PHASE 2B-CH: 0+000 TO CH: 6+740																REV. 0 STATUS: GOOD FOR CONSTRUCTION			





## NOTES:-

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
- DO NOT SCALE THE DRAWING. FOLLOW THE FIGURED DIMENSIONS ONLY.
- THIS DRAWING MUST READ IN CONJUNCTION WITH GAD, GENERAL NOTES, ELECTRICAL & OTHER RELATED STRUCTURAL DRAWINGS.
- GRADE OF CONCRETE: CAST-IN-SITU DECK SLAB-M35
- STRUCTURE STEEL PLATE GIRDER SHALL BE HIGH STRENGTH STEEL (HTS) - GRADE E450BR CONFORMING TO IS:2062-2011
- REINFORCEMENT (HYSD TMT REINFORCEMENT) GRADE FE 500 IS 1786.
- THE DESIGN IS IN ACCORDANCE WITH THE IRS BRIDGE RULES, STEEL BRIDGE CODE, WELDED BRIDGE CODE, CONCRETE BRIDGE CODE, SHEAR CONNECTOR DESIGN CODE IRC 22 AND UIC BEARING DESIGN CODE-772-2R.)
- AUTOMATIC SUBMERGED ARC WELDING SHOULD BE EMPLOYED FOR FILLET WELDS IN FLANGES TO WEB. OTHER WELDS SHOULD ALSO BE DONE BY SUBMERGED ARC WELDING TO THE MAXIMUM EXTENT POSSIBLE.
- ALL WELDS TO BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS ONLY. (IS-9595).
- ALL STIFFENERS SHALL BE CONNECTED WITH WEB BY 8mm FILLET WELD ALL AROUND UNLESS OTHERWISE STATED.
- WELDING CONSUMABLES (IF ANY) THE WELDING CONSUMABLES TO CONFORM TO IS 814-1991 AND OF STRENGTH REQUIREMENTS APPROPRIATE FOR PREHEATED HT STEEL OR UN-HEATED MILD STEEL.
- THE GRADE OF STUD IS 385MPa.
- GENERAL NOTES FOR STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL PLATES SHALL BE OF E450 (BR) GRADE CONFORMING TO IS:2062-2011
- ALL MATERIALS SHOULD HAVE TEST CERTIFICATED (TC) OF THE MAIN PRODUCER. IF REQUIRED ALL THE STRUCTURAL STEEL SHALL BE TESTED FOR MECHANICAL AND CHEMICAL PROPERTIES AS PER VARIOUS IS CODES AS MAY BE APPLICABLE AND SHALL CONFIRM TO THE REQUIREMENTS SPECIFIED IN IS:2062-2011.
- ROLLING AND CUTTING TOLERANCES SHALL BE AS PER IS:1852. THE THICKNESS TOLERANCES CHECK MEASUREMENTS FOR THE PLATES AND ROLLED SECTIONS SHALL BE TAKEN AT NOT LESS THAN 15mm FROM EDGE.
- LAMINATION CHECK IN PLATES SHALL BE CARRIED OUT BY ULTRASONIC TESTING OR ANY OTHER APPROVED METHODS OR SHOULD HAVE THE MILL TEST CERTIFICATE FOR THE TESTING
- CAMBER IS TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSIONS INDICATED ABOVE.
- FLANGE SPlice PLATES ARE TO BE BENT TO SUIT THE CAMBER PROFILE OF GIRDER. IF IT IS EXPECTED THAT THE PLATES WILL BEND DURING BOLT TIGHTENING. HOWEVER, IF ANY PROBLEM EXPERIENCED, THE FLANGE SPlice PLATES MAY PRE-BEND HYDRAULICALLY.
- CAMBER TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSION INDICATED IN CAMBER DIAGRAM. THE HEIGHT OF WEB PLATE SHOULD BE MAINTAINED AS 1455 & 1460MM.

## B) FABRICATION:

- FABRICATION SHALL BE DONE AS PER STIPULATIONS OF IRSB1 ALL WELDS SHALL BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS.
- DIMENSIONS FOR CHANNELS, ANGLES ETC.,  
DIMENSIONS FOR STEEL PLATES, SHEETS, FLATS ETC.,  
ROLLING & CUTTING TOLERANCES FOR HOT ROLLED STEEL PRODUCTS  
STEEL FOR GENERAL STRUCTURAL PURPOSES  
HSFG BOLTS  
ELECTRODES FOR MANUAL METAL ARC WELDING  
GLOSSARY OF TERMS OF WELDING & CUTTING OF METAL  
CODE OF PRACTICE FOR METAL ARC WELDING  
CODE OF PRACTICE FOR INSPECTION OF WELDS  
CODE OF PRACTICE FOR USE OF WELDING IN BRIDGES
- IS 808-1989  
IS 1730-1989  
IS 1852-1973  
IS 2062-2011  
IS 3757-1985  
IS 814-1991  
IS 812-1957  
IS 816-1969  
IS 822-1970  
IS 1024-1979

## REFERENCE DRAWINGS:

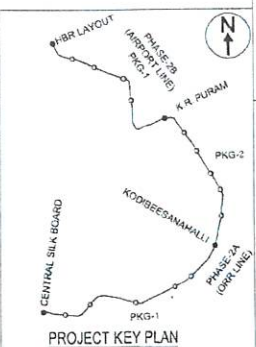
- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 1 OF 4)
- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 2 OF 4)
- DECK SLAB REINFORCEMENT DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 3 OF 4)

SIM PLATES SHALL BE PROVIDED AS PER THE RELEVANT RDSO SPECIFICATION WHEN SPlicing PLATES OF DIFFERENT THICKNESSES



*Signature*

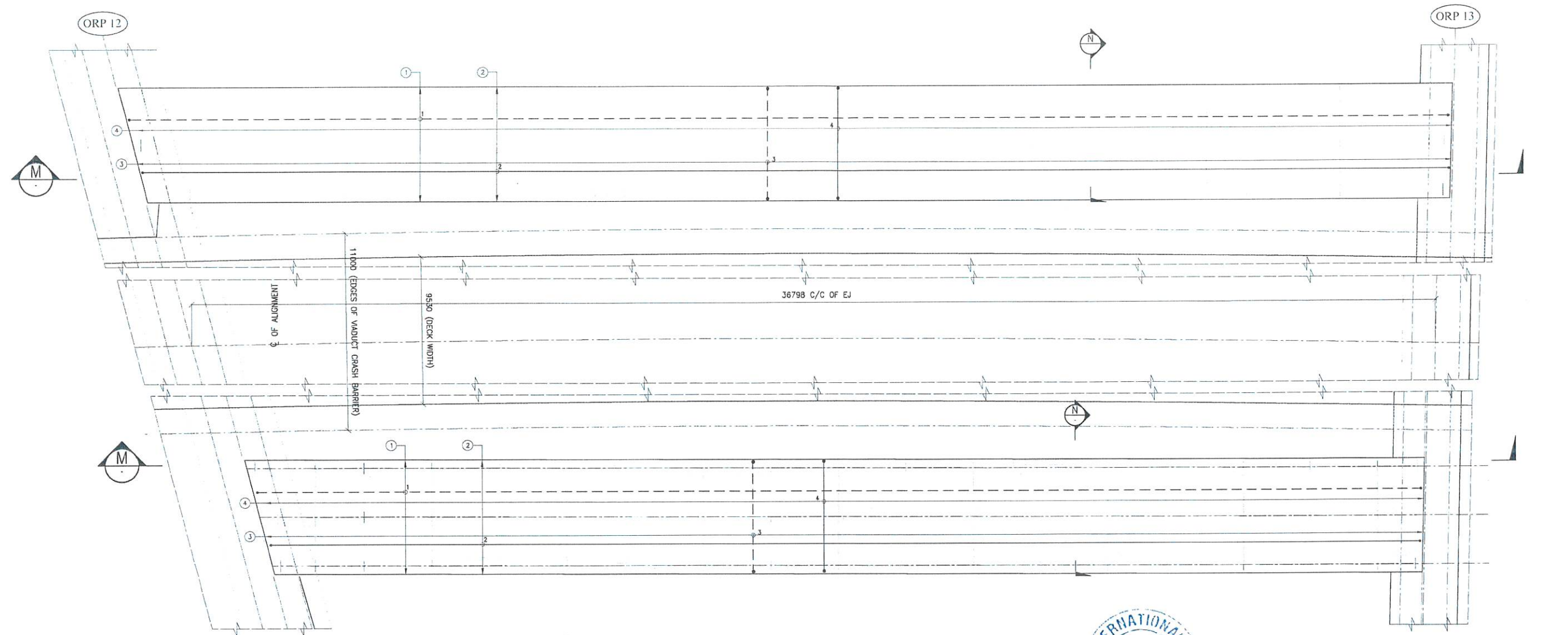
GOOD FOR CONSTRUCTION DRAWING IS ISSUED AS PER BMRCL APPROVAL IN THE TEAM'S MEETING DATED 24/04/2024



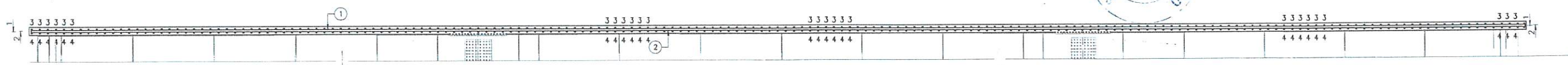
																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----



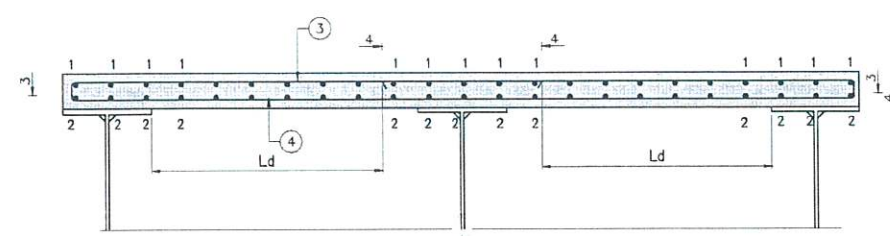
C:\USERS\Y5509772\ONE DRIVE - SURESH\WORKING\BMRCL\COMPOSITE GIRDERS\ORP 11 - ORP 12 & ORP 13\PLATFORM LEVEL\REV - 0



REINFORCEMENT DETAIL OF WALKWAY PLAN OF DECK SLAB  
SCALE 1:50



SECTION M  
SCALE 1:50



SECTION N  
SCALE 1:50

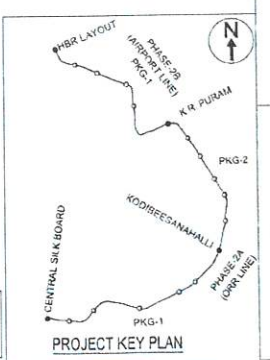
LEGEND FOR REINFORCEMENT:-  
--- INDICATES TOP REINFORCEMENT  
— INDICATES BOTTOM REINFORCEMENT

SCHEDULE OF REINFORCEMENT FOR DECK SLAB

BAR MARK	DESCRIPTION	SHAPE	REMARKS
1	Y12 AT 200		
2	Y12 AT 200		
3	Y12 AT 200		
4	Y12 AT 200		

- REFERENCE DRAWINGS:
- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 1 OF 4)
  - TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 2 OF 4)
  - TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 12 & ORP 13 REFER DWG NO. 7061581-STR-DWG-VIA-2074, (SHEET 3 OF 4)

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
  - GRADE OF CONCRETE FOR DECK SLAB SHALL BE M35.
  - GRADE OF ALL REINFORCING BARS SHALL BE HYSD-Fe 500D CONFORMING TO IS 1786 STANDARDS.
  - CLEAR COVER TO ANY REINFORCEMENT SHALL BE 35mm.
  - MINIMUM DEVELOPMENT LENGTH SHALL BE 41 TIMES DIA OF BAR.
  - NOT MORE THAN 50% OF THE BARS SHALL BE LAPPED AT ANY SECTION. MINIMUM LAP LENGTH SHALL BE 58 TIMES DIAMETER OF BARS.
  - FOR BASE PLATE DETAILS OF PLATFORM ROOF SUPPORT REFER SEPARATE DRAWING AND THE SAME SHALL BE PLACED BEFORE CONCRETING.

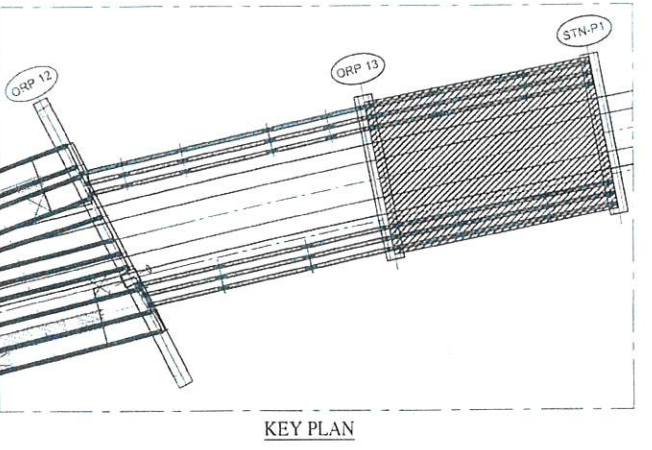
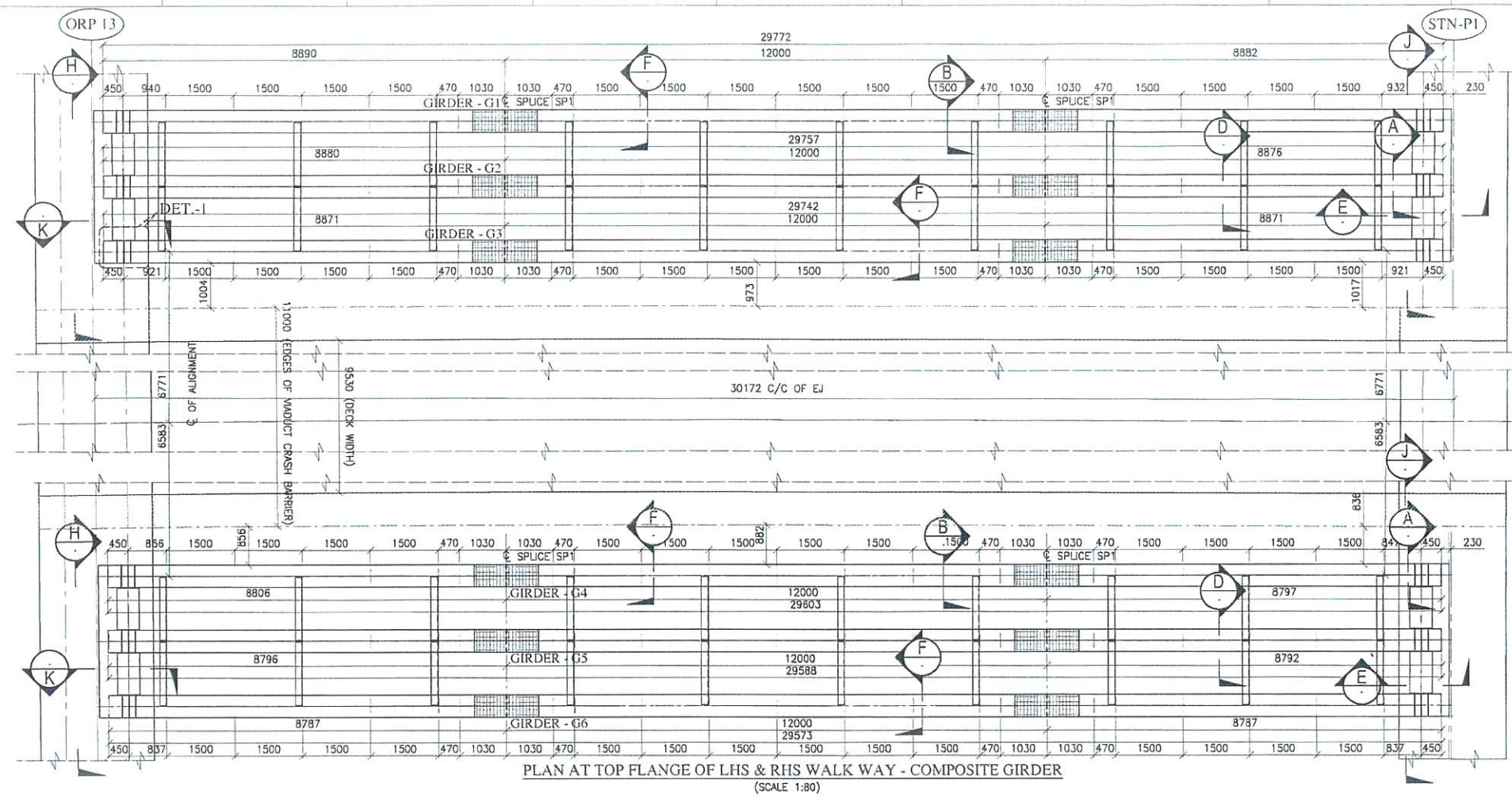


GOOD FOR CONSTRUCTION DRAWING IS ISSUED AS PER BMRCL APPROVAL IN THE TEAM'S MEETING DATED 24/04/2024

QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRCL APPROVAL		CLIENT	
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.				DESIGN CONSULTANT <b>SMEC International Pty. Ltd.</b>		 (SHEKHAR MEHTA) (CHIEF DESIGNER)		 Contractor Address : 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST), MUMBAI - 400053		 B. Ranganayagi CHIEF ENGINEER		BANGALORE METRO RAIL CORPORATION LTD.	
By Designer				Name/Designation		Issued By		Authorised Rep.		Checked By		Design	
Drawn By				Y.M.		Sig.		PSH		Checked By		Design	
Checked By				R. Venkatesh		Date		24-04-2025		Checked By		Design	
Approved				PSH		Name				Checked By		Design	
REV. DATE DESCRIPTION				DRAWN		CHKD.		APPR.		DATE		SCALE AS SHOWN	
0 24-04-25 GOOD FOR CONSTRUCTION				Y.M.		RVG		PSH				REV 0	
D 01-10-24 REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING				Y.M.		RVG		PSH				STATUS: GOOD FOR CONSTRUCTION	
C 02-08-24 REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING				Y.M.		RVG		PSH					
B 05-06-23 REVISED AS PER RELOCATION OF PIER ORP 13 FOR SITE CONSTRAINTS				ABC		RVG		PSH					
A 22-02-23 FOR APPROVAL				PVB		RVG		SNS					

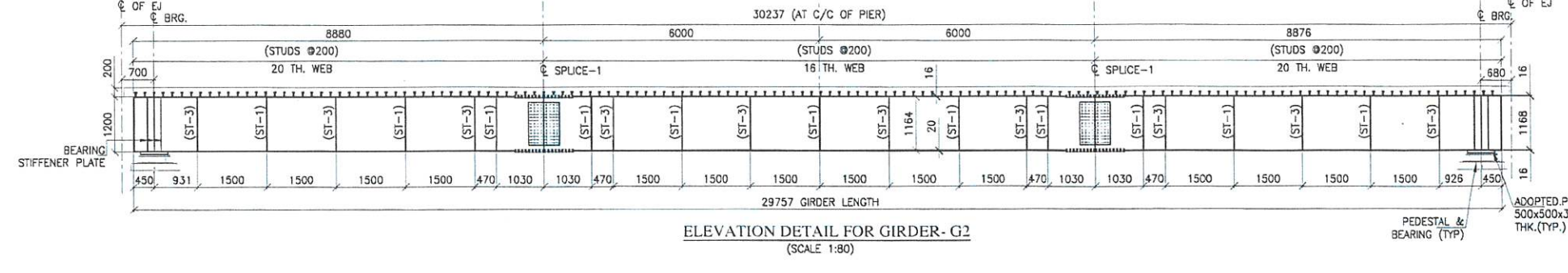
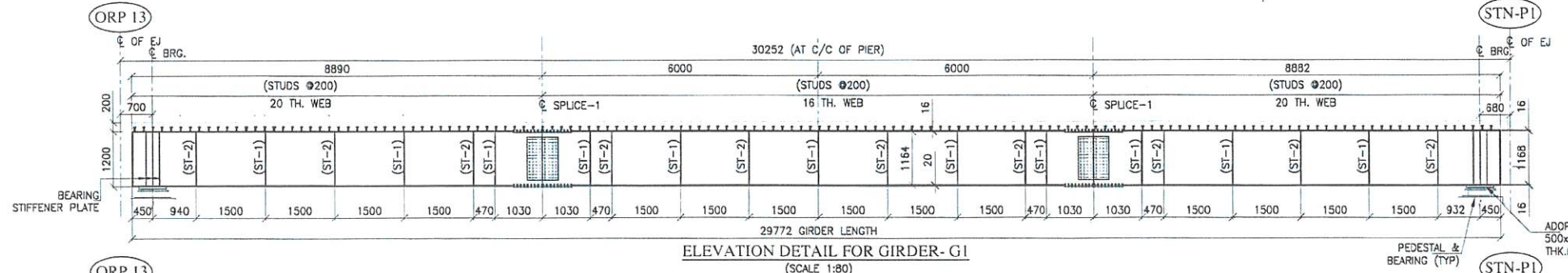


