



LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-CPA-EMW-DWG-001	DRAWING LIST	23.03.26	B
2	IITM-CPA-EMW-DWG-002	GENERAL NOTES	23.03.26	B
3	IITM-CPA-EMW-DWG-003	LOCATION MAP/BOREHOLE LAYOUT	23.03.26	B
4	IITM-CPA-EMW-DWG-004	OVERALL LAYOUT	23.03.26	B
5	IITM-CPA-EMW-DWG-100-01	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 1 OF 6)	23.03.26	B
6	IITM-CPA-EMW-DWG-100-02	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 2 OF 6)	23.03.26	B
7	IITM-CPA-EMW-DWG-100-03	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 3 OF 6)	23.03.26	B
8	IITM-CPA-EMW-DWG-100-04	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 4 OF 6)	23.03.26	B
9	IITM-CPA-EMW-DWG-100-05	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 5 OF 6)	23.03.26	B
10	IITM-CPA-EMW-DWG-100-06	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 6 OF 6)	23.03.26	B
11	IITM-CPA-EMW-DWG-101-01	LAYOUT AND RC DETAILS OF PILE (SHEET 1 OF 2)	23.03.26	B
12	IITM-CPA-EMW-DWG-101-02	LAYOUT AND RC DETAILS OF PILE (SHEET 2 OF 2)	23.03.26	B
13	IITM-CPA-EMW-DWG-102-01	LAYOUT AND RC DETAILS OF PILEMUFF (SHEET 1 OF 4)	23.03.26	B
14	IITM-CPA-EMW-DWG-102-02	LAYOUT AND RC DETAILS OF PILEMUFF (SHEET 2 OF 4)	23.03.26	B
15	IITM-CPA-EMW-DWG-102-03	LAYOUT AND RC DETAILS OF PILEMUFF (SHEET 3 OF 4)	23.03.26	B
16	IITM-CPA-EMW-DWG-102-04	LAYOUT AND RC DETAILS OF PILEMUFF (SHEET 4 OF 4)	23.03.26	B
17	IITM-CPA-EMW-DWG-103-01	LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 1 OF 3)	23.03.26	B
18	IITM-CPA-EMW-DWG-103-02	LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 2 OF 3)	23.03.26	B
19	IITM-CPA-EMW-DWG-103-03	LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 3 OF 3)	23.03.26	B
20	IITM-CPA-EMW-DWG-104-01	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 1 OF 6)	23.03.26	B
21	IITM-CPA-EMW-DWG-104-02	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 2 OF 6)	23.03.26	B
22	IITM-CPA-EMW-DWG-104-03	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 3 OF 6)	23.03.26	B
23	IITM-CPA-EMW-DWG-104-04	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 4 OF 6)	23.03.26	B
24	IITM-CPA-EMW-DWG-104-05	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 5 OF 6)	23.03.26	B
25	IITM-CPA-EMW-DWG-104-06	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 6 OF 6)	23.03.26	B
26	IITM-CPA-EMW-DWG-105-01	DETAILS OF SHEET PILE AND COPING BEAM (SHEET 1 OF 3)	23.03.26	B
27	IITM-CPA-EMW-DWG-105-02	DETAILS OF SHEET PILE AND COPING BEAM (SHEET 2 OF 3)	23.03.26	B
28	IITM-CPA-EMW-DWG-105-03	DETAILS OF SHEET PILE AND COPING BEAM (SHEET 3 OF 3)	23.03.26	B
29	IITM-CPA-EMW-DWG-106	LAYOUT AND SECTION DETAILS OF HANDRAIL	23.03.26	B
30	IITM-CPA-EMW-DWG-200-01	LAYOUT AND SECTIONS OF MOORING DOLPHIN (SHEET 1 OF 2)	23.03.26	B
31	IITM-CPA-EMW-DWG-200-02	LAYOUT AND SECTIONS OF MOORING DOLPHIN (SHEET 2 OF 2)	23.03.26	B
32	IITM-CPA-EMW-DWG-201-01	LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 1 OF 3)	23.03.26	B
33	IITM-CPA-EMW-DWG-201-02	LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 2 OF 3)	23.03.26	B
34	IITM-CPA-EMW-DWG-201-03	LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 3 OF 3)	23.03.26	B
35	IITM-CPA-EMW-DWG-202-01	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 1 OF 5)	23.03.26	B
36	IITM-CPA-EMW-DWG-202-02	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 2 OF 5)	23.03.26	B
37	IITM-CPA-EMW-DWG-202-03	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 3 OF 5)	23.03.26	B
38	IITM-CPA-EMW-DWG-202-04	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 4 OF 5)	23.03.26	B
39	IITM-CPA-EMW-DWG-202-05	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 5 OF 5)	23.03.26	B
40	IITM-CPA-EMW-DWG-300	LAYOUT AND SECTIONS OF APPROACH TRESTLE	23.03.26	B
41	IITM-CPA-EMW-DWG-301	LAYOUT AND RC DETAILS OF PILE	23.03.26	B
42	IITM-CPA-EMW-DWG-302	LAYOUT AND RC DETAILS OF PILEMUFF	23.03.26	B
43	IITM-CPA-EMW-DWG-303-01	LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 1 OF 3)	23.03.26	B
44	IITM-CPA-EMW-DWG-303-02	LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 2 OF 3)	23.03.26	B
45	IITM-CPA-EMW-DWG-303-03	LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 3 OF 3)	23.03.26	B
46	IITM-CPA-EMW-DWG-304-01	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 1 OF 4)	23.03.26	B
47	IITM-CPA-EMW-DWG-304-02	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 2 OF 4)	23.03.26	B
48	IITM-CPA-EMW-DWG-304-03	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 3 OF 4)	23.03.26	B
49	IITM-CPA-EMW-DWG-304-04	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 4 OF 4)	23.03.26	B
50	IITM-CPA-EMW-DWG-400	DEMOLITION LAYOUT AND SECTION	23.03.26	B

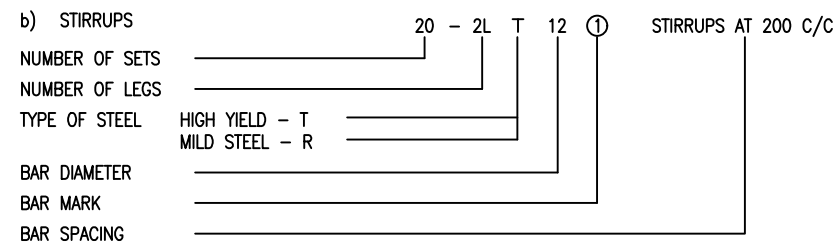
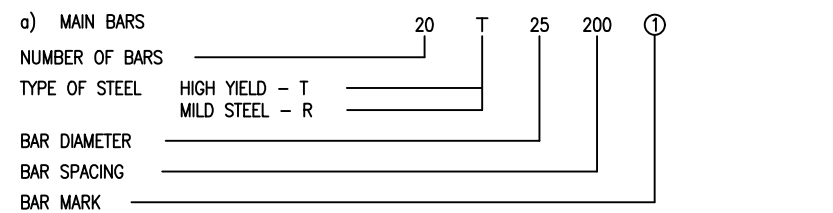
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	RN	SR
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:				
 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT:				
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE:				
DRAWING LIST				
DRAWING NO. IITM-CPA-EMW-DWG-001			DATE: 23.03.26	REV: B

GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL LEVELS ARE IN METRES RELATIVE TO CHART DATUM (EL. ±0.00m)
- ALL DIMENSIONS AND LEVELS SHALL BE CHECKED AND VERIFIED AT THE SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER INCHARGE IMMEDIATELY AND MODIFIED TO SUIT THE SITE CONDITIONS, FABRICATIONS AND INSTALLATION TOLERANCES. ALL SUCH MODIFICATIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER INCHARGE.
- ALL CONCRETE USED IN CONSTRUCTION SHALL HAVE CHARACTERISTICS AS PER TABLE BELOW

CAST IN-SITU/PRECAST ELEMENTS	CONCRETE GRADE	7 DAYS AGE (N/mm ²)	28 DAYS AGE (N/mm ²)
PILE, PILE MUFF, BEAM, SLAB	M40	27	40
SCREED	M40	27	40

- NO SHUTTERING SHALL BE REMOVED BEFORE CONCRETE ACHIEVING 7 DAYS STRENGTH.
- ALL REINFORCEMENT STEEL SHALL BE CRS HIGH STRENGTH DEFORMED TMT BARS OF Fe500D OR Fe550D CONFORMING TO IS1786 WITH MINIMUM YIELD STRENGTH OF 500MPa/550MPa AND 16% ELONGATION WITH HIGH CORROSION RESISTANCE (HCR) ELEMENT.
- MILD STEEL BARS, IF ANY SPECIFIED, SHALL HAVE A YIELD STRENGTH OF 250MPa AND SHALL BE IN ACCORDANCE WITH IS432 GRADE 1.
- REINFORCING BARS ARE REFERENCED ON THE REINFORCEMENT DETAIL DRAWING AS FOLLOWS :



- THE MINIMUM COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS OR THE DIAMETER OF THE BAR, WHICHEVER IS THE GREATER, UNLESS NOTED OTHERWISE.
- | | |
|-----------|--------|
| PILES | - 75mm |
| PILE MUFF | - 75mm |
| BEAM | - 50mm |
| DECK SLAB | - 50mm |

- THE LAP LENGTH IN REINFORCEMENT SHALL BE EQUIVALENT TO 45 x DIAMETER OF THE BAR FOR PILES AND 42 x DIAMETER OF THE BAR FOR SUPERSTRUCTURE SLABS AND BEAMS UNLESS NOTED OTHERWISE., NOT MORE THAN HALF THE BARS SHALL BE SPLICED AT A SECTION. SPLICES WHERE PROVIDED SHALL BE AS FAR AS POSSIBLE AWAY FROM SECTIONS OF MAXIMUM STRESS AND SHALL BE STAGGERED.
- FORMS SHALL BE SELECTED TO ENSURE THAT FAIR FACED AND SMOOTH CONCRETE SURFACES ARE OBTAINED FOR ALL CONCRETE WORK.
- FOR ALL BOLTS TO BE CAST INTO THE CONCRETE, THE LENGTH OF EMBEDMENT OF ANCHOR BOLTS SHALL NOT BE LESS THAN 250mm UNLESS NOTED OTHERWISE.
- ALL CONCRETE WORKS SHALL BE IN ACCORDANCE WITH IS456 (LATEST EDITION). THE CEMENT USED SHALL BE OPC GRADE-53 CONFORMING TO IS12269. THE SPECIFICATIONS FOR VARIOUS CONCRETE ELEMENTS ARE LISTED BELOW

CONCRETE ELEMENTS	CONCRETE GRADE	MINIMUM CEMENT CONTENT	MAXIMUM WATER CEMENT RATIO
PILE	M40	450 kg/m ³	0.45
INSITU & PRECAST CONCRETE WORKS	M40	450 kg/m ³	0.45
OTHER CONCRETE WORKS	M40	450 kg/m ³	0.45

- CUTTING, BENDING AND FIXING OF REINFORCEMENTS SHALL BE AS PER IS2502 & IS5525.
- WELDING OF REINFORCEMENT MS BARS SHALL BE IN ACCORDANCE WITH IS2751 AND FOR DEFORMED BAR AS PER IS9417
- GROUTING FOR BASE PLATES AND OTHER MISCELLANEOUS STRUCTURES SHALL USE NON-SHRINK GROUT OF PREMIX TYPE WITH A MINIMUM COMPRESSIVE STRENGTH OF 70 N/mm² AT THE END OF 28 DAYS.
- WHERE CAST-IN-SITU CONCRETE IS TO ACT COMPOSITELY WITH PRECAST CONCRETE, PRECAST CONCRETE SURFACES SHALL BE ROUGHENED IMMEDIATELY AFTER DESHUTTERING TO ENSURE PROPER BONDING WITH CAST-IN-SITU CONCRETE.
- FOR INSERTS, EMBEDMENTS, THE RELEVANT DRAWINGS SHALL BE REFERRED TO.
- REINFORCEMENT DETAILING SHOULD BE BASED ON IS 13920-2016 AND SP34.

NOTES ON BORED CAST-IN-SITU PILES:

- ALL BORED CAST-IN-SITU PILES SHALL BE INSTALLED AS PER CONTRACT SPECIFICATION AND IS 2911 (PART 2)
- PILE LINERS SHALL BE DRIVEN TO REFUSAL OR ATLEAST TO THE DEPTH SHOWN IN DRAWINGS AND SHALL BE OF MINIMUM THICKNESS 6MM.
- PILES SHALL BE ADEQUATELY BRACED UNTIL SEVEN DAYS AFTER CASTING OF THE SUPER STRUCTURE.
- REINFORCEMENT SHALL BE AS SHOWN IN CONSTRUCTION DRAWINGS.
- LAPPING AND SPLICING SHALL BE IN ACCORDANCE WITH IS 456-2000.
- THE MINIMUM LAP LENGTH FOR HIGH STRENGTH DEFORMED BARS SHALL BE 45 TIMES THE DIAMETER OF BAR.
- LAPPING / SPLICING OF MAIN REINFORCEMENT BARS SHALL BE AVOIDED AT THE LOCATION OF MAXIMUM STRESSES (BENDING MOMENT) AND SHALL BE AWAY FROM THE SECTIONS WHERE THE BENDING MOMENT IS MORE THAN 50% MOMENT OF RESISTANCE.
- SPLICING OF REINFORCEMENT BARS SHALL BE DONE USING PHYSICAL LAPPING AND WELDING OF BARS IS NOT ACCEPTABLE UNLESS APPROVED BY AUTHORITY ENGINEER.
- LAP SPLICING OF MAIN BARS SHALL BE STAGGERED.
- NOT MORE THAN 50% OF BARS SHALL BE SPLICED AT ANY ONE SECTION.
- THE DISTANCE BETWEEN THE STAGGERED SPLICES SHALL NOT BE LESS THAN 1.3 TIMES THAN LAP LENGTH.
- SPLICING OF BUNDLED BARS SHALL BE STAGGERED. SPLICING OF BUNDLED BARS SHALL BE MADE BY SPLICING ONE BAR AT A TIME. SUCH INDIVIDUAL SPLICES WITHIN A BUNDLE SHALL BE STAGGERED.
- CONCRETING SHALL START IMMEDIATELY AFTER THE CLEANING OF THE BOTTOM OF PILE SHAFT AND AFTER REINFORCING BARS HAS BEEN INSTALLED. IF THE CONCRETING HAS NOT STARTED AFTER FOUR HOURS OF THE COMPLETION OF THE CLEANING OF THE BOTTOM OF THE BORE HOLE, THE CLEANING SHALL BE REPEATED.
- CONCRETING OF ALL THE PILES SHALL BE CARRIED OUT USING TREMIE METHOD. NO CONSTRUCTION JOINTS ARE PERMITTED IN THE PILE SHAFT.
- CONCRETING SHALL BE CARRIED OUT FOR 600MM ABOVE THE CUT-OFF ELEVATION AS SHOWN IN THE CONSTRUCTION DRAWINGS.
- BEFORE CASTING SUPER STRUCTURE ELEMENTS, THE EXCESS CONCRETE SHALL BE CHIPPED OFF AND REMOVED TO THE CORRECT ELEVATION.
- THE MINIMUM PILE PENETRATION SHALL BE AS SHOWN IN THE CONSTRUCTION DRAWINGS.
- THE DEVIATION IN THE LOCATION OF EACH PILE HEAD SHALL NOT EXCEED 10% OF THE PILE DIAMETER OR 75MM WHICHEVER IS SMALLER. THE INCLINATION OF EACH PILE SHALL NOT EXCEED 1% OVER THE TOTAL LENGTH OF PILE. FOR OTHER NOTES PERTAINING TO REINFORCED CONCRETE PILING WORKS, THE RELEVANT PILING DRAWINGS SHALL BE REFERRED TOO.
- STRUCTURAL STEEL FOR LINER SHALL CONFORM TO IS:2062 GRADE E250 QUALITY A.

NOTES ON STEEL WORK

- STEEL MATERIAL AND PAINTING/COATING SHALL CONFIRM TO THE FOLLOWING SPECIFICATIONS:

S.NO	STEEL CLASSIFICATION	SPECIFICATION	APPLICATION	PAINTING/COATING
1.	MILD STEEL PLATES AND SHAPES	IS 2062 GRADE E250 QUALITY C.	TOE PLATES, BASE PLATES, MISCELLANEOUS STRUCTS, EDGE PROTECTION.	
2.	FOUNDATION BOLTS	IS 5624 & IS 1367 PART 3 - CLASS 8.8	ANCHOR BOLTS FOR ALL BASE PLATES	HOT DIP GALVANISED
3.	STAINLESS STEEL PIPES	ASTM A312, ASME SA312 (SS316 GRADE)	LADDERS	

- STEEL FABRICATION AND ERECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

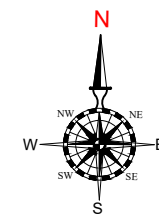
NOTES ON SHEET PILE

- MATERIAL FOR SHEET PILE SHALL CONFIRM TO AZ-52-700N OR EQUIVALENT
- SHEET PILES SHALL PAINTED WITH ANTICORROSIVE EPOXY PAINT OF MINIMUM THICKNESS OF 750 DFT (4 COATS)
- ANODE FOR SHEET PILE SHALL CONFIRM TO ALUMINIUM ANODE (GALVALUM III)

ABBREVIATIONS

ACC.	ACCORDANCE	LGTH.	LENGTH
APPROX.	APPROXIMATELY	LONGL.	LONGITUDINAL
ARCH.	ARCHITECTURAL	M	METRE
BOT.	BOTTOM	MM	MILLIMETRE
B/S	BOTH SIDES	MAX.	MAXIMUM
BLDG.	BUILDING	MIN.	MINIMUM
C/C	CENTRE TO CENTRE	NO.	NUMBER
COL.	COLUMN	NOS.	NUMBERS
C.O.G.	CENTRE OF GRAVITY	N/S	NEAR SIDE
CONC.	CONCRETE	NOM.	NOMINAL
CTR.	CENTRE	OD	OUTSIDE DIAMETER
DBLR.	DOUBLER	OPP.	OPPOSITE
DIA.	DIAMETER	PERP.	PERPENDICULAR
DIAG.	DIAGONAL	PL.	PLATE
DIM.	DIMENSION	QTY.	QUANTITY
DET.	DETAIL	R	RADIUS
DK.	DECK	REMOV.	REMOVABLE
DWG.	DRAWING	REF.	REFERENCE
EL.	ELEVATION	REV.	REVISION
EQUIPT.	EQUIPMENT	SECT.	SECTION
EXT.	EXTERNAL	SECON.	SECONDARY
EXTG.	EXISTING	SHT.	SHEET
F/S	FAR SIDE	SIM.	SIMILAR
FLR.	FLOOR	SPCS.	SPACES
FRL.	FINISHED ROAD LEVEL	S.S.	STAINLESS STEEL
GEN.	GENERAL	STD.	STANDARD
GR.	GRADE	SUPPT.	SUPPORT
HT.	HEIGHT	SYMM.	SYMMETRY
HORIZ.	HORIZONTAL	TEMP.	TEMPORARY
HR.	HANDRAIL	THK.	THICK.
ID	INSIDE DIAMETER	(TYP.)	TYPICAL
INT.	INTERNAL	U.N.O.	UNLESS NOTED OTHERWISE
L.A.T.	LOWEST ASTRONOMICAL TIDE	U/S	UNDERSIDE
LG.	LONG	VERT.	VERTICAL
		WT.	WEIGHT

B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: GENERAL NOTES				
DRAWING NO. IITM-CPA-EMW-DWG-002			DATE: 23.03.26	REV: B



PROPOSED BOREHOLE CO-ORDINATE:

LOCATION	EASTING (m)	NORTHING (m)
NBH1	638777.00 E	1101126.00 N
NBH2	638818.00 E	1101011.00 N

- NEW BOREHOLE

B	23.03.26	ISSUED FOR TENDER	DV	AG
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CONSULTANT:
PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:
COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

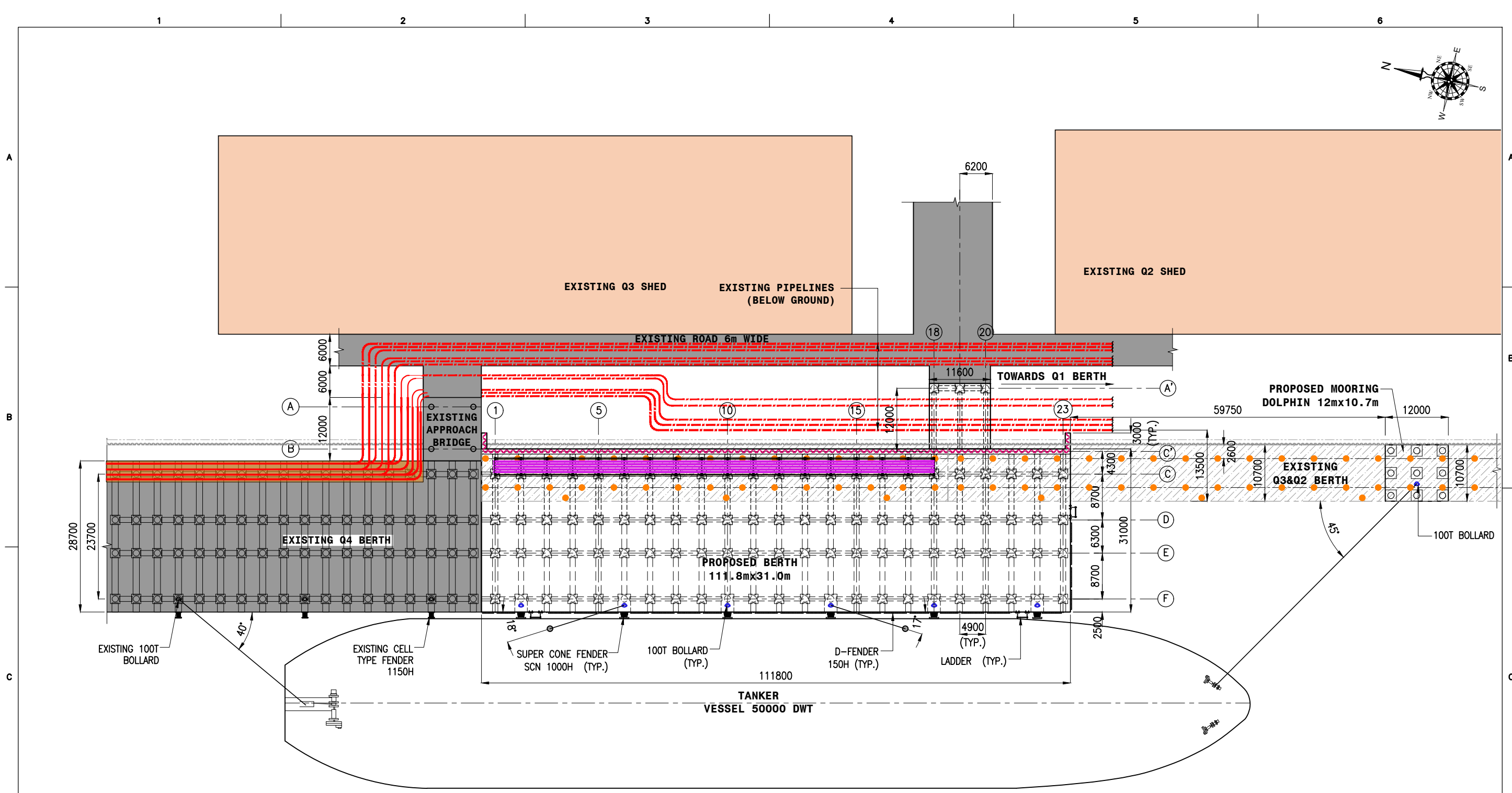
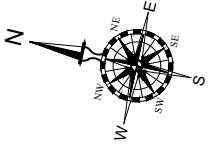
TITLE:
LOCATION MAP/BOREHOLE LAYOUT

DRAWING NO. IITM-CPA-EMW-DWG-003 DATE: 23.03.26 REV: B

LOCATION MAP/BOREHOLE LAYOUT
(SCALE 1:2)

NOTES:

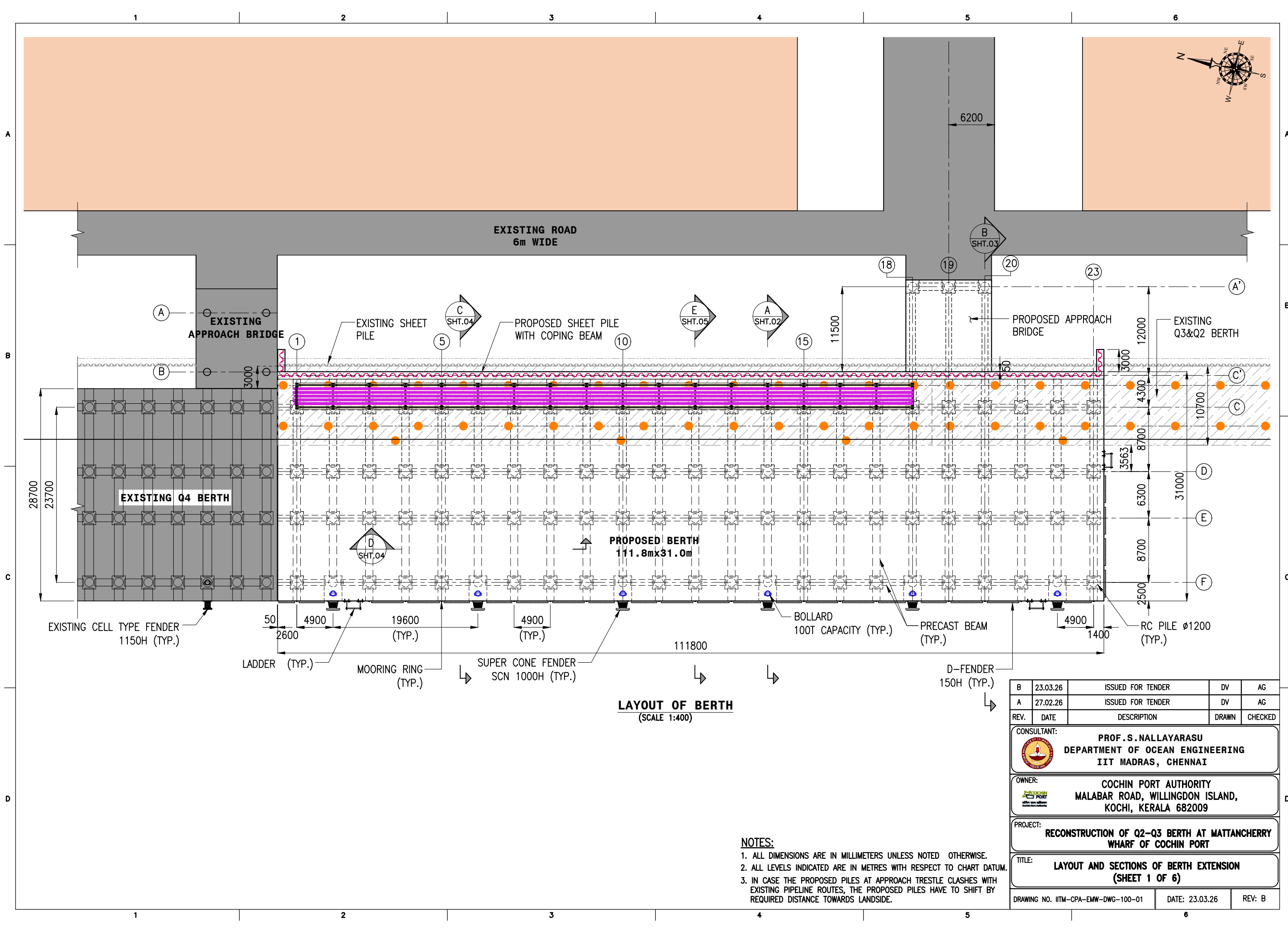
- ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.



- LEGEND :**
- PROPOSED PIPELINE LOCATION
 - EXISTING PIPERACK
 - EXISTING PILE
 - EXISTING PIPELINE (TENTATIVE)

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.
 3. IN CASE THE PROPOSED PILES AT APPROACH TRESTLE CLASHES WITH EXISTING PIPELINE ROUTES, THE PROPOSED PILES HAVE TO SHIFT BY REQUIRED DISTANCE TOWARDS LANDSIDE.



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CONSULTANT:				
PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:				
COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT:				
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE:				
OVERALL LAYOUT				
DRAWING NO. IITM-CPA-EMW-DWG-004			DATE: 23.03.26	REV: B

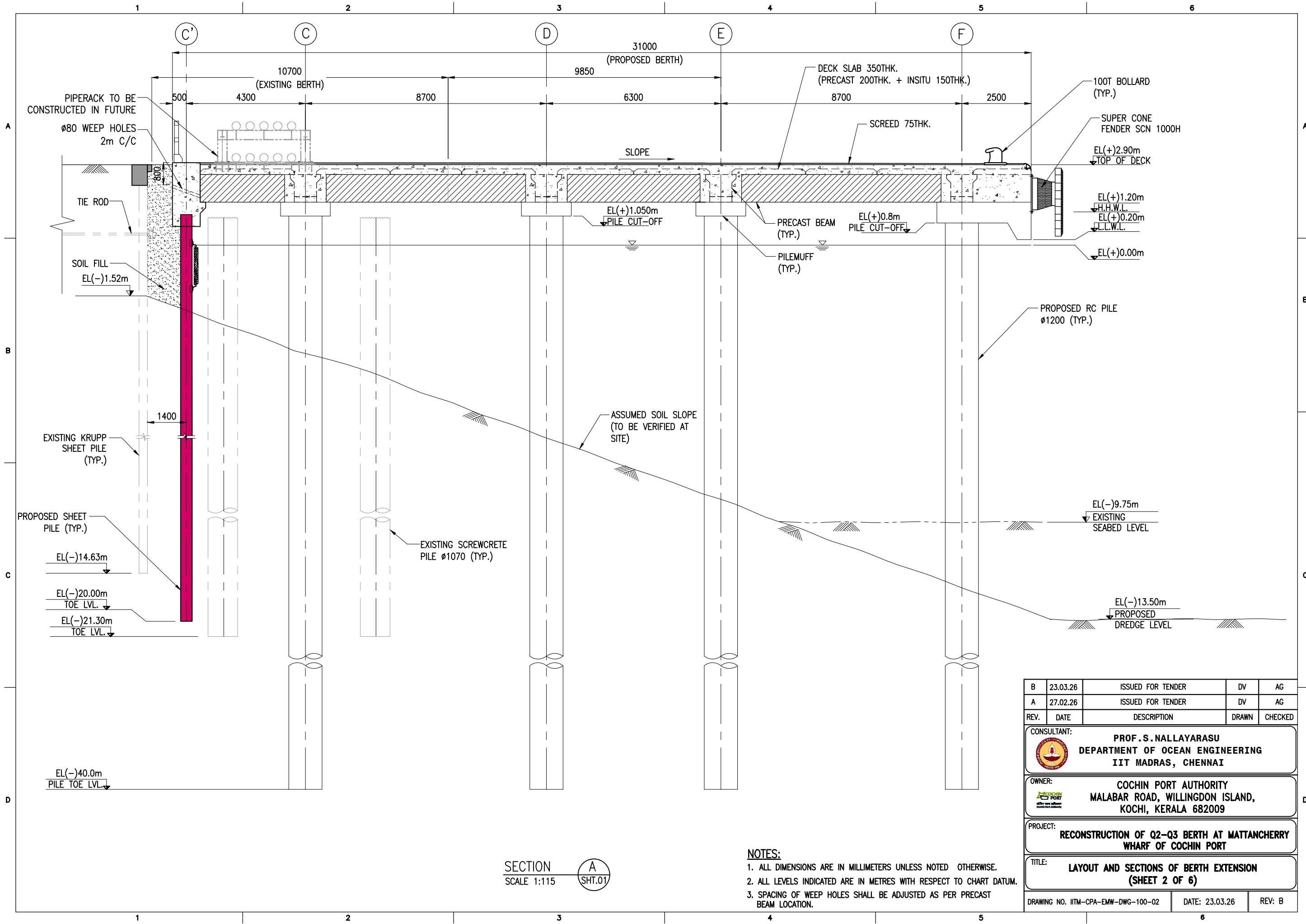


LAYOUT OF BERTH
(SCALE 1:400)

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.
 3. IN CASE THE PROPOSED PILES AT APPROACH TRESTLE CLASHES WITH EXISTING PIPELINE ROUTES, THE PROPOSED PILES HAVE TO SHIFT BY REQUIRED DISTANCE TOWARDS LANDSIDE.

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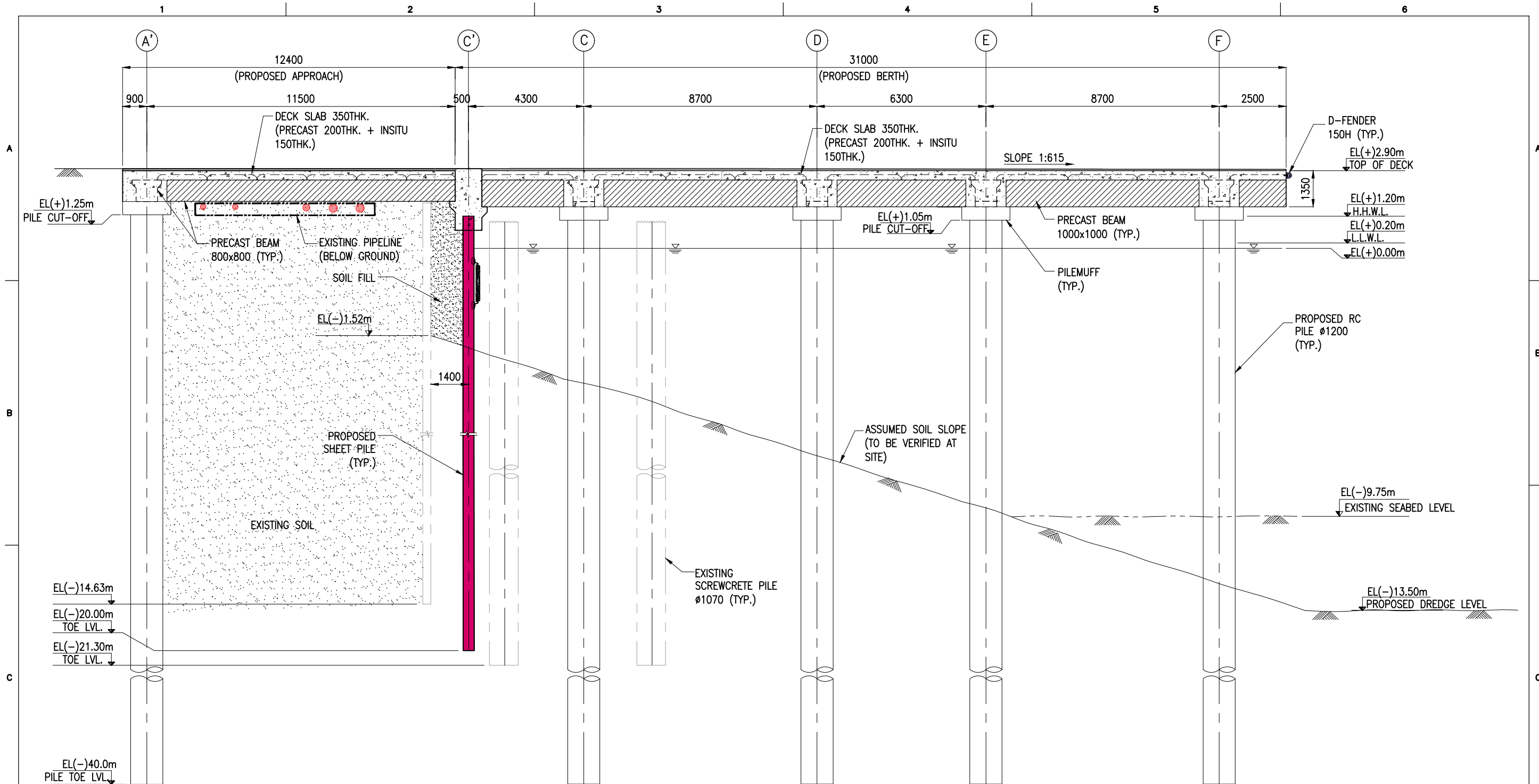
CONSULTANT:		
	PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI	
OWNER:		
	COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009	
PROJECT:		
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT		
TITLE:		
LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 1 OF 6)		
DRAWING NO. IITM-CPA-EMW-DWG-100-01	DATE: 23.03.26	REV: B



SECTION A
SCALE 1:115 SHT.01

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.
 3. SPACING OF WEEP HOLES SHALL BE ADJUSTED AS PER PRECAST BEAM LOCATION.

