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LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-DPA-KAND-DWG-100	DRAWING LIST	30.03.24	0
2	IITM-DPA-KAND-DWG-101	GENERAL NOTES AND SPECIFICATIONS	30.03.24	0
4	IITM-DPA-KAND-DWG-102	EXISTING CARGO BERTH 1 TO 6 - LOCATION PLAN	30.03.24	0
5	IITM-DPA-KAND-DWG-103	GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH 1	30.03.24	0
6	IITM-DPA-KAND-DWG-104	TYPICAL SECTION BETWEEN EXPANSION JOINT	30.03.24	0
7	IITM-DPA-KAND-DWG-105	TYPICAL SECTION AT EXPANSION JOINT	30.03.24	0
8	IITM-DPA-KAND-DWG-106	EXISTING FENDER PANEL DETAIL IN CARGO BERTH 1	30.03.24	0
9	IITM-DPA-KAND-DWG-107	UNDER DECK DEFECTS INDICATION PLAN OF CARGO BERTH 1	30.03.24	0
10	IITM-DPA-KAND-DWG-108	TOP DECK DEFECTS INDICATION PLAN OF CARGO BERTH 1	30.03.24	0
11	IITM-DPA-KAND-DWG-109	TYPICAL DEFECT INDICATION PLAN OF E.J CONNECTING BEAM	30.03.24	0
12	IITM-DPA-KAND-DWG-110	TYPICAL REPAIR SCHEME OF E.J CONNECTING BEAM DEFECTS	30.03.24	0
13	IITM-DPA-KAND-DWG-111	TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS	30.03.24	0
14	IITM-DPA-KAND-DWG-112	DETAILS EXISTING CONCRETE DEMOLITION IN FENDER PANEL	30.03.24	0
15	IITM-DPA-KAND-DWG-113	SHEAR KEY DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-114	REINFORCEMENT DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-115	DETAILS OF FENDER PANEL AFTER MODIFICATION	30.03.24	0


0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED

CONSULTANT:



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

IMPLEMENTING AGENCY:



DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

PROJECT:

UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:

DRAWING LIST

DRAWING NO. IITM-DPA-KAND-DWG-100	DATE: 30.03.24	REV: 0
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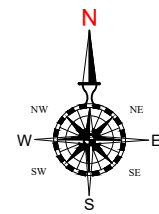
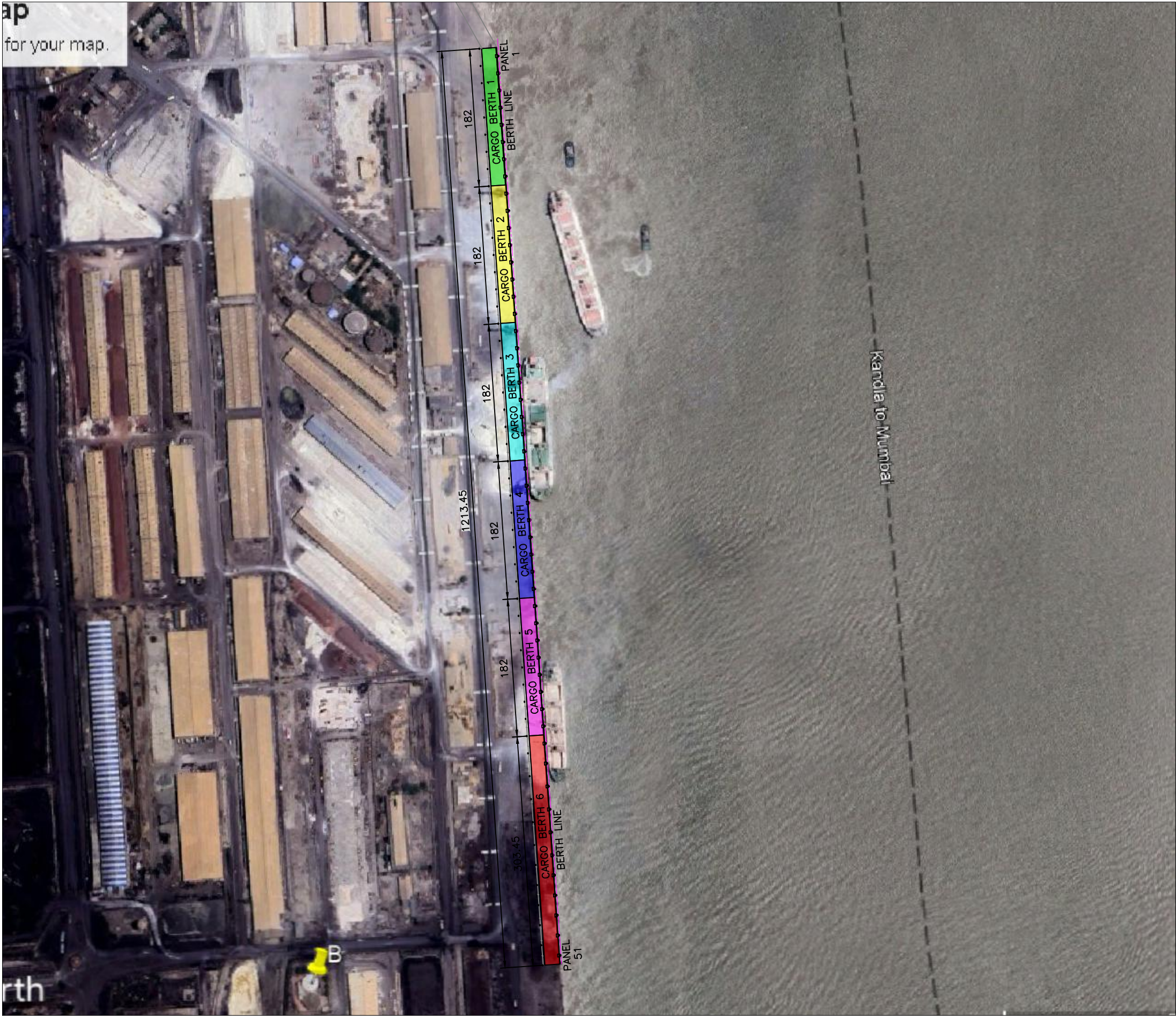
PROCEDURE FOR REPAIR OF CONNECTING BEAM AND DECK SLAB BOTTOM

A. REPAIR SCHEME USING SPRAY MORTAR METHOD

- (a) SUITABLE TEMPORARY WORKING PLATFORM OF SIZE AND DIMENSION REQUIRED SHALL BE ERECTED BELOW THE EXISTING DECK (ABOVE MEAN SEA LEVEL) WITH ADEQUATE STRENGTH TO SUSTAIN DEAD LOADS, LIVE LOADS, WIND AND WAVE LOADS DURING EXECUTION OF THE WORK. SUCH SCHEME OF TEMPORARY PLATFORM SHALL BE APPROVED BY PMC IN PRIOR TO ERECTION. PRIOR TO ALLOWING THE WORKMAN ON THE TEMPORARY PLATFORM, THE SAFETY AND SECURITY OF THE PLATFORM SHALL BE ASCERTAINED BY THE CONTRACTOR/PMC/DPA BY A JOINT INSPECTION.
- (b) THE CRACKS SHALL BE IDENTIFIED IN THE PRESENCE OF PMC/DPA AND SEALED THROUGHOUT USING EPOXY PUTTY IN PRIOR TO GROUTING. THE GROUTING POINTS SHALL BE MARKED AT A SPACING OF 500 MM C/C TO FIX THE PACKERS USING EPOXY PUTTY AND GROUTED WITH LOW VISCOUS EPOXY GROUT. THE GROUTED PACKERS SHALL BE CUT AND SEALED WITH EPOXY PUTTY.
- (c) SHEAR KEYS SHALL BE INSTALLED AT THE DESIGNATED LOCATIONS AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS AS PER SPECIFICATIONS OF MATERIAL, SIZE AND SHAPE USING DRILLING INTO THE EXISTING BEAM/SLAB/PILE CAP TO A DEPTH OF NOT LESS THAN 100MM FROM THE EXPOSED SURFACE. THE HOLE SHALL BE GROUTED AFTER THE INSERTION OF SHEAR KEY REINFORCEMENT USING GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (d) THE BOTTOM AND SIDE FACES SHALL BE THOROUGHLY CLEANED TO REMOVE ANY RUST ON THE EXISTING REINFORCEMENT AND GI WELDED WIRE MESH OF 4" X 4" (16 GAUGE) SHALL BE AFFIXED TO THE SHEAR KEYS AND SECURED.
- (e) ADDITIONAL REINFORCEMENT INCLUDING MAIN REINFORCEMENT, SIDE REINFORCEMENT AND STIRRUPS SHALL BE TREATED WITH ANTI-CORROSIVE COATING AS PER SPECIFICATION. THE SAME SHALL BE PLACED AND TIED TO THE SHEAR KEYS AT THE BOTTOM SURFACE AND SIDE SURFACE AS PER APPROVED CONSTRUCTION DRAWINGS.
- (f) THE BOTTOM MAIN AND SIDE FACE REINFORCEMENTS SHALL BE ANCHORED AT THE TWO ENDS USING SIMILAR PROCEDURE FOR SHEAR KEY BY DRILLING INTO THE EXISTING CONCRETE AND GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (g) THE SIDE FACE AND BOTTOM MAIN REINFORCEMENT SHALL BE LAPPED AT THE LOCATION AS SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- (h) A SPRAY MORTAR OF REQUIRED STRENGTH AS SPECIFIED IN THE SPECIFICATION SHALL BE SPRAYED ON THE SURFACE OF THE EXISTING CONCRETE USING APPROVED METHODS OF APPLICATION BY THE MANUFACTURER IN MULTIPLE LAYERS TO THE TOTAL THICKNESS REQUIRED AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS.
- (i) THE CURING SHALL BE DONE NOT LESS THAN 14 DAYS FROM THE DATE OF CASTING USING FRESH WATER APPLICATION ON THE SURFACE OF THE CONCRETE.
- (j) THE REPAIRED CONCRETE SURFACE SHALL BE PAINTED WITH PROTECTIVE COATING IN TWO COATS OF 300-MICRON DFT (EACH COAT OF 150-MICRON DFT) ON ACRYLIC BASED PRIMER AT AN AVERAGE TOTAL THICKNESS OF 300-MICRON DFT IN TWO COATS APPROVED BY THE ENGINEER IN CHARGE SHALL BE APPLIED ON THE SURFACE OF THE MICRO CONCRETE.
- (k) AN IDENTIFICATION NUMBER FOR THE BEAMS/PILE CAPS SHALL BE PAINTED ON THE SIDE SURFACE OF THE BEAM AND JOINT INSPECTION SHALL BE MADE BY DPA/CONTRACTOR AND PMC FOR ACCEPTANCE.
- (l) TEMPORARY PLATFORM SO ERECTED FOR THE PURPOSE OF THE REPAIR WORK SHALL ONLY BE REMOVED AFTER THE REPAIR HAS BEEN ACCEPTED BY DPA/PMC AND CLEARANCE IS GIVEN BY PMC FOR SUCH REMOVAL

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL NOTES AND SPECIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-101		DATE: 30.03.24	REV: 0	

ap
for your map.



LEGEND:

S.NO	COLOUR INDICATION	BERTH NAME	FENDER PANEL NUMBER
1.		CARGO BERTH 1	PANEL 1 TO 8
2.		CARGO BERTH 2	PANEL 9 TO 16
3.		CARGO BERTH 3	PANEL 17 TO 24
4.		CARGO BERTH 4	PANEL 25 TO 32
5.		CARGO BERTH 5	PANEL 33 TO 40
6.		CARGO BERTH 6	PANEL 41 TO 51

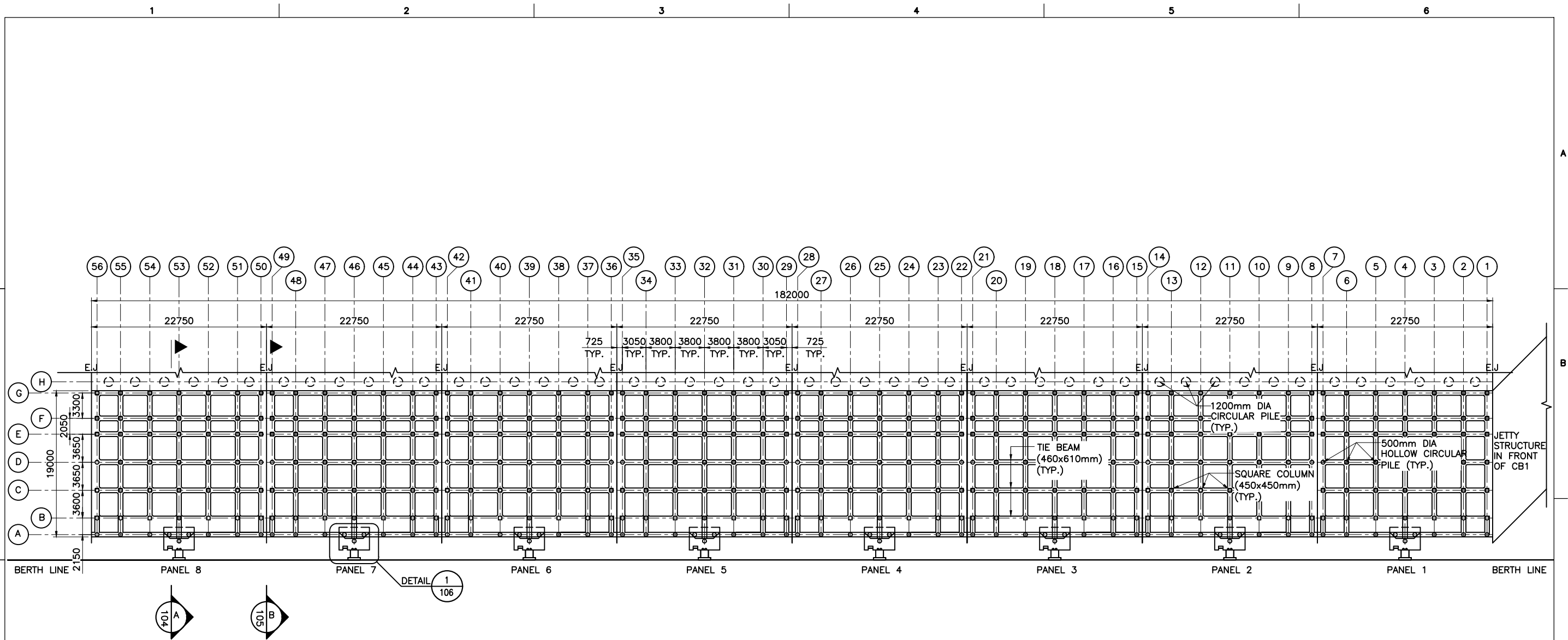
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING CARGO BERTH 1 TO 6-LOCATION MAP				
DRAWING NO. IITM-DPA-KAND-DWG-102			DATE: 30.03.24	REV: 0

LOCATION MAP OF EXISTING CARGO BERTH 1 TO 6
SCALE 1:5





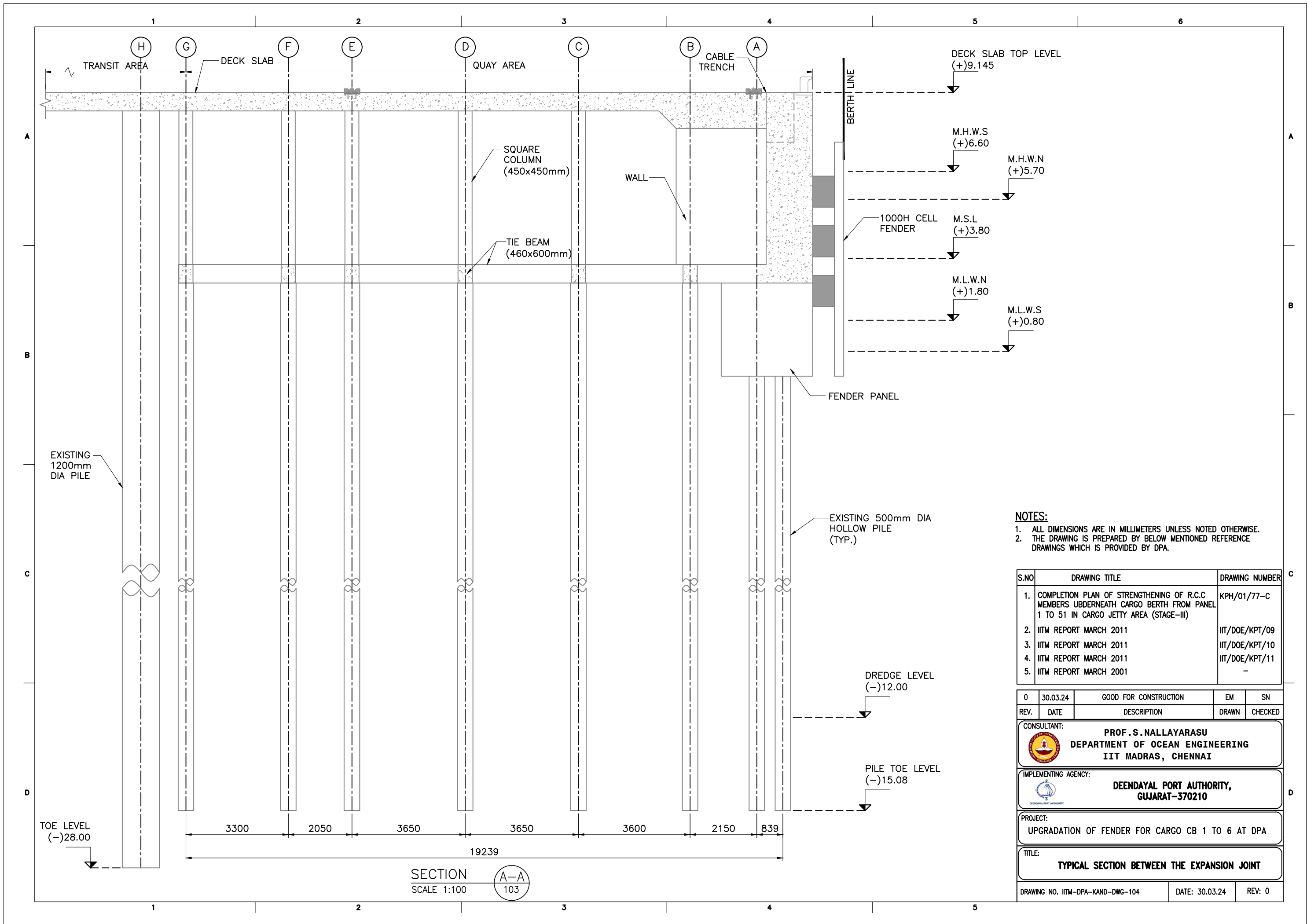
GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH-1 (PANEL 1 TO 8) AT (+) 3.6m LEVEL
SCALE 1:500

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL ARRANGEMENT PLAN OF EXISTING CB-1				
DRAWING NO. IITM-DPA-KAND-DWG-103			DATE: 30.03.24	REV: 0



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

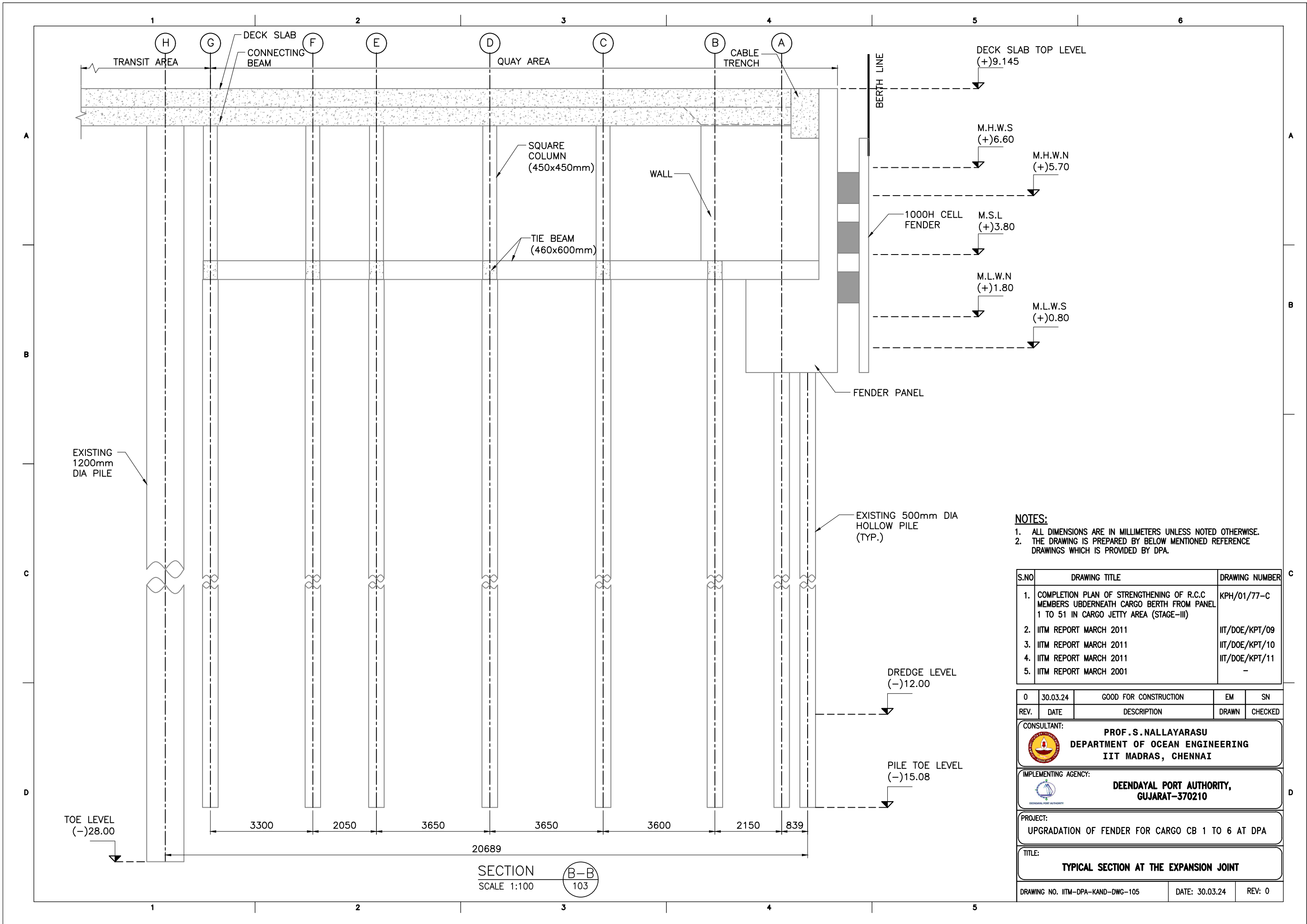
CONSULTANT:	PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	TYPICAL SECTION BETWEEN THE EXPANSION JOINT
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DRAWING NO. IITM-DPA-KAND-DWG-104	DATE: 30.03.24	REV: 0
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- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

CONSULTANT:

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

IMPLEMENTING AGENCY:

 **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

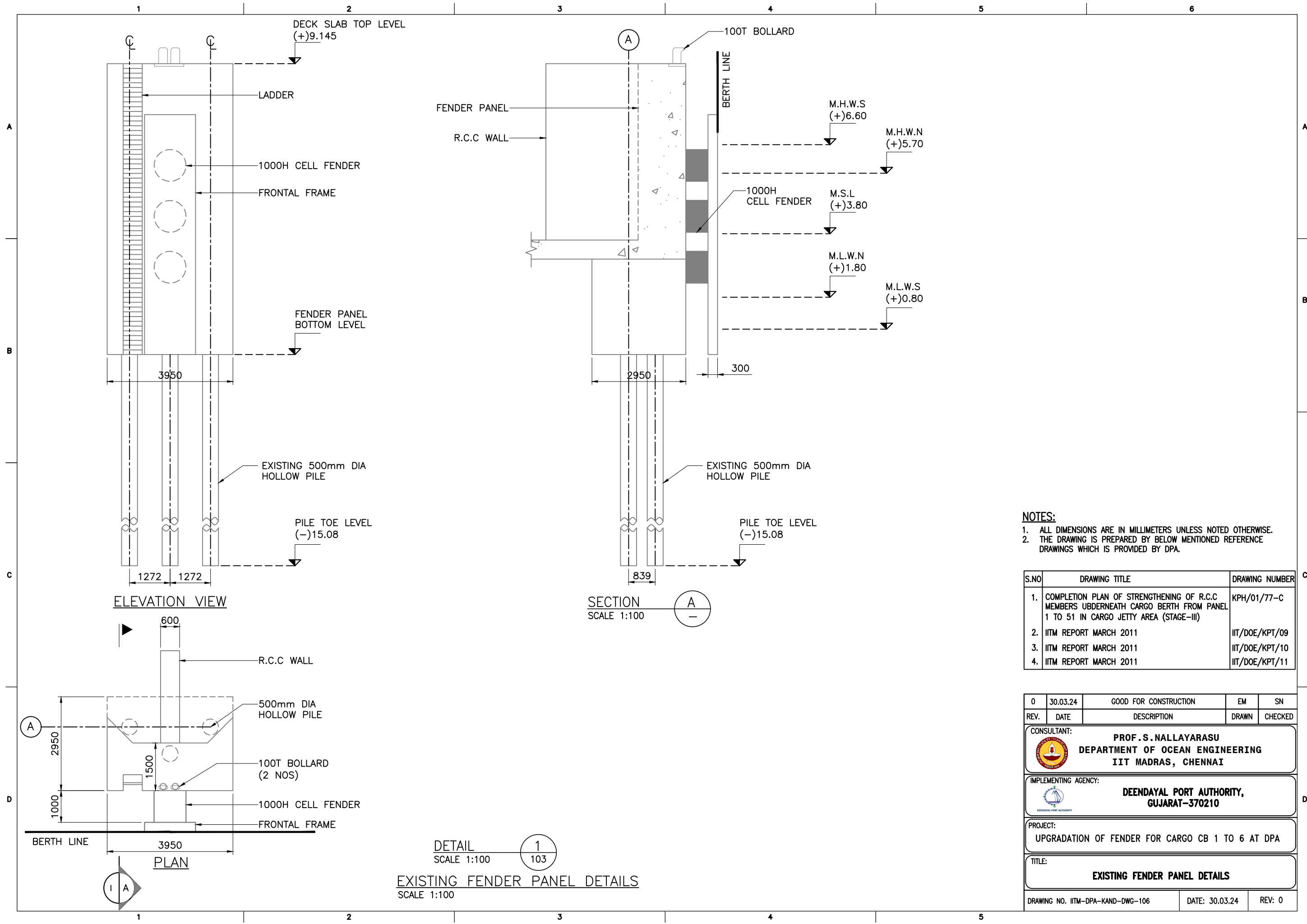
PROJECT:

UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:

TYPICAL SECTION AT THE EXPANSION JOINT

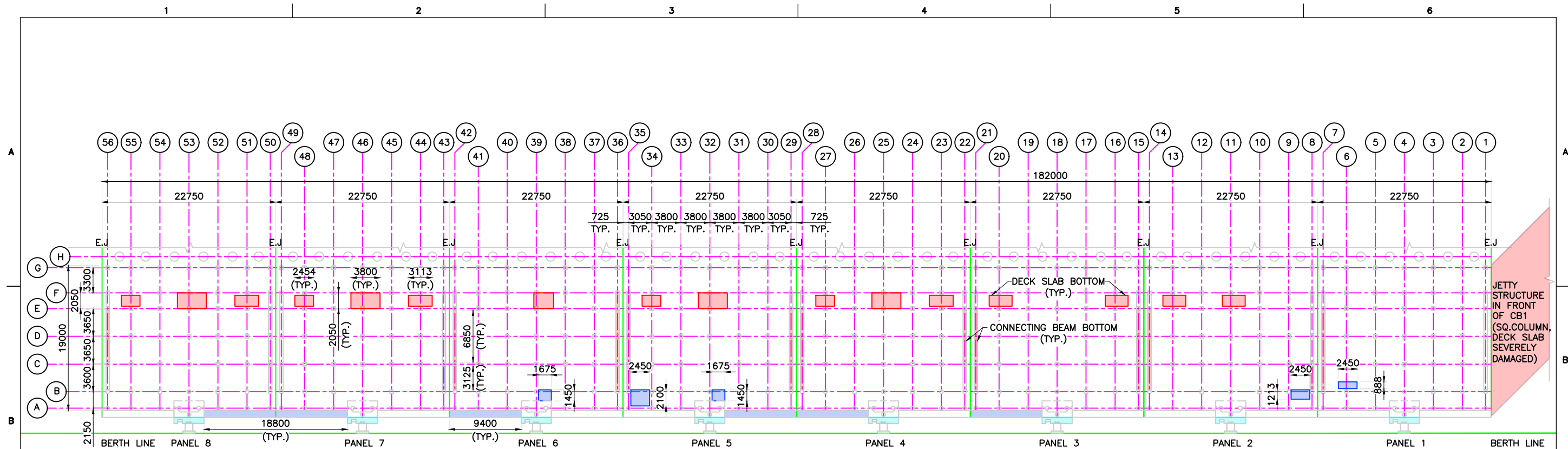
DRAWING NO. IITM-DPA-KAND-DWG-105	DATE: 30.03.24	REV: 0
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- NOTES:**
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING FENDER PANEL DETAILS				
DRAWING NO. IITM-DPA-KAND-DWG-106			DATE: 30.03.24	REV: 0



UNDER DECK DEFECTS INDICATION PLAN OF EXISTING CARGO BERTH-1 (PANEL 1 TO 8)
SCALE 1:500

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.		COMPLETE CONCRETE COVER DAMAGED AND CORRODED REINFORCEMENT IN BOTTOM OF DECK SLAB AND E.J CONNECTING BEAM
2.		CONCRETE COVER DAMAGED IN CABLE TRENCH AND FENDER PANEL FACE
3.		PATCH WORKS IN BOTTOM OF DECK SLAB

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED

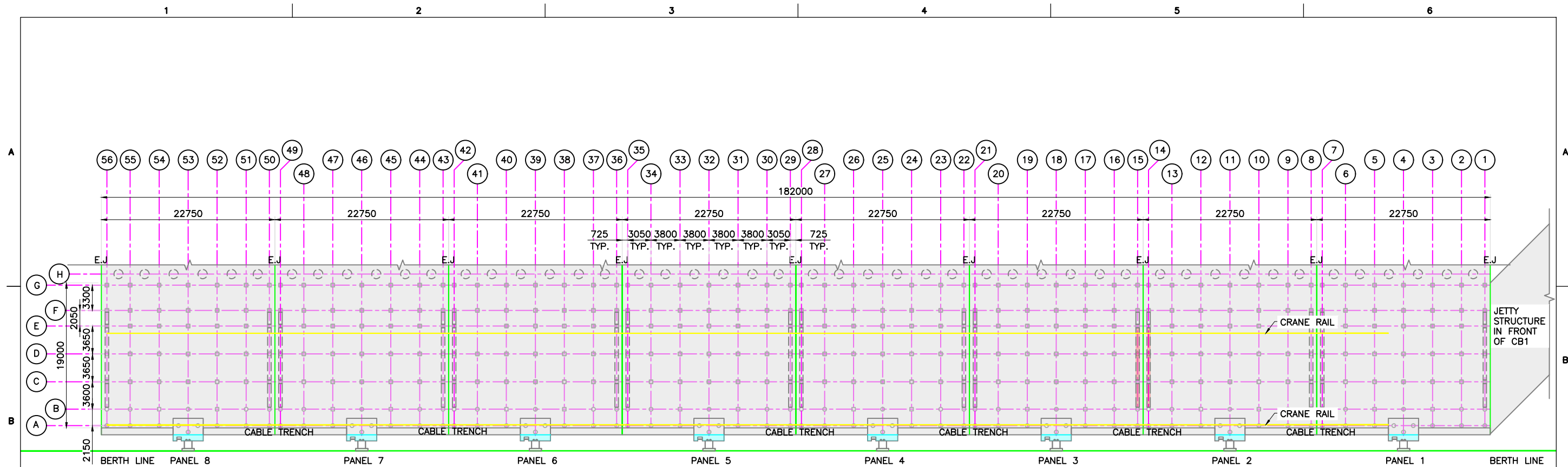
CONSULTANT:	PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	UNDER DECK DEFECTS INDICATION PLAN
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DRAWING NO. IITM-DPA-KAND-DWG-107	DATE: 30.03.24	REV: 0
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TOP DECK DEFECTS INDICATION PLAN IN CARGO BERTH-1 (PANEL 1 TO 8)
SCALE 1:500

LEGEND:


S.NO	COLOUR INDICATION	DESCRIPTION
1.		NO DAMAGES
2.		TOP WEARING COAT DAMAGED AND ROAD CONCRETE REINFORCEMENT ARE CORRODED AND EXPOSED

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
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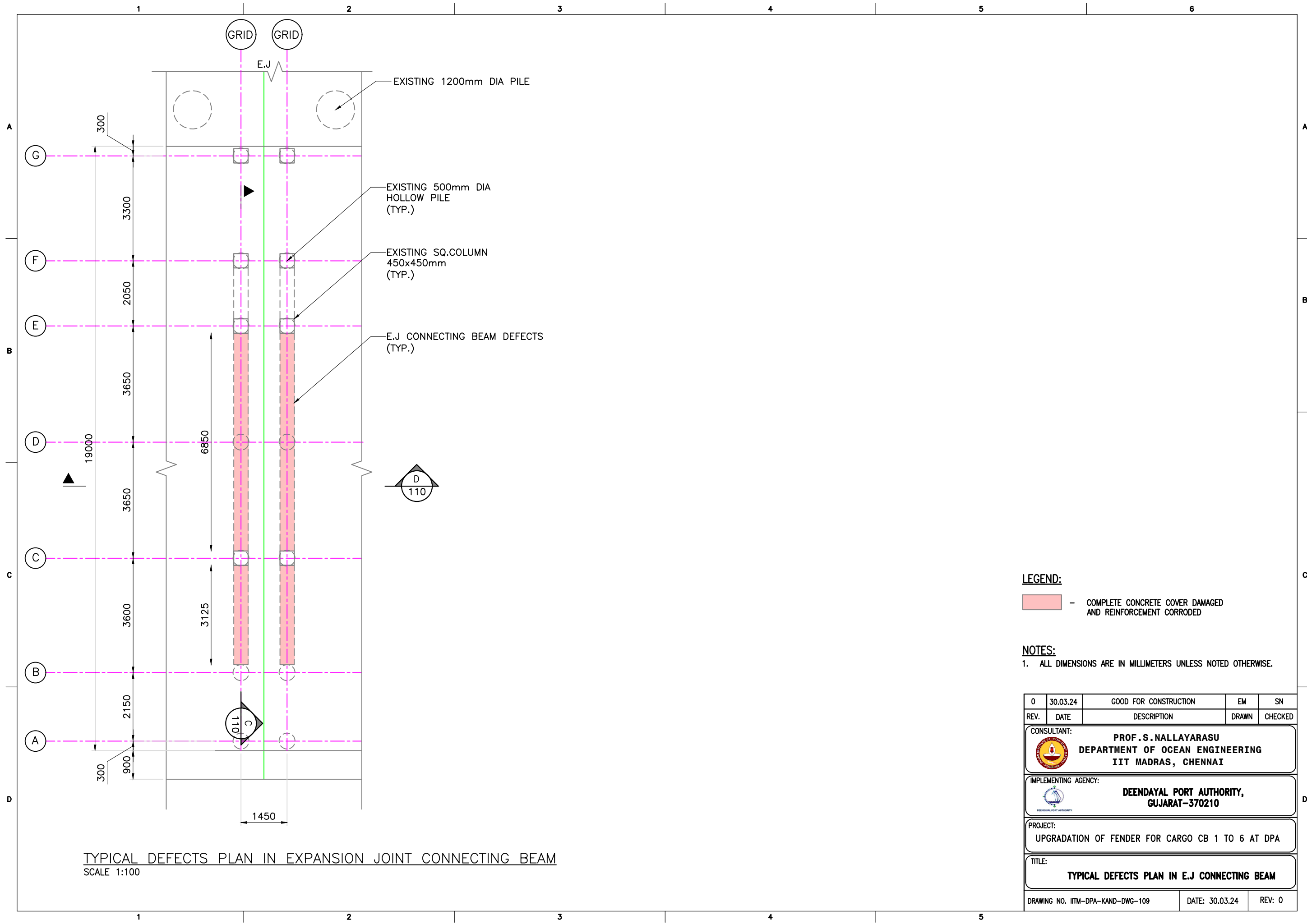
CONSULTANT:	 PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	 DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	TOP DECK DEFECTS INDICATION PLAN
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DRAWING NO. IITM-DPA-KAND-DWG-108	DATE: 30.03.24	REV: 0
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LEGEND:


 - COMPLETE CONCRETE COVER DAMAGED AND REINFORCEMENT CORRODED

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED

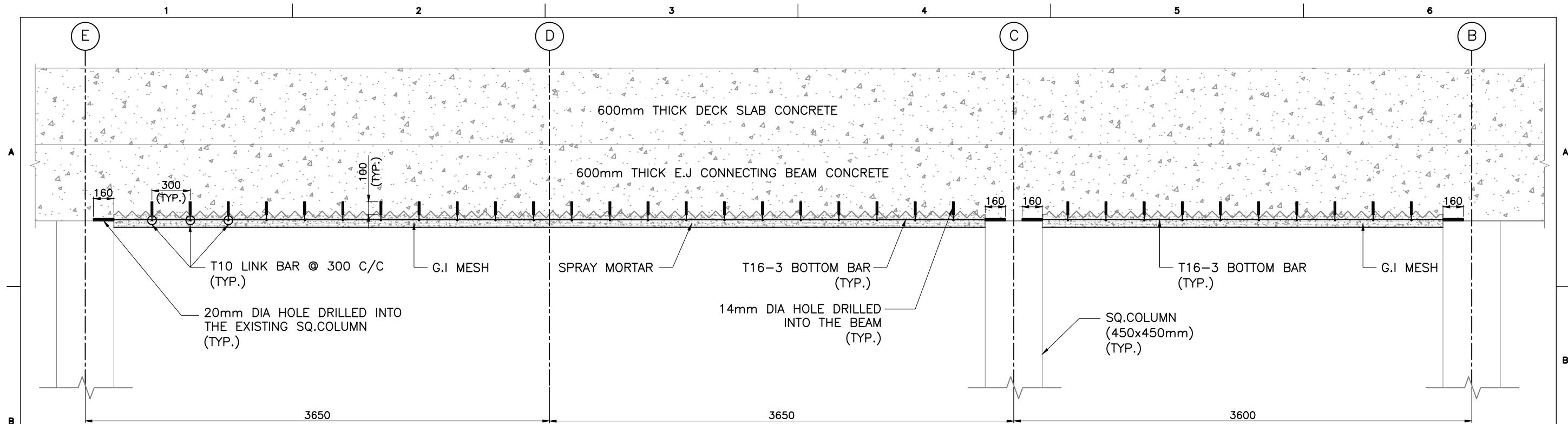
CONSULTANT:  **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY:  **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

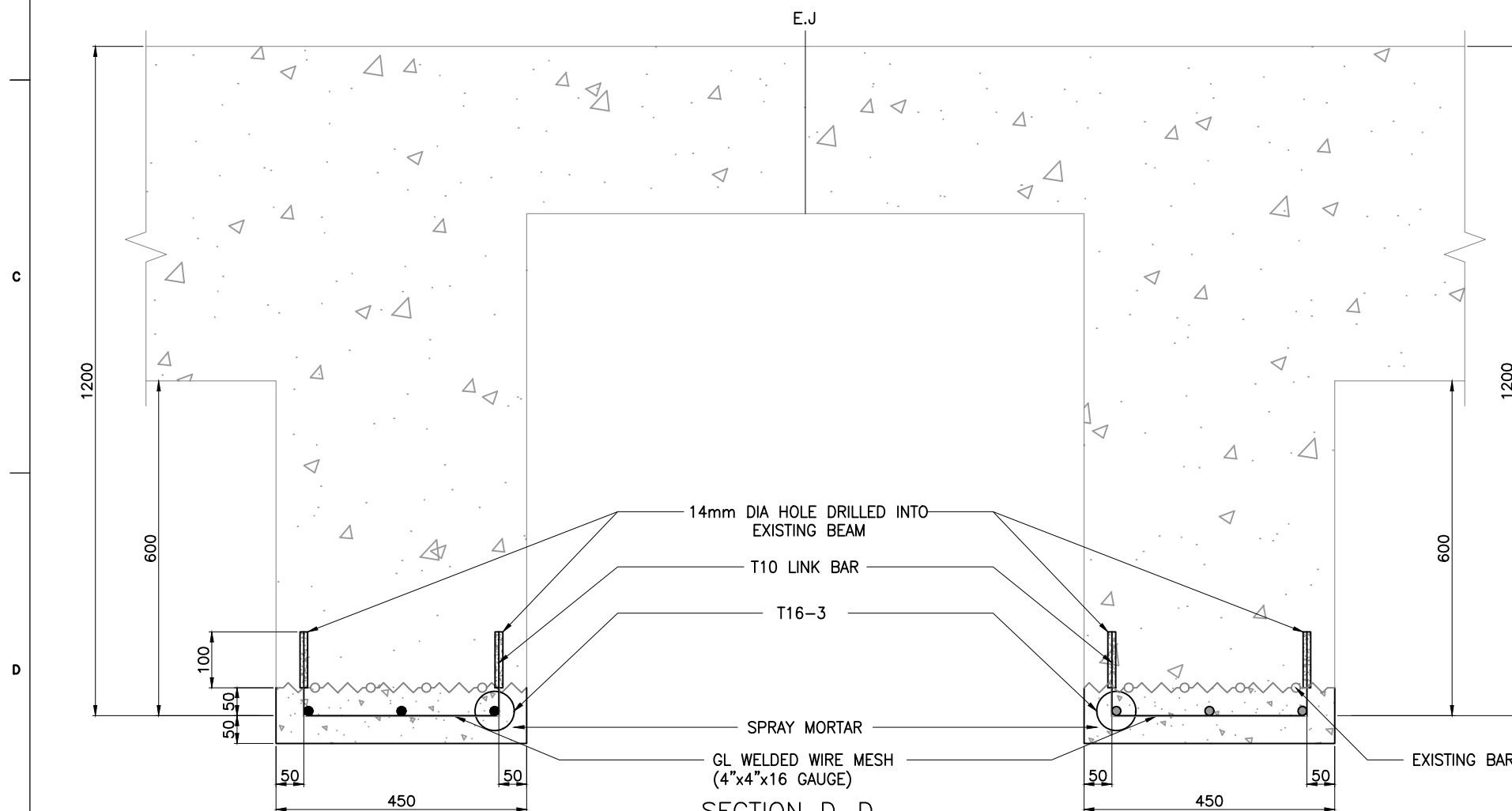
PROJECT:
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:
TYPICAL DEFECTS PLAN IN E.J. CONNECTING BEAM

DRAWING NO. IITM-DPA-KAND-DWG-109	DATE: 30.03.24	REV: 0
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SECTION C-C
SCALE 1:30

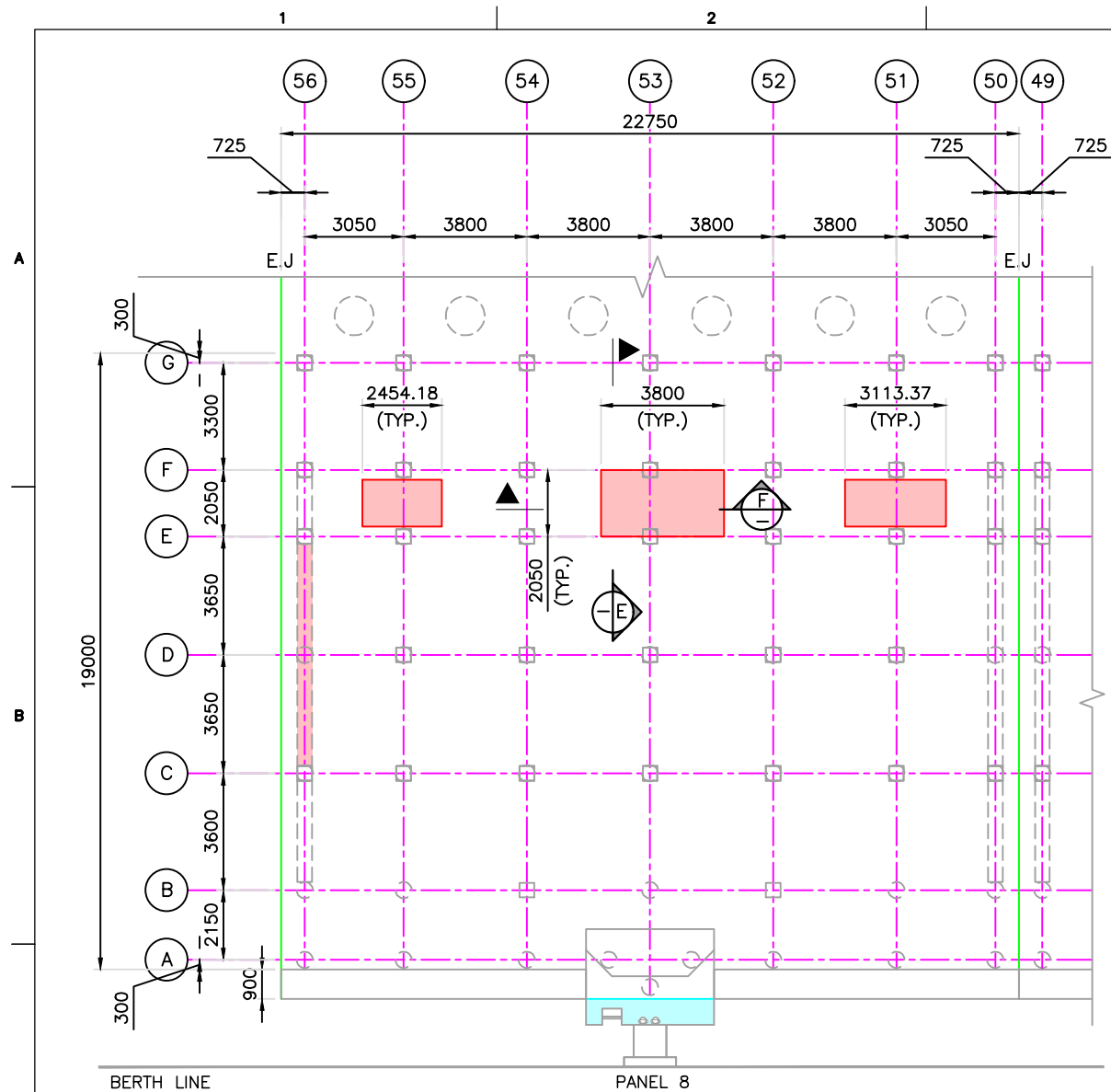


SECTION D-D
SCALE 1:10

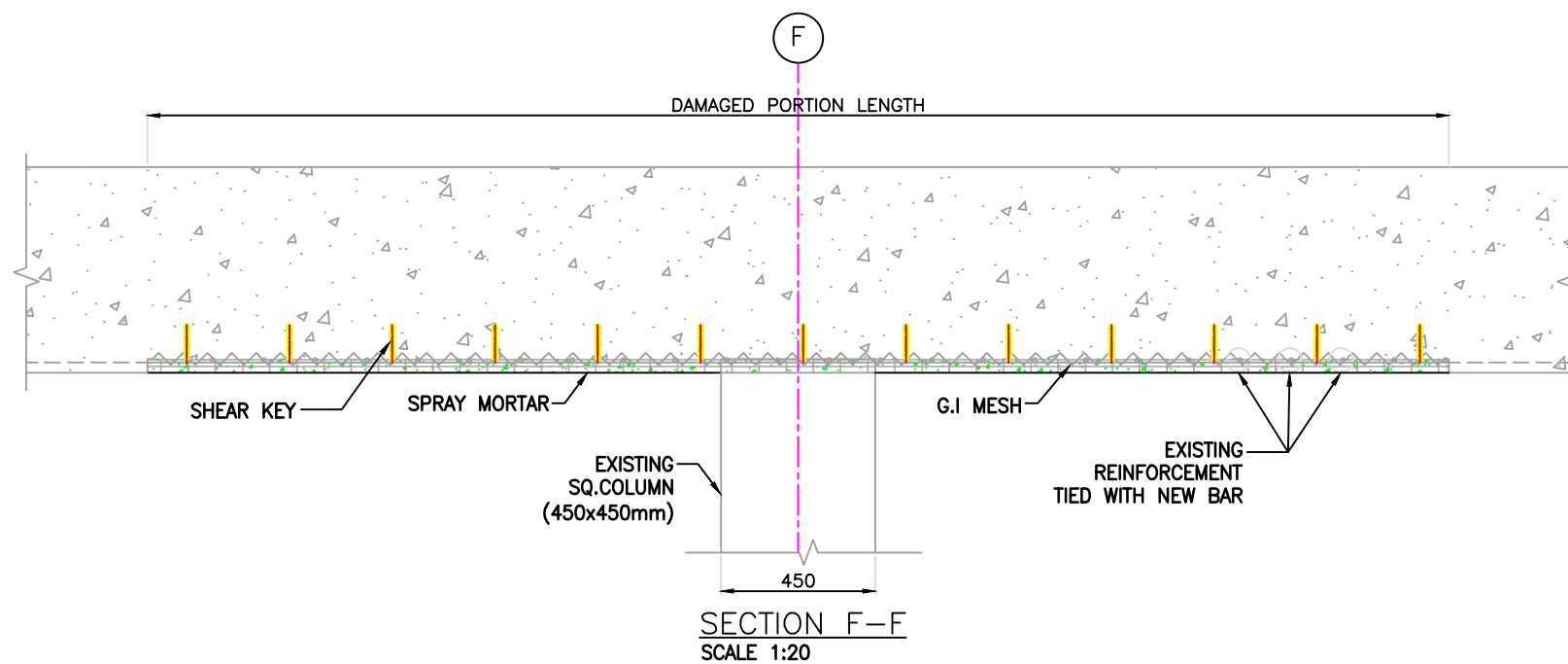
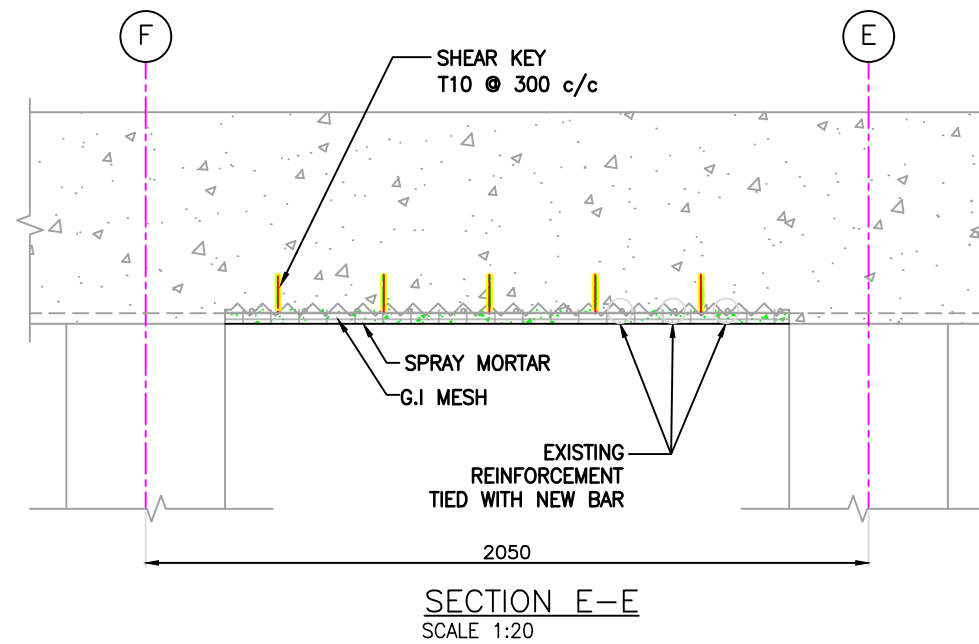
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
			DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF E.J. CONNECTING BEAM DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-110			DATE: 30.03.24	REV: 0





TYPICAL PLAN OF DECK SLAB BOTTOM DEFECTED PORTION
SCALE 1:200

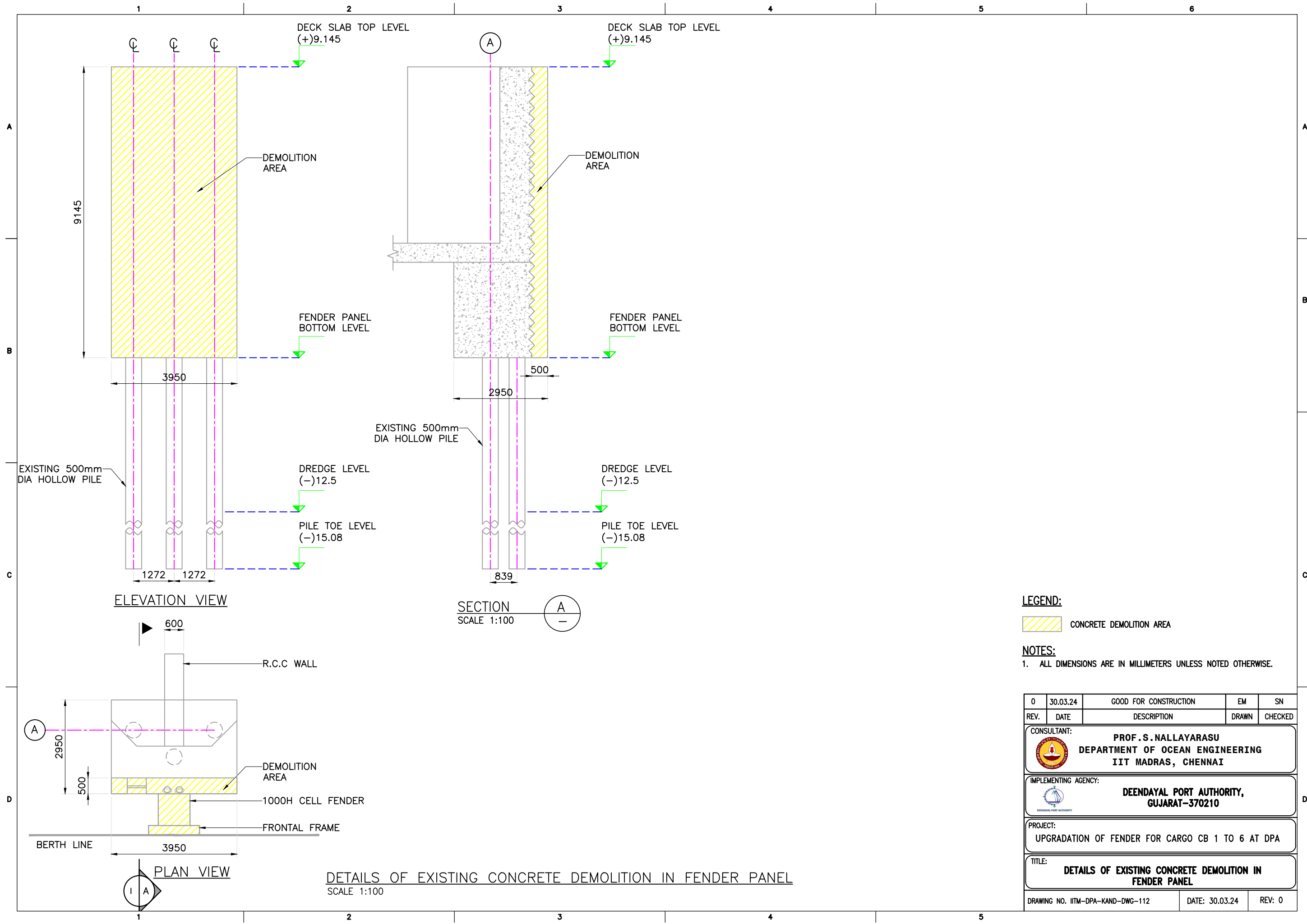


TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-111			DATE: 30.03.24	REV: 0



LEGEND:

CONCRETE DEMOLITION AREA

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

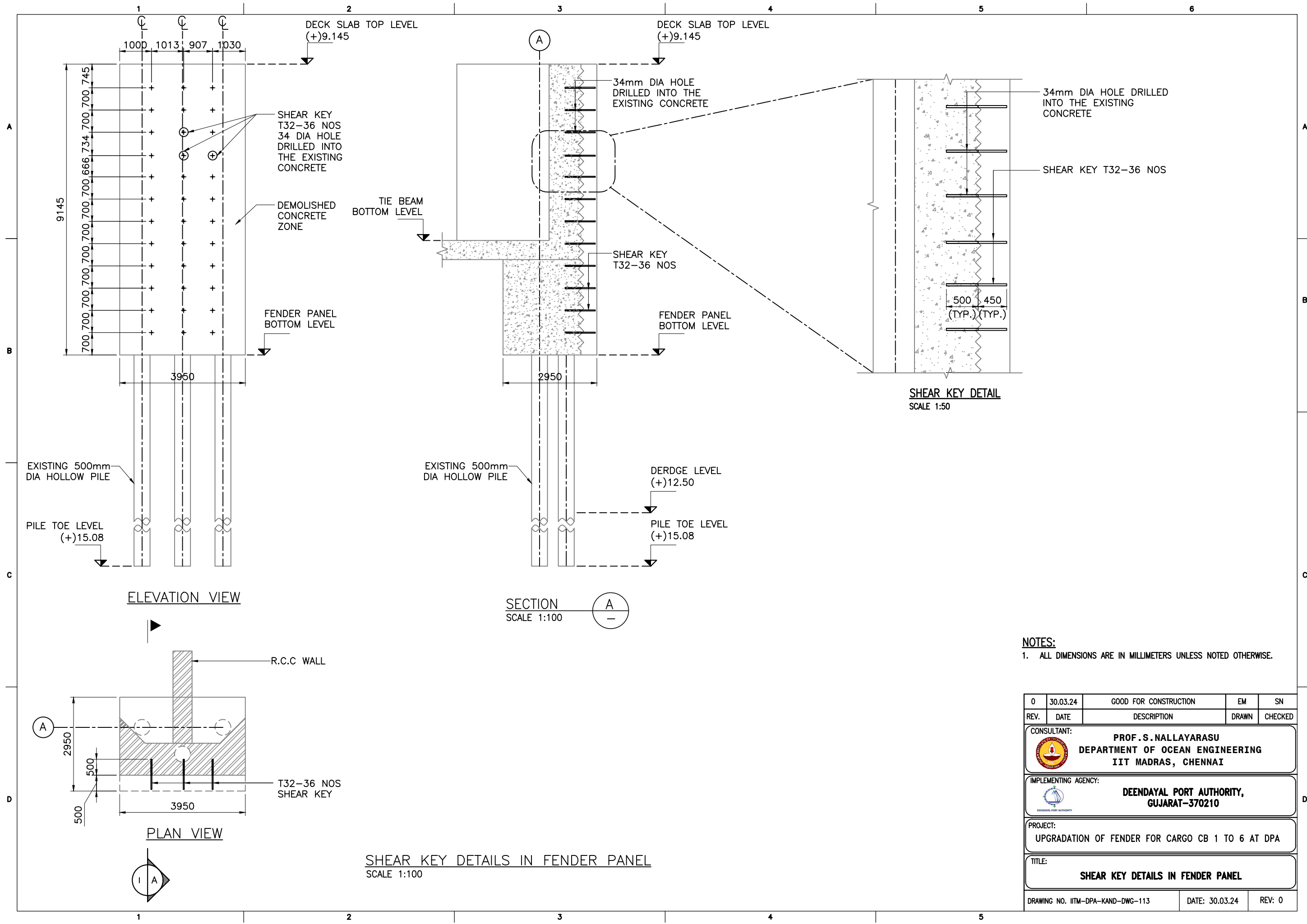
CONSULTANT: **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

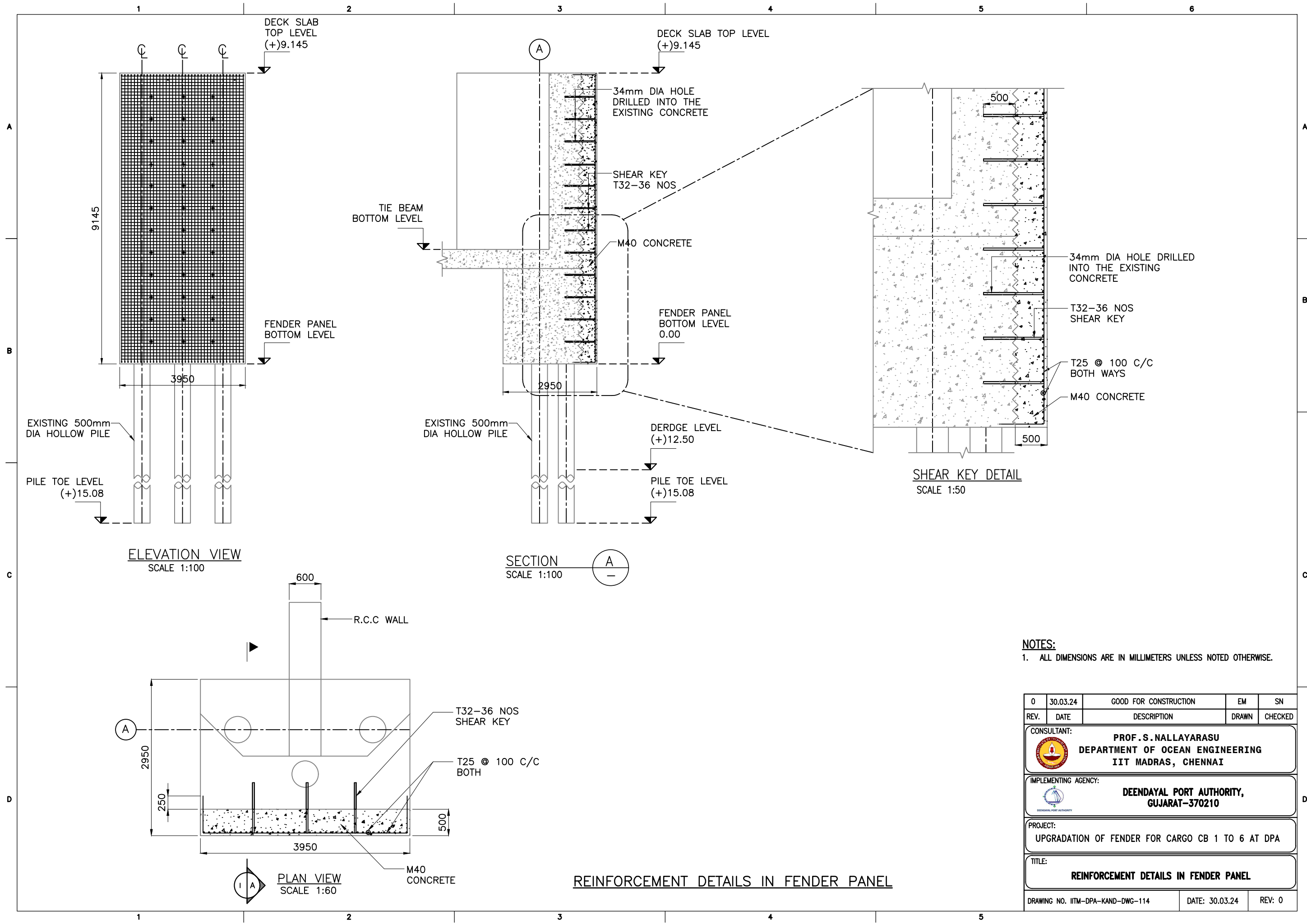
IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**

TITLE: **DETAILS OF EXISTING CONCRETE DEMOLITION IN FENDER PANEL**

DRAWING NO. IITM-DPA-KAND-DWG-112 DATE: 30.03.24 REV: 0

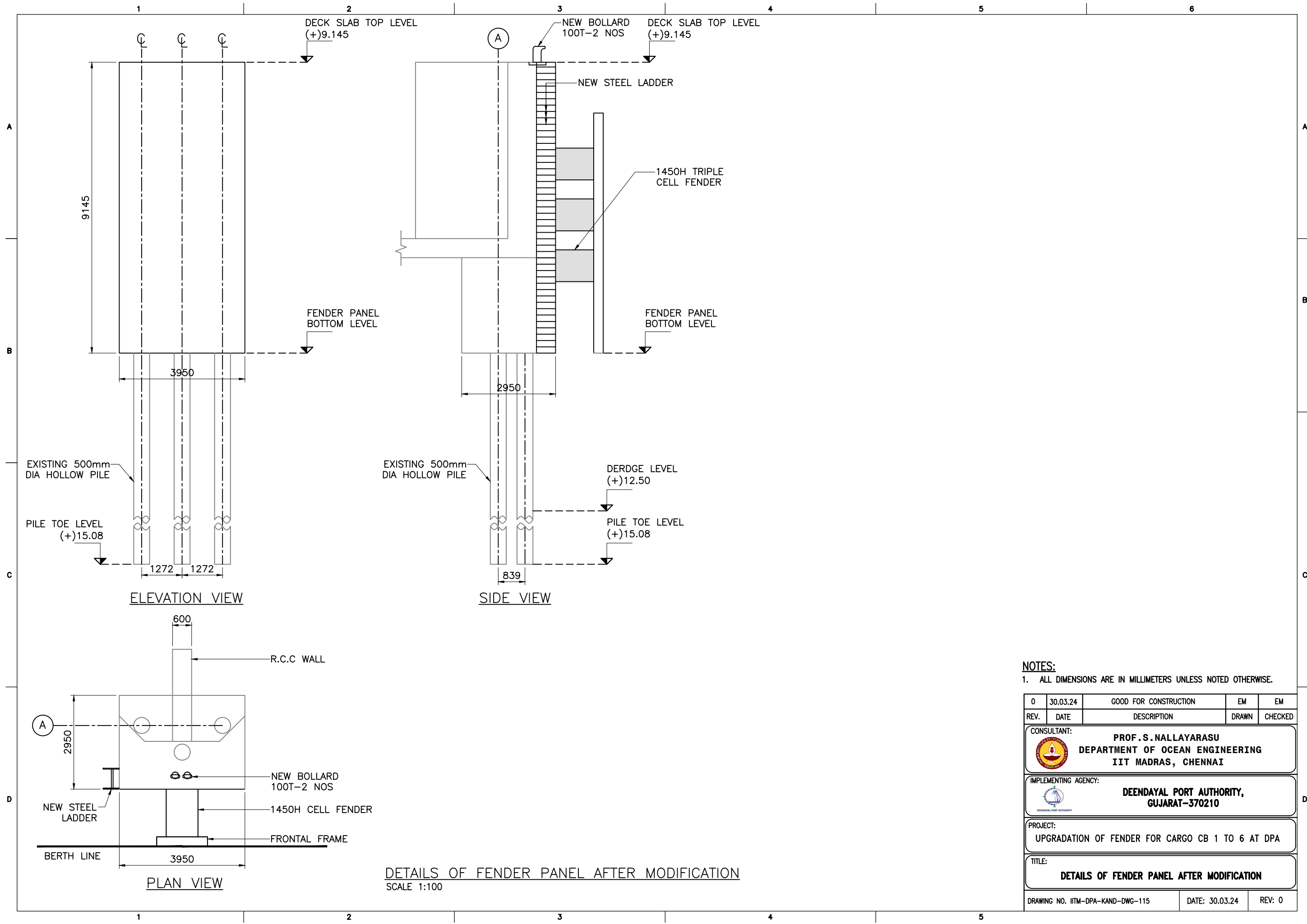




NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: REINFORCEMENT DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-114			DATE: 30.03.24	REV: 0



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DETAILS OF FENDER PANEL AFTER MODIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-115			DATE: 30.03.24	REV: 0

1

2

3

4


5

6

LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-DPA-KAND-DWG-200	DRAWING LIST	30.03.24	0
2	IITM-DPA-KAND-DWG-201	GENERAL NOTES AND SPECIFICATIONS	30.03.24	0
4	IITM-DPA-KAND-DWG-202	EXISTING CARGO BERTH 1 TO 6 - LOCATION PLAN	30.03.24	0
5	IITM-DPA-KAND-DWG-203	GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH 2	30.03.24	0
6	IITM-DPA-KAND-DWG-204	TYPICAL SECTION BETWEEN EXPANSION JOINT	30.03.24	0
7	IITM-DPA-KAND-DWG-205	TYPICAL SECTION AT EXPANSION JOINT	30.03.24	0
8	IITM-DPA-KAND-DWG-206	EXISTING FENDER PANEL DETAIL IN CARGO BERTH 2	30.03.24	0
9	IITM-DPA-KAND-DWG-207	UNDER DECK DEFECTS INDICATION PLAN OF CARGO BERTH 2	30.03.24	0
10	IITM-DPA-KAND-DWG-208	TOP DECK DEFECTS INDICATION PLAN OF CARGO BERTH 2	30.03.24	0
11	IITM-DPA-KAND-DWG-209	TYPICAL DEFECT INDICATION PLAN OF E.J CONNECTING BEAM	30.03.24	0
12	IITM-DPA-KAND-DWG-210	TYPICAL REPAIR SCHEME OF E.J CONNECTING BEAM DEFECTS	30.03.24	0
13	IITM-DPA-KAND-DWG-211	TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS	30.03.24	0
14	IITM-DPA-KAND-DWG-212	DETAILS EXISTING CONCRETE DEMOLITION IN FENDER PANEL	30.03.24	0
15	IITM-DPA-KAND-DWG-213	SHEAR KEY DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-214	REINFORCEMENT DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-215	DETAILS OF FENDER PANEL AFTER MODIFICATION	30.03.24	0


0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED

CONSULTANT:



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

IMPLEMENTING AGENCY:



DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

PROJECT:
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:
DRAWING LIST

DRAWING NO. IITM-DPA-KAND-DWG-200	DATE: 30.03.24	REV: 0
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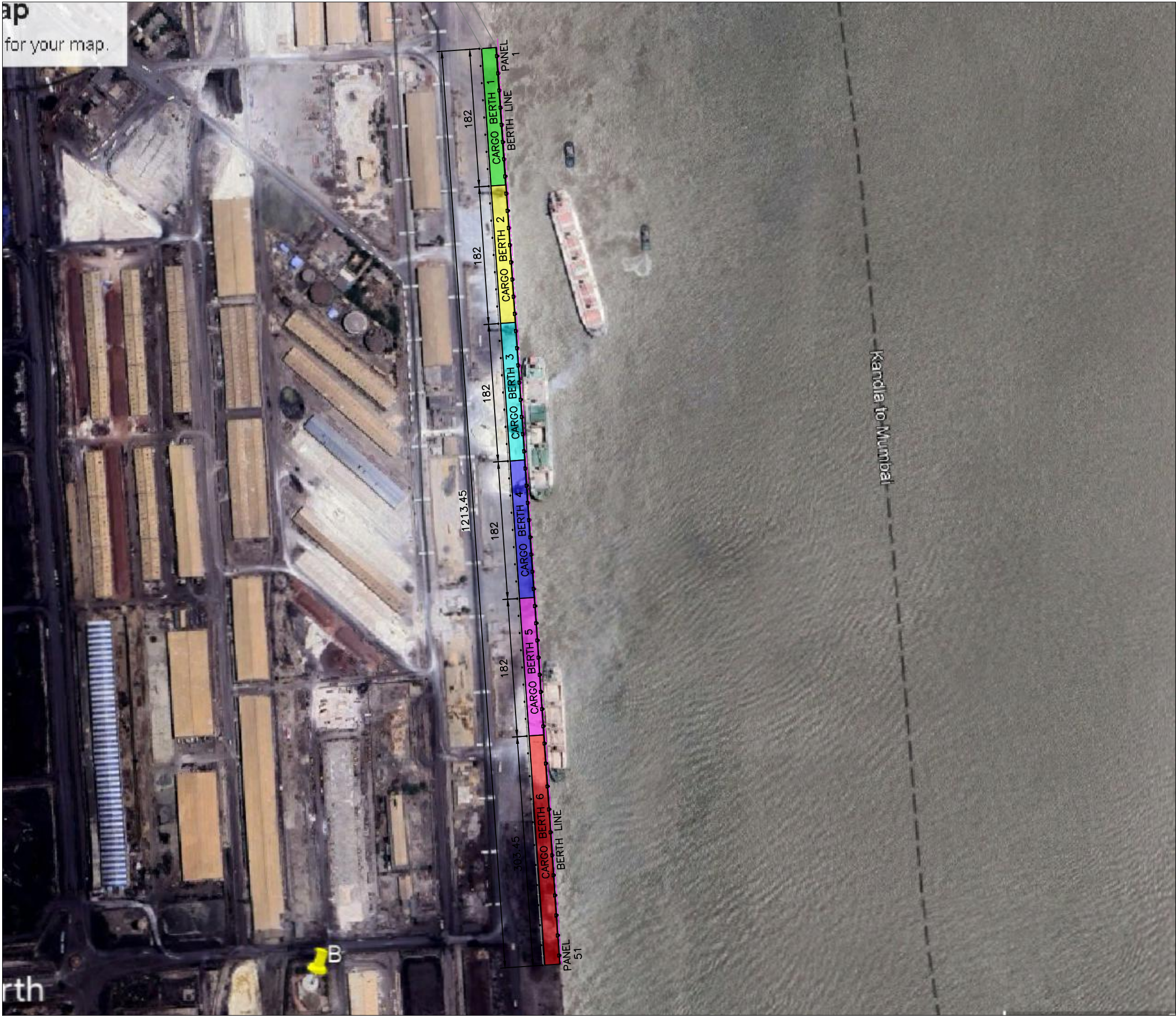
123456