C:\Users\YMS59772\OneDrive - SURBANA JURONG PRIVATE LIMITED\WORKING\BMRCL\COMPOSITE GIRDERS\ORP 11 - ORP 12 & ORP 13 - DPR 13\ORP 13 TO STATION PLATFORM LEVEL (REV - 0)



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
  2. STRUCTURAL STEEL PLATE GIRDER PLATE MEMBERS SHALL BE HIGH STRENGTH STEEL (HSS) GRADE 550 (S355) CONFORMING TO IS 2062.
  3. FOR ANY BENT PLATE USED, PLATES MUST BE BENT HOT FREE FROM CRACK.
  4. CONNECTIONS SHALL BE WELDED (BOLTED HPS).
  5. BEFORE EXECUTION OF WORK, SHOP DRAWINGS SHALL HAVE TO BE GOT APPROVED BY THE ENGINEER, COMPETENT AUTHORITY.
  6. GRADE OF CONCRETE SHALL BE M35.
  7. GRADE OF REINFORCEMENT STEEL F400.
  8. ALL BOLTS TO BE HPSG OF GRADE 8.8 M24 FOR MAIN GIRDER SPLICE, INTERMEDIATE AND END CROSS GIRDER CONFORMING TO IS 4000 UNLESS OTHERWISE STATED. BOLT HOLES FOR M24 SHALL BE 24+1.5/25 mm UNLESS OTHERWISE STATED.
  9. WELDING SHOULD COMPLY WITH RDSO SPECIFICATIONS. SPECIAL CARE SHOULD BE TAKEN FOR WELDING SEQUENCE.
  10. AUTOMATIC SUBMERGED ARC WELDING SHOULD BE EMPLOYED FOR ALL BUTT & FILLET WELDED WHEREVER SHOWN.
  11. ALL FILLET WELDS ARE 8mm THK. UNLESS OTHERWISE SPECIFIED.
  12. THE GRADE OF STUD IS 355MPa.
  13. THE GRADE OF BRACING C250 (S355) CONFORMING TO IS 2062-2011.
  14. FILLET WELDS IN FLANGES TO WEB CONNECTION SHALL BE MADE ONLY BY AUTOMATIC SUBMERGED ARC WELDING TECHNIQUE. ALL OTHER WELDS SHOULD BE DONE BY SAW AS FAR AS POSSIBLE. IN CASE SAW IS NOT POSSIBLE OR DIFFICULT TO BE DONE, OTHER WELDS SHALL BE PREFERABLY MADE BY GAS METAL ARC WELDING (GMAW) FLUX-CORED ARC WELDING (FCAW), MANUAL METAL ARC WELDING (MMAW) MAY BE USED IF APPROVED BY ENGINEER-IN-CHARGE.
  15. END STIFFENERS AND INTERMEDIATE STIFFENERS USING FOR CONNECT THE TRANSVERSE CROSS BRACING TO THE GIRDER SHALL BE CONNECTED TO WEB BY 12MM FILLET WELD ALL AROUND INCLUDING WITH FLANGES.
  16. ALL INTERMEDIATE STIFFENERS SHALL BE CONNECTED TO THE WEB BY FILLET WELDS AND NOT WELDED TO THE FLANGE. THE INTERMEDIATE STIFFENERS SHALL BE MACHINE FIT WHEREVER THESE TOUCH THE FLANGES.
  17. ALL HPSG BOLTS SHALL CONFORM TO DRAWING NO. RDSO-B-117601 R1.
  18. STUD SHEAR CONNECTOR SHOULD BE WELDED TO TOP FLANGE COVER PLATE. SHEAR CONNECTORS TO BE WELDED TO TOP FLANGE SPLICE TOP COVER PLATE USING AUTOMATIC STUD WELDING GUN.

- REFERENCE DRAWINGS:**
1. TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 2 OF 4)
  2. TOP PLAN NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 3 OF 4)
  3. DECK SLAB REINFORCEMENT DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 4 OF 4)



THE BASE PLATE TEMPLATE SHALL BE POSITIONED BEFORE CONCRETING THE DECK SLAB, IN ACCORDANCE WITH THE RELEVANT WALKWAY ROOF DRAWINGS.

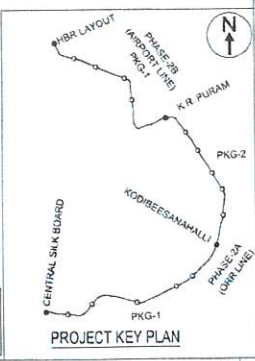
**APPLICABLE SPANS DETAIL**

PIER NO.	SPAN	RADIUS	GRADIENT
ORP13 - ST. PIER	30.172m	R900 + TRN	FLAT

**RELEVANT DOCUMENTS**

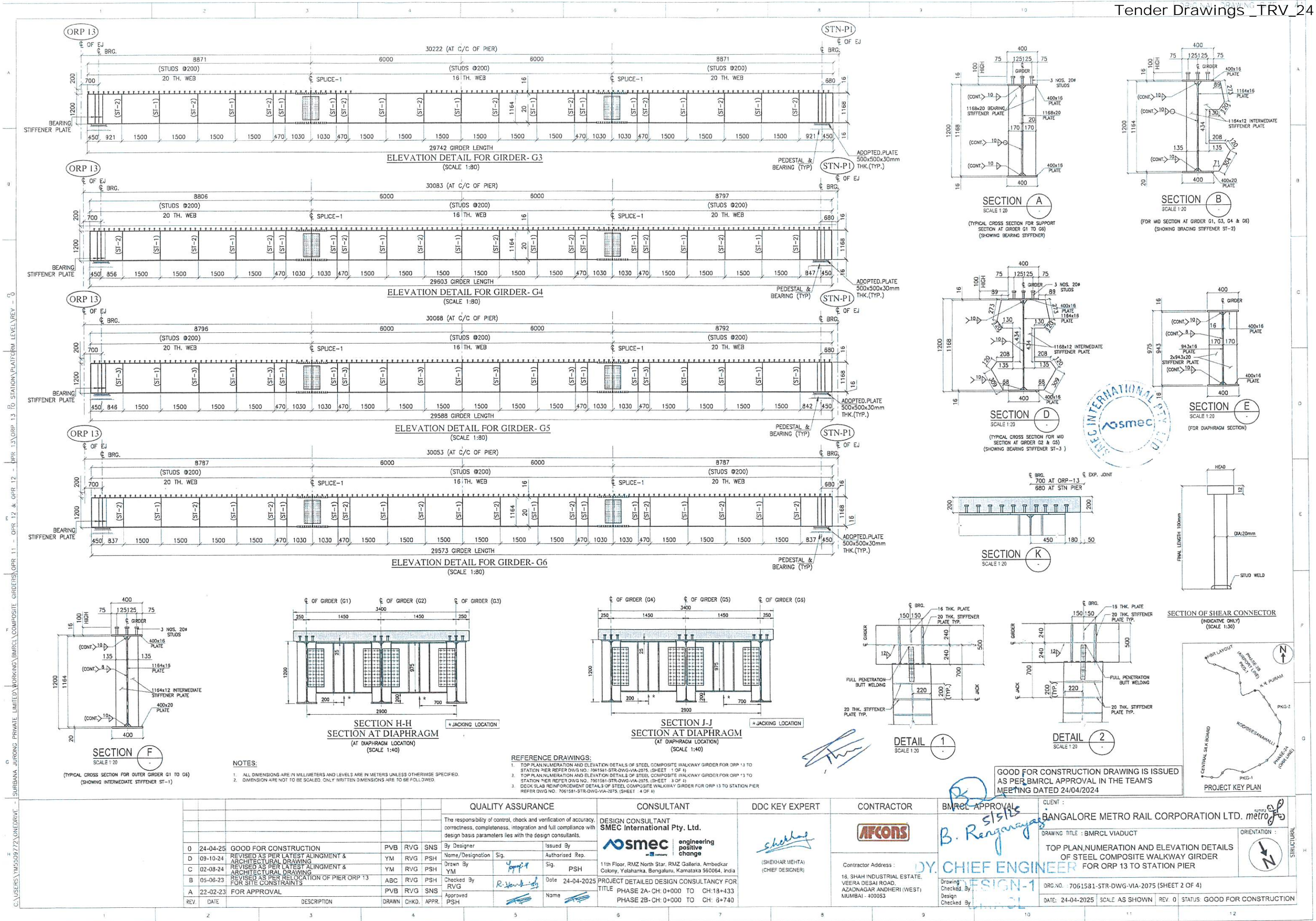
DESIGN OF STEEL-CONCRETE COMPOSITE WALKWAY SUPERSTRUCTURE-30.172M SPAN BETWEEN ORP13 TO STATION PIER	7061581-STR-RPT-VIA-01809
--	---------------------------

GOOD FOR CONSTRUCTION DRAWING IS ISSUED AS PER BMRCL APPROVAL IN THE TEAM'S MEETING DATED 24/04/2024

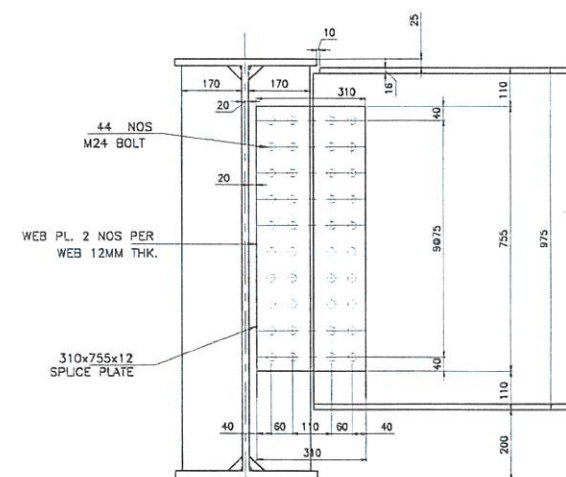
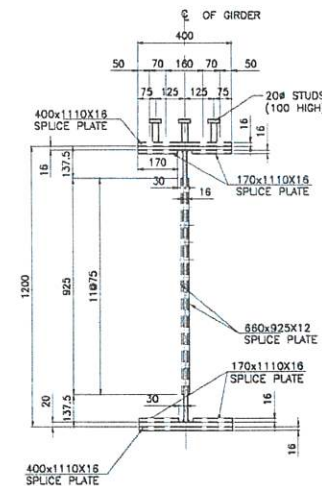
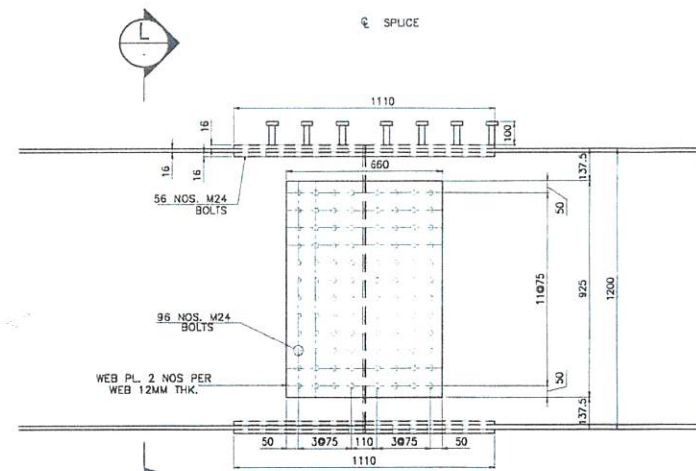
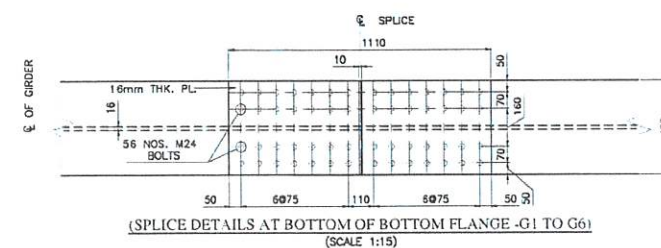
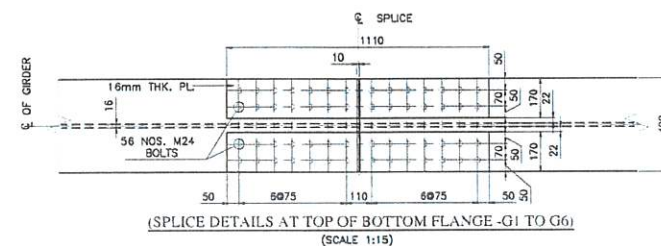
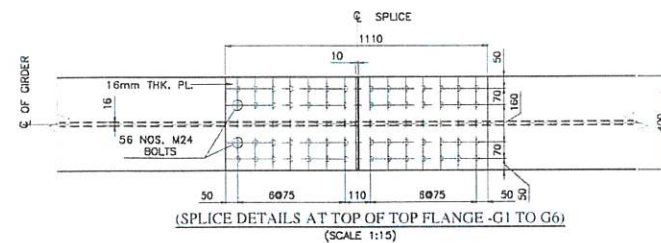
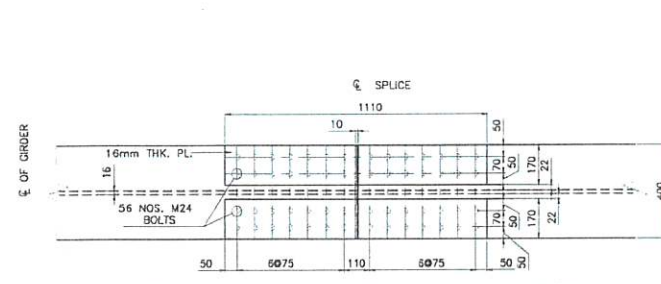


																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----



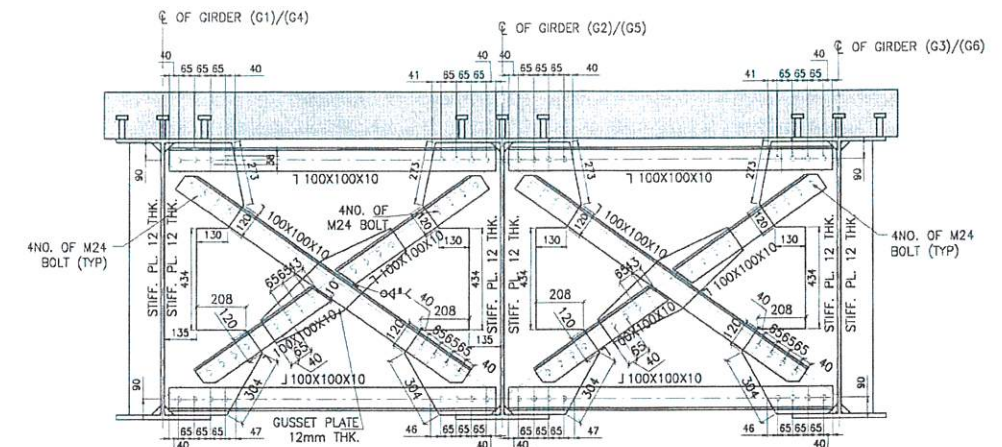






DETAILS OF CROSS DIAPHRAGM SPICE  
(SCALE 1:15)

SIM PLATES SHALL BE PROVIDED AS PER THE RELEVANT  
RDSO SPECIFICATION WHEN SPICING PLATES OF DIFFERENT  
THICKNESSES



#### NOTES:-

- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
- DO NOT SCALE THE DRAWING. FOLLOW THE FIGURED DIMENSIONS ONLY.
- THIS DRAWING MUST BE READ IN CONJUNCTION WITH GAD, GENERAL NOTES, ELECTRICAL & OTHER RELATED STRUCTURAL DRAWINGS.
- GRADE OF CONCRETE: CAST-IN-SITU DECK SLAB-M35
- STRUCTURE STEEL PLATE GIRDER SHALL BE HIGH STRENGTH STEEL (HTS) - GRADE E450BR CONFORMING TO IS:2062-2011
- REINFORCEMENT (HYSD TMT REINFORCEMENT) GRADE FE 500, IS 1786
- THE DESIGN IS IN ACCORDANCE WITH THE IRS BRIDGE RULES, STEEL BRIDGE CODE, WELDED BRIDGE CODE, CONCRETE BRIDGE CODE, SHEAR CONNECTOR DESIGN CODE IRC 22 AND UIC BEARING DESIGN CODE-772-2R.)
- AUTOMATIC SUBMERGED ARC WELDING SHOULD BE EMPLOYED FOR FILLET WELDS IN FLANGES TO WEB. OTHER WELDS SHOULD ALSO BE DONE BY SUBMERGED ARC WELDING TO THE MAXIMUM EXTENT POSSIBLE.
- ALL WELDS TO BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS ONLY. (IS-9595)
- ALL STIFFENERS SHALL BE CONNECTED WITH WEB BY 8mm FILLET WELD ALL AROUND UNLESS OTHERWISE STATED.
- WELDING CONSUMABLES (IF ANY) THE WELDING CONSUMABLES TO CONFORM TO IS:814-1991 AND OF STRENGTH REQUIREMENTS APPROPRIATE FOR PREHEATED HT STEEL OR UN-HEATED MILD STEEL.
- THE GRADE OF STUD IS 385MPa.
- GENERAL NOTES FOR STRUCTURAL STEEL:
  - ALL STRUCTURAL STEEL PLATES SHALL BE OF E450 (BR) GRADE CONFORMING TO IS:2062-2011.
  - ALL MATERIALS SHOULD HAVE TEST CERTIFICATED (TC) OF THE MAIN PRODUCER. IF REQUIRED ALL THE STRUCTURAL STEEL SHALL BE TESTED FOR MECHANICAL AND CHEMICAL PROPERTIES AS PER VARIOUS IS CODES AS MAY BE APPLICABLE AND SHALL CONFIRM TO THE REQUIREMENTS SPECIFIED IN IS:2062-2011.
  - ROLLING AND CUTTING TOLERANCES SHALL BE AS PER IS:1852. THE THICKNESS TOLERANCES CHECK MEASUREMENTS FOR THE PLATES AND ROLLED SECTIONS SHALL BE TAKEN AT NOT LESS THAN 15mm FROM EDGE.
  - LAMINATION CHECK IN PLATES SHALL BE CARRIED OUT BY ULTRASONIC TESTING OR ANY OTHER APPROVED METHODS OR SHOULD HAVE THE MILL TEST CERTIFICATE FOR THE TESTING.
  - CAMBER IS TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSIONS INDICATED ABOVE.
  - FLANGE SPICE PLATES ARE TO BE BENT TO SUIT THE CAMBER PROFILE OF GIRDER. IF IT IS EXPECTED THAT THE PLATES WILL BEND DURING BOLT TIGHTENING. HOWEVER, IF ANY PROBLEM EXPERIENCED, THE FLANGE SPICE PLATES MAY PRE-BEND HYDRAULICALLY.
  - CAMBER TO BE PROVIDED BY CUTTING WEB PLATE IN PROFILE AS PER DIMENSION INDICATED IN CAMBER DIAGRAM. THE HEIGHT OF WEB PLATE SHOULD BE MAINTAINED AS 1164 / 1168MM.