B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
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CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 2 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-100-02			DATE: 23.03.26	REV: B



SECTION B
SCALE 1:130 SHT.01

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

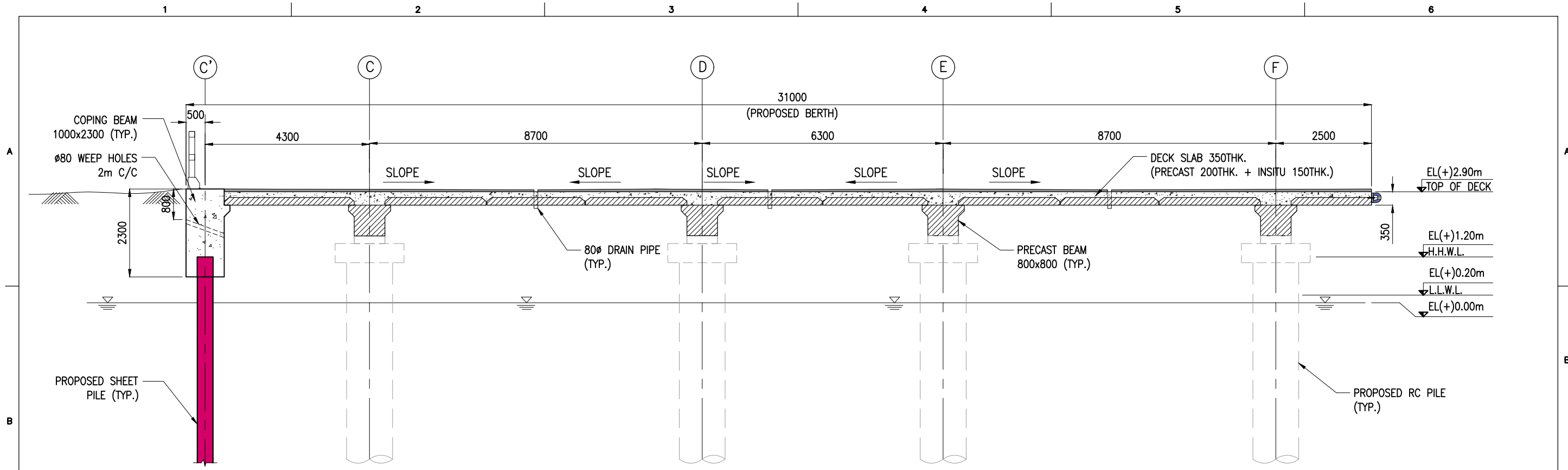
CONSULTANT:
PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:
COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

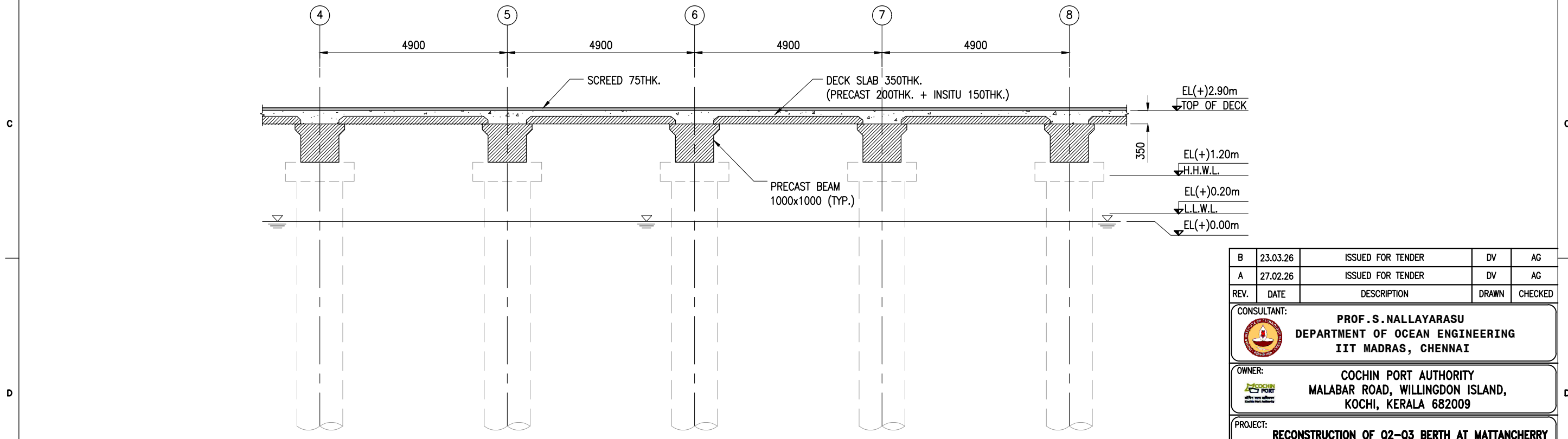
PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

TITLE:
LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 3 OF 6)

DRAWING NO. IITM-CPA-EMW-DWG-100-03 DATE: 23.03.26 REV: B





SECTION C
SCALE 1:100
SHT.01



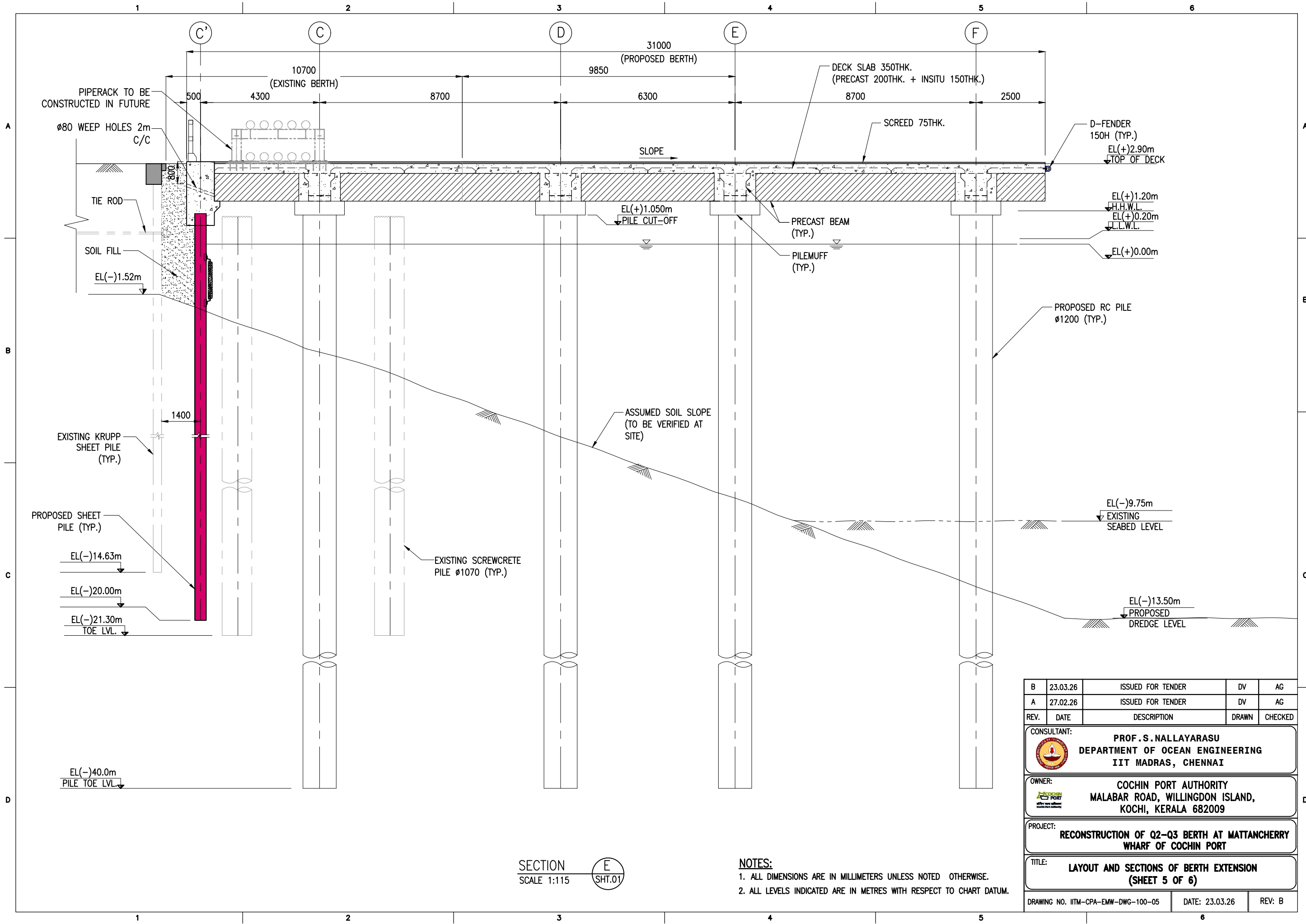
SECTION D
SCALE 1:100
SHT.01

NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG



CONSULTANT:	 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
OWNER:	 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009
PROJECT:	RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT
TITLE:	LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 4 OF 6)

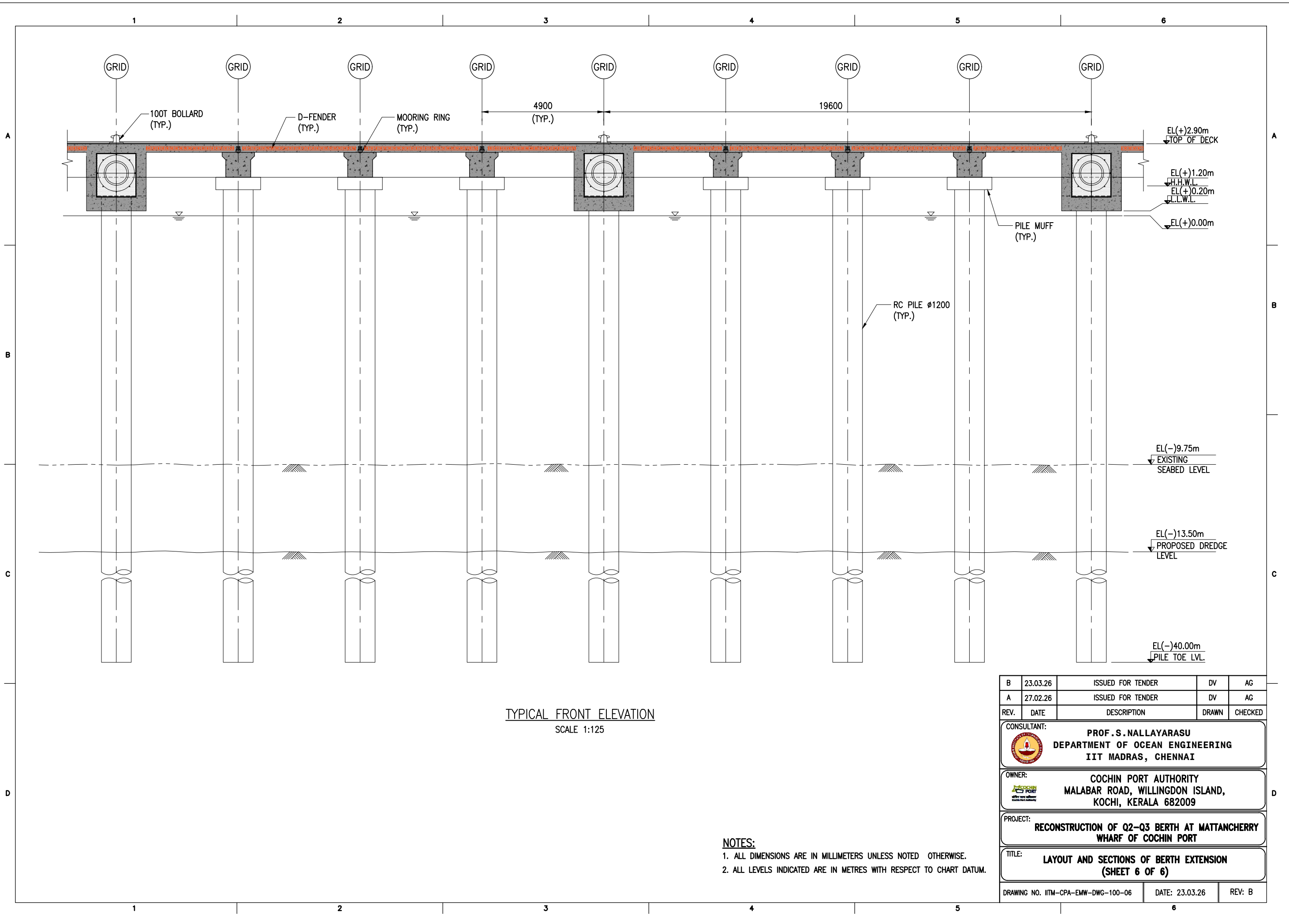
DRAWING NO.	IITM-CPA-EMW-DWG-100-04	DATE:	23.03.26	REV:	B
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SECTION **E**
SCALE 1:115
SHT.01

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.


B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 5 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-100-05			DATE: 23.03.26	REV: B




TYPICAL FRONT ELEVATION
SCALE 1:125

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

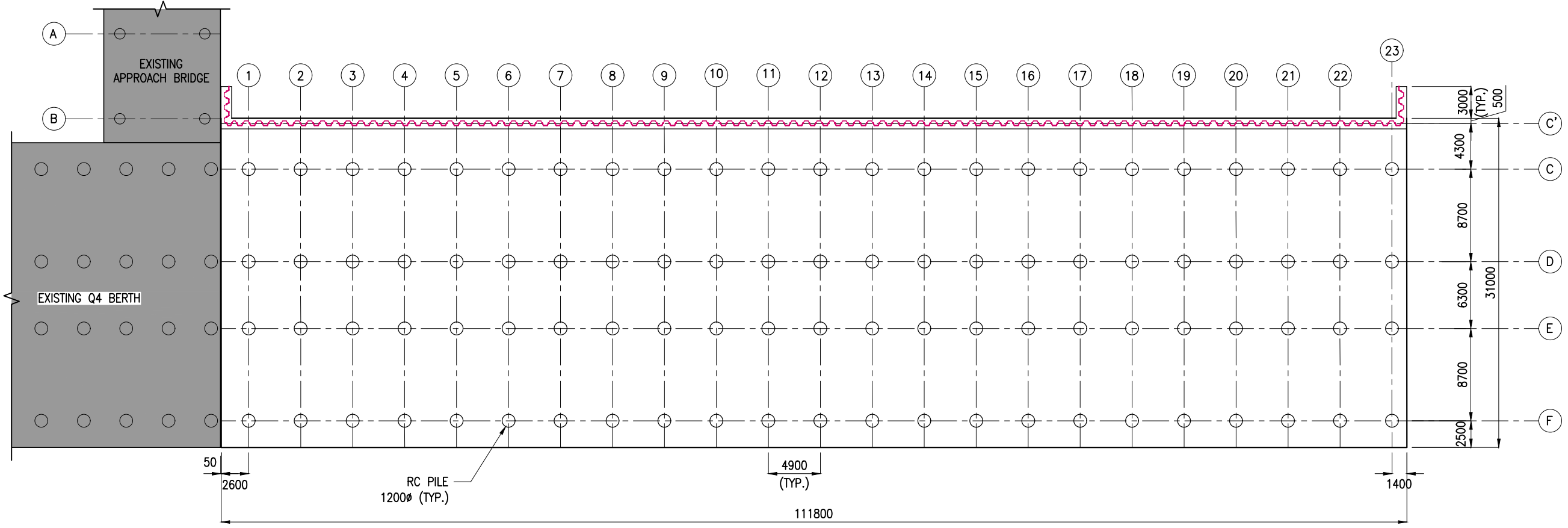
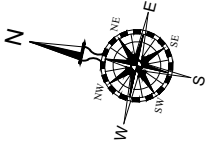
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT



TITLE:
LAYOUT AND SECTIONS OF BERTH EXTENSION (SHEET 6 OF 6)

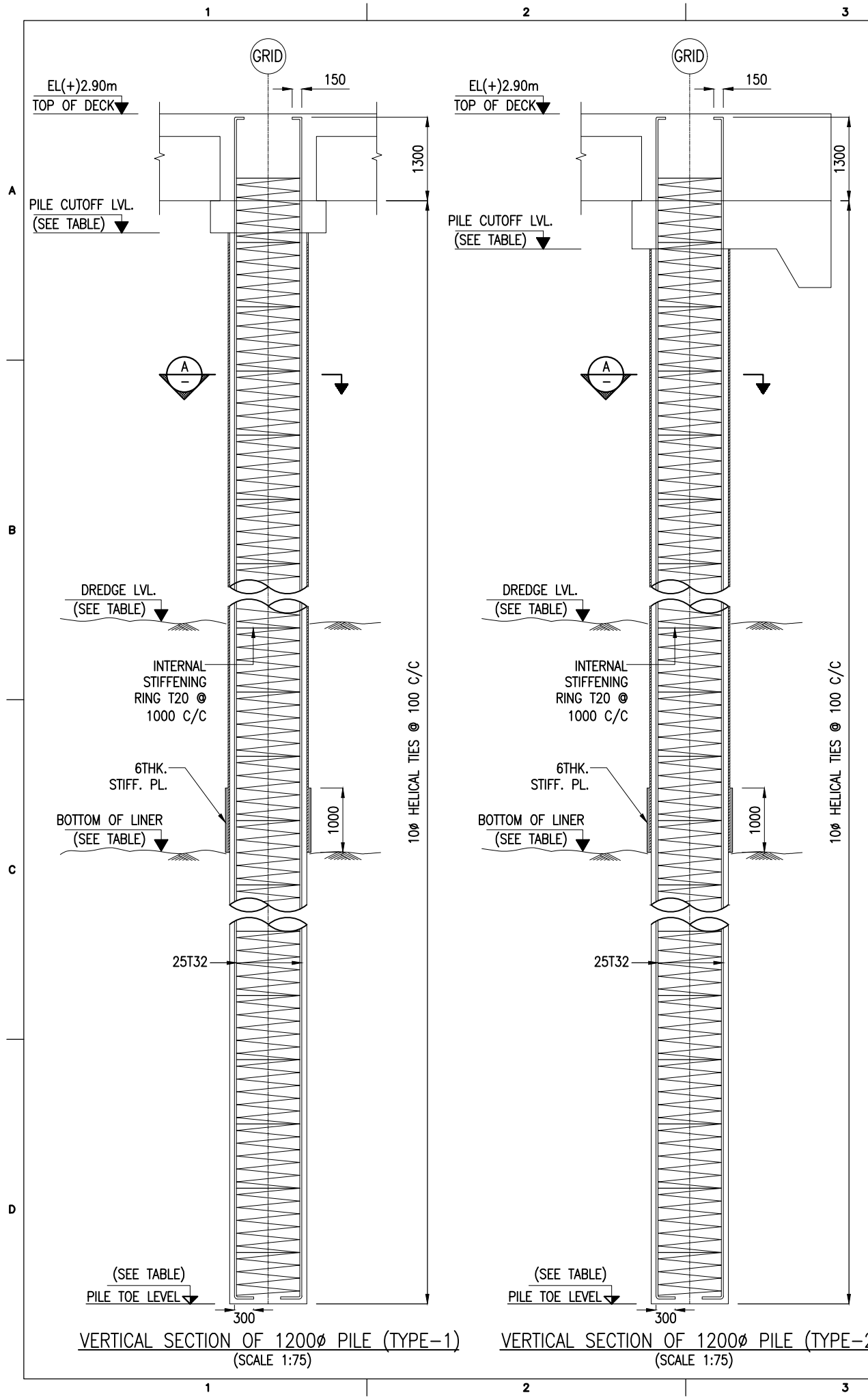
DRAWING NO. IITM-CPA-EMW-DWG-100-06 DATE: 23.03.26 REV: B



PILE LAYOUT
(SCALE 1:400)

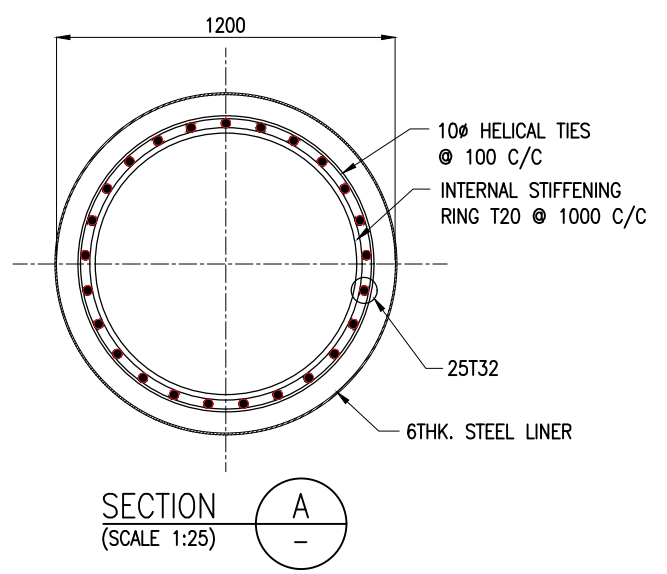
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:				
 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT:				
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE:				
LAYOUT AND RC DETAILS OF PILE (SHEET 1 OF 2)				
DRAWING NO. IITM-CPA-EMW-101-01			DATE: 23.03.26	REV: B



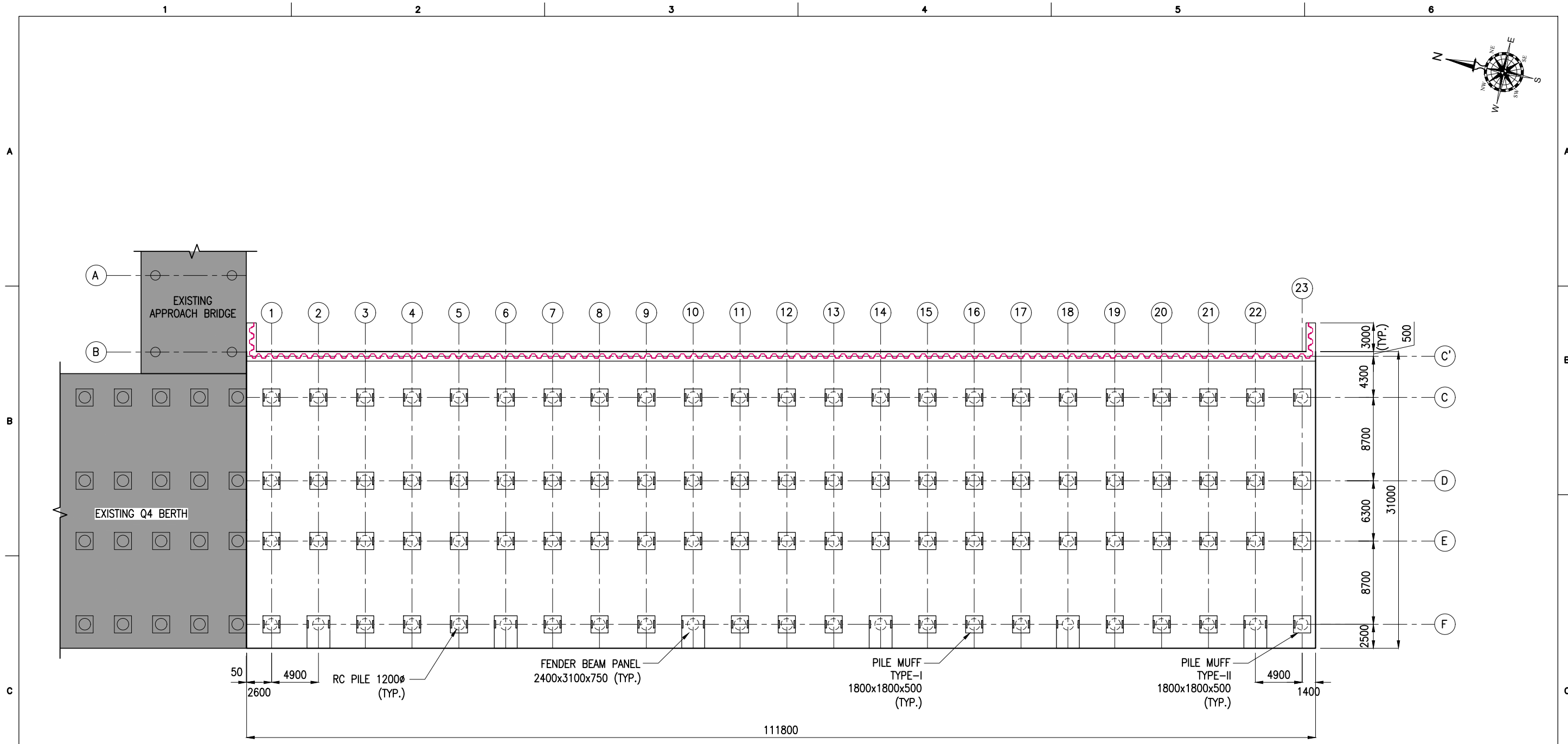
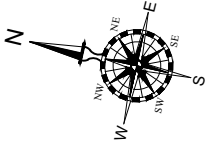
PILE SCHEDULE:

TYPE	GRID	PILE ϕ (mm)	NO.OF PILES	DREDGE LVL.(m)	BOTTOM OF LINER (m)	PILE CUT-OFF LVL. (m)	PILE TOE LVL. (m)	PILE WORKING LOAD (T)	
								VER.	HORZ.
1	1 TO 23 - C TO E 1,3,4,5,7,8,9,11,12,13,15,16,17,19,20,21&23 - F	1200	86	(-)13.50	(-)25.00	(+)1.05	(-)40.00	250	20
2	2,6,10,14,18,22 -F	1200	06	(-)13.50	(-)25.00	(+)0.80	(-)40.00	250	20
TOTAL NO. OF PILES			92						



- NOTES:**
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 - FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 - LINER SHALL BE DRIVEN TO REFUSAL/UPTO THE LEVEL SHOWN IN THE DRAWING.
 - STRUCTURAL STEEL FOR LINER SHALL CONFORM TO IS:2062 GRADE E250.
 - THE EXISTING SEABED LEVEL SHOWN IN THE DRAWING IS TENTATIVE AND SHALL BE VERIFIED DURING BORING.
 - PILE SHALL BE CAST 600mm HIGHER THAN THE PILE CUT-OFF LEVEL AND OVERFLOW OF CONCRETE SHALL BE OBSERVED AND THE ADDITIONAL LENGTH OF PILE SHALL BE CUT AFTER 28 DAYS OF CASTING THE PILE.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
CONSULTANT: PROF. S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE (SHEET 2 OF 2)				
DRAWING NO. IITM-CPA-EMW-DWG-101-02			DATE: 23.03.26	REV: B



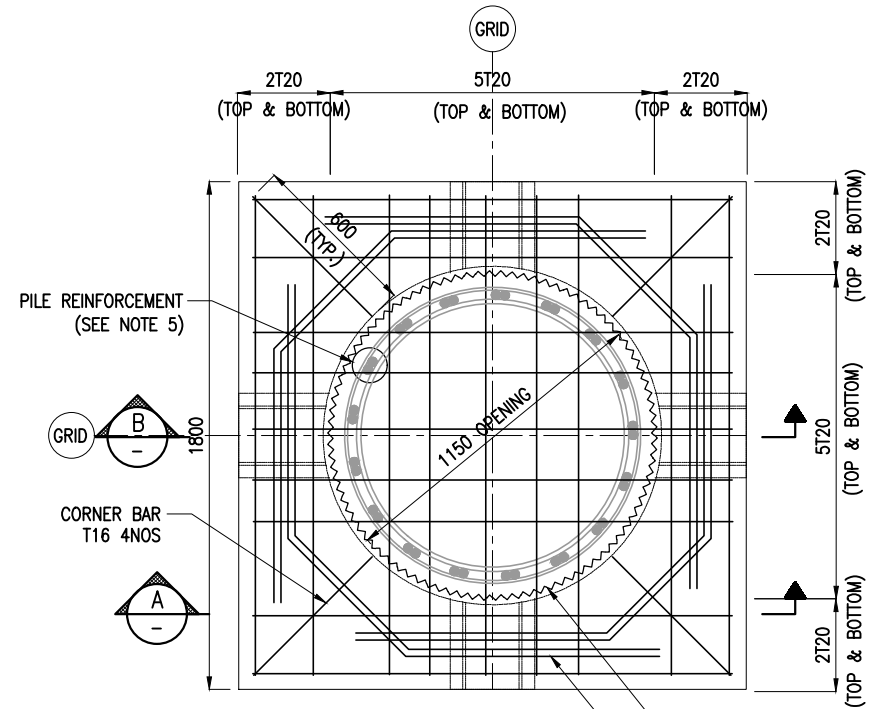
PILE MUFF LAYOUT
(SCALE 1:400)

SCHEDULE FOR PILE MUFF :

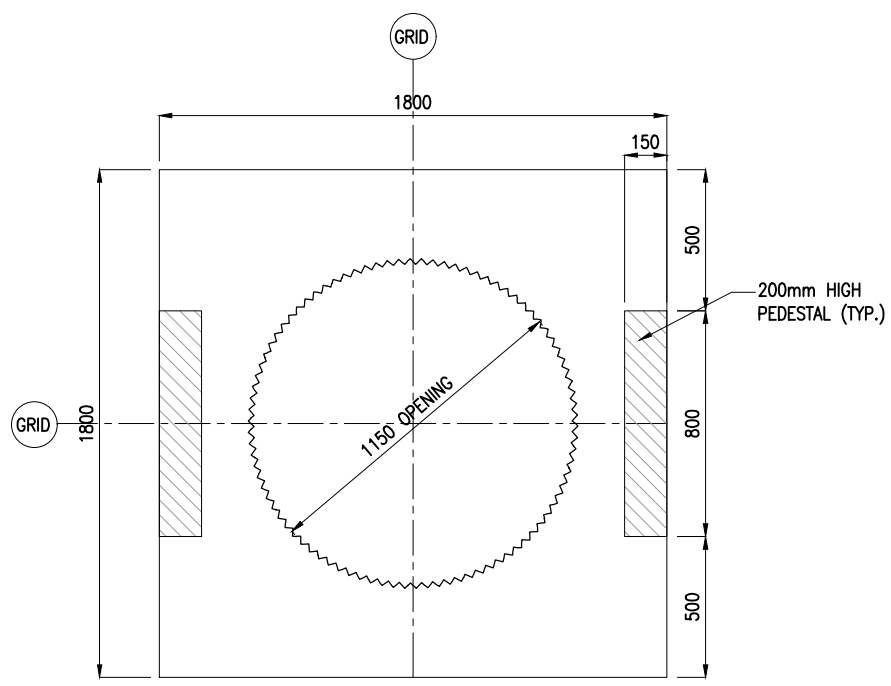
TYPE	SIZE (mm)	WEIGHT (T)	NOS.	REMARKS
TYPE-I	1800x1800x500	2.87	82	AT GRID 1 TO 22 - C TO E AT GRID 1,3,4,5,7,8,9,11,12,13,15,16,17,19,20&21 - F
TYPE-II	1800x1800x500	2.81	04	AT GRID 23 - C TO F
FENDER BEAM PANEL	2400x3100x750	12.88	06	AT GRID 2,6,10,14,18,22 - F

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.

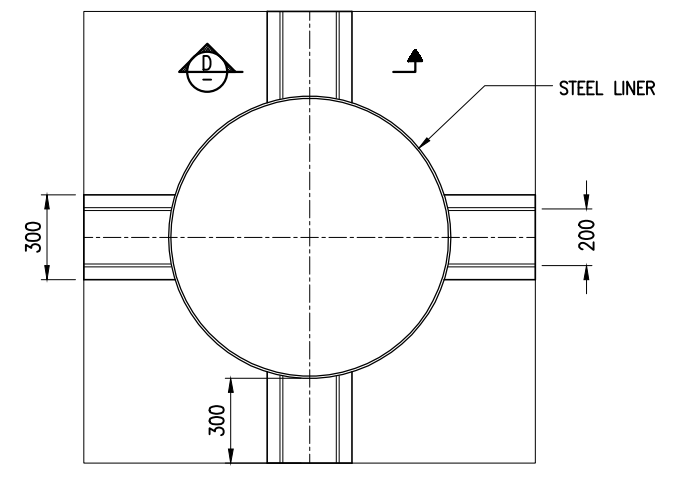
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE MUFF (SHEET 1 OF 4)				
DRAWING NO. IITM-CPA-EMW-DWG-102-01			DATE: 23.03.26	REV: B



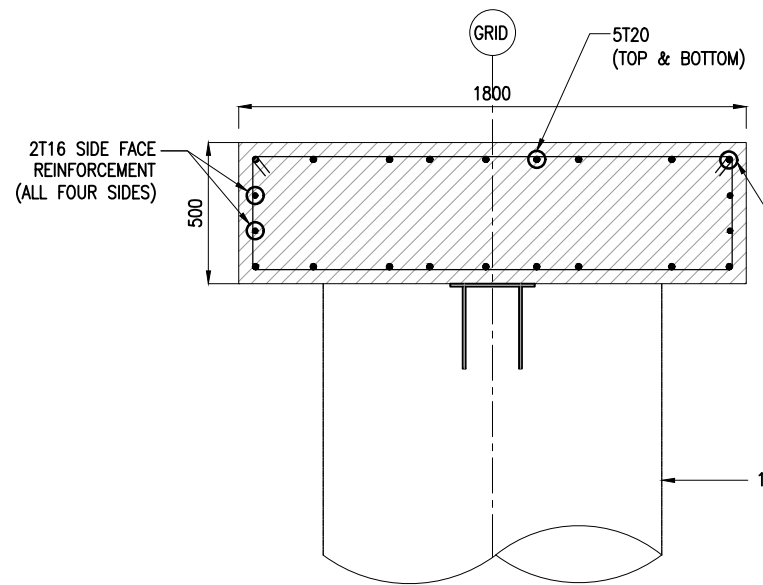
PLAN OF REINFORCEMENT
(SCALE 1:25)



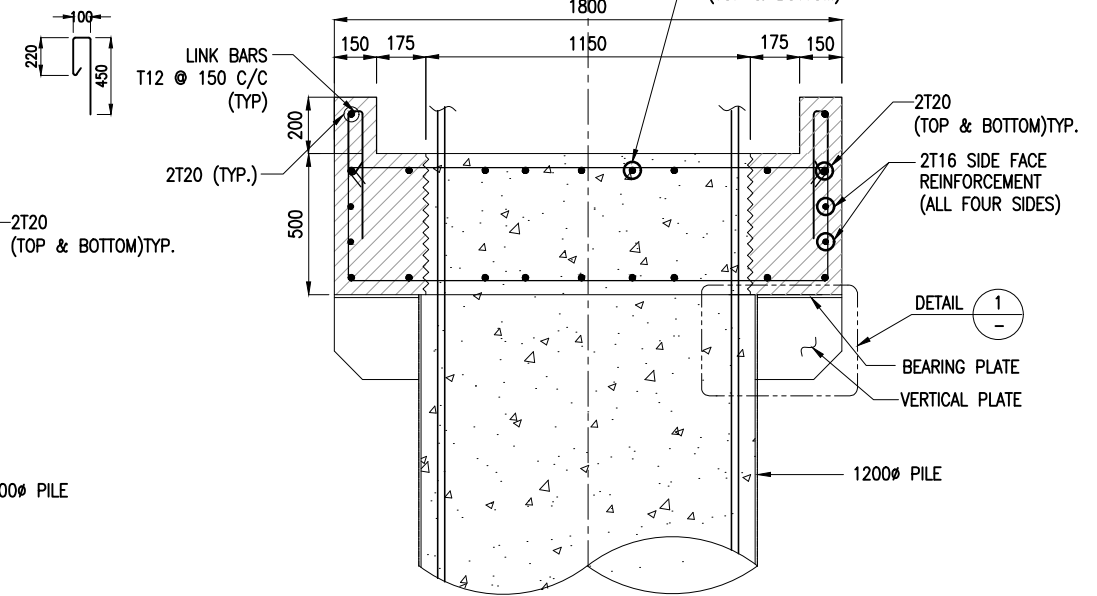
PLAN VIEW
(SCALE 1:25)



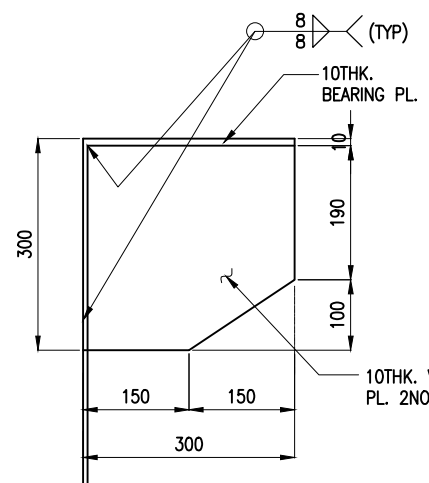
TYPICAL PILE MUFF SUPPORT
(SCALE 1:25)



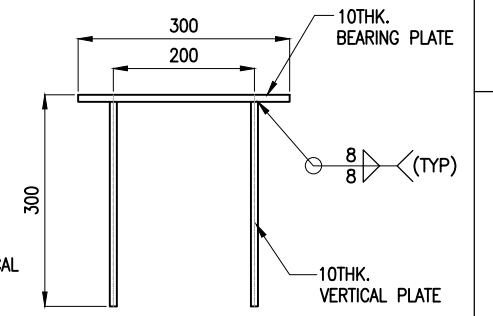
SECTION A
(SCALE 1:25)



SECTION B
(SCALE 1:25)





DETAIL 1
(SCALE 1:10)



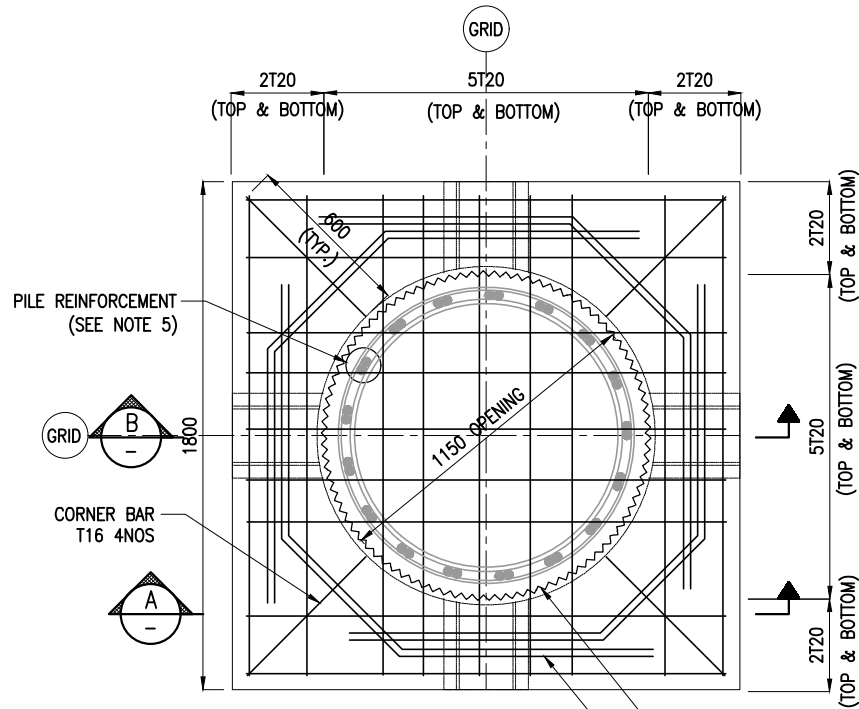
SECTION D
(SCALE 1:10)

NOTES:

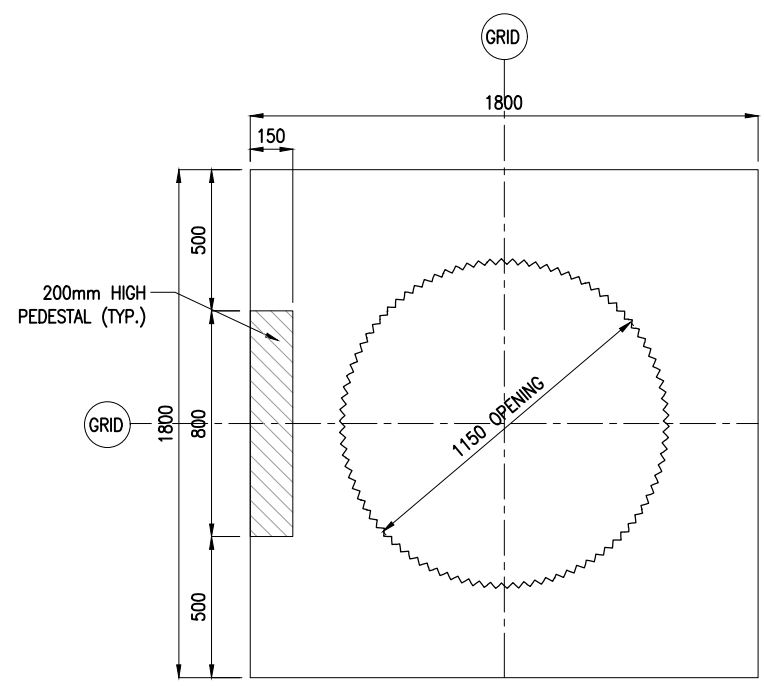
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. INNER SURFACE OF THE CONCRETE SHALL BE ROUGHENED.
5. PILE REINFORCEMENT POSITION SHALL BE ADJUSTED DURING PLACEMENT OF PRECAST PILE MUFF.

