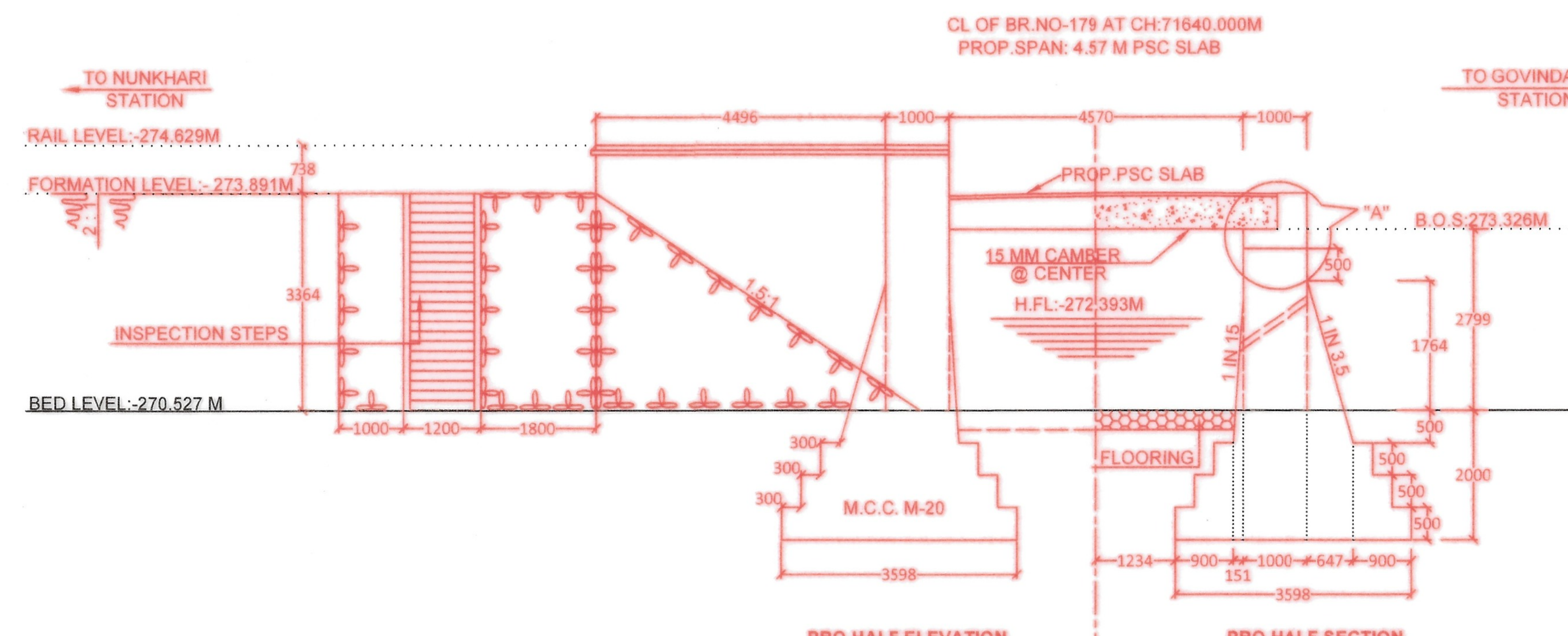
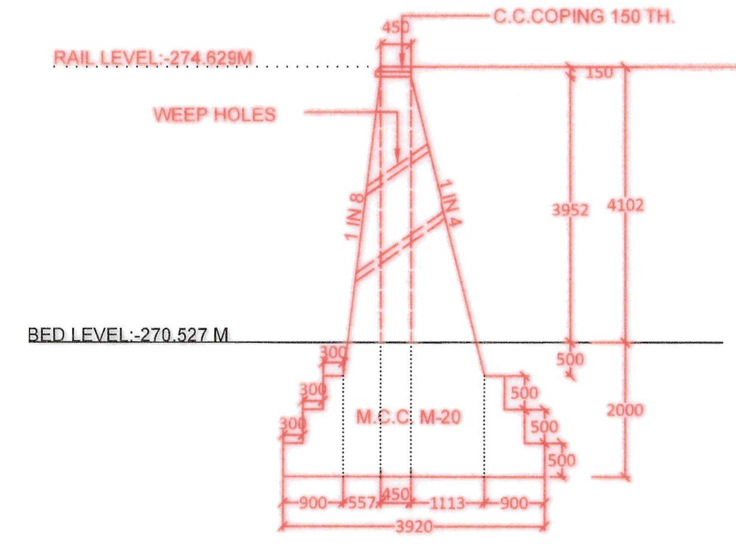