PROCEDURE FOR REPAIR OF CONNECTING BEAM AND DECK SLAB BOTTOM

A. REPAIR SCHEME USING SPRAY MORTAR METHOD

- (a) SUITABLE TEMPORARY WORKING PLATFORM OF SIZE AND DIMENSION REQUIRED SHALL BE ERECTED BELOW THE EXISTING DECK (ABOVE MEAN SEA LEVEL) WITH ADEQUATE STRENGTH TO SUSTAIN DEAD LOADS, LIVE LOADS, WIND AND WAVE LOADS DURING EXECUTION OF THE WORK. SUCH SCHEME OF TEMPORARY PLATFORM SHALL BE APPROVED BY PMC IN PRIOR TO ERECTION. PRIOR TO ALLOWING THE WORKMAN ON THE TEMPORARY PLATFORM, THE SAFETY AND SECURITY OF THE PLATFORM SHALL BE ASCERTAINED BY THE CONTRACTOR/PMC/DPA BY A JOINT INSPECTION.
- (b) THE CRACKS SHALL BE IDENTIFIED IN THE PRESENCE OF PMC/DPA AND SEALED THROUGHOUT USING EPOXY PUTTY IN PRIOR TO GROUTING. THE GROUTING POINTS SHALL BE MARKED AT A SPACING OF 500 MM C/C TO FIX THE PACKERS USING EPOXY PUTTY AND GROUTED WITH LOW VISCOUS EPOXY GROUT. THE GROUTED PACKERS SHALL BE CUT AND SEALED WITH EPOXY PUTTY.
- (c) SHEAR KEYS SHALL BE INSTALLED AT THE DESIGNATED LOCATIONS AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS AS PER SPECIFICATIONS OF MATERIAL, SIZE AND SHAPE USING DRILLING INTO THE EXISTING BEAM/SLAB/PILE CAP TO A DEPTH OF NOT LESS THAN 100MM FROM THE EXPOSED SURFACE. THE HOLE SHALL BE GROUTED AFTER THE INSERTION OF SHEAR KEY REINFORCEMENT USING GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (d) THE BOTTOM AND SIDE FACES SHALL BE THOROUGHLY CLEANED TO REMOVE ANY RUST ON THE EXISTING REINFORCEMENT AND GI WELDED WIRE MESH OF 4" X 4" (16 GAUGE) SHALL BE AFFIXED TO THE SHEAR KEYS AND SECURED.
- (e) ADDITIONAL REINFORCEMENT INCLUDING MAIN REINFORCEMENT, SIDE REINFORCEMENT AND STIRRUPS SHALL BE TREATED WITH ANTI-CORROSIVE COATING AS PER SPECIFICATION. THE SAME SHALL BE PLACED AND TIED TO THE SHEAR KEYS AT THE BOTTOM SURFACE AND SIDE SURFACE AS PER APPROVED CONSTRUCTION DRAWINGS.
- (f) THE BOTTOM MAIN AND SIDE FACE REINFORCEMENTS SHALL BE ANCHORED AT THE TWO ENDS USING SIMILAR PROCEDURE FOR SHEAR KEY BY DRILLING INTO THE EXISTING CONCRETE AND GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (g) THE SIDE FACE AND BOTTOM MAIN REINFORCEMENT SHALL BE LAPPED AT THE LOCATION AS SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- (h) A SPRAY MORTAR OF REQUIRED STRENGTH AS SPECIFIED IN THE SPECIFICATION SHALL BE SPRAYED ON THE SURFACE OF THE EXISTING CONCRETE USING APPROVED METHODS OF APPLICATION BY THE MANUFACTURER IN MULTIPLE LAYERS TO THE TOTAL THICKNESS REQUIRED AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS.
- (i) THE CURING SHALL BE DONE NOT LESS THAN 14 DAYS FROM THE DATE OF CASTING USING FRESH WATER APPLICATION ON THE SURFACE OF THE CONCRETE.
- (j) THE REPAIRED CONCRETE SURFACE SHALL BE PAINTED WITH PROTECTIVE COATING IN TWO COATS OF 300-MICRON DFT (EACH COAT OF 150-MICRON DFT) ON ACRYLIC BASED PRIMER AT AN AVERAGE TOTAL THICKNESS OF 300-MICRON DFT IN TWO COATS APPROVED BY THE ENGINEER IN CHARGE SHALL BE APPLIED ON THE SURFACE OF THE MICRO CONCRETE.
- (k) AN IDENTIFICATION NUMBER FOR THE BEAMS/PILE CAPS SHALL BE PAINTED ON THE SIDE SURFACE OF THE BEAM AND JOINT INSPECTION SHALL BE MADE BY DPA/CONTRACTOR AND PMC FOR ACCEPTANCE.
- (l) TEMPORARY PLATFORM SO ERECTED FOR THE PURPOSE OF THE REPAIR WORK SHALL ONLY BE REMOVED AFTER THE REPAIR HAS BEEN ACCEPTED BY DPA/PMC AND CLEARANCE IS GIVEN BY PMC FOR SUCH REMOVAL

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div><div>PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div></div>				
IMPLEMENTING AGENCY: <div><div>DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div></div>				
PROJECT: <div>UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA</div>				
TITLE: <div>GENERAL NOTES AND SPECIFICATION</div>				
DRAWING NO. IITM-DPA-KAND-DWG-201		DATE: 30.03.24		REV: 0



LOCATION MAP OF EXISTING CARGO BERTH 1 TO 6
SCALE 1:5

LEGEND:

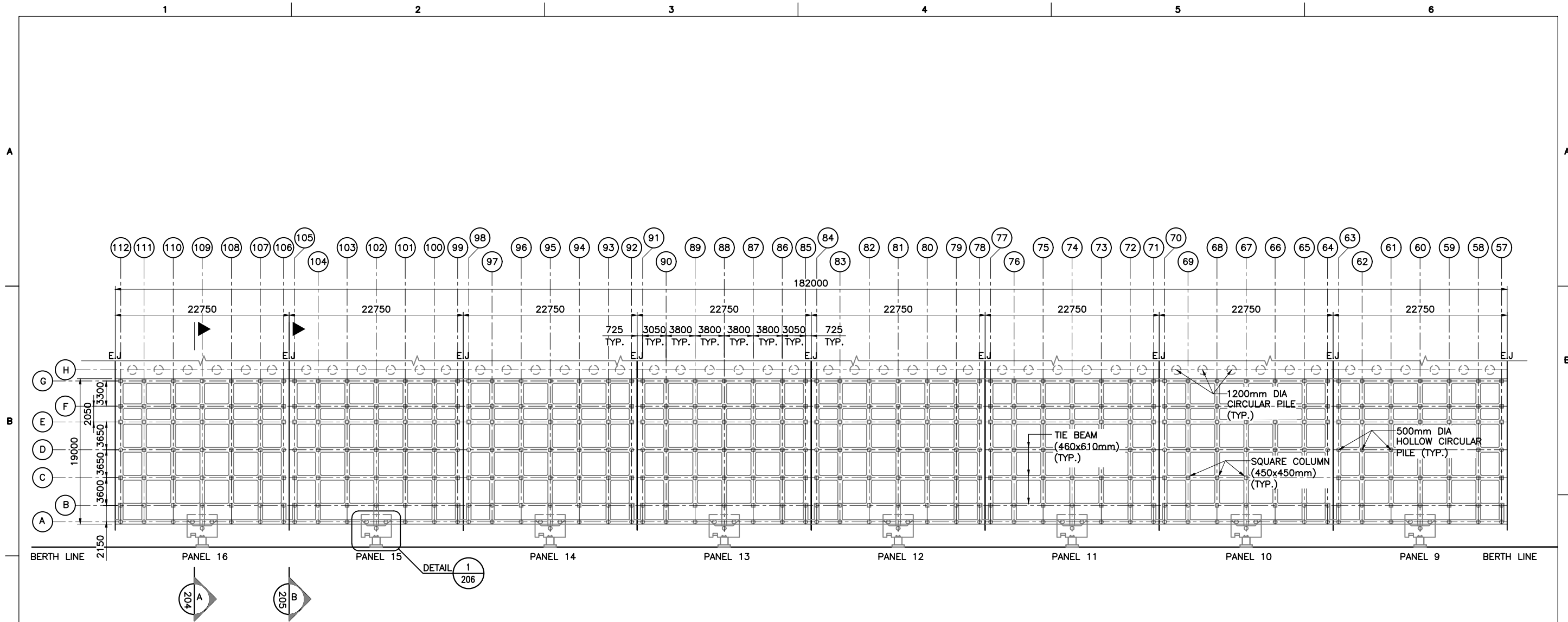
S.NO	COLOUR INDICATION	BERTH NAME	FENDER PANEL NUMBER
1.		CARGO BERTH 1	PANEL 1 TO 8
2.		CARGO BERTH 2	PANEL 9 TO 16
3.		CARGO BERTH 3	PANEL 17 TO 24
4.		CARGO BERTH 4	PANEL 25 TO 32
5.		CARGO BERTH 5	PANEL 33 TO 40
6.		CARGO BERTH 6	PANEL 41 TO 51

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C



0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING CARGO BERTH 1 TO 6-LOCATION MAP				
DRAWING NO. IITM-DPA-KAND-DWG-202			DATE: 30.03.24	REV: 0

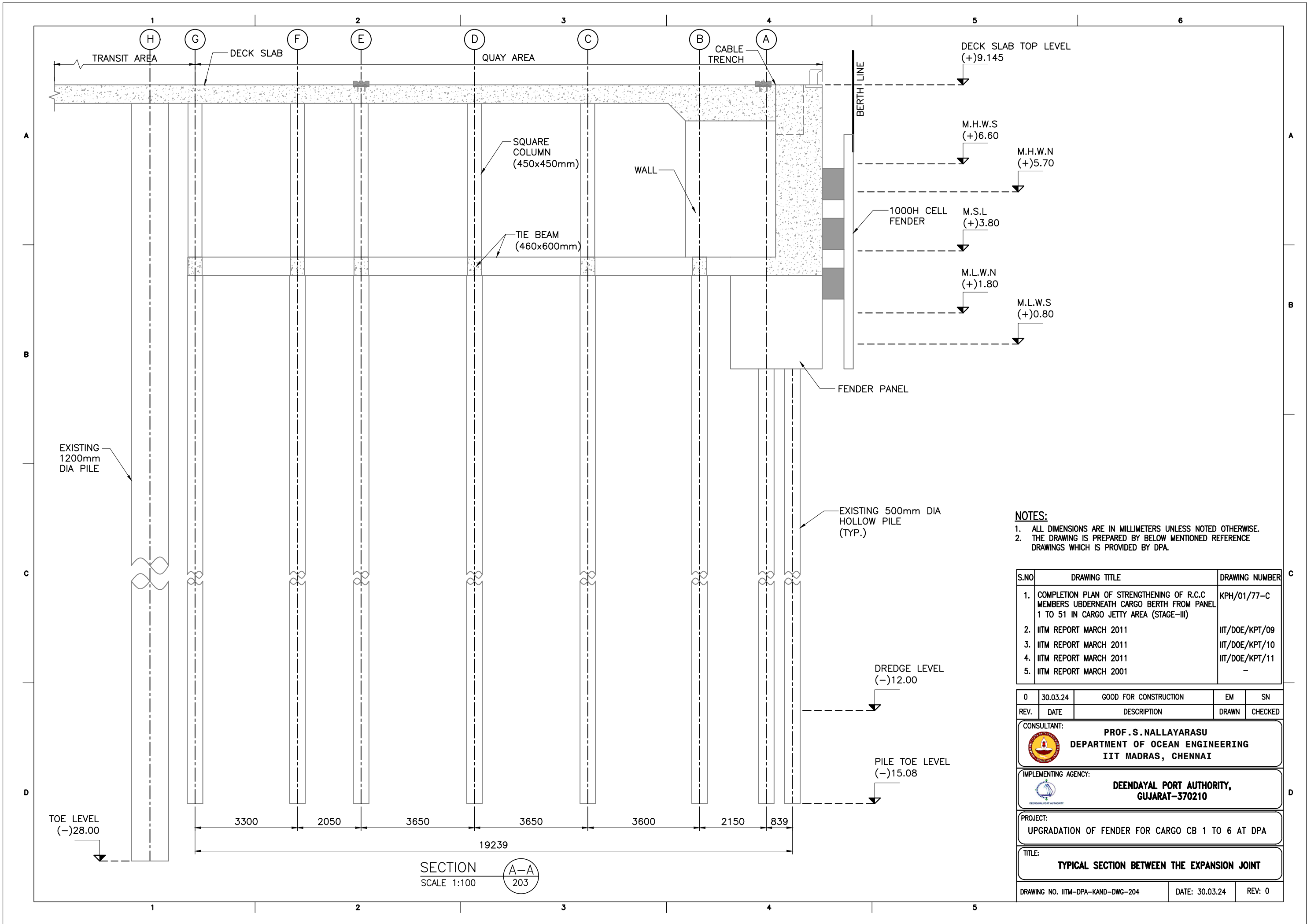


GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH-2 (PANEL 9 TO 16) AT (+) 3.6m LEVEL
SCALE 1:500

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL ARRANGEMENT PLAN OF EXISTING CB-2				
DRAWING NO. IITM-DPA-KAND-DWG-203			DATE: 30.03.24	REV: 0



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

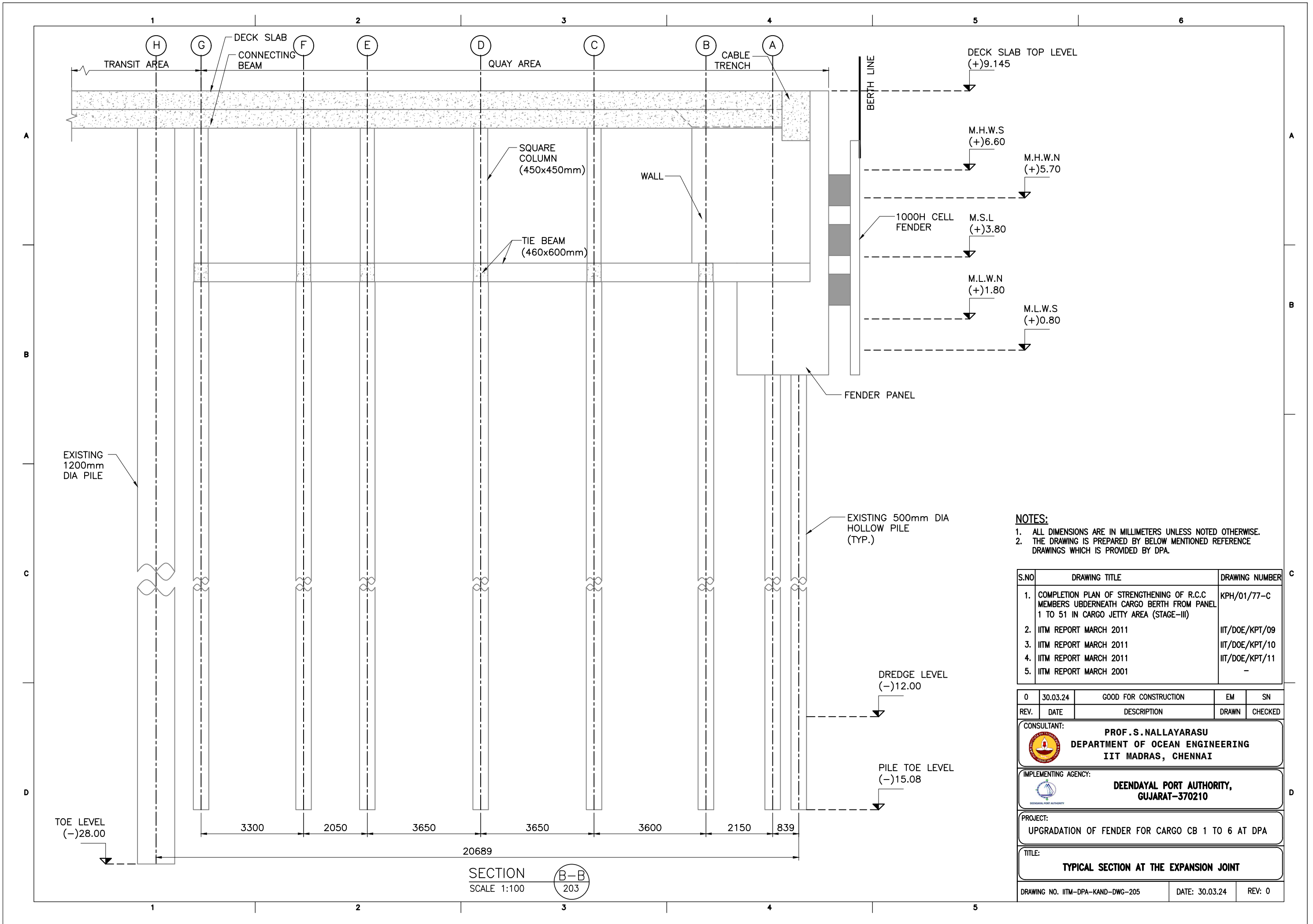
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REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				

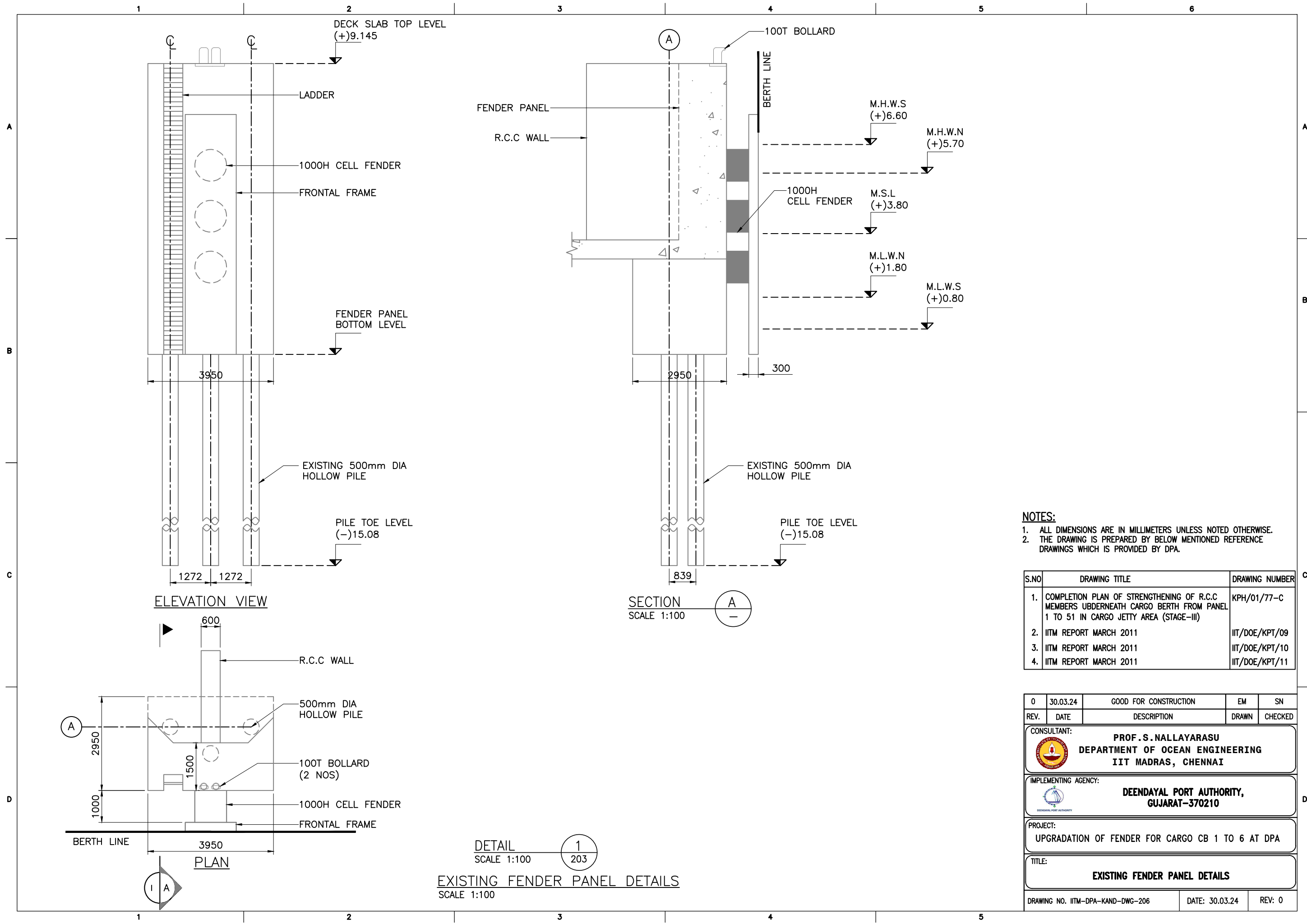
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PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
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TITLE: TYPICAL SECTION BETWEEN THE EXPANSION JOINT				
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DRAWING NO. IITM-DPA-KAND-DWG-204	DATE: 30.03.24	REV: 0
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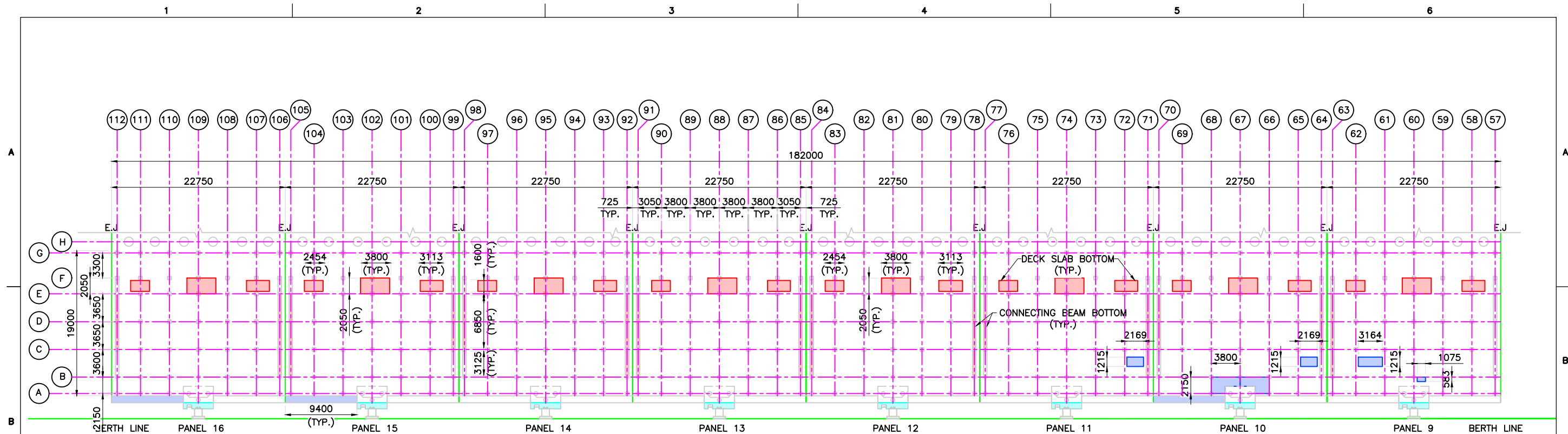




- NOTES:**
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING FENDER PANEL DETAILS				
DRAWING NO. IITM-DPA-KAND-DWG-206			DATE: 30.03.24	REV: 0



UNDER DECK DEFECTS INDICATION PLAN OF EXISTING CARGO BERTH-2 (PANEL 9 TO 16)
SCALE 1:500

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.		COMPLETE CONCRETE COVER DAMAGED AND CORRODED REINFORCEMENT IN BOTTOM OF DECK SLAB AND E.J CONNECTING BEAM
2.		CONCRETE COVER DAMAGED IN CABLE TRENCH AND FENDER PANEL FACE
3.		PATCH WORKS IN BOTTOM OF DECK SLAB

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

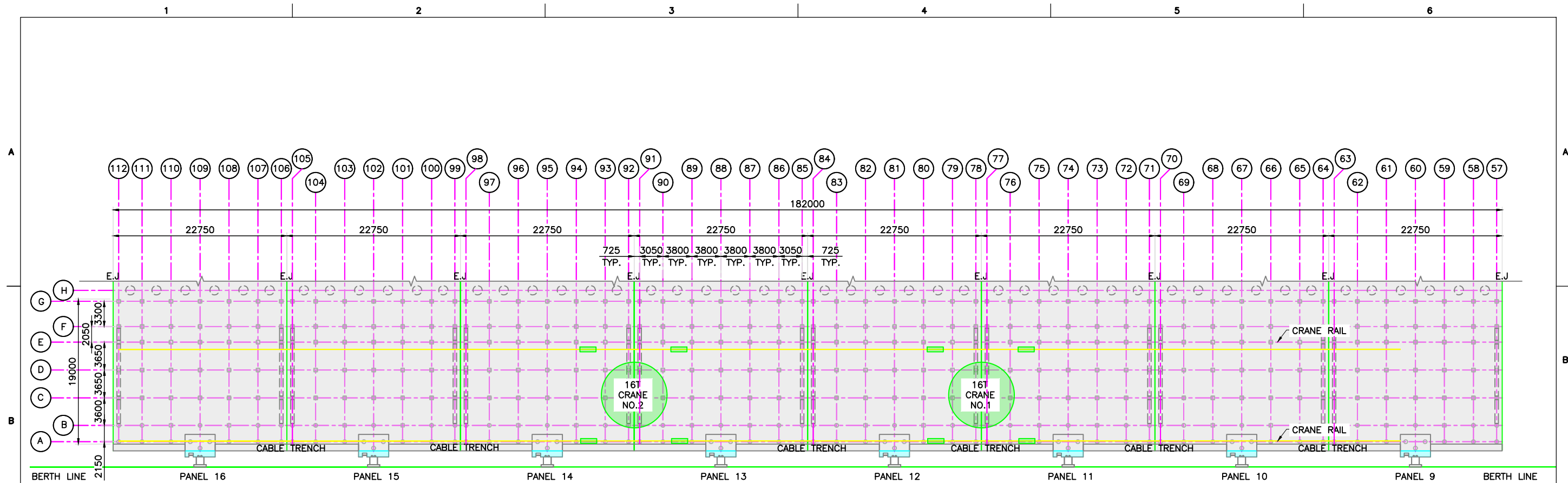
CONSULTANT:	PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	UNDER DECK DEFECTS INDICATION PLAN
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DRAWING NO. IITM-DPA-KAND-DWG-207	DATE: 30.03.24	REV: 0
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TOP DECK DEFECTS INDICATION PLAN IN CARGO BERTH-2 (PANEL 9 TO 16)
SCALE 1:500

LEGEND:


S.NO	COLOUR INDICATION	DESCRIPTION
1.		NO DAMAGES
2.		TOP WEARING COAT DAMAGED AND ROAD CONCRETE REINFORCEMENT ARE CORRODED AND EXPOSED

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
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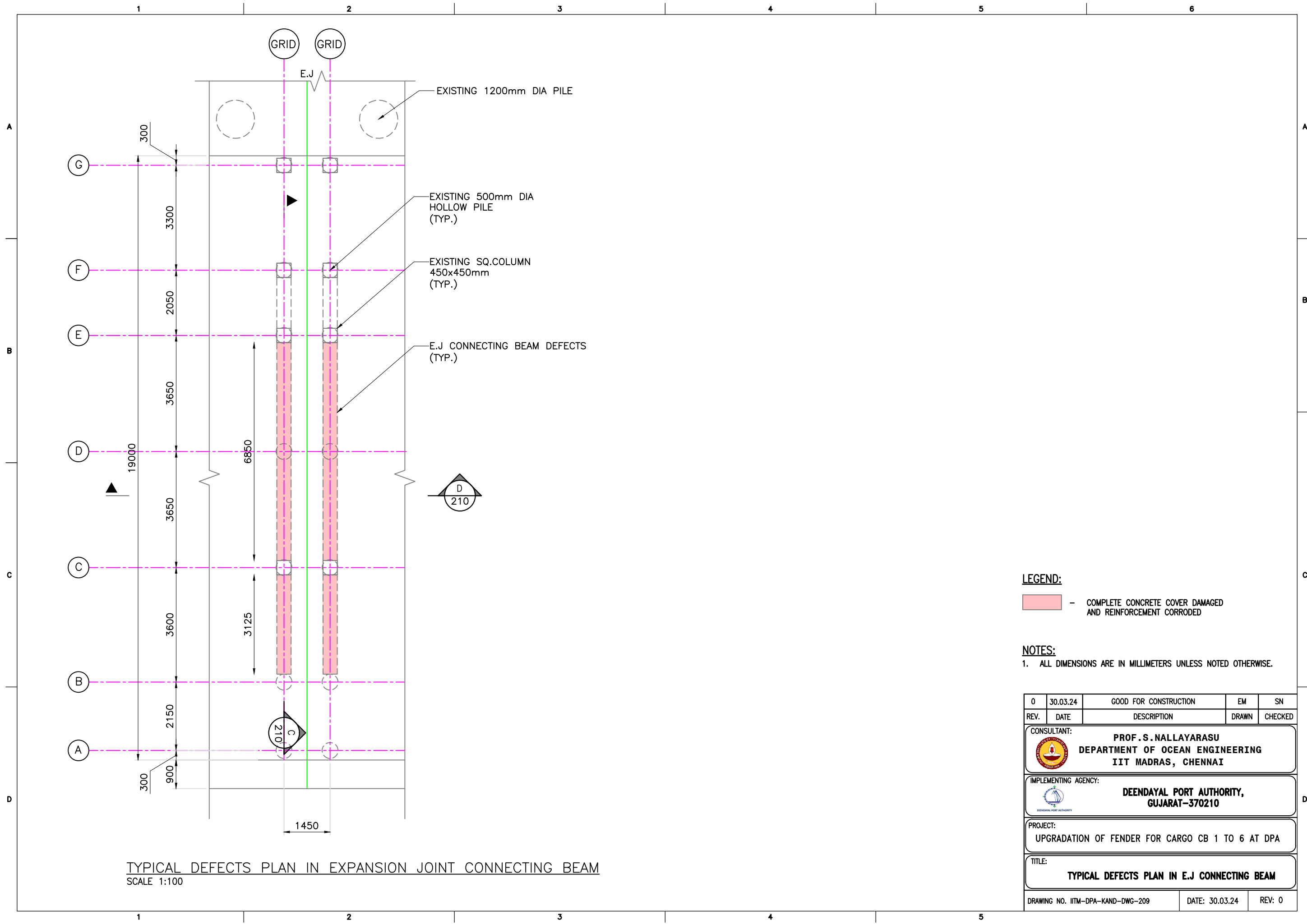
CONSULTANT:	 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	 DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6
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TITLE:	TOP DECK DEFECTS INDICATION PLAN
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DRAWING NO. IITM-DPA-KAND-DWG-208	DATE: 30.03.24	REV: 0
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LEGEND:

— COMPLETE CONCRETE COVER DAMAGED AND REINFORCEMENT CORRODED

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

CONSULTANT:

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

IMPLEMENTING AGENCY:

DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

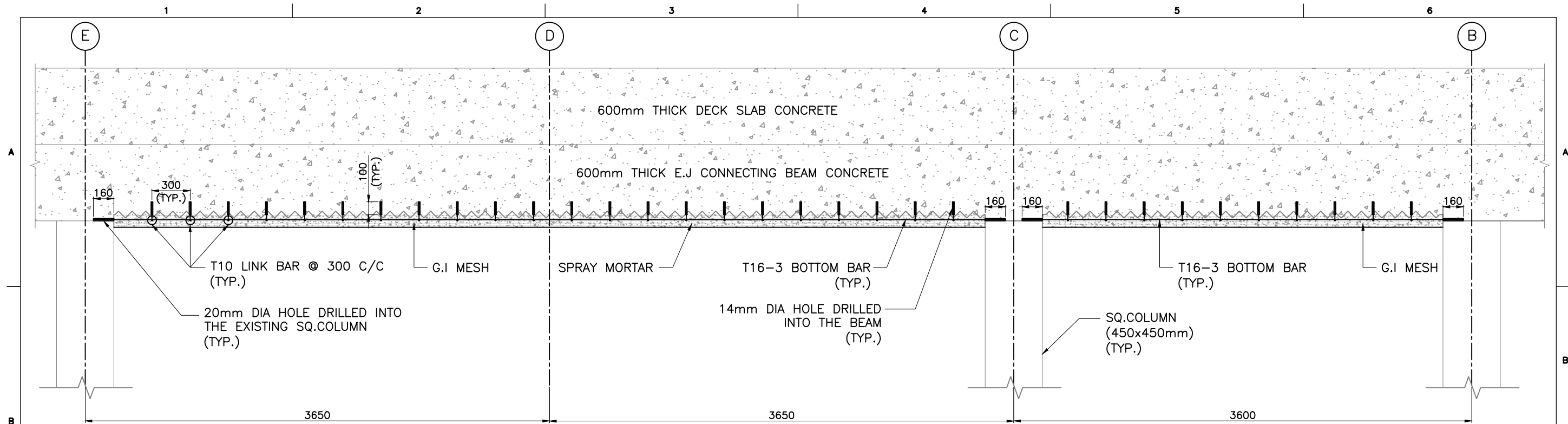
PROJECT:

UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

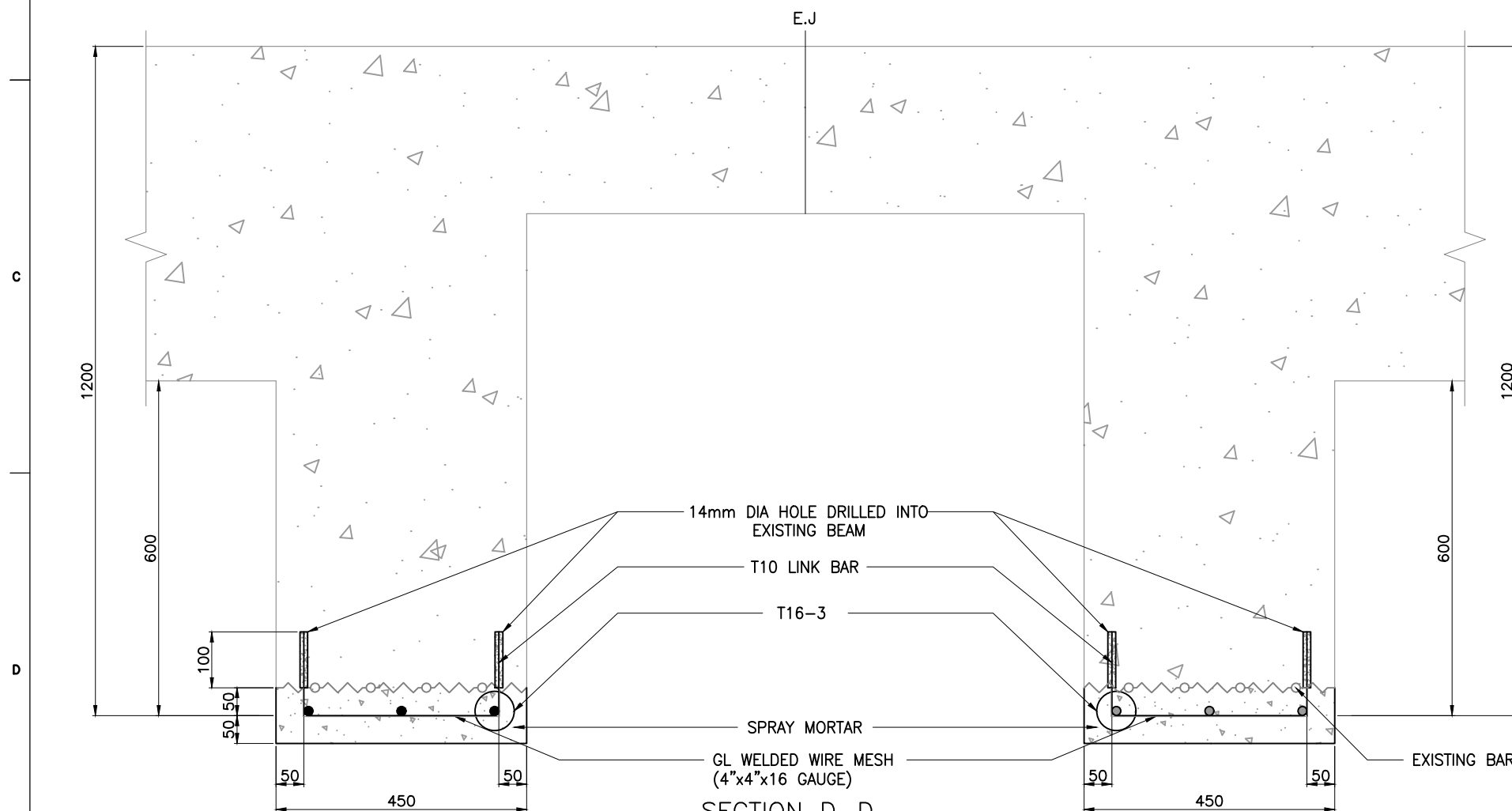
TITLE:

TYPICAL DEFECTS PLAN IN E.J CONNECTING BEAM

DRAWING NO. IITM-DPA-KAND-DWG-209 DATE: 30.03.24 REV: 0





SECTION C-C
SCALE 1:30

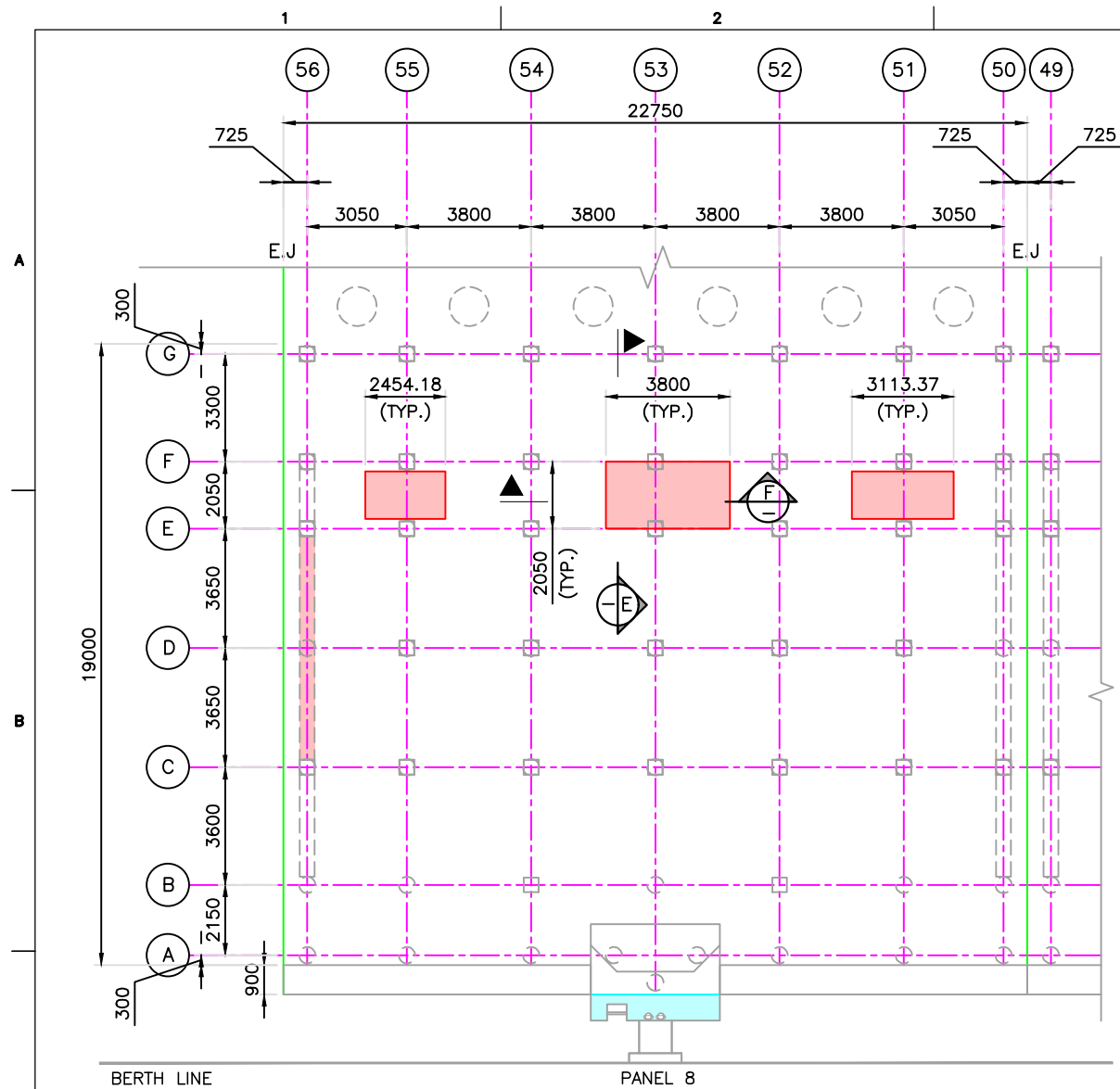


SECTION D-D
SCALE 1:10

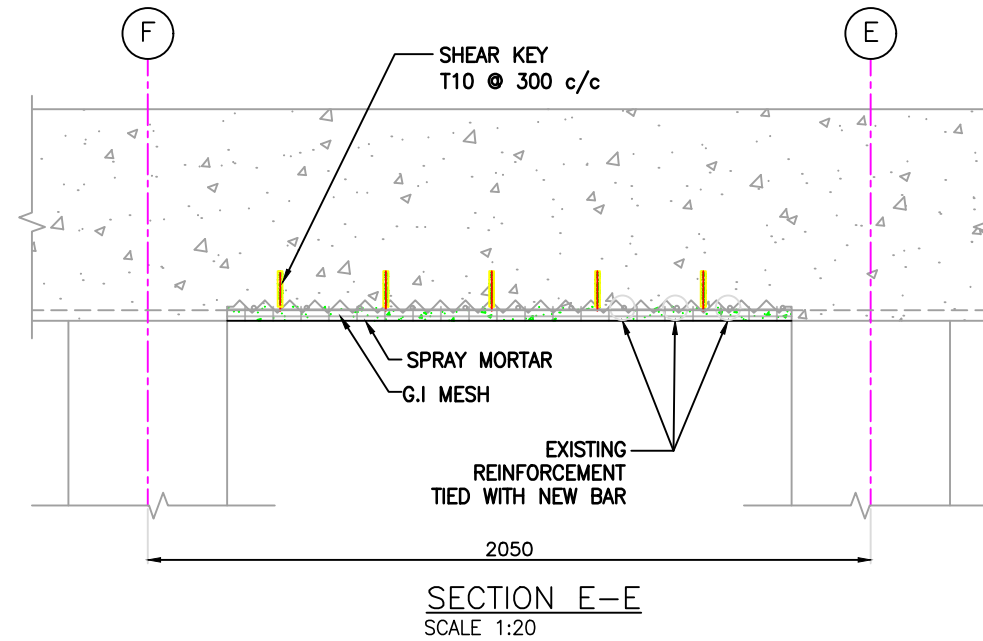
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1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

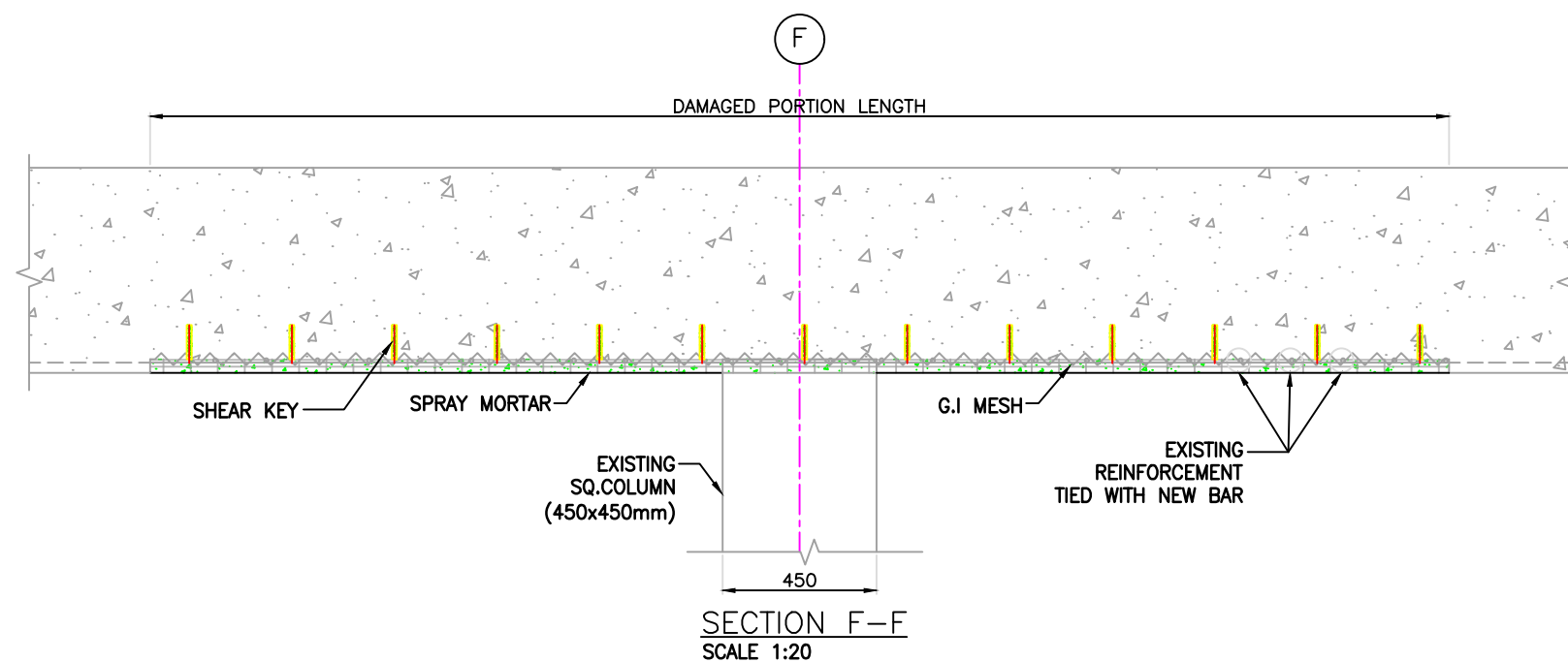
REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
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CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF E.J. CONNECTING BEAM DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-210			DATE: 30.03.24	REV: 0



TYPICAL PLAN OF DECK SLAB BOTTOM DEFECTED PORTION
SCALE 1:200





SECTION E-E
SCALE 1:20

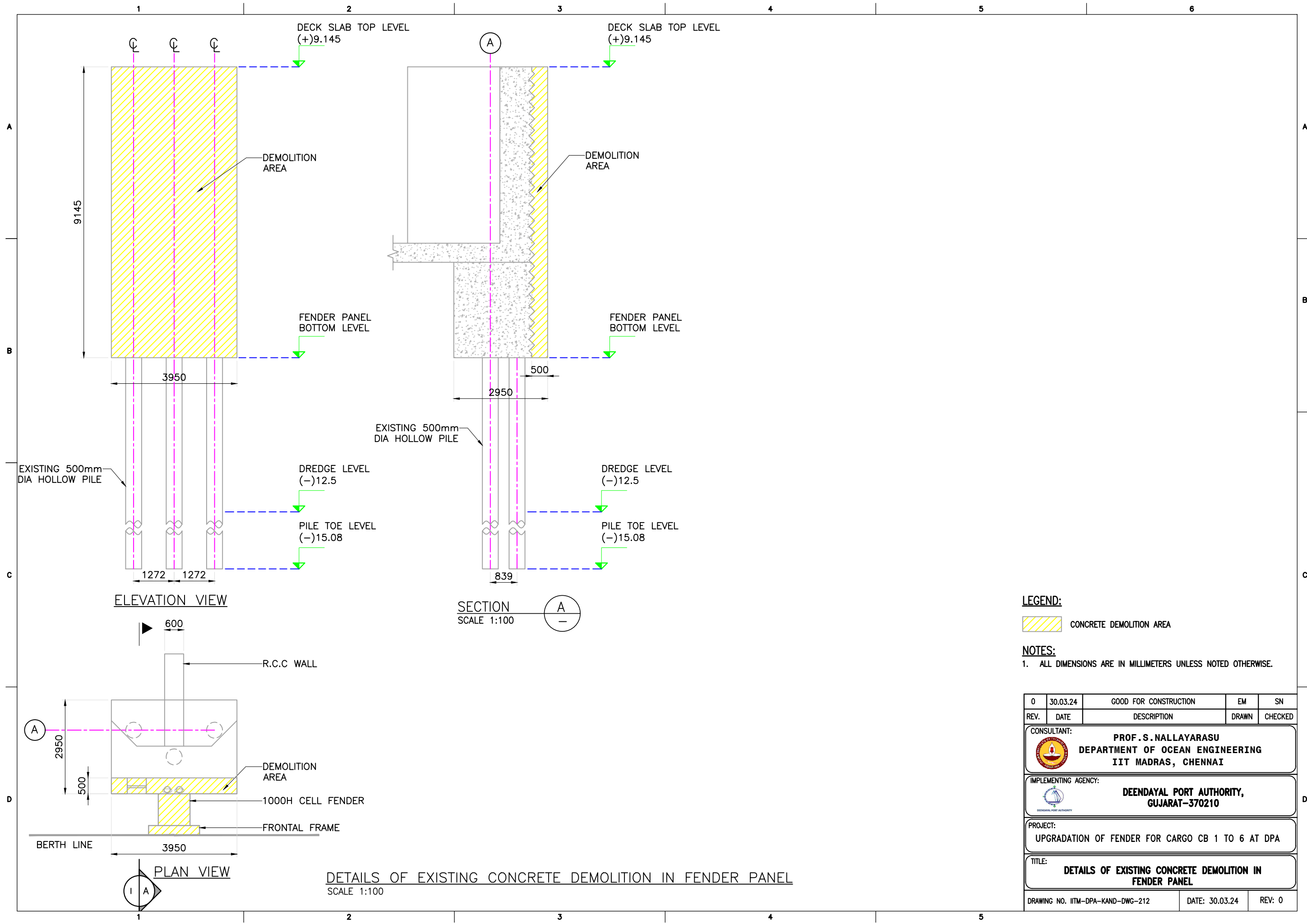


SECTION F-F
SCALE 1:20
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-211			DATE: 30.03.24	REV: 0



LEGEND:

CONCRETE DEMOLITION AREA

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

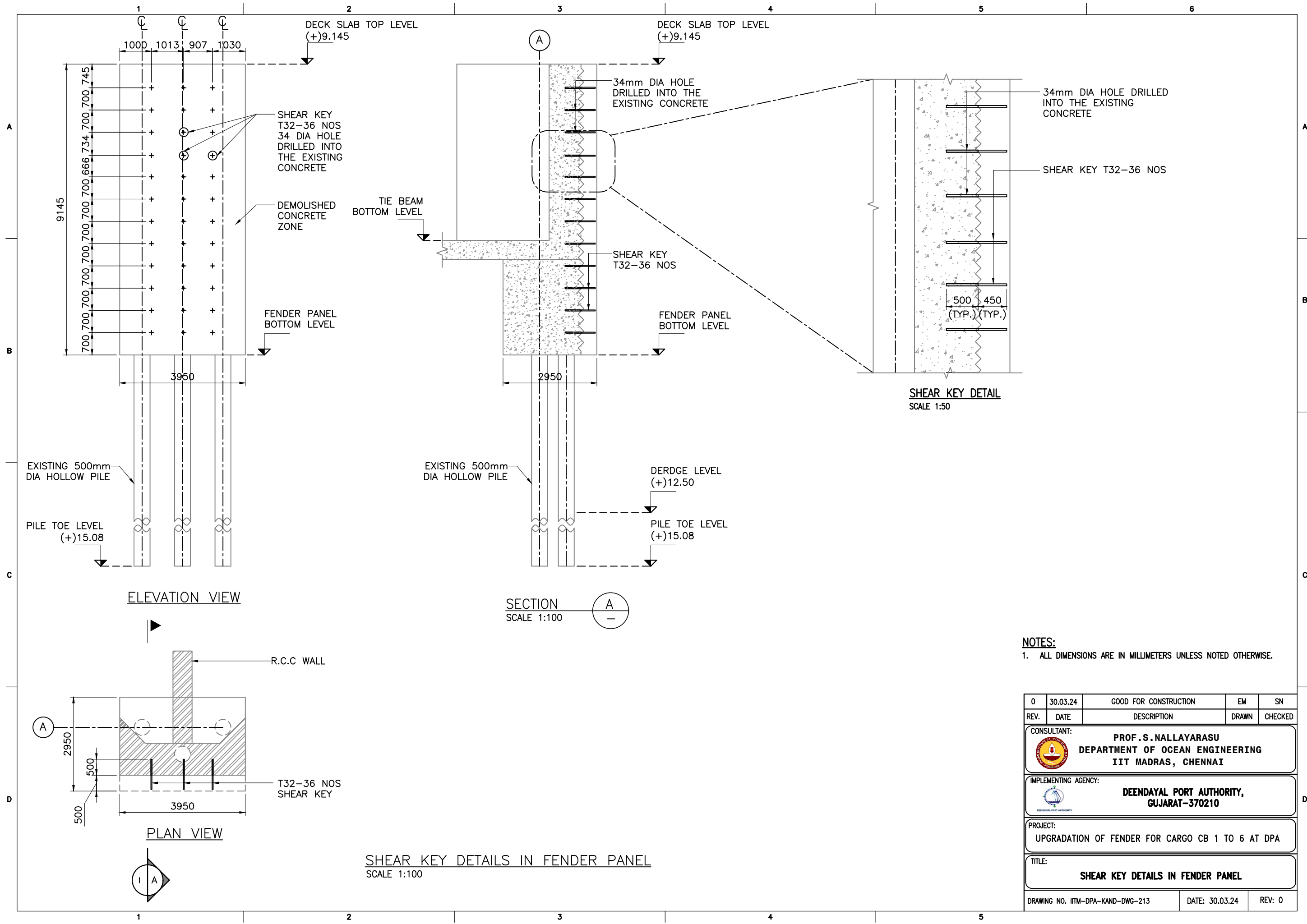
CONSULTANT: **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**



TITLE: **DETAILS OF EXISTING CONCRETE DEMOLITION IN FENDER PANEL**

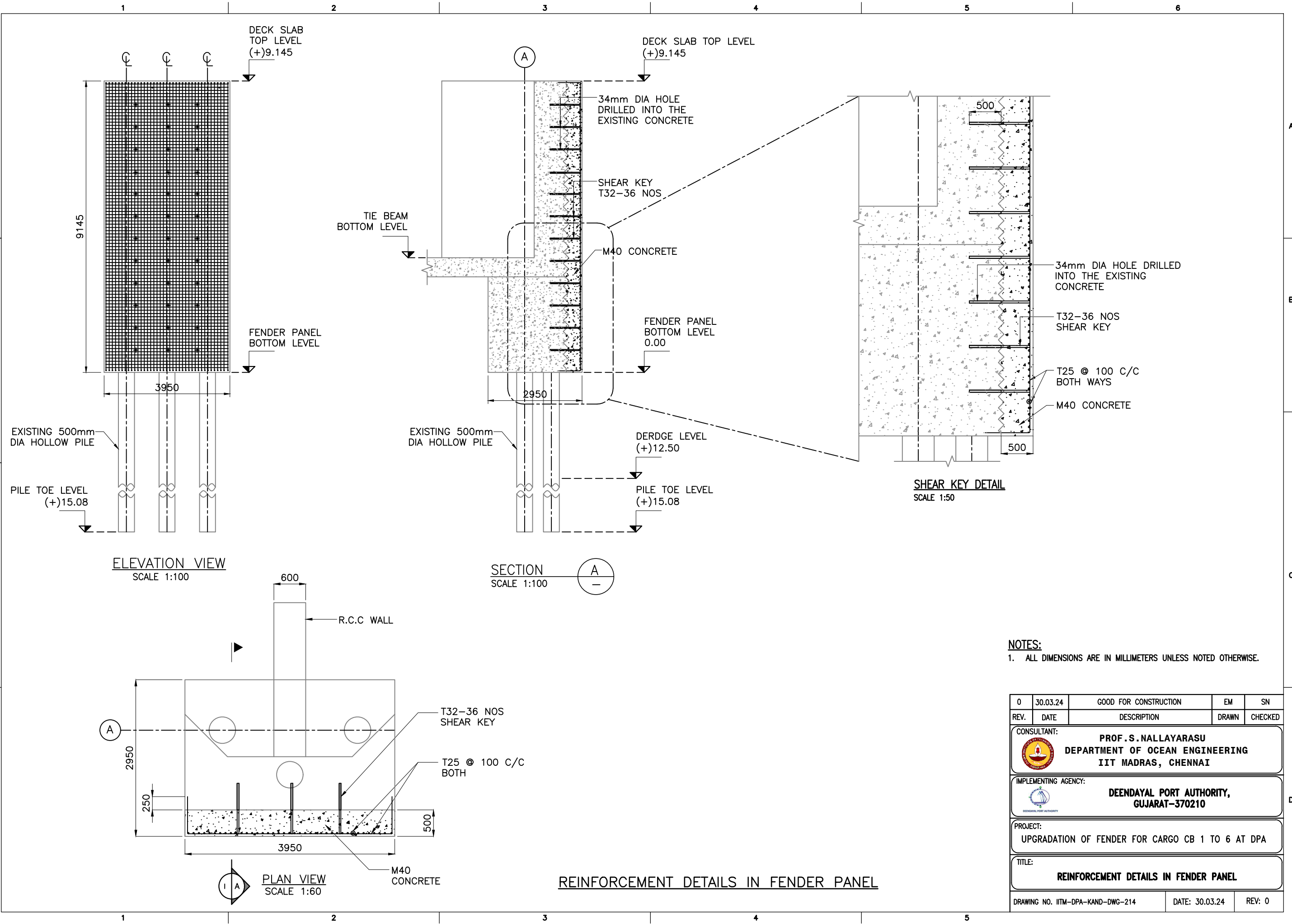
DRAWING NO. IITM-DPA-KAND-DWG-212 DATE: 30.03.24 REV: 0



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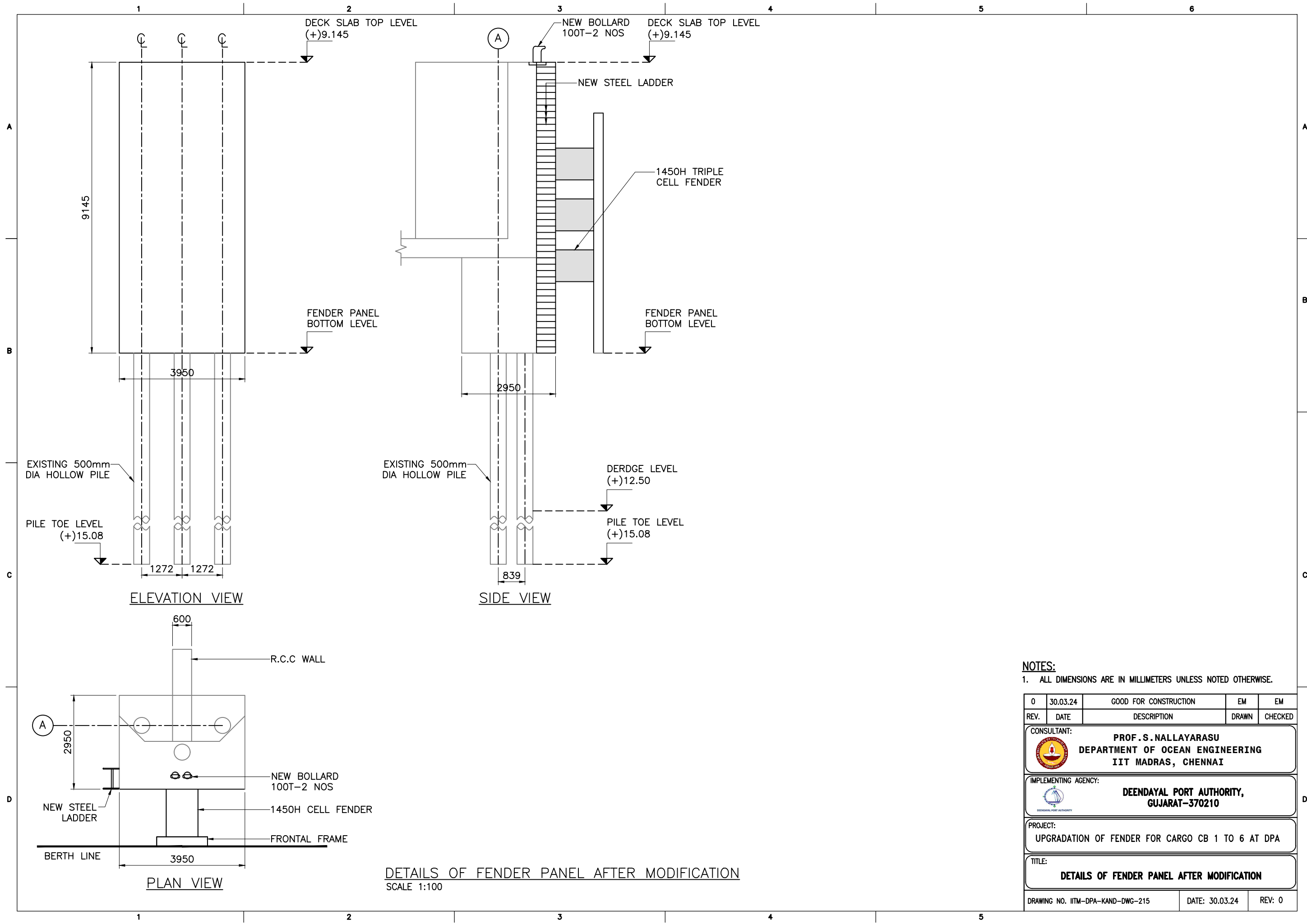
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: SHEAR KEY DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-213			DATE: 30.03.24	REV: 0



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: REINFORCEMENT DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-214			DATE: 30.03.24	REV: 0



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DETAILS OF FENDER PANEL AFTER MODIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-215			DATE: 30.03.24	REV: 0



A

B

C

D



LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-DPA-KAND-DWG-400	DRAWING LIST	30.03.24	0
2	IITM-DPA-KAND-DWG-401	GENERAL NOTES AND SPECIFICATIONS	30.03.24	0
4	IITM-DPA-KAND-DWG-402	EXISTING CARGO BERTH 1 TO 6 – LOCATION PLAN	30.03.24	0
5	IITM-DPA-KAND-DWG-403	GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH 4	30.03.24	0
6	IITM-DPA-KAND-DWG-404	TYPICAL SECTION BETWEEN EXPANSION JOINT	30.03.24	0
7	IITM-DPA-KAND-DWG-405	TYPICAL SECTION AT EXPANSION JOINT	30.03.24	0
8	IITM-DPA-KAND-DWG-406	EXISTING FENDER PANEL DETAIL IN CARGO BERTH 4	30.03.24	0
9	IITM-DPA-KAND-DWG-407	UNDER DECK DEFECTS INDICATION PLAN OF CARGO BERTH 4	30.03.24	0
10	IITM-DPA-KAND-DWG-408	TOP DECK DEFECTS INDICATION PLAN OF CARGO BERTH 4	30.03.24	0
11	IITM-DPA-KAND-DWG-409	TYPICAL DEFECT INDICATION PLAN OF E.J CONNECTING BEAM	30.03.24	0
12	IITM-DPA-KAND-DWG-410	TYPICAL REPAIR SCHEME OF E.J CONNECTING BEAM DEFECTS	30.03.24	0
13	IITM-DPA-KAND-DWG-411	TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS	30.03.24	0
14	IITM-DPA-KAND-DWG-412	DETAILS EXISTING CONCRETE DEMOLITION IN FENDER PANEL	30.03.24	0
15	IITM-DPA-KAND-DWG-413	SHEAR KEY DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-414	REINFORCEMENT DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-415	DETAILS OF FENDER PANEL AFTER MODIFICATION	30.03.24	0

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div><div></div><div>PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div></div>				
IMPLEMENTING AGENCY: <div><div></div><div>DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div></div>				
PROJECT: <div>UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA</div>				
TITLE: <div>DRAWING LIST</div>				
DRAWING NO. IITM-DPA-KAND-DWG-400		DATE: 30.03.24	REV: 0	

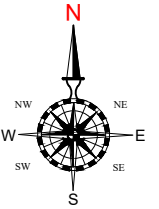
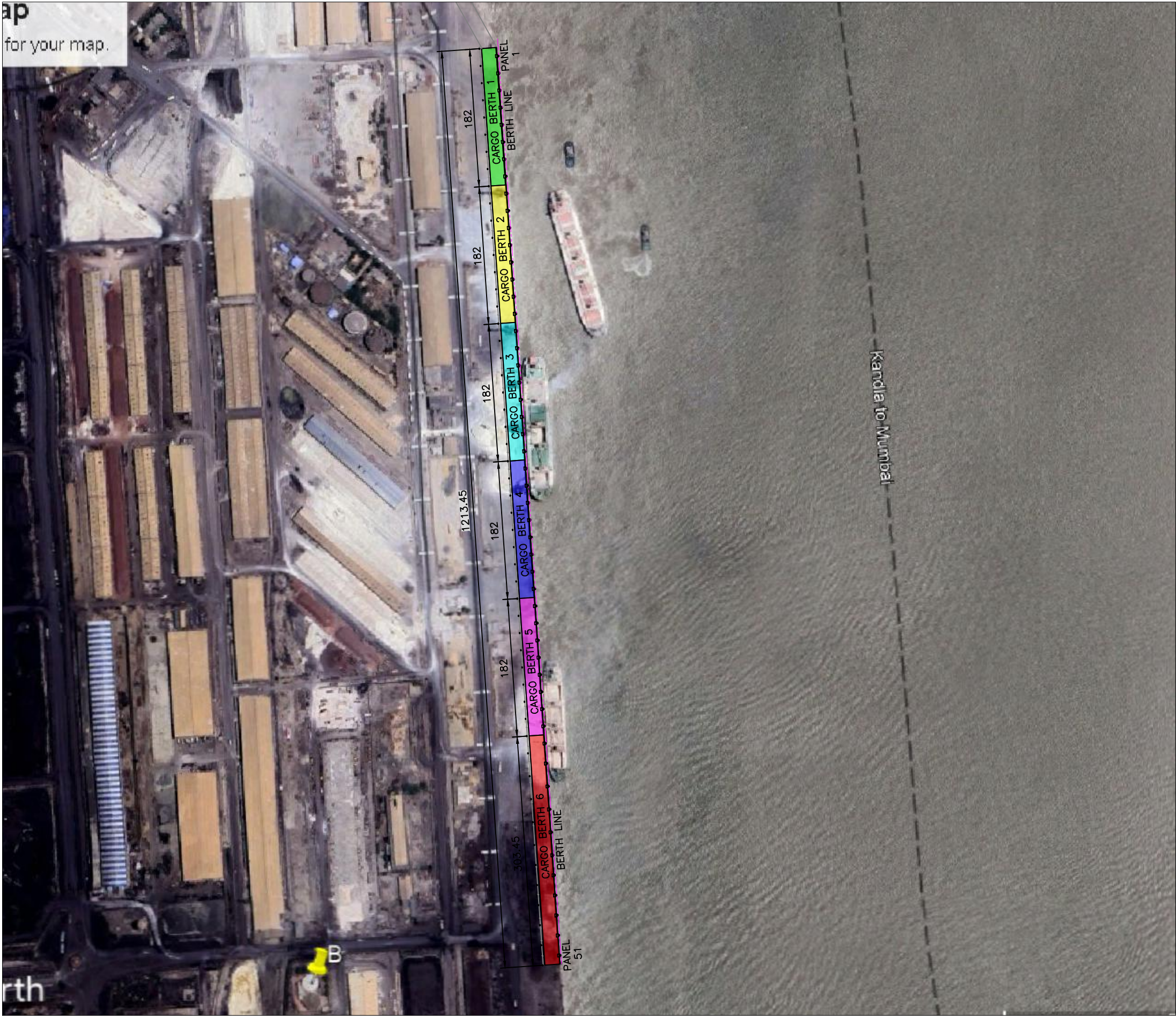
PROCEDURE FOR REPAIR OF CONNECTING BEAM AND DECK SLAB BOTTOM

A. REPAIR SCHEME USING SPRAY MORTAR METHOD

- (a) SUITABLE TEMPORARY WORKING PLATFORM OF SIZE AND DIMENSION REQUIRED SHALL BE ERECTED BELOW THE EXISTING DECK (ABOVE MEAN SEA LEVEL) WITH ADEQUATE STRENGTH TO SUSTAIN DEAD LOADS, LIVE LOADS, WIND AND WAVE LOADS DURING EXECUTION OF THE WORK. SUCH SCHEME OF TEMPORARY PLATFORM SHALL BE APPROVED BY PMC IN PRIOR TO ERECTION. PRIOR TO ALLOWING THE WORKMAN ON THE TEMPORARY PLATFORM, THE SAFETY AND SECURITY OF THE PLATFORM SHALL BE ASCERTAINED BY THE CONTRACTOR/PMC/DPA BY A JOINT INSPECTION.
- (b) THE CRACKS SHALL BE IDENTIFIED IN THE PRESENCE OF PMC/DPA AND SEALED THROUGHOUT USING EPOXY PUTTY IN PRIOR TO GROUTING. THE GROUTING POINTS SHALL BE MARKED AT A SPACING OF 500 MM C/C TO FIX THE PACKERS USING EPOXY PUTTY AND GROUTED WITH LOW VISCOUS EPOXY GROUT. THE GROUTED PACKERS SHALL BE CUT AND SEALED WITH EPOXY PUTTY.
- (c) SHEAR KEYS SHALL BE INSTALLED AT THE DESIGNATED LOCATIONS AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS AS PER SPECIFICATIONS OF MATERIAL, SIZE AND SHAPE USING DRILLING INTO THE EXISTING BEAM/SLAB/PILE CAP TO A DEPTH OF NOT LESS THAN 100MM FROM THE EXPOSED SURFACE. THE HOLE SHALL BE GROUTED AFTER THE INSERTION OF SHEAR KEY REINFORCEMENT USING GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (d) THE BOTTOM AND SIDE FACES SHALL BE THOROUGHLY CLEANED TO REMOVE ANY RUST ON THE EXISTING REINFORCEMENT AND GI WELDED WIRE MESH OF 4" X 4" (16 GAUGE) SHALL BE AFFIXED TO THE SHEAR KEYS AND SECURED.
- (e) ADDITIONAL REINFORCEMENT INCLUDING MAIN REINFORCEMENT, SIDE REINFORCEMENT AND STIRRUPS SHALL BE TREATED WITH ANTI-CORROSIVE COATING AS PER SPECIFICATION. THE SAME SHALL BE PLACED AND TIED TO THE SHEAR KEYS AT THE BOTTOM SURFACE AND SIDE SURFACE AS PER APPROVED CONSTRUCTION DRAWINGS.
- (f) THE BOTTOM MAIN AND SIDE FACE REINFORCEMENTS SHALL BE ANCHORED AT THE TWO ENDS USING SIMILAR PROCEDURE FOR SHEAR KEY BY DRILLING INTO THE EXISTING CONCRETE AND GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (g) THE SIDE FACE AND BOTTOM MAIN REINFORCEMENT SHALL BE LAPPED AT THE LOCATION AS SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- (h) A SPRAY MORTAR OF REQUIRED STRENGTH AS SPECIFIED IN THE SPECIFICATION SHALL BE SPRAYED ON THE SURFACE OF THE EXISTING CONCRETE USING APPROVED METHODS OF APPLICATION BY THE MANUFACTURER IN MULTIPLE LAYERS TO THE TOTAL THICKNESS REQUIRED AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS.
- (i) THE CURING SHALL BE DONE NOT LESS THAN 14 DAYS FROM THE DATE OF CASTING USING FRESH WATER APPLICATION ON THE SURFACE OF THE CONCRETE.
- (j) THE REPAIRED CONCRETE SURFACE SHALL BE PAINTED WITH PROTECTIVE COATING IN TWO COATS OF 300-MICRON DFT (EACH COAT OF 150-MICRON DFT) ON ACRYLIC BASED PRIMER AT AN AVERAGE TOTAL THICKNESS OF 300-MICRON DFT IN TWO COATS APPROVED BY THE ENGINEER IN CHARGE SHALL BE APPLIED ON THE SURFACE OF THE MICRO CONCRETE.
- (k) AN IDENTIFICATION NUMBER FOR THE BEAMS/PILE CAPS SHALL BE PAINTED ON THE SIDE SURFACE OF THE BEAM AND JOINT INSPECTION SHALL BE MADE BY DPA/CONTRACTOR AND PMC FOR ACCEPTANCE.
- (l) TEMPORARY PLATFORM SO ERECTED FOR THE PURPOSE OF THE REPAIR WORK SHALL ONLY BE REMOVED AFTER THE REPAIR HAS BEEN ACCEPTED BY DPA/PMC AND CLEARANCE IS GIVEN BY PMC FOR SUCH REMOVAL

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div> PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div>				
IMPLEMENTING AGENCY: <div> DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div>				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL NOTES AND SPECIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-401		DATE: 30.03.24	REV: 0	

ap
for your map.