B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE MUFF (SHEET 2 OF 4)				
DRAWING NO. IITM-CPA-EMW-DWG-102-02		DATE: 23.03.26	REV: B	

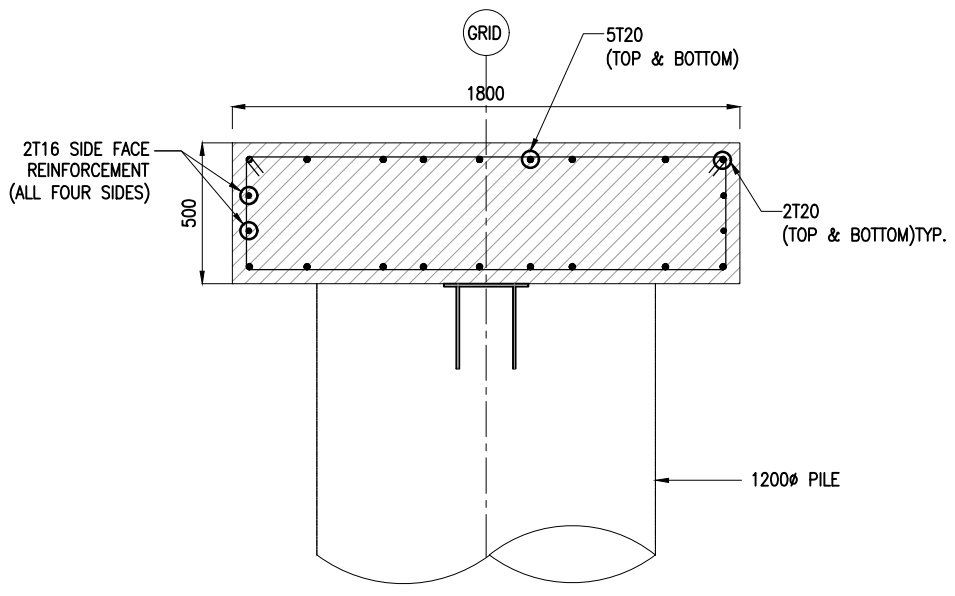
DETAILS OF PILE MUFF-I
1800x1800x500



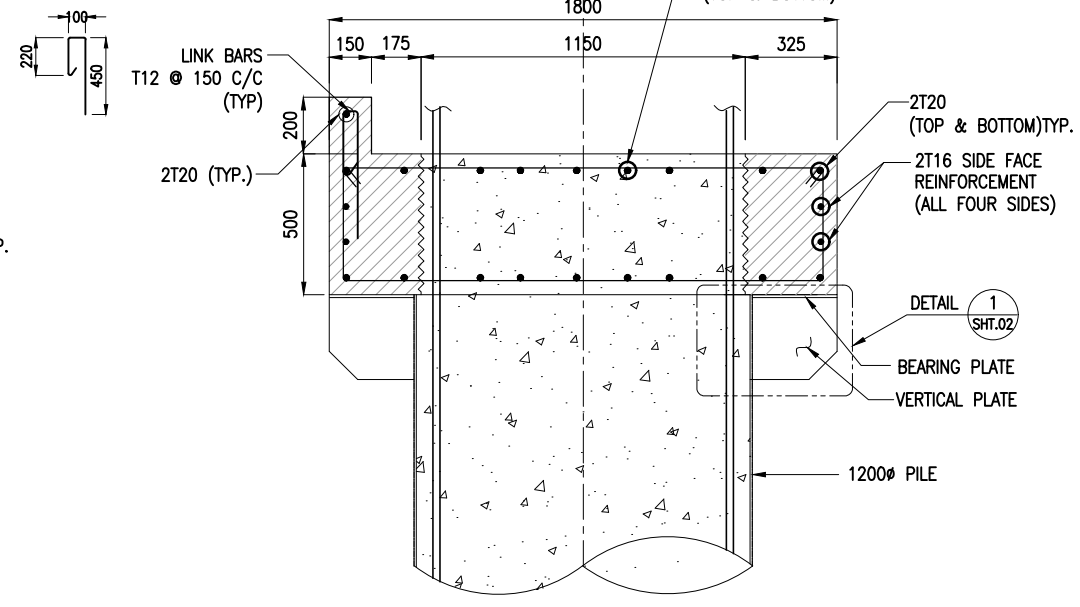
PLAN OF REINFORCEMENT
(SCALE 1:25)



PLAN VIEW
(SCALE 1:25)



SECTION A
(SCALE 1:25)




SECTION B
(SCALE 1:25)

DETAILS OF PILE MUFF-II
1800x1800x500

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
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4. INNER SURFACE OF THE CONCRETE SHALL BE ROUGHENED.
5. PILE REINFORCEMENT POSITION SHALL BE ADJUSTED DURING PLACEMENT OF PRECAST PILE MUFF.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG

CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

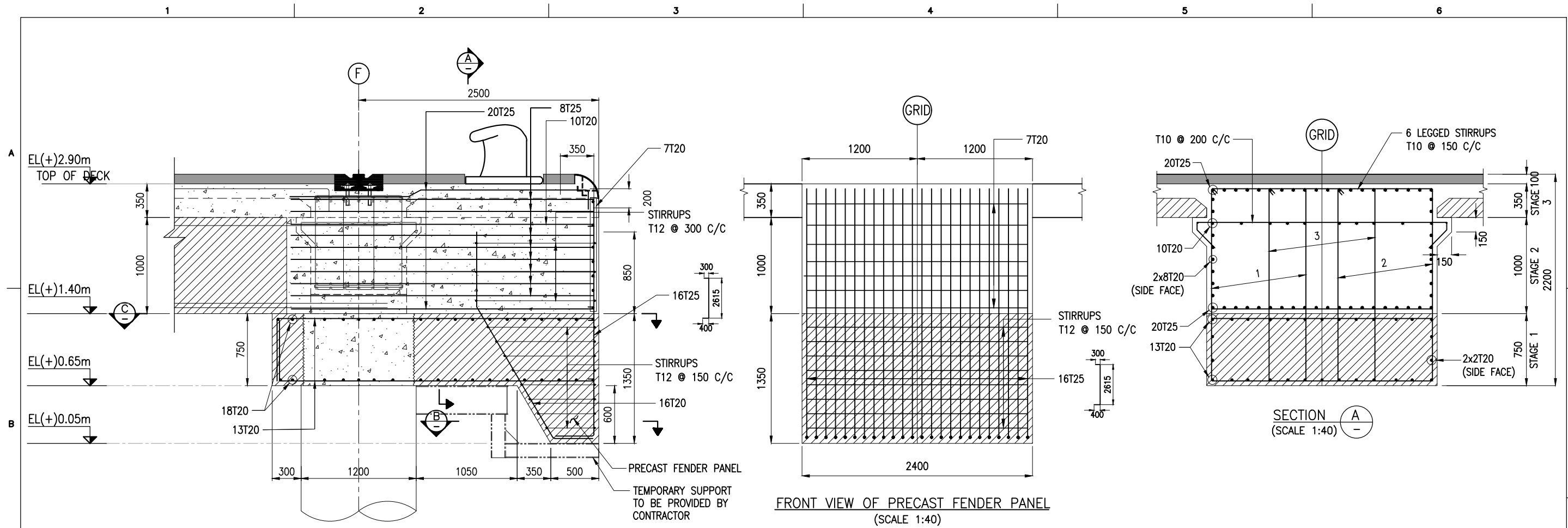
OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

TITLE:
LAYOUT AND RC DETAILS OF PILE MUFF (SHEET 3 OF 4)

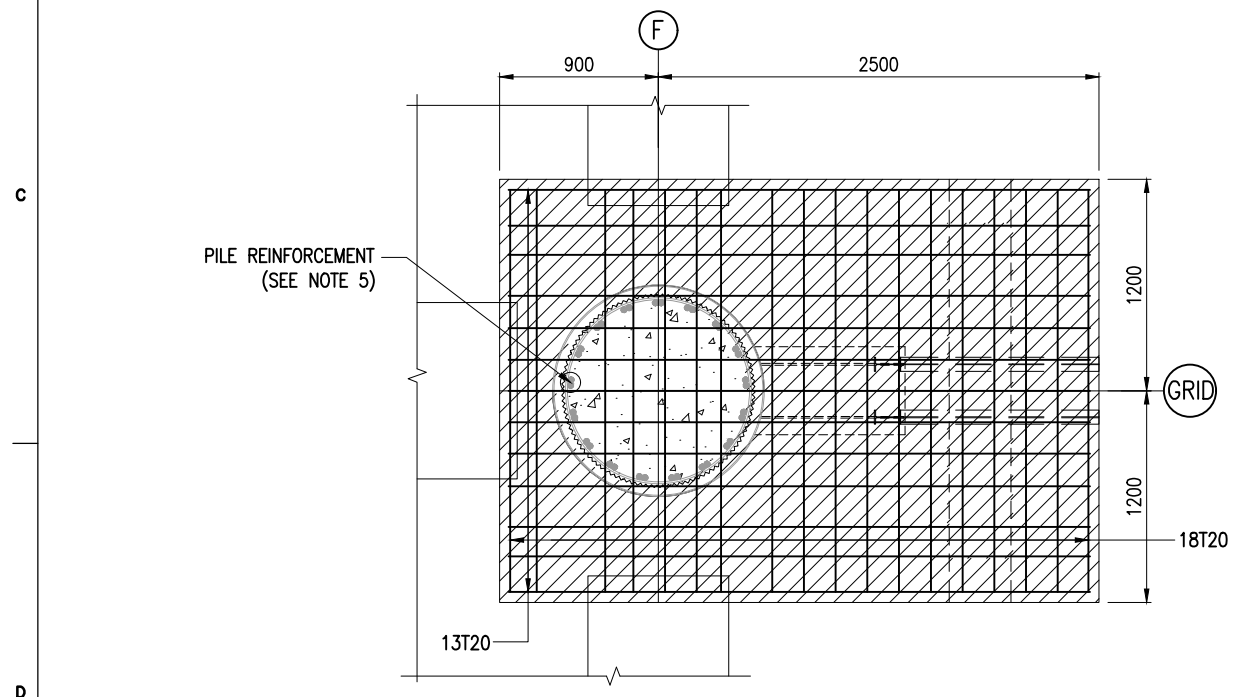
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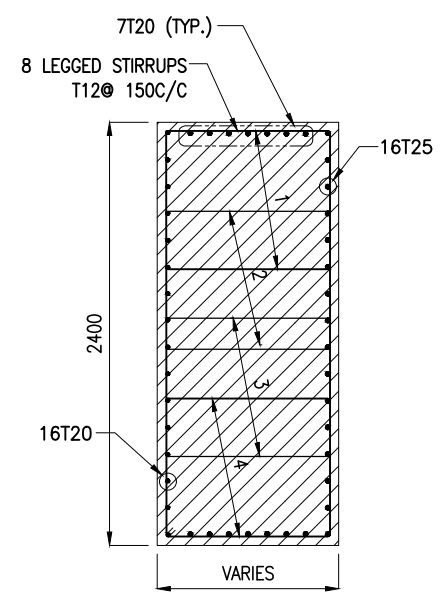
LONGITUDINAL SECTION OF FENDER BEAM (FB)
(PILE REINFORCEMENT NOT SHOWN FOR CLARITY)

FRONT VIEW OF PRECAST FENDER PANEL
(SCALE 1:40)

SECTION A
(SCALE 1:40)



SECTION C
(SCALE 1:40)





SECTION B
(SCALE 1:40)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
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4. INNER SURFACE OF THE CONCRETE SHALL BE ROUGHENED.
5. PILE REINFORCEMENT POSITION SHALL BE ADJUSTED DURING PLACEMENT OF PRECAST PILE MUFF.

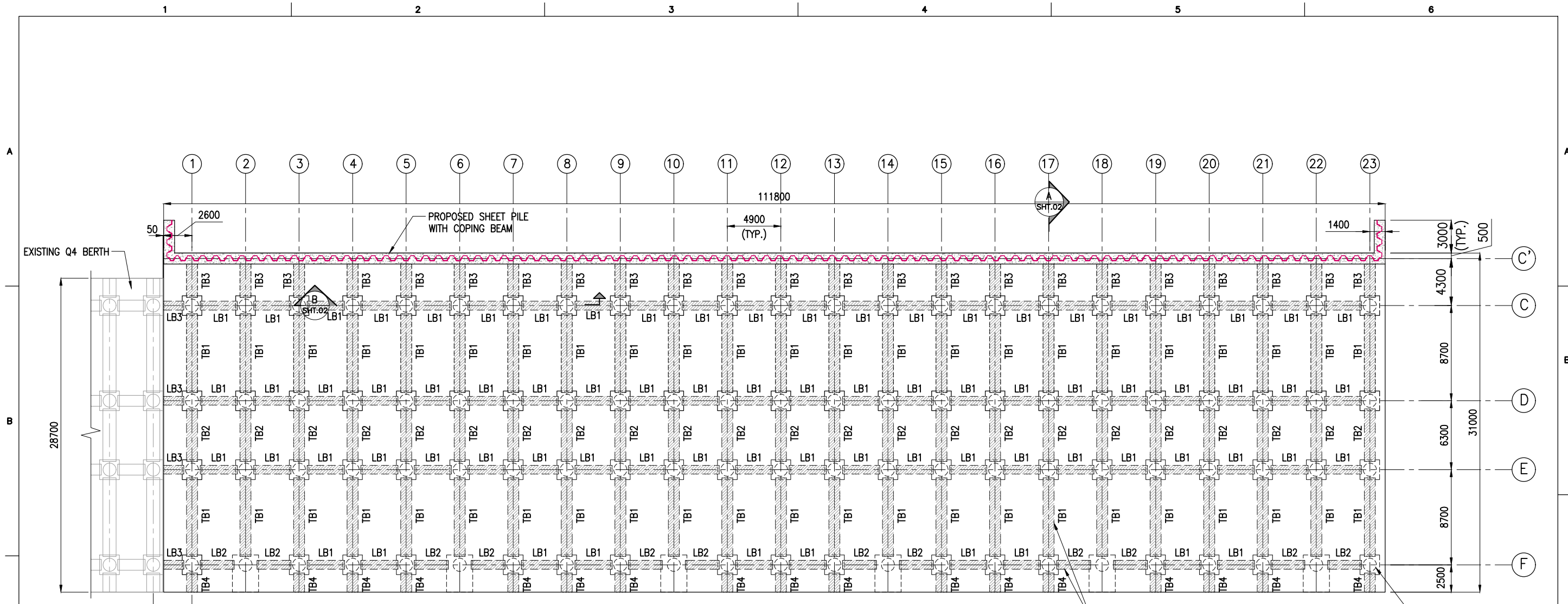
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

TITLE:
LAYOUT AND RC DETAILS OF PILE MUFF (SHEET 4 OF 4)





PRECAST BEAM LAYOUT
(SCALE 1:350)

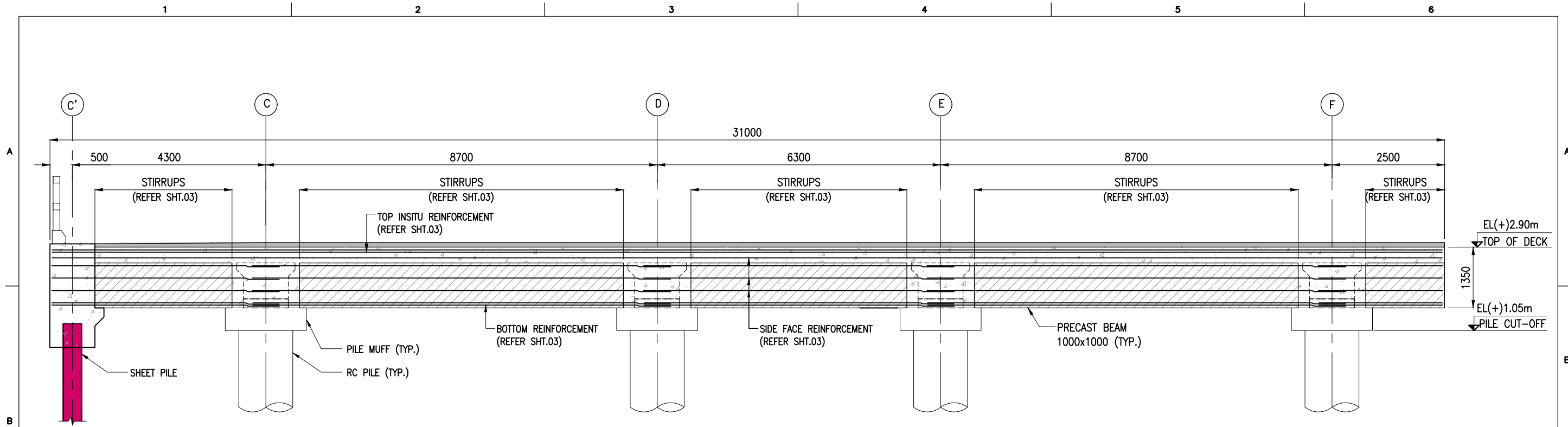
PRECAST BEAM (TYP.)
RC PILE ϕ 1200 (TYP.)

PRECAST BEAM SCHEDULE

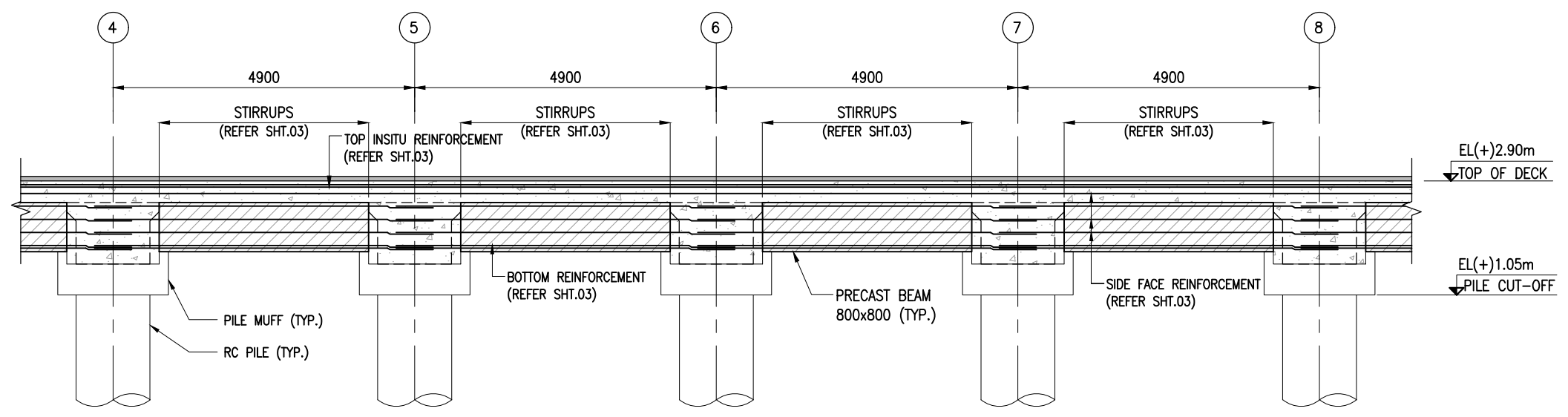
TYPE	L (mm)	B (mm)	D (mm)	WEIGHT(T)	NOS
LB1	3400	800	800	6.01	76
LB2	3100	800	800	5.48	12
LB3	1850	800	800	3.27	4
TB1	7200	1000	1000	19.21	46
TB2	4800	1000	1000	12.81	23
TB3	3050	1000	1000	8.14	23
TB4	1750	1000	1000	4.67	17

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY COCHIN - 682 009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 1 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-103-01			DATE: 23.03.26	REV: B





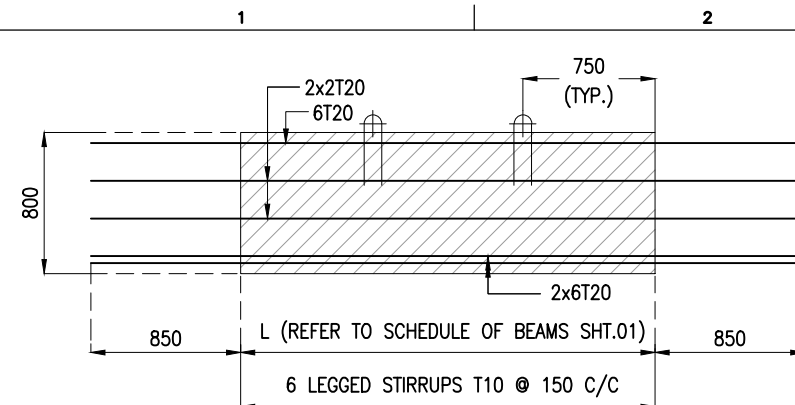
SECTION A
SCALE 1:85
SHT.01



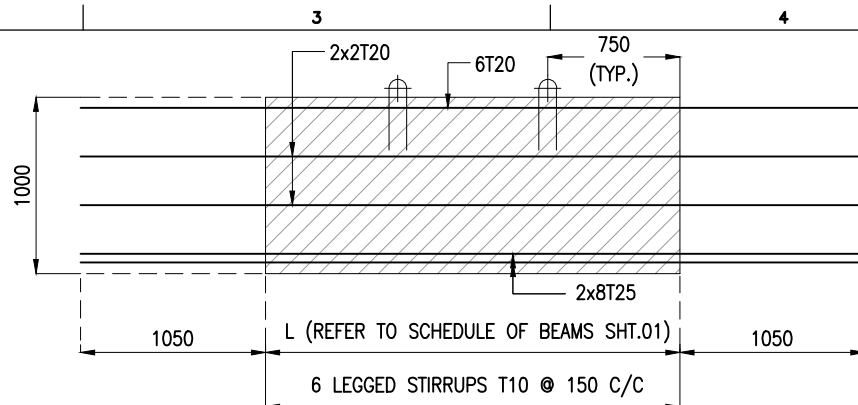
SECTION B
SCALE 1:85
SHT.01

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.

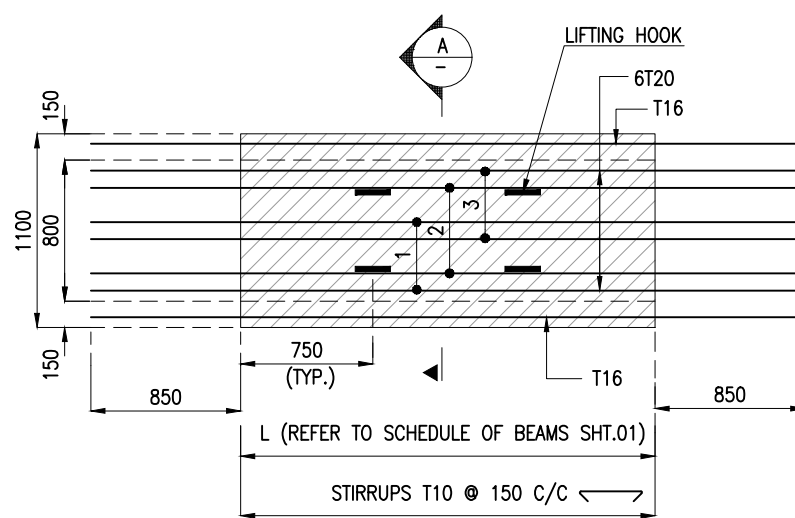
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 2 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-103-02			DATE: 23.03.26	REV: B



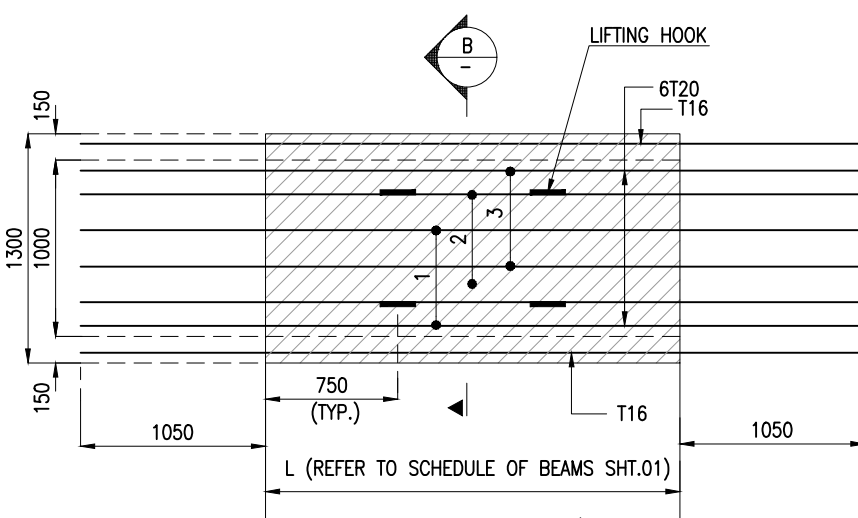
LONGITUDINAL SECTION OF PRECAST BEAM
(IN-SITU REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:40)



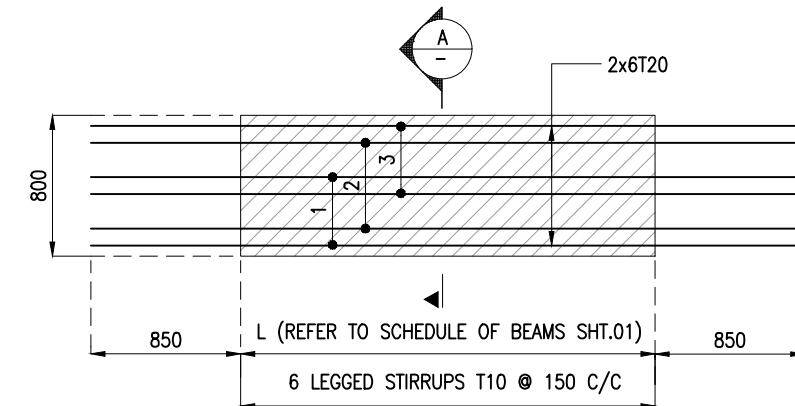
LONGITUDINAL SECTION OF PRECAST BEAM
(IN-SITU REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:40)



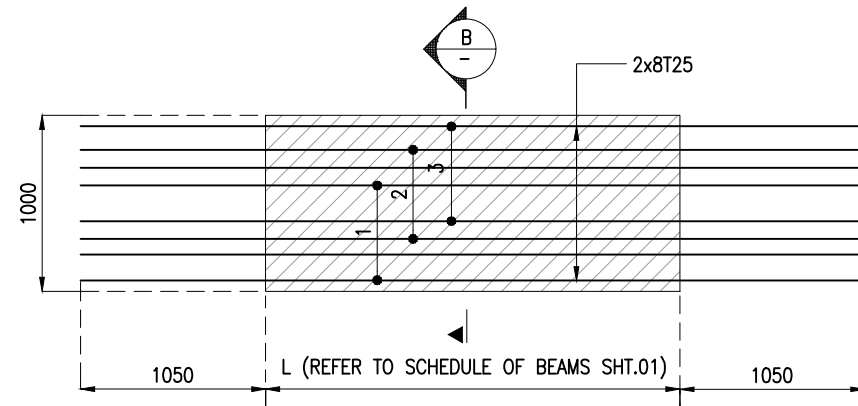
TOP VIEW OF PRECAST BEAM
(SCALE 1:40)



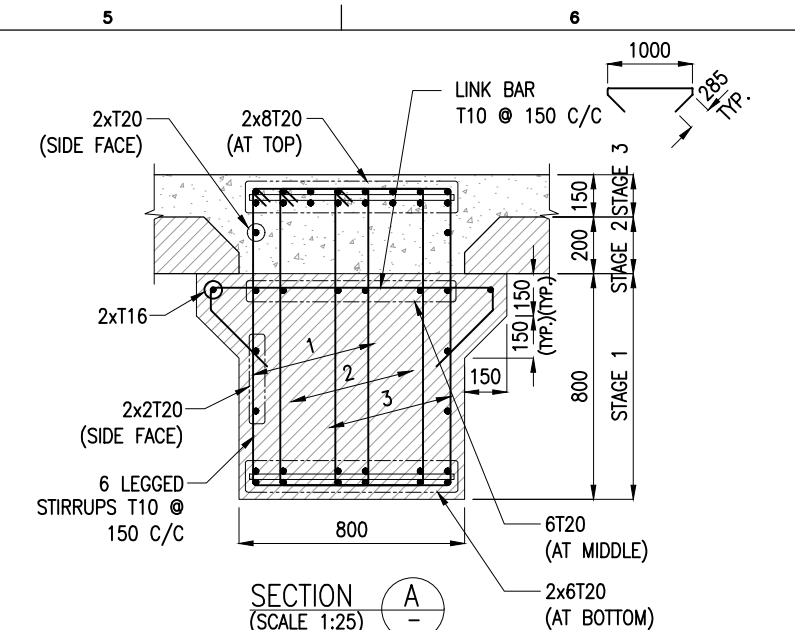
TOP VIEW OF PRECAST BEAM
(SCALE 1:40)



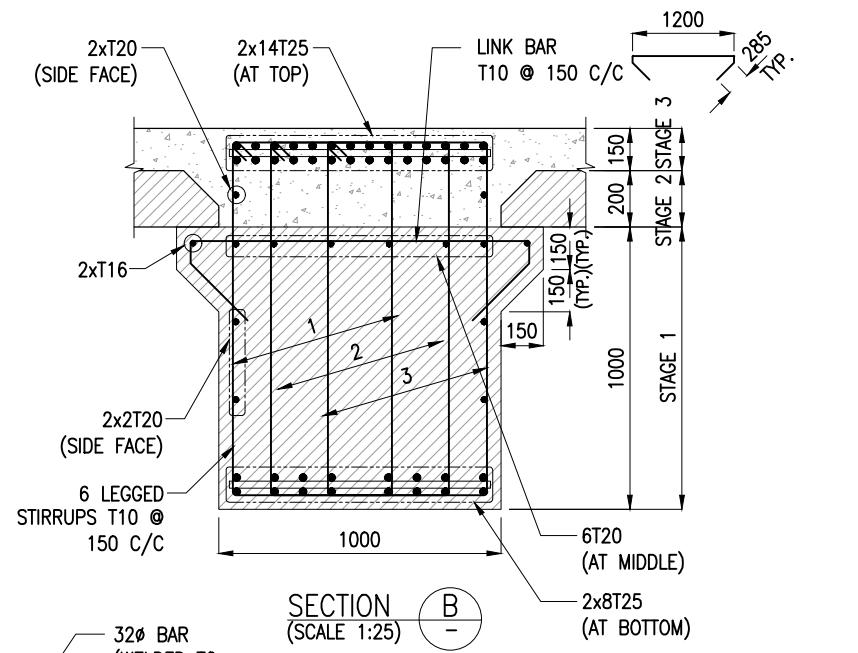
BOTTOM VIEW OF PRECAST BEAM
(SCALE 1:40)
REINFORCEMENT DETAILS FOR PRECAST BEAM: LB



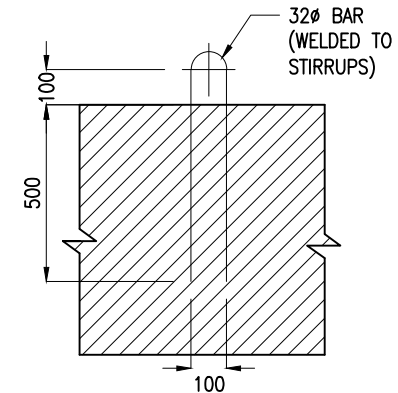
BOTTOM VIEW OF PRECAST BEAM
(SCALE 1:40)
REINFORCEMENT DETAILS FOR PRECAST BEAM: TB



SECTION A
(SCALE 1:25)



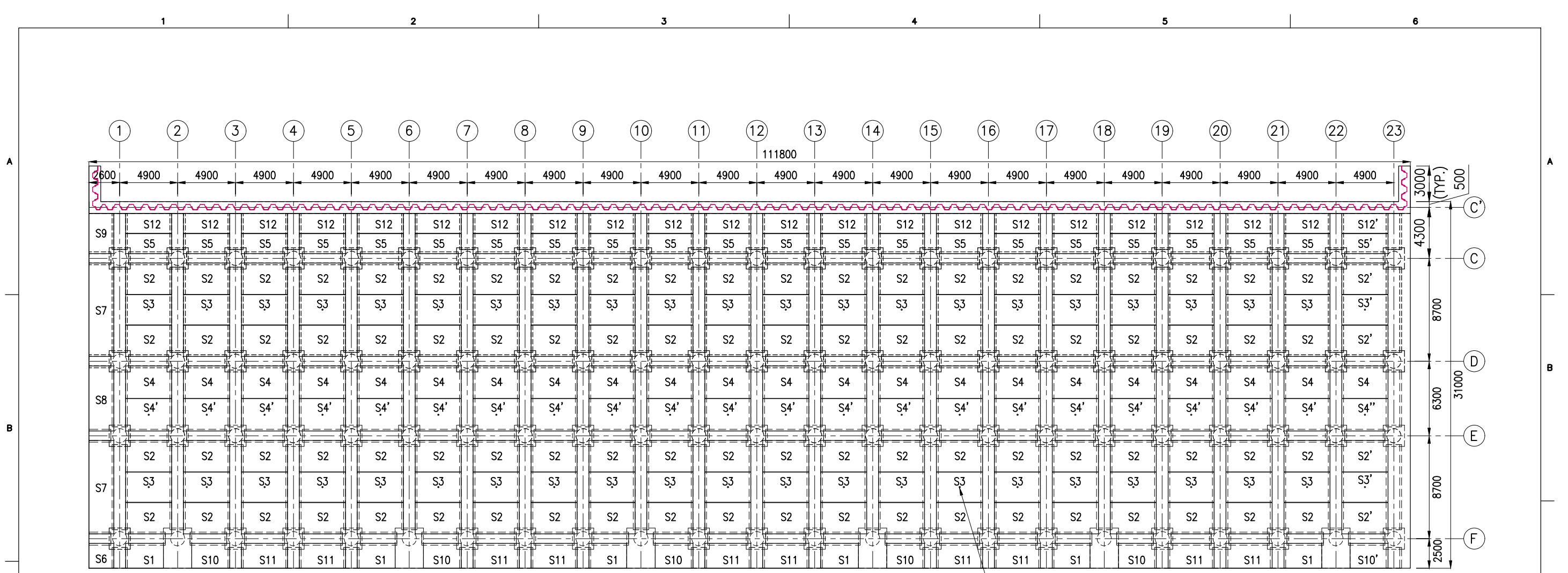
SECTION B
(SCALE 1:25)



DETAIL OF LIFTING HOOK
(SCALE 1:20)

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO. IITM-CPA-EMW-DWG-002.
 4. PRECAST BEAMS SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 5. THE TOP SURFACE OF THE PRECAST BEAMS SHALL BE ROUGHENED.
 6. MAIN & SHEAR REINFORCEMENT SHALL BE FULLY ARRANGED AND TIED TOGETHER BEFORE PRECAST PORTION IS CONCRETED.
 7. LONGITUDINAL BARS TO BE CONTINUOUS AT SUPPORT.

B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK BEAMS (SHEET 3 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-103-03			DATE: 23.03.26	REV: B



PRECAST SLAB LAYOUT
(SCALE 1:320)



80 ϕ HOLE FOR
DRAIN PIPE (TYP.)

PRECAST SLAB SCHEDULE

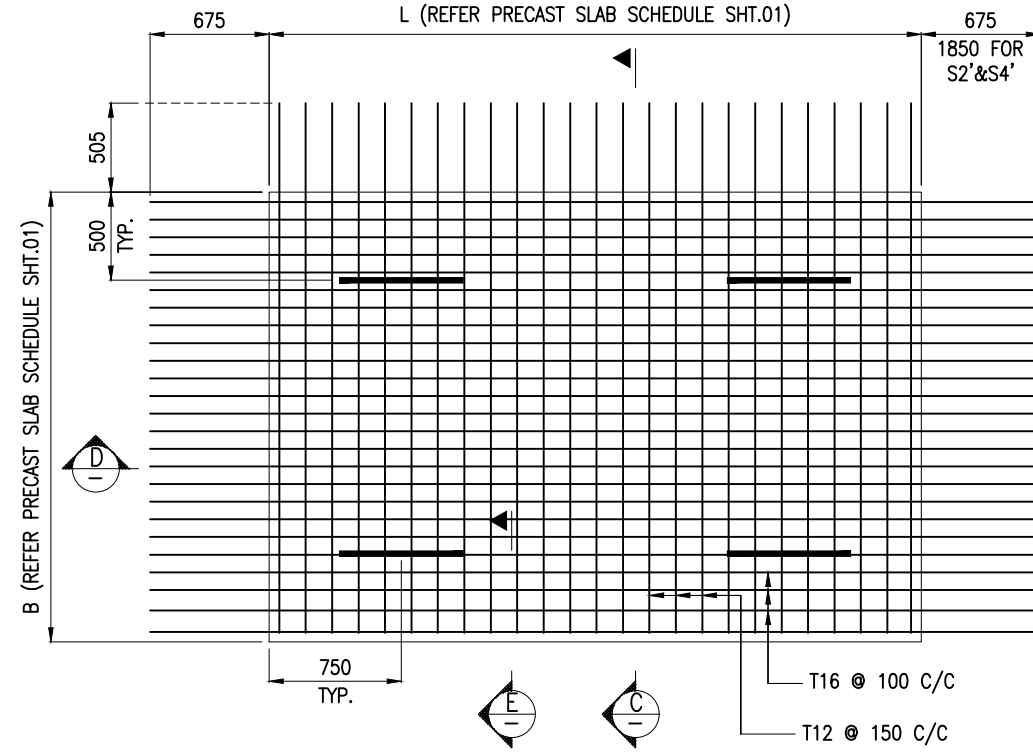
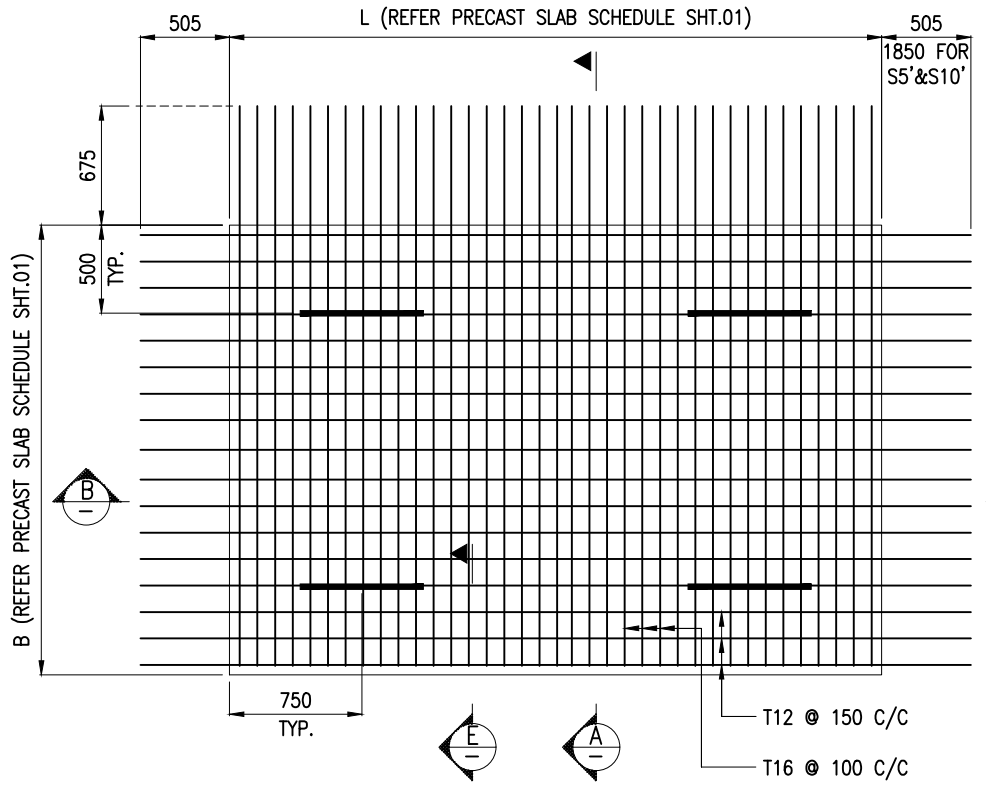
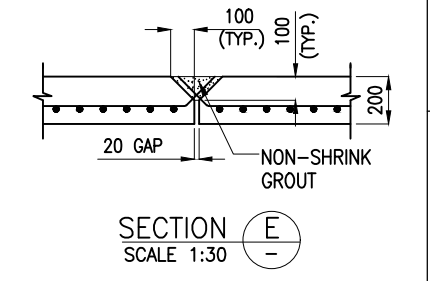
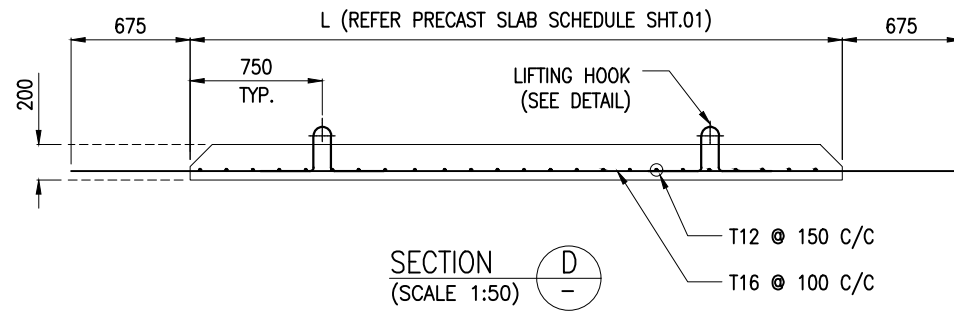
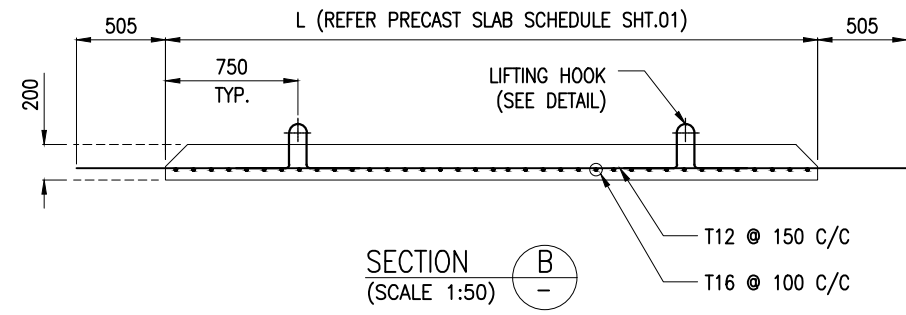
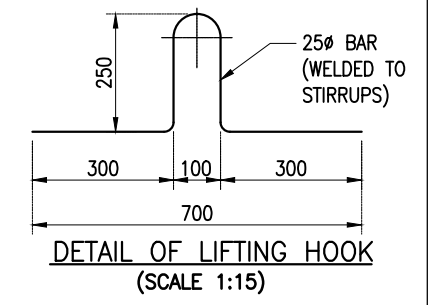
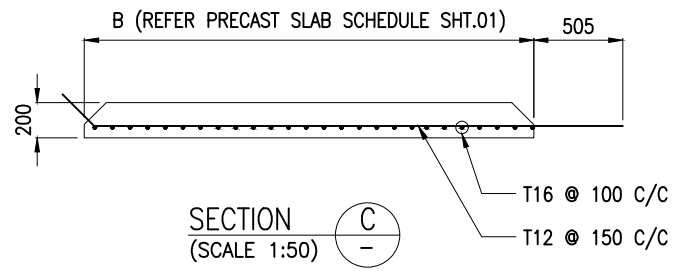
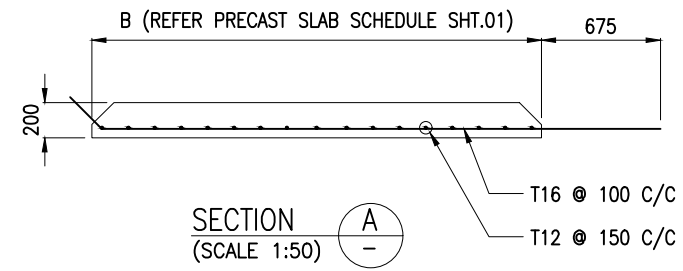
TYPE	L(mm)	B(mm)	D(mm)	WEIGHT(T)	NOS
S1	3200	2100	200	3.36	06
S2	3900	2650	200	5.17	84
S2'	3900	2650	200	5.17	04
S3	3900	2560	200	5.00	42
S3'	3900	2560	200	5.00	02
S4	3900	2740	200	5.34	22
S4'	3900	2740	200	5.34	21
S4''	3900	2740	200	5.34	01
S5	3900	1690	200	3.30	21
S5'	3900	1690	200	3.30	01
S6	2100	2100	200	2.20	01
S7	7900	2100	200	8.30	02
S8	5500	2100	200	5.78	01
S9	3400	2100	200	1.68	01
S10	3200	2100	200	3.36	05
S10'	3200	1800	200	2.88	01
S11	3900	2100	200	4.09	10
S12	3900	1690	200	3.30	21
S12'	3900	1690	200	3.30	01

NOTES:

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3. FOR GENERAL NOTES AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO. IITM-CPA-EMW-DWG-002.
4. LIFTING OF THE PRECAST SLABS SHALL BE CARRIED OUT USING SPREADER FRAME.
5. TEMPORARY SUPPORT FOR PRECAST CANTILEVER SLABS SHALL BE PROVIDED & DESIGNED BY CONTRACTOR BEFORE PRECAST SLAB PLACEMENT.