PRO.HALF ELEVATION

PRO.HALF SECTION

(SCALE 1:100)

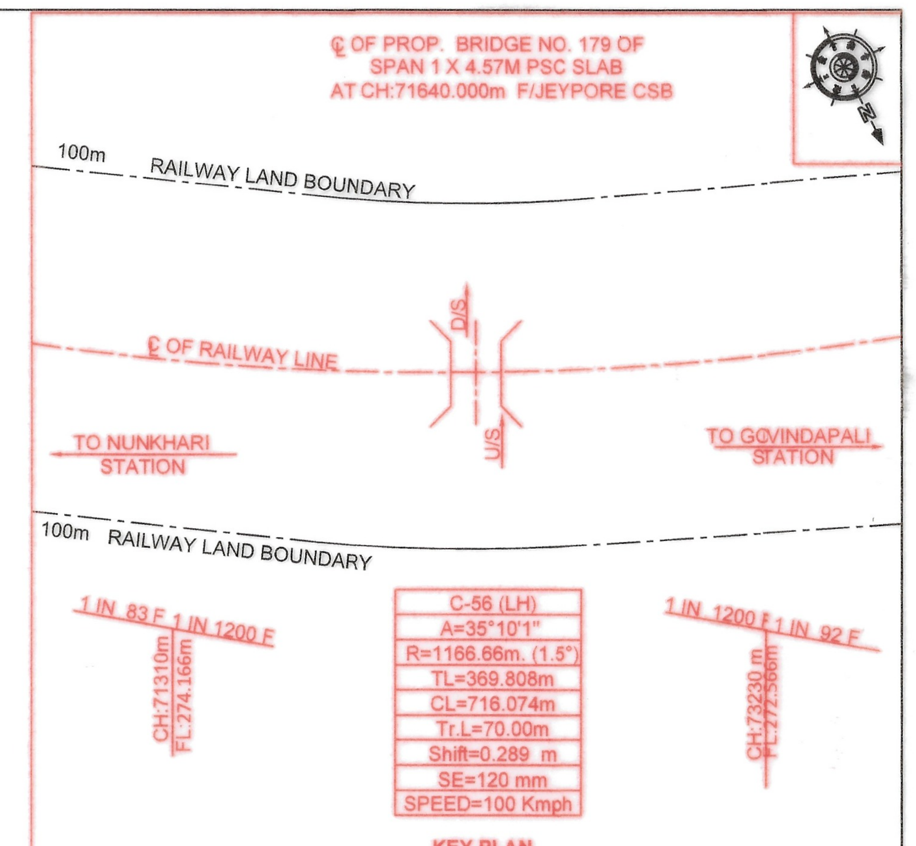


PRO.RETURN WALL SECTION

(SCALE 1:100)

NOTE:

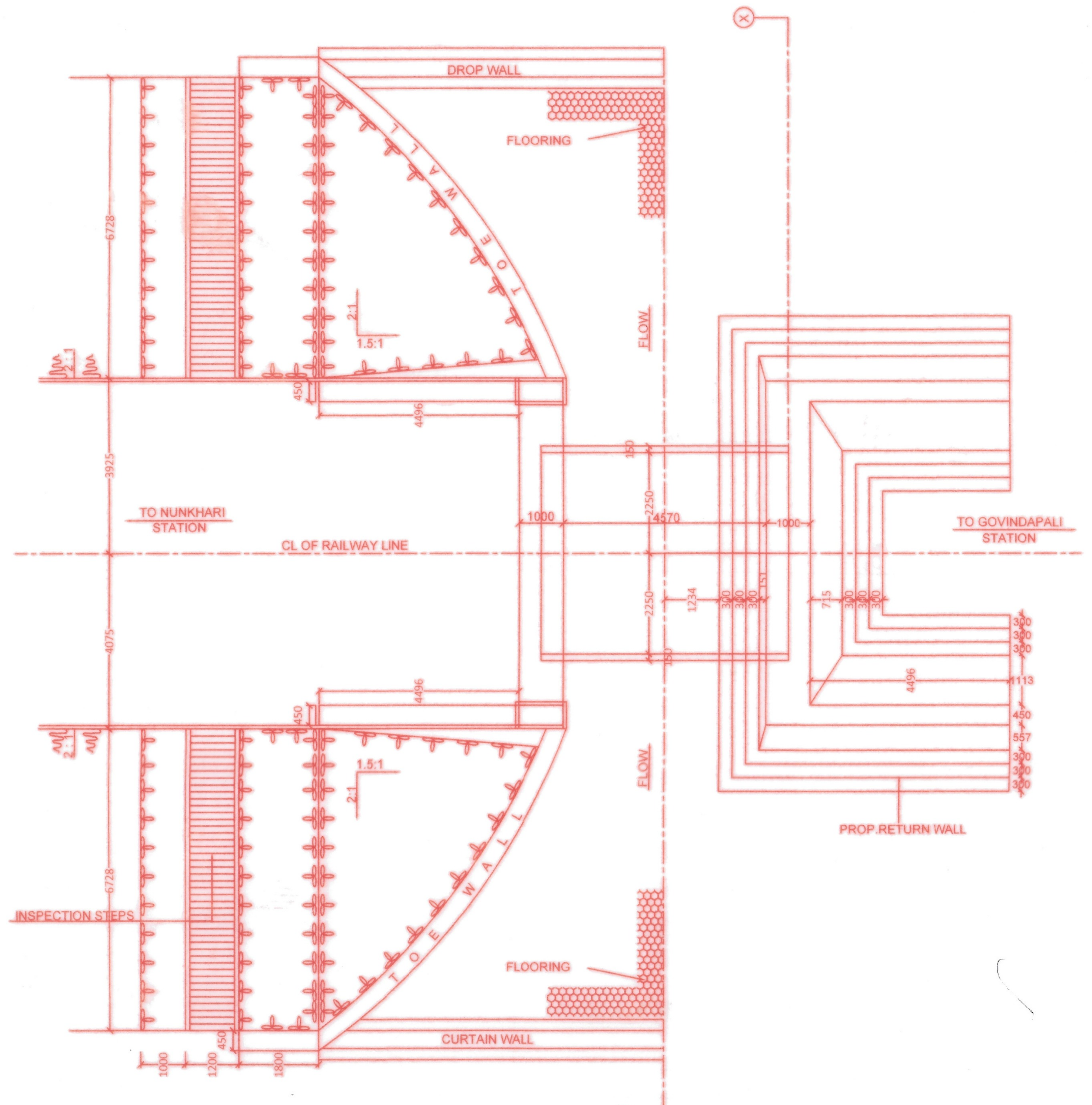
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED AND REDUCED LEVELS ARE SHOWN IN METERS.
2. FORMATION LEVEL SHOWN IN THE DRAWING IS AS PER LONGITUDINAL SECTION.
3. THE GRADE OF CONCRETE FOR VARIOUS RCC/MASS CONCRETE WORK SHALL BE IN ACCORDANCE WITH IRS CONCRETE BRIDGE CODE 2014.
4. IN CASE READY MIX CONCRETE IS TO BE USED THE MIX SHALL BE IN CONFORMITY WITH SPECIFICATIONS LAID DOWN IN CONCRETE BRIDGE CODE FOR OTHER ASPECTS WHICH ARE NOT COVERED BY CBC , IS-4926 SHALL BE ADHERED TO.
5. WEEP HOLES OF 75/100 Ø PVC/AC PIPES ARE TO BE PROVIDED AT 1000mm C/C BOTH VERTICALLY & HORIZONTALLY IN STAGGER IN ABUTMENTS.
6. BACK FILL AND FILTER MEDIA SHALL BE GRANULAR AS PER CLAUSE 7.5 OF IRS BRIDGE SUB-STRUCTURE & FOUNDATION CODE.
7. ALL RCC SURFACES COMING IN CONTACT WITH SOIL SHOULD BE PAINTED WITH BITUMEN OR COAL TAR OF APPROVED QUALITY @1.464 kg/m2.
8. THE DRAWING SHALL NOT BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
9. DEPTH OF FOUNDATION SHOWN IN THE DRAWING IS TENTATIVE. THE ACTUAL DEPTH OF FOUNDATION SHOULD BE DECIDED BY THE ENGINNER-IN CHARGE DURING HIS PERSONAL INSEPCTION OF EXCAVATION AND SCOUR DEPTH CONSIDERATION.
10. PROPOSED WORKS SHOWN IN RED.
11. PROPOSED BRIDGE IS DESIGNED FOR 25t LOADING 2008 STANDARD.
12. NO CONSTRUCTION JOINT SHALL NORMALLY BE ALLOWED IN CONCRETE WORKS WITHOUT SPECIAL PRECAUTIONS AS PER RELEVANT BRIDGE CODE.
13. SKIN REINFORCEMENT MIN.8mm Ø TMT @200mm C/C BOTH WAY SHALL BE PROVIDED ON ALL EXPOSED SURFACES OF ABUTMENT/PIER.
14. PROPER OUTLET ON D/S SIDE FOR DRAINAGE OF DISCHARGE TO BE ENSURED.
15. IT SHOULD BE ENSURED THAT THE PROPOSED BRIDGE IS CAST FLUSH WITH THE FACE OF THE WALL OF THE EXISTING BRIDGE.