LEGEND:

S.NO	COLOUR INDICATION	BERTH NAME	FENDER PANEL NUMBER
1.		CARGO BERTH 1	PANEL 1 TO 8
2.		CARGO BERTH 2	PANEL 9 TO 16
3.		CARGO BERTH 3	PANEL 17 TO 24
4.		CARGO BERTH 4	PANEL 25 TO 32
5.		CARGO BERTH 5	PANEL 33 TO 40
6.		CARGO BERTH 6	PANEL 41 TO 51

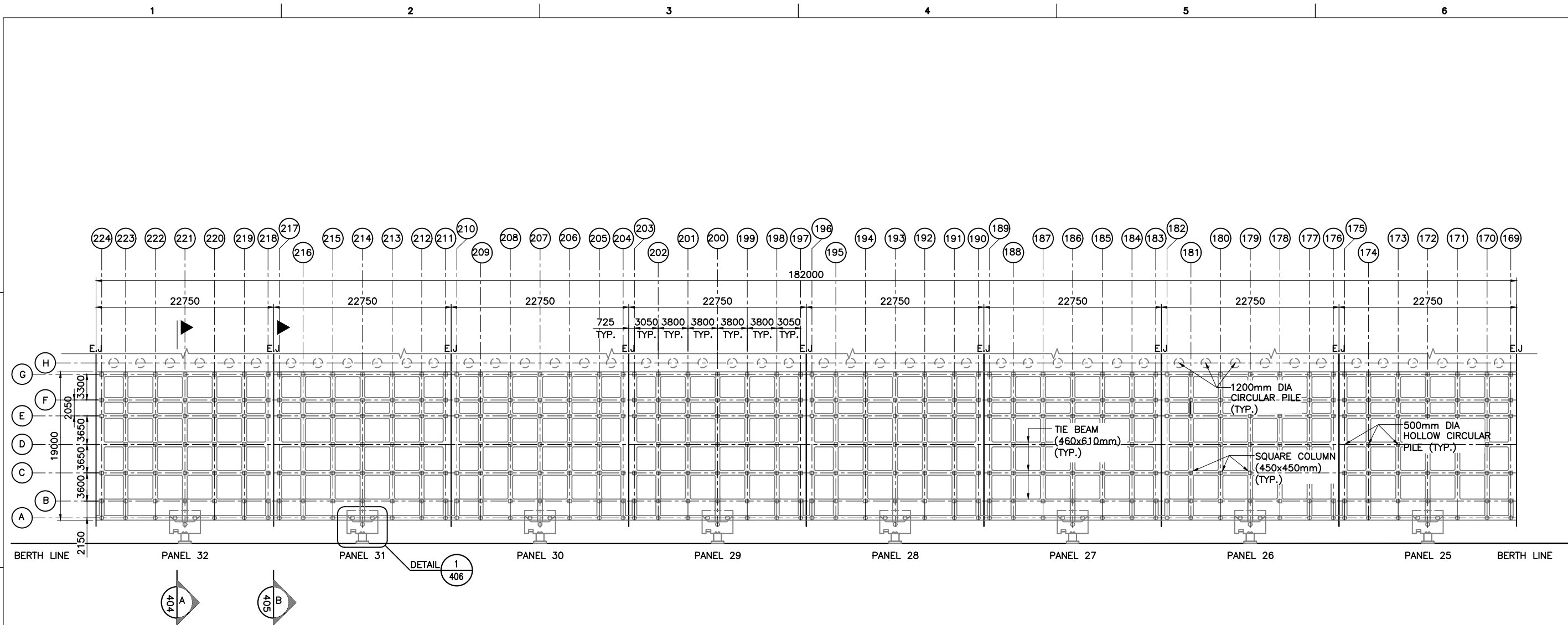
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING CARGO BERTH 1 TO 6-LOCATION MAP				
DRAWING NO. IITM-DPA-KAND-DWG-402			DATE: 30.03.24	REV: 0

LOCATION MAP OF EXISTING CARGO BERTH 1 TO 6
SCALE 1:5



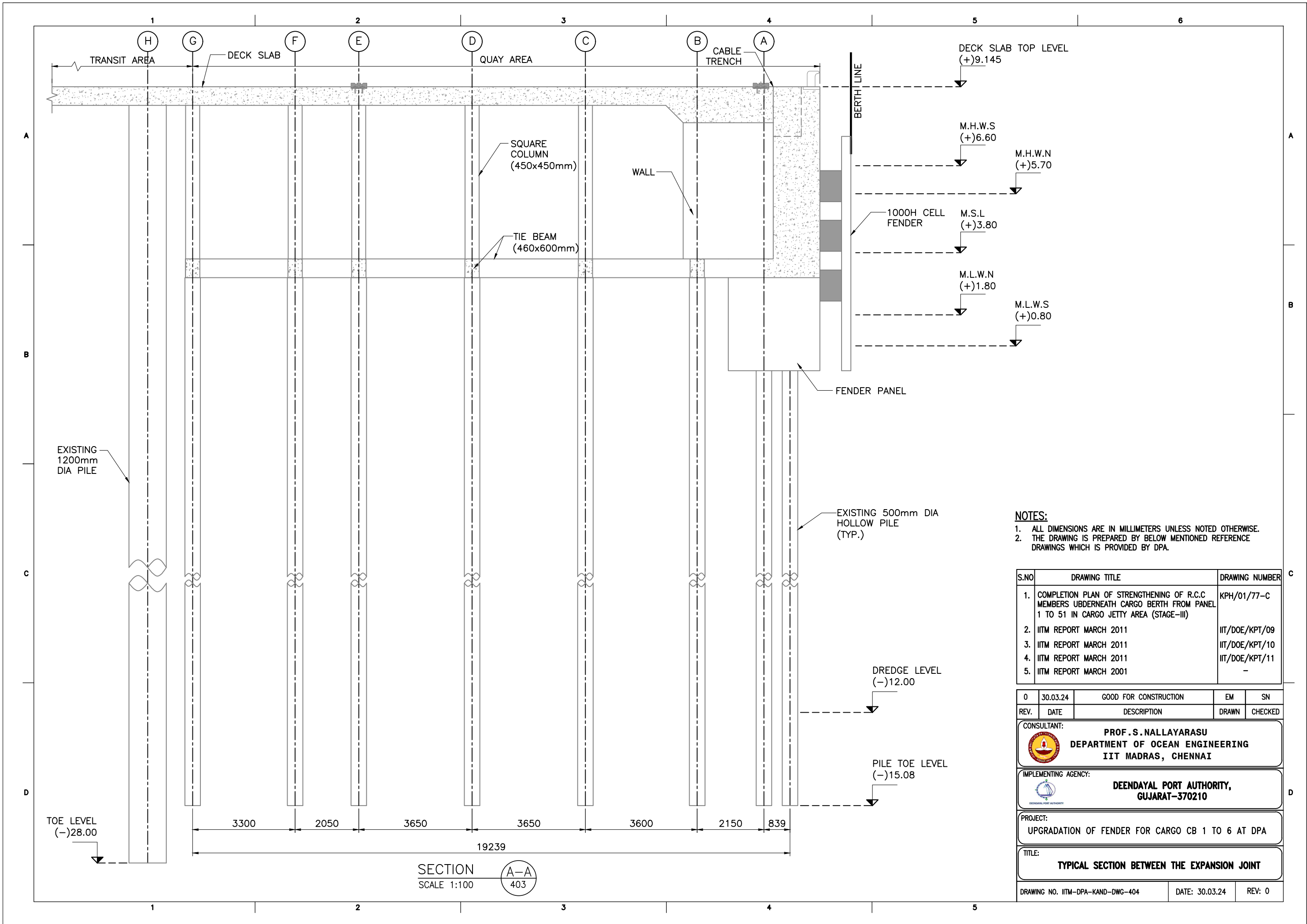
GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH-4 (PANEL 25 TO 32) AT (+) 3.6m LEVEL
SCALE 1:500

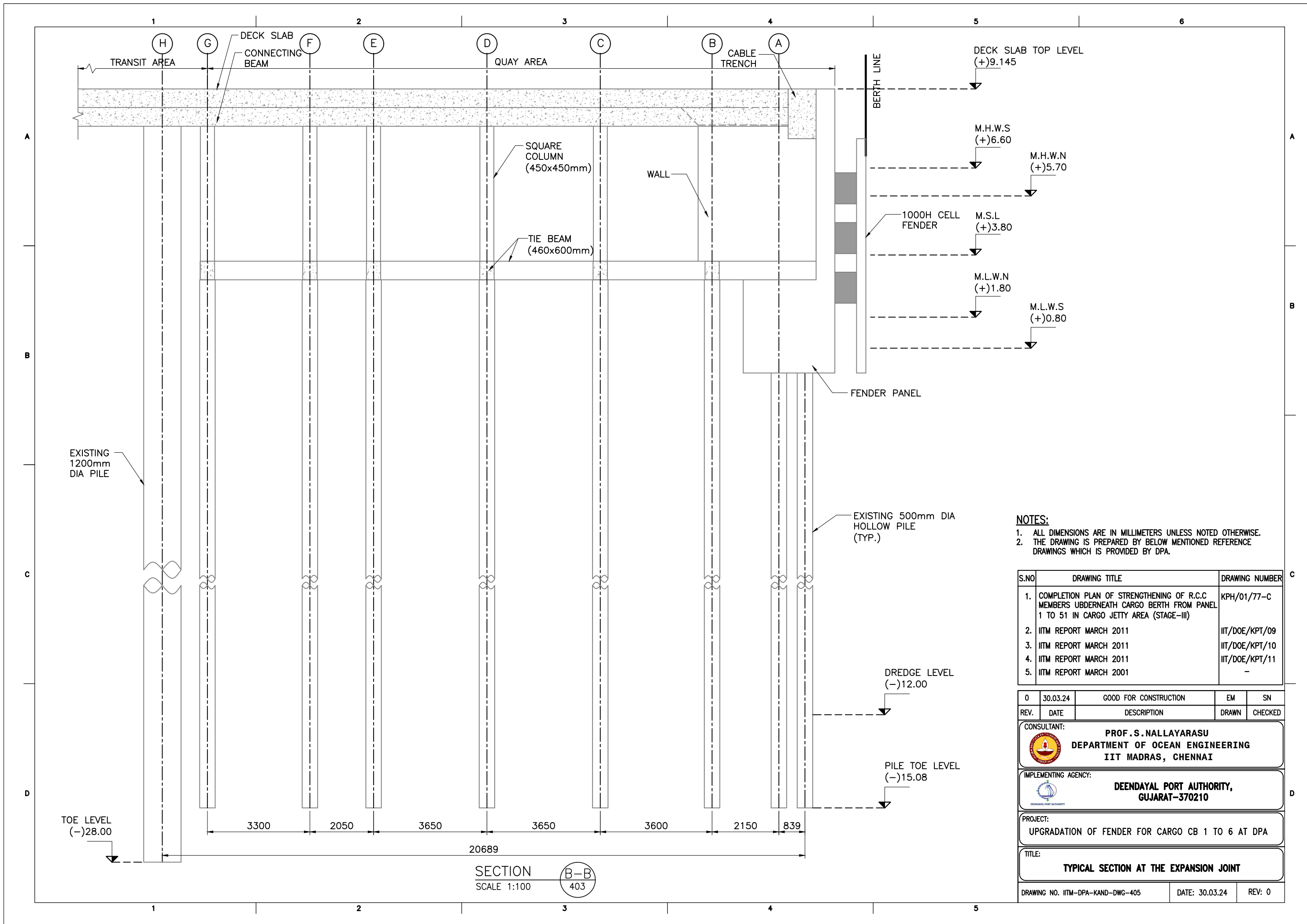
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL ARRANGEMENT PLAN OF EXISTING CB-4				
DRAWING NO. IITM-DPA-KAND-DWG-403			DATE: 30.03.24	REV: 0






- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

CONSULTANT:

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

IMPLEMENTING AGENCY:

 **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

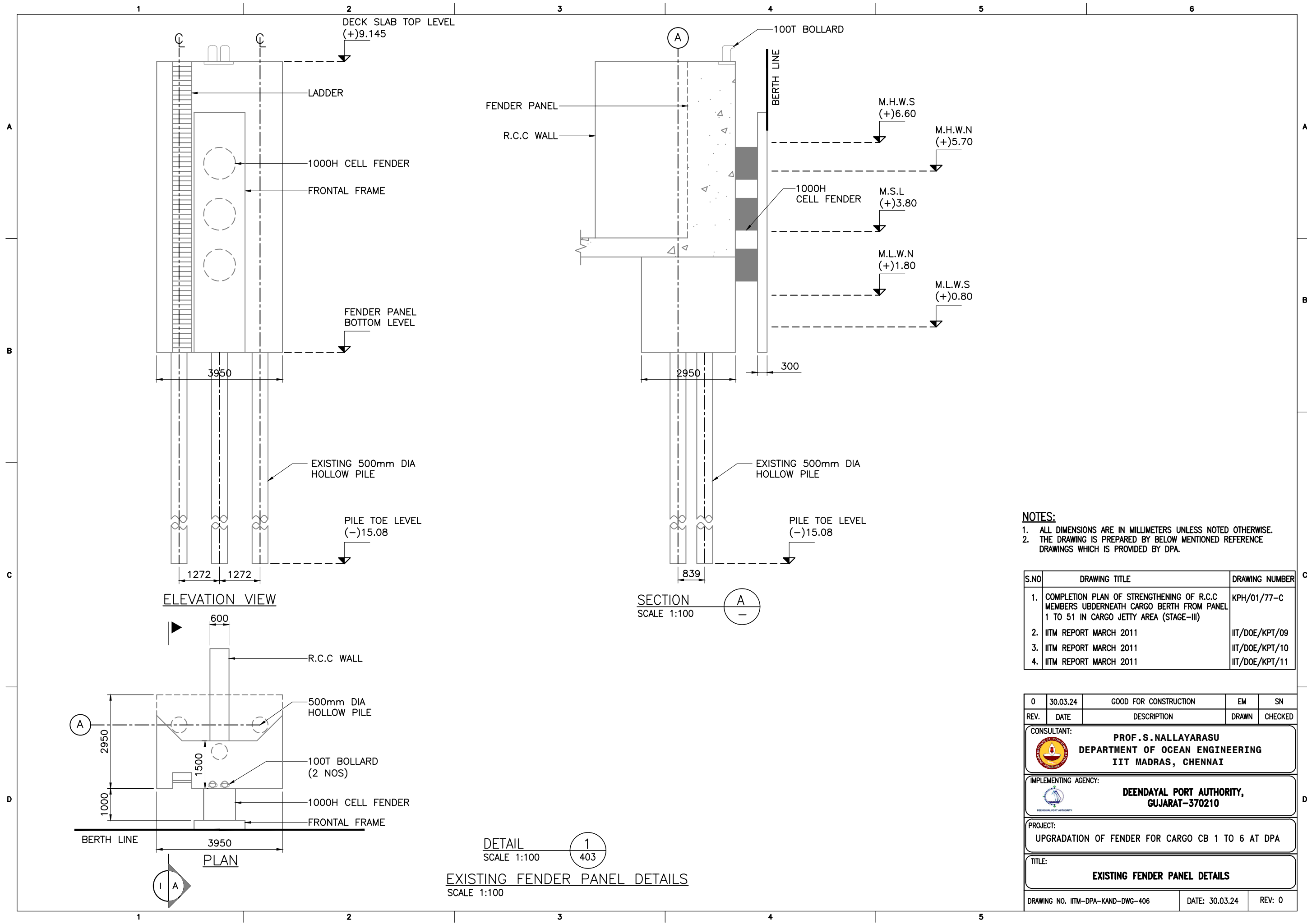
PROJECT:

UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:

TYPICAL SECTION AT THE EXPANSION JOINT

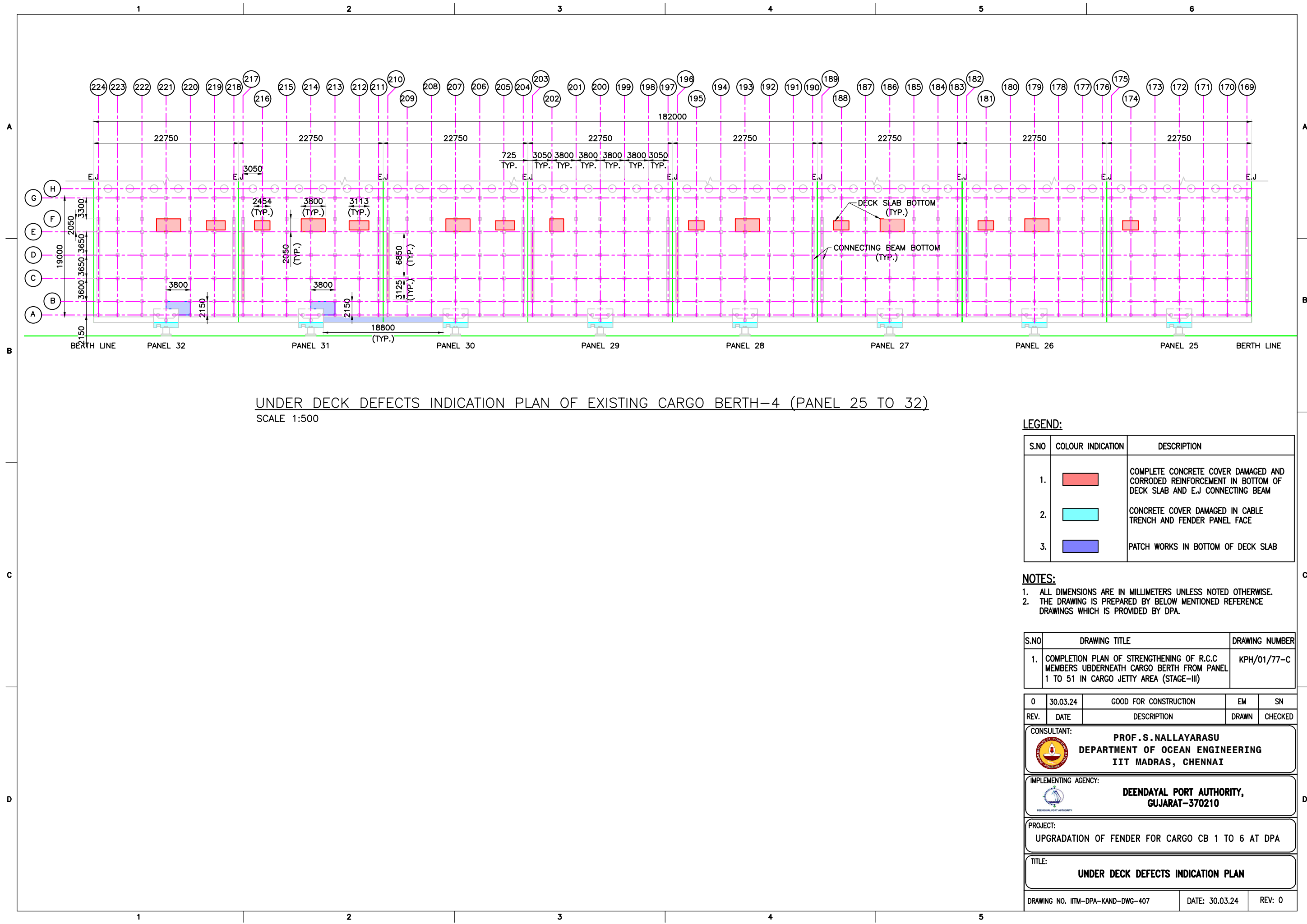
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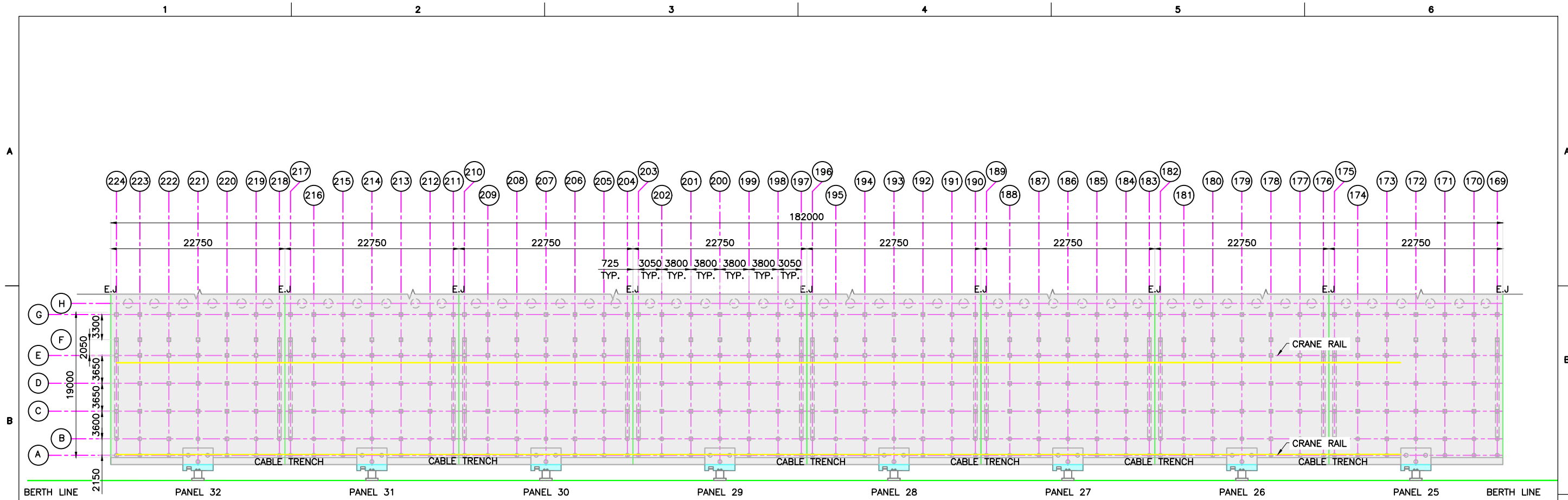


- NOTES:**
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-II)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING FENDER PANEL DETAILS				
DRAWING NO. IITM-DPA-KAND-DWG-406			DATE: 30.03.24	REV: 0





TOP DECK DEFECTS INDICATION PLAN IN CARGO BERTH-4 (PANEL 25 TO 32)
SCALE 1:500

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.		NO DAMAGES
2.		TOP WEARING COAT DAMAGED AND ROAD CONCRETE REINFORCEMENT ARE CORRODED AND EXPOSED

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM

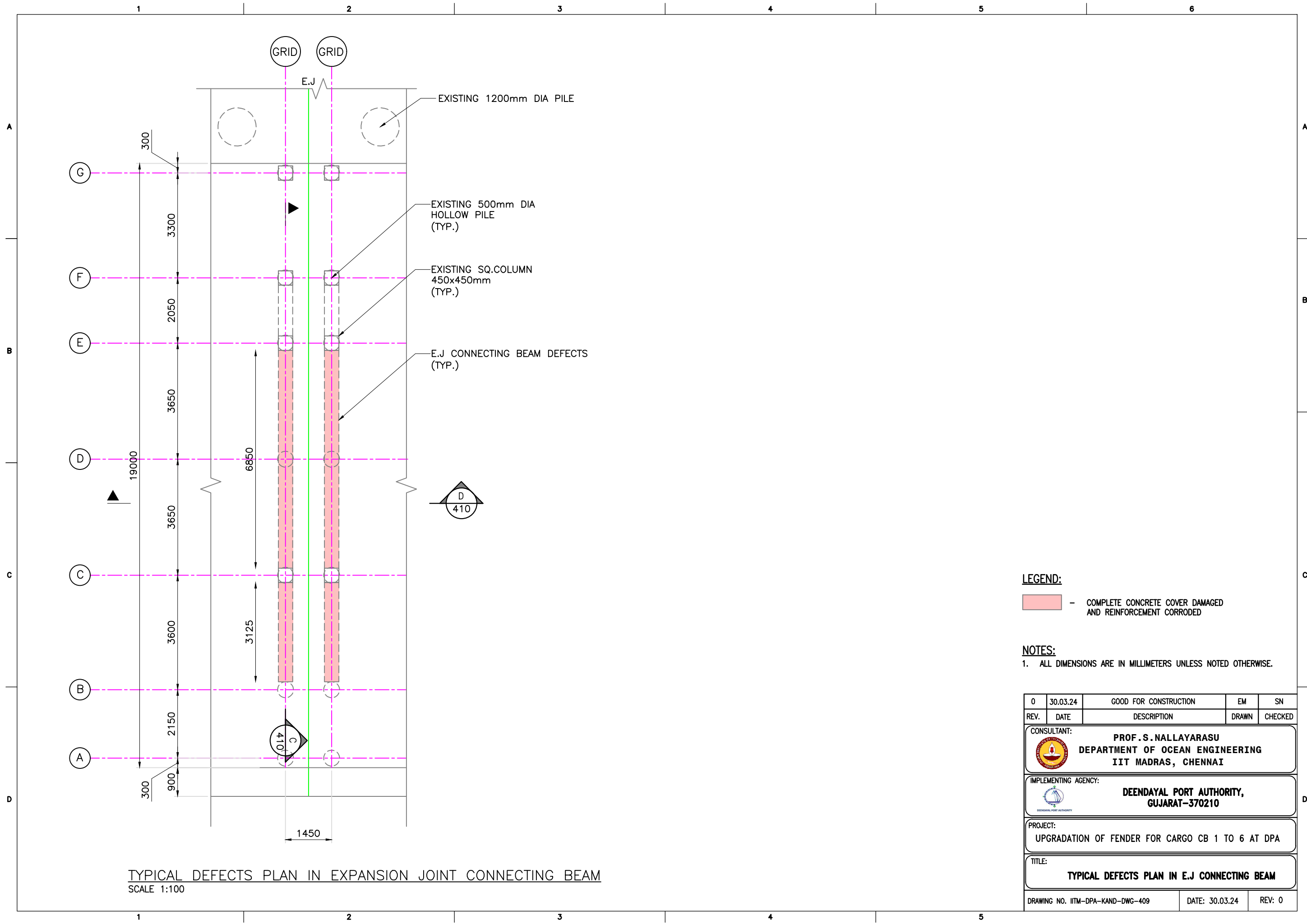
CONSULTANT:
 PROF. S. NALLAYARASU
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY:
 DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

PROJECT:
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6

TITLE:
TOP DECK DEFECTS INDICATION PLAN

DRAWING NO. IITM-DPA-KAND-DWG-408	DATE: 30.03.24	REV: 0
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LEGEND:

— COMPLETE CONCRETE COVER DAMAGED AND REINFORCEMENT CORRODED

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

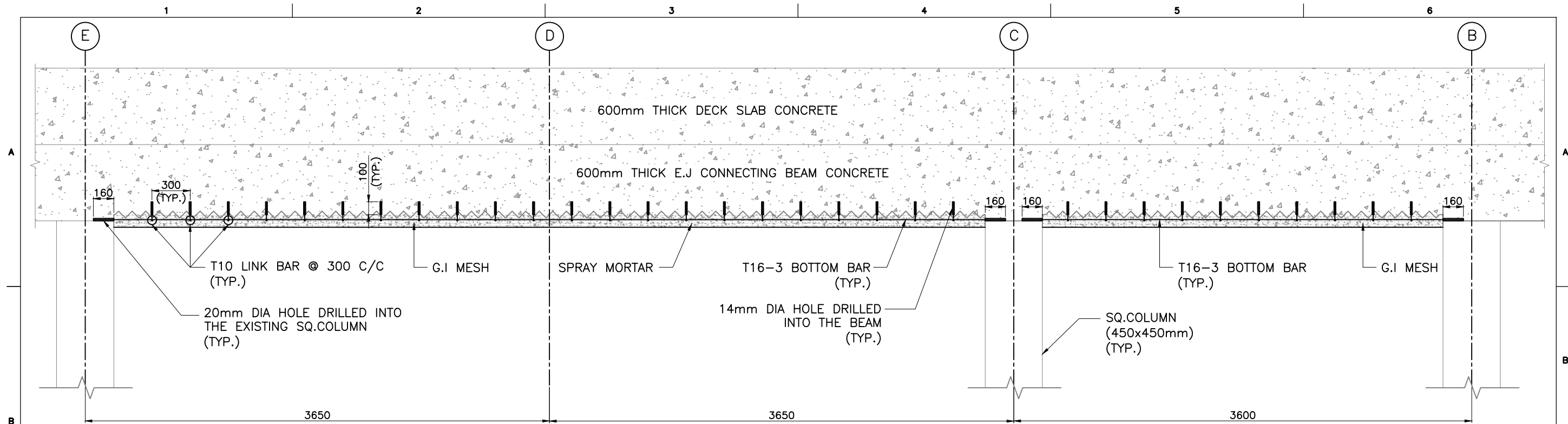
CONSULTANT: **PROF.S.NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY, GUJARAT-370210**

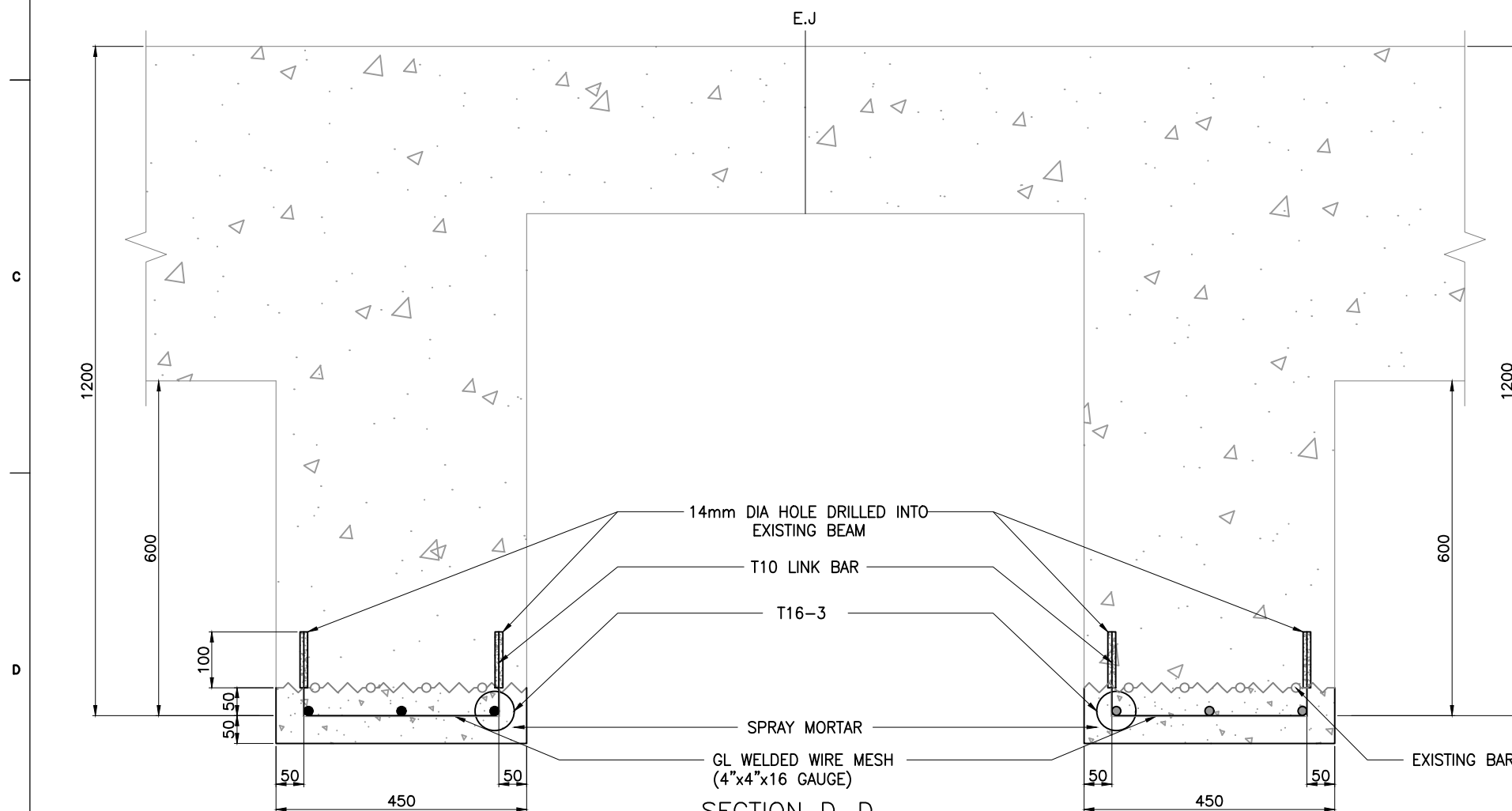
PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**

TITLE: **TYPICAL DEFECTS PLAN IN E.J CONNECTING BEAM**

DRAWING NO. IITM-DPA-KAND-DWG-409 DATE: 30.03.24 REV: 0





SECTION C-C
SCALE 1:30

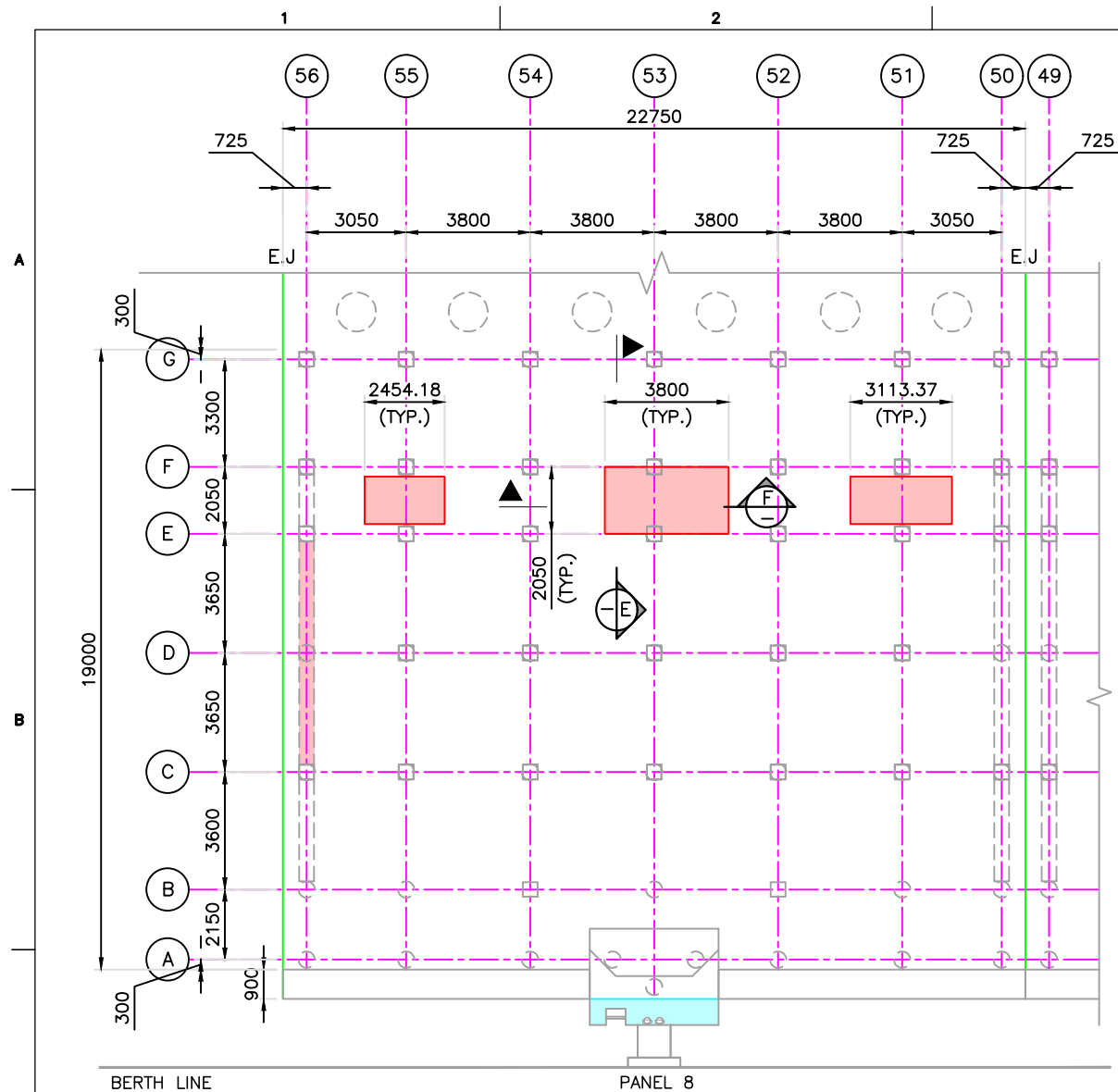


SECTION D-D
SCALE 1:10

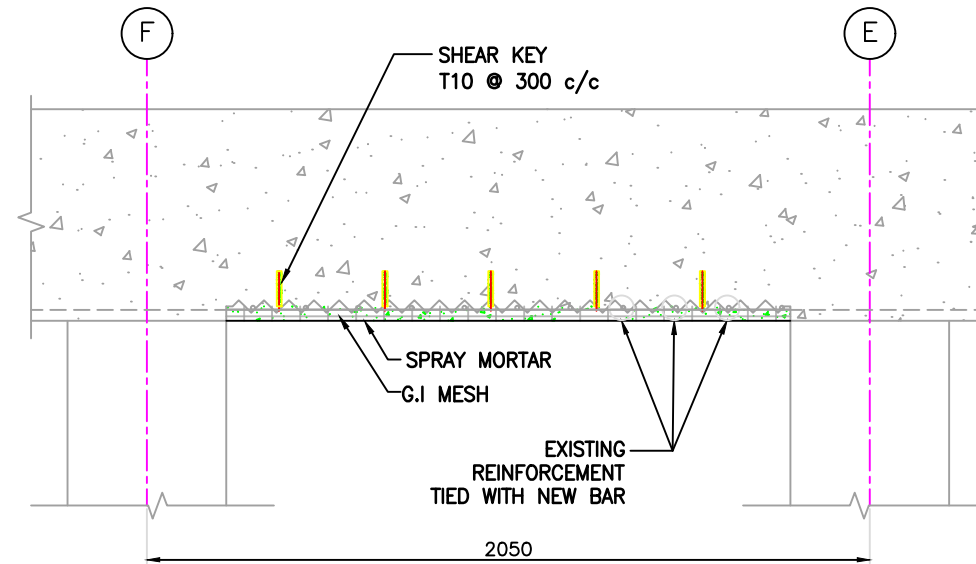
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