B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 1 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-104-01			DATE: 23.03.26	REV: B

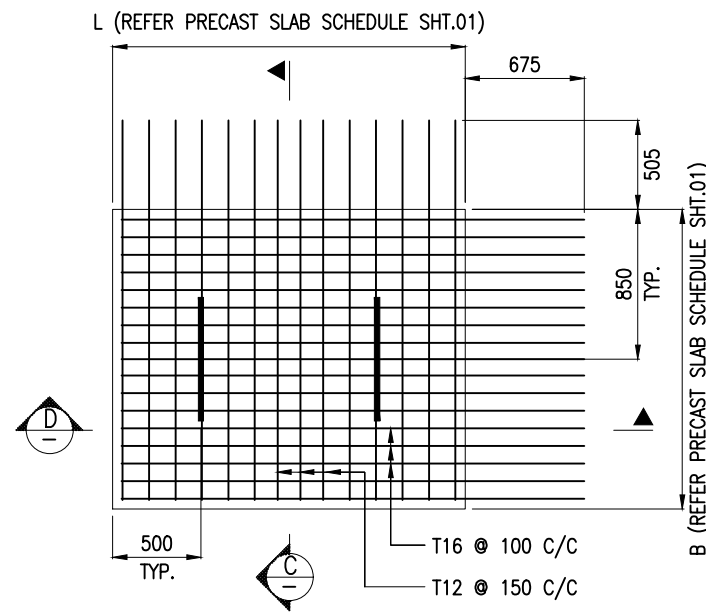
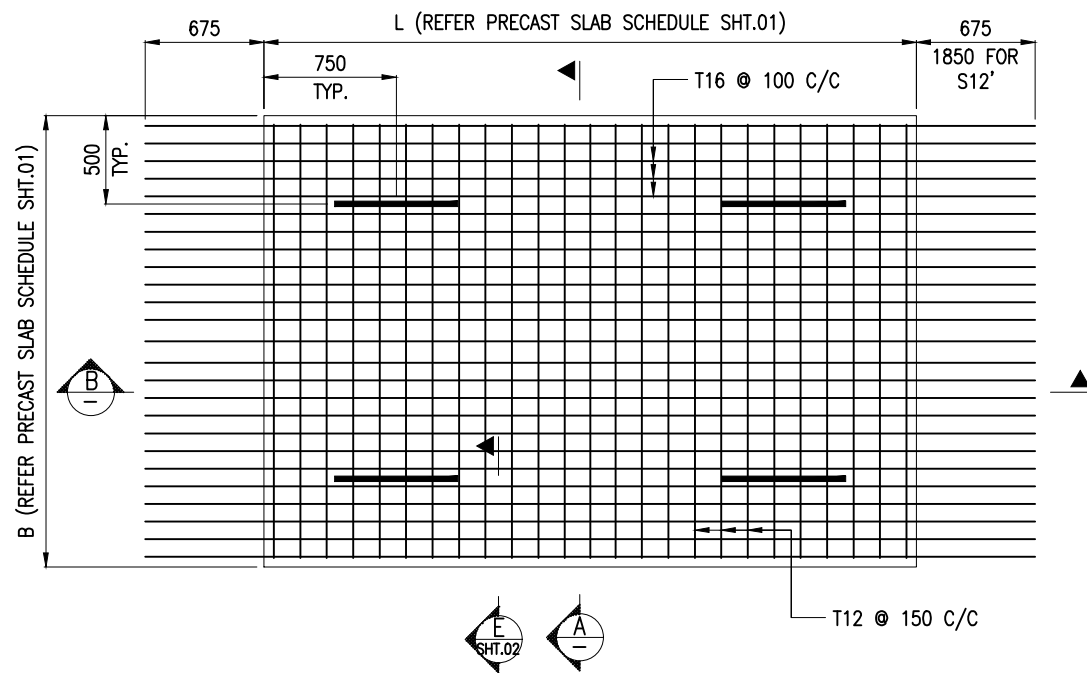
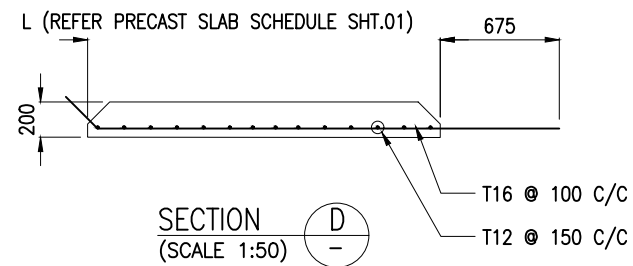
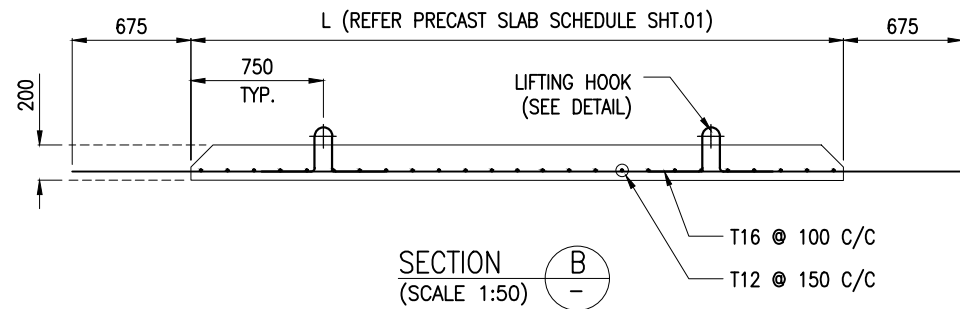
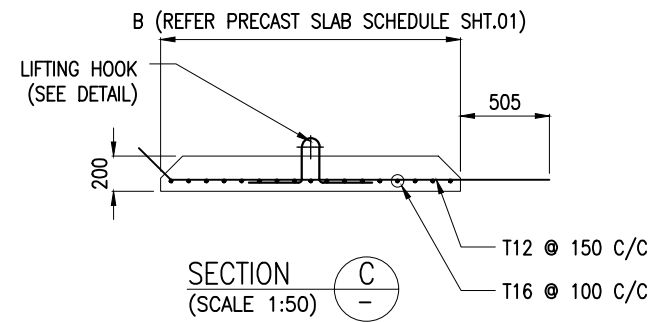
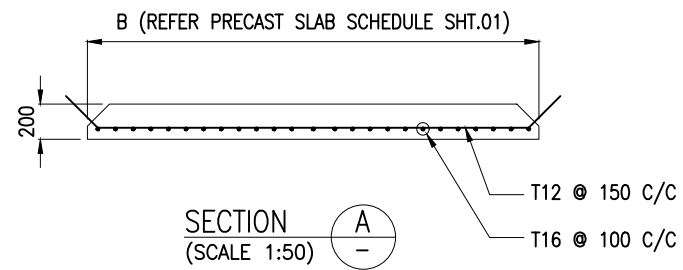
1 2 3 4 5 6



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
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B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 2 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-104-02			DATE: 23.03.26	REV: B

1 2 3 4 5 6



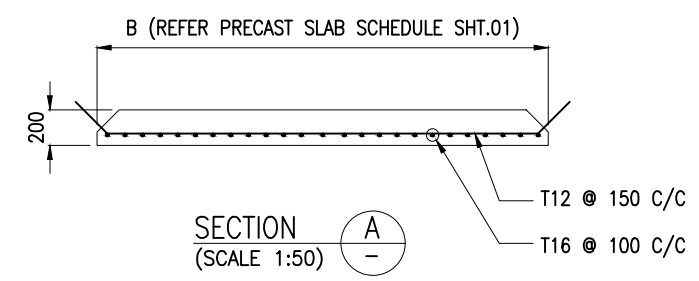
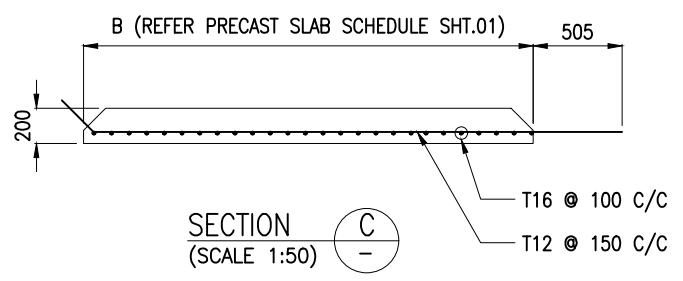
NOTES:

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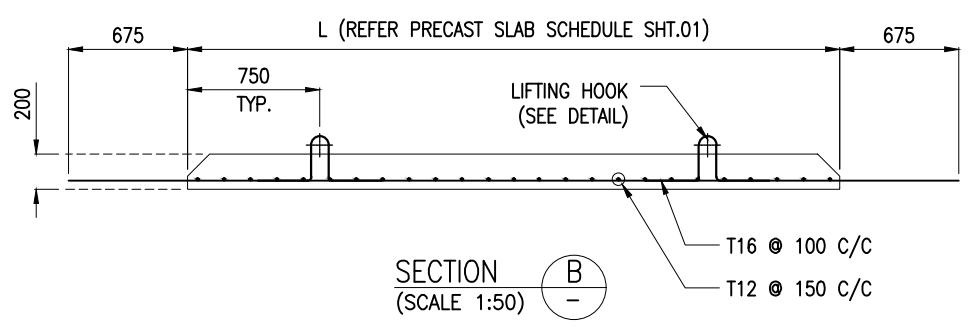
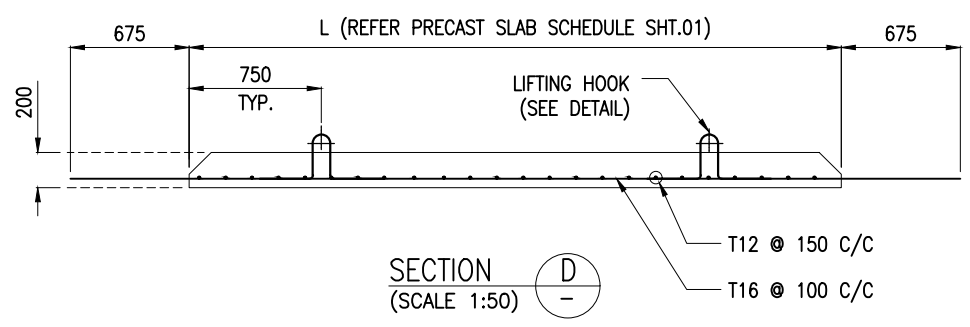
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 3 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-104-03			DATE: 23.03.26	REV: B

1 2 3 4 5 6

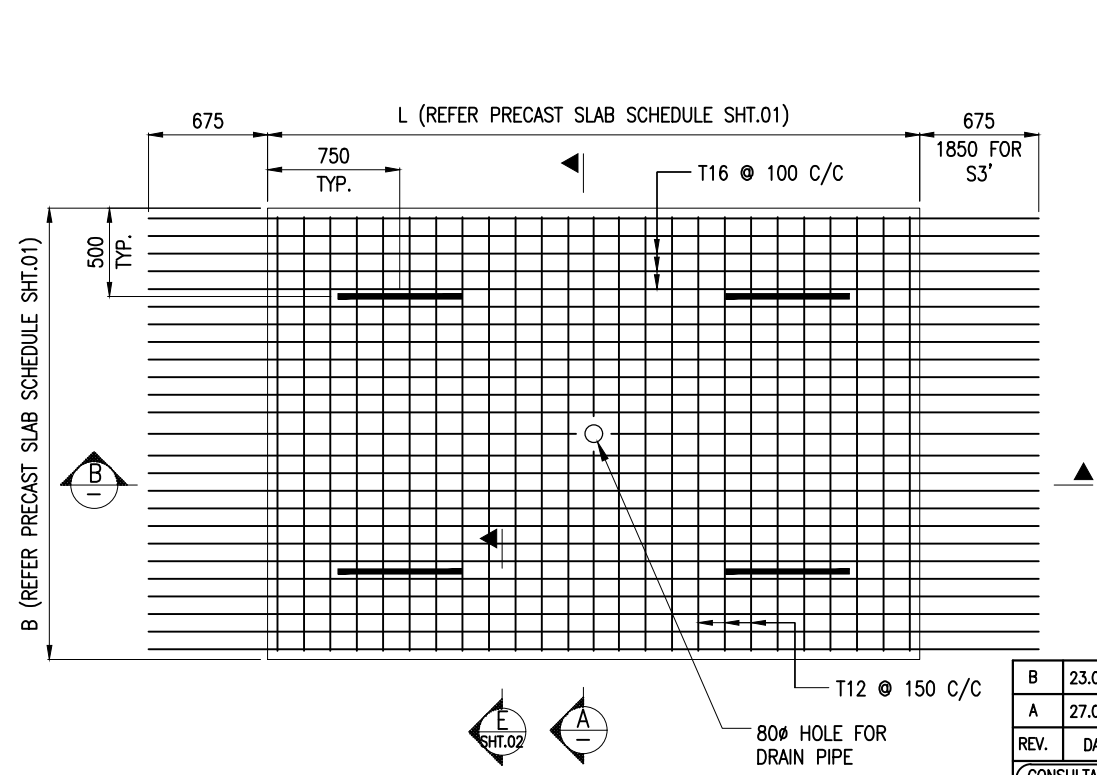
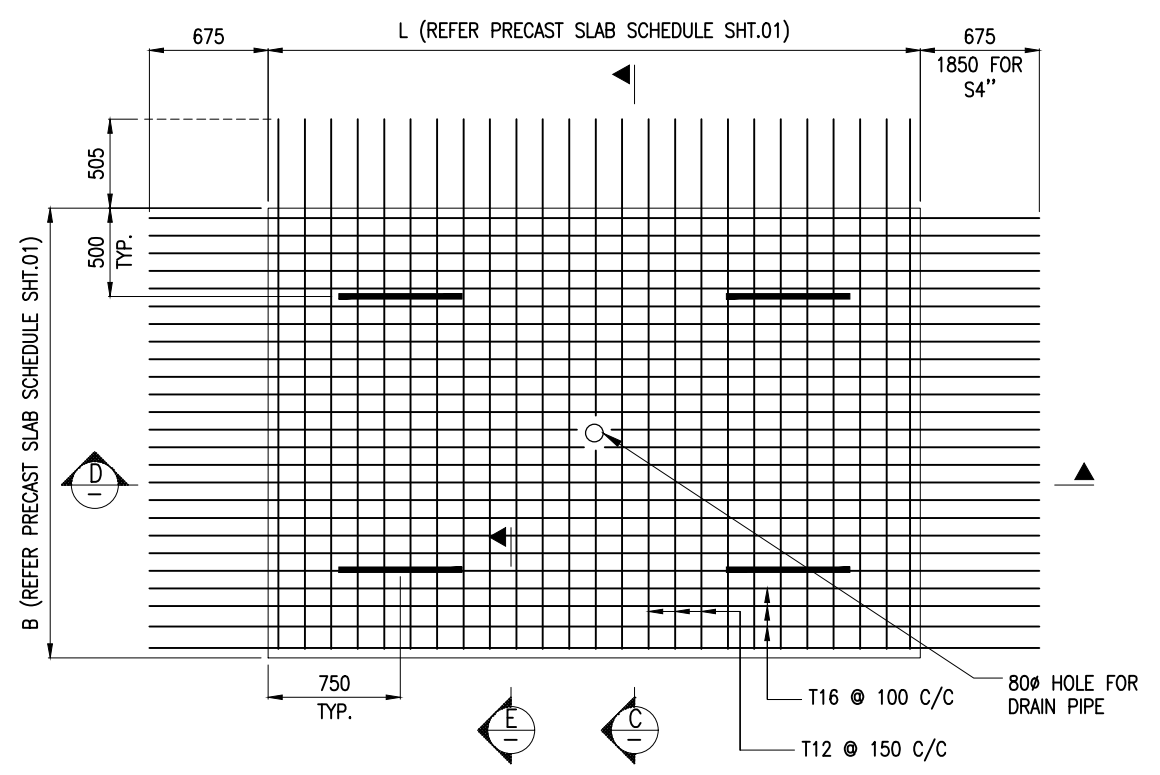
A



B





C

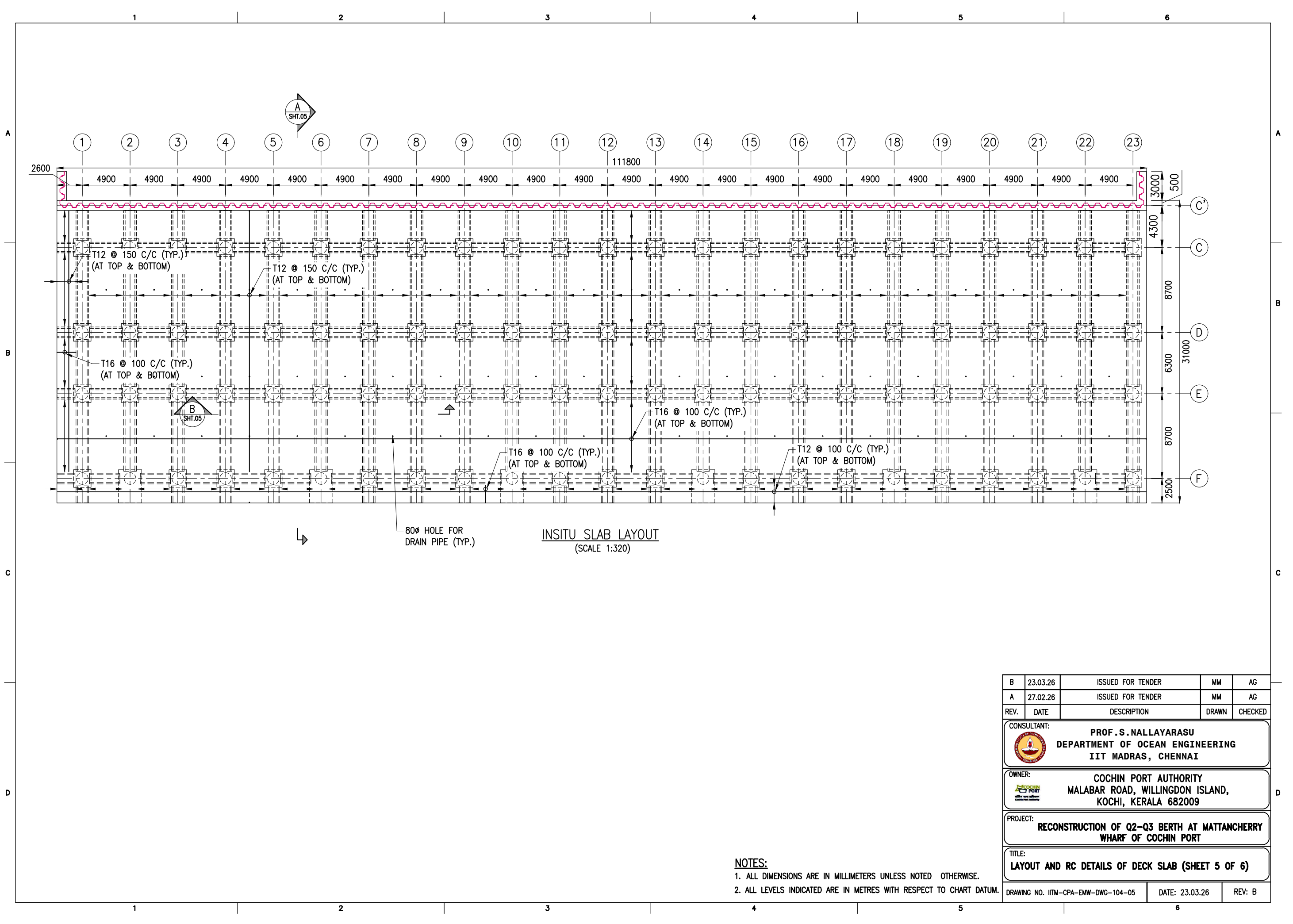


D

- NOTES:**
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B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 4 OF 6)				
DRAWING NO. IITM-CPA-EMW-DWG-104-04			DATE: 23.03.26	REV: B



1 2 3 4 5 6



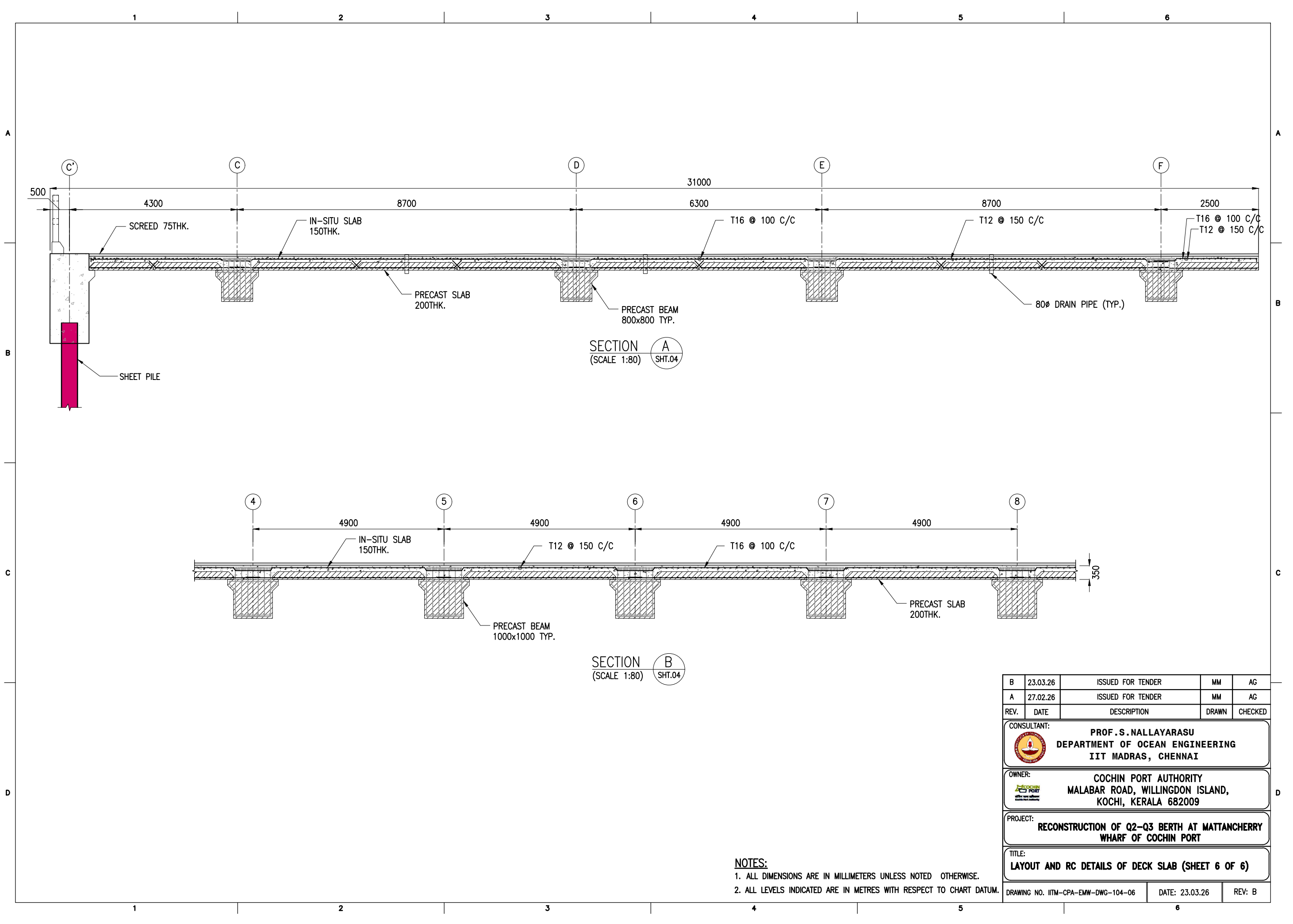
INSITU SLAB LAYOUT
(SCALE 1:320)

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG

CONSULTANT:	 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
OWNER:	 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009
PROJECT:	RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT
TITLE:	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 5 OF 6)

DRAWING NO.	IITM-CPA-EMW-DWG-104-05	DATE:	23.03.26	REV:	B
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SECTION A
(SCALE 1:80) SHT.04

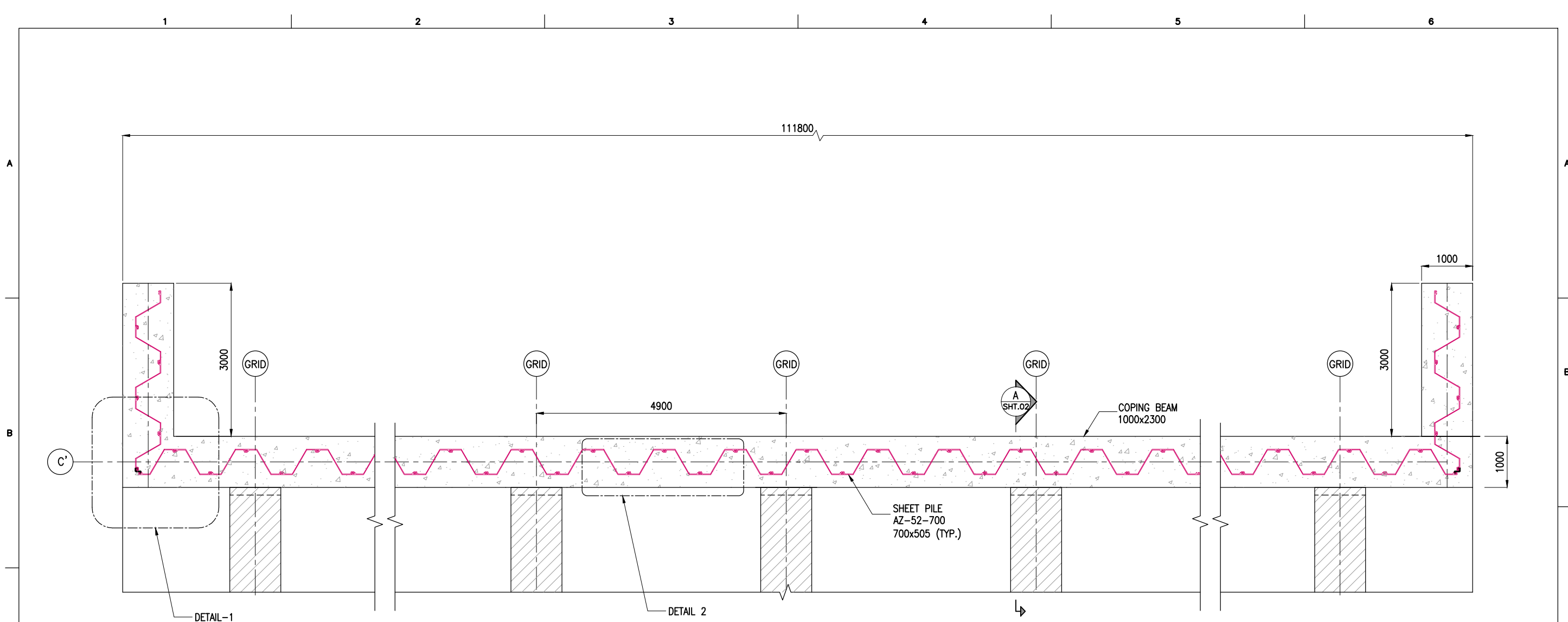
SECTION B
(SCALE 1:80) SHT.04

NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

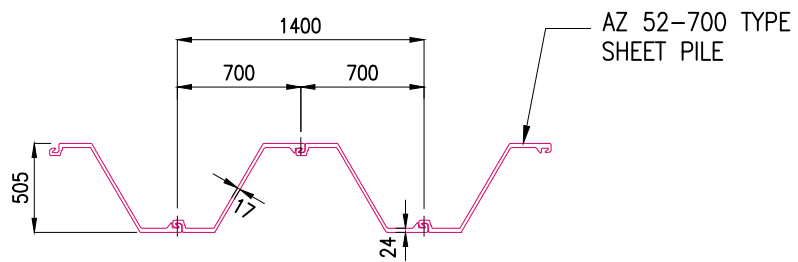
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG

CONSULTANT:	 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
OWNER:	 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009
PROJECT:	RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT
TITLE:	LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 6 OF 6)

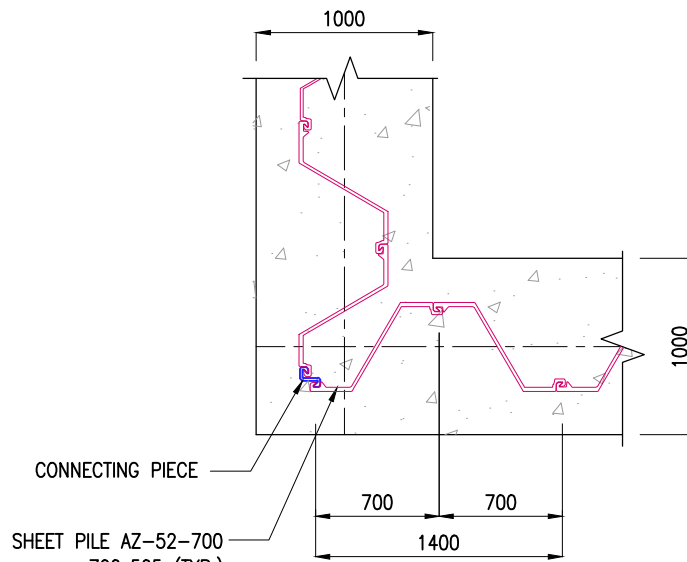
DRAWING NO. IITM-CPA-EMW-DWG-104-06	DATE: 23.03.26	REV: B
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TYPICAL PLAN OF SHEET PILE/COPING BEAM
(SCALE 1:60)





DETAIL 2
SCALE 1:40
DETAIL OF SHEET PILE (AZ 52-700)
(SCALE 1:40)

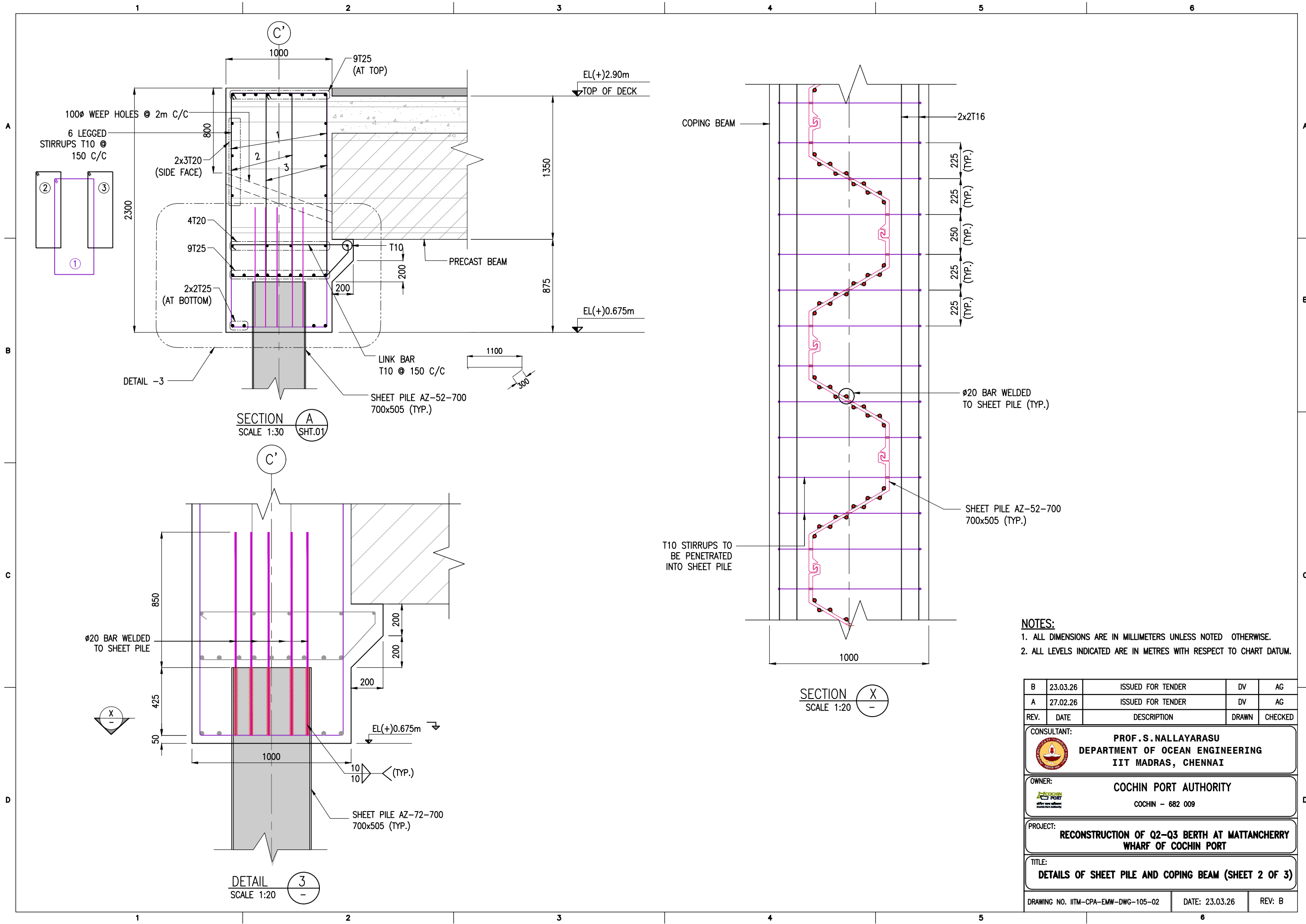


DETAIL 1
SCALE 1:40
CONNECTING PIECE
SHEET PILE AZ-52-700
700x505 (TYP.)

NOTES:

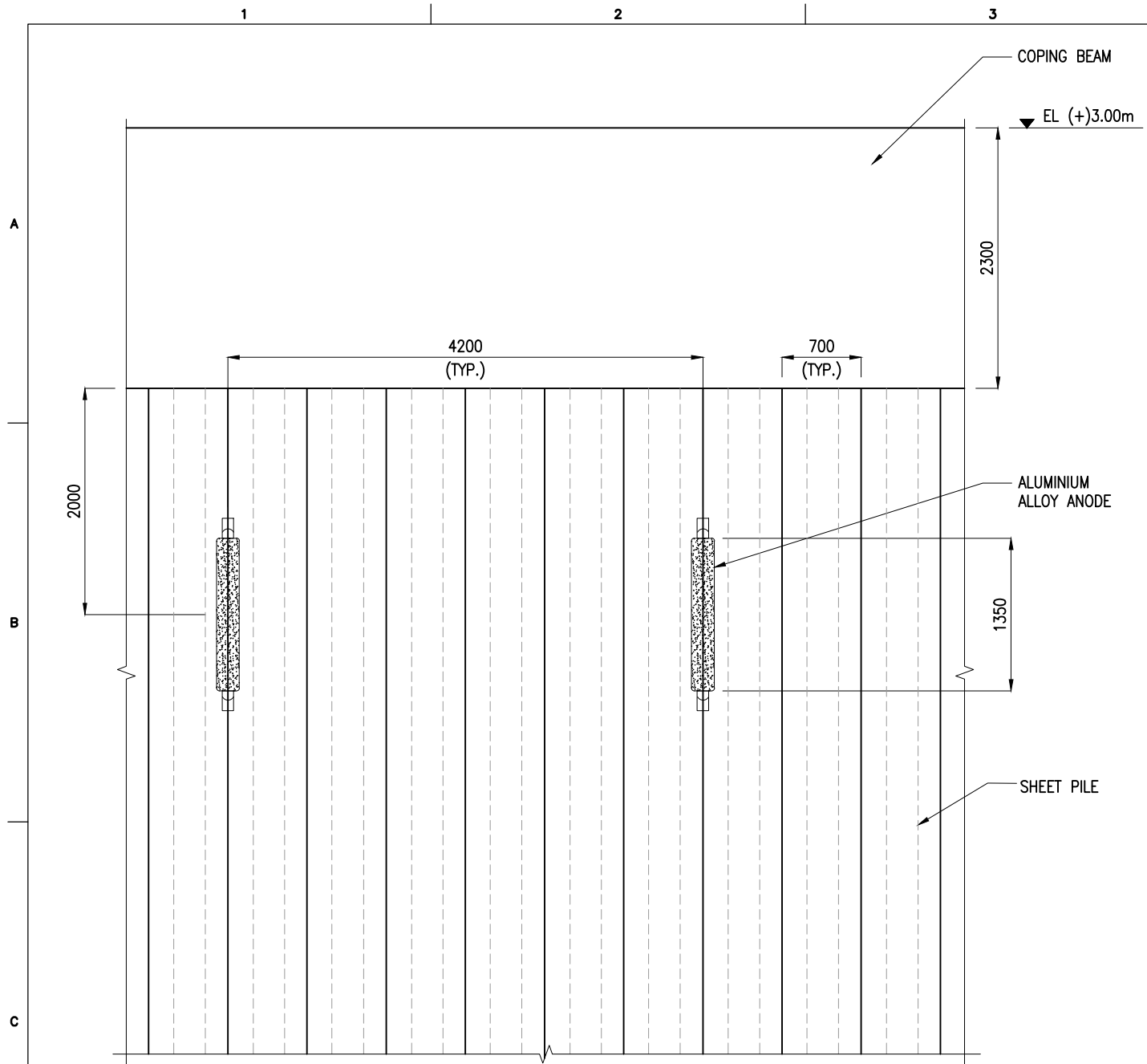
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY COCHIN - 682 009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: DETAILS OF SHEET PILE AND COPING BEAM (SHEET 1 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-105-01			DATE: 23.03.26	REV: B

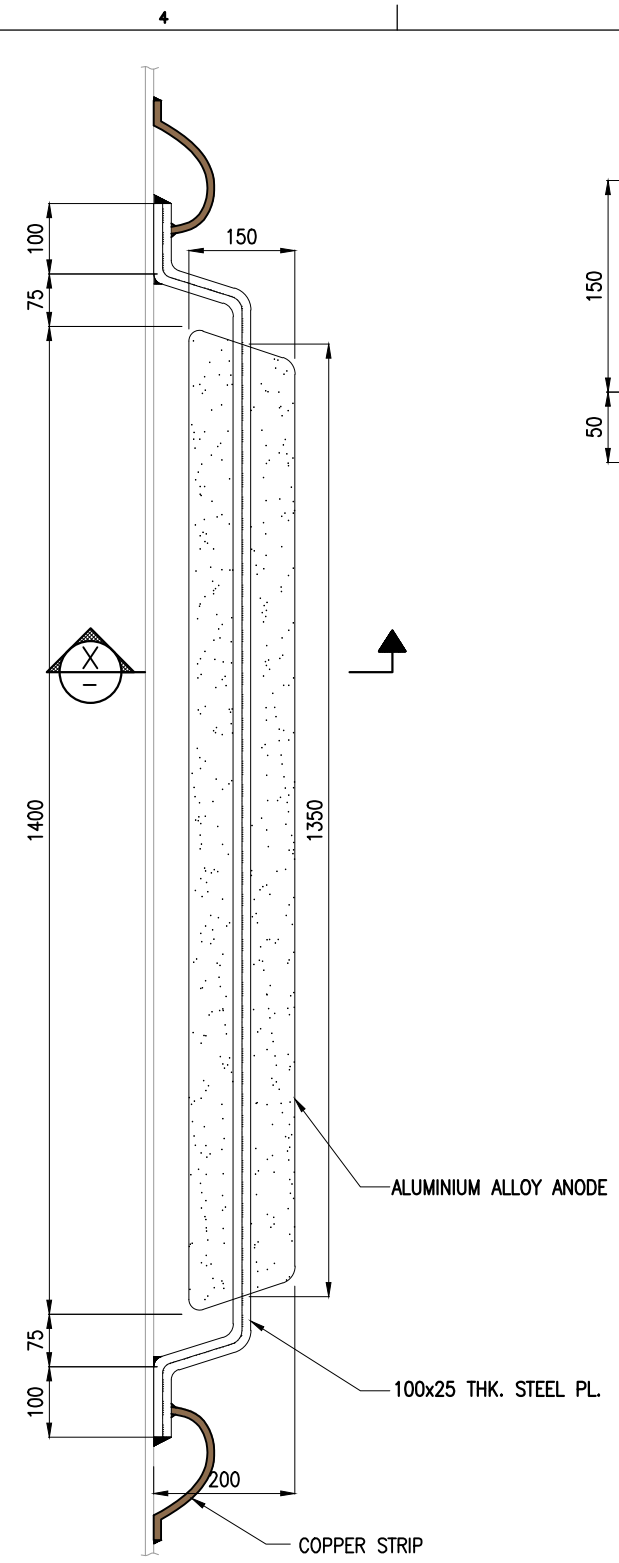


- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

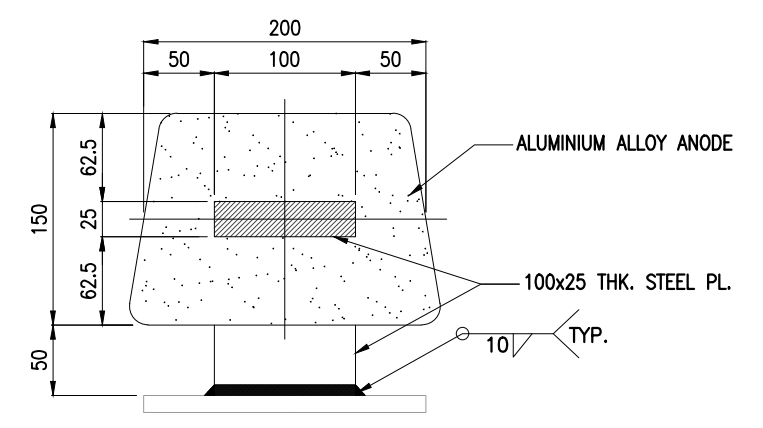
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY COCHIN - 682 009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: DETAILS OF SHEET PILE AND COPING BEAM (SHEET 2 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-105-02		DATE: 23.03.26	REV: B	