16. GUARD RAILS ARE TO BE PROVIDED FOR THE TRACK TO THE ENTIRE LENGTH OVER THE BRIDGE.
17. ALL DIMENSIONS AND LEVELS SHOULD BE VERIFIED AND RECONCILED BEFORE EXECUTION.
18. ANGLE OF REPOSE OF BACK FILL SHALL NOT LESS THAN 35°
19. CEMENT CONCRETE SHOULD BE BONDED WITH OLD MASONRY BY PROVIDING 20Ø DOWEL BARS AT 450C/C BOTH HORIZONTALLY AND VERTICALLY.
20. RCC AND PCC WORKS SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION LAID DOWN IN IRS CONCRETE BRIDGE CODE.
21. ALL CONCRETE WORKS SHALL BE MECHANICALLY MIXED AND VIBRATED.
22. CURING SHALL BE DONE AS PER IRS CONCRETE BRIDGE CODE.
23. MIX DESIGN SHALL BE APPROVED BY ENGINEER-IN-CHARGE.
24. THE FILLING BELOW THE LEVELING COURSE MAY BE PROVIDED WITH CLEAR RIVER SAND OR MACHINE CRUSHED MATERIAL DUST AS APPROVED BY ENGINEER-IN-CHARGE.
25. PROPER ANCHORAGE OF REINFORCEMENT SHALL BE PROVIDED WITH BETWEEN BED BLOCK & PIER BASED ON ERECTION SCHEME/SEQUENCE OF CONSTRUCTION (IF ANY).
26. THE OVERALL LENGTH OF THE PSC SLAB SHOULD BE SAME FOR ALL THE SPANS AS PER RDSO DRG.(IF ANY)
27. THE C.G OF PSC SLAB SHOULD BE IN LINE WITH C.G OF ABUTMENT.
28. THE PITCHING SHALL BE PROVIDED FOR A LENGTH AS DECIDED BY ENGINEER-IN-CHARGE AT SITE ON BOTH UP&DN STREAM SIDED OF THE BRIDGE LOCATION TO H.F.L+1m.
29. THE AGGREGATE SHALL COMPLY WITH REQUIREMENTS OF IS 383.
30. ALL REINFORCED BARS FOR RCC SHALL BE FOR STEEL/TMT/CONFORMING TO IS 1786.
31. FLOOR PROTECTION WORKS TO BE CARRIED OUT AS PER INSTRUCTIONS LAID DOWN IN PARA NO.818 OF IRBM.
32. SAFE BEARING CAPACITY VALUE IS 14.78 t/m².
33. NECESSARY STEPS PROVIDED AS PER SITE REQUIREMENTS.
34. THIS DRAWING IS BASED ON APPROVED DETAILED PLAN AND SECTION :- CE/CON/I/SKP/JEYPORE-MALKANGIRI/8 OF 18.