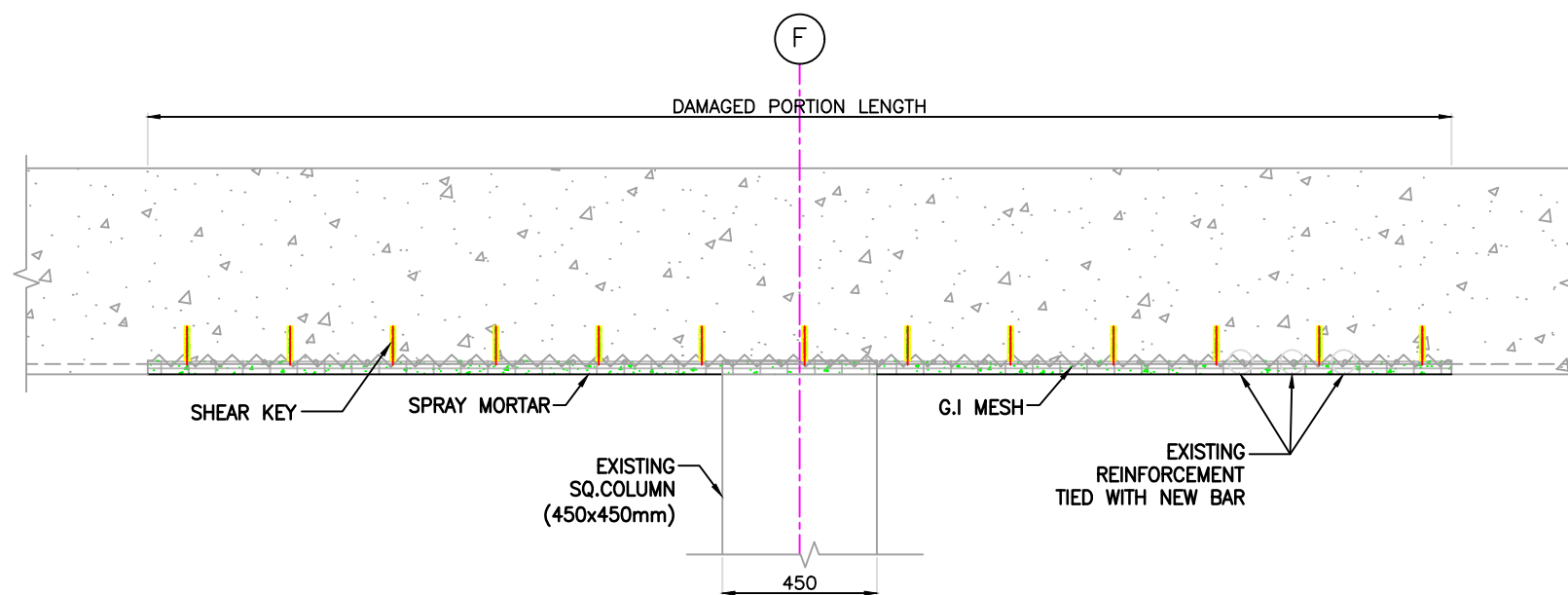
REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
1			DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF E.J. CONNECTING BEAM DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-410			DATE: 30.03.24	
			REV: 0	



TYPICAL PLAN OF DECK SLAB BOTTOM DEFECTED PORTION
SCALE 1:200





SECTION E-E
SCALE 1:20

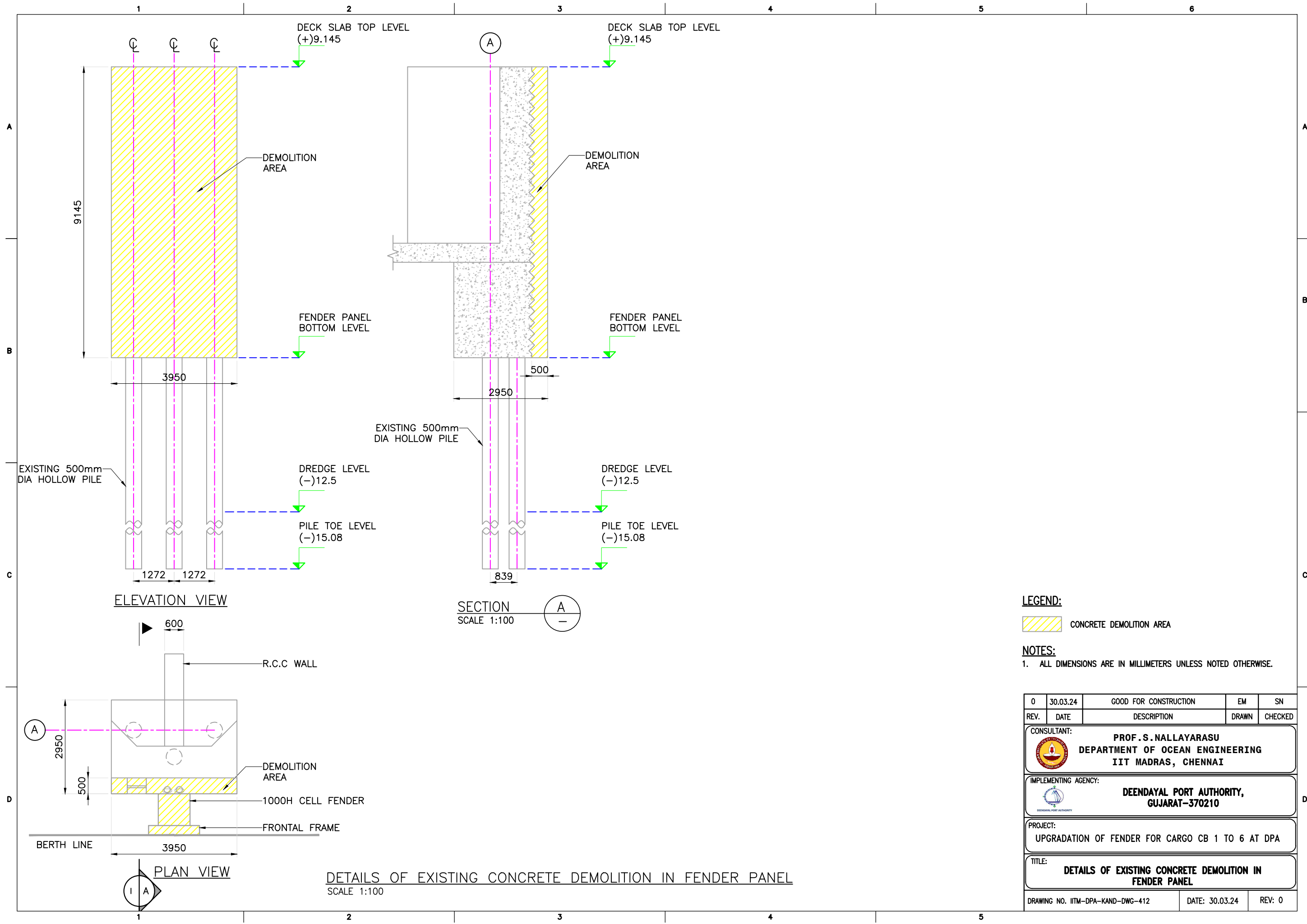


SECTION F-F
SCALE 1:20
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-411			DATE: 30.03.24	REV: 0



LEGEND:

CONCRETE DEMOLITION AREA

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

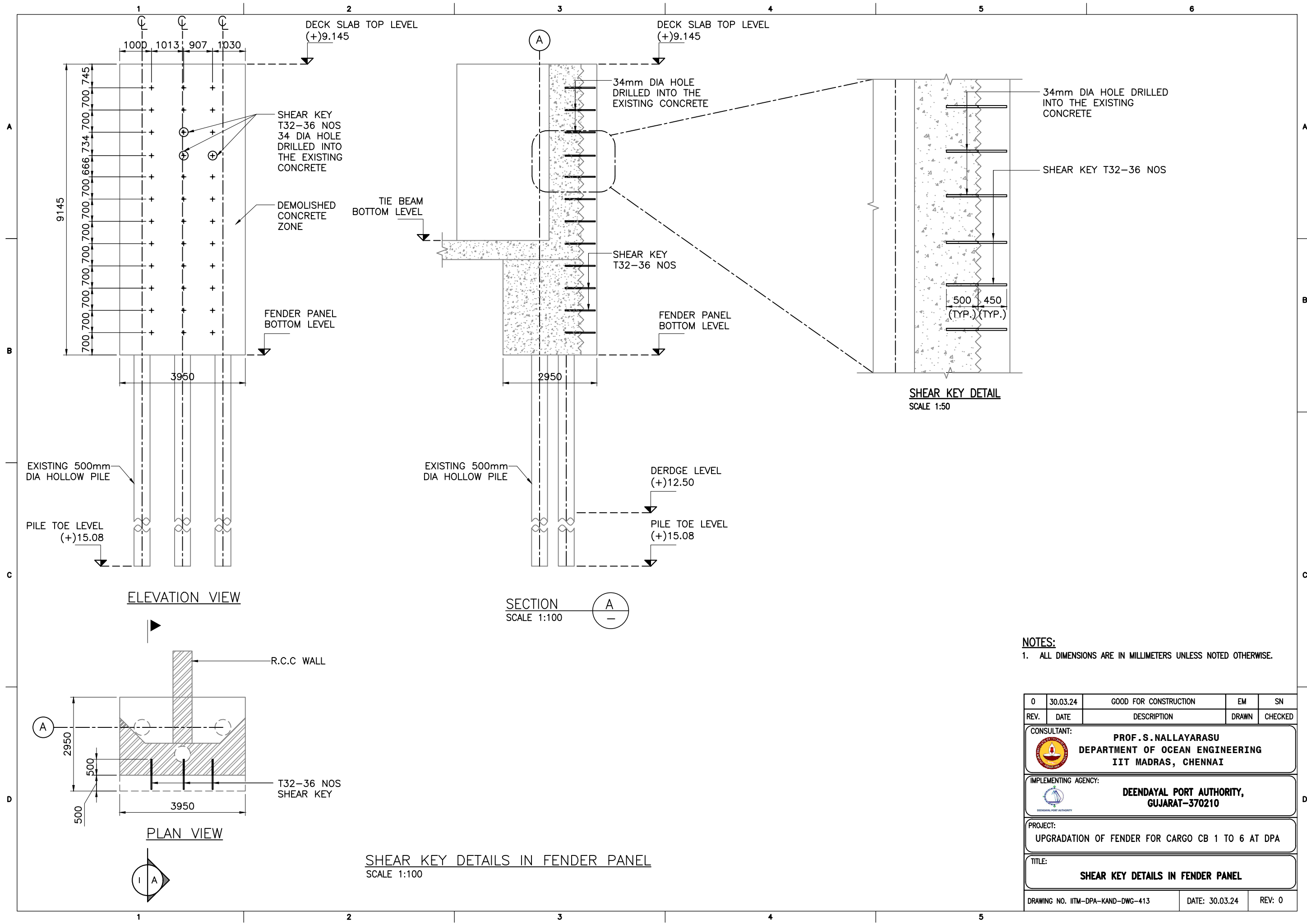
CONSULTANT: **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

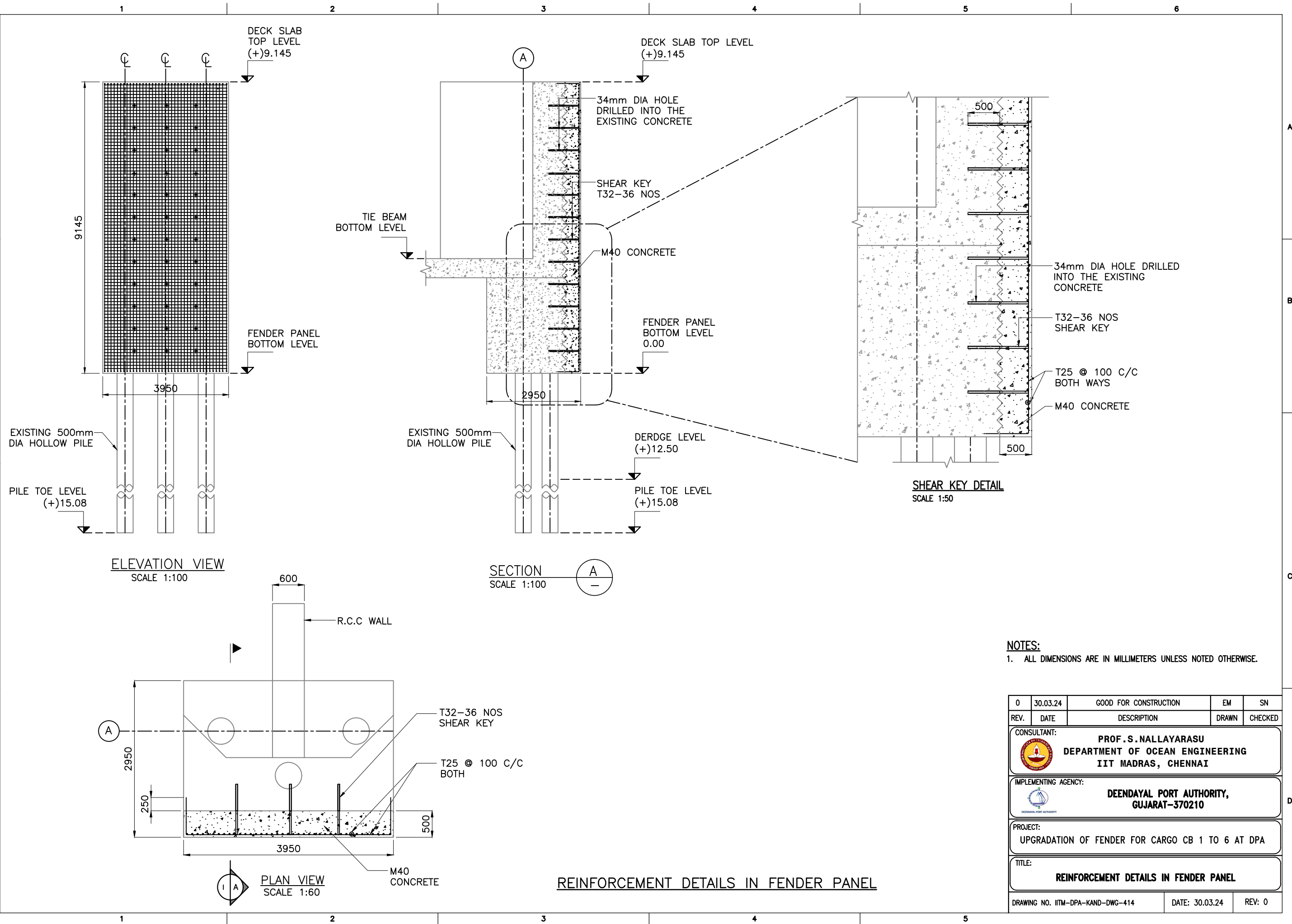
IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**



TITLE: **DETAILS OF EXISTING CONCRETE DEMOLITION IN FENDER PANEL**

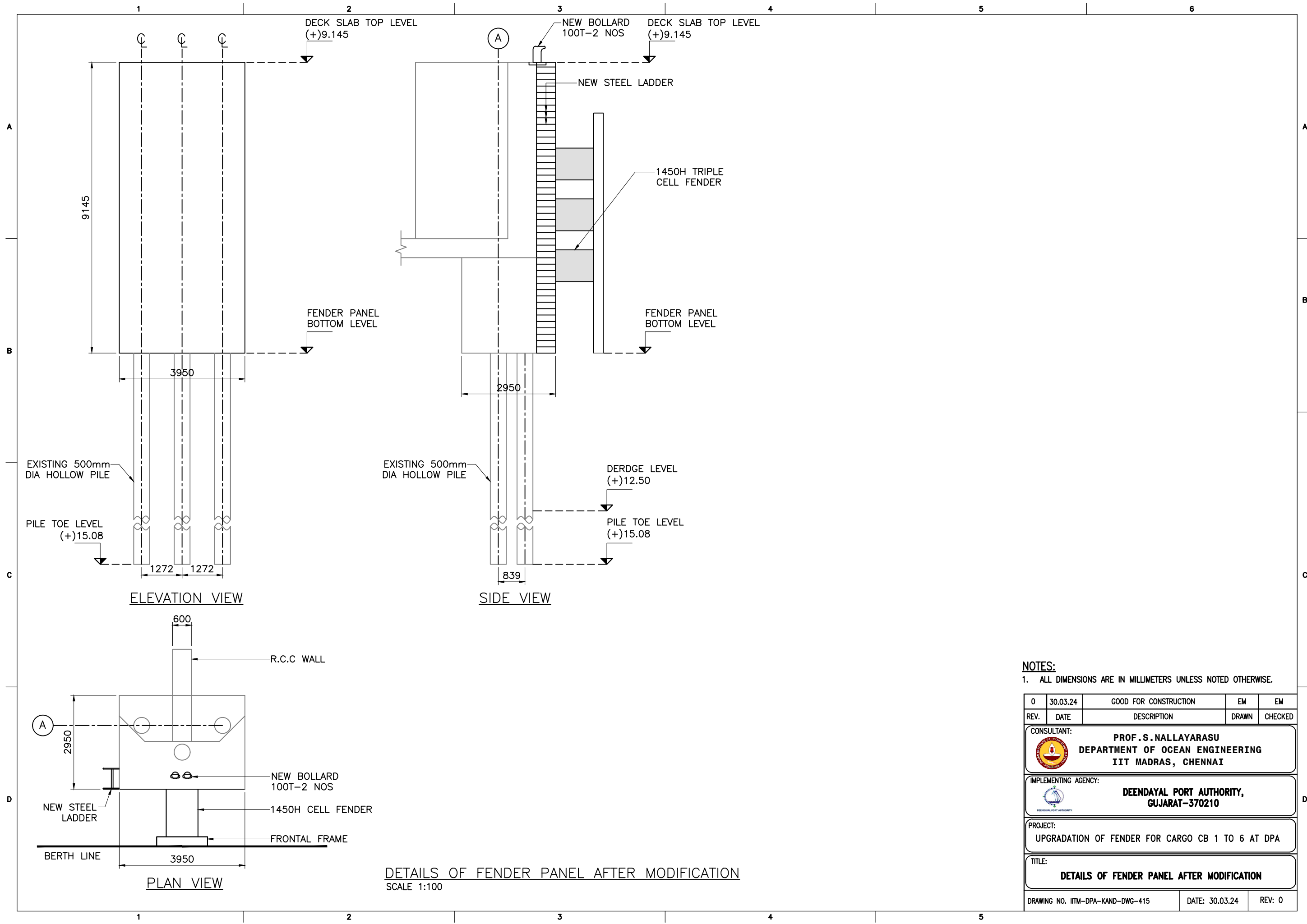
DRAWING NO. IITM-DPA-KAND-DWG-412 DATE: 30.03.24 REV: 0





NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: REINFORCEMENT DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-414			DATE: 30.03.24	REV: 0



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DETAILS OF FENDER PANEL AFTER MODIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-415			DATE: 30.03.24	REV: 0

1

2



3

4

5

6

LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-DPA-KAND-DWG-500	DRAWING LIST	30.03.24	0
2	IITM-DPA-KAND-DWG-501	GENERAL NOTES AND SPECIFICATIONS	30.03.24	0
4	IITM-DPA-KAND-DWG-502	EXISTING CARGO BERTH 1 TO 6 - LOCATION PLAN	30.03.24	0
5	IITM-DPA-KAND-DWG-503	GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH 5	30.03.24	0
6	IITM-DPA-KAND-DWG-504	TYPICAL SECTION BETWEEN EXPANSION JOINT	30.03.24	0
7	IITM-DPA-KAND-DWG-505	TYPICAL SECTION AT EXPANSION JOINT	30.03.24	0
8	IITM-DPA-KAND-DWG-506	EXISTING FENDER PANEL DETAIL IN CARGO BERTH 5	30.03.24	0
9	IITM-DPA-KAND-DWG-507	UNDER DECK DEFECTS INDICATION PLAN OF CARGO BERTH 5	30.03.24	0
10	IITM-DPA-KAND-DWG-508	TOP DECK DEFECTS INDICATION PLAN OF CARGO BERTH 5	30.03.24	0
11	IITM-DPA-KAND-DWG-509	TYPICAL DEFECT INDICATION PLAN OF E.J CONNECTING BEAM	30.03.24	0
12	IITM-DPA-KAND-DWG-510	TYPICAL REPAIR SCHEME OF E.J CONNECTING BEAM DEFECTS	30.03.24	0
13	IITM-DPA-KAND-DWG-511	TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS	30.03.24	0
14	IITM-DPA-KAND-DWG-512	DETAILS EXISTING CONCRETE DEMOLITION IN FENDER PANEL	30.03.24	0
15	IITM-DPA-KAND-DWG-513	SHEAR KEY DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-514	REINFORCEMENT DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-515	DETAILS OF FENDER PANEL AFTER MODIFICATION	30.03.24	0

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div>PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div>				
IMPLEMENTING AGENCY: <div>DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div>				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DRAWING LIST				
DRAWING NO. IITM-DPA-KAND-DWG-500		DATE: 30.03.24	REV: 0	

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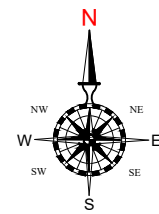
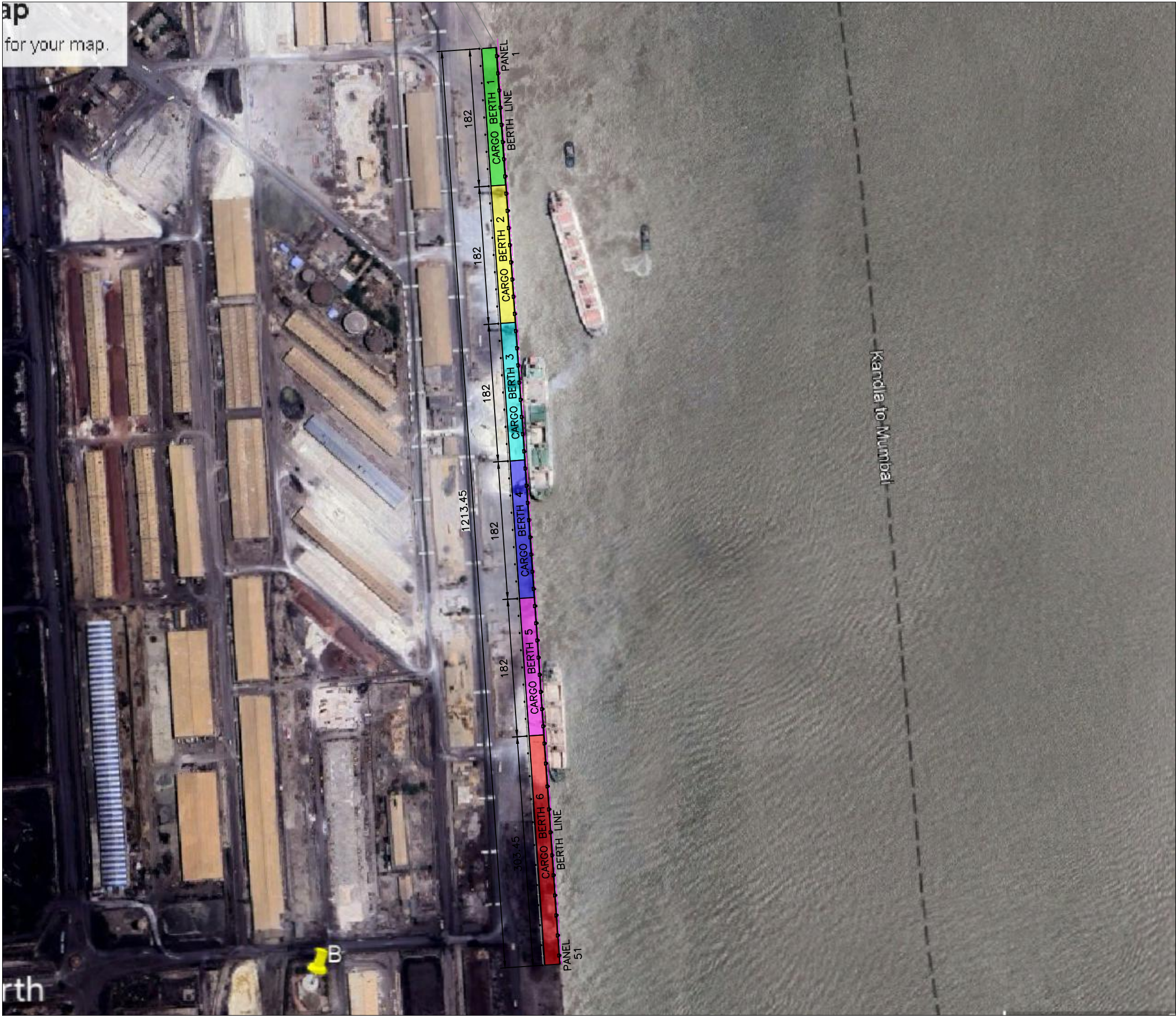
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PROCEDURE FOR REPAIR OF CONNECTING BEAM AND DECK SLAB BOTTOM

A. REPAIR SCHEME USING SPRAY MORTAR METHOD

- (a) SUITABLE TEMPORARY WORKING PLATFORM OF SIZE AND DIMENSION REQUIRED SHALL BE ERECTED BELOW THE EXISTING DECK (ABOVE MEAN SEA LEVEL) WITH ADEQUATE STRENGTH TO SUSTAIN DEAD LOADS, LIVE LOADS, WIND AND WAVE LOADS DURING EXECUTION OF THE WORK. SUCH SCHEME OF TEMPORARY PLATFORM SHALL BE APPROVED BY PMC IN PRIOR TO ERECTION. PRIOR TO ALLOWING THE WORKMAN ON THE TEMPORARY PLATFORM, THE SAFETY AND SECURITY OF THE PLATFORM SHALL BE ASCERTAINED BY THE CONTRACTOR/PMC/DPA BY A JOINT INSPECTION.
- (b) THE CRACKS SHALL BE IDENTIFIED IN THE PRESENCE OF PMC/DPA AND SEALED THROUGHOUT USING EPOXY PUTTY IN PRIOR TO GROUTING. THE GROUTING POINTS SHALL BE MARKED AT A SPACING OF 500 MM C/C TO FIX THE PACKERS USING EPOXY PUTTY AND GROUTED WITH LOW VISCOUS EPOXY GROUT. THE GROUTED PACKERS SHALL BE CUT AND SEALED WITH EPOXY PUTTY.
- (c) SHEAR KEYS SHALL BE INSTALLED AT THE DESIGNATED LOCATIONS AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS AS PER SPECIFICATIONS OF MATERIAL, SIZE AND SHAPE USING DRILLING INTO THE EXISTING BEAM/SLAB/PILE CAP TO A DEPTH OF NOT LESS THAN 100MM FROM THE EXPOSED SURFACE. THE HOLE SHALL BE GROUTED AFTER THE INSERTION OF SHEAR KEY REINFORCEMENT USING GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (d) THE BOTTOM AND SIDE FACES SHALL BE THOROUGHLY CLEANED TO REMOVE ANY RUST ON THE EXISTING REINFORCEMENT AND GI WELDED WIRE MESH OF 4" X 4" (16 GAUGE) SHALL BE AFFIXED TO THE SHEAR KEYS AND SECURED.
- (e) ADDITIONAL REINFORCEMENT INCLUDING MAIN REINFORCEMENT, SIDE REINFORCEMENT AND STIRRUPS SHALL BE TREATED WITH ANTI-CORROSIVE COATING AS PER SPECIFICATION. THE SAME SHALL BE PLACED AND TIED TO THE SHEAR KEYS AT THE BOTTOM SURFACE AND SIDE SURFACE AS PER APPROVED CONSTRUCTION DRAWINGS.
- (f) THE BOTTOM MAIN AND SIDE FACE REINFORCEMENTS SHALL BE ANCHORED AT THE TWO ENDS USING SIMILAR PROCEDURE FOR SHEAR KEY BY DRILLING INTO THE EXISTING CONCRETE AND GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (g) THE SIDE FACE AND BOTTOM MAIN REINFORCEMENT SHALL BE LAPPED AT THE LOCATION AS SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- (h) A SPRAY MORTAR OF REQUIRED STRENGTH AS SPECIFIED IN THE SPECIFICATION SHALL BE SPRAYED ON THE SURFACE OF THE EXISTING CONCRETE USING APPROVED METHODS OF APPLICATION BY THE MANUFACTURER IN MULTIPLE LAYERS TO THE TOTAL THICKNESS REQUIRED AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS.
- (i) THE CURING SHALL BE DONE NOT LESS THAN 14 DAYS FROM THE DATE OF CASTING USING FRESH WATER APPLICATION ON THE SURFACE OF THE CONCRETE.
- (j) THE REPAIRED CONCRETE SURFACE SHALL BE PAINTED WITH PROTECTIVE COATING IN TWO COATS OF 300-MICRON DFT (EACH COAT OF 150-MICRON DFT) ON ACRYLIC BASED PRIMER AT AN AVERAGE TOTAL THICKNESS OF 300-MICRON DFT IN TWO COATS APPROVED BY THE ENGINEER IN CHARGE SHALL BE APPLIED ON THE SURFACE OF THE MICRO CONCRETE.
- (k) AN IDENTIFICATION NUMBER FOR THE BEAMS/PILE CAPS SHALL BE PAINTED ON THE SIDE SURFACE OF THE BEAM AND JOINT INSPECTION SHALL BE MADE BY DPA/CONTRACTOR AND PMC FOR ACCEPTANCE.
- (l) TEMPORARY PLATFORM SO ERECTED FOR THE PURPOSE OF THE REPAIR WORK SHALL ONLY BE REMOVED AFTER THE REPAIR HAS BEEN ACCEPTED BY DPA/PMC AND CLEARANCE IS GIVEN BY PMC FOR SUCH REMOVAL

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div><div>PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div></div>				
IMPLEMENTING AGENCY: <div><div>DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div></div>				
PROJECT: <div>UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA</div>				
TITLE: <div>GENERAL NOTES AND SPECIFICATION</div>				
DRAWING NO. IITM-DPA-KAND-DWG-501		DATE: 30.03.24		REV: 0





LEGEND:

S.NO	COLOUR INDICATION	BERTH NAME	FENDER PANEL NUMBER
1.		CARGO BERTH 1	PANEL 1 TO 8
2.		CARGO BERTH 2	PANEL 9 TO 16
3.		CARGO BERTH 3	PANEL 17 TO 24
4.		CARGO BERTH 4	PANEL 25 TO 32
5.		CARGO BERTH 5	PANEL 33 TO 40
6.		CARGO BERTH 6	PANEL 41 TO 51

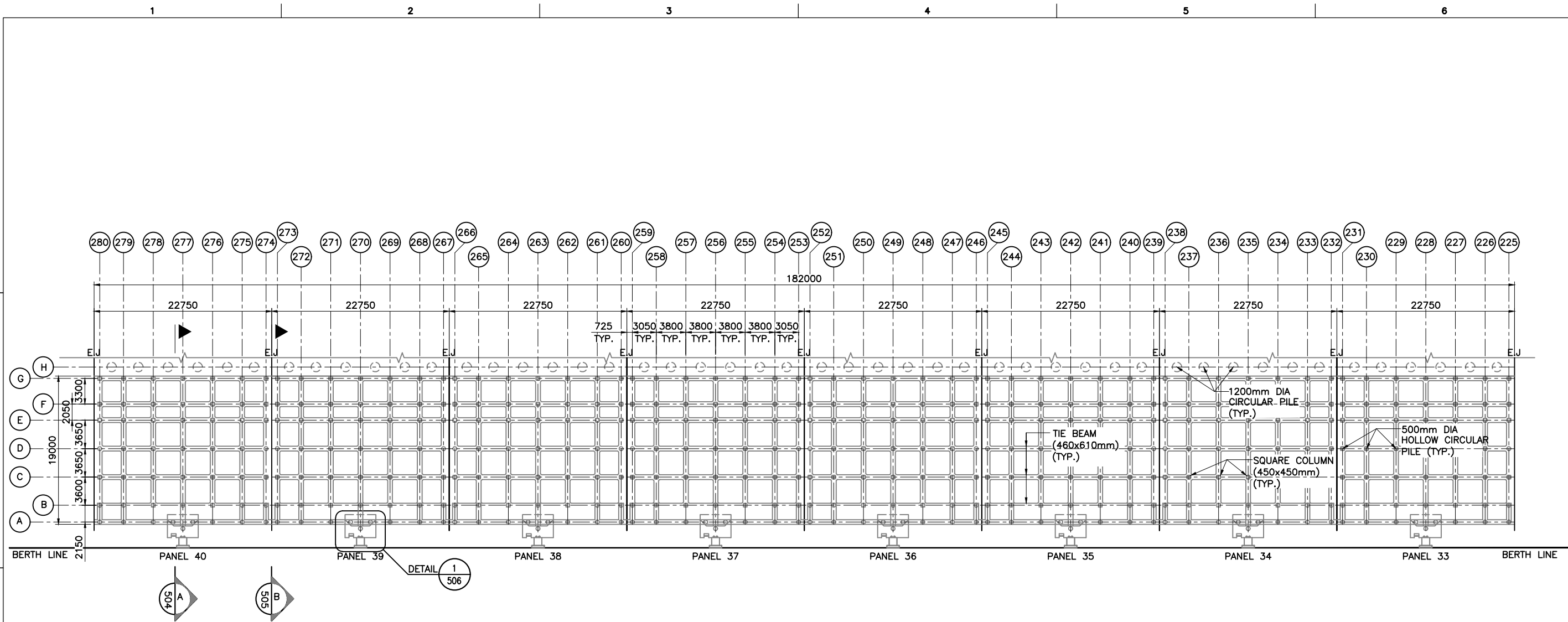
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING CARGO BERTH 1 TO 6-LOCATION MAP				
DRAWING NO. IITM-DPA-KAND-DWG-502			DATE: 30.03.24	REV: 0



LOCATION MAP OF EXISTING CARGO BERTH 1 TO 6
SCALE 1:5

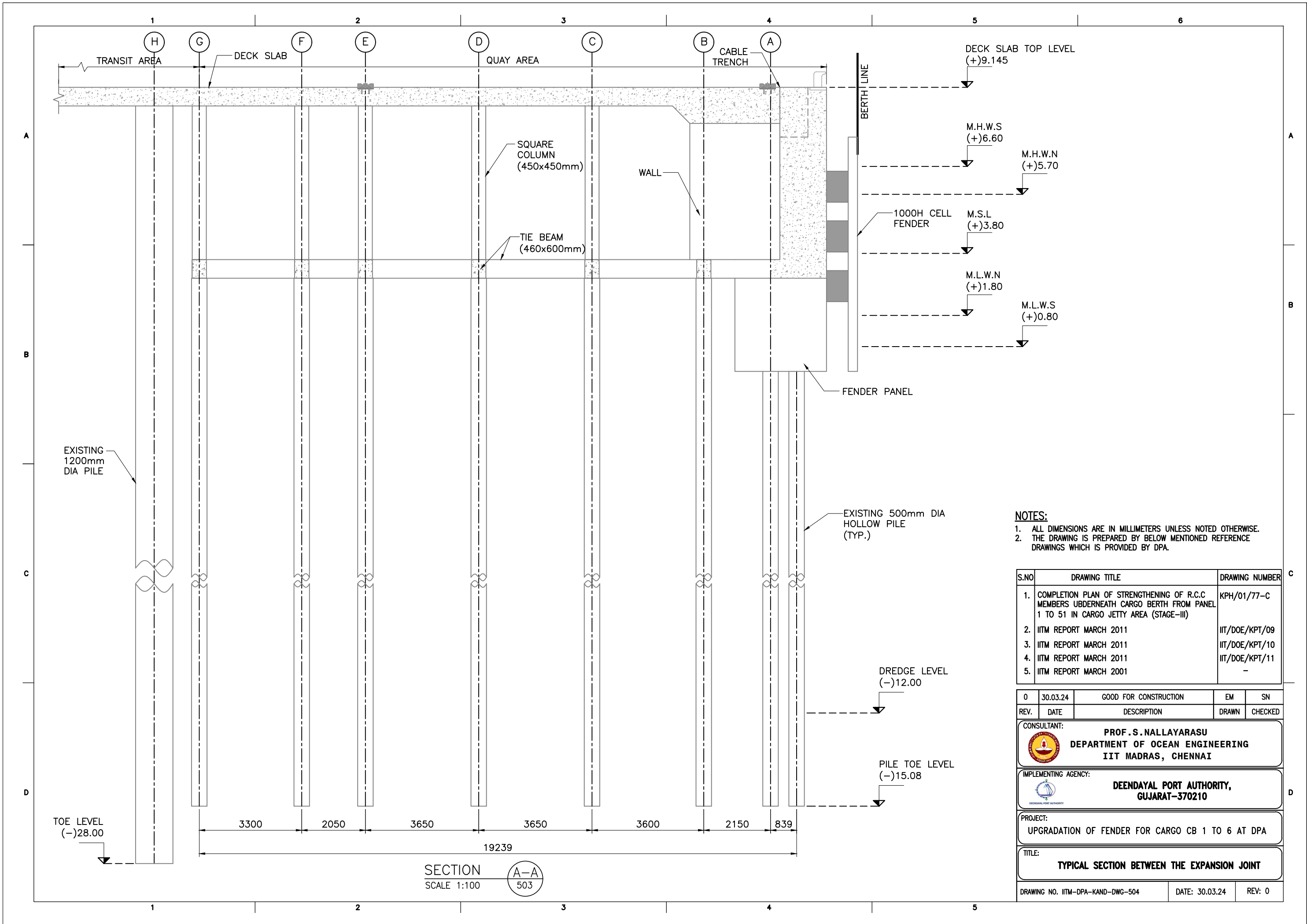


GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH-5 (PANEL 33 TO 40) AT (+) 3.6m LEVEL
SCALE 1:500

- NOTES:**
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL ARRANGEMENT PLAN OF EXISTING CB-5				
DRAWING NO. IITM-DPA-KAND-DWG-503			DATE: 30.03.24	REV: 0