TYPICAL ANODE ARRANGEMENT OF SHEET PILE
(SCALE 1:50)



TYPICAL ANODE DETAILS
(SCALE 1:10)



SECTION X-X
(SCALE 1:5)

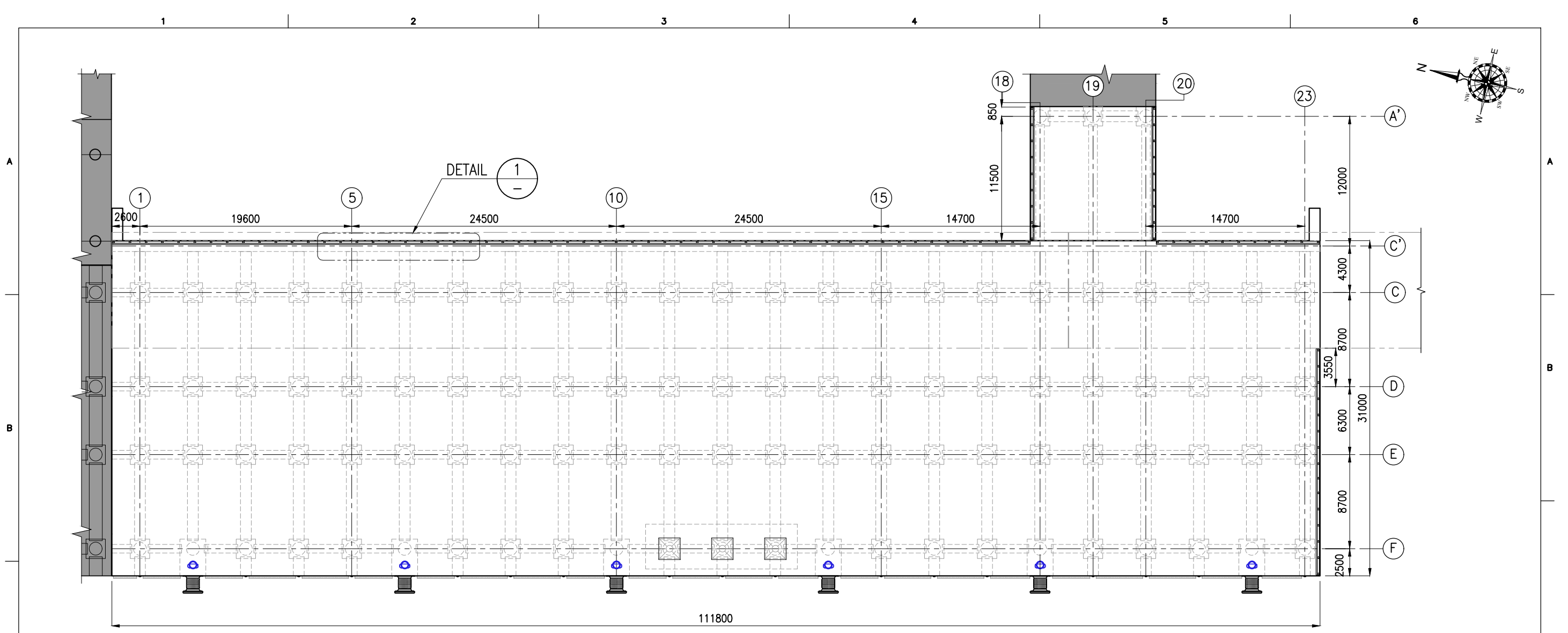
ANODE DETAILS:

S.NO	DESCRIPTION	REQUIREMENT
1	ANODE TYPE	SLENDER ANODE
2	ANODE MATERIAL	ALUMINIUM ANODE (GALVALUM III)
3	NUMBER OF ANODES (sheet pile)	30 (4.2m spacing)
4	NET WEIGHT OF EACH ANODE	102.1 KG
5	GROSS WEIGHT OF EACH ANODE	139 KG
6	ELECTROCHEMICAL EFFICIENCY	2500 A-HR/KG
7	DESIGN LIFE	10 Years

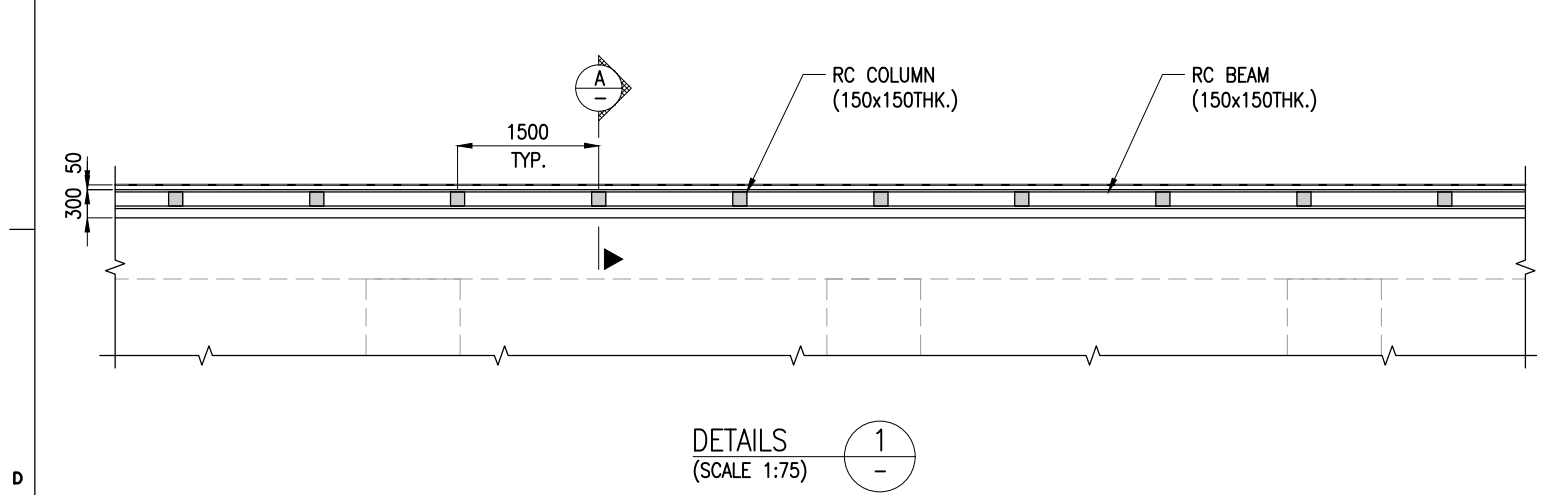
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. SHEET PILES SHALL PAINTED WITH ANTICORROSIVE EPOXY PAINT OF MINIMUM THICKNESS OF 750 DFT (4 COATS).

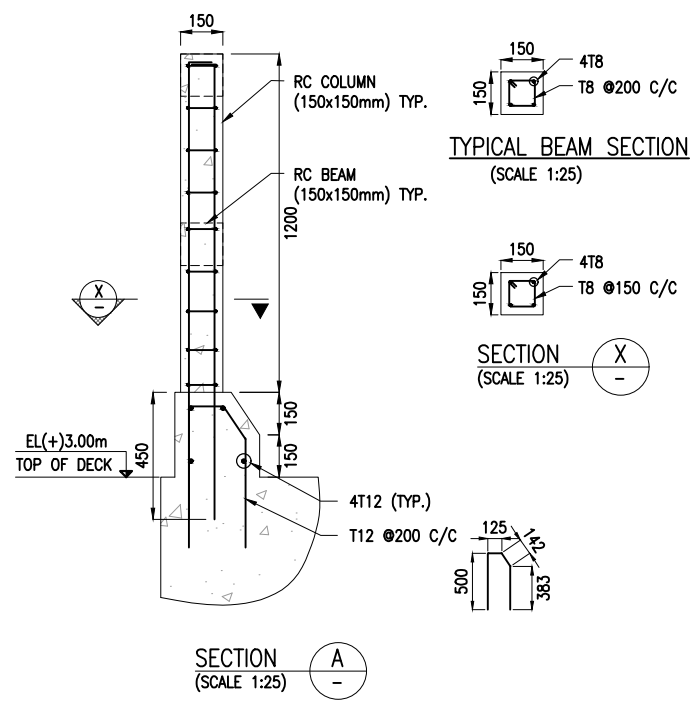
B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: DETAILS OF SHEET PILE AND COPING BEAM (SHEET 3 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-105-03		DATE: 23.03.26	REV: B	



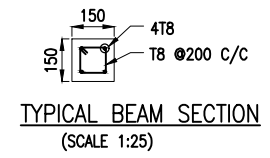
LAYOUT OF HANDRAIL
(SCALE 1:350)



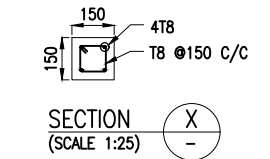
DETAILS
(SCALE 1:75)



SECTION
(SCALE 1:25)



TYPICAL BEAM SECTION
(SCALE 1:25)

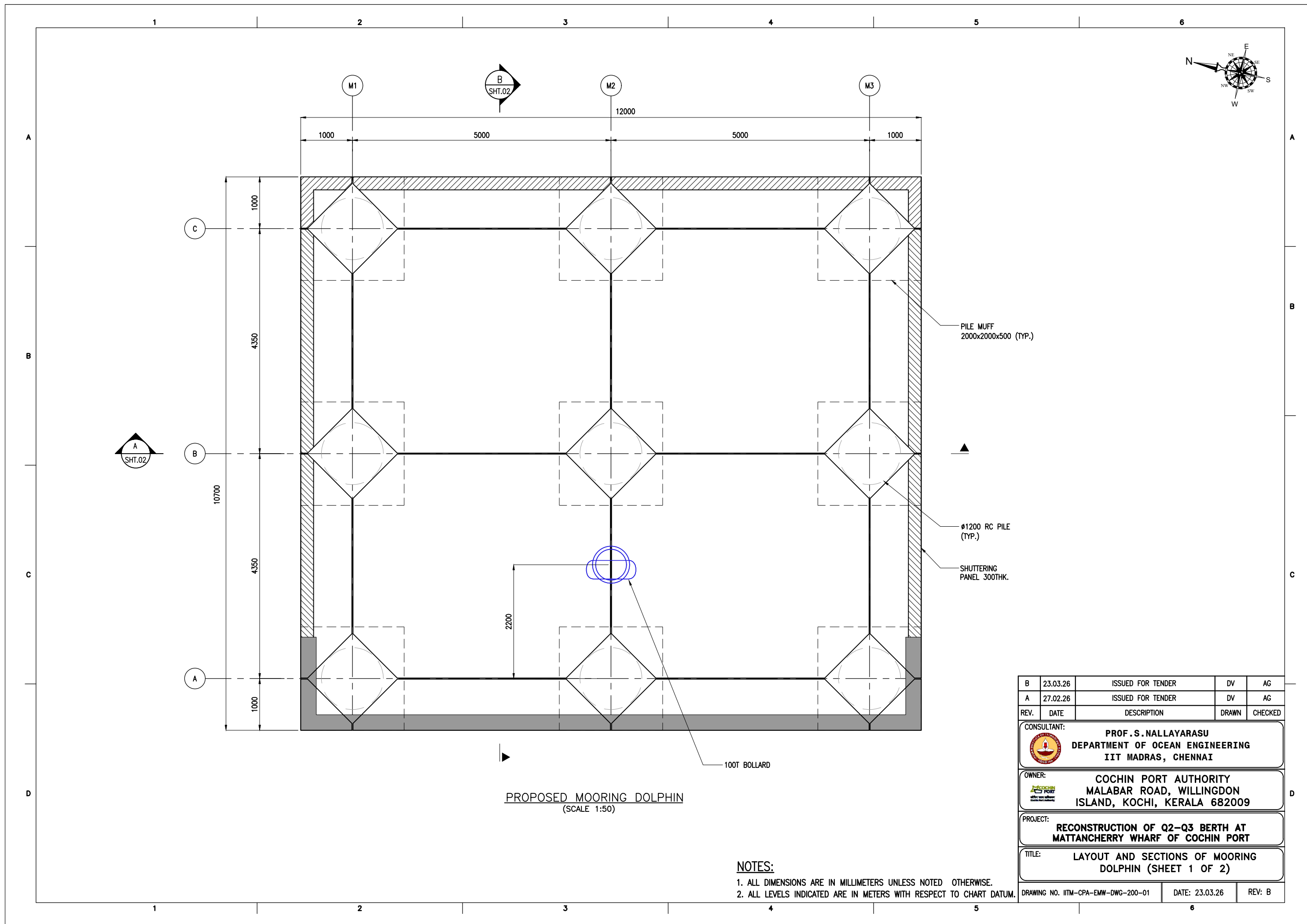


SECTION
(SCALE 1:25)

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 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	SNR	AG
A	-	NOT ISSUED	-	-



CONSULTANT:		PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI	
OWNER:		COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009	
PROJECT:		RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT	
TITLE:		LAYOUT AND SECTIONS OF HANDRAIL	
DRAWING NO. IITM-CPA-EMW-DWG-106		DATE: 23.03.26	REV: B

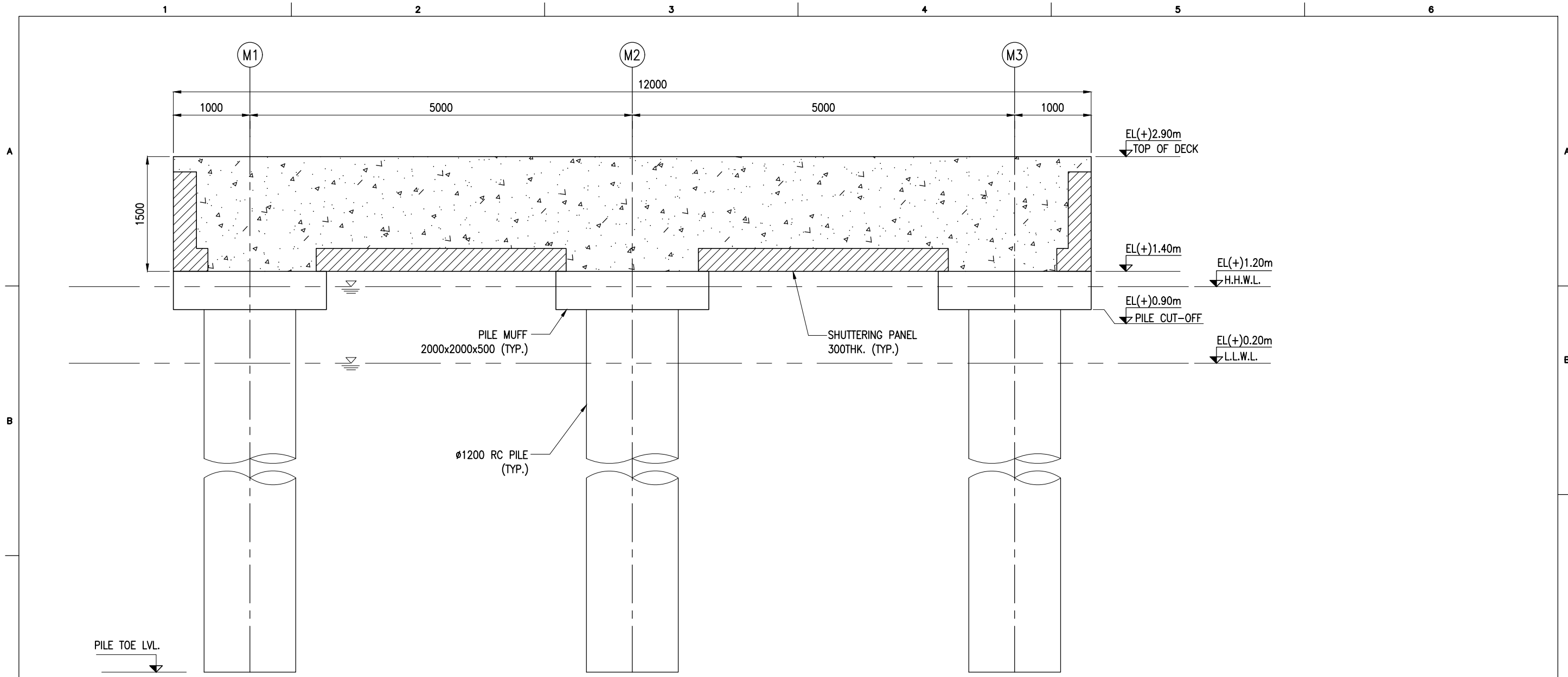


PROPOSED MOORING DOLPHIN
(SCALE 1:50)

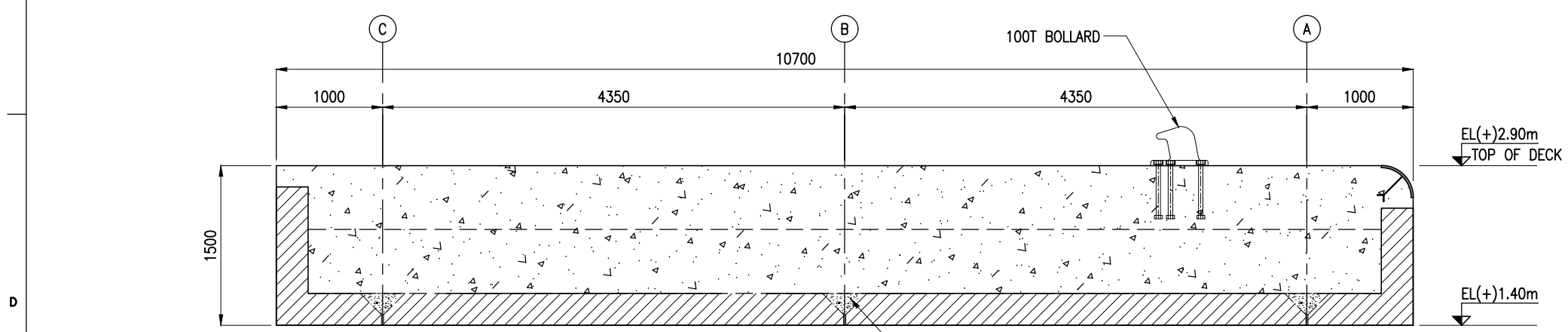
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND SECTIONS OF MOORING DOLPHIN (SHEET 1 OF 2)				
DRAWING NO. IITM-CPA-EMW-DWG-200-01			DATE: 23.03.26	REV: B




SECTION A
(SCALE 1:50) SHT.01




SECTION B
(SCALE 1:50) SHT.01

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

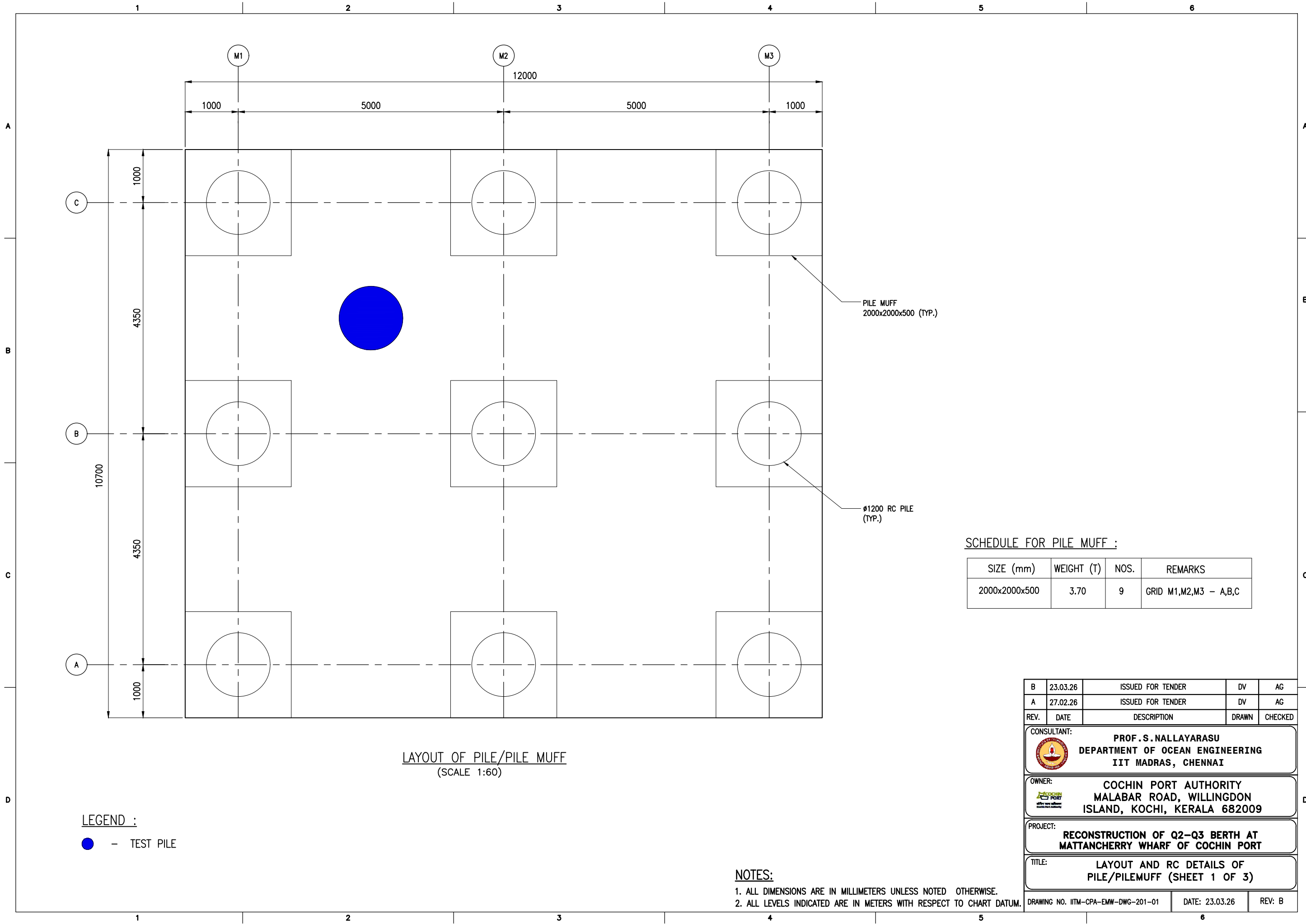
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON
 ISLAND, KOCHI, KERALA 682009

PROJECT:
**RECONSTRUCTION OF Q2-Q3 BERTH AT
 MATTANCHERRY WHARF OF COCHIN PORT**

TITLE:
**LAYOUT AND SECTIONS OF MOORING
 DOLPHIN (SHEET 2 OF 2)**

DRAWING NO. IITM-CPA-EMW-DWG-200-02	DATE: 23.03.26	REV: B
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LAYOUT OF PILE/PILE MUFF
(SCALE 1:60)

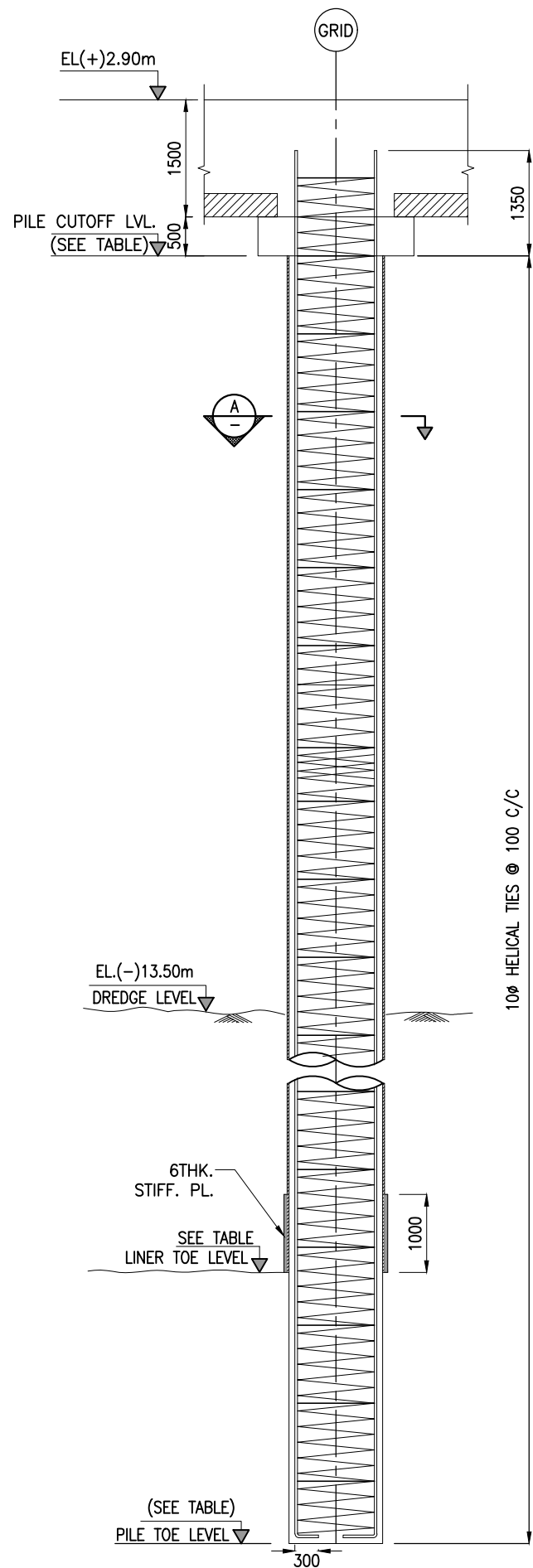
LEGEND :
● - TEST PILE

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.

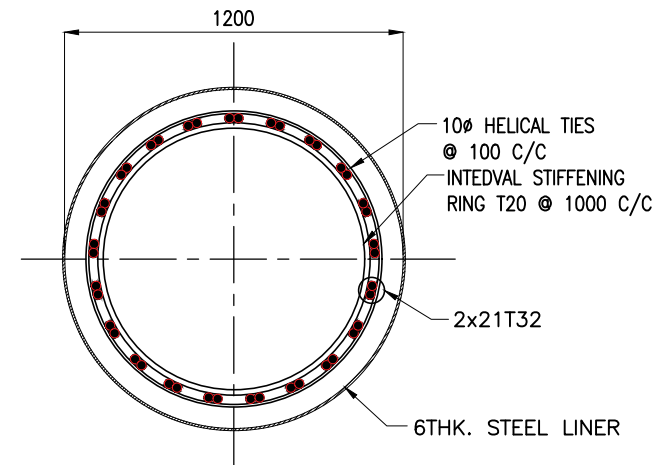
SCHEDULE FOR PILE MUFF :

SIZE (mm)	WEIGHT (T)	NOS.	REMARKS
2000x2000x500	3.70	9	GRID M1,M2,M3 - A,B,C

B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 1 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-201-01			DATE: 23.03.26	REV: B



VERTICAL SECTION OF 1200Ø PILE
(SCALE 1:75)



SECTION A
(SCALE 1:25)

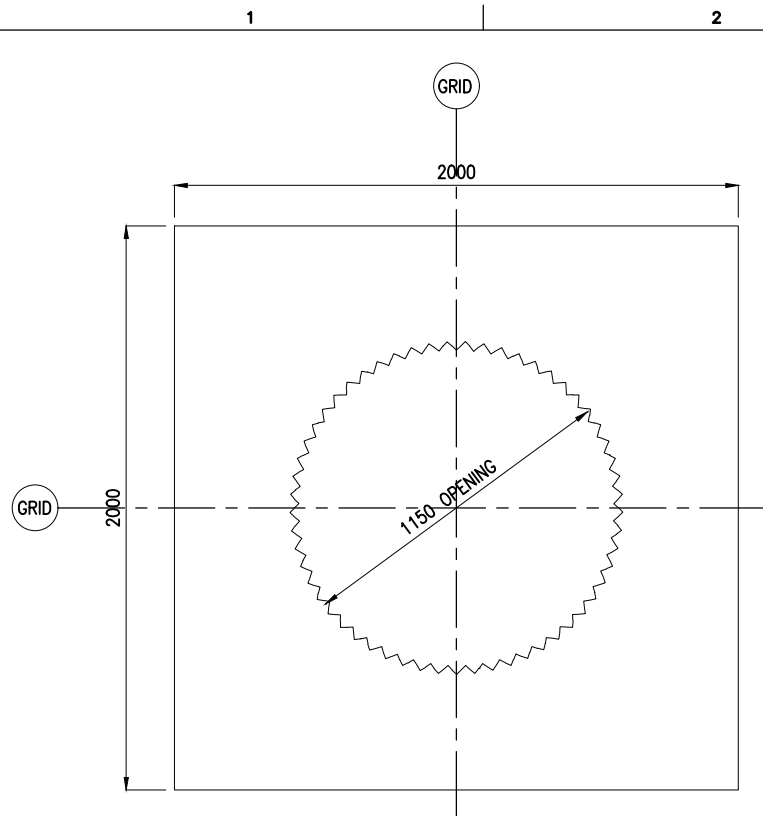
PILE SCHEDULE:

S.NO	PILE Ø (mm)	NO.OF PILES	BOTTOM OF LINER (m)	PILE CUT-OFF LVL. (m)	PILE TOE LVL. (m)	PILE WORKING LOAD (T)	
						VER.	HORZ.
1	1200	9	-25.00	+0.90	-40.00	250	25

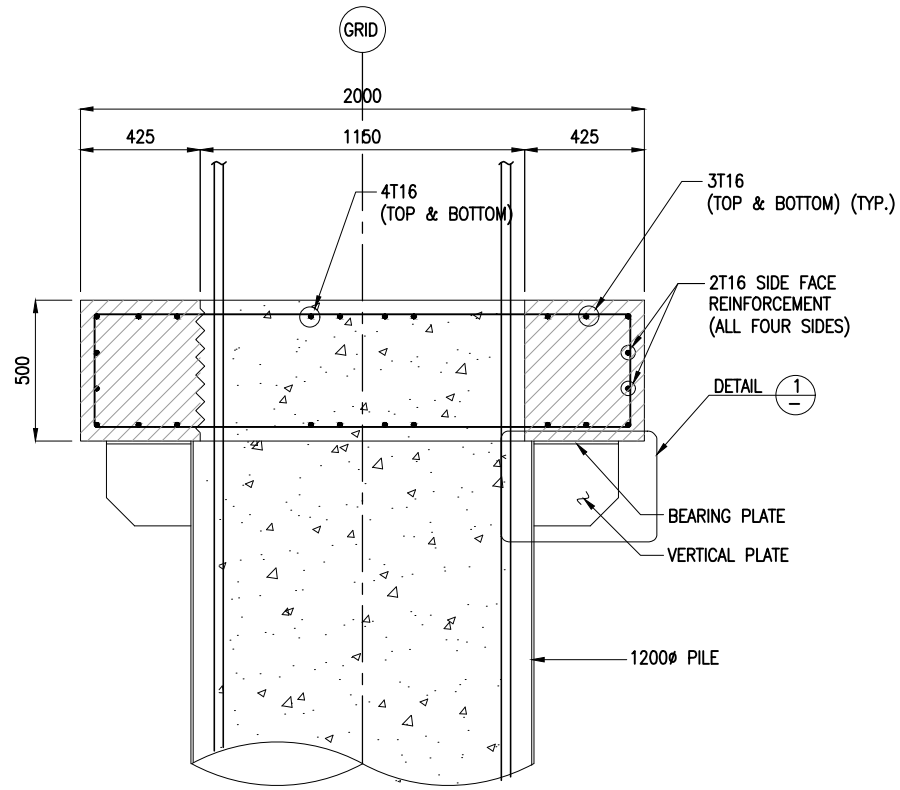
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. LINER SHALL BE DRIVEN TO REFUSAL/UPTO THE LEVEL SHOWN IN THE DRAWING.
5. STRUCTURAL STEEL FOR LINER SHALL CONFORM TO IS:2062 GRADE E250.
6. THE EXISTING SEABED LEVEL SHOWN IN THE DRAWING IS TENTATIVE AND SHALL BE VERIFIED DURING BORING.
7. PILE SHALL BE CAST 600mm HIGHER THAN THE PILE CUT-OFF LEVEL AND OVERFLOW OF CONCRETE SHALL BE OBSERVED AND THE ADDITIONAL LENGTH OF PILE SHALL BE CUT AFTER 28 DAYS OF CASTING THE PILE.

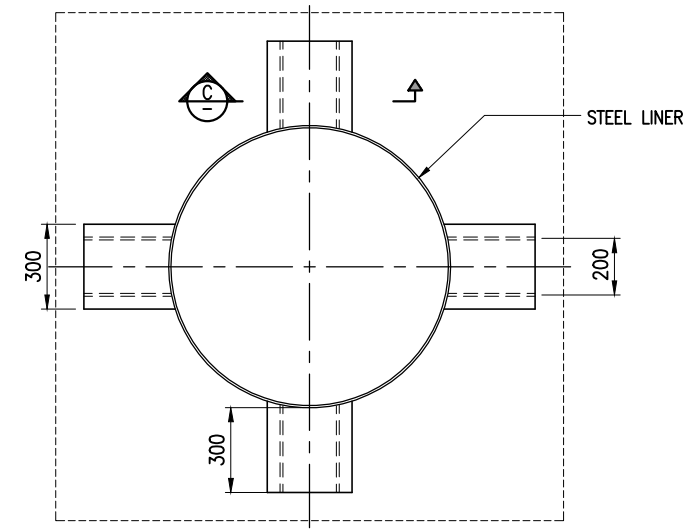
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 2 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-201-02			DATE: 23.03.26	REV: B



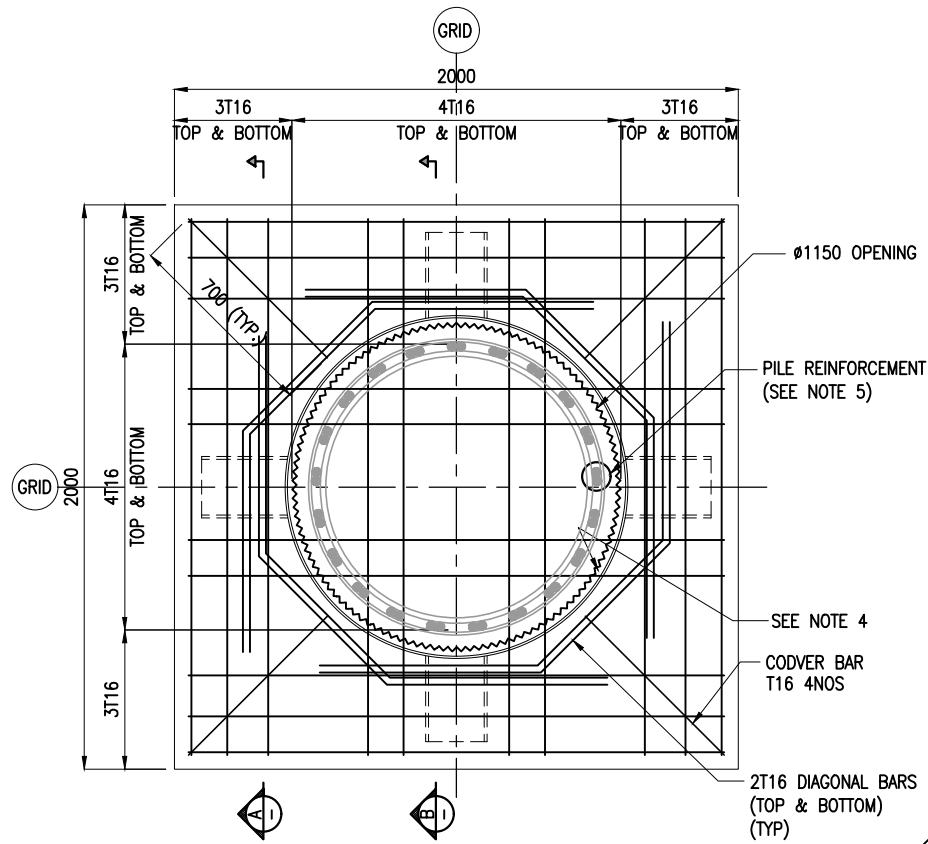
PLAN VIEW



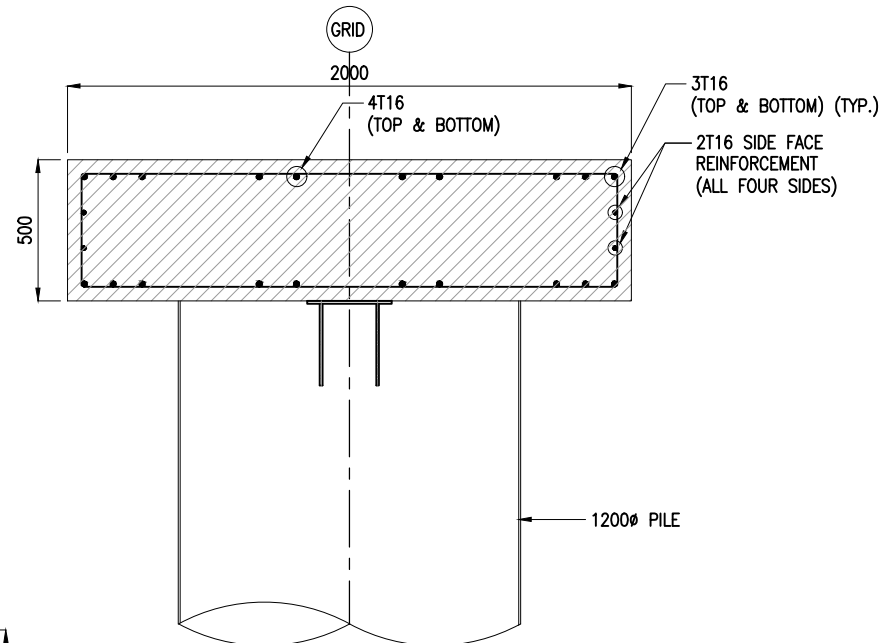
SECTION B
(SCALE 1:25)



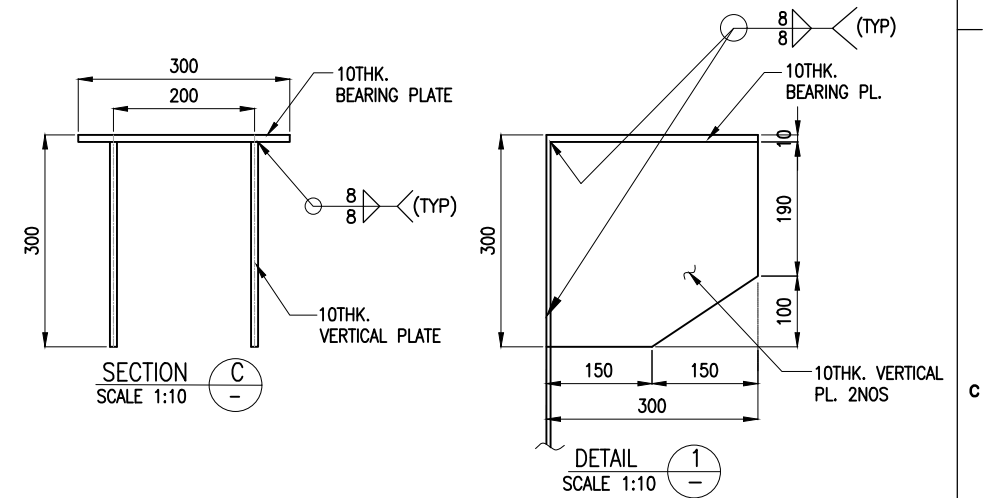
TYPICAL PILE MUFF SUPPORT
SCALE 1:25



PLAN OF REINFORCEMENT
(SCALE 1:25)



SECTION A
(SCALE 1:25)



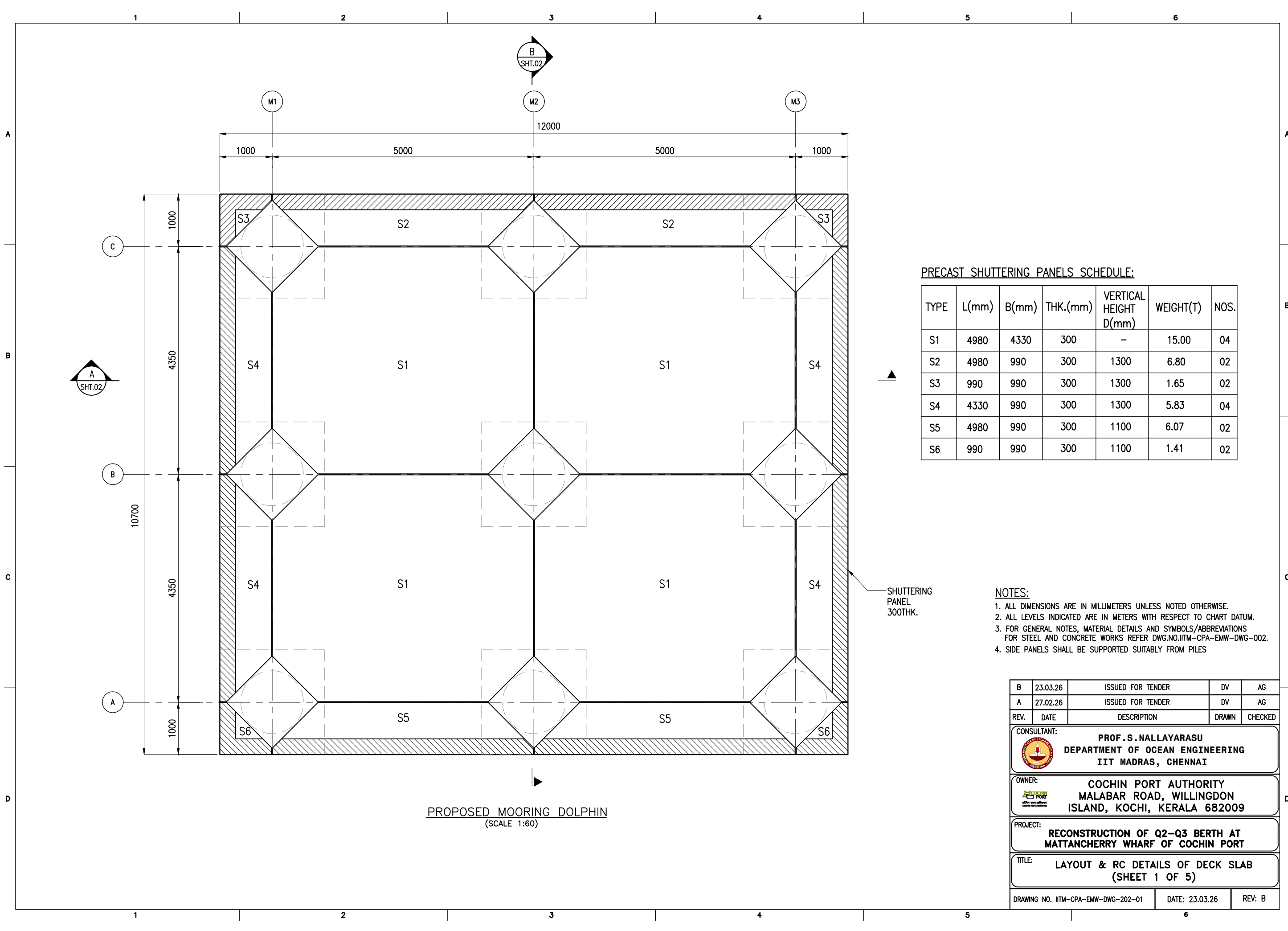
SECTION C
SCALE 1:10

DETAIL 1
SCALE 1:10

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. INNER SURFACE OF THE CONCRETE SHALL BE ROUGHENED.
5. PILE REINFORCEMENT POSITION SHALL BE ADJUSTED DURING PLACEMENT OF PRECAST PILE MUFF.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND RC DETAILS OF PILE/PILEMUFF (SHEET 3 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-201-03			DATE: 23.03.26	REV: B



PROPOSED MOORING DOLPHIN
(SCALE 1:60)

PRECAST SHUTTERING PANELS SCHEDULE:

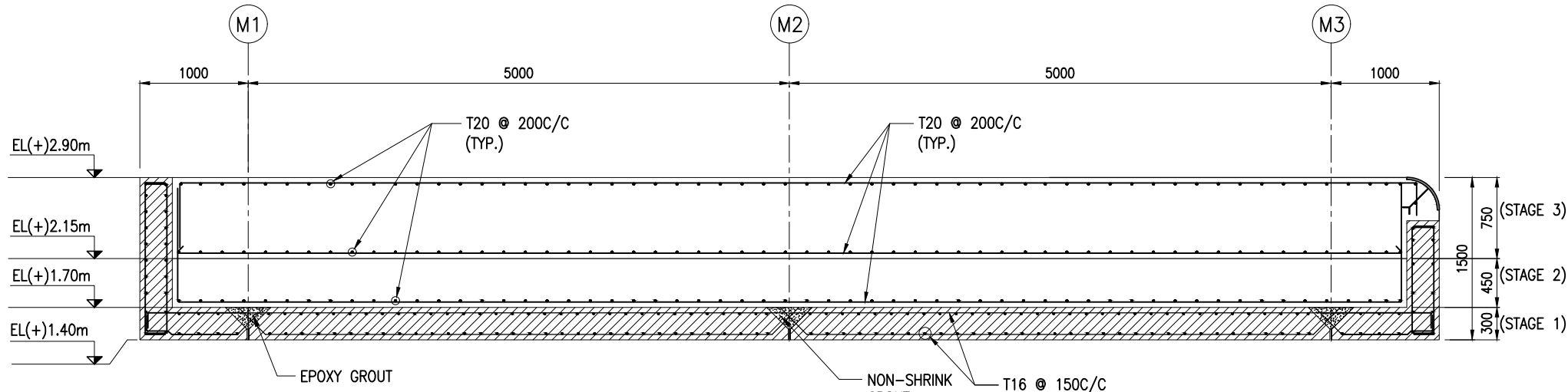
TYPE	L(mm)	B(mm)	THK.(mm)	VERTICAL HEIGHT D(mm)	WEIGHT(T)	NOS.
S1	4980	4330	300	-	15.00	04
S2	4980	990	300	1300	6.80	02
S3	990	990	300	1300	1.65	02
S4	4330	990	300	1300	5.83	04
S5	4980	990	300	1100	6.07	02
S6	990	990	300	1100	1.41	02

SHUTTERING PANEL 300THK.