KEY PLAN
(NOT TO SCALE)

SPECIFICATION:

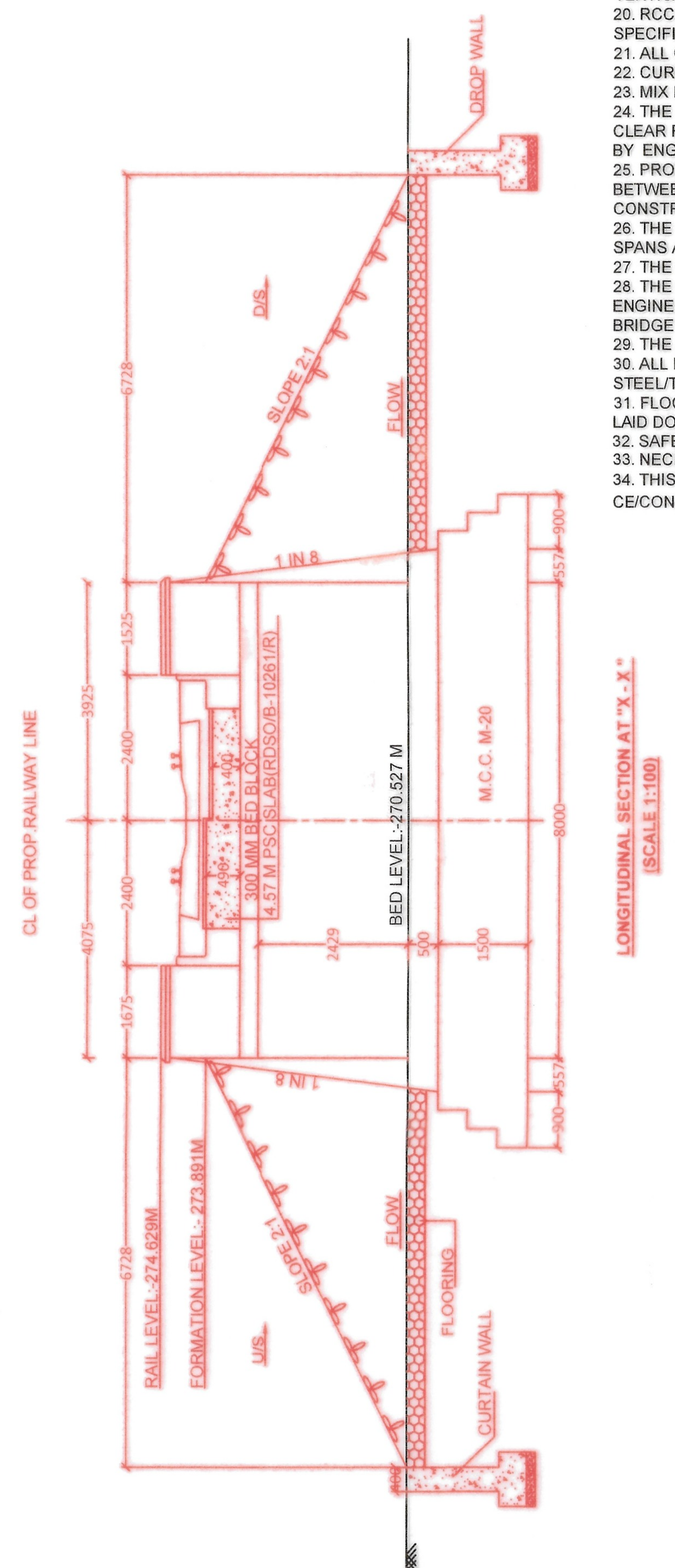
1. ALL WORKS ARE TO BE CARRIED OUT AS PER THE FOLLOWING.
   i) INDIAN RAILWAYS UNIFIED STANDARD SPECIFICATION FOR MATERIALS AND WORKS OF 2010 INCLUDING ALL CORRECTION SLIPS.
   ii) I.R.S CONCRETE BRIDGES CODE 2014(REVISED) INCLUDING LATEST A&C CORRECTION SLIPS READ IN CONJUNCTION WITH RELEVANT I.S. SPECIFICATIONS MENTIONED THERE IN.
   iii) I.R.S BRIDGE SUB STRUCTURE CODE 2013(REVISED) INCLUDING LATEST A&C SLIPS
   iv) I.R.S BRIDGE RULES INCLUDING LATEST A&C SLIPS2014.
   v) I.R BRIDGE MANUAL 1998 INCLUDING LATEST A&C SLIPS.
   vi) I.R.S CONCRETE BRIDGES CODE 2014(REVISED).
2. FOUNDATION & SUB-STRUCTURE OF ABUTMENTS, RETURN WALLS:- MASS C.C M-25 GRADE USING 40mm MAXIMUM SIZE WELL GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.
3. PSC SLAB AND BALLAST RETAINER:- CONTROLLED PSC GRADE M-45 & M-35 RESPECTIVELY. USING 20mm MAXIMUMSIZE WELL GRADED HARD STONE AGGREGATE OF APPROVEDQUALITY (AS PER RDSO DRG NO:RDSO/B-10261/R).
4. PITCHING:- HAND PACKED ROUGH STONE PITCHING 300mm THICK OVER GRAVEL BACKING AS PER ANNEXURE2/3 (PARA 205) OF IRBM. THE FACE STONE MUST BE IN GENERAL OF WEIGHT AT LEAST 35KG AND BE WELL BEDDED AND HAND SET.
5. RCC BED BLOCK:- CONTROLLED RCC GRADE M30 USING 20mm MAXIMUM SIZE WELL GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.
6. COPING & WEARING COAT:- CONTROLLED C.C M25 GRADE WITH 20mm MAXIMUM SIZE WELL GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.
7. FLOORING:- AS PER PARA NO. 403.2 AND AS SHOWN IN ANNEXURE 4/4 OF IRBM.
8. TOE WALL/DROP WALL/CURTAIN WALL:- CEMENT CONCRETE M25 GRADE WITH 40MM MAX. SIZE WELL GRADED HARD STONE AGGREGATE OF 40mm APPROVED QUALITY.
9. DIRT WALL:- RCC M30 GRADE USING 20MM MAX. GRADED STONE AGGREGATE OF APPROVED QUALITY.
10. REINFORCEMENT BAR SHALL BE OF HYSD BARS CONFORMING TO IS 1768.
11. SUITABLE JOINING ARRANGEMENT SHOULD BE ENSURED AT PRO.PSC SLAB AND EXG. WING/RETURN/FACE WALL, ABUTMENT ETC.
12. GUIDE WALL:- CEMENT CONCRETE OF M-15 GRADEWITH 40mm MAX.SIZE GRADED HARD STONE AGGREGATE OF APPROVED QUALITY.