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

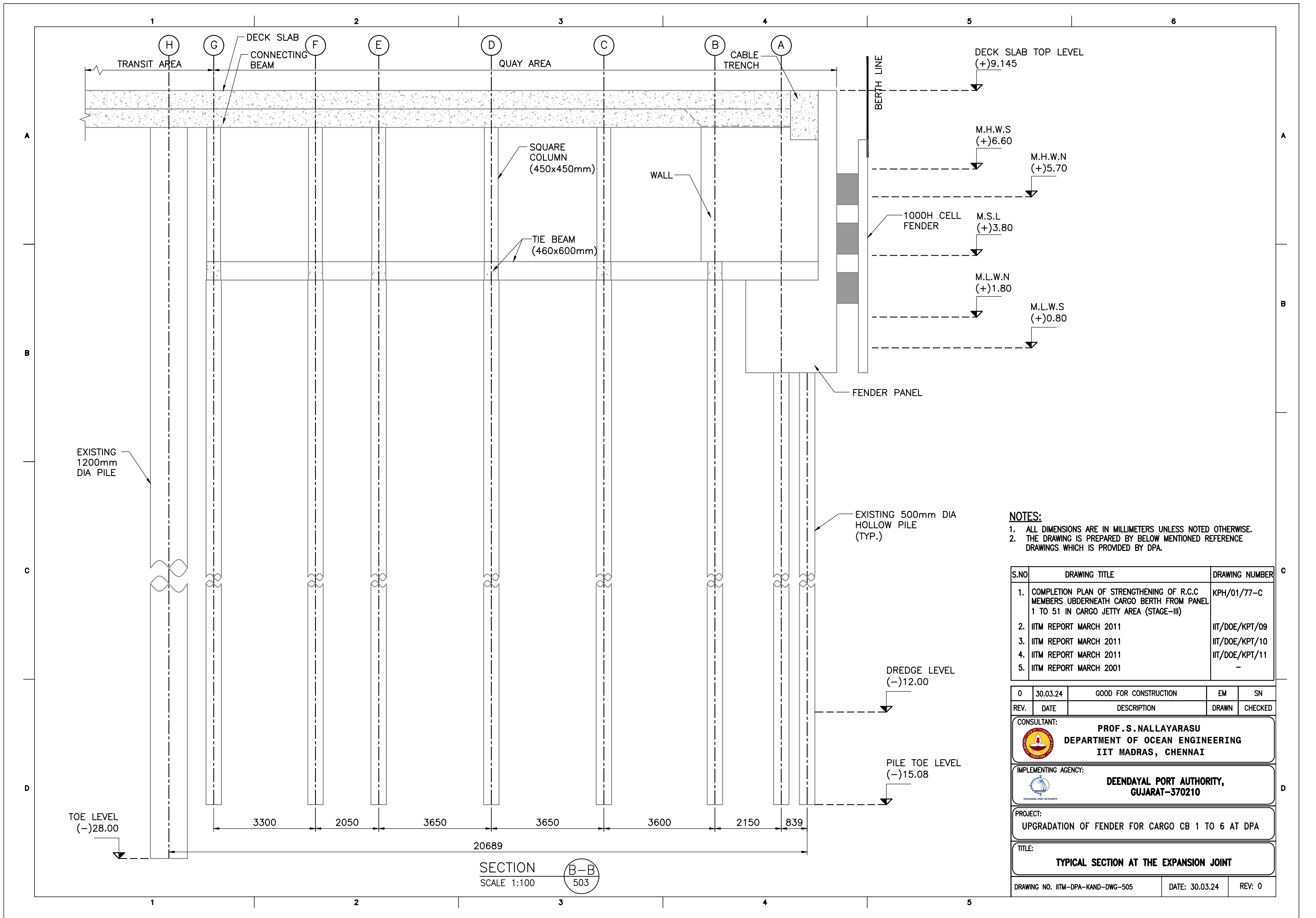
CONSULTANT:	PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	TYPICAL SECTION BETWEEN THE EXPANSION JOINT
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DRAWING NO. IITM-DPA-KAND-DWG-504	DATE: 30.03.24	REV: 0
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- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
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REV.	DATE	DESCRIPTION	DRAWN	CHECKED

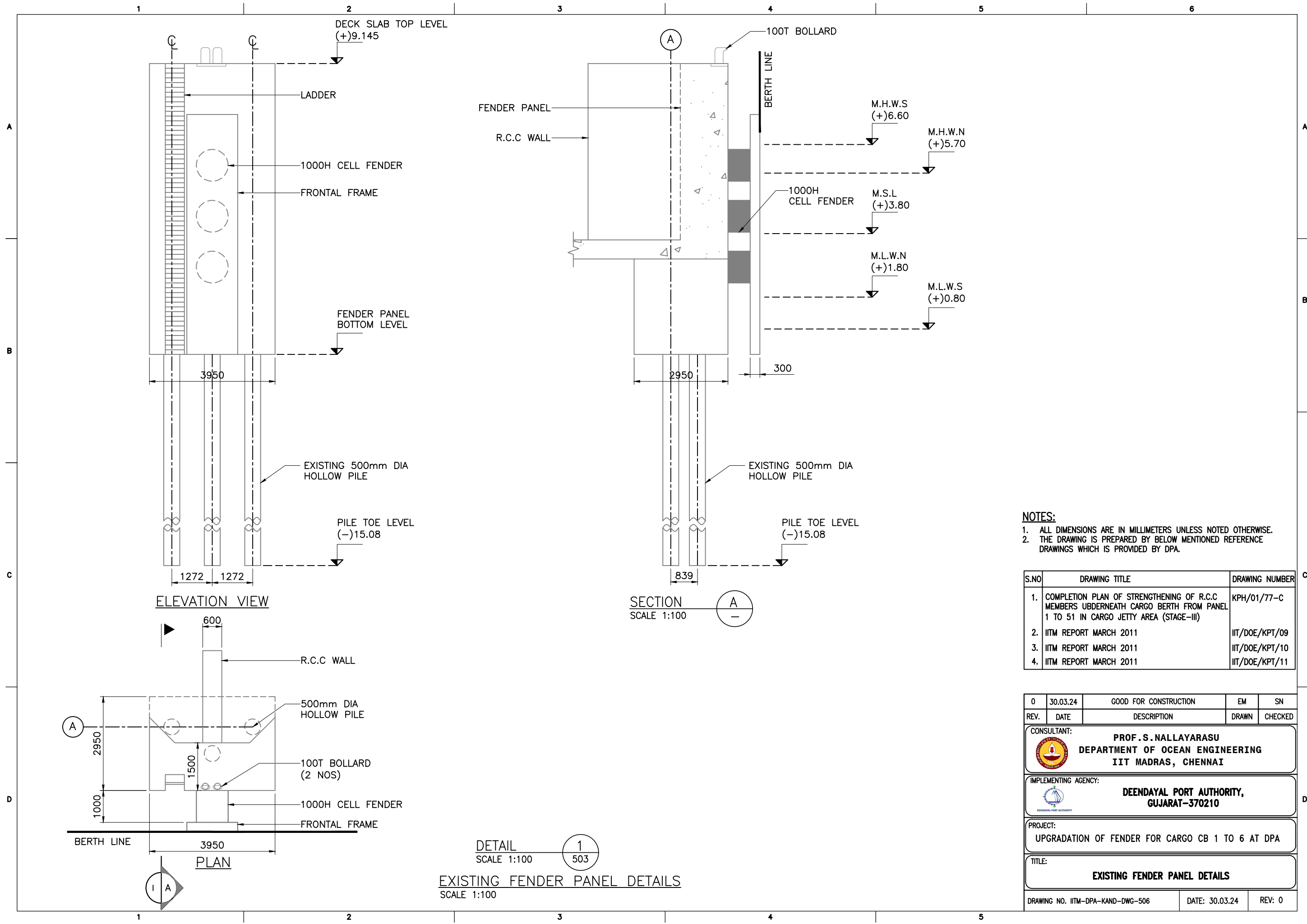
CONSULTANT:	 PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	 DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	TYPICAL SECTION AT THE EXPANSION JOINT
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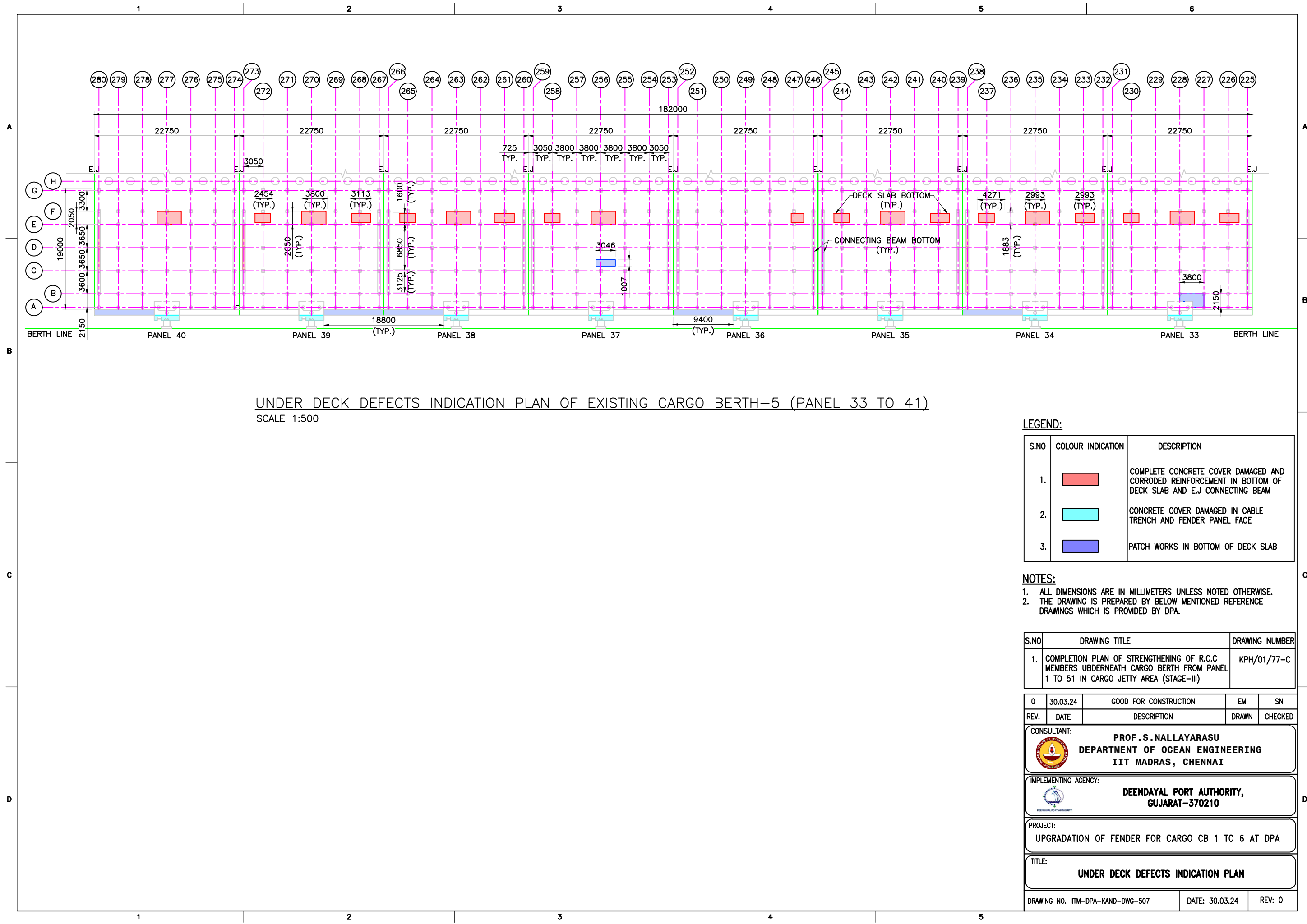
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- NOTES:**
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING FENDER PANEL DETAILS				
DRAWING NO. IITM-DPA-KAND-DWG-506			DATE: 30.03.24	REV: 0



UNDER DECK DEFECTS INDICATION PLAN OF EXISTING CARGO BERTH-5 (PANEL 33 TO 41)
SCALE 1:500

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.		COMPLETE CONCRETE COVER DAMAGED AND CORRODED REINFORCEMENT IN BOTTOM OF DECK SLAB AND E.J CONNECTING BEAM
2.		CONCRETE COVER DAMAGED IN CABLE TRENCH AND FENDER PANEL FACE
3.		PATCH WORKS IN BOTTOM OF DECK SLAB

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

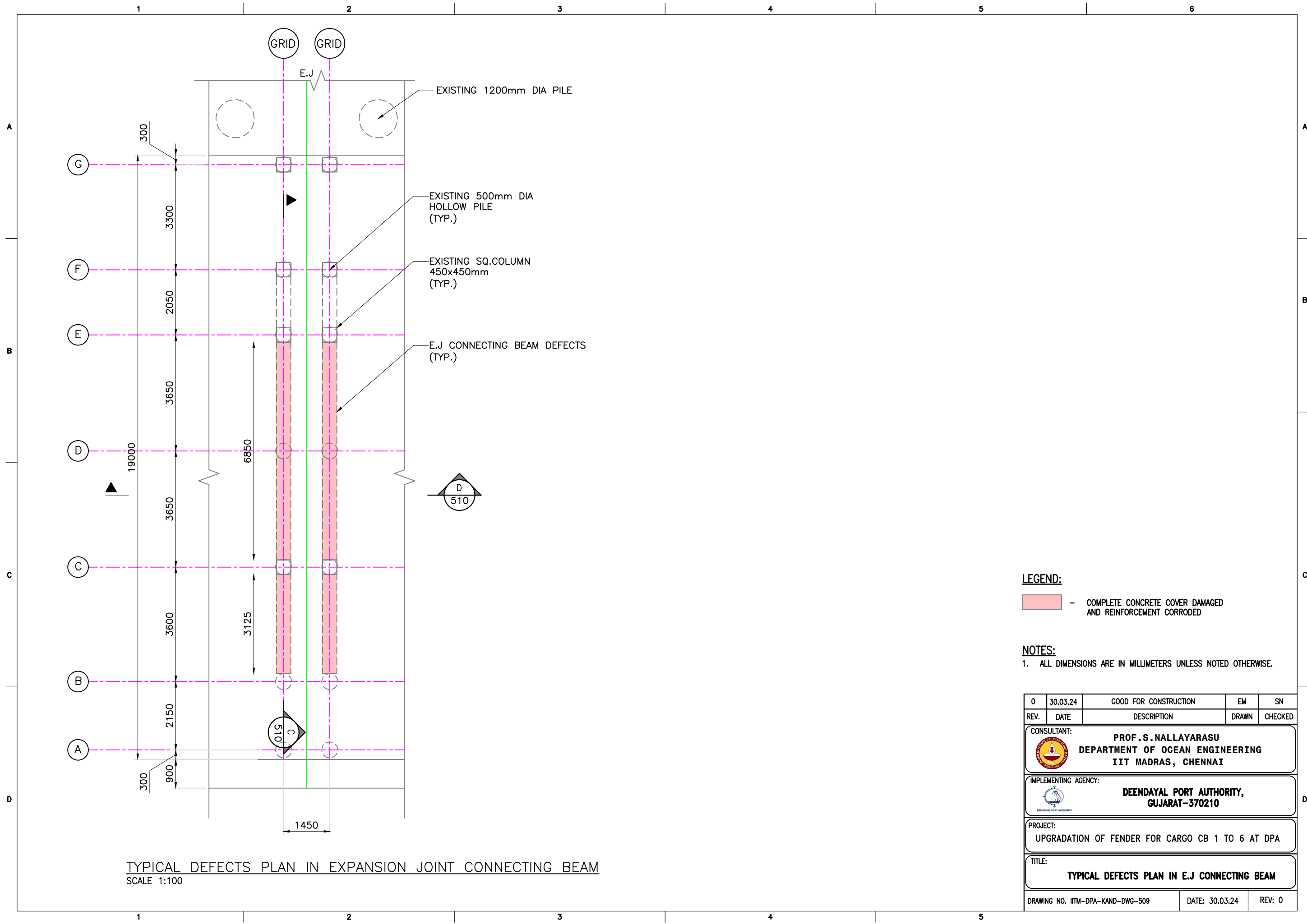
CONSULTANT:	PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	UNDER DECK DEFECTS INDICATION PLAN
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DRAWING NO. IITM-DPA-KAND-DWG-507	DATE: 30.03.24	REV: 0
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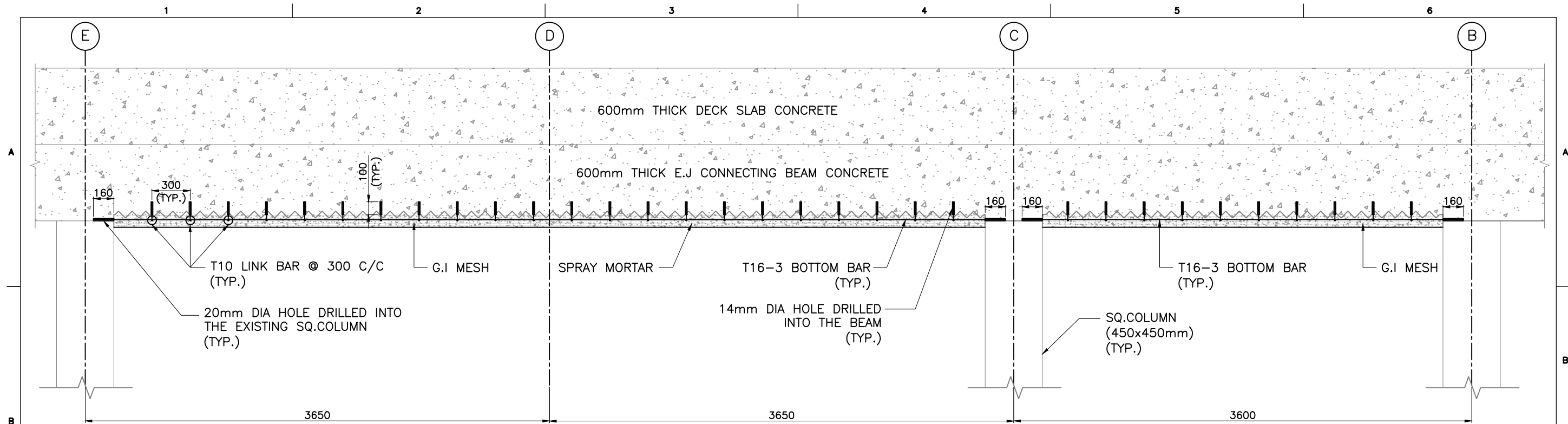
LEGEND:

— COMPLETE CONCRETE COVER DAMAGED AND REINFORCEMENT CORRODED

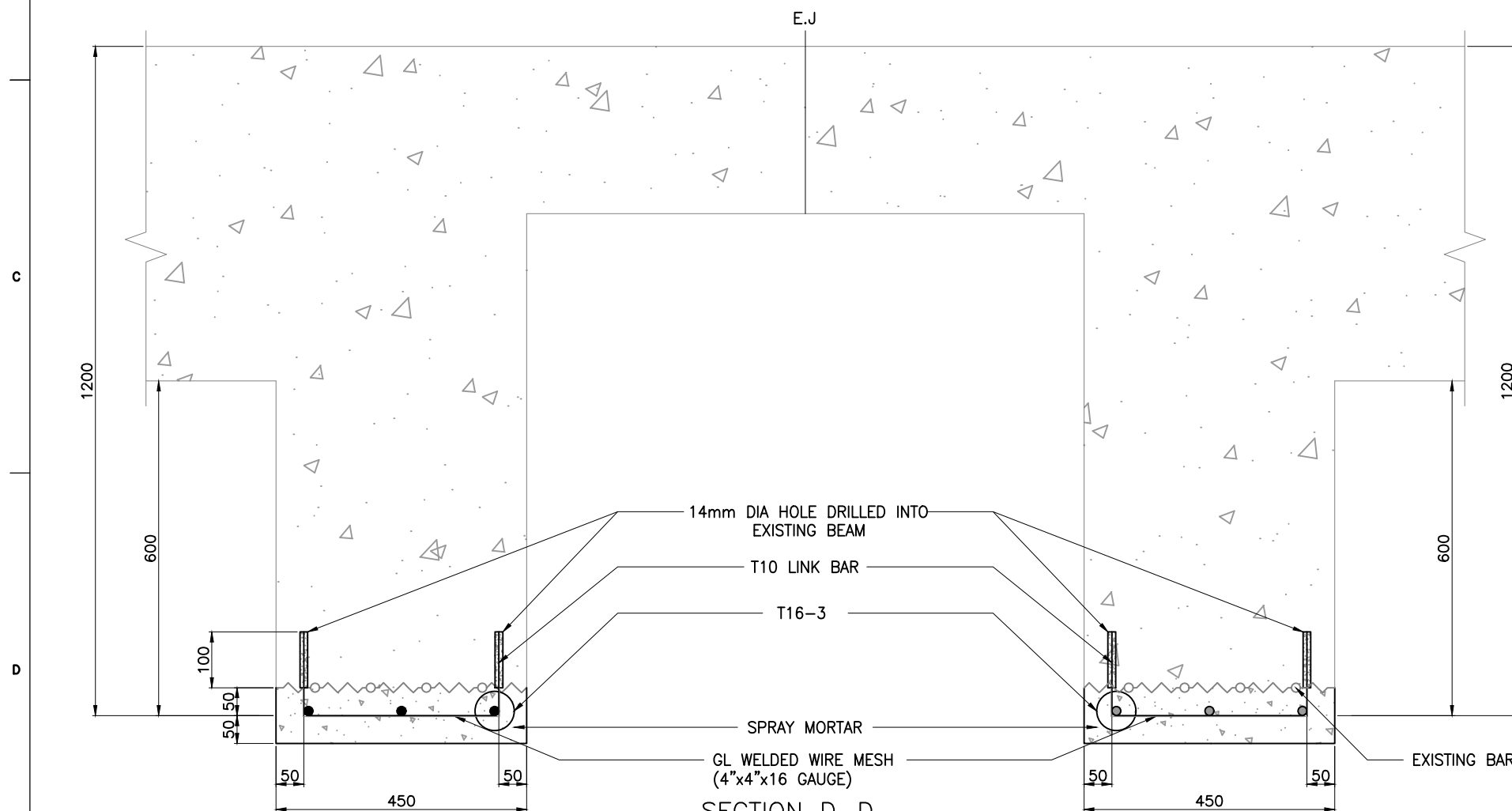
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: TYPICAL DEFECTS PLAN IN E.J CONNECTING BEAM				
DRAWING NO. IITM-DPA-KAND-DWG-509			DATE: 30.03.24	REV: 0





SECTION C-C
SCALE 1:30

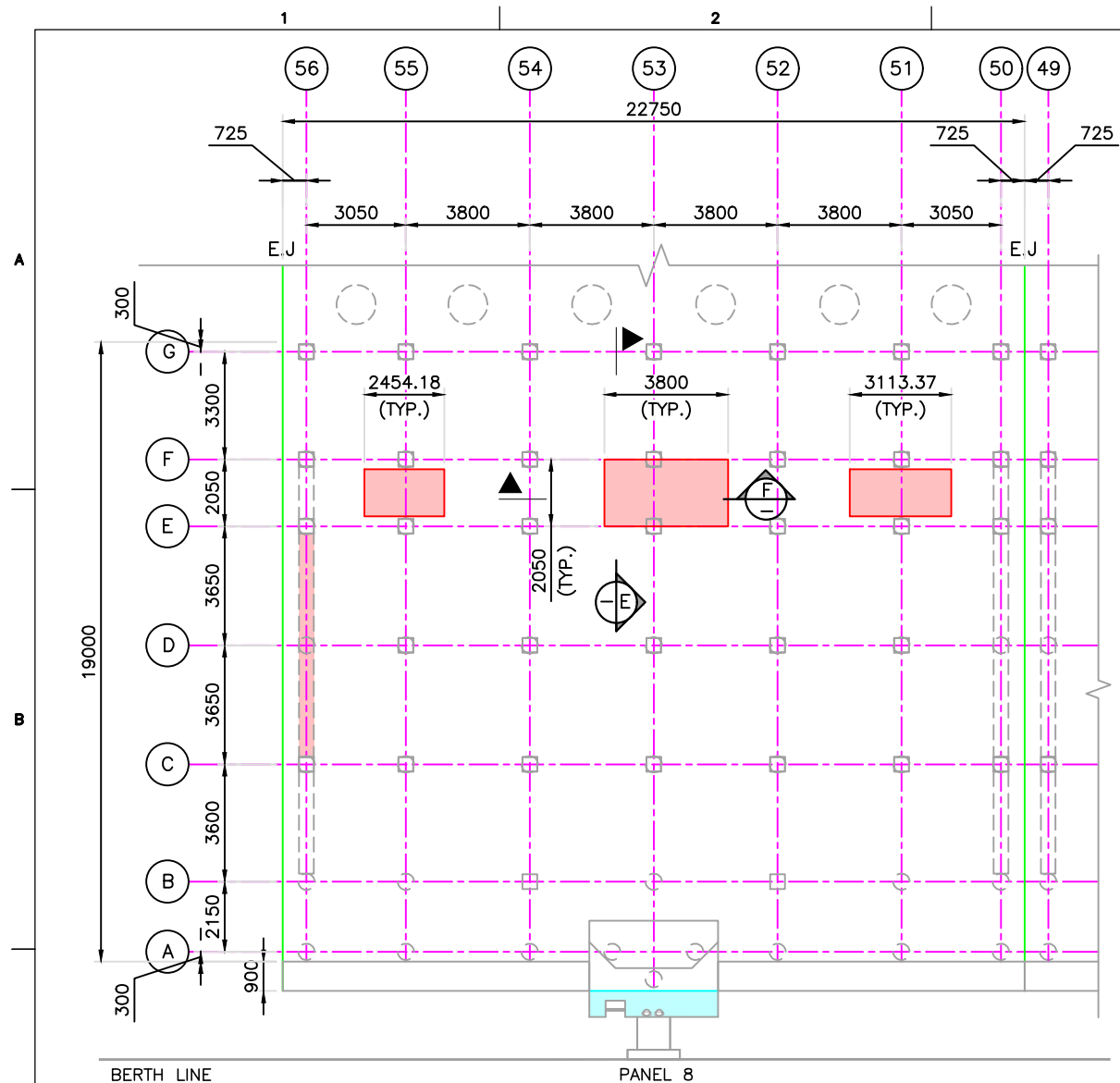


SECTION D-D
SCALE 1:10

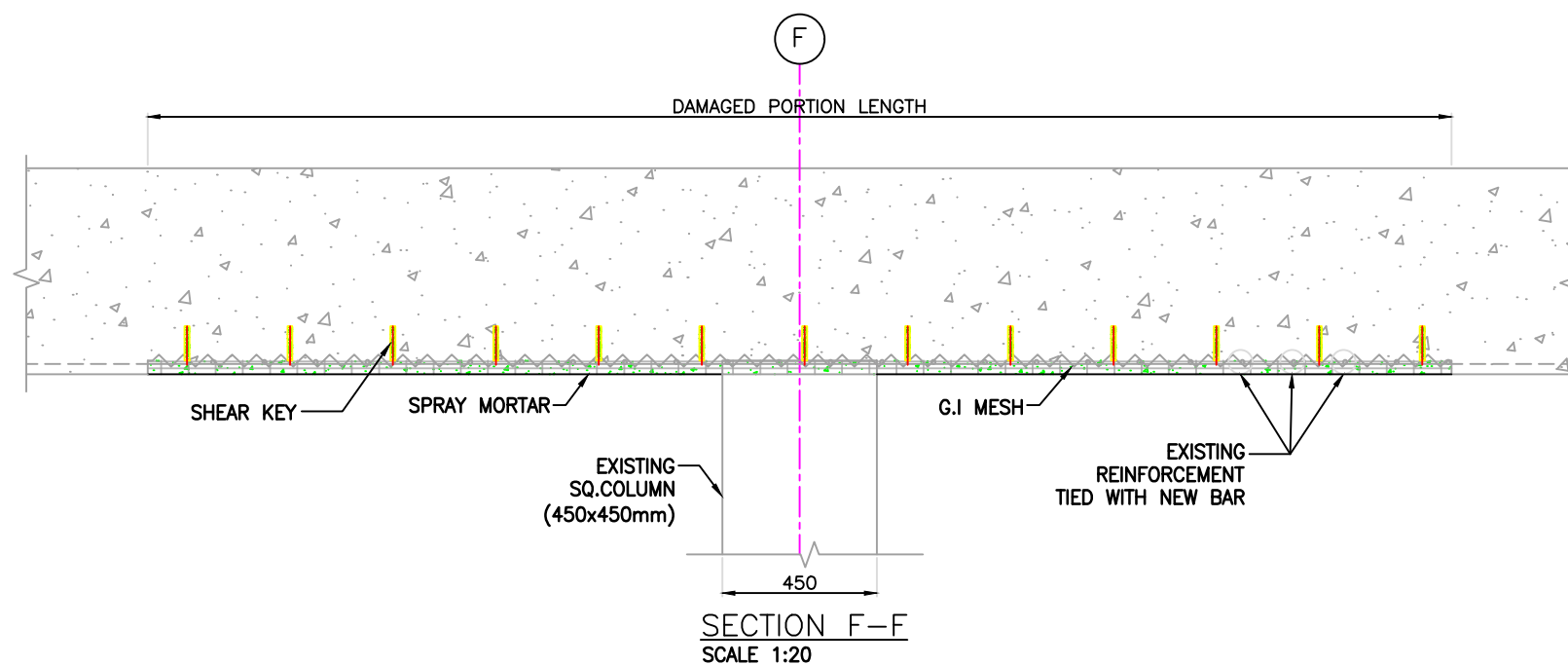
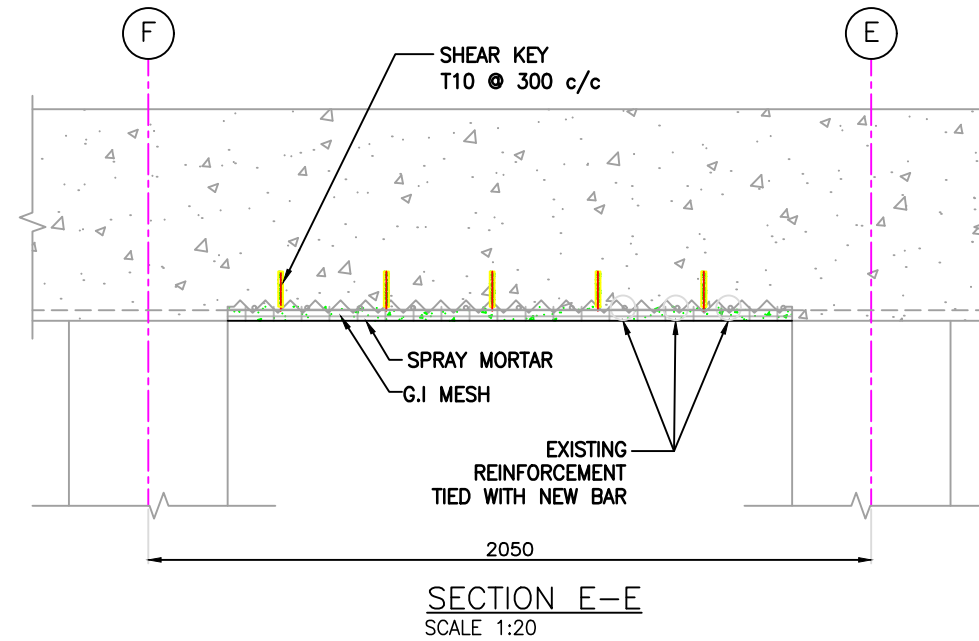
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: TYPICAL REPAIR SCHEME OF E.J. CONNECTING BEAM DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-510			DATE: 30.03.24	REV: 0





TYPICAL PLAN OF DECK SLAB BOTTOM DEFECTED PORTION
SCALE 1:200

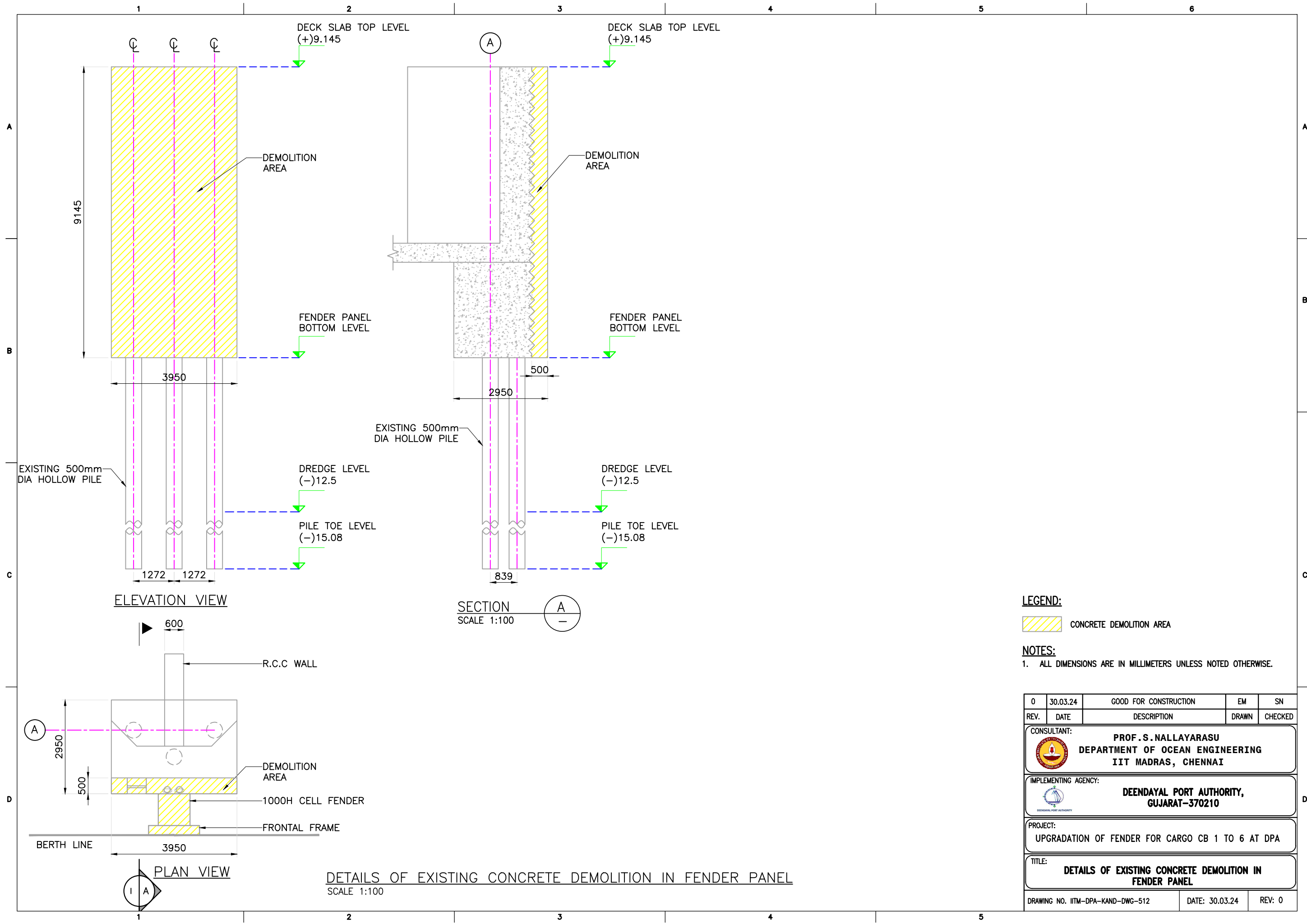


TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADEATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-511			DATE: 30.03.24	REV: 0



LEGEND:

CONCRETE DEMOLITION AREA

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

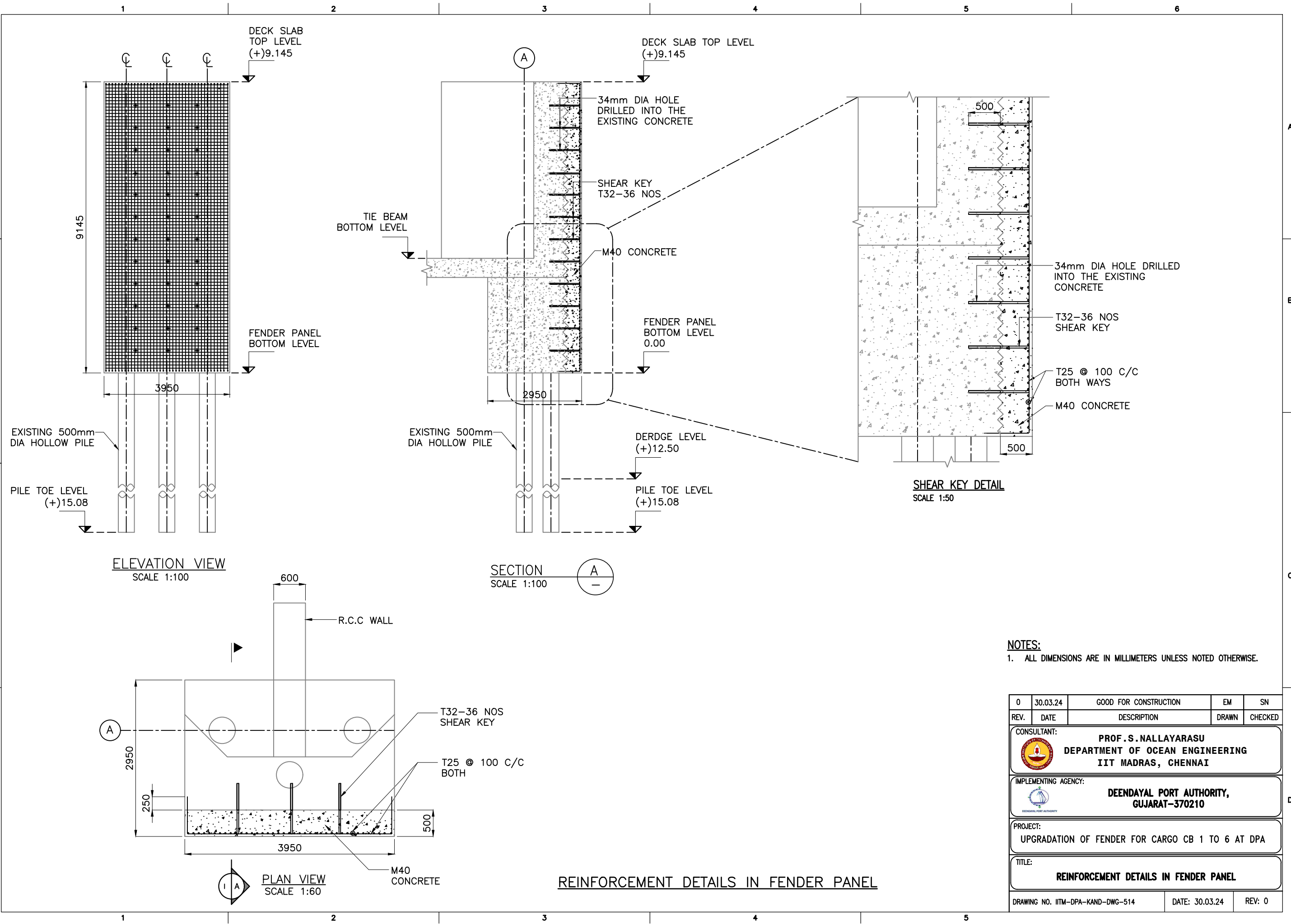
CONSULTANT: **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**