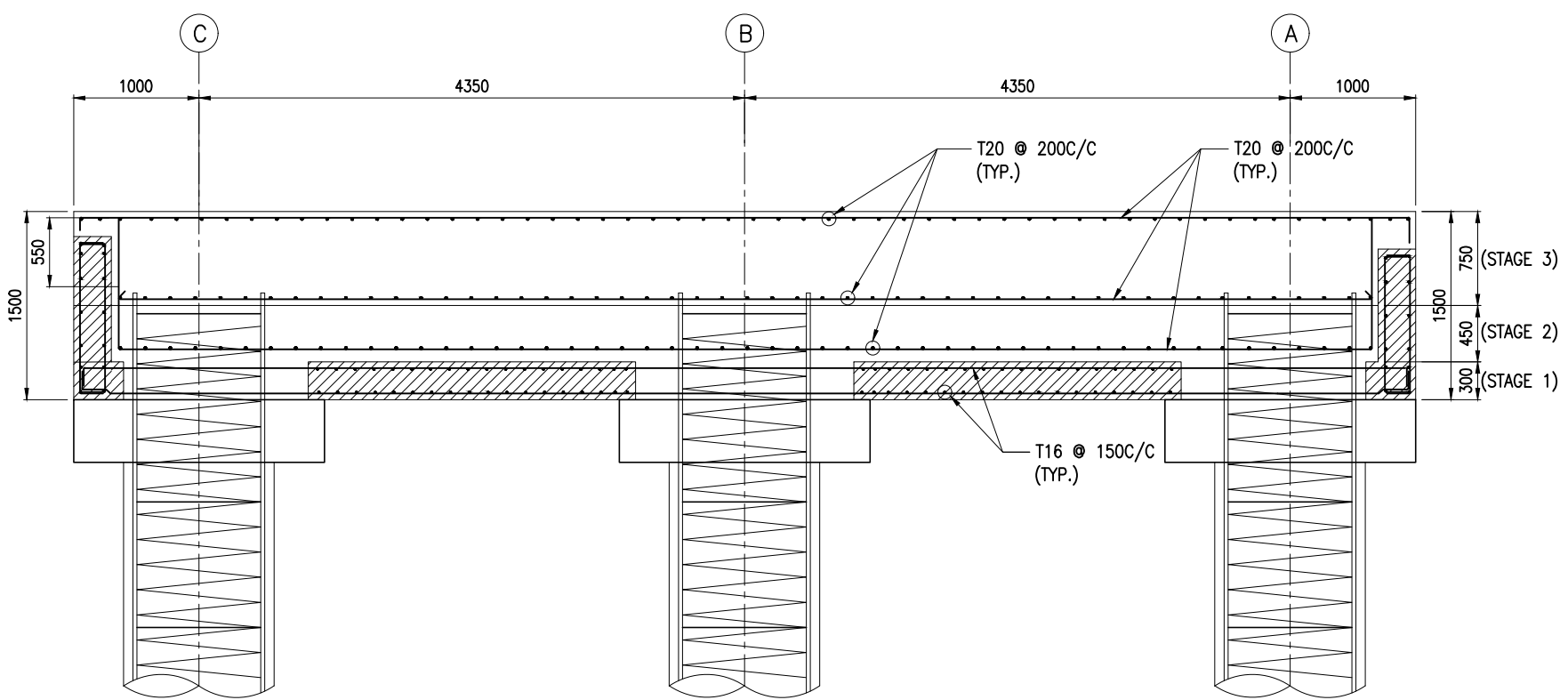
NOTES:

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2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. SIDE PANELS SHALL BE SUPPORTED SUITABLY FROM PILES

B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT & RC DETAILS OF DECK SLAB (SHEET 1 OF 5)				
DRAWING NO. IITM-CPA-EMW-DWG-202-01		DATE: 23.03.26	REV: B	




SECTION A
SCALE 1:50
SHT.01




SECTION B
SCALE 1:50
SHT.01

- NOTES:**
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 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 4. PRECAST SLAB PANEL SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 5. SIDE PANELS SHALL BE SUPPORTED SUITABLY FROM PILES

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

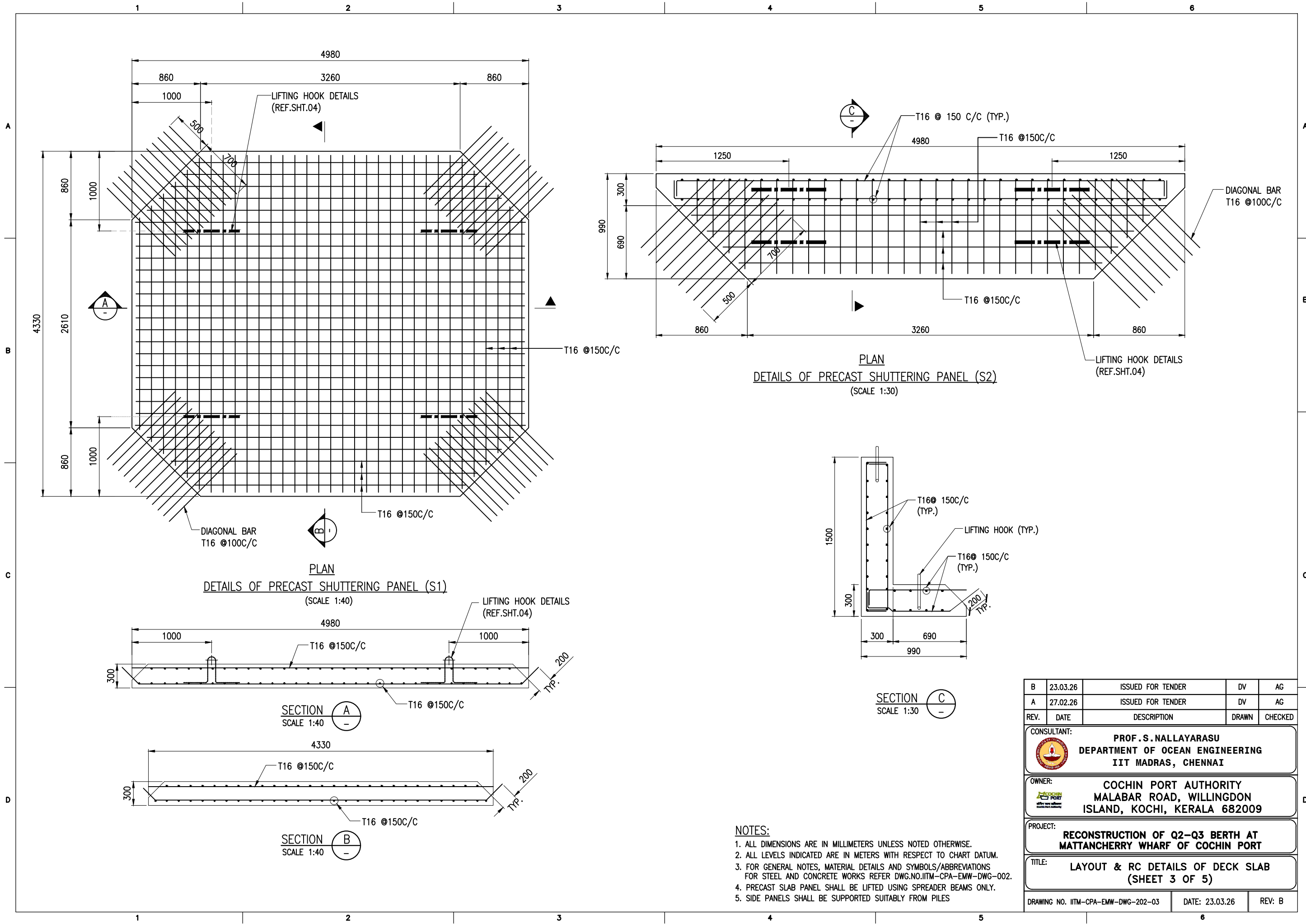
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON
 ISLAND, KOCHI, KERALA 682009

PROJECT:
**RECONSTRUCTION OF Q2-Q3 BERTH AT
 MATTANCHERRY WHARF OF COCHIN PORT**

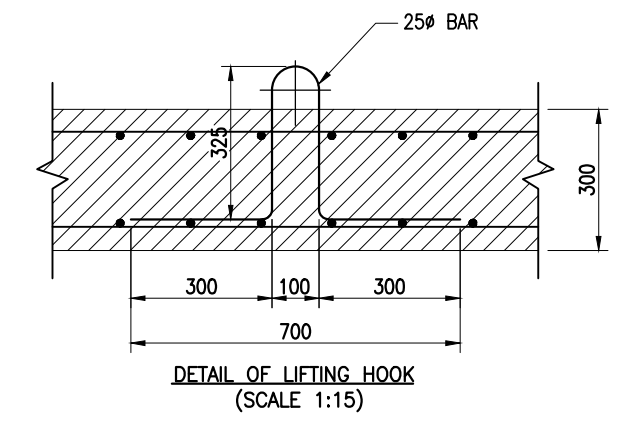
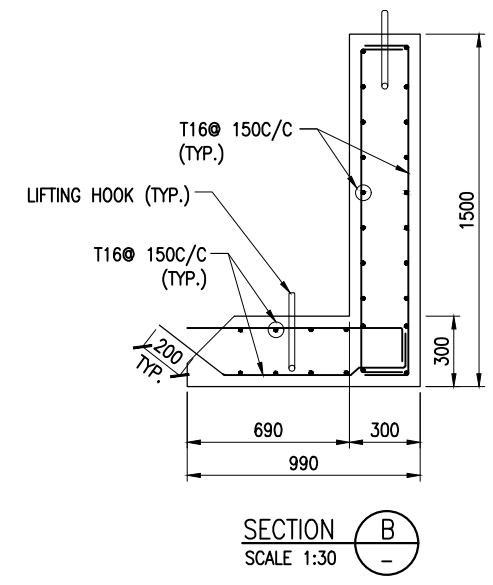
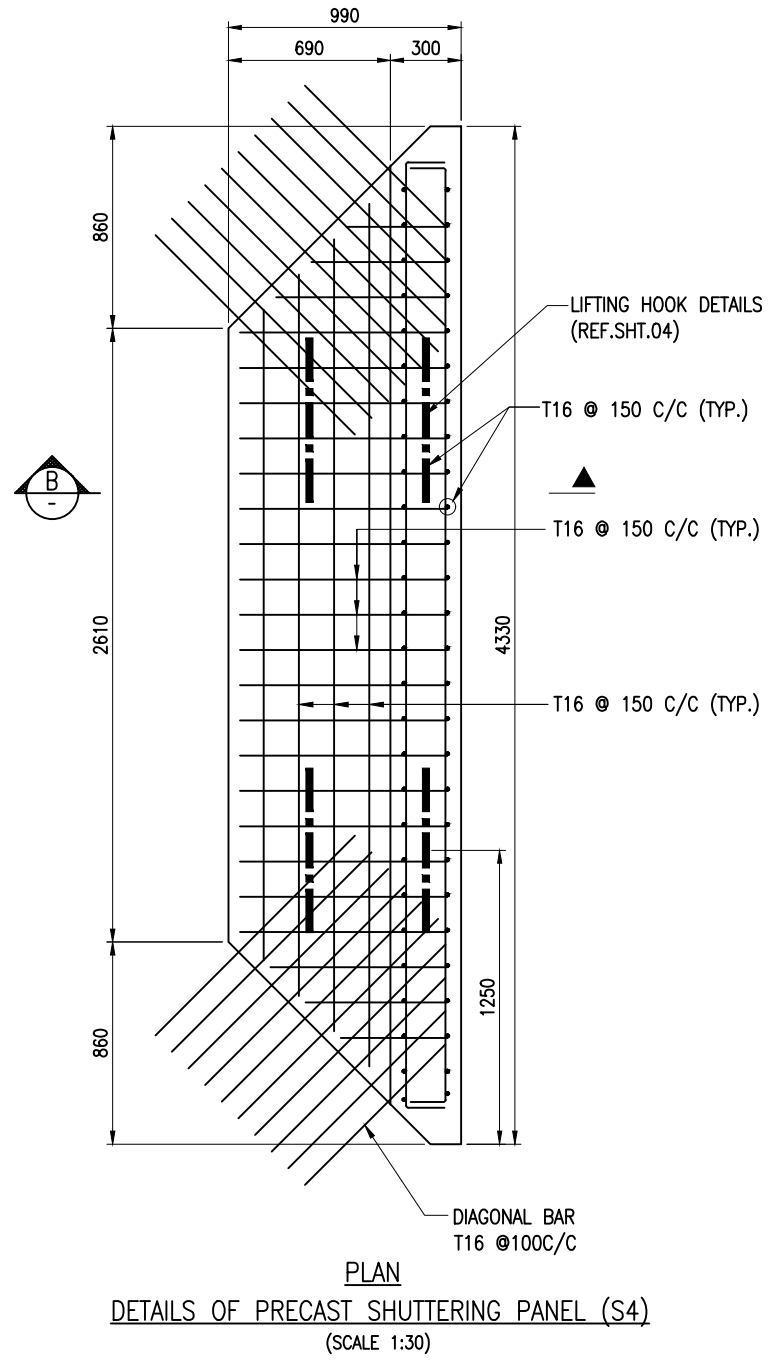
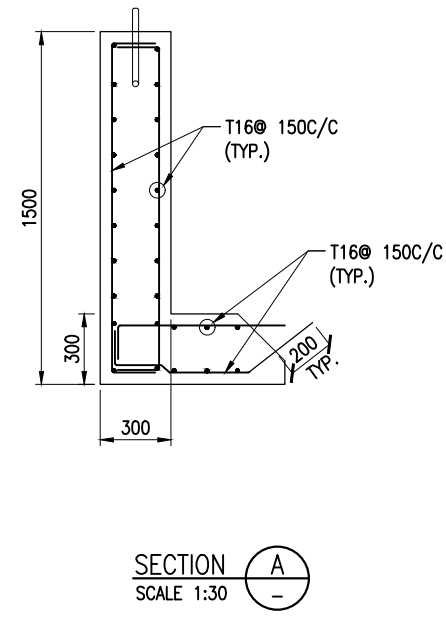
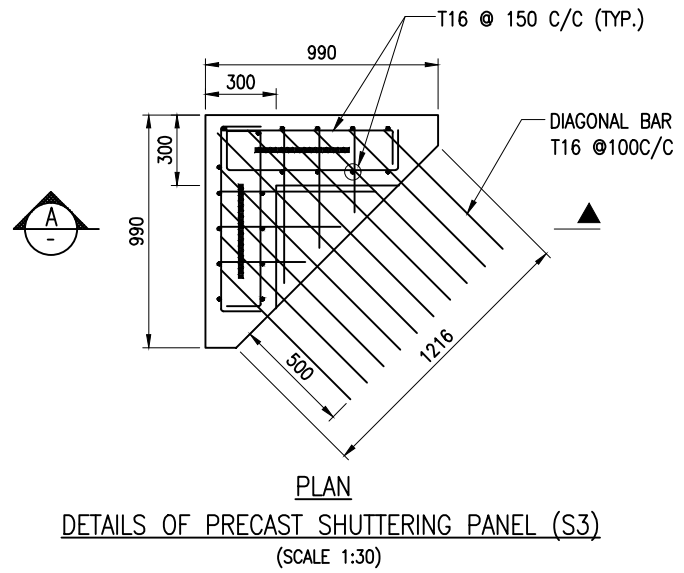
TITLE:
**LAYOUT & RC DETAILS OF DECK SLAB
 (SHEET 2 OF 5)**

DRAWING NO. IITM-CPA-EMW-DWG-202-02	DATE: 23.03.26	REV: B
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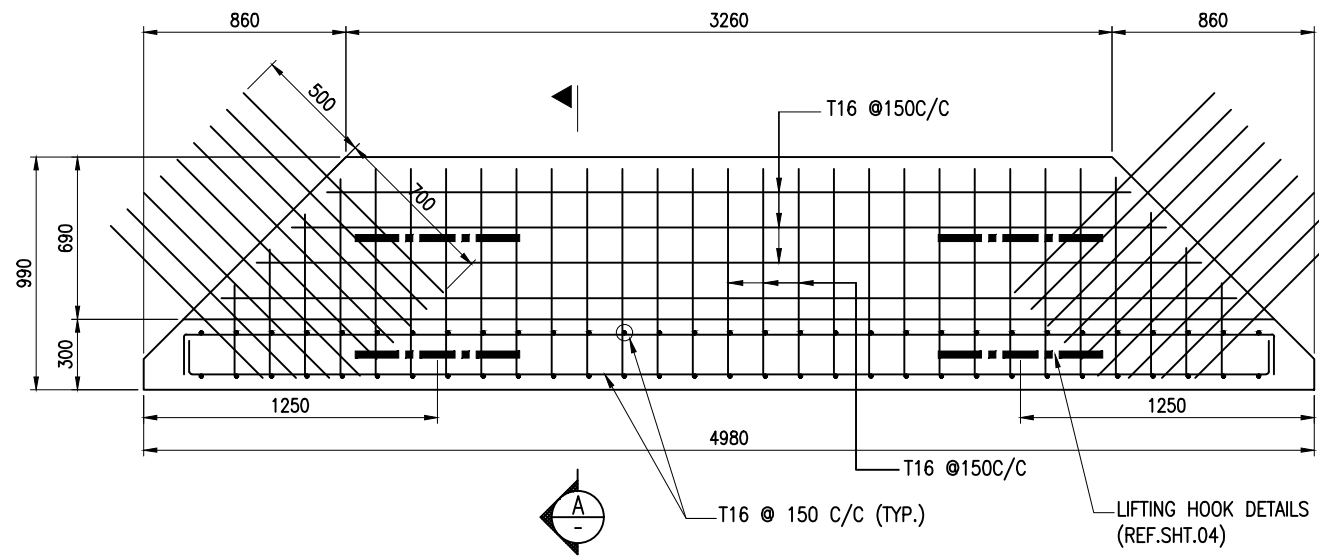
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 4. PRECAST SLAB PANEL SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 5. SIDE PANELS SHALL BE SUPPORTED SUITABLY FROM PILES

B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT & RC DETAILS OF DECK SLAB (SHEET 3 OF 5)				
DRAWING NO. IITM-CPA-EMW-DWG-202-03			DATE: 23.03.26	REV: B

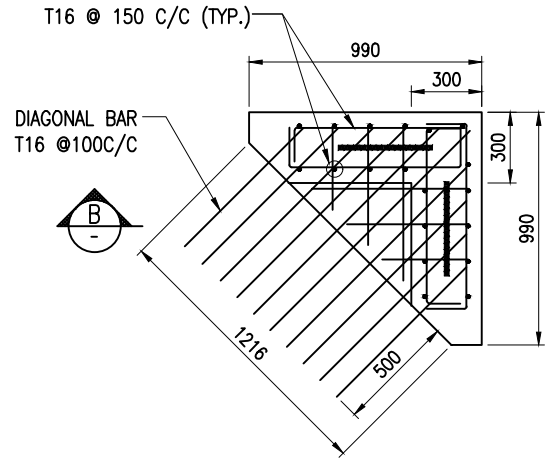


- NOTES:**
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 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 4. PRECAST SLAB PANEL SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 5. SIDE PANELS SHALL BE SUPPORTED SUITABLY FROM PILES

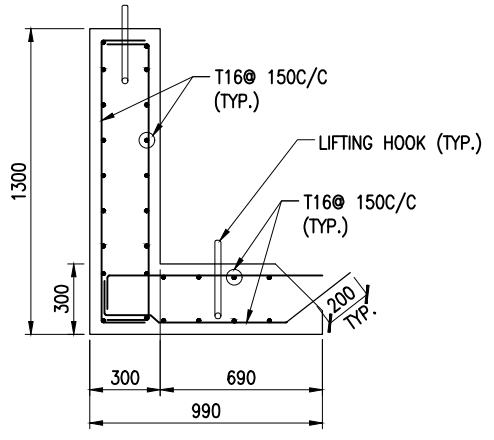
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT & RC DETAILS OF DECK SLAB (SHEET 4 OF 5)				
DRAWING NO. IITM-CPA-EMW-DWG-202-04		DATE: 23.03.26	REV: B	



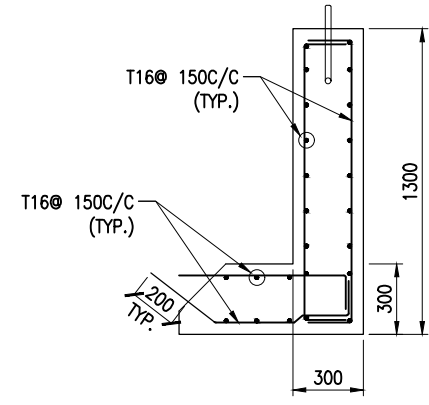
PLAN
DETAILS OF PRECAST SHUTTERING PANEL (S5)
(SCALE 1:30)



PLAN
DETAILS OF PRECAST SHUTTERING PANEL (S6)
(SCALE 1:30)



SECTION A
SCALE 1:30




SECTION B
SCALE 1:30

NOTES:

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3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
4. PRECAST SLAB PANEL SHALL BE LIFTED USING SPREADER BEAMS ONLY.
5. SIDE PANELS SHALL BE SUPPORTED SUITABLY FROM PILES

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

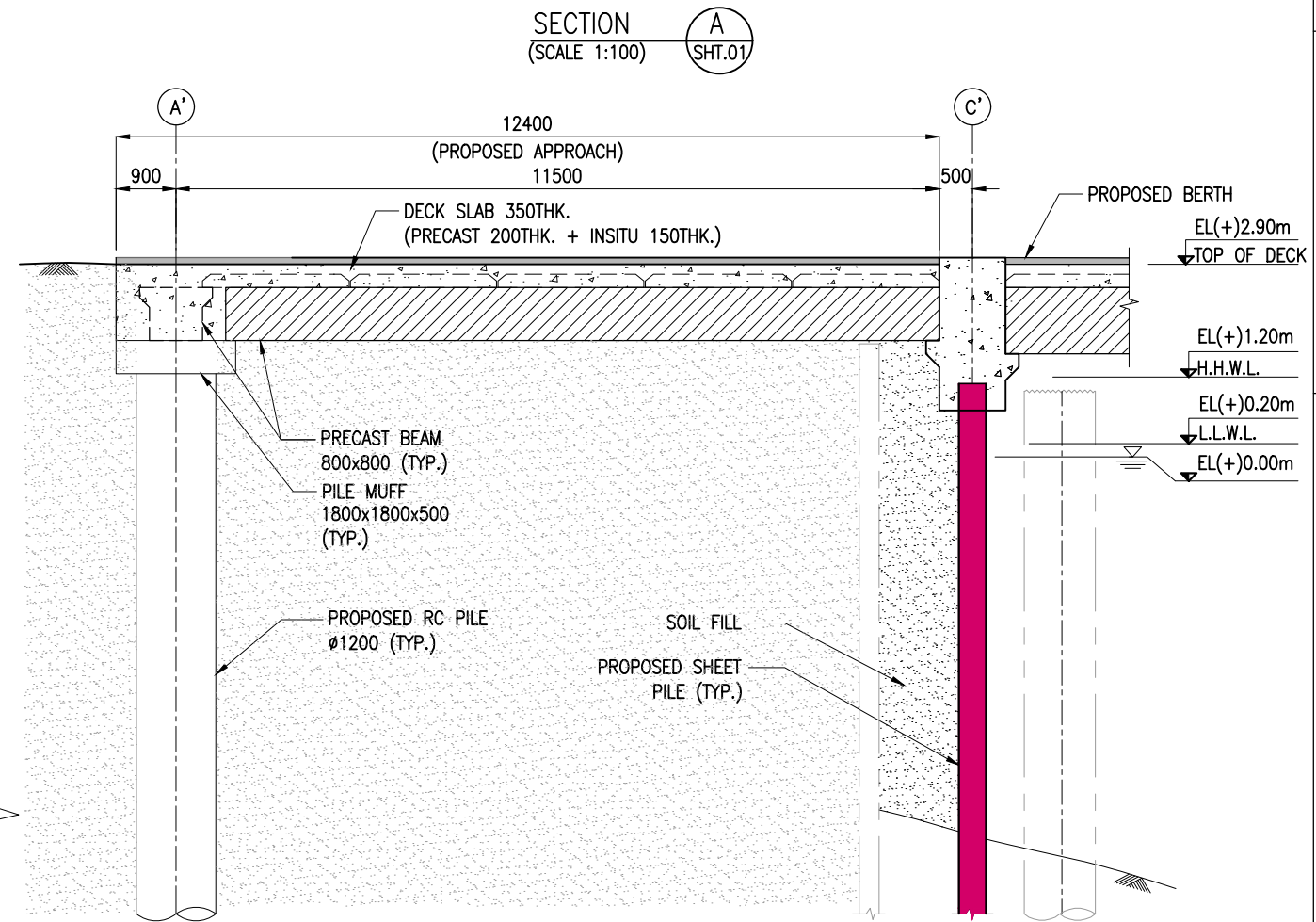
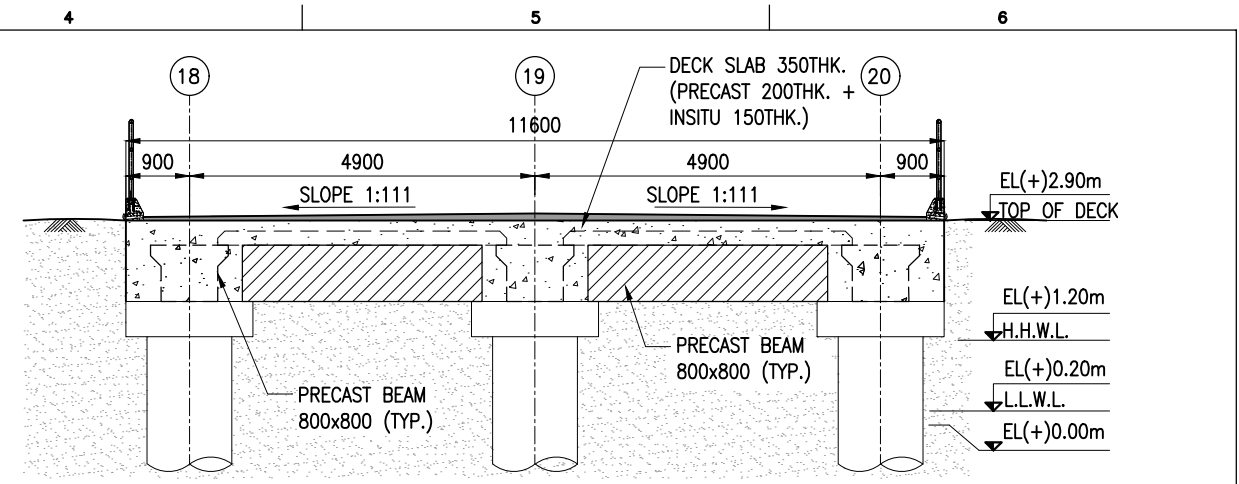
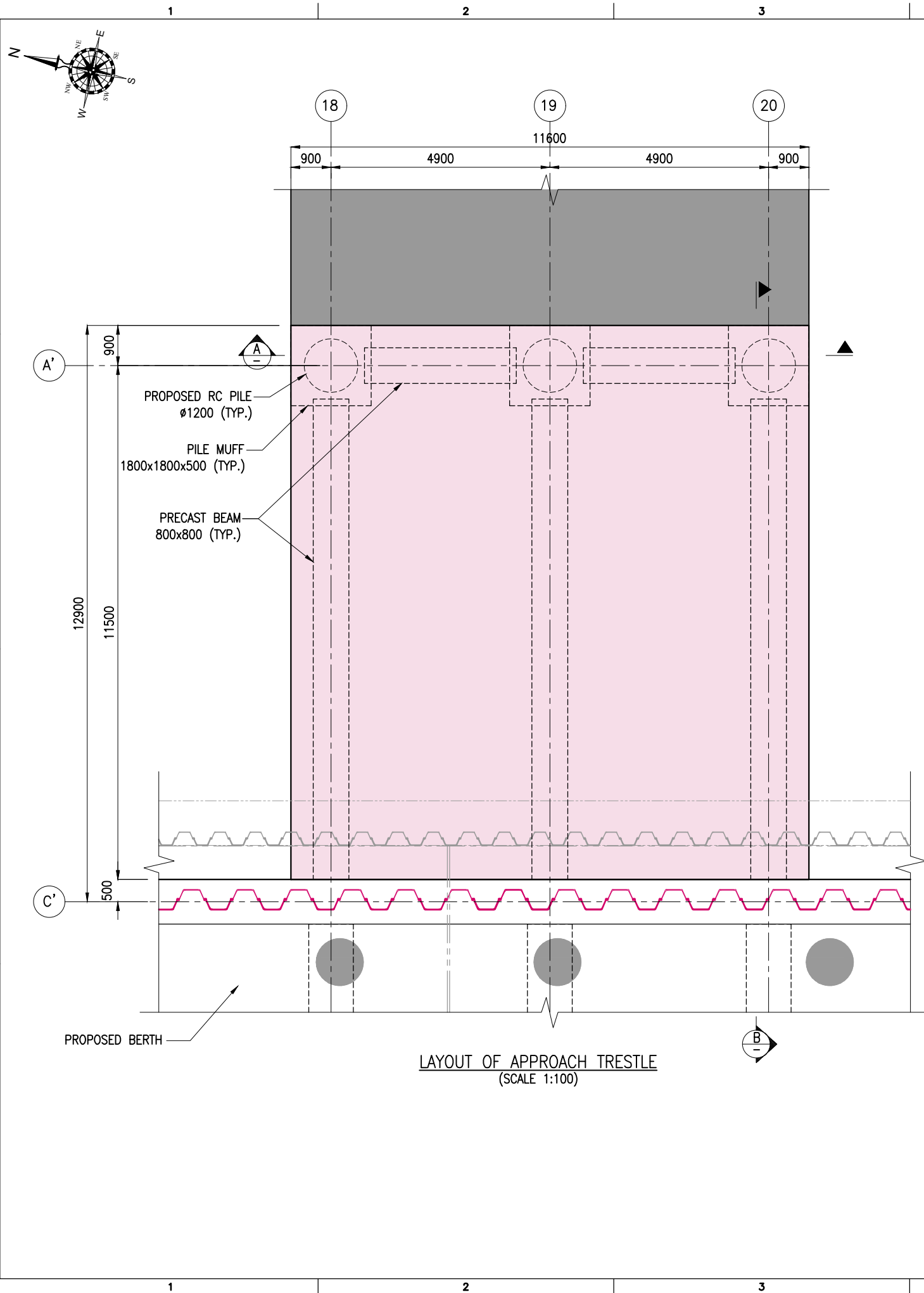
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON
 ISLAND, KOCHI, KERALA 682009

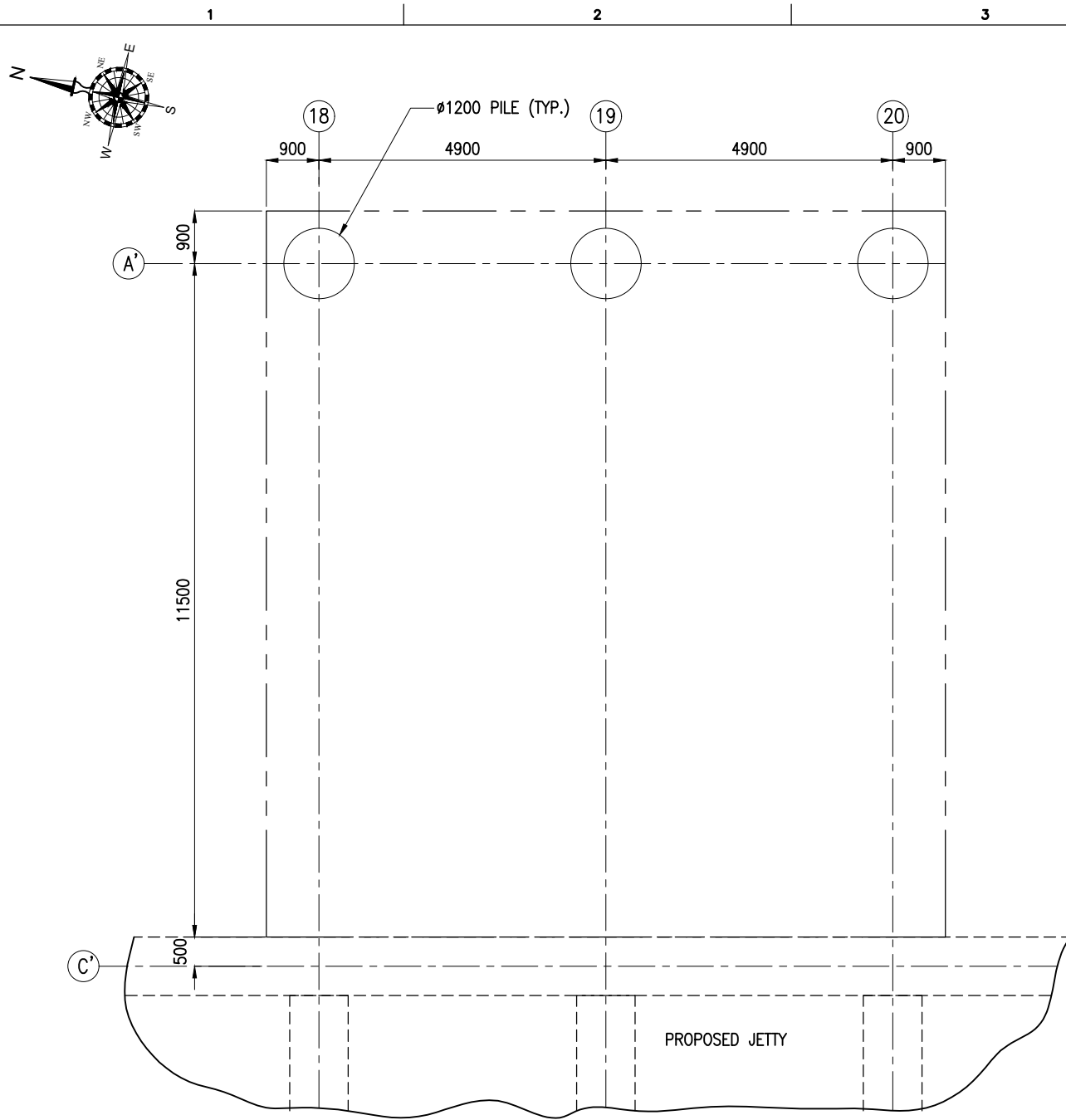
PROJECT:
**RECONSTRUCTION OF Q2-Q3 BERTH AT
 MATTANCHERRY WHARF OF COCHIN PORT**

TITLE:
**LAYOUT & RC DETAILS OF DECK SLAB
 (SHEET 5 OF 5)**



B	23.03.26	ISSUED FOR TENDER	MM	AG
A	27.02.26	ISSUED FOR TENDER	MM	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: LAYOUT AND SECTIONS OF APPROACH TRESTLE				
DRAWING NO. IITM-CPA-EMW-DWG-300			DATE: 23.03.26	REV: B

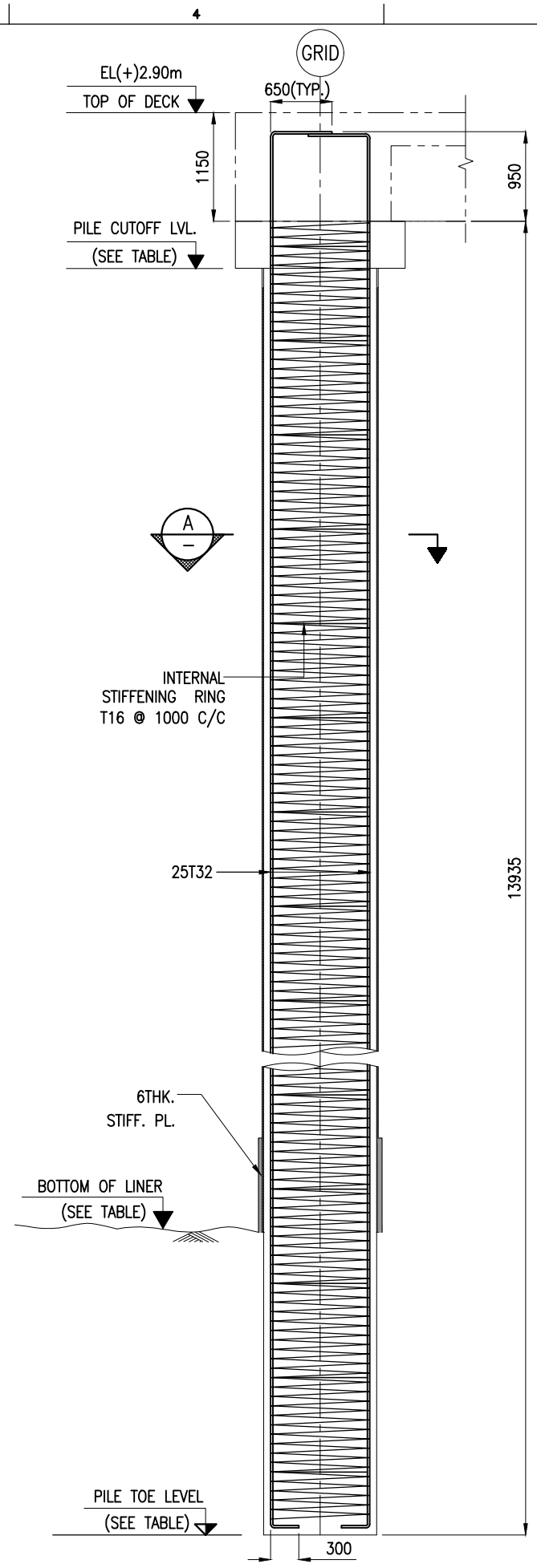
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.