HALF PLAN AT TOP

HALF PLAN AT BOTTOM

(SCALE 1:100)

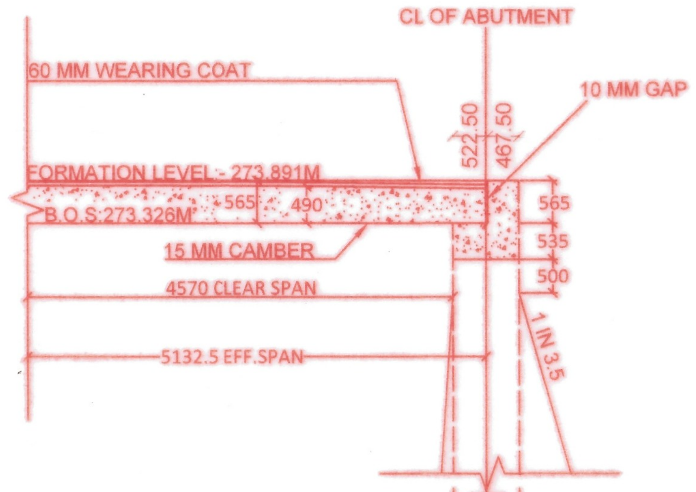


LONGITUDINAL SECTION AT "X - X"
(SCALE 1:100)

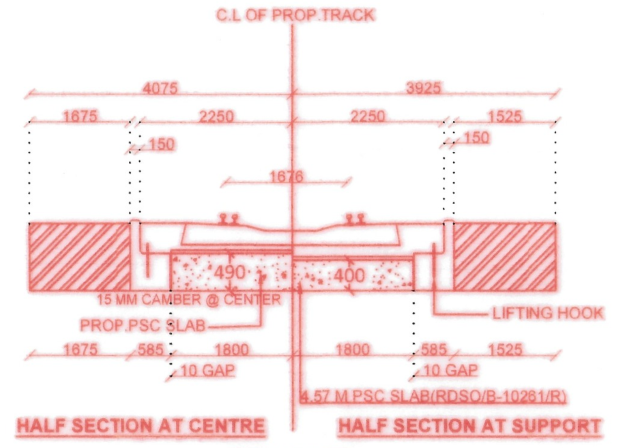
RL- 270.527

DEPTH	TYPE	BH-290	SPTN
0.00	SM		
1.00			
1.50			13
2.50			
3.00			17
4.00			
4.50			21
5.50			-
6.00			26
7.00	CL		
7.50			31