#### 9) FABRICATION:

- FABRICATION SHALL BE DONE AS PER STIPULATIONS OF IRS81 ALL WELDS SHALL BE MADE BY USING APPROVED WELDING PROCEDURES AND BY QUALIFIED WELDERS.
- DIMENSIONS FOR CHANNELS, ANGLES ETC.,  
DIMENSIONS FOR STEEL PLATES, SHEETS, FLATS ETC.,  
ROLLING & CUTTING TOLERANCES FOR HOT ROLLED STEEL PRODUCTS  
STEEL FOR GENERAL STRUCTURAL PURPOSES  
HSFG BOLTS  
ELECTRODES FOR MANUAL METAL ARC WELDING  
GLOSSARY OF TERMS OF WELDING & CUTTING OF METAL  
CODE OF PRACTICE FOR METAL ARC WELDING  
CODE OF PRACTICE FOR INSPECTION OF WELDS  
CODE OF PRACTICE FOR USE OF WELDING IN BRIDGES
- IS: 808-1989  
IS: 1730-1989  
IS: 1852-1973  
IS: 2062-2011  
IS: 3757-1985  
IS: 814-1991  
IS: 812-1957  
IS: 816-1969  
IS: 822-1970  
IS: 1024-1975

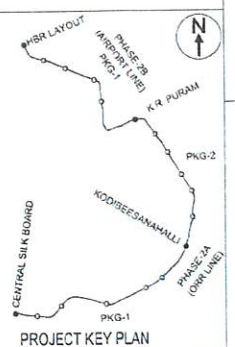
#### NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED

#### REFERENCE DRAWINGS:

- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075, (SHEET 1 OF 4)
- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075, (SHEET 2 OF 4)
- DECK SLAB REINFORCEMENT DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PIER REFER DWG NO. 7061581-STR-DWG-VIA-2075, (SHEET 4 OF 4)

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
AS PER BMRL APPROVAL IN THE TEAM'S  
MEETING DATED 24/04/2024



OUTER GIRDER (G1 & G4)	81	108	81
INTERMEDIATE GIRDER (G2 & G5)	90	120	90
INNER GIRDER (G3 & G6)	81	108	81

CHAMBER DIAGRAM

REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.
O	24-04-25	GOOD FOR CONSTRUCTION	PVB	RVG	SNS
D	09-10-24	REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING	YM	RVG	PSH
C	02-08-24	REVISED AS PER LATEST ALIGNMENT & ARCHITECTURAL DRAWING	YM	RVG	PSH
B	05-06-23	REVISED AS PER RELOCATION OF PIER ORP 13 FOR SITE CONSTRAINTS	ABC	RVG	PSH
A	22-02-23	FOR APPROVAL	PVB	RVG	SNS

SECTION L  
SCALE 1:15

#### QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.

By Designer	Issued By
Name/Designation	Authorized Rep.
Drawn By	Sig.
YM	PSH
Checked By	Date
RVG	24-04-2025
Approved	Name
PSH	

#### CONSULTANT

DESIGN CONSULTANT  
SMEC International Pty. Ltd.

11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yalahanka, Bengaluru, Karnataka 560064, India  
PROJECT DETAILED DESIGN CONSULTANCY FOR  
TITLE PHASE 2A-CH:0+000 TO CH:18+433  
PHASE 2B-CH:0+000 TO CH: 6+740

#### DDC KEY EXPERT

(SHEKHAR MEHTA)  
(CHIEF DESIGNER)

#### CONTRACTOR

AFCONS

Contractor Address:  
16, SHAH INDUSTRIAL ESTATE,  
VEERA DESAI ROAD,  
AZADNAGAR ANDHERI (WEST),  
MUMBAI - 400053

#### BMRL APPROVAL

B. Ranganathan

CHIEF ENGINEER

DESIGN-1

Checked By  
Checked By

#### CLIENT:

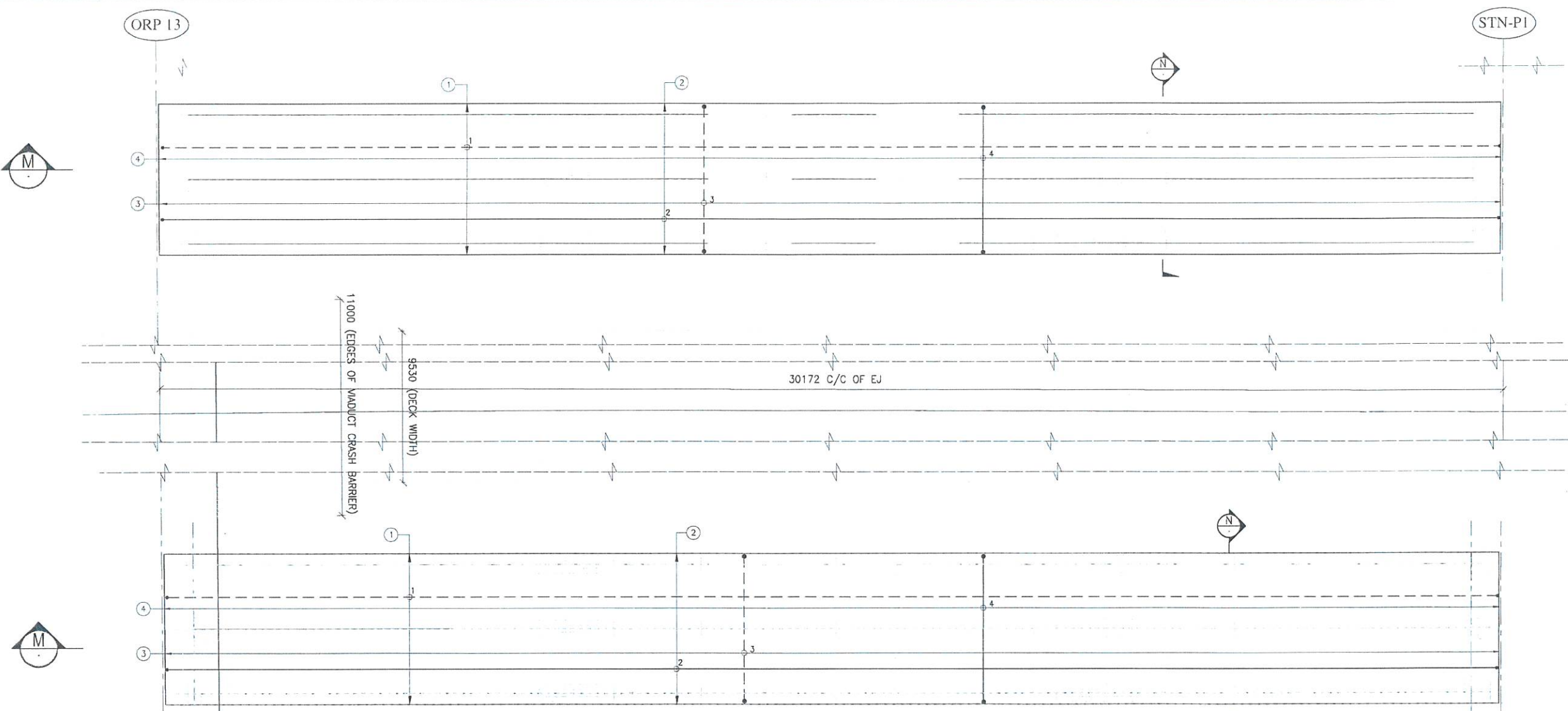
BANGALORE METRO RAIL CORPORATION LTD. metro

DRAWING TITLE: BMRL VIADUCT  
TOP PLAN, NUMERATION AND ELEVATION DETAILS  
OF STEEL COMPOSITE WALKWAY GIRDER  
FOR ORP 13 TO STATION PIER

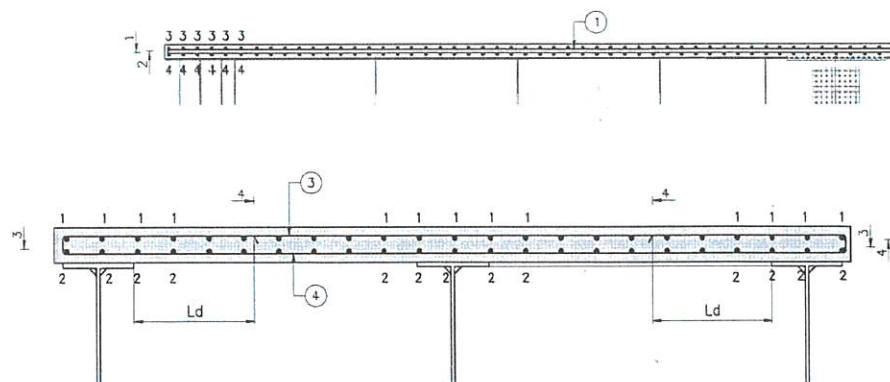
DRG NO.: 7061581-STR-DWG-VIA-2075 (SHEET 3 OF 4)

DATE: 24-04-2025 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION





PLAN OF DECK SLAB REINFORCEMENT DETAIL AT LHS & RHS WALKWAY COMPOSITE GIRDER  
(SCALE 1:80)



SECTION M-M  
SCALE 1:50

SECTION M-M  
SCALE 1:50

SCHEDULE OF REINFORCEMENT FOR DECK SLAB

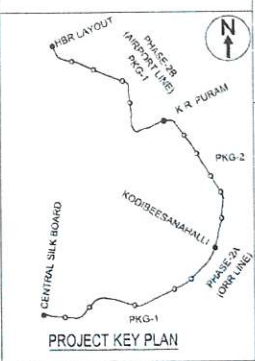
BAR MARK	DESCRIPTION	SHAPE	REMARKS
1	Y12 AT 200		
2	Y12 AT 200		
3	Y12 AT 200		
4	Y12 AT 200		

LEGEND FOR REINFORCEMENT-  
--- INDICATES TOP REINFORCEMENT  
— INDICATES BOTTOM REINFORCEMENT

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
  - GRADE OF CONCRETE FOR DECK SLAB SHALL BE M35.
  - GRADE OF ALL REINFORCING BARS SHALL BE HYSD-FE 500D CONFORMING TO IS 1786 STANDARDS.
  - CLEAR COVER TO ANY REINFORCEMENT SHALL BE 35mm.
  - MINIMUM DEVELOPMENT LENGTH SHALL BE 41 TIMES DIA OF BAR.
  - NOT MORE THAN 50% OF THE BARS SHALL BE LAPPED AT ANY SECTION. MINIMUM LAP LENGTH SHALL BE 38 TIMES DIAMETER OF BARS.
  - FOR BASE PLATE DETAILS OF PLATFORM ROOF SUPPORT REFER SEPARATE DRAWING AND THE SAME SHALL BE PLACED BEFORE CONCRETING.

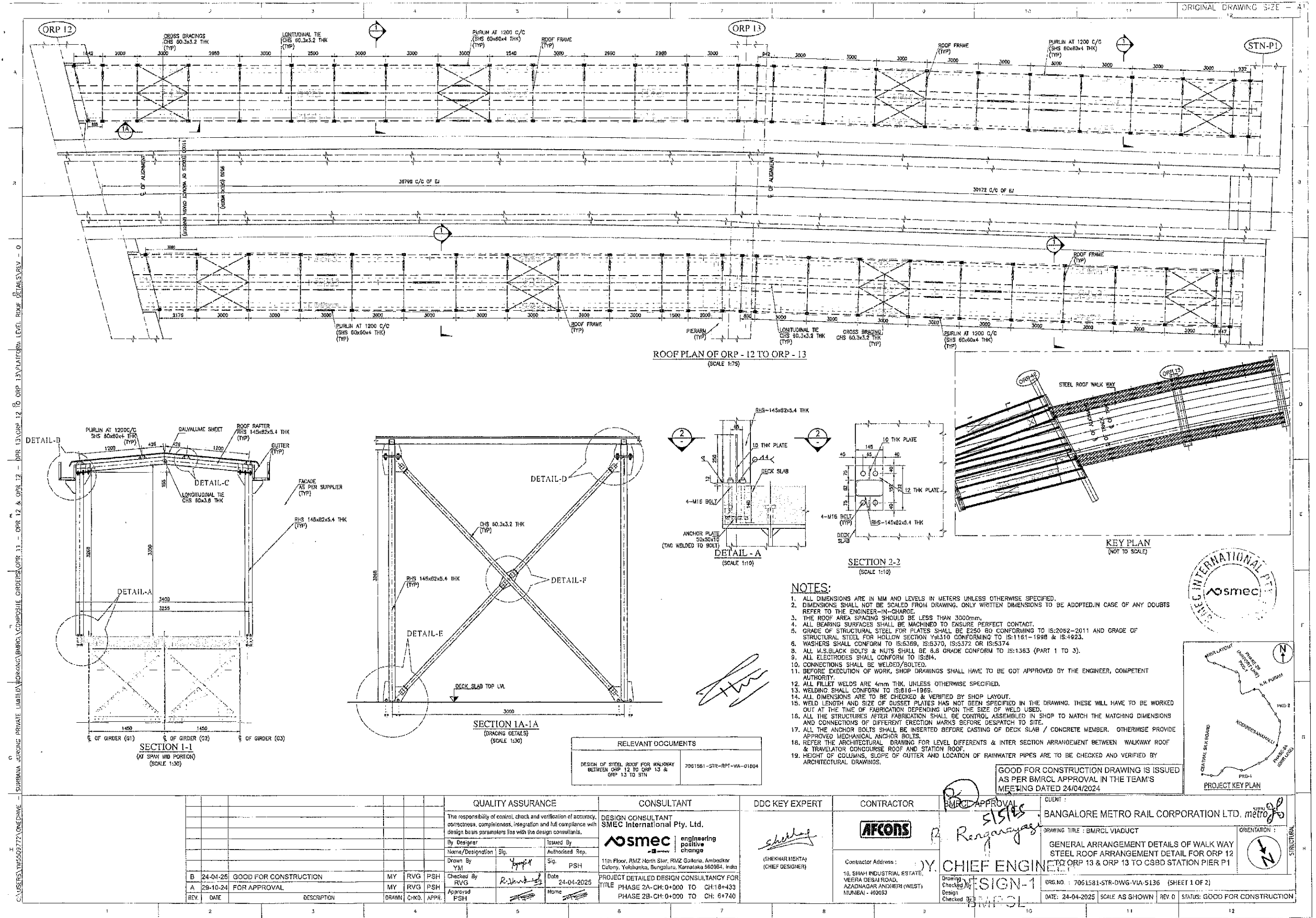
- REFERENCE DRAWINGS:
- TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 1 OF 4)
  - TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 2 OF 4)
  - TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER FOR ORP 13 TO STATION PER REFER DWG NO. 7061581-STR-DWG-VIA-2075 (SHEET 3 OF 4)

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
AS PER BMRCL APPROVAL IN THE TEAM'S  
MEETING DATED 24/04/2024

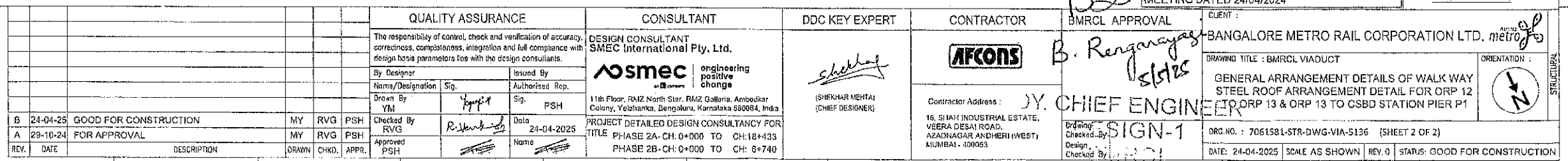


																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

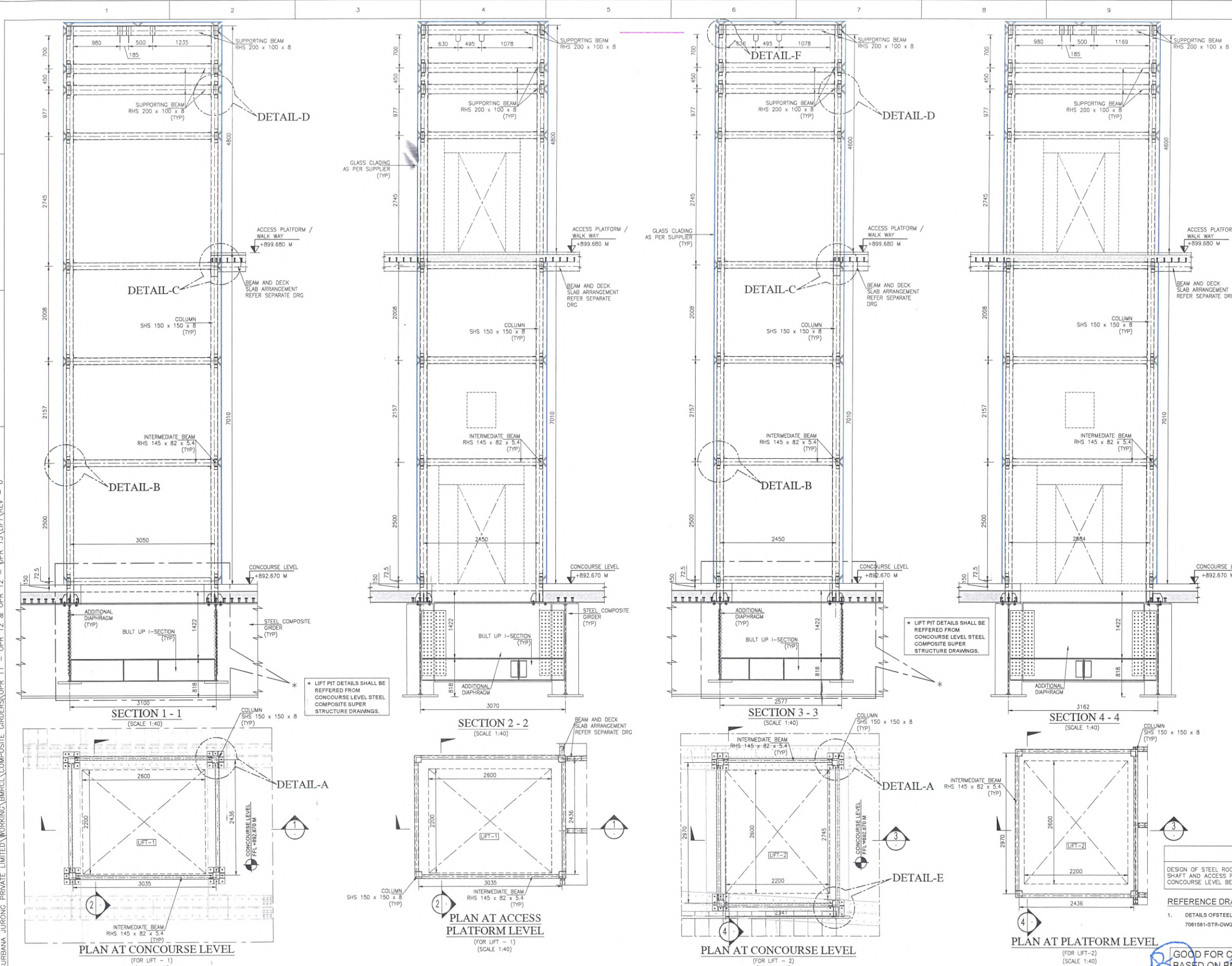






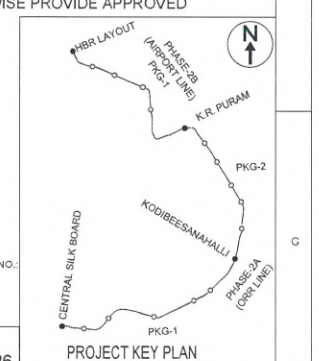






- NOTES:**
1. ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
  2. DIMENSIONS SHALL NOT BE SCALED FROM DRAWING. ONLY WRITTEN DIMENSIONS TO BE ADOPTED. IN CASE OF ANY DOUBTS REFER TO THE ENGINEER-IN-CHARGE.
  3. ALL BEARING SURFACES SHALL BE MACHINED TO ENSURE PERFECT CONTACT.
  4. GRADE OF STRUCTURAL STEEL FOR PLATES SHALL BE E450BR CONFORMING TO IS:2062-2011 AND GRADE OF STRUCTURAL STEEL FOR HOLLOW SECTION Yst355 CONFORMING TO IS:1161-2014 & IS:4923-2017.
  5. WASHERS SHALL CONFORM TO IS:5369, IS:5370, IS:5372 OR IS:5374.
  6. ALL M.S. BLACK BOLTS & NUTS SHALL BE 8.8 GRADE CONFORM TO IS:1363 (PART 1 TO 3).
  7. ALL ELECTRODES SHALL CONFORM TO IS:814.
  8. BEFORE EXECUTION OF WORK, SHOP DRAWINGS SHALL HAVE TO BE GOT APPROVED BY THE ENGINEER, COMPETENT AUTHORITY.
  9. ALL FILLET WELDS ARE 8mm THK. UNLESS OTHERWISE SPECIFIED.
  10. WELDING SHALL CONFORM TO IS:816-1969.
  11. ALL DIMENSIONS ARE TO BE CHECKED & VERIFIED BY SHOP LAYOUT.
  12. ALL THE STRUCTURES AFTER FABRICATION SHALL BE CONTROL ASSEMBLED IN SHOP TO MATCH THE MATCHING DIMENSIONS AND CONNECTIONS OF DIFFERENT ERECTION MARKS BEFORE DESPATCH TO SITE.
  13. ALL THE ANCHOR BOLTS SHALL BE INSERTED BEFORE CASTING OF DECK SLAB / CONCRETE MEMBER. OTHERWISE PROVIDE APPROVED MECHANICAL ANCHOR BOLTS.