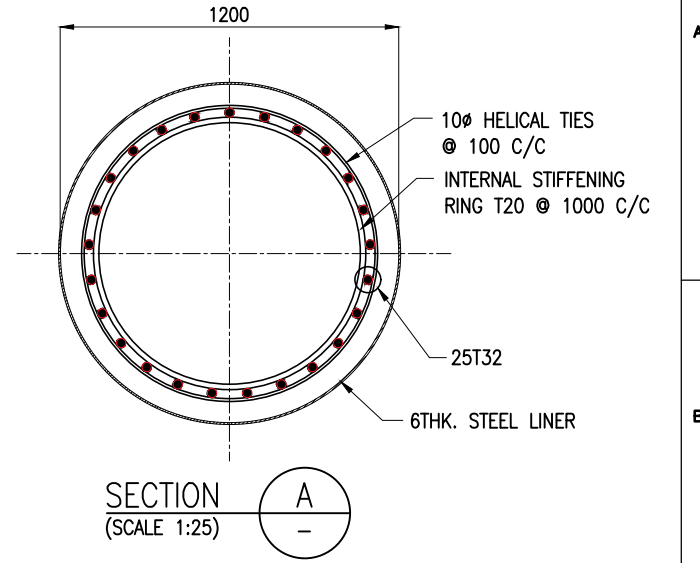
PILE LAYOUT
(SCALE 1:100)

PILE SCHEDULE:

S.NO	GRID	PILE ϕ (mm)	NO.OF PILES	GROUND LVL.(m)	BOTTOM OF LINER (m)	PILE CUT-OFF LVL. (m)	PILE TOE LVL. (m)	PILE WORKING LOAD (T)	
								VER.	HORZ.
1	18,19,20	1200	03	(+).1.05	(-).25.00	(+).1.25	(-).35.00	200	15



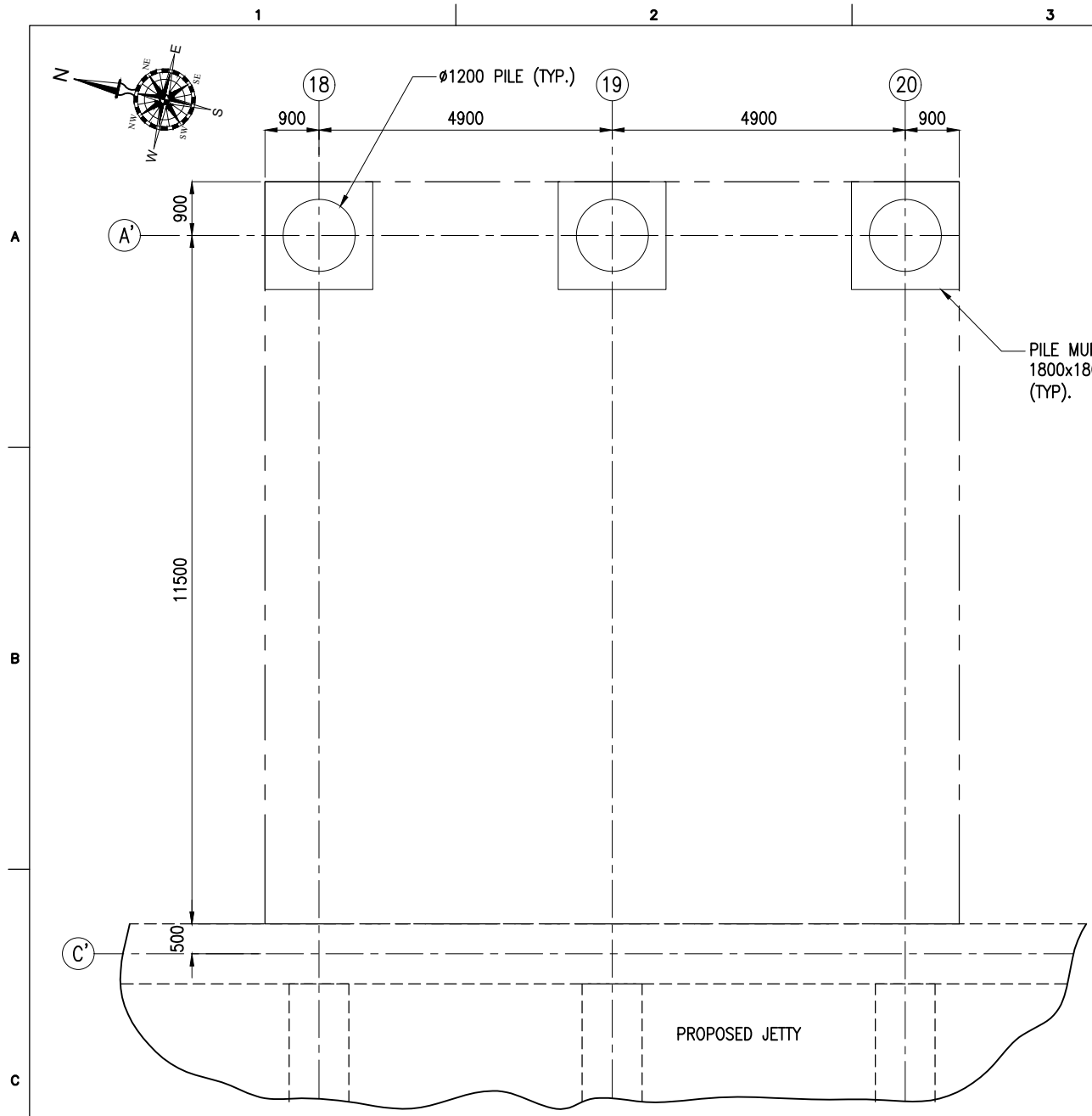
VERTICAL SECTION OF 1200Ø PILE
(SCALE 1:60)



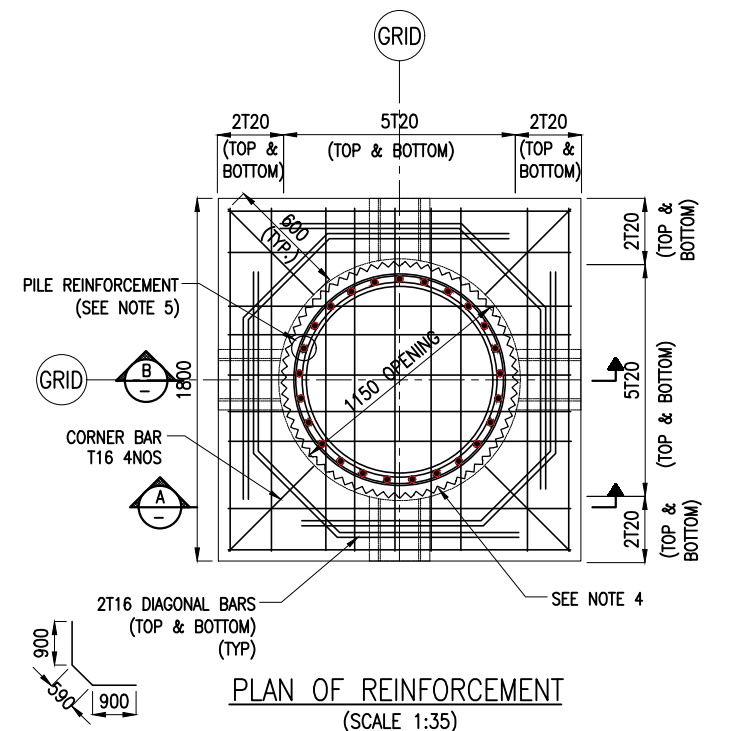
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
- FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
- LINER SHALL BE DRIVEN TO REFUSAL/UPTO THE LEVEL SHOWN IN THE DRAWING.
- STRUCTURAL STEEL FOR LINER SHALL CONFORM TO IS:2062 GRADE E250.
- THE EXISTING SEABED LEVEL SHOWN IN THE DRAWING IS TENTATIVE AND SHALL BE VERIFIED DURING BORING.
- PILE SHALL BE CAST 600mm HIGHER THAN THE PILE CUT-OFF LEVEL AND OVERFLOW OF CONCRETE SHALL BE OBSERVED AND THE ADDITIONAL LENGTH OF PILE SHALL BE CUT AFTER 28 DAYS OF CASTING THE PILE.

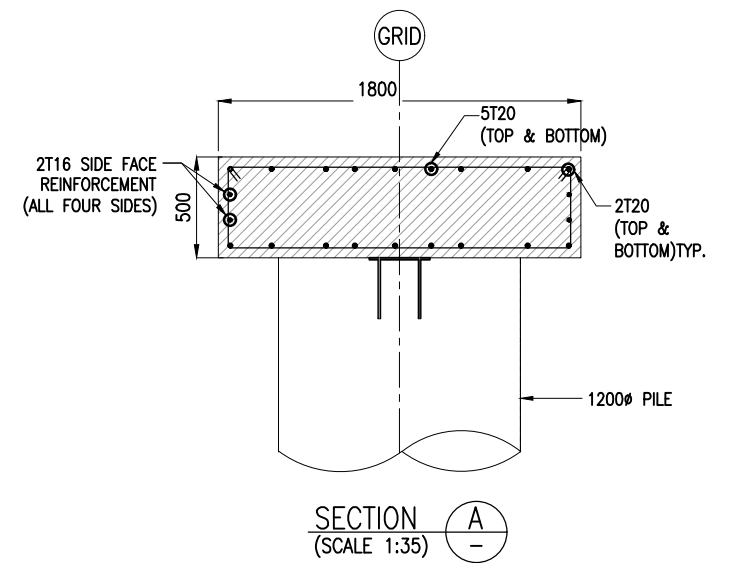
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF PILE				
DRAWING NO. IITM-CPA-EMW-DWG-301			DATE: 23.03.26	REV: B



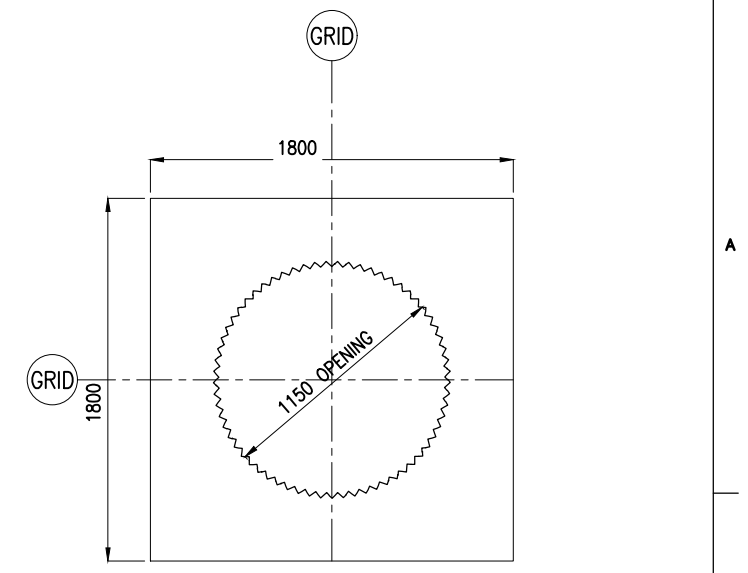
PILEMUFF LAYOUT
(SCALE 1:100)



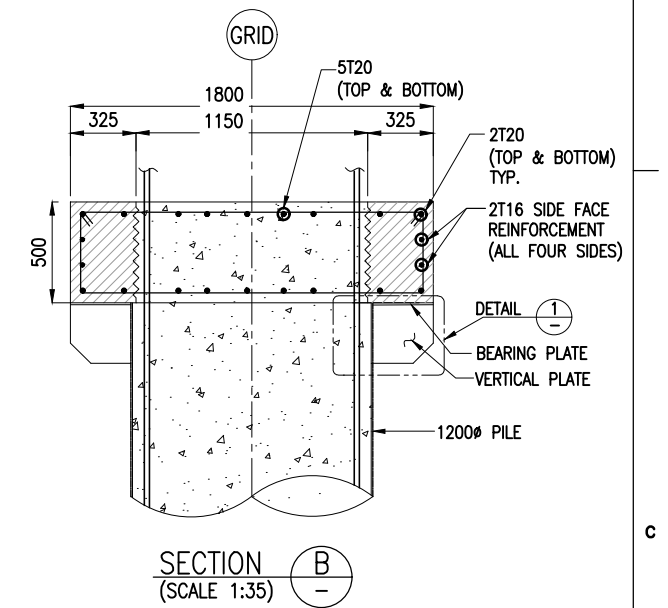
PLAN OF REINFORCEMENT
(SCALE 1:35)



SECTION A
(SCALE 1:35)

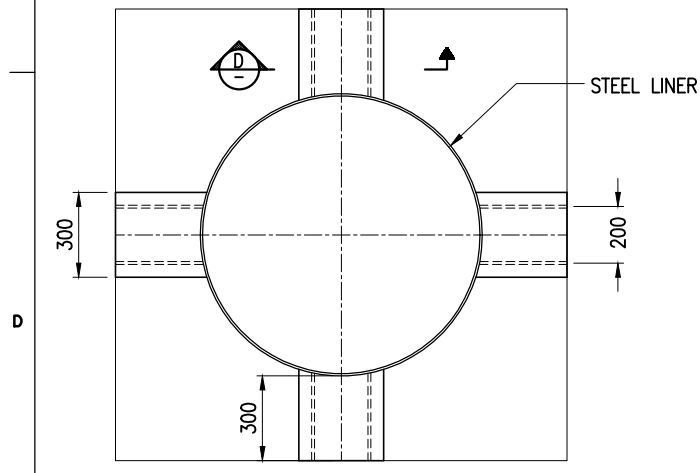


PLAN VIEW
(SCALE 1:35)

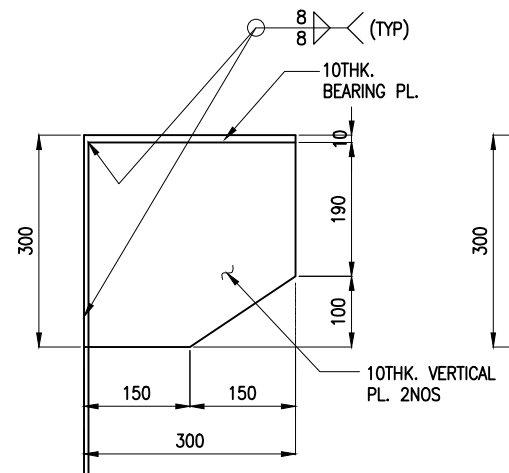


SECTION B
(SCALE 1:35)

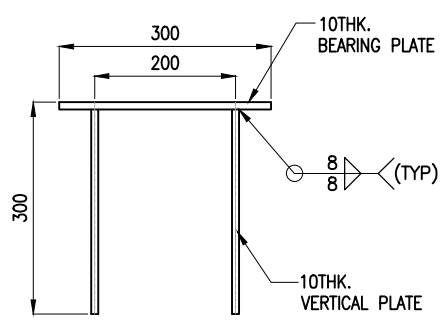
DETAILS OF PILE MUFF
1800x1800x500



TYPICAL PILE MUFF SUPPORT
SCALE 1:25



DETAIL 1
SCALE 1:10



SECTION D
SCALE 1:10



SCHEDULE FOR PILE MUFF :

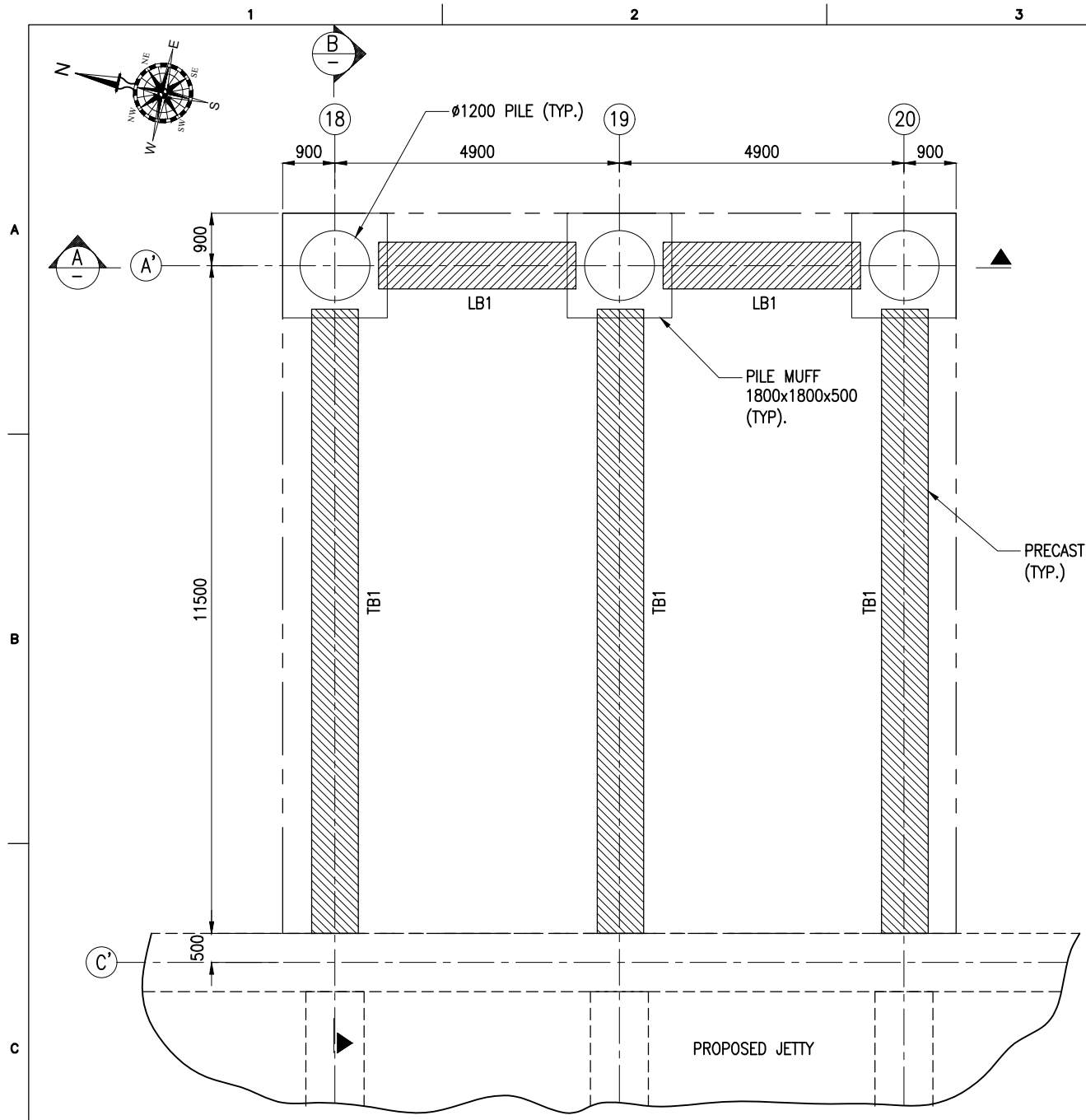
SIZE (mm)	WEIGHT (T)	NOS.	REMARKS
1800x1800x500	2.90	03	AT GRID 18,19,20

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
- FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
- INNER SURFACE OF THE CONCRETE SHALL BE ROUGHENED.
- PILE REINFORCEMENT POSITION SHALL BE ADJUSTED DURING PLACEMENT OF PRECAST PILE MUFF.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG

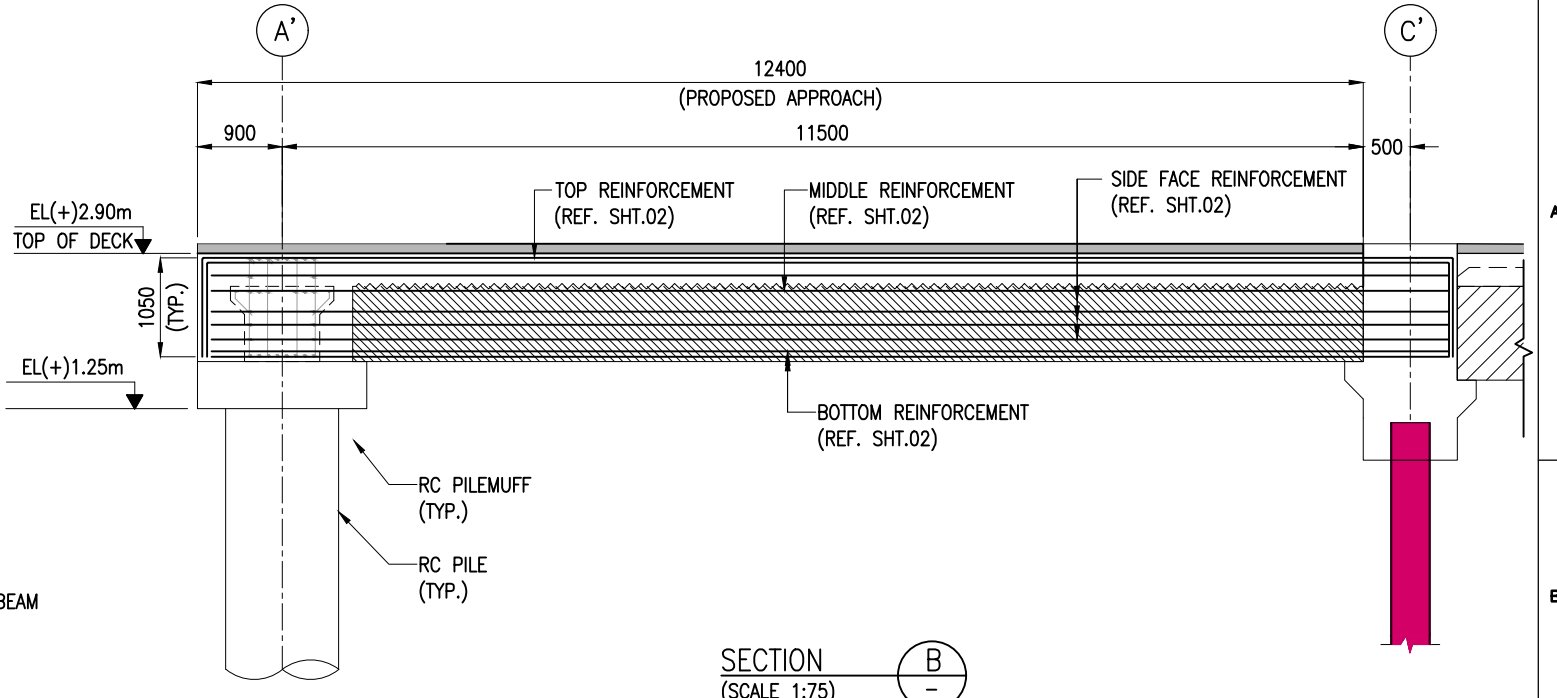
CONSULTANT:	 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
OWNER:	 COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009
PROJECT:	RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT
TITLE:	APPROACH TRESTLE LAYOUT AND RC DETAILS OF PILEMUFF
DRAWING NO.	IITM-CPA-EMW-DWG-302
DATE:	23.03.26
REV:	B



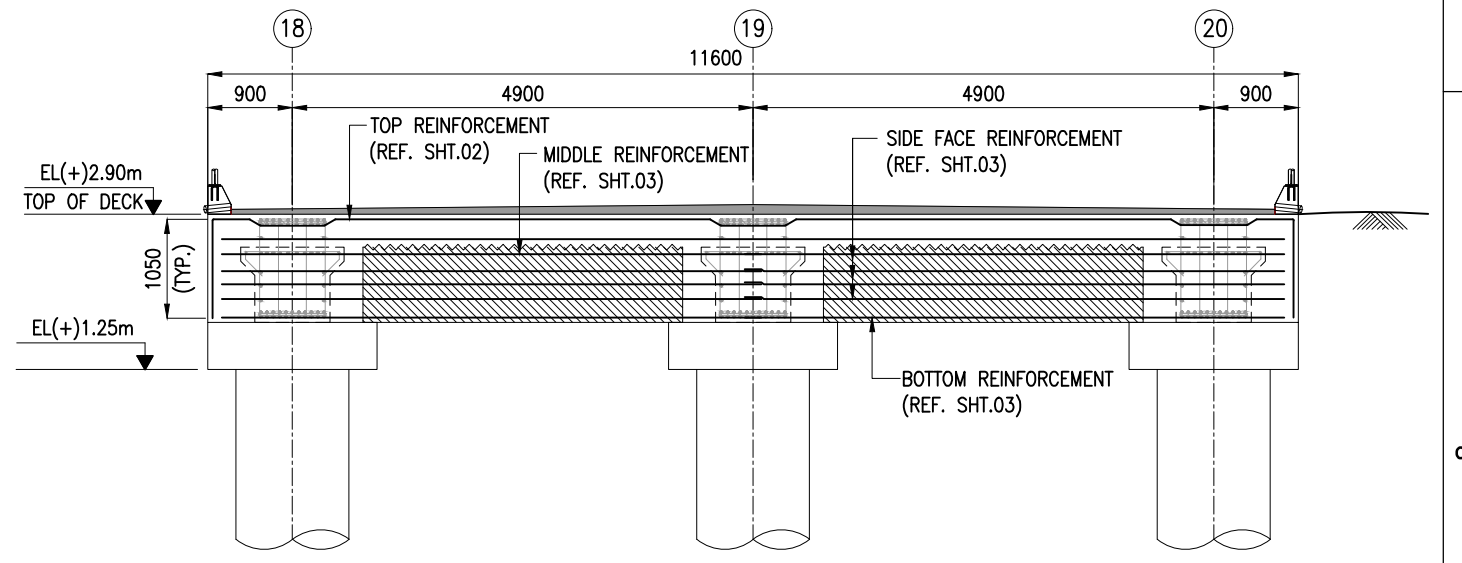
PRECAST BEAM LAYOUT
(SCALE 1:100)

PRECAST BEAM SCHEDULE:

TYPE	L (mm)	B (mm)	D (mm)	WEIGHT(T)	NOS
LB1	3400	800	800	6.01	02
TB1	10750	800	800	19.01	03



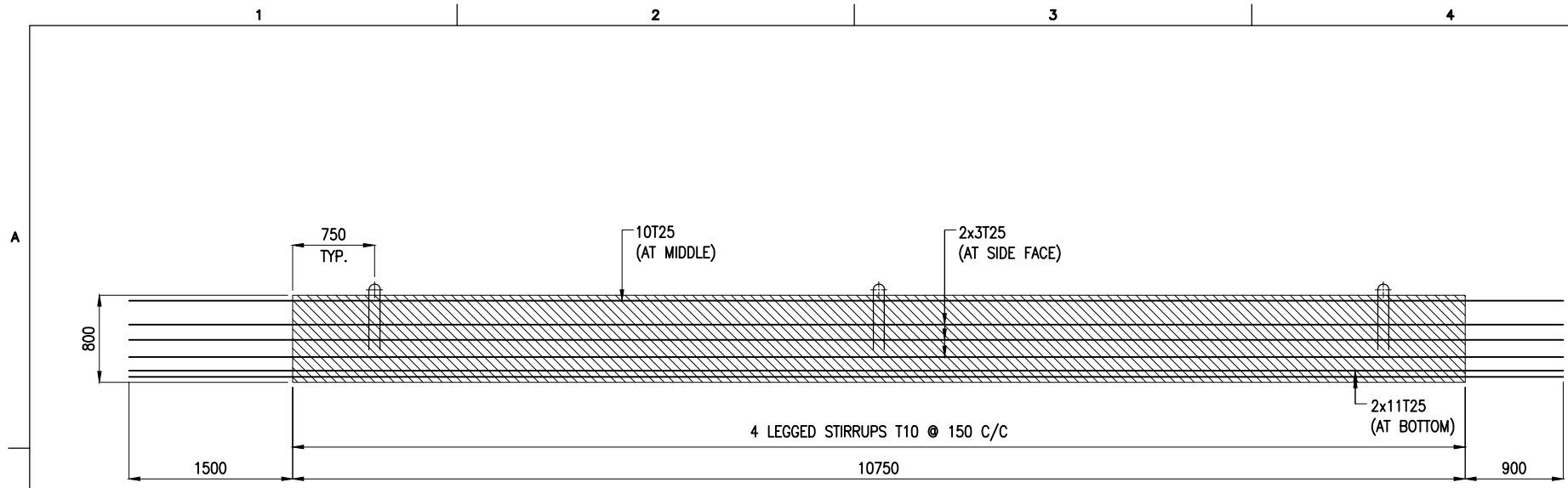
SECTION B-B
(SCALE 1:75)



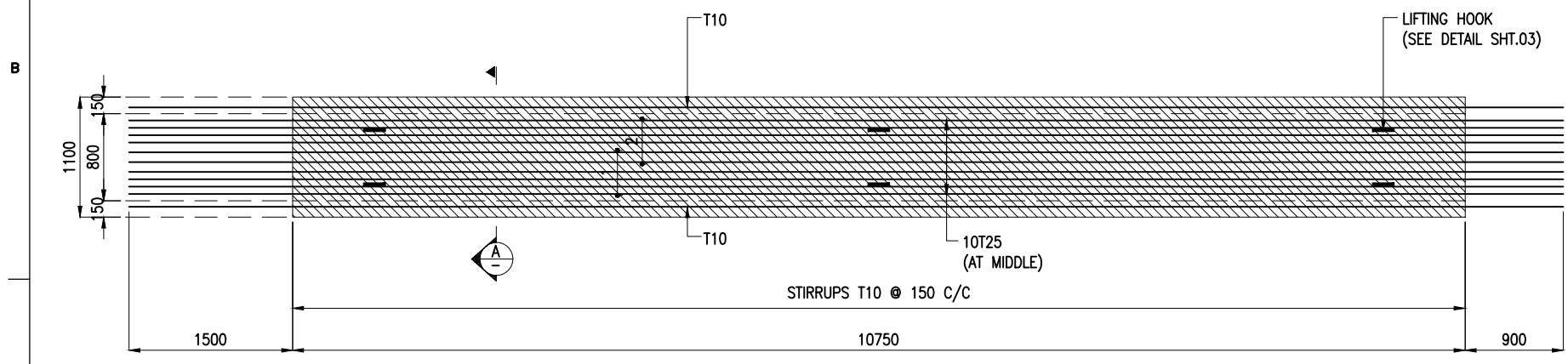
SECTION A-A
(SCALE 1:75)

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.

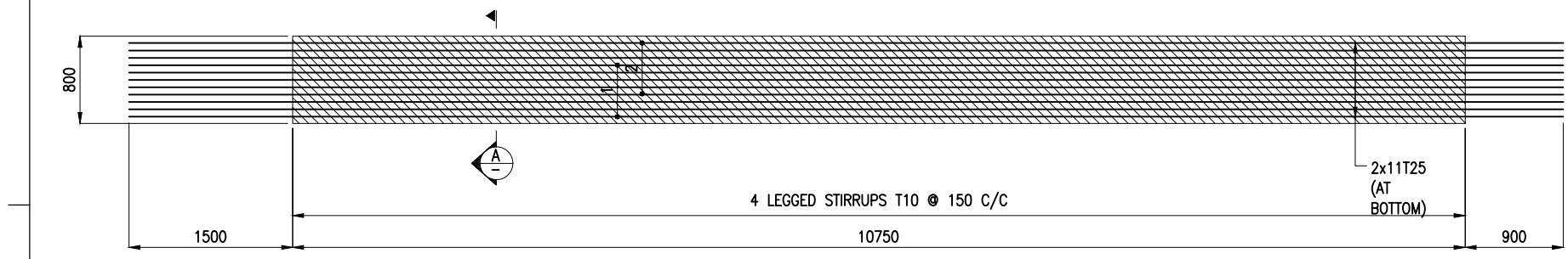
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 1 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-303-01			DATE: 23.03.26	REV: B



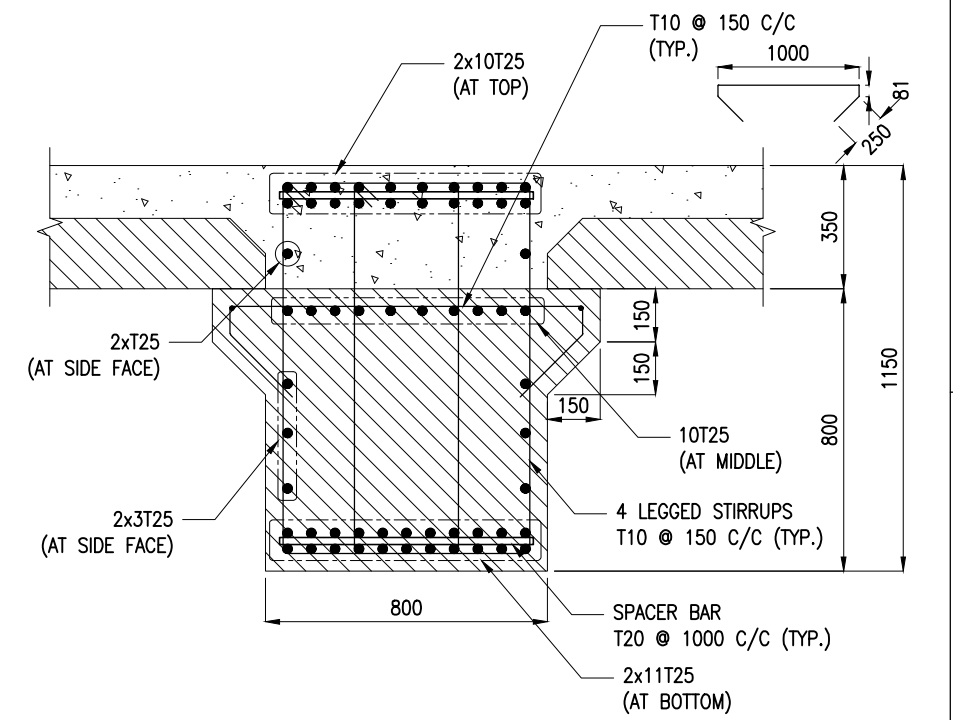
LONGITUDINAL SECTION OF PRECAST BEAM
(IN-SITU REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:45)



TOP VIEW OF PRECAST BEAM
(SCALE 1:45)



BOTTOM VIEW OF PRECAST BEAM
(SCALE 1:45)
REINFORCEMENT DETAILS FOR TRANSVERSE PRECAST BEAM (TB1)



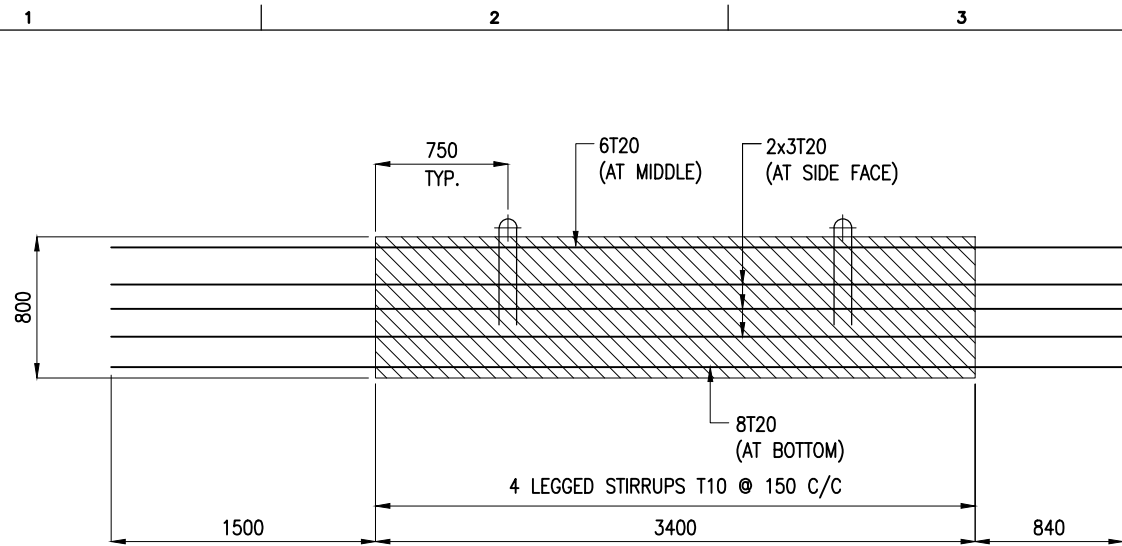
SECTION B-B
(SCALE 1:25)

LEGEND:

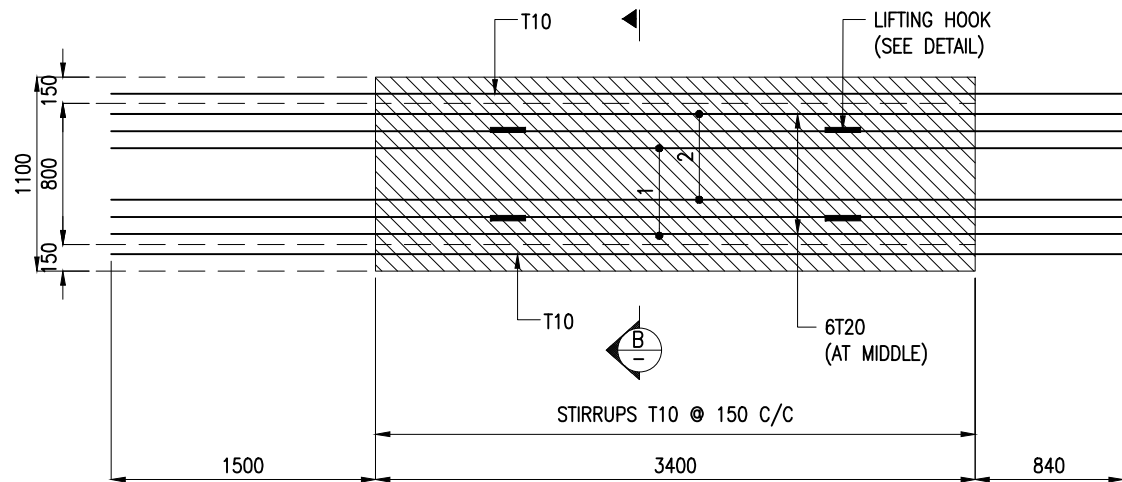
	PRECAST
	INSITU

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 - FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 - PRECAST BEAM SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 - THE TOP SURFACE OF THE PRECAST BEAMS SHALL BE ROUGHENED.
 - MAIN & SHEAR REINFORCEMENT SHALL BE FULLY ARRANGED AND TIED TOGETHER BEFORE PRECAST PORTION IS CONCRETED.
 - LONGITUDINAL BARS TO BE CONTINUOUS AT SUPPORT REFER DWG NO. IITM-CPA-EMW-DWG-303-01.