SM - POORLY GRADED MEDIUM SILTY SAND
CL-INORGANIC AND SILTY CLAY



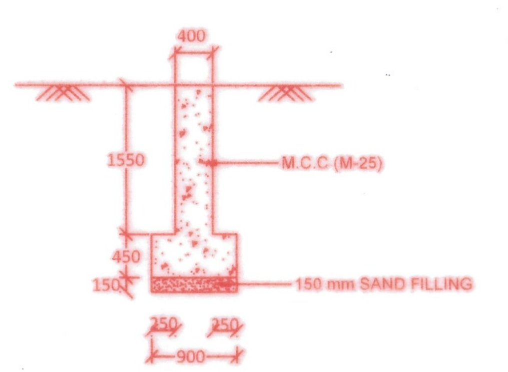
ARRANGEMENT OF PSC SLAB ON ABUTMENT AT "A"
(SCALE 1:70)



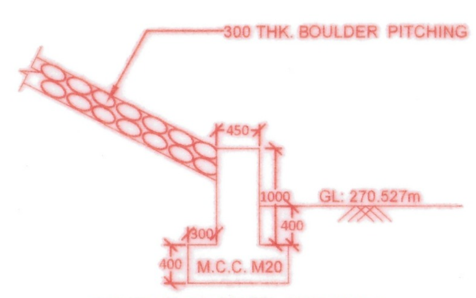
HALF SECTION AT CENTRE

HALF SECTION AT SUPPORT

(SCALE 1:70)



CROSS SECTION OF CURTAIN / DROP WALL
(SCALE 1:50)



SECTION OF PROP. TOE WALL
SCALE 1:50

DRG.NO. CE/CON/I/VSKP/JEYPORE-MALKANGIRI/NEWBG/179/2024

STANDARD OF LOADING : RAILWAY LOADING (25T-2008)

EAST COAST RAILWAY

(CONSTRUCTION)

DIVISION:	WALTAIR	
BR.NO-179	PROP.BRIDGE	1 X 4.57 M PSC SLAB
	LOCATION	CH:71640.000M

PROPOSED BRIDGE NO-179(CH:71640.000M) BETWEEN NUNKHARI-GOVINDAPALI IN WALTAIR DIVISION OF EAST COAST RAILWAY

CONSULTANTS:

M/s SATRA SERVICES AND SOLUTIONS PVT. LTD.
Corporate Office : 401, Capital Park, Image Garden Lane, Hi-Tech City, Madhapur, Hyderabad, Telangana - 500 081, India.

M/s ODRA ASSOCIATES PVT. LTD
Corporate Office : Plot No. 5841, Chakeisihani, Near Mangala Mandir, Post - Mancheswar, Mancheswar Road, Bhubaneswar, Khurda, Odisha, India - 751010
Email: odraassociates@gmail.com / info@odraassociates.com
Ph. 09439068176/0674-2952715

SHEET NO :		SHEET SIZE	650 X 600
SCALE : AS SHOWN	REVISION : R 0	ISSUE DATE :	

SAIRANJAN PANDA	RACHITA MOHANTY	SUSHANTA BARIK
PROJECT INCHARGE	CHECKED BY	DRAWN BY

☐ TENDER ☐ PRELIMINARY ☐ INFORMATION ☑ APPROVAL ☐ CONSTRUCTION

A.G.S Rao	B.B MOHARANA	SSE/DRG/CON/VSKP
CE/C-I/VSKP	Dy.CE/CON/I/KRPU	
E.Co.Railway	E.Co.Railway	E.Co.Railway

Signature Not Verified
Digitally signed by KHOWNISH CHOUDHURY
Date: 2026.06.10 11:56:51 IST
Reason: IREPS-CRIS
Location: New Delhi