RELEVANT DOCUMENTS	
DESIGN OF STEEL ROOF, STAIRCASE, LIFT SHAFT AND ACCESS PLATFORM FOR CONCOURSE LEVEL BETWEEN ORP 11-ORP 12	7061581-STR-RPT-VIA-01832
REFERENCE DRAWINGS:	
1. DETAILS OF STEEL LIFT AT CONCOURSE LEVEL BETWEEN ORP 11-ORP 12 REFER DWG NO. 7061581-STR-DWG-VIA-02148 (SHEET : 2 OF 2).	

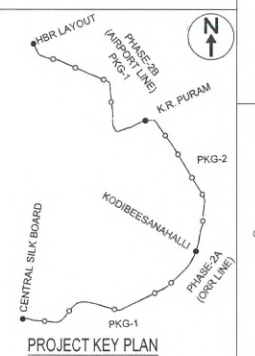


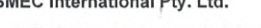



<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>												<div>(SCALE: 1:40)</div>											
--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--	--------------------------	--	--	--	--	--	--	--	--	--	--	--



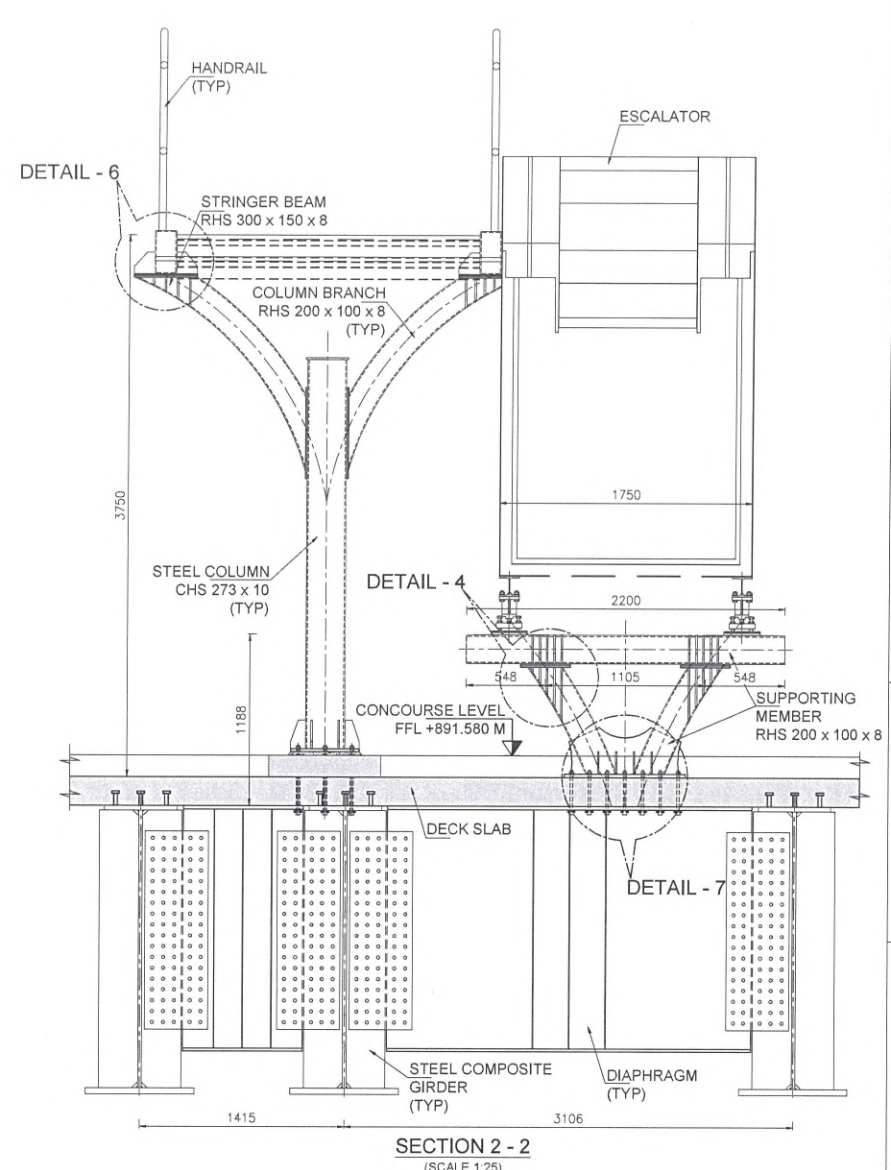
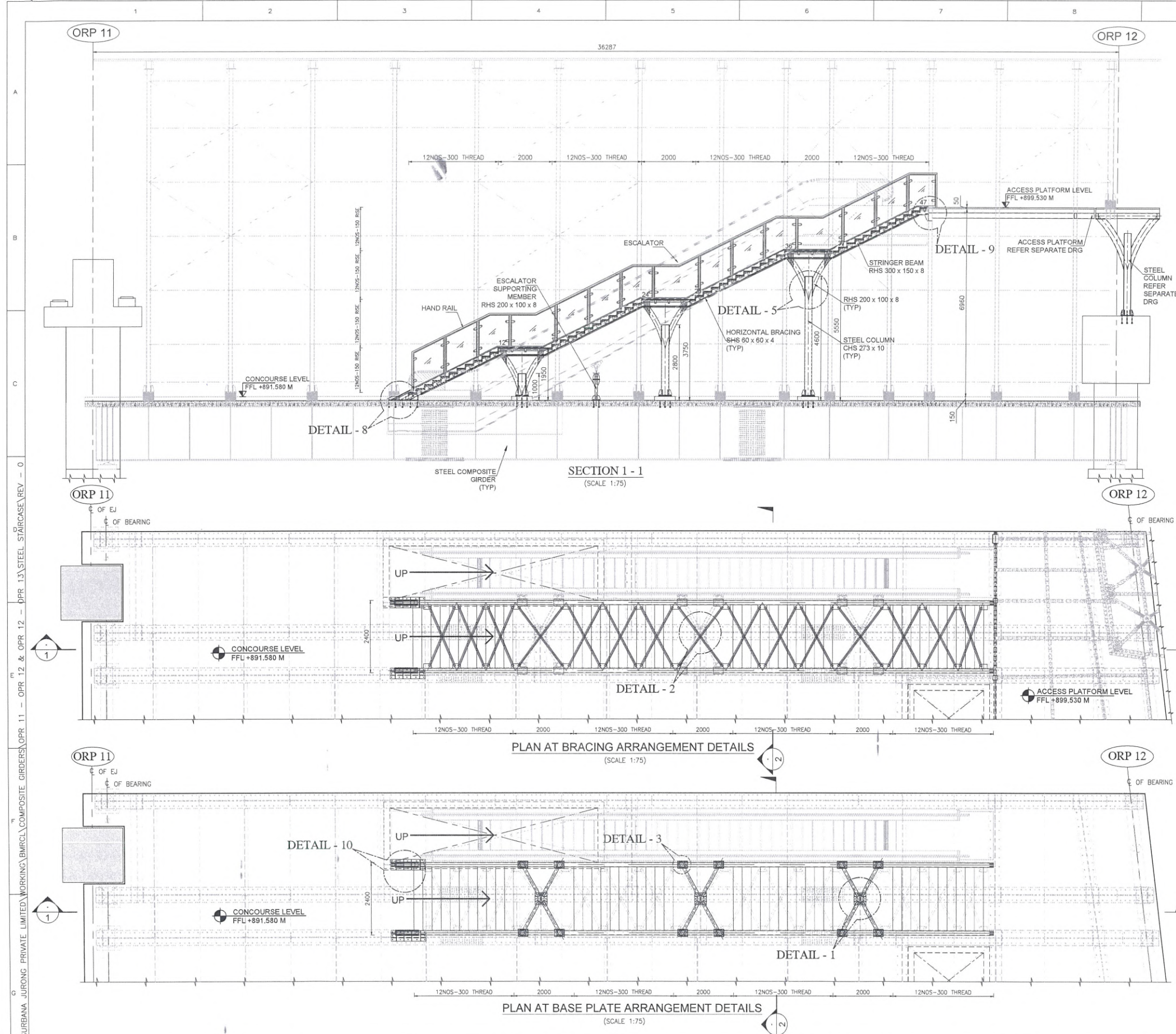


- GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRCL APPROVAL EMAIL DATED 13/01/2026

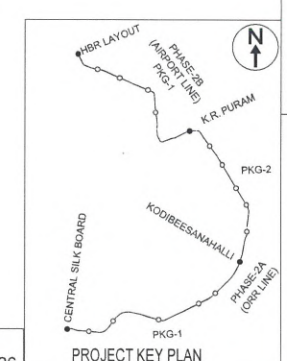


				<b>QUALITY ASSURANCE</b> The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.		<b>CONSULTANT</b> <b>DESIGN CONSULTANT</b> <b>SMEC International Pty. Ltd.</b>  engineering positive change		<b>DDC KEY EXPERT</b>  (PUNIT S H) (CHIEF DESIGNER)		<b>CONTRACTOR</b>  Contractor Address : DY. CHIEF ENGINEER 16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053		<b>BMRCL APPROVAL</b> CLIENT : BANGALORE METRO RAIL CORPORATION LTD.  DRAWING TITLE : BMRCL VIADUCT DETAILS OF STEEL LIFT AT CONCOURSE LEVEL BETWEEN ORP 11 TO ORP 12 ORIENTATION : 	
0	13-01-26	GOOD FOR CONSTRUCTION	YM	RVG	PSH	Checked By RVG	Date 13-01-2026	PROJECT DETAILED DESIGN CONSULTANCY FOR				DRG-NO. 7061581-STR-DWG-VIA-02148 (SHEET 2 OF 2) DATE: 13-01-2026 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION	
A	20-11-25	FOR APPROVAL	YM	RVG	PSH	Approved PSH	Name PSH	TITLE PHASE 2A- CH: 0+000 TO CH:18+433 PHASE 2B- CH: 0+000 TO CH: 6+740				Drawing Checked By Design Checked By	
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.								





RELEVANT DOCUMENTS	
DESIGN OF STEEL ROOF, STAIRCASE, LIFT SHAFT AND ACCESS PLATFORM FOR CONTOUR LEVEL BETWEEN ORP 11-ORP 12	7061581-STR-RPT-VIA-01832

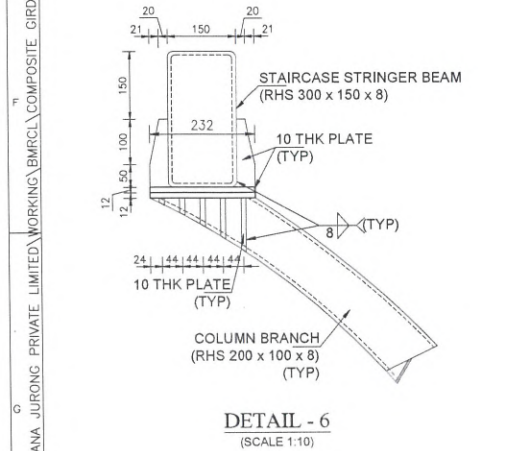
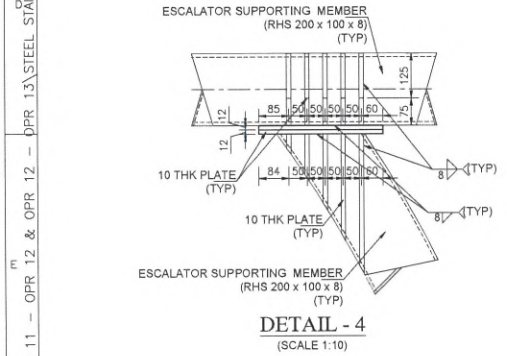
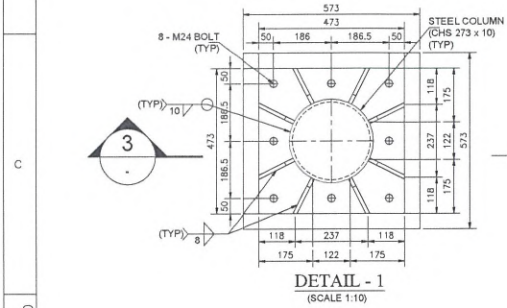
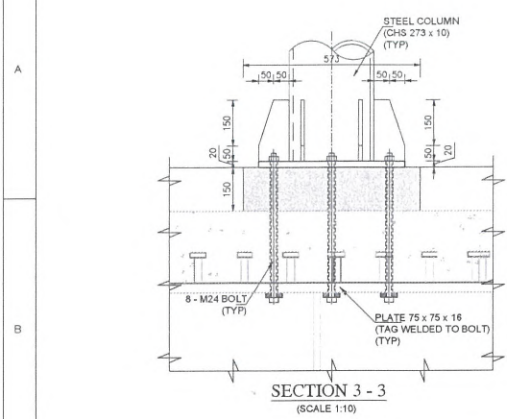


GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 13/01/2026

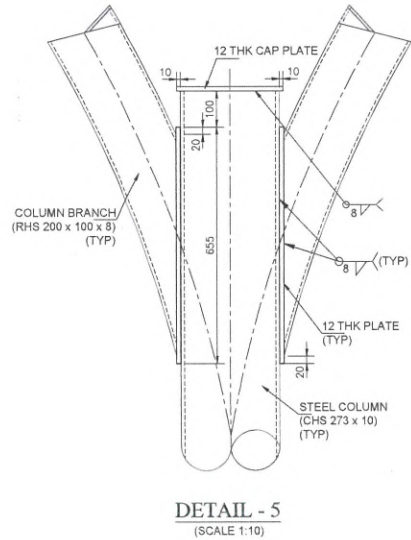
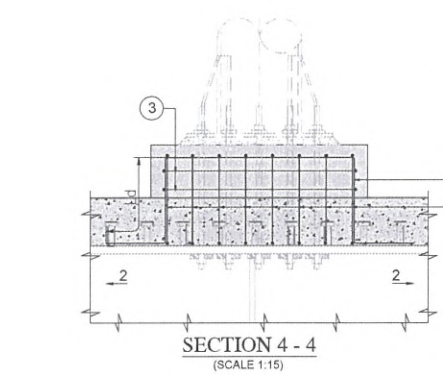
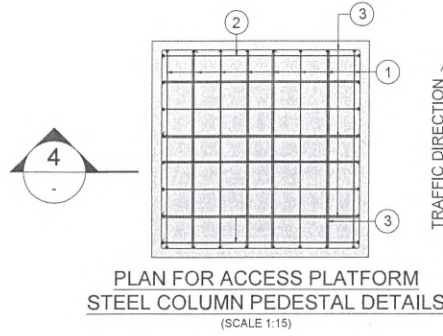
<b>BMRL APPROVAL</b>  B. Ranganatha 12/01/26 DY. CHIEF ENGINEER DESIGN 1 BMRL	CLIENT : <b>BANGALORE METRO RAIL CORPORATION LTD.</b>
	DRAWING TITLE : BMRL STATION
	DETAILS OF STEEL STAIRCASE AT CONTOUR LEVEL BETWEEN ORP 11 TO ORP 12
	ORIENTATION : 
Drawing Checked By: Design Checked By:	DRG.NO. : 7061581-STR-DWG-VIA-2151 (SHEET 1 OF 2)
	DATE: 13-01-2026 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION

C:\USERS\YM509772\ONEDRIVE - I									
						</			



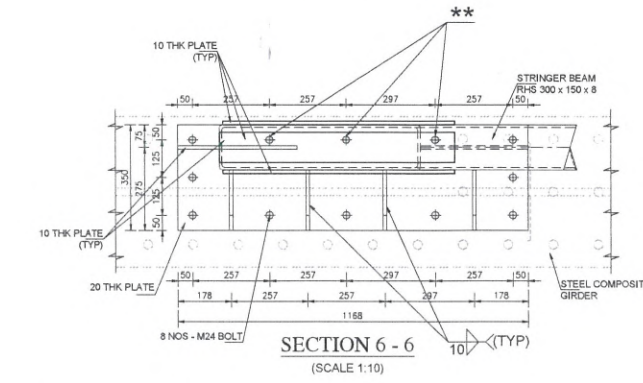
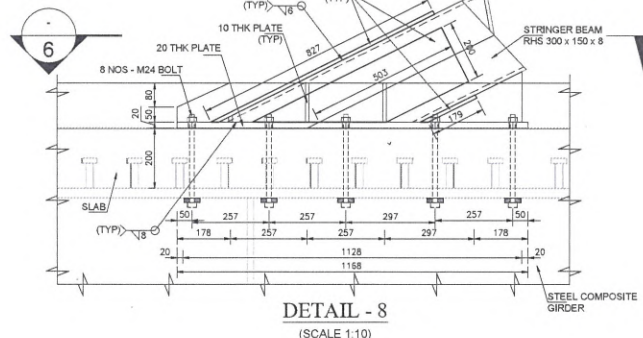
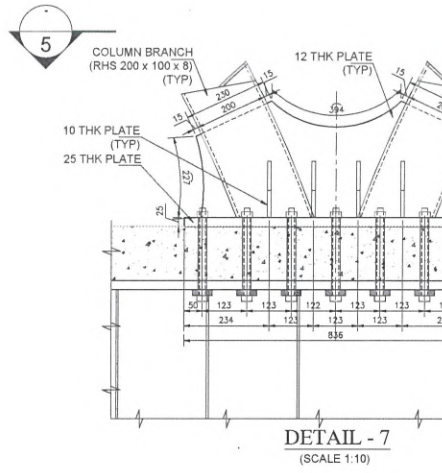
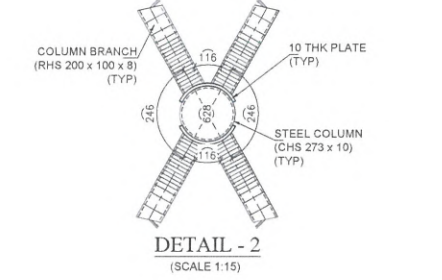


REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.
0	13-01-26	GOOD FOR CONSTRUCTION	YM	RVG	PSH
A	20-11-25	FOR APPROVAL	YM	RVG	PSH

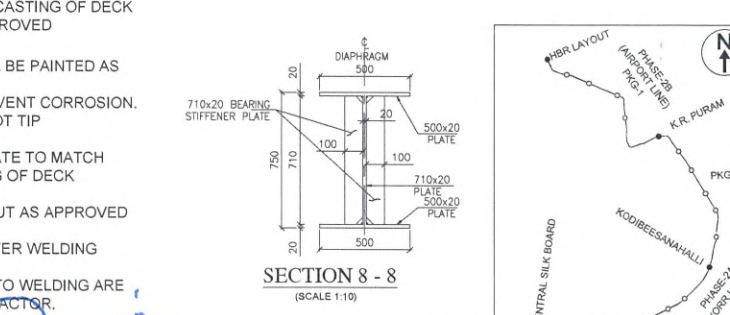
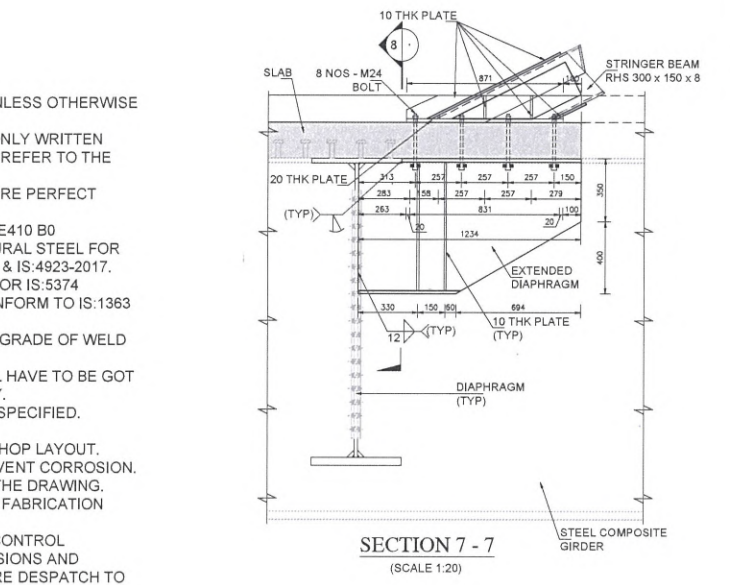
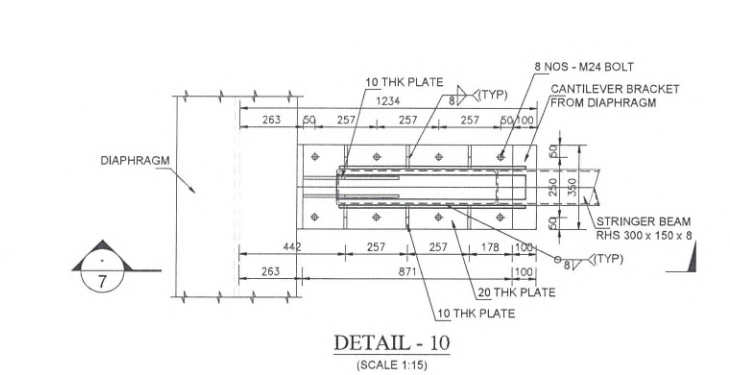
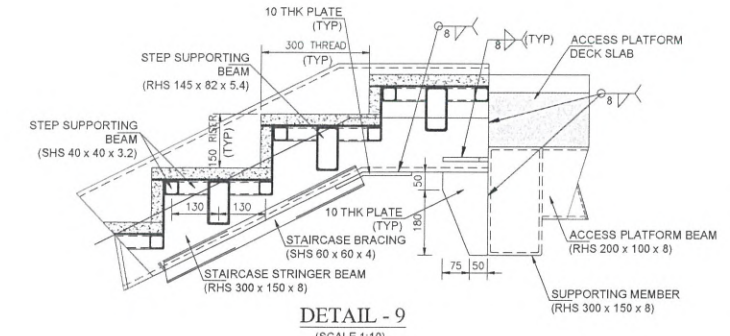
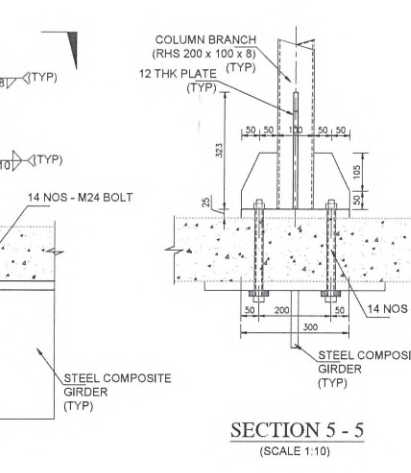
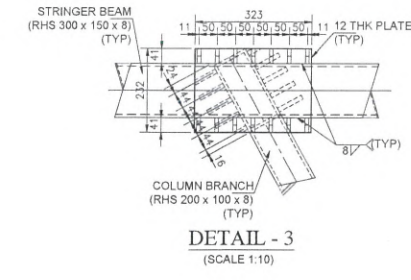


#### SCHEDULE OF REINFORCEMENT

BAR MARK	DESCRIPTION	SHAPE
①	Y20 - 8NOS	
②	Y20 - 8NOS	
③	6L-Y12 2-LAYERS (AT 150C/C)	



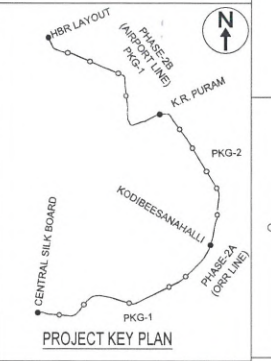
\*\* THESE THREE BOLTS ARE INACCESSIBLE; THEREFORE, THEY SHALL BE PRE-FITTED ON THE BASE PLATE AND TIGHTENED WITH NUTS FROM THE BOTTOM OF THE GIRDER.



#### NOTES:

- ALL DIMENSIONS ARE IN MM AND LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS SHALL NOT BE SCALED FROM DRAWING. ONLY WRITTEN DIMENSIONS TO BE ADOPTED. IN CASE OF ANY DOUBTS REFER TO THE ENGINEER-IN-CHARGE.
- ALL BEARING SURFACES SHALL BE MACHINED TO ENSURE PERFECT CONTACT.
- GRADE OF STRUCTURAL STEEL FOR PLATES SHALL BE E410 B0 CONFORMING TO IS:2062-2011 AND GRADE OF STRUCTURAL STEEL FOR HOLLOW SECTION Y&355 CONFORMING TO IS:1161-2014 & IS:4923-2017.
- WASHERS SHALL CONFORM TO IS:5369, IS:5370, IS:5372 OR IS:5374.
- ALL M.S. BLACK BOLTS & NUTS SHALL BE 8.8 GRADE CONFORM TO IS:1363 (PART 1 TO 3). UNLESS OTHERWISE SPECIFIED.
- ALL ELECTRODES SHALL CONFORM TO IS:814 (PART-1). GRADE OF WELD SHALL BE GREATER THAN PARENT MATERIAL.
- BEFORE EXECUTION OF WORK, SHOP DRAWINGS SHALL HAVE TO BE GOT APPROVED BY THE ENGINEER, COMPETENT AUTHORITY.
- ALL FILLET WELDS ARE 6mm THK. UNLESS OTHERWISE SPECIFIED.
- WELDING SHALL CONFORM TO IS:816-1969.
- ALL DIMENSIONS ARE TO BE CHECKED & VERIFIED BY SHOP LAYOUT.
- ALL THE SECTIONS SHALL BE SEALED AT ENDS TO PREVENT CORROSION.
- SIZE OF GUSSET PLATES HAS NOT BEEN SPECIFIED IN THE DRAWING. THESE WILL HAVE TO BE WORKED OUT AT THE TIME OF FABRICATION DEPENDING UPON ORIENTATION OF BRACING.
- ALL THE STRUCTURES AFTER FABRICATION SHALL BE CONTROL ASSEMBLED IN SHOP TO MATCH THE MATCHING DIMENSIONS AND CONNECTIONS OF DIFFERENT ERECTION MARKS BEFORE DESPATCH TO SITE.
- ALL THE ANCHOR BOLTS SHALL BE INSERTED BEFORE CASTING OF DECK SLAB / CONCRETE MEMBER. OTHERWISE PROVIDE APPROVED MECHANICAL ANCHOR BOLTS.
- PAINTING : ALL STRUCTURE AFTER FABRICATION SHALL BE PAINTED AS PER RESPECTIVE TENDER SPECIFICATION.
- ALL THE SECTIONS SHALL BE SEALED AT ENDS TO PREVENT CORROSION.
- ALL THE INSERTS EMBEDDED IN CONCRETE SHALL BE HOT TIP GALVANIZED.
- FOR PROPER POSITIONING OF ANCHOR BOLTS, TEMPLATE TO MATCH BASE PLATE SHALL BE PROVIDED DURING CONCRETING OF DECK SLAB/PEDESTAL.
- FABRICATION & ERECTION WORK SHALL BE CARRIED OUT AS APPROVED BY ENGINEER IN CHARGE.
- ANY SURFACE WHICH WILL BECOME INACCESSIBLE AFTER WELDING SHALL BE PREPAINTED AS PER SPECIFICATION.
- FOR ALL MEMBERS STEEL CUTTING DETAILS RELATED TO WELDING ARE NOT SHOWN SAME SHALL BE PROVIDED BY THE CONTRACTOR.

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 13/01/2026



#### QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.

By Designer	Issued By
Name/Designation Sig.	Authorised Rep. Sig.
Drawn By YM	Sig. [Signature]
Checked By RVG	Date 13-01-2026
Approved PSH	Name PSH

#### CONSULTANT

DESIGN CONSULTANT  
**SMEC International Pty. Ltd.**  
  
11th Floor, RMZ North Star, RMZ Galleria, Ambekar Colony, Yelahanka, Bengaluru, Karnataka 560064, India  
PROJECT DETAILED DESIGN CONSULTANCY FOR  
TITLE PHASE 2A-CH: 0+000 TO CH:18+433  
PHASE 2B-CH: 0+000 TO CH: 6+740

#### DDC KEY EXPERT

(PUNIT SH)  
(CHIEF DESIGNER)

#### CONTRACTOR

(PUNIT SH)  
(CHIEF DESIGNER)

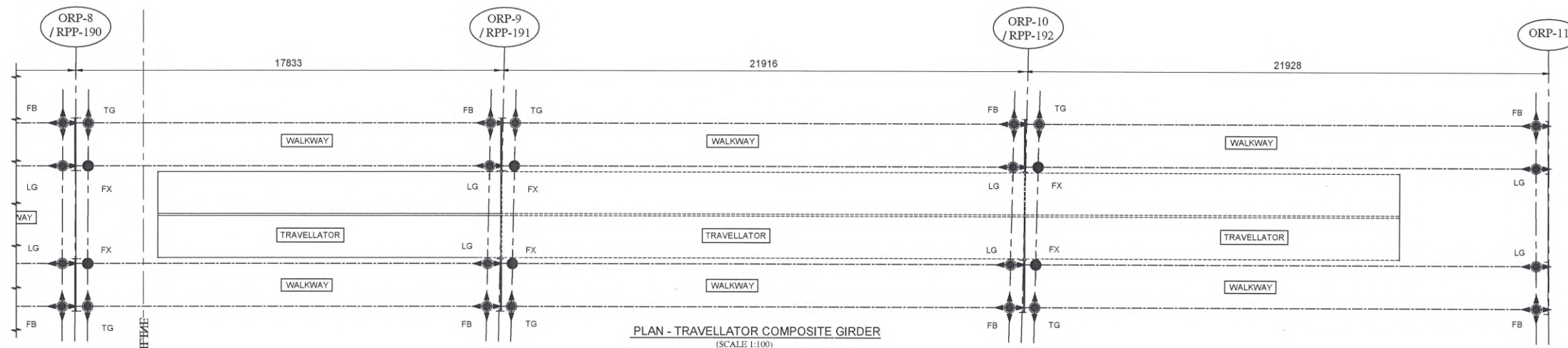
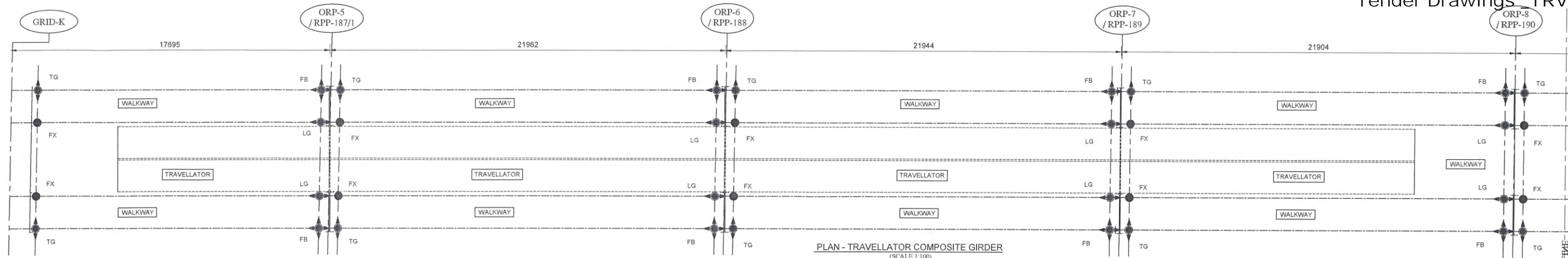
#### BMRL APPROVAL

B. Ranganatha  
13/01/26  
DY. CHIEF ENGINEER  
DESIGN

#### CLIENT

BANGALORE METRO RAIL CORPORATION LTD.   
DRAWING TITLE : BMRL VIADUCT  
DETAILS OF STEEL STAIRCASE AT CONCOURSE LEVEL BETWEEN ORP 11 TO ORP 12  
ORIENTATION :   
DRG.NO. : 7061581-STR-DWG-VIA-2151 (SHEET 2 OF 2)  
DATE: 13-01-2026 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION





## NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.
4. GRADE OF CONCRETE FOR BEARING PEDESTAL - M50
5. POT-PYRE BEARING SHALL BE DESIGNED BY THE MANUFACTURER AS PER IRC:83 (PART-3) FOR THE FORCES & MOVEMENTS GIVEN IN THIS DRAWING, ALONG WITH RELEVANT PROVISION. ALL THE DESIGN OF BEARINGS SHALL BE GOT APPROVED FROM THE ENGINEER PRIOR TO MANUFACTURING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARINGS AT THE TIME OF EXECUTION.
8. ALL LEVELS TO BE APPROVED AT SITE BY ENGINEER IN-CHARGE BEFORE START OF CONSTRUCTION.
9. THE GROUT BEDDING MORTAR SHALL BE OF HIGH STRENGTH FREE FLOWING NON-SHRINK TYPE.
10. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS AND ACCEPTANCE TESTS ON BEARING SHALL CONFORM TO MORTH SPECIFICATION.
11. BEARINGS SHALL BE OBTAINED FROM AUTHORIZED MANUFACTURERS ONLY.
12. MATERIALS FOR MANUFACTURING OF BEARINGS SHOULD BE USED AS PER CL-4.1 OF IRC:83 PART-3.
13. LOW FRICTION THERMO-PLASTIC SLIDING MATERIAL (PTFE OR UHMWPE) SHOULD AS PER CL 4.2 OF IRC:83 PART-3.
14. MANUFACTURING SHALL SPECIFY THE PRE-SETTING DETAILS & INCLUDING SETTING TEMPERATURE RANGE IN THE SHOP DRAWING OF BEARINGS.
15. THE BEARING AND THEIR CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED FOR THE FORCES STATED ON THE DRAWINGS.
16. EACH BEARING SHALL BE INDIVIDUALLY MARKED WITH THE BEARING IDENTIFICATION MARK, THE TOP FACE OF THE DIRECTION OF MOVEMENT OF EACH BEARING SHALL BE IDENTIFIABLE.
17. DESIGN HORIZONTAL DISPLACEMENT FOR BOTH POT AND METALLIC GUIDE BEARINGS SHALL BE AS PER CLAUSE NO. 5.1.9. OF IRC: 83 PART-3.

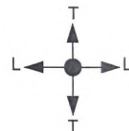
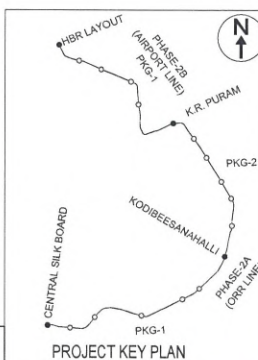
## REFERENCE DRAWINGS:-

1. FOR GENERAL NOTES REFER DRAWING NO.7061581-STR-DWG-VIA-01000\_0.
2. FOR TRAVELLATOR SUPPORT ARRANGEMENT DETAILS FOR STEEL COMPOSITE GIRDER SPAN FROM CSBD STATION GRID - K TO ORP 11, Ref-7061581-STR-DWG-VIA-06071.
3. FOR GENERAL ARRANGEMENT DETAILS OF TRAVELLATOR PLAN AND SECTION DETAILS FROM ORP - 5 TO ORP - 13 AND SILK BOARD JUNCTION-Ref-7061581-STR-DWG-VIA-01050.