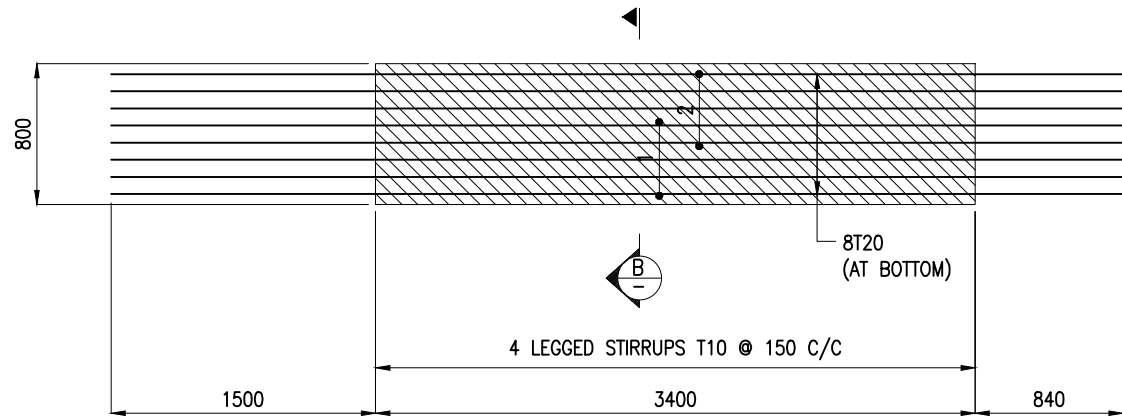
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 2 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-303-02			DATE: 23.03.26	REV: B



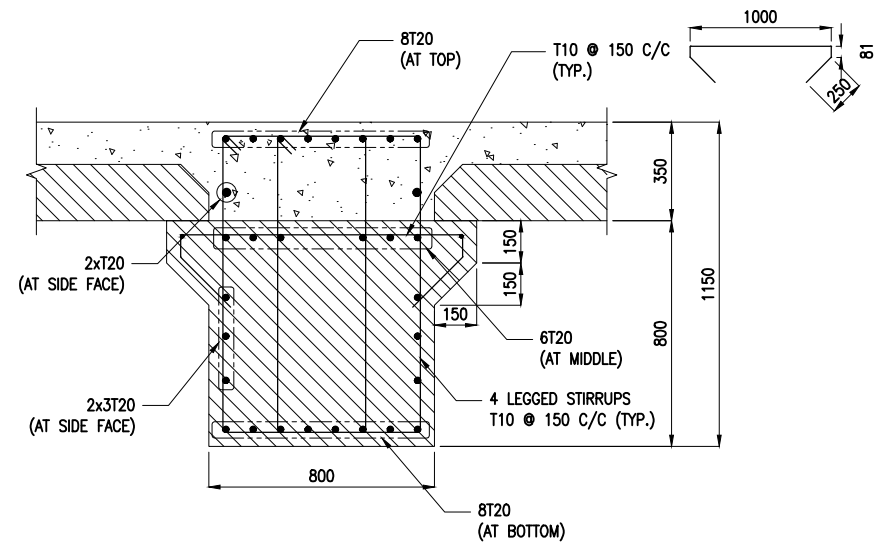
LONGITUDINAL SECTION OF PRECAST BEAM
(IN-SITU REINFORCEMENT NOT SHOWN FOR CLARITY)
(SCALE 1:40)



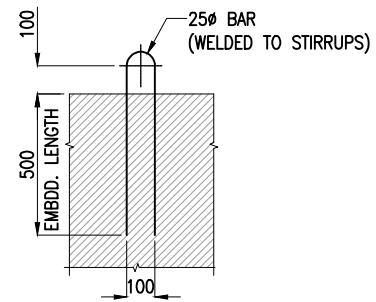
TOP VIEW OF PRECAST BEAM
(SCALE 1:40)



BOTTOM VIEW OF PRECAST BEAM
REINFORCEMENT DETAILS FOR LONGITUDINAL PRECAST BEAM (LB1)
(SCALE 1:40)



SECTION B
(SCALE 1:25)



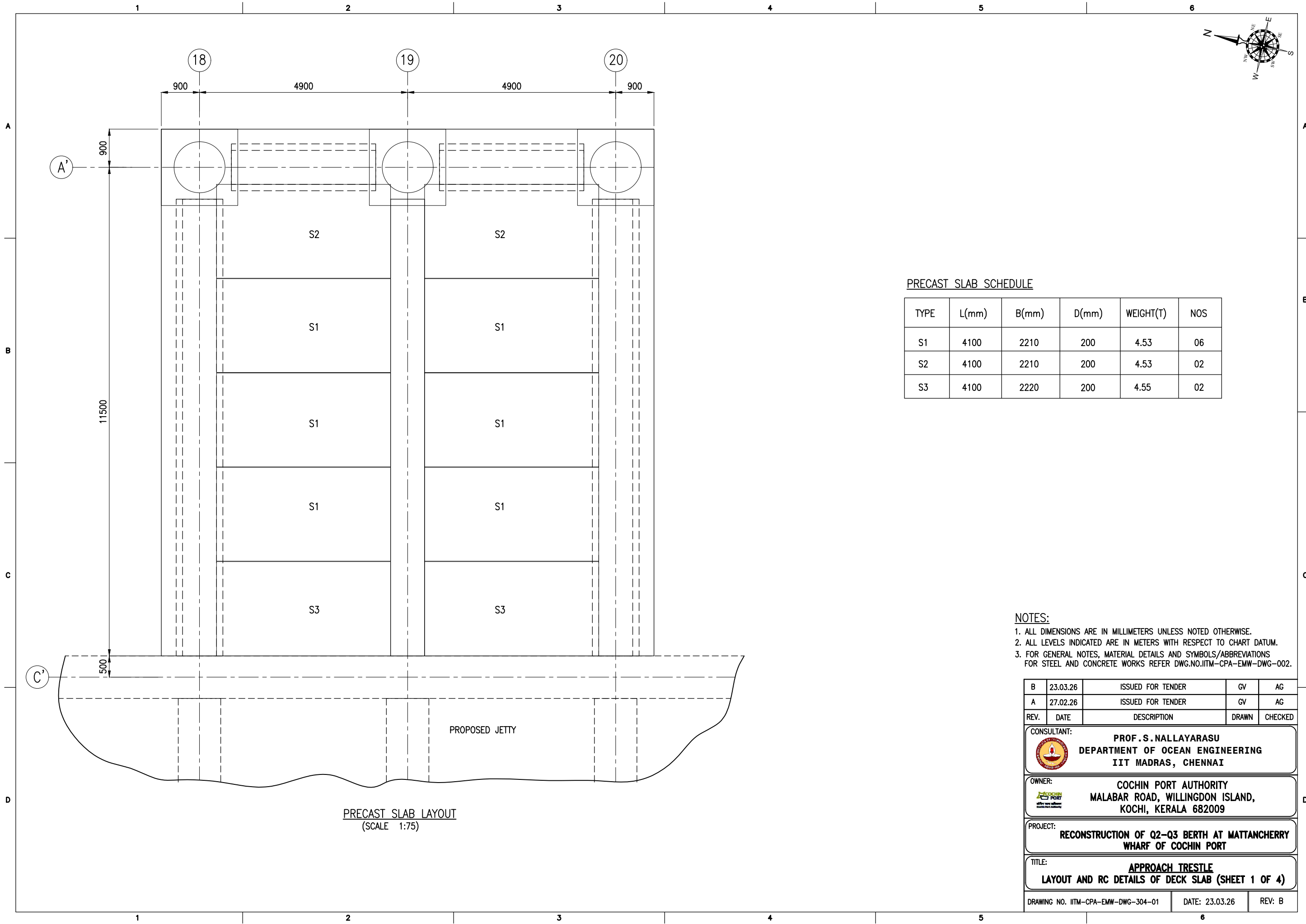
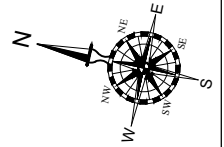
DETAIL OF LIFTING HOOK
(SCALE 1:25)

LEGEND:

	PRECAST
	INSITU

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.
 4. PRECAST BEAM SHALL BE LIFTED USING SPREADER BEAMS ONLY.
 5. THE TOP SURFACE OF THE PRECAST BEAMS SHALL BE ROUGHENED.
 6. MAIN & SHEAR REINFORCEMENT SHALL BE FULLY ARRANGED AND TIED TOGETHER BEFORE PRECAST PORTION IS CONCRETED.
 7. LONGITUDINAL BARS TO BE CONTINUOUS AT SUPPORT REFER DWG NO. IITM-CPA-EMW-DWG-303-01.

B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF PRECAST BEAM (SHEET 3 OF 3)				
DRAWING NO. IITM-CPA-EMW-DWG-303-03		DATE: 23.03.26	REV: B	



PRECAST SLAB LAYOUT
(SCALE 1:75)

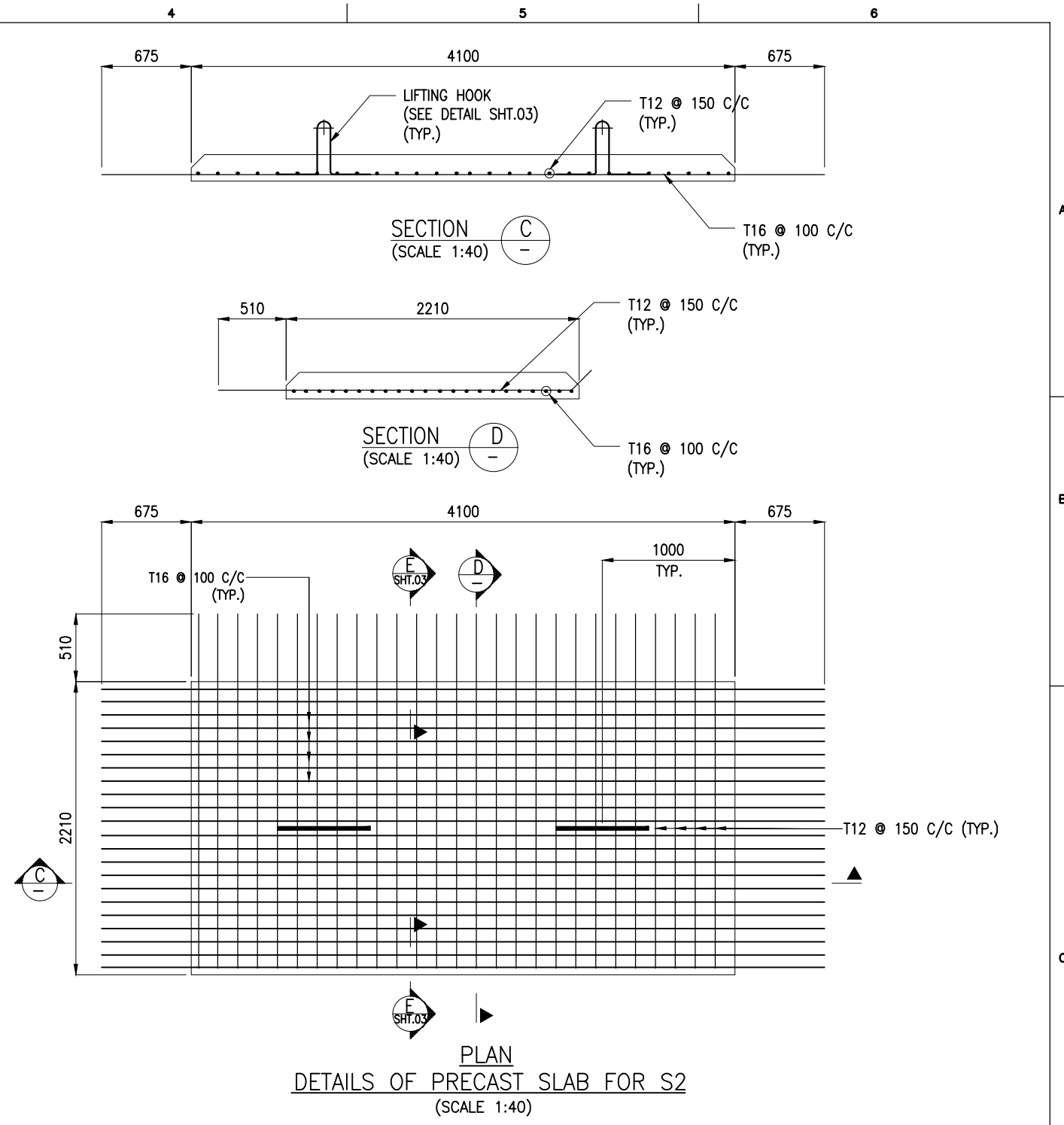
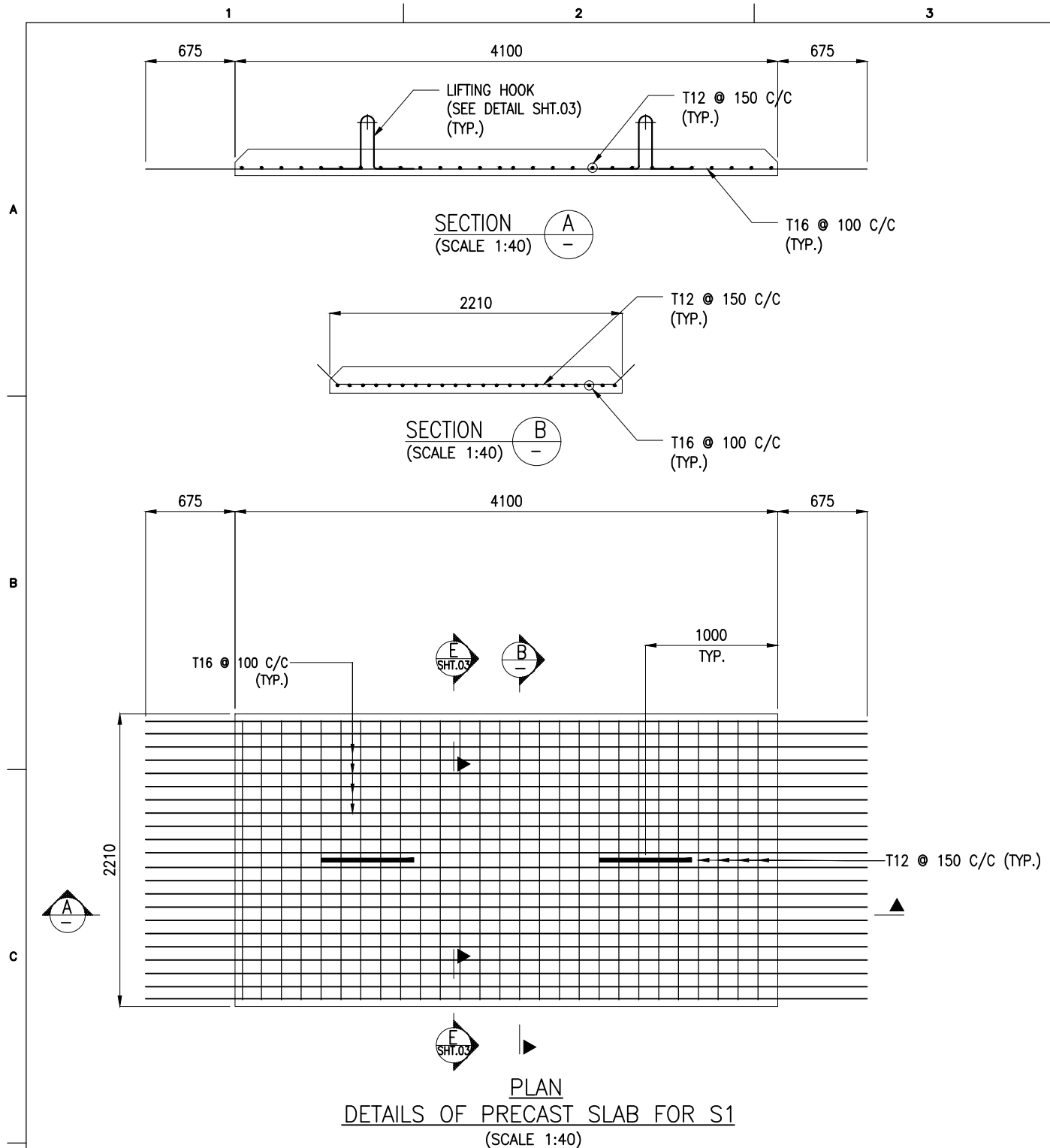
PRECAST SLAB SCHEDULE

TYPE	L(mm)	B(mm)	D(mm)	WEIGHT(T)	NOS
S1	4100	2210	200	4.53	06
S2	4100	2210	200	4.53	02
S3	4100	2220	200	4.55	02

NOTES:


1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.IITM-CPA-EMW-DWG-002.


B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER: COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 1 OF 4)				
DRAWING NO. IITM-CPA-EMW-DWG-304-01			DATE: 23.03.26	REV: B



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.ITM-CPA-EMW-DWG-002.
 4. LIFTING OF THE PRECAST SLABS SHALL BE CARRIED OUT USING SPREADER FRAME.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG

CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

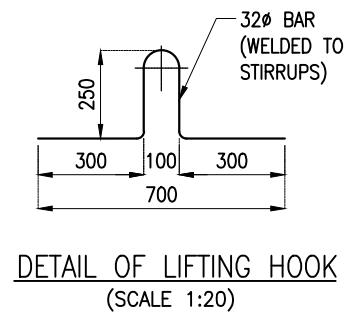
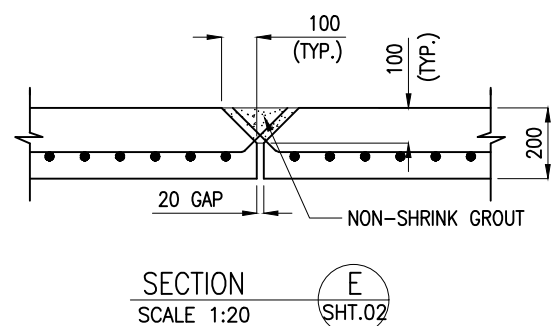
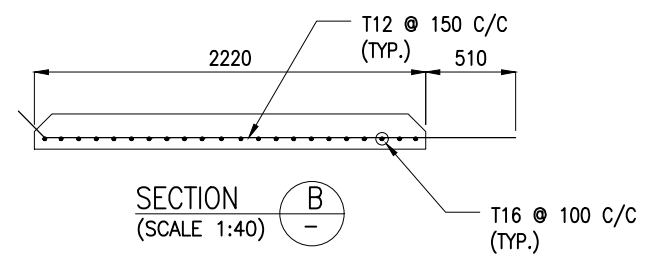
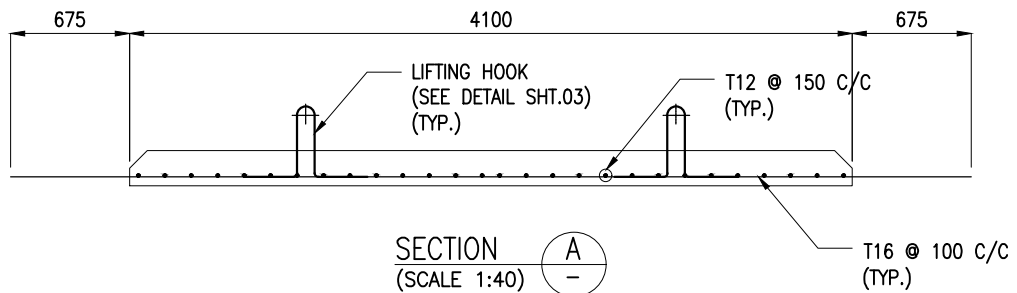
PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

TITLE:
APPROACH TRESTLE LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 2 OF 4)

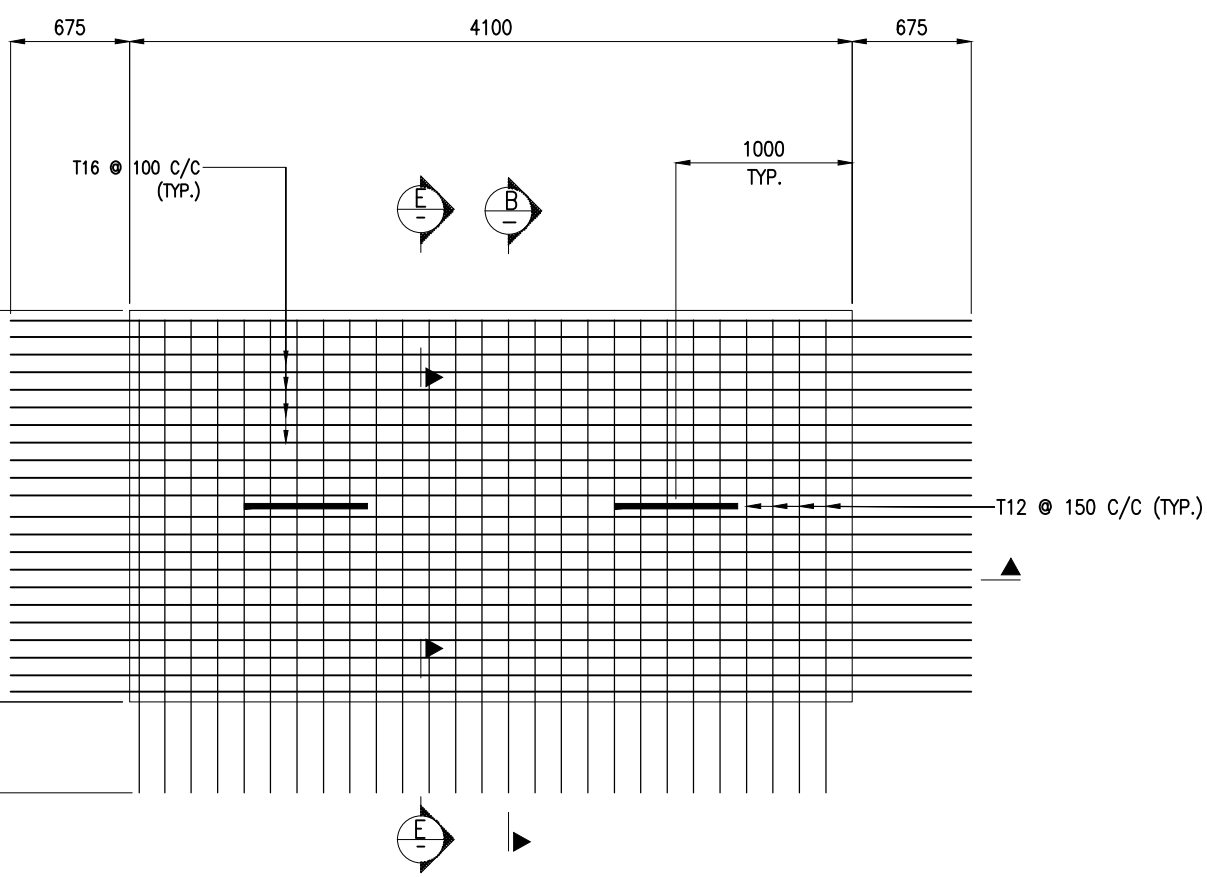
DRAWING NO. IITM-CPA-EMW-DWG-304-02 DATE: 23.03.26 REV: B

1 2 3 4 5 6

A





B



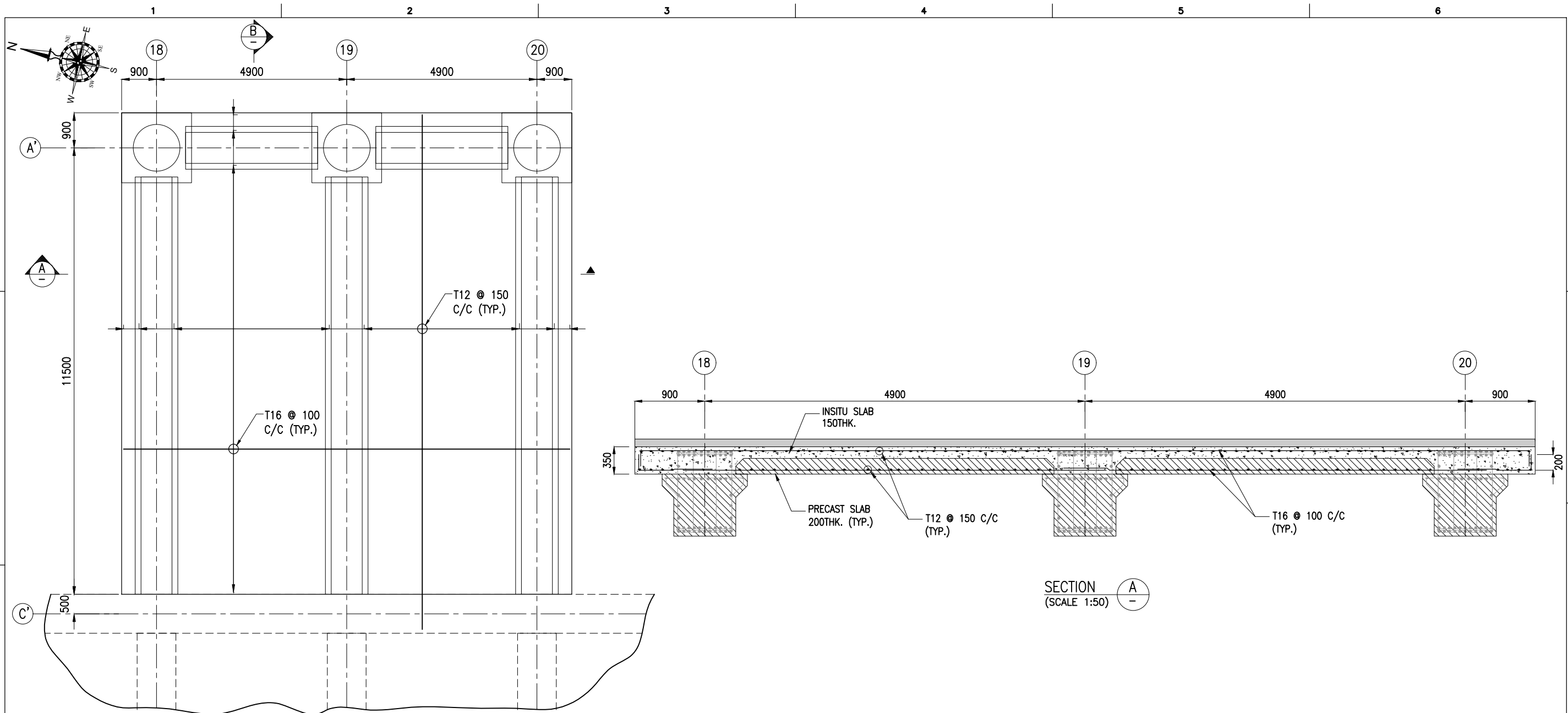
C

D

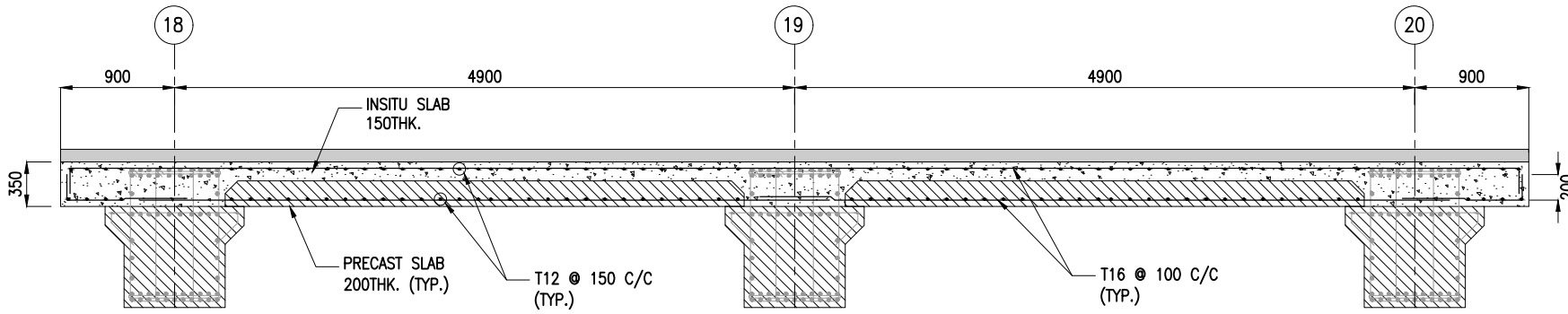
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.ITM-CPA-EMW-DWG-002.
 4. LIFTING OF THE PRECAST SLABS SHALL BE CARRIED OUT USING SPREADER FRAME.

B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
OWNER:  COCHIN PORT AUTHORITY MALABAR ROAD, WILLINGDON ISLAND, KOCHI, KERALA 682009				
PROJECT: RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT				
TITLE: APPROACH TRESTLE LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 3 OF 4)				
DRAWING NO. IITM-CPA-EMW-DWG-304-03			DATE: 23.03.26	REV: B

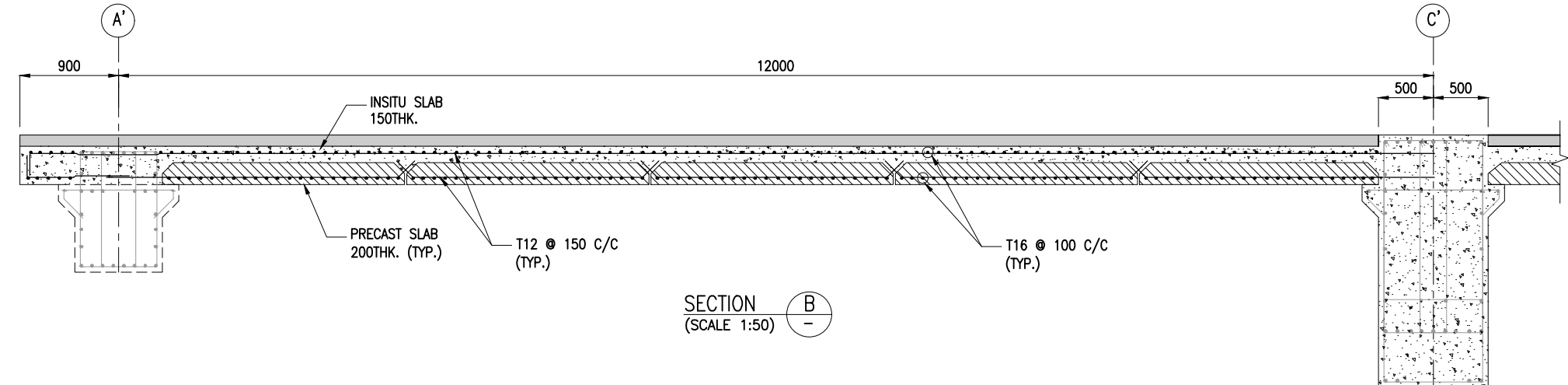
1 2 3 4 5 6



IN-SITU SLAB LAYOUT
(SCALE 1:100)




SECTION A
(SCALE 1:50)




SECTION B
(SCALE 1:50)

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METERS WITH RESPECT TO CHART DATUM.
 3. FOR GENERAL NOTES, MATERIAL DETAILS AND SYMBOLS/ABBREVIATIONS FOR STEEL AND CONCRETE WORKS REFER DWG.NO.ITM-CPA-EMW-DWG-002.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	GV	AG
A	27.02.26	ISSUED FOR TENDER	GV	AG

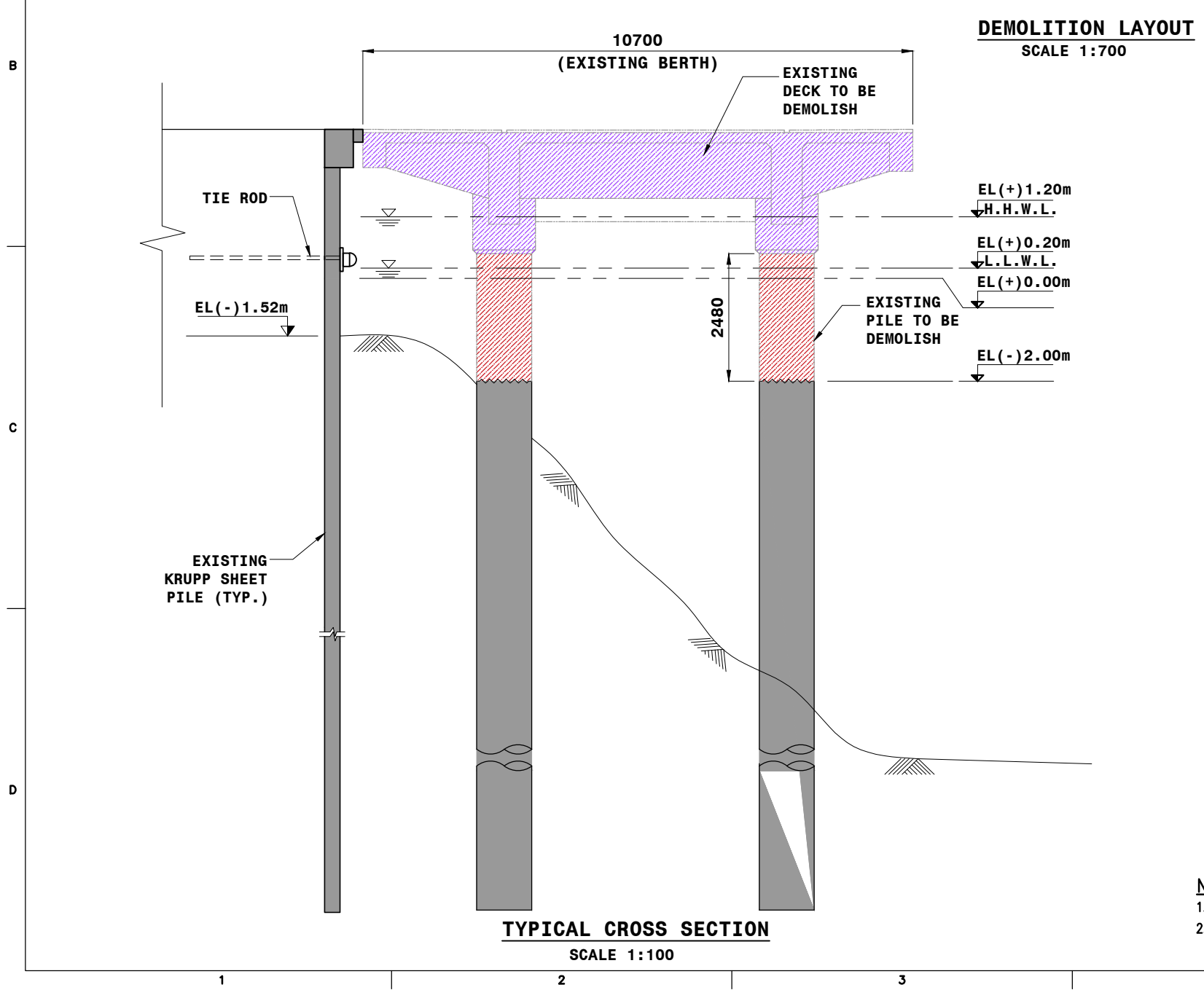
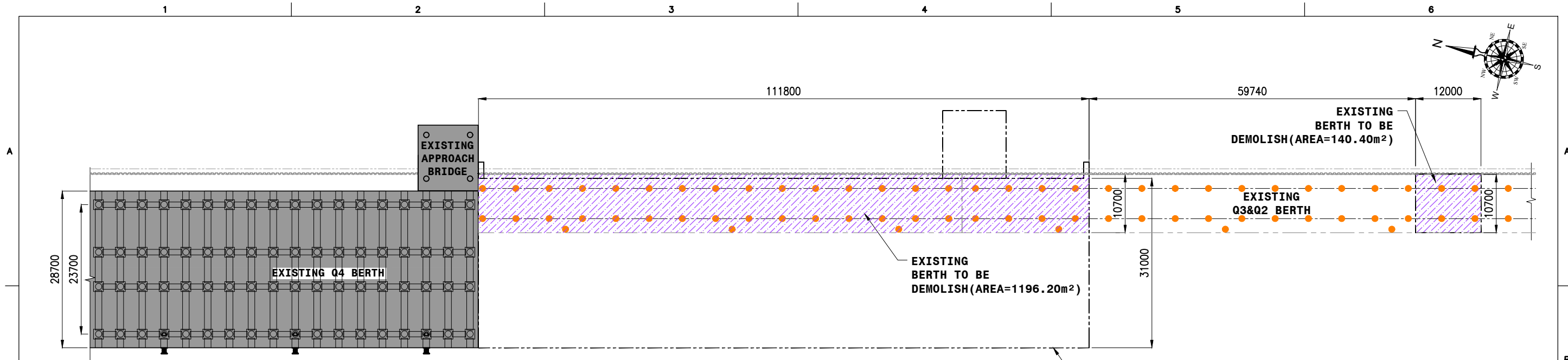
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT


TITLE:
APPROACH TRESTLE LAYOUT AND RC DETAILS OF DECK SLAB (SHEET 4 OF 4)


DRAWING NO. IITM-CPA-EMW-DWG-304-04 DATE: 23.03.26 REV: B



NOTES:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. ALL LEVELS INDICATED ARE IN METRES WITH RESPECT TO CHART DATUM.

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
B	23.03.26	ISSUED FOR TENDER	DV	AG
A	27.02.26	ISSUED FOR TENDER	DV	AG

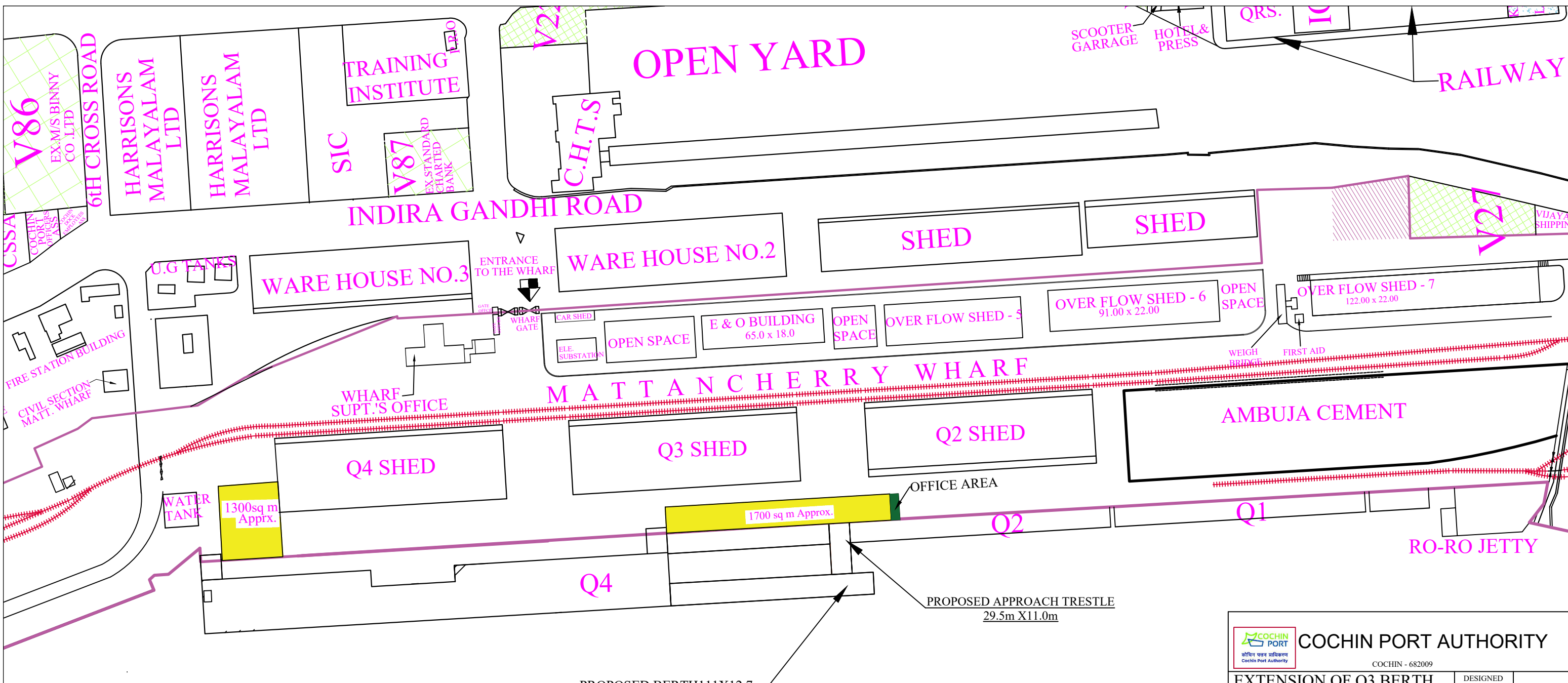
CONSULTANT:

PROF. S. NALLAYARASU
 DEPARTMENT OF OCEAN ENGINEERING
 IIT MADRAS, CHENNAI

OWNER:

COCHIN PORT AUTHORITY
 MALABAR ROAD, WILLINGDON ISLAND,
 KOCHI, KERALA 682009

PROJECT:
RECONSTRUCTION OF Q2-Q3 BERTH AT MATTANCHERRY WHARF OF COCHIN PORT

TITLE:
DEMOLITION LAYOUT & SECTION

DRAWING NO. IITM-CPA-EMW-DWG-400	DATE: 23.03.26	REV: B
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COCHIN PORT AUTHORITY
 COCHIN - 682009

EXTENSION OF Q3 BERTH AT MATTANCHERRY WHARF.

DESIGNED	
DRAWN	DIVYA A .D
TRACED	
CHECKED	
A.E.E.	
E.E. (C.D.)	

SCALE	DRG. NO.	DATE	REV.	S.E.
As shown	9782-06-2025	18-09-2025		C.E.

PROPOSED CONTRACTORS WORKING SPACE SHOWN THUS