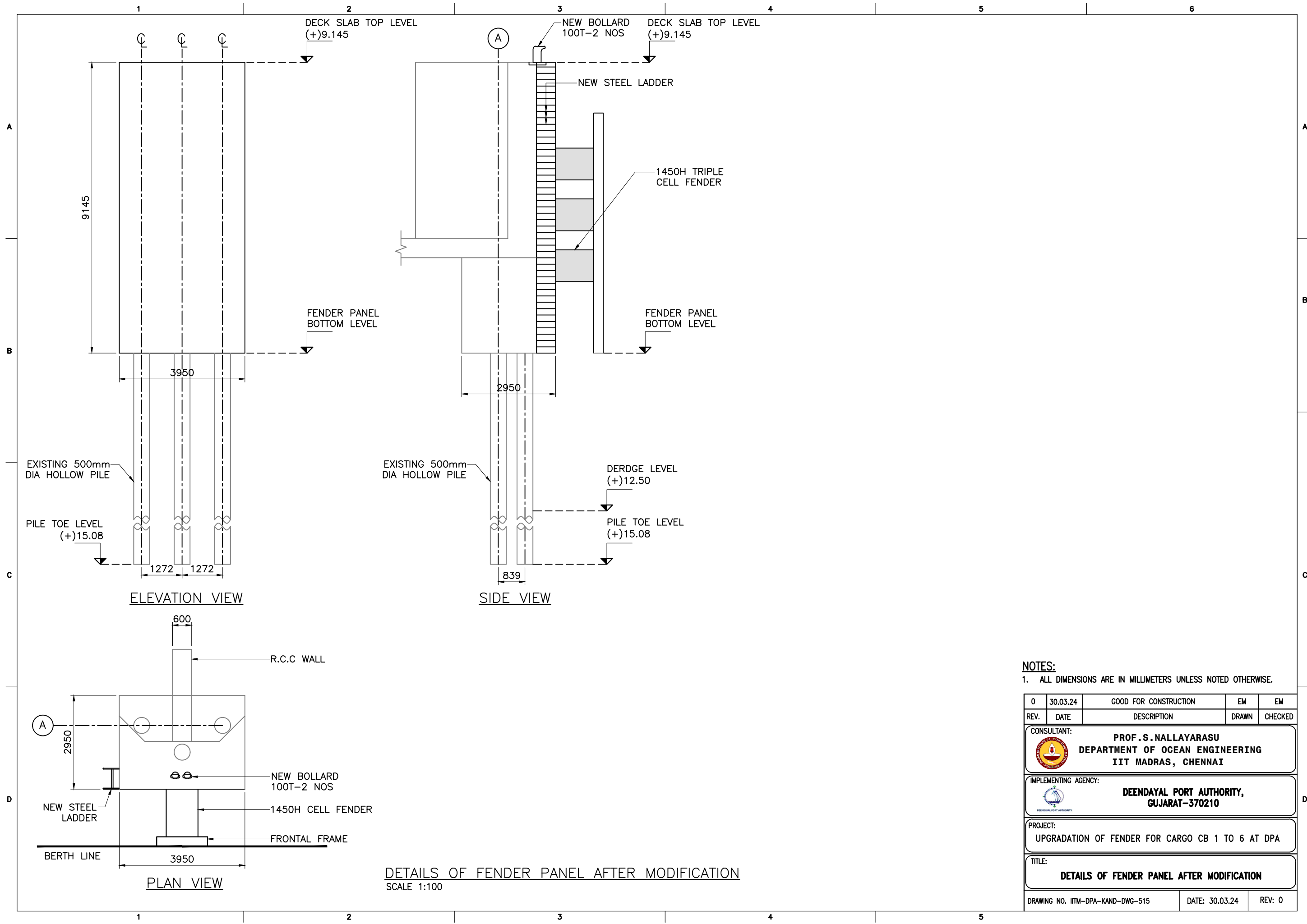
TITLE: **DETAILS OF EXISTING CONCRETE DEMOLITION IN FENDER PANEL**

DRAWING NO. IITM-DPA-KAND-DWG-512 DATE: 30.03.24 REV: 0



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: REINFORCEMENT DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-514			DATE: 30.03.24	REV: 0



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DETAILS OF FENDER PANEL AFTER MODIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-515			DATE: 30.03.24	REV: 0

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LIST OF DRAWINGS				
S.NO.	DRAWING NO.	DESCRIPTIONS	DATE	REV
1	IITM-DPA-KAND-DWG-600	DRAWING LIST	30.03.24	0
2	IITM-DPA-KAND-DWG-601	GENERAL NOTES AND SPECIFICATIONS	30.03.24	0
4	IITM-DPA-KAND-DWG-602	EXISTING CARGO BERTH 1 TO 6 - LOCATION PLAN	30.03.24	0
5	IITM-DPA-KAND-DWG-603	GENERAL ARRANGEMENT PLAN OF EXISTING CARGO BERTH 6	30.03.24	0
6	IITM-DPA-KAND-DWG-604	TYPICAL SECTION BETWEEN EXPANSION JOINT	30.03.24	0
7	IITM-DPA-KAND-DWG-605	TYPICAL SECTION AT EXPANSION JOINT	30.03.24	0
8	IITM-DPA-KAND-DWG-606	EXISTING FENDER PANEL DETAIL IN CARGO BERTH 6	30.03.24	0
9	IITM-DPA-KAND-DWG-607	UNDER DECK DEFECTS INDICATION PLAN OF CARGO BERTH 6	30.03.24	0
10	IITM-DPA-KAND-DWG-608	TOP DECK DEFECTS INDICATION PLAN OF CARGO BERTH 6	30.03.24	0
11	IITM-DPA-KAND-DWG-609	TYPICAL DEFECT INDICATION PLAN OF E.J CONNECTING BEAM	30.03.24	0
12	IITM-DPA-KAND-DWG-610	TYPICAL REPAIR SCHEME OF E.J CONNECTING BEAM DEFECTS	30.03.24	0
13	IITM-DPA-KAND-DWG-611	TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS	30.03.24	0
14	IITM-DPA-KAND-DWG-612	DETAILS EXISTING CONCRETE DEMOLITION IN FENDER PANEL	30.03.24	0
15	IITM-DPA-KAND-DWG-613	SHEAR KEY DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-614	REINFORCEMENT DETAILS IN FENDER PANEL	30.03.24	0
16	IITM-DPA-KAND-DWG-615	DETAILS OF FENDER PANEL AFTER MODIFICATION	30.03.24	0

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DRAWING LIST				
DRAWING NO. IITM-DPA-KAND-DWG-600		DATE: 30.03.24	REV: 0	

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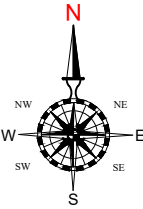
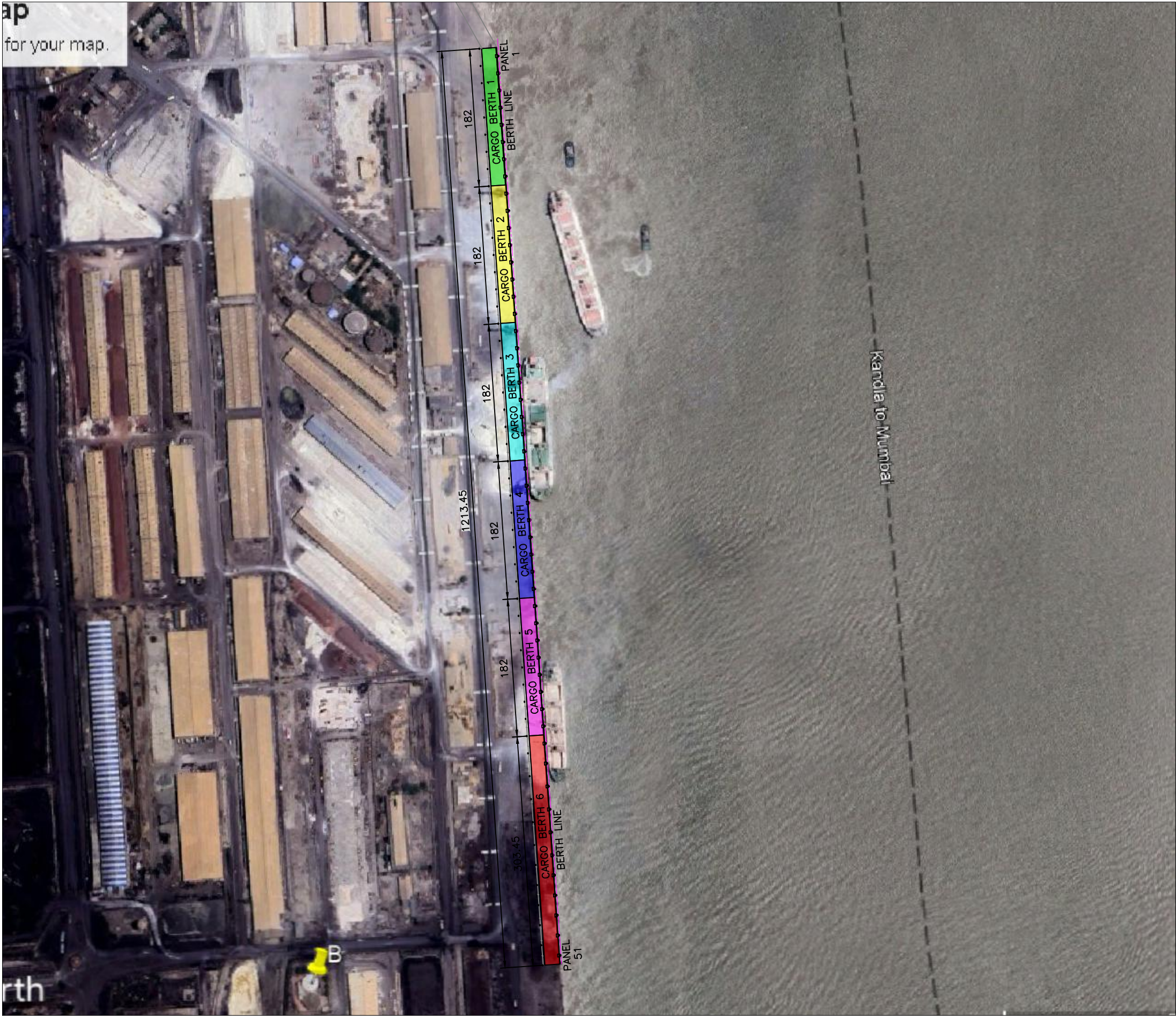
PROCEDURE FOR REPAIR OF CONNECTING BEAM AND DECK SLAB BOTTOM

A. REPAIR SCHEME USING SPRAY MORTAR METHOD

- (a) SUITABLE TEMPORARY WORKING PLATFORM OF SIZE AND DIMENSION REQUIRED SHALL BE ERECTED BELOW THE EXISTING DECK (ABOVE MEAN SEA LEVEL) WITH ADEQUATE STRENGTH TO SUSTAIN DEAD LOADS, LIVE LOADS, WIND AND WAVE LOADS DURING EXECUTION OF THE WORK. SUCH SCHEME OF TEMPORARY PLATFORM SHALL BE APPROVED BY PMC IN PRIOR TO ERECTION. PRIOR TO ALLOWING THE WORKMAN ON THE TEMPORARY PLATFORM, THE SAFETY AND SECURITY OF THE PLATFORM SHALL BE ASCERTAINED BY THE CONTRACTOR/PMC/DPA BY A JOINT INSPECTION.
- (b) THE CRACKS SHALL BE IDENTIFIED IN THE PRESENCE OF PMC/DPA AND SEALED THROUGHOUT USING EPOXY PUTTY IN PRIOR TO GROUTING. THE GROUTING POINTS SHALL BE MARKED AT A SPACING OF 500 MM C/C TO FIX THE PACKERS USING EPOXY PUTTY AND GROUTED WITH LOW VISCOUS EPOXY GROUT. THE GROUTED PACKERS SHALL BE CUT AND SEALED WITH EPOXY PUTTY.
- (c) SHEAR KEYS SHALL BE INSTALLED AT THE DESIGNATED LOCATIONS AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS AS PER SPECIFICATIONS OF MATERIAL, SIZE AND SHAPE USING DRILLING INTO THE EXISTING BEAM/SLAB/PILE CAP TO A DEPTH OF NOT LESS THAN 100MM FROM THE EXPOSED SURFACE. THE HOLE SHALL BE GROUTED AFTER THE INSERTION OF SHEAR KEY REINFORCEMENT USING GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (d) THE BOTTOM AND SIDE FACES SHALL BE THOROUGHLY CLEANED TO REMOVE ANY RUST ON THE EXISTING REINFORCEMENT AND GI WELDED WIRE MESH OF 4" X 4" (16 GAUGE) SHALL BE AFFIXED TO THE SHEAR KEYS AND SECURED.
- (e) ADDITIONAL REINFORCEMENT INCLUDING MAIN REINFORCEMENT, SIDE REINFORCEMENT AND STIRRUPS SHALL BE TREATED WITH ANTI-CORROSIVE COATING AS PER SPECIFICATION. THE SAME SHALL BE PLACED AND TIED TO THE SHEAR KEYS AT THE BOTTOM SURFACE AND SIDE SURFACE AS PER APPROVED CONSTRUCTION DRAWINGS.
- (f) THE BOTTOM MAIN AND SIDE FACE REINFORCEMENTS SHALL BE ANCHORED AT THE TWO ENDS USING SIMILAR PROCEDURE FOR SHEAR KEY BY DRILLING INTO THE EXISTING CONCRETE AND GROUTING MATERIAL APPROVED BY ENGINEER-IN CHARGE.
- (g) THE SIDE FACE AND BOTTOM MAIN REINFORCEMENT SHALL BE LAPPED AT THE LOCATION AS SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- (h) A SPRAY MORTAR OF REQUIRED STRENGTH AS SPECIFIED IN THE SPECIFICATION SHALL BE SPRAYED ON THE SURFACE OF THE EXISTING CONCRETE USING APPROVED METHODS OF APPLICATION BY THE MANUFACTURER IN MULTIPLE LAYERS TO THE TOTAL THICKNESS REQUIRED AS SPECIFIED IN THE APPROVED CONSTRUCTION DRAWINGS.
- (i) THE CURING SHALL BE DONE NOT LESS THAN 14 DAYS FROM THE DATE OF CASTING USING FRESH WATER APPLICATION ON THE SURFACE OF THE CONCRETE.
- (j) THE REPAIRED CONCRETE SURFACE SHALL BE PAINTED WITH PROTECTIVE COATING IN TWO COATS OF 300-MICRON DFT (EACH COAT OF 150-MICRON DFT) ON ACRYLIC BASED PRIMER AT AN AVERAGE TOTAL THICKNESS OF 300-MICRON DFT IN TWO COATS APPROVED BY THE ENGINEER IN CHARGE SHALL BE APPLIED ON THE SURFACE OF THE MICRO CONCRETE.
- (k) AN IDENTIFICATION NUMBER FOR THE BEAMS/PILE CAPS SHALL BE PAINTED ON THE SIDE SURFACE OF THE BEAM AND JOINT INSPECTION SHALL BE MADE BY DPA/CONTRACTOR AND PMC FOR ACCEPTANCE.
- (l) TEMPORARY PLATFORM SO ERECTED FOR THE PURPOSE OF THE REPAIR WORK SHALL ONLY BE REMOVED AFTER THE REPAIR HAS BEEN ACCEPTED BY DPA/PMC AND CLEARANCE IS GIVEN BY PMC FOR SUCH REMOVAL

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: <div> PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI</div>				
IMPLEMENTING AGENCY: <div> DEENDAYAL PORT AUTHORITY, GUJARAT-370210</div>				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL NOTES AND SPECIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-601		DATE: 30.03.24	REV: 0	

ap
for your map.





LEGEND:

S.NO	COLOUR INDICATION	BERTH NAME	FENDER PANEL NUMBER
1.		CARGO BERTH 1	PANEL 1 TO 8
2.		CARGO BERTH 2	PANEL 9 TO 16
3.		CARGO BERTH 3	PANEL 17 TO 24
4.		CARGO BERTH 4	PANEL 25 TO 32
5.		CARGO BERTH 5	PANEL 33 TO 40
6.		CARGO BERTH 6	PANEL 41 TO 51

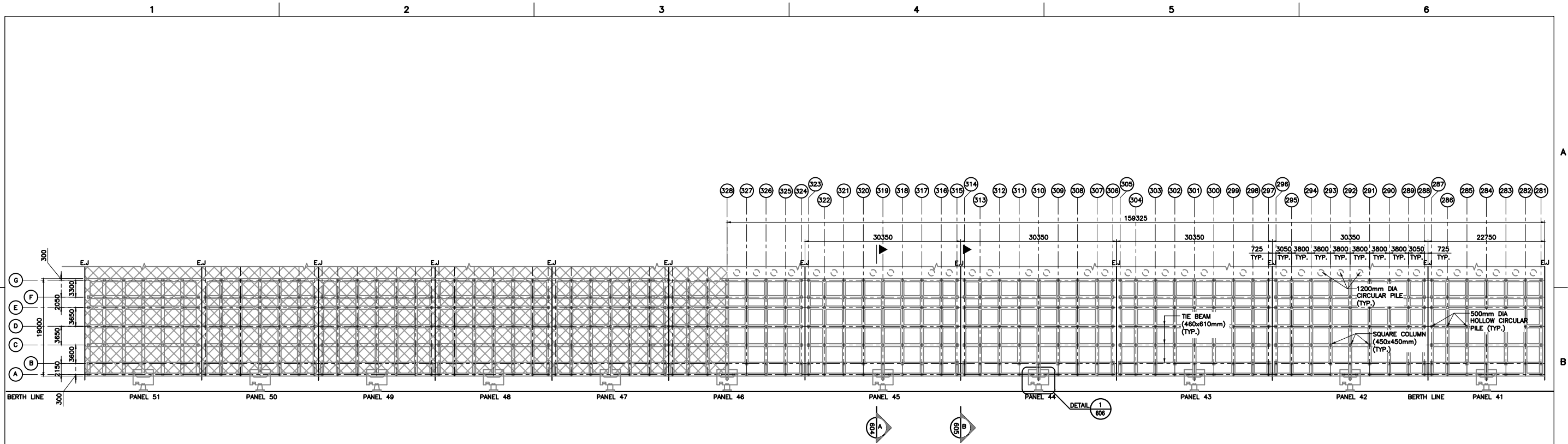
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING CARGO BERTH 1 TO 6-LOCATION MAP				
DRAWING NO. IITM-DPA-KAND-DWG-602			DATE: 30.03.24	REV: 0



LOCATION MAP OF EXISTING CARGO BERTH 1 TO 6
SCALE 1:5

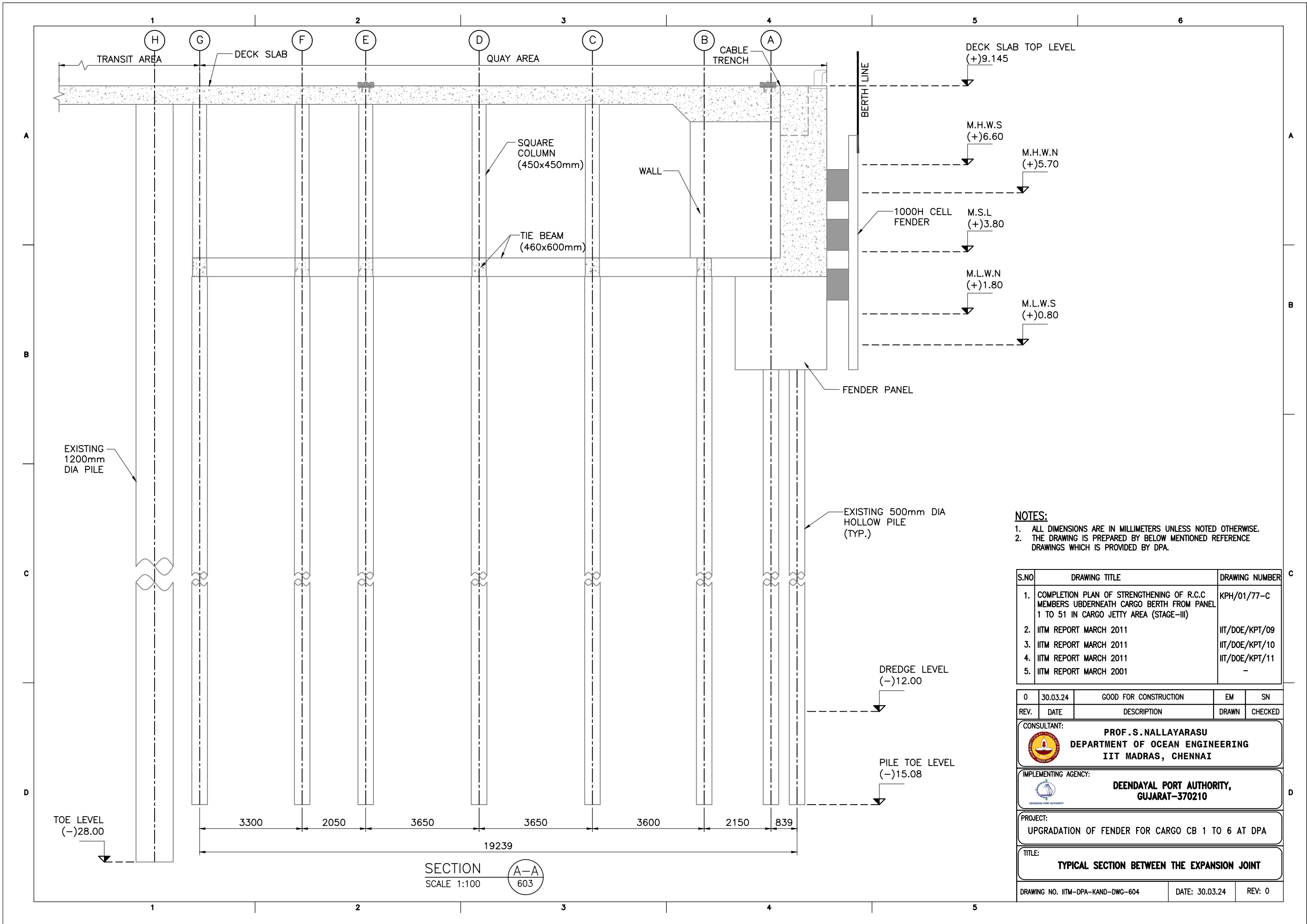


GENERAL ARRANGEMENT PLAN OF CARGO BERTH-6 (PANEL 41 TO 51) AT (+) 3.6m LEVEL
SCALE 1:750

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: GENERAL ARRANGEMENT PLAN OF EXISTING CB-6				
DRAWING NO. IITM-DPA-KAND-DWG-603			DATE: 30.03.24	REV: 0



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

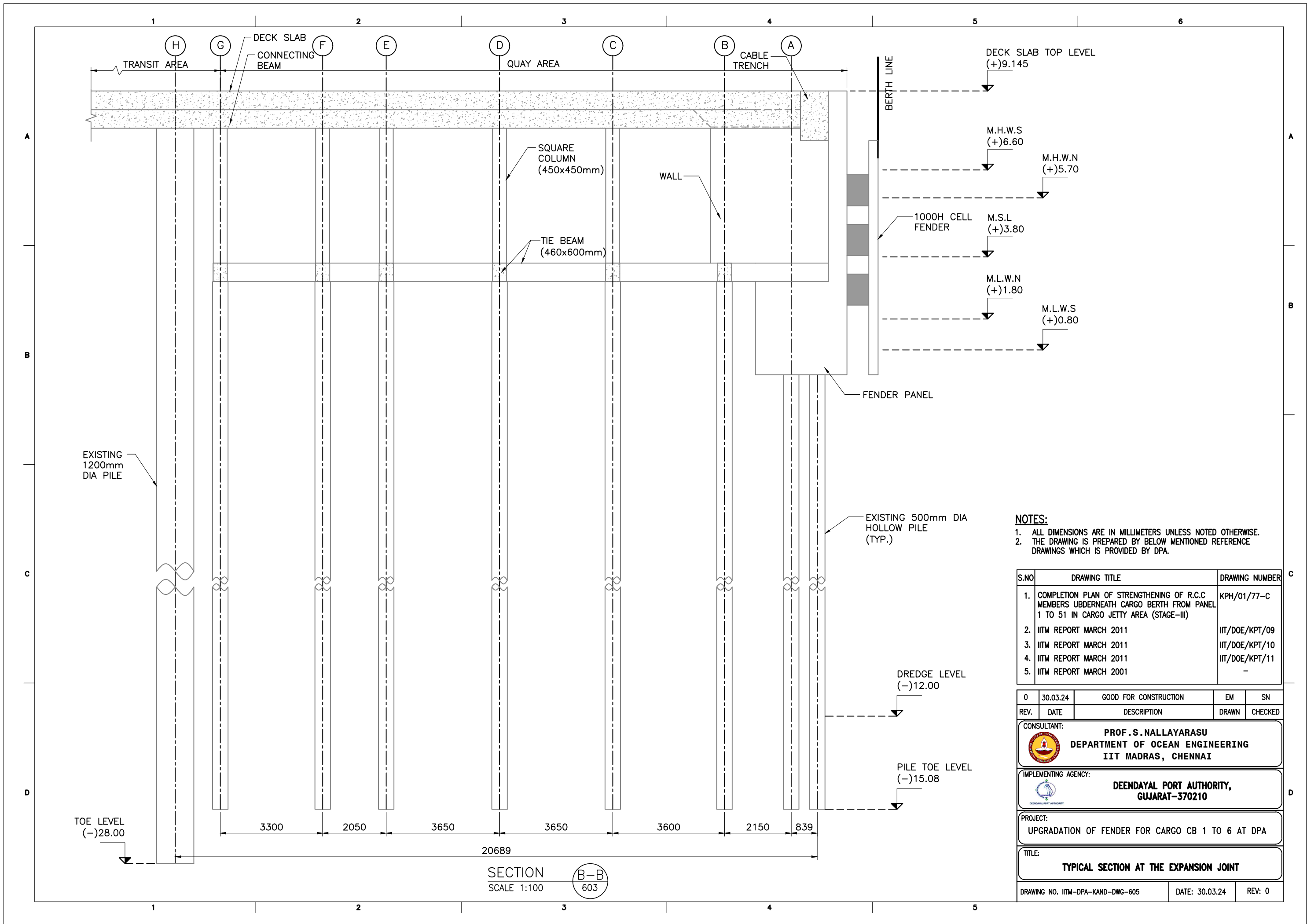
CONSULTANT:	PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI
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IMPLEMENTING AGENCY:	DEENDAYAL PORT AUTHORITY, GUJARAT-370210
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PROJECT:	UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA
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TITLE:	TYPICAL SECTION BETWEEN THE EXPANSION JOINT
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DRAWING NO. IITM-DPA-KAND-DWG-604	DATE: 30.03.24	REV: 0
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- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 - THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11
5.	IITM REPORT MARCH 2001	-

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

CONSULTANT:

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

IMPLEMENTING AGENCY:

 **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

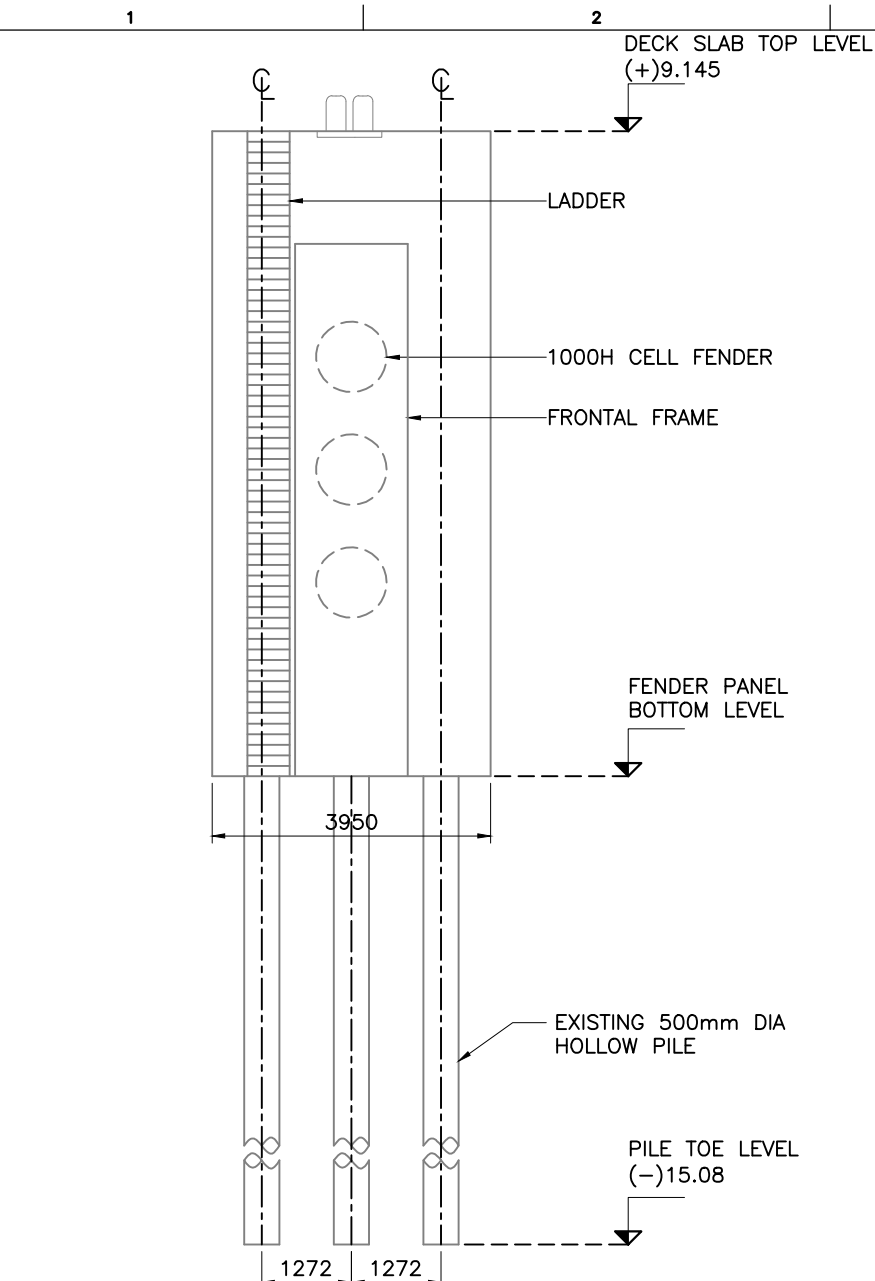
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UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

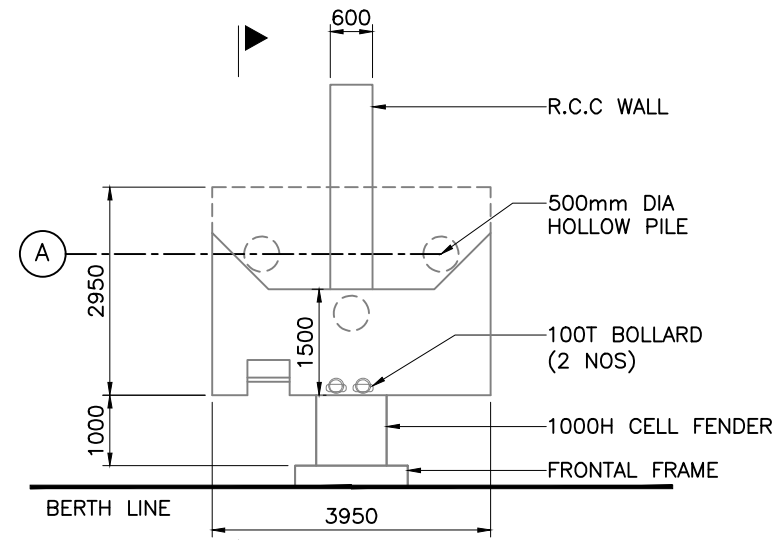
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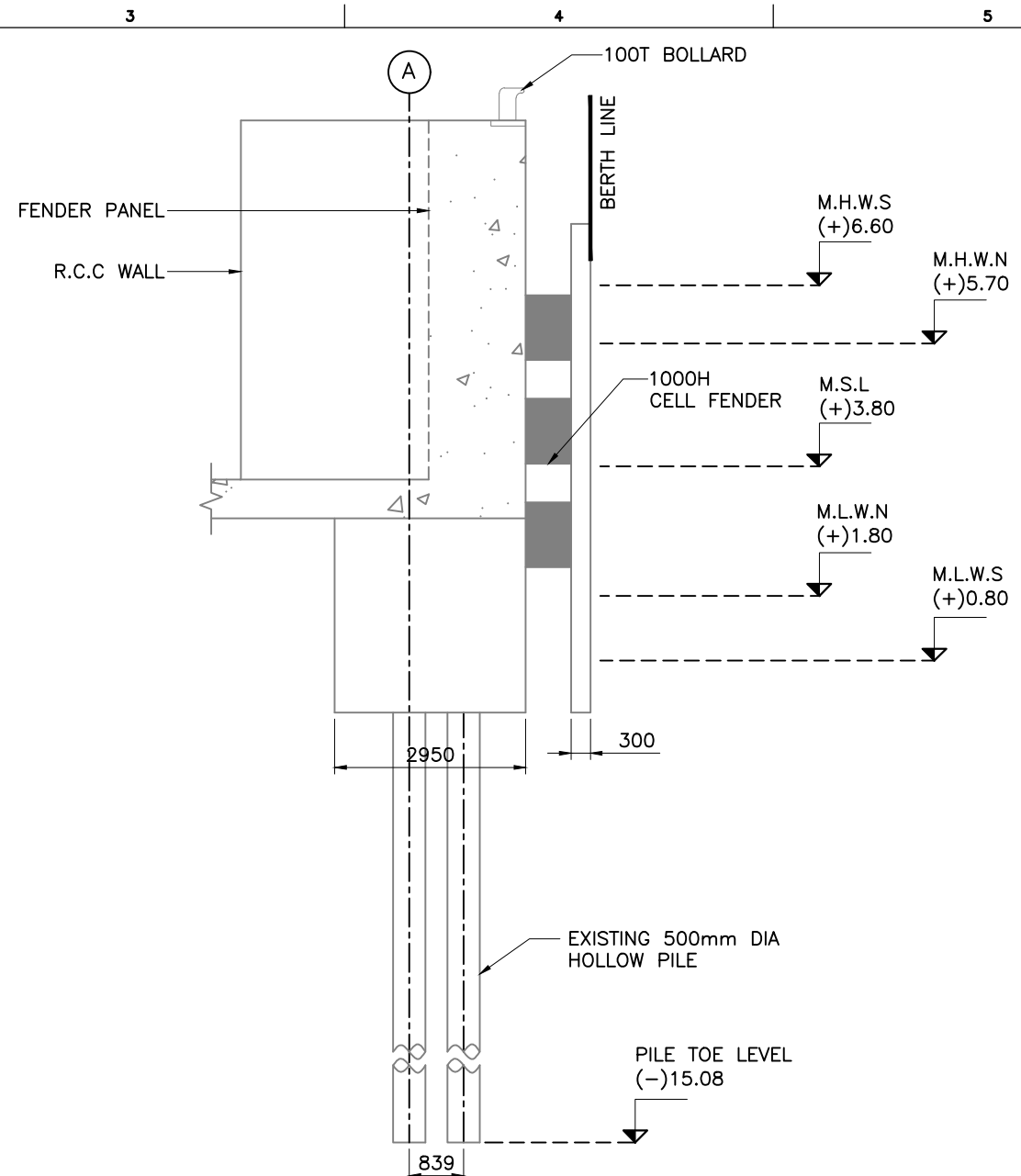
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ELEVATION VIEW



PLAN





SECTION
SCALE 1:100