## LEGEND

FX	-	FIXED BEARING
LG	-	LONGITUDINAL GUIDED BEARING
TG	-	TRANSVERSE GUIDED BEARING
FB	-	FREE BEARING

DESIGN DOCUMENT NUMBER : 7061581-STR-RPT-VIA-01833

GOOD FOR CONSTRUCTION IS ISSUED BASED ON  
BMRCL MAIL DATED 09/10/2025

## QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.

By Designer	Issued By
Name/Designation	Authorised Rep.
Drawn By	Sig.
Checked By	Date
Approved	Name

## CONSULTANT

DESIGN CONSULTANT  
**SMEC International Pty. Ltd.**  
  
42, Brigade Deccan Height, 21st Floor, 5th Mile, Tumkur Rd, Yeshanthpur, Bengaluru, Karnataka 560022, India  
PROJECT DETAILED DESIGN CONSULTANCY FOR  
TITLE PHASE 2A-CH: 0+000 TO CH:18+433  
PHASE 2B-CH: 0+000 TO CH: 6+740

## DDC KEY EXPERT

(PUNIT SH)  
(CHIEF DESIGNER)

## CONTRACTOR

**AFCONS**

Contractor Address :  
16, SHAH INDUSTRIAL ESTATE,  
VEERA DESAI ROAD,  
AZADNAGAR ANDHERI (WEST)  
MUMBAI - 400053

## BMRCL APPROVAL

Drawing  
Checked By  
Design  
Checked By

## CLIENT :

BANGALORE METRO RAIL CORPORATION LTD.   
DRAWING TITLE : BMRCL VIADUCT  
TRAVELLATOR SUPPORT ARRANGEMENT DETAILS  
FOR STEEL COMPOSITE GIRDER SPAN FROM CSBD  
STATION GRID - K TO ORP 11

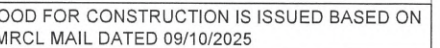
DRG.NO. : 7061581-STR-DWG-VIA-06075 (SHEET 1 OF 2)

DATE: 13-10-2025 SCALE AS SHOWN REV. 0 STATUS: GOOD FOR CONSTRUCTION



- REFERENCE DRAWINGS:-

- ### LEGEND

DESIGN DOCUMENT NUMBER : 7061581-STR-RPT-VIA-01833[illegible]



C5M/C5

3. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.
4. GRADE OF CONCRETE FOR
  - a. BEARING PEDESTAL - M50
5. POT-PTFE BEARING SHALL BE DESIGNED BY THE MANUFACTURER AS PER IRC-83 (PART-3) FOR THE FORCES & MOVEMENTS GIVEN IN THIS DRAWING, ALONG WITH RELEVANT PROVISION. ALL THE DESIGN OF BEARINGS SHALL BE GOT APPROVED FROM THE ENGINEER PRIOR TO MANUFACTURING.
6. SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
7. THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARINGS AT THE TIME OF EXECUTION.
8. ALL LEVELS TO BE APPROVED AT SITE BY ENGINEER-IN-CHARGE BEFORE START OF CONSTRUCTION.
9. THE GROUT/BEDDING MORTAR SHALL BE OF HIGH STRENGTH FREE FLOWING NON-SHRINK TYPE.
10. THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS AND ACCEPTANCE TESTS ON BEARING SHALL CONFORM TO MORTH SPECIFICATION.
11. BEARINGS SHALL BE OBTAINED FROM AUTHORIZED MANUFACTURERS ONLY.
12. MATERIALS FOR MANUFACTURING OF BEARINGS SHOULD BE USED AS PER CL-4.1 OF IRC-83 PART-3.
13. LOW FRICTION THERMO-PLASTIC SLIDING MATERIAL (PTFE OR UHMWPE) SHOULD AS PER CL 4.2 OF IRC-83 PART-3.
14. MANUFACTURING SHALL SPECIFY THE PRE-SETTING DETAILS & INCLUDING SETTING TEMPERATURE RANGE IN THE SHOP DRAWING OF BEARINGS.
15. THE BEARING AND THEIR CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED FOR THE FORCES STATED ON THE DRAWINGS.
16. EACH BEARING SHALL BE INDIVIDUALLY MARKED WITH THE BEARING IDENTIFICATION MARK. THE TOP FACE OF THE DIRECTION OF MOVEMENT OF EACH BEARING SHALL BE IDENTIFIABLE.
17. DESIGN HORIZONTAL DISPLACEMENT FOR BOTH POT AND METALLIC GUIDE BEARINGS SHALL BE AS PER CLAUSE NO. 5.1.9. OF IRC-83 PART-3.

1. FOR GENERAL NOTES REFER DRAWING NO.7061581-STR-DWG-VIA-01000\_0.
2. FOR TOP PLAN,NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER ORP 11 TO ORP 12, REFER DRAWING NO. : 7061581-STR-DWG-VIA-02084.
3. FOR PLAN & SECTION OF TRAVELATOR DETAILS ORP 5 TO ORP 13 FOR SILK BOARD JUNCTION REFER DRAWING NO. : 7061581-STR-DWG-VIA-01050.




FX	-	FIXED BEARING
LG	-	LONGITUDINAL GUIDED BEARING
TG	-	TRANVERSE GUIDED BEARING
FB	-	FREE BEARING

DESIGN DOCUMENT NUMBER : 7061581-STR-RPT-VIA-01835

BY, CHIEF ENGINEER  
DESIGN-1  
BMRCL



GOOD FOR CONSTRUCTION IS ISSUED BASED ON  
BMRCL MAIL DATED 14/10/2025

0	14-10-25	GOOD FOR CONSTRUCTION	RAO	SMN	PSH	Checked By RVG		Date 14-10-2025	PROJECT DETAILED DESIGN CONSULTANCY FOR TITLE PHASE 2A-CH: 0+000 TO CH: 18+433 PHASE 2B-CH: 0+000 TO CH: 6+740	No., Tondisaripat, Dongarga, Kankarna 900022, India  16, SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST) MUMBAI - 400053	<div>Drawing Checked By Design Checked By</div>	<div></div>	(FOR POT-FIT BEARINGS)				
A	30-09-25	FOR APPROVAL	RAO	RVG	PSH	Approved PSH		Name PSH									
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.												
														DRG. NO. : 7061581-STR-DWG-VIA-6076			
														DATE: 14-10-2025	SCALE AS SHOWN	REV. 0	STATUS: GOOD FOR CONSTRUCTION



Tender Drawings \_TRV\_36

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
- DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
- ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.
- GRADE OF CONCRETE FOR  
a. BEARING PEDESTAL - M50
- POT-PTFE BEARING SHALL BE DESIGNED BY THE MANUFACTURER AS PER IRC:83 (PART-3) FOR THE FORCES & MOVEMENTS GIVEN IN THIS DRAWING, ALONG WITH RELEVANT PROVISION. ALL THE DESIGN OF BEARINGS SHALL BE GOT APPROVED FROM THE ENGINEER PRIOR TO MANUFACTURING.
- SUITABLE ERECTION CLAMPS FOR SAFE TRANSPORTATION AND HANDLING ALONG WITH TEMPLATE FOR ALIGNMENT SHALL BE PROVIDED BY THE MANUFACTURER.
- THE PLAN SIZE AND HEIGHT OF PEDESTALS SHALL BE ADJUSTED TO SUIT THE FINALISED SIZE OF BEARINGS AT THE TIME OF EXECUTION.
- ALL LEVELS TO BE APPROVED AT SITE BY ENGINEER IN-CHARGE BEFORE START OF CONSTRUCTION.
- THE GROUT/BEDDING MORTAR SHALL BE OF HIGH STRENGTH FREE FLOWING NON-SHRINK TYPE.
- THE TESTING OF RAW MATERIALS, METALLIC COMPONENTS AND ACCEPTANCE TESTS ON BEARING SHALL CONFORM TO MORTH SPECIFICATION.
- BEARINGS SHALL BE OBTAINED FROM AUTHORIZED MANUFACTURERS ONLY.
- MATERIALS FOR MANUFACTURING OF BEARINGS SHOULD BE USED AS PER CL-4.1 OF IRC:83 PART-3.
- LOW FRICTION THERMO-PLASTIC SLIDING MATERIAL (PTFE OR UHMWPE) SHOULD AS PER CL 4.2 OF IRC:83 PART-3.
- MANUFACTURING SHALL SPECIFY THE PRE-SETTING DETAILS & INCLUDING SETTING TEMPERATURE RANGE IN THE SHOP DRAWING OF BEARINGS.
- THE BEARING AND THEIR CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED FOR THE FORCES STATED ON THE DRAWINGS.
- EACH BEARING SHALL BE INDIVIDUALLY MARKED WITH THE BEARING IDENTIFICATION MARK. THE TOP FACE OF THE DIRECTION OF MOVEMENT OF EACH BEARING SHALL BE IDENTIFIABLE.
- DESIGN HORIZONTAL DISPLACEMENT FOR BOTH POT AND METALLIC GUIDE BEARINGS SHALL BE AS PER CLAUSE NO. 5.1.9. OF IRC: 83 PART-3.

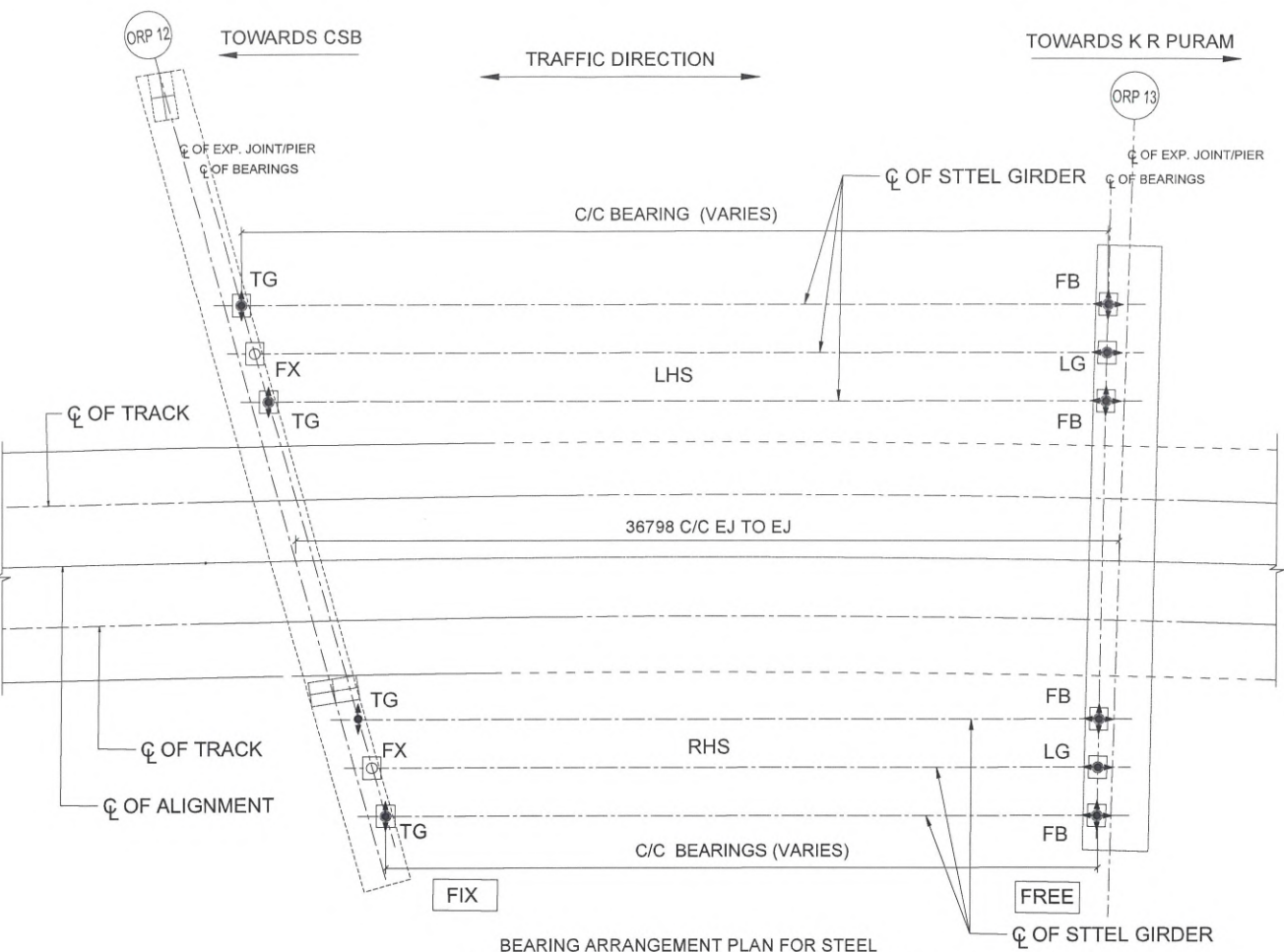
REFERENCE DRAWINGS:-

- FOR GENERAL NOTES REFER DRAWING NO.7061581-STR-DWG-VIA-01000\_0
- FOR NUMERATION DETAILS OF STEEL COMPOSITE GIRDER 900mm RADIUS CURVE SPAN REFER DRAWING NO. 7061581-STR-DWG-VIA-2074.

LEGEND

FX	-	FIXED BEARING
LG	-	LONGITUDINAL GUIDED BEARING
TG	-	TRANVERSE GUIDED BEARING
FB	-	FREE BEARING

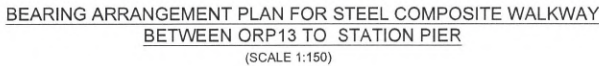
DESIGN DOCUMENT NUMBER : 7061581-STR-RPT-VIA-01504



BEARING ARRANGEMENT PLAN FOR STEEL COMPOSITE WALKWAY BETWEEN ORP12 TO ORP13  
(SCALE 1:150)

			BEARING 1	BEARING 2	BEARING 3	BEARING 4
			TG	FX	FR	LG
			STEEL	STEEL	STEEL	STEEL
			CONCRETE - M50	CONCRETE - M50	CONCRETE - M50	CONCRETE - M50
SEATING MATERIAL	UPPER SURFACE		-	-	-	-
	LOWER SURFACE		-	-	-	-
ALLOWABLE CONTACT PRESSURE (N/MM2)	UPPER SURFACE		-	-	-	-
	LOWER SURFACE		-	-	-	-
DESIGN LOAD (kN)	SERVICEABILITY LIMIT STATE	NORMAL	ULTIMATE	22.33	22.33	22.33
			VERTICAL MAX	550	550	550
			VERTICAL PERM	450	400	450
			VERTICAL MIN	400	400	400
		NORMAL	LONGITUDINAL	30	30	30
			TRANSVERSE	0	0	0
	ULTIMATE LIMIT STATE	NORMAL	VERTICAL MAX	850	850	850
			VERTICAL PERM	650	600	600
			VERTICAL MIN	600	600	600
		WIND	LONGITUDINAL	50	50	50
			TRANSVERSE	0	0	0
		SEISMIC	VERTICAL MAX	800	800	800
TRANSLATION (mm)	SERVICEABILITY LIMIT STATE	Irreversible	VERTICAL MIN	600	600	600
			LONGITUDINAL	40	40	40
	Ultimate Limit State	Irreversible	TRANSVERSE	0	100	100
			VERTICAL MAX	800	800	750
	Ultimate Limit State	Reversible	VERTICAL MIN	600	600	600
			LONGITUDINAL	150	150	36
ROTATION (RAD)	SERVICEABILITY LIMIT STATE	Irreversible	TRANSVERSE	0	150	0
			LONGITUDINAL	-	-	14
	Ultimate Limit State	Irreversible	TRANSVERSE	2	-	2
			LONGITUDINAL	-	-	18
	Ultimate Limit State	Reversible	TRANSVERSE	5	-	5
			LONGITUDINAL	-	-	18
BEARING DIMENSIONS RESTRICTIONS (IF ANY)	UPPER SURFACE	Irreversible	TRANSVERSE	4	-	4
			LONGITUDINAL	-	-	22
	UPPER SURFACE	Reversible	TRANSVERSE	6	-	6
			LONGITUDINAL	-	-	-
	LOWER SURFACE	Irreversible	TRANSVERSE	A	A	A
			LONGITUDINAL	0.01	0.01	0.01
TYPE OF FIXING REQUIRED (EG. DOWELS/STUDS/DISTRIBUTION PLATE)	UPPER SURFACE	Irreversible	TRANSVERSE	0.01	0.01	0.01
			LONGITUDINAL	0.01	0.01	0.01
	UPPER SURFACE	Reversible	TRANSVERSE	0.01	0.01	0.01
			LONGITUDINAL	0.01	0.01	0.01
	LOWER SURFACE	Irreversible	TRANSVERSE	1000	1000	1000
			LONGITUDINAL	500	500	500
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	1000	1000	1000
			LONGITUDINAL	1000	1000	1000
	UPPER SURFACE	Reversible	TRANSVERSE	1000	1000	1000
			LONGITUDINAL	1000	1000	1000
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	UPPER SURFACE	Reversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
	LOWER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	200
CORROSIVITY CATEGORY	UPPER SURFACE	Irreversible	TRANSVERSE	200	200	200
			LONGITUDINAL	200	200	



CORROSIVITY CATEGORY

# Tender Drawings TRV\_37

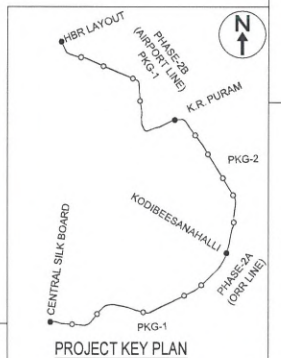
1. FOR GENERAL NOTES REFER DRAWING NO.7061581-STR-DWG-VIA-01000\_0.
2. FOR TOP PLAN, NUMERATION AND ELEVATION DETAILS OF STEEL COMPOSITE WALKWAY GIRDER ORP 13 & STATION PIER, REFER DRAWING NO. : 7061581-STR-DWG-VIA-02075.
3. FOR PLAN & SECTION OF TRAVELATOR DETAILS ORP 5 TO ORP 13 FOR SILK BOARD JUNCTION REFER DRAWING NO. : 7061581-STR-DWG-VIA-01050.

FX	-	FIXED BEARING
LG	-	LONGITUDINAL GUIDED BEARING
TG	-	TRANVERSE GUIDED BEARING
FB	-	FREE BEARING

DESIGN DOCUMENT NUMBER : 7061581-STR-RPT-VIA-01834

BY: CHIEF ENGINEER  
DESIGN-1  
BMROL

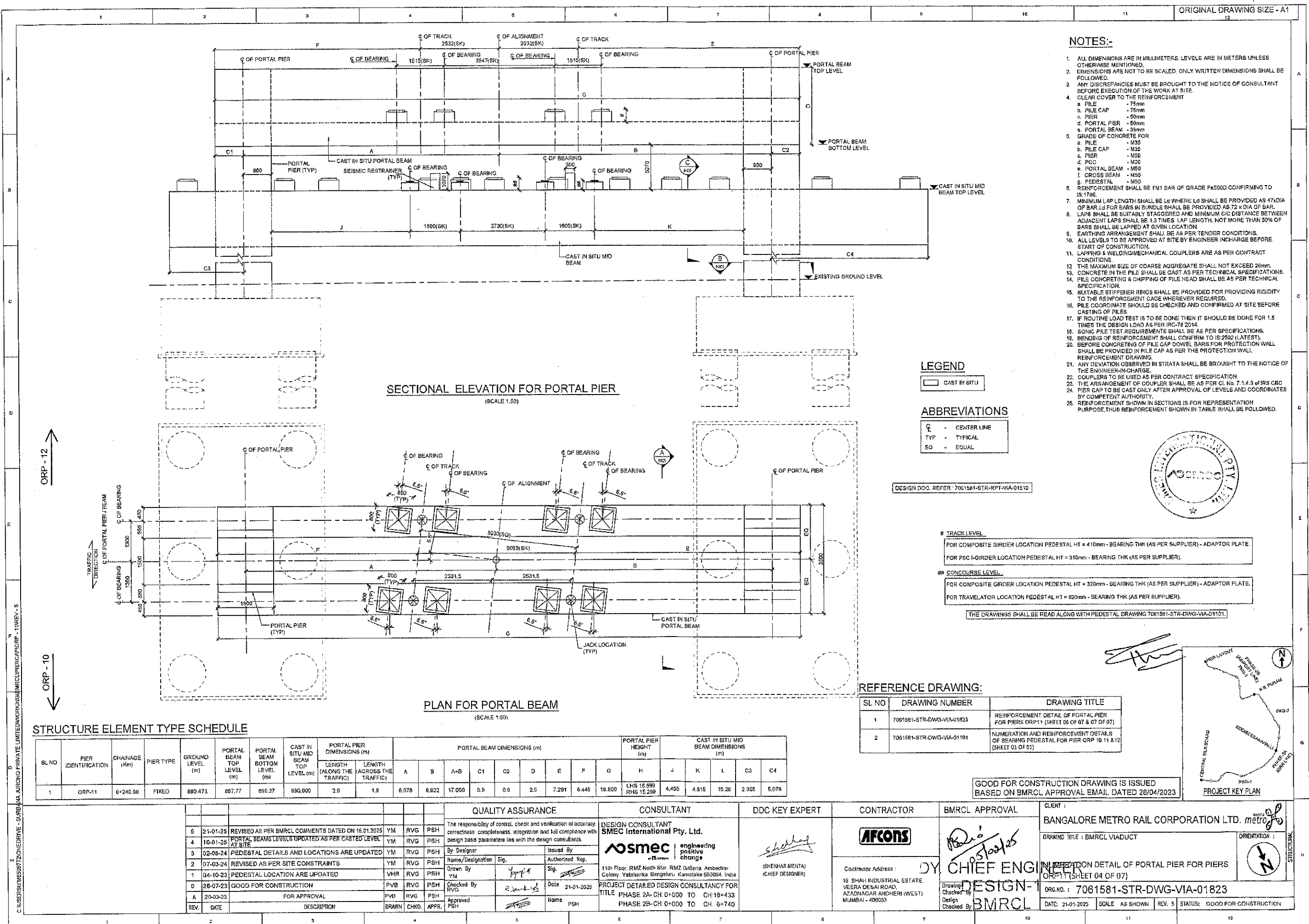
GOOD FOR CONSTRUCTION IS ISSUED BASED ON  
BMRCL MAIL DATED 09/10/2025

[illegible]









- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
  - DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  - ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.
  - CLEAR COVER TO THE REINFORCEMENT
    - a. PILE - 75mm
    - b. PILE CAP - 75mm
    - c. PIER - 50mm
    - d. PORTAL PIER - 50mm
    - e. PORTAL BEAM - 35mm
  - GRADE OF CONCRETE FOR
    - a. PILE - M35
    - b. PILE CAP - M35
    - c. PIER - M30
    - d. PCC - M20
    - e. PORTAL BEAM - M50
    - f. CROSS BEAM - M50
    - g. PEDESTAL - M50
  - REINFORCEMENT SHALL BE TMT BAR OF GRADE Fe500D CONFORMING TO IS-1786.
  - MINIMUM LAP LENGTH SHALL BE  $L_d$  WHERE  $L_d$  SHALL BE PROVIDED AS  $47 \times \text{DIA}$  OF BAR. LD FOR BARS IN BUNDLE SHALL BE PROVIDED AS  $72 \times \text{DIA}$  OF BAR.
  - LAPS SHALL BE SUITABLY STAGGERED AND MINIMUM C/C DISTANCE BETWEEN ADJACENT LAPS SHALL BE 1.3 TIMES LAP LENGTH. NOT MORE THAN 50% OF BARS SHALL BE LAPPED AT GIVEN LOCATION.
  - EARTHING ARRANGEMENT SHALL BE AS PER TENDER CONDITIONS.
  - ALL LEVELS TO BE APPROVED AT SITE BY ENGINEER INCHARGE BEFORE START OF CONSTRUCTION.
  - LAPPING & WELDING MECHANICAL COUPLERS ARE AS PER CONTRACT CONDITIONS.
  - THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 20mm.
  - CONCRETE IN THE PILE SHALL BE CAST AS PER TECHNICAL SPECIFICATIONS.
  - PILE CONCRETING & CHIPPING OF PILE HEAD SHALL BE AS PER TECHNICAL SPECIFICATION.
  - SUITABLE STIFFENER RINGS SHALL BE PROVIDED FOR PROVIDING RIGIDITY TO THE REINFORCEMENT CAGE WHEREVER REQUIRED.
  - PILE COORDINATE SHOULD BE CHECKED AND CONFIRMED AT SITE BEFORE CASTING OF PILES.
  - IF ROUTINE LOAD TEST IS TO BE DONE THEN IT SHOULD BE DONE FOR 1.5 TIMES THE DESIGN LOAD AS PER IRC-78 2014.
  - SONIC PILE TEST REQUIREMENTS SHALL BE AS PER SPECIFICATIONS.
  - BENDING OF REINFORCEMENT SHALL CONFORM TO IS:2502 (LATEST).
  - BEFORE CONCRETING OF PILE CAP DOWEL BARS FOR PROTECTION WALL SHALL BE PROVIDED IN PILE CAP AS PER THE PROTECTION WALL REINFORCEMENT DRAWING.
  - ANY DEVIATION OBSERVED IN STRATA SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER-IN-CHARGE.
  - COUPLERS TO BE USED AS PER CONTRACT SPECIFICATION.
  - THE ARRANGEMENT OF COUPLER SHALL BE AS PER CI No. 7.1.4.5 of IRS CBC.
  - PIER CAP TO BE CAST ONLY AFTER APPROVAL OF LEVELS AND COORDINATES BY COMPETENT AUTHORITY.
  - REINFORCEMENT SHOWN IN SECTIONS IS FOR REPRESENTATION PURPOSE. THIS REINFORCEMENT SHOWN IN TABLE SHALL BE FOLLOWED.

**LEGEND**

CAST IN SITU

**ABBREVIATIONS**

C - CENTER LINE  
TYP - TYPICAL  
EQ - EQUAL

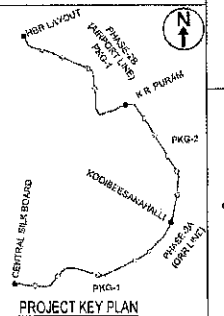
DESIGN DOC. REFER: 7061581-STR-RPT-VIA-01510

- # TRACK LEVEL**
- FOR COMPOSITE GIRDER LOCATION PEDESTAL HT = 410mm - BEARING THK (AS PER SUPPLIER) - ADAPTOR PLATE
- FOR PSC GIRDER LOCATION PEDESTAL HT = 310mm - BEARING THK (AS PER SUPPLIER).
- # CONCOURSE LEVEL**
- FOR COMPOSITE GIRDER LOCATION PEDESTAL HT = 320mm - BEARING THK (AS PER SUPPLIER) - ADAPTOR PLATE.
- FOR TRAVELATOR LOCATION PEDESTAL HT = 820mm - BEARING THK (AS PER SUPPLIER).
- THE DRAWINGS SHALL BE READ ALONG WITH PEDESTAL DRAWING 7061581-STR-DWG-VIA-01101.

**REFERENCE DRAWING:**

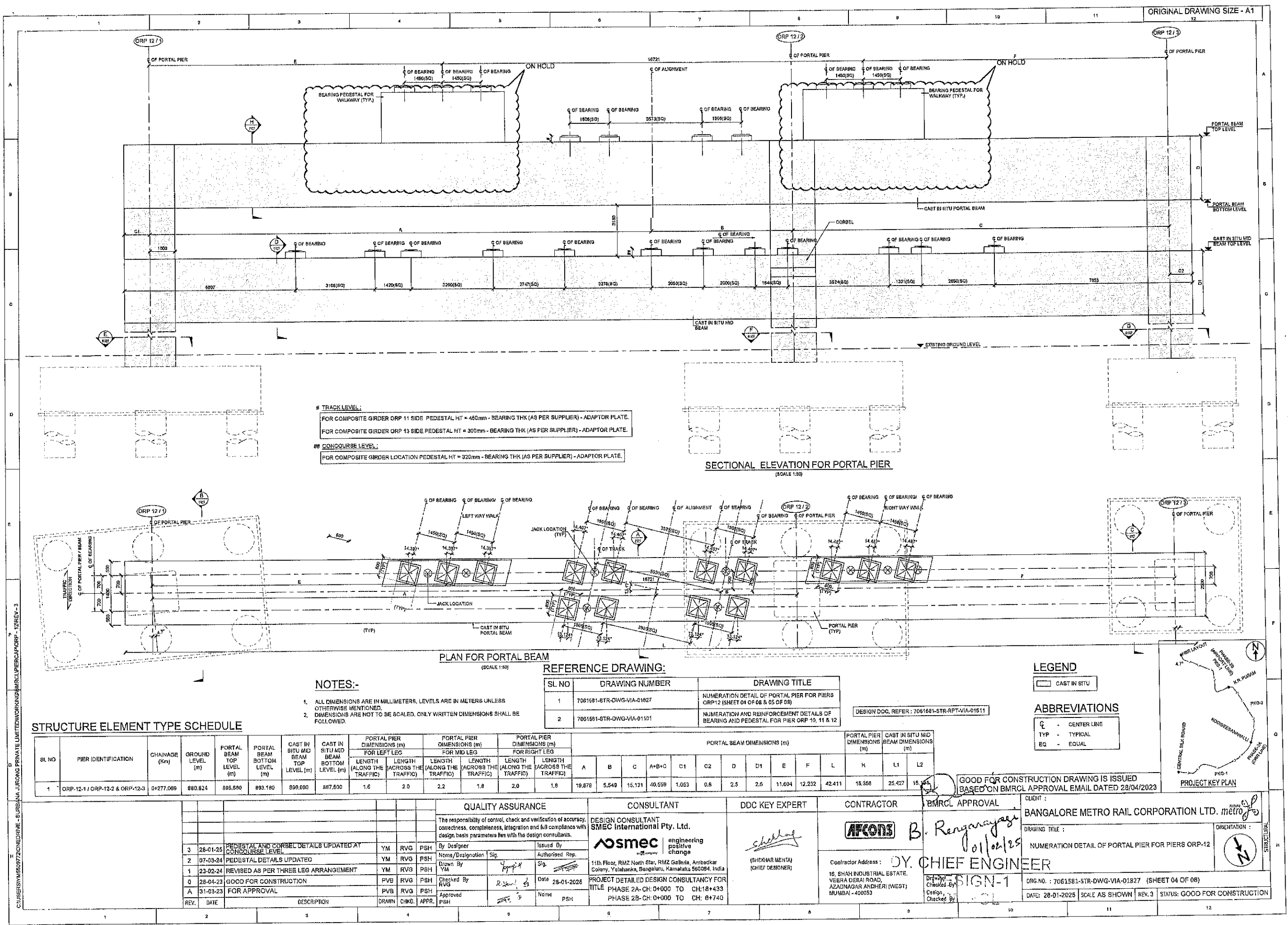
SL NO	DRAWING NUMBER	DRAWING TITLE
1	7061581-STR-DWG-VIA-01823	REINFORCEMENT DETAIL OF PORTAL PIER FOR PIERS ORP11 (SHEET 06 OF 07 & 07 OF 07)
2	7061581-STR-DWG-VIA-01101	NUMERATION AND REINFORCEMENT DETAILS OF BEARING PEDESTAL FOR PIER ORP 10.11 & 12 (SHEET 01 OF 01)

GOOD FOR CONSTRUCTION DRAWING IS ISSUED  
BASED ON BMRL APPROVAL EMAIL DATED 28/04/2023



QUALITY ASSURANCE				CONSULTANT		DDC KEY EXPERT		CONTRACTOR		BMRL APPROVAL		CLIENT	
5	21-01-25	REVISED AS PER BMRL COMMENTS DATED ON 15.01.2025	YM	RVG	PSH	The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.		DESIGN CONSULTANT <b>SMEC International Pty. Ltd.</b> 11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka Bengaluru, Karnataka 560054, India		<b>AFCONS</b> Contractor Address : 16 SHAH INDUSTRIAL ESTATE, VEERA DESAI ROAD, AZADNAGAR ANDHERI (WEST), MUMBAI - 400053		BANGALORE METRO RAIL CORPORATION LTD. <b>metro</b>	
4	10-01-25	PORTAL BEAM LEVELS UPDATED AS PER CASTED LEVEL AT SITE	YM	RVG	PSH								
3	02-08-24	PEDESTAL DETAILS AND LOCATIONS ARE UPDATED	YM	RVG	PSH								
2	07-03-24	REVISED AS PER SITE CONSTRAINTS	YM	RVG	PSH	Name/Designation Sig. Issued By Authorized Rep. Sig.		Drawn By Y.M. Checked By RVG Date 21-01-2025		Project Detailed Design Consultancy For TITLE PHASE 2A-CH-0+000 TO CH-19+433 PHASE 2B-CH-0+000 TO CH-6+740		Checked By <b>CHIEF ENGINEER</b> Design Checked By <b>BMRL</b>	
1	04-10-23	PEDESTAL LOCATION ARE UPDATED	VHR	RVG	PSH								
0	28-07-23	GOOD FOR CONSTRUCTION	PVB	RVG	PSH	Checked By RVG Date 21-01-2025		Approved PSH		Name PSH		DRG.NO.: 7061581-STR-DWG-VIA-01823	
A	20-03-23	FOR APPROVAL	PVB	RVG	PSH								
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.							DATE: 21-01-2025 SCALE: AS SHOWN REV: 5 STATUS: GOOD FOR CONSTRUCTION	





# TRACK LEVEL:  
FOR COMPOSITE GIRDER ORP 11 SIDE PEDESTAL HT = 450mm - BEARING THK (AS PER SUPPLIER) - ADAPTOR PLATE.  
FOR COMPOSITE GIRDER ORP 13 SIDE PEDESTAL HT = 300mm - BEARING THK (AS PER SUPPLIER) - ADAPTOR PLATE.

## CONCOURSE LEVEL:  
FOR COMPOSITE GIRDER LOCATION PEDESTAL HT = 320mm - BEARING THK (AS PER SUPPLIER) - ADAPTOR PLATE.

SECTIONAL ELEVATION FOR PORTAL PIER  
(SCALE 1:50)

PLAN FOR PORTAL BEAM  
(SCALE 1:50)

REFERENCE DRAWING:

SL NO	DRAWING NUMBER	DRAWING TITLE
1	7061581-STR-DWG-VIA-01027	NUMERATION DETAIL OF PORTAL PIER FOR PIERS ORP12 (SHEET 04 OF 08 & 05 OF 08)
2	7061581-STR-DWG-VIA-01101	NUMERATION AND REINFORCEMENT DETAILS OF BEARING AND PEDESTAL FOR PIER ORP 10, 11 & 12

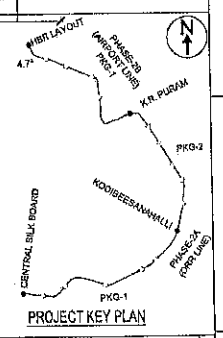
DESIGN DOC. REFER : 7061581-STR-RPT-VIA-01511

LEGEND

CAST IN SITU

ABBREVIATIONS

C - CENTER LINE  
TYP - TYPICAL  
EQ - EQUAL



STRUCTURE ELEMENT TYPE SCHEDULE

SL NO	PIER IDENTIFICATION	CHAINAGE (Km)	GROUND LEVEL (m)	PORTAL BEAM TOP LEVEL (m)	PORTAL BEAM BOTTOM LEVEL (m)	CAST IN SITU MID BEAM TOP LEVEL (m)	CAST IN SITU MID BEAM BOTTOM LEVEL (m)	PORTAL PIER DIMENSIONS (m)		PORTAL PIER DIMENSIONS (m)		PORTAL PIER DIMENSIONS (m)		PORTAL BEAM DIMENSIONS (m)												PORTAL PIER CAST IN SITU MID DIMENSIONS (m)	
								FOR LEFT LEG		FOR MID LEG		FOR RIGHT LEG		A	B	C	A+B+C	C1	C2	D	D1	E	F	L	H	L1	L2
								LENGTH (ALONG THE TRAFFIC)	LENGTH (ACROSS THE TRAFFIC)	LENGTH (ALONG THE TRAFFIC)	LENGTH (ACROSS THE TRAFFIC)	LENGTH (ALONG THE TRAFFIC)	LENGTH (ACROSS THE TRAFFIC)														
1	ORP-12-1 / ORP-12-2 & ORP-12-3	0+277.069	880.824	885.580	893.180	890.600	887.500	1.6	2.0	2.2	1.8	2.0	1.8	19.878	5.549	15.131	40.559	1.053	0.8	2.5	2.6	11.604	12.232	42.411	15.358	25.427	15.441

NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
- DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

QUALITY ASSURANCE

The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.

CONSULTANT

DESIGN CONSULTANT  
SMC International Pty. Ltd.

DDC KEY EXPERT

(SHEKHAR MENTA)  
(CHIEF DESIGNER)

CONTRACTOR

AFCONS

BMRL APPROVAL

B. Ranganayagi  
01/04/25

CLIENT

BANGALORE METRO RAIL CORPORATION LTD. metro

DRAWING TITLE :

NUMERATION DETAIL OF PORTAL PIER FOR PIERS ORP-12

ORIENTATION :

(N)

DRG NO. :

7061581-STR-DWG-VIA-01827 (SHEET 04 OF 08)

DATE :

28-01-2025

SCALE :

SCALE AS SHOWN

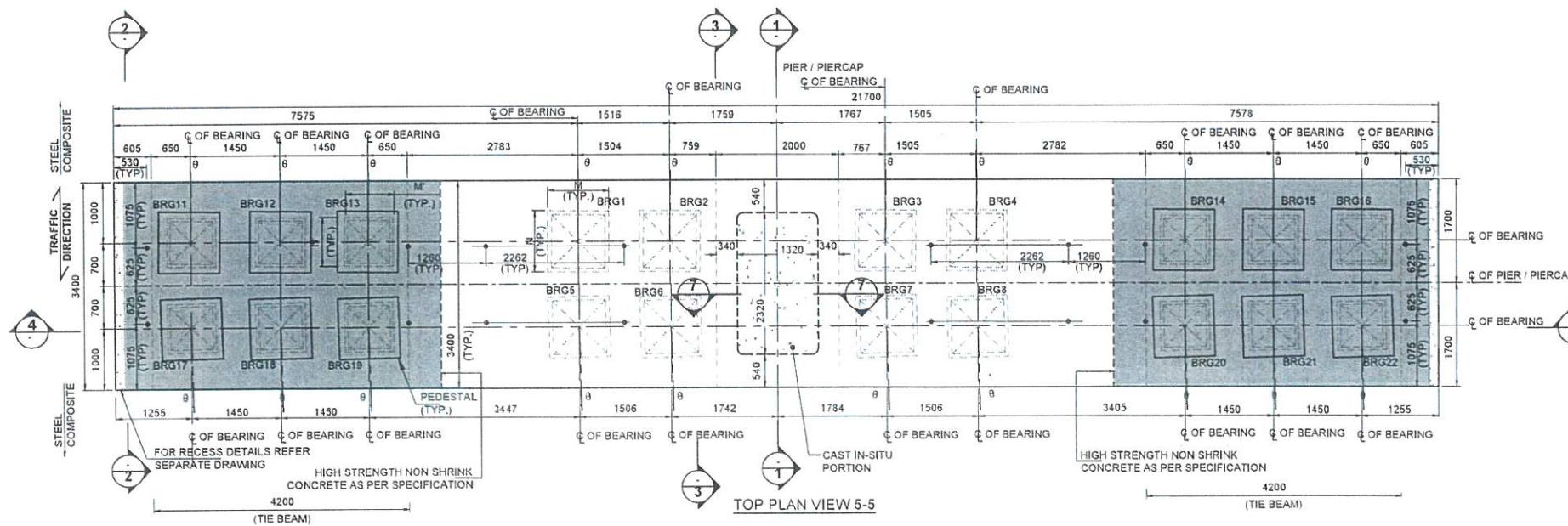
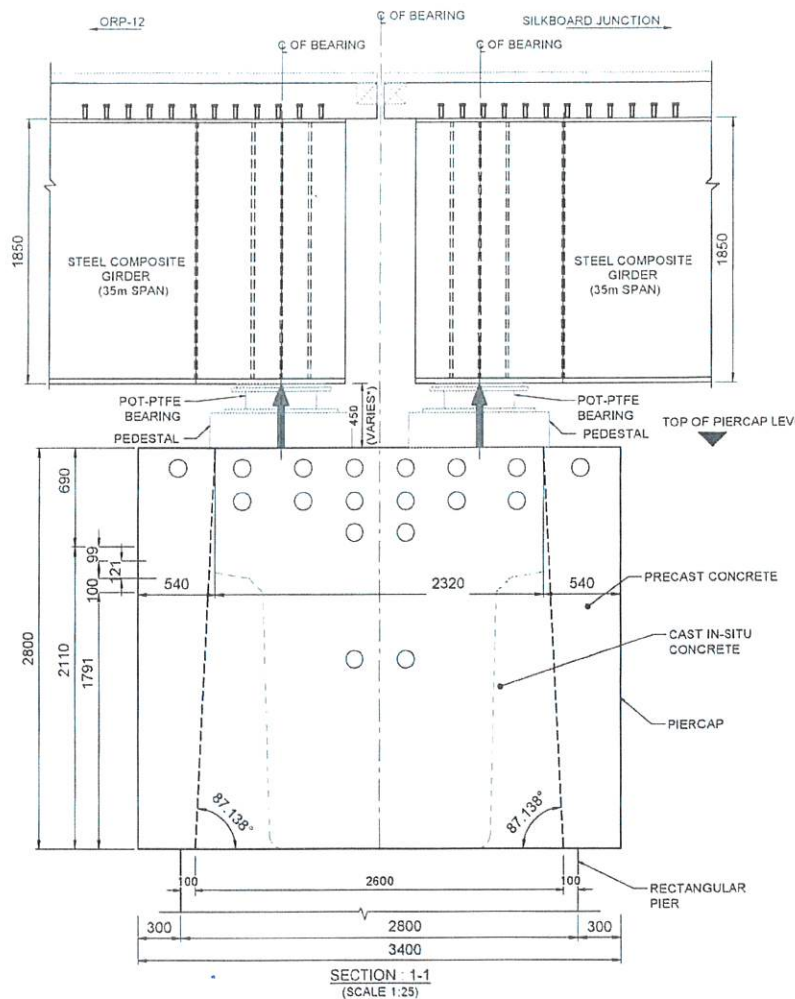
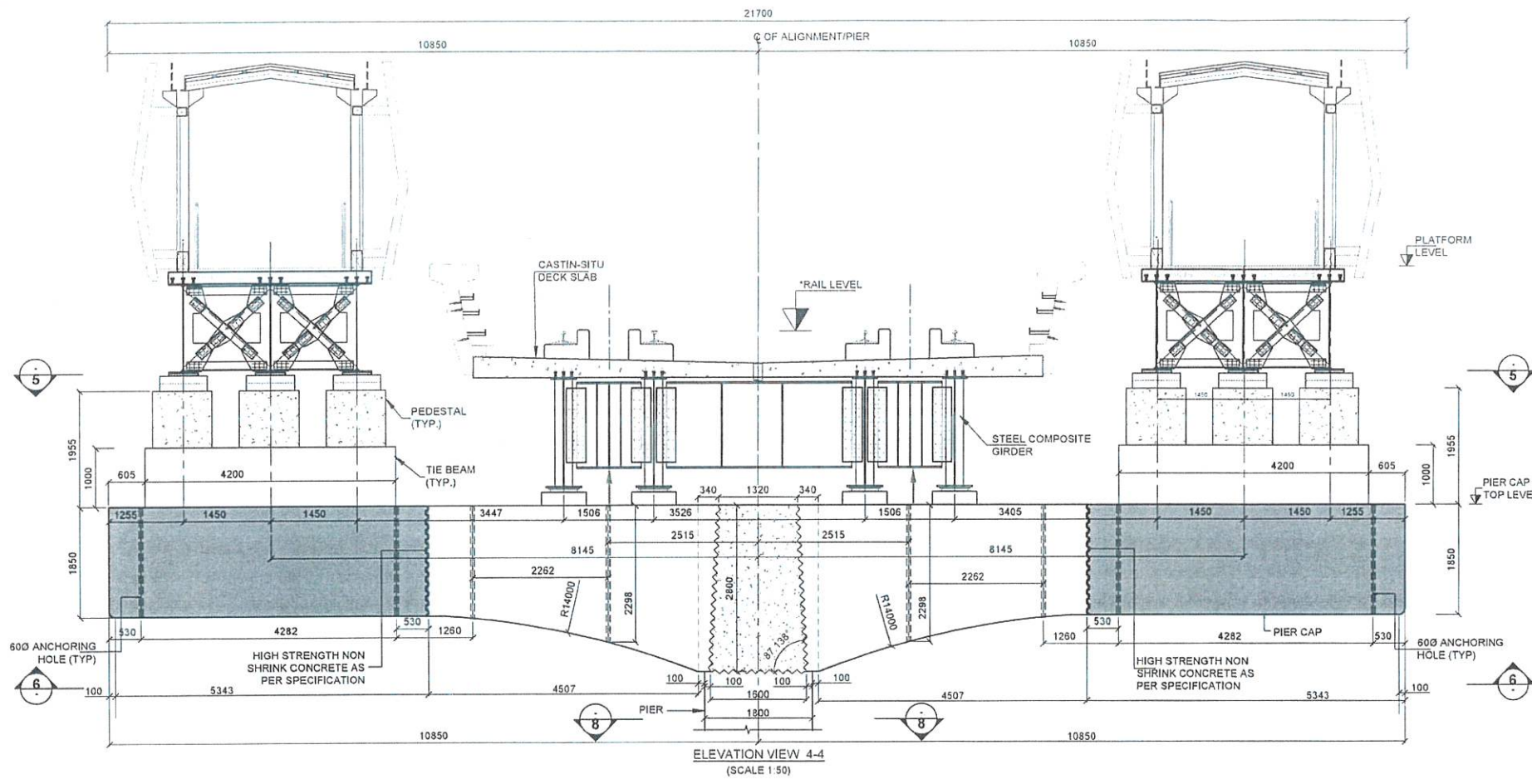
REV.3

STATUS: GOOD FOR CONSTRUCTION

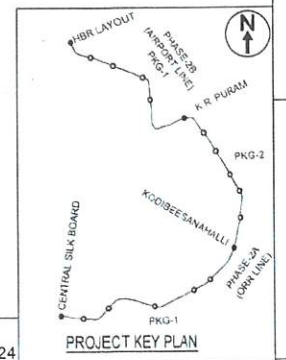
REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.
3	28-01-25	PEDESTAL AND CORBEL DETAILS UPDATED AT CONCOURSE LEVEL	YM	RVG	PSH
2	07-03-24	PEDESTAL DETAILS UPDATED	YM	RVG	PSH
1	23-02-24	REVISED AS PER THREE LEG ARRANGEMENT	YM	RVG	PSH
0	28-04-23	GOOD FOR CONSTRUCTION	PVB	RVG	PSH
A	31-03-23	FOR APPROVAL	PVB	RVG	PSH

C:\Users\5507720\OneDrive - SURBAN JIRANG PRIVATE LIMITED\WORKING\BMRCL\PIERCES\ORP-12\REV-3





SPAN	BEARING No S	ANGLE (°)
ORP-11 TO CSB STN	BRG1	0.495°
	BRG2	0.495°
	BRG3	0.495°
	BRG4	0.495°
ORP-10 TO ORP-11	BRG5	1.488°
	BRG6	1.488°
	BRG7	1.488°
	BRG8	1.488°
ORP-11 TO CSB STN	BRG11	0.495°
	BRG12	0.495°
	BRG13	0.495°
	BRG14	0.495°
ORP-10 TO ORP-11	BRG15	0.495°
	BRG16	0.495°
	BRG17	1.488°
	BRG18	1.488°
	BRG19	1.488°
	BRG20	1.488°
	BRG21	1.488°
	BRG22	1.488°



NOTED:  
1. ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.  
2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.  
3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.

- LEGEND -
- E.G.L - EXISTING GROUND LEVEL
  - TYP. - TYPICAL
  - L.D. - DEVELOPMENT LENGTH
  - REINF. - REINFORCEMENT
  - PCC - PLAIN CEMENT CONCRETE
  - RCC - REINFORCED CEMENT CONCRETE
  - THK. - THICKNESS
  - C - CENTRE LINE
  - ALT - ALTERNATE
  - N.T.S - NOT TO SCALE

REV.	DATE	DESCRIPTION	DRAWN	CHKD.	APPR.
1	21-05-25	REVISED AS PER BMRL MAIL Dt: 28-04-25	RAO	PNS	PSH
0	25-09-24	GOOD FOR CONSTRUCTION	PTG	PNS	PSH
C	02-09-24	PIER ARM PROFILE UPDATED.	RAO	PNS	PSH
B	20-06-24	CONSTRUCTION JOINT & LIFTING HOLE LOCATION ADDED.	RAO	PNS	PSH
A	12-06-24	FOR APPROVAL	PTG	PNS	PSH

QUALITY ASSURANCE			
The responsibility of control, check and verification of accuracy, correctness, completeness, integration and full compliance with design basis parameters lies with the design consultants.			
By Designer		Issued By	
Name/Designation	Sig.	Authorised Rep.	
Drawn By RAO		Sig. 	
Checked By PNS		Date 21-05-2025	
Approved PSH		Name PSH	

CONSULTANT

DESIGN CONSULTANT  
**SMEC International Pty. Ltd.**

**smec** engineering positive change

11th Floor, RMZ North Star, RMZ Galleria, Ambedkar Colony, Yelahanka, Bengaluru, Karnataka 560084, India

PROJECT DETAILED DESIGN CONSULTANCY FOR  
TITLE PHASE 2A-CH 0+000 TO CH 18+433  
PHASE 2B-CH 0+000 TO CH 6+740

DDC KEY EXPERT

**Shekhar Mehta**  
(SHEKHAR MEHTA)  
(CHIEF DESIGNER)

CONTRACTOR

**AFCONS**

Contractor Address  
16, SHAH INDUSTRIAL ESTATE,  
VEERA DESAI ROAD,  
AZADNAGAR ANDHERI (WEST)  
MUMBAI - 400053

BMRL APPROVAL

**B. Ranganatha**  
CHIEF ENGINEER  
DESIGN-1

CLIENT : BANGALORE METRO RAIL CORPORATION LTD. metro

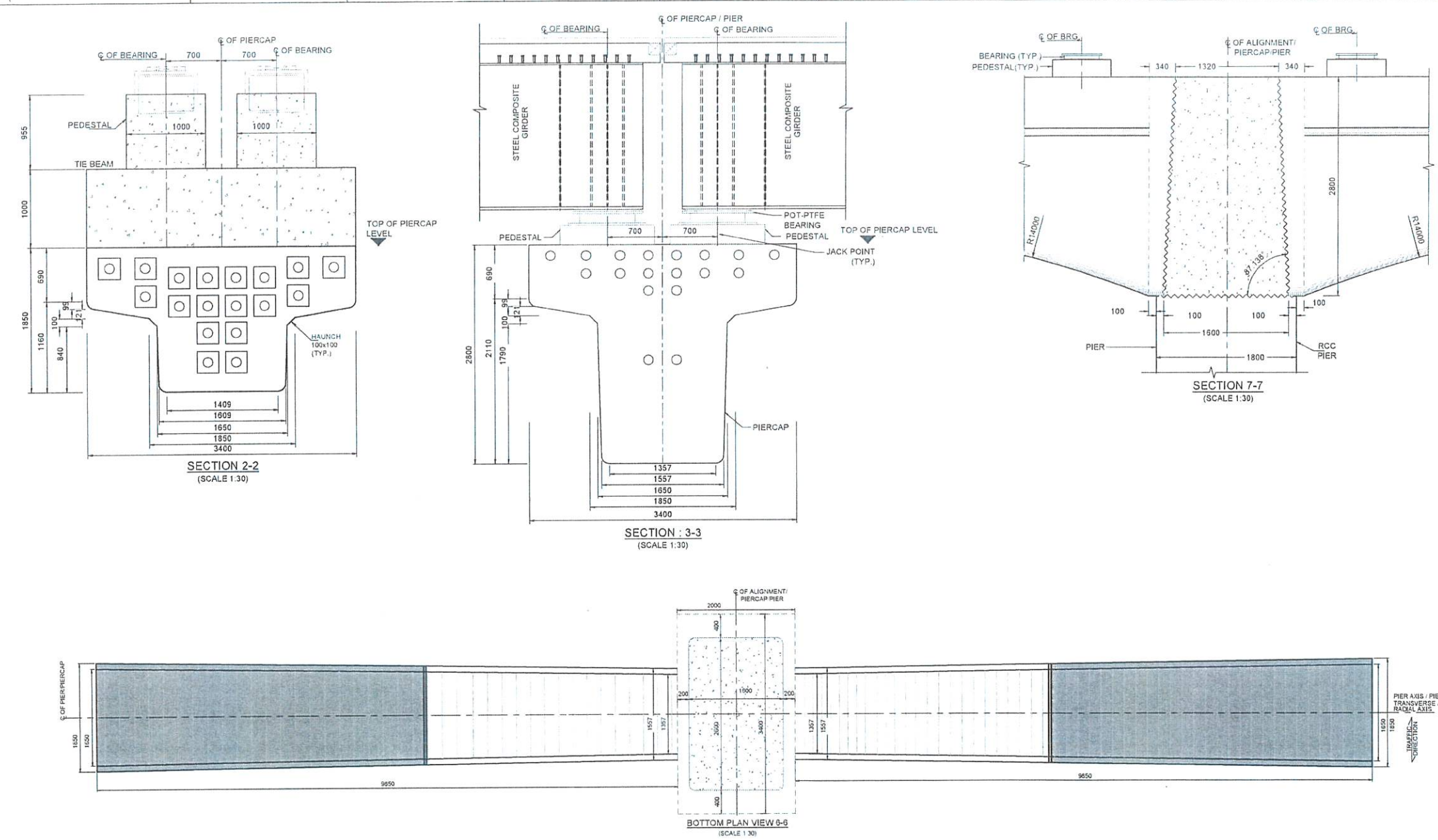
DRAWING TITLE : BMRL STATION & VIADUCT (ORR LINE, PKG-1) ORIENTATION :

NUMERATION DETAILS OF PSC CONCENTRIC PIER CAP FOR STEEL COMPOSITE I-GIRDER ON BOTH SIDES (RECTANGULAR PIER WITH CURVED SPAN ORP-13)

DRG.NO. : 7061581-STR-DWG-VIA-07260 (SHEET 1 OF 2)  
DATE: 21-05-2025 SCALE AS SHOWN REV. 1 STATUS: GOOD FOR CONSTRUCTION



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS. LEVELS ARE IN METERS UNLESS OTHERWISE MENTIONED.
  2. DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  3. ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF CONSULTANT BEFORE EXECUTION OF THE WORK AT SITE.
  4. CONCRETE SHALL BE DESIGN MIX AND HAVE MINIMUM 28 DAYS CHARACTERISTIC STRENGTH OF 50 MPA ON 150mm CUBES.
  5. LIFTING HOLES LOCATION & NUMBERS MAY BE CHANGED BUT SHOULD BE APPROVED BY THE DDC.
  6. LIFTING HOLES SHOULD BE GROUTED AFTER LIFTING OPERATION IS COMPLETED.
  7. PIER CAP SHOULD BE PLACED IN SUCH A WAY THAT AXIS OF PIER CAP ARE RADIAL & TANGENTIAL TO THE CENTER LINE OF ALIGNMENT.
  8. MINIMUM JACK CAPACITY 80t.
  9. THE LOCATION OF JACKS FOR LIFTING UP THE SUPERSTRUCTURE TO REPLACE BEARINGS IS SHOWN. THESE SHOULD BE DISTINCTLY ETCHED ON THE PIER CAP.
  10. THE CONCRETE SURFACE INDICATED IN DRAWING SHALL BE ROUGHENED AS SPECIFIED IN BS. 5400-4:1999, SECTION 7.4.2.3 AND SHALL BE PREPARED AS A "TYPE 1" SURFACE AS DEFINED IN CODE.
  11. CLEAR COVER TO THE REINFORCEMENT
  12. GRADE OF CONCRETE FOR
  13. REINFORCEMENT SHALL BE TMT BAR OF GRADE Fe500D CONFIRMING TO IS:1786.
  14. MINIMUM LAP LENGTH SHALL BE Ld WHERE Ld SHALL BE PROVIDED AS 47x DIA OF BAR. Ld FOR BARS IN BUNDLE SHALL BE PROVIDED AS 72 x DIA OF BAR.
  15. LAPS SHALL BE SUITABLY STAGGERED AND MINIMUM C/C DISTANCE BETWEEN ADJACENT LAPS SHALL BE 1.3 TIMES LAP LENGTH, NOT MORE THAN 50% OF BARS SHALL BE LAPPED AT GIVEN LOCATION.
  16. EARTHING ARRANGEMENT SHALL BE AS PER TENDER CONDITIONS.
  17. ALL LEVELS TO BE APPROVED AT SITE BY ENGINEER INCHARGE BEFORE START OF CONSTRUCTION.
  18. LAPPING & WELDING/MECHANICAL COUPLERS ARE AS PER CONTRACT CONDITIONS.
  19. THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT EXCEED 20mm.
  20. SUITABLE STIFFENER RINGS SHALL BE PROVIDED FOR PROVIDING RIGIDITY TO THE REINFORCEMENT CAGE WHEREVER REQUIRED.
  21. BENDING OF REINFORCEMENT SHALL CONFIRM TO IS:2502 (LATEST).
  22. IF ROUTINE LOAD TEST IS TO BE DONE THEN IT SHOULD BE DONE FOR 1.5 TIMES THE DESIGN LOAD AS PER IRC-78:2014.
  23. ANY DEVIATION OBSERVED IN STRATA SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER-IN-CHARGE.
  24. COUPLERS TO BE USED AS PER CONTRACT SPECIFICATION.
  25. THE ARRANGEMENT OF COUPLER SHALL BE AS PER CL No. 7.1.4.5 of IRS CBC
  26. PIER CAP TO BE CAST ONLY AFTER APPROVAL OF LEVELS AND COORDINATES BY COMPETENT AUTHORITY.
  27. REINFORCEMENT SHOWN IN SECTIONS IS FOR REPRESENTATION PURPOSE. THUS REINFORCEMENT SHOWN IN TABLE SHALL BE FOLLOWED.
  28. SHRINKAGE REDUCING CONCRETE ADMIXTURE PROMOTING EXPANSION OF CONCRETE AT ABOUT THE SAME VOLUME THAT NORMAL DRYING SHRINKAGE IS CONTRACTING IT, SHALL BE USED FROM FOSROC, SIKKA OR EQUIVALENT.
  29. THE PIER CAPS SHALL BE SUPPORTED AT THE THE LIFTING LOCATIONS AT THE CASTING YARD AND AFTER ERECTION.
  30. THE RECTANGULAR HOLLOW PORTION SHALL BE SUPPORTED ON ALL FOUR SIDES WHEN RESTING OVER THE PIER.
  31. PIER CAP SHALL BE SUITABLY SUPPORTED DURING TRANSPORTATION.
  32. THE DESIGN AND METHOD OF SUPPORTING AT YARD, DURING TRANSPORT AND FOR ERECTION SHALL BE GOT APPROVED BY THE ENGINEER INCHARGE.



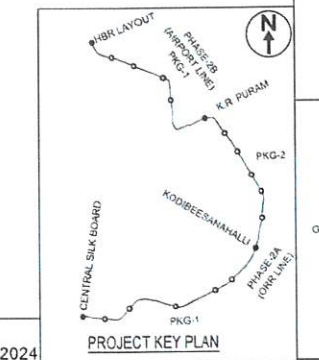
- REFERENCE DRAWINGS
1. FOR GENERAL NOTES REFER DRAWING NO. 7061581-STR-DWG-VIA-01000-0
  2. FOR PIER SETTING LAYOUT REFER DRAWING NO. 7061581-STR-DWG-01001\_0
  3. FOR PROTECTION WALL REFER DRAWING NO. 7061581-STR-DWG-00410
  4. FOR EARTHING ARRANGEMENT DRAWING REFER DRAWING NO. EPDD4-312-0001-TD00
  5. FOR PLAN AND PROFILE GAD REFER 7061581-STR-DWG-VIA-01006-A
  6. FOR PRESTRESSING DETAILS REFER DRAWING NO. 7061581-STR-DWG-VIA-7261(SH 1 TO 3)
  7. FOR PIERCAP REINFORCEMENT DETAILS REFER DRAWING NO. 7061581-STR-DWG-VIA-7262 (SHEET 1 TO 8).
  8. FOR BEARING LAYOUT REFER SEPARATE DRAWING

SL NO.	SPAN (m)				CURVE (m)		STUB COLUMN HEIGHT (mm)	PIERCAP DIMENSION (mm)				
	PIER	LEFT	RIGHT	SPAN TYPE LEFT	SPAN TYPE RIGHT	LEFT	RIGHT	L	M	N	M'	N'
1	ORP13	34	33.17	STEEL COMPOSITE I-GIRDER	STEEL COMPOSITE I-GIRDER	700	TRANSITION	1355	1000	1000	800	800

LEGEND:-

1. PRE CAST

2. CAST IN-SITU



LEGEND-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</
---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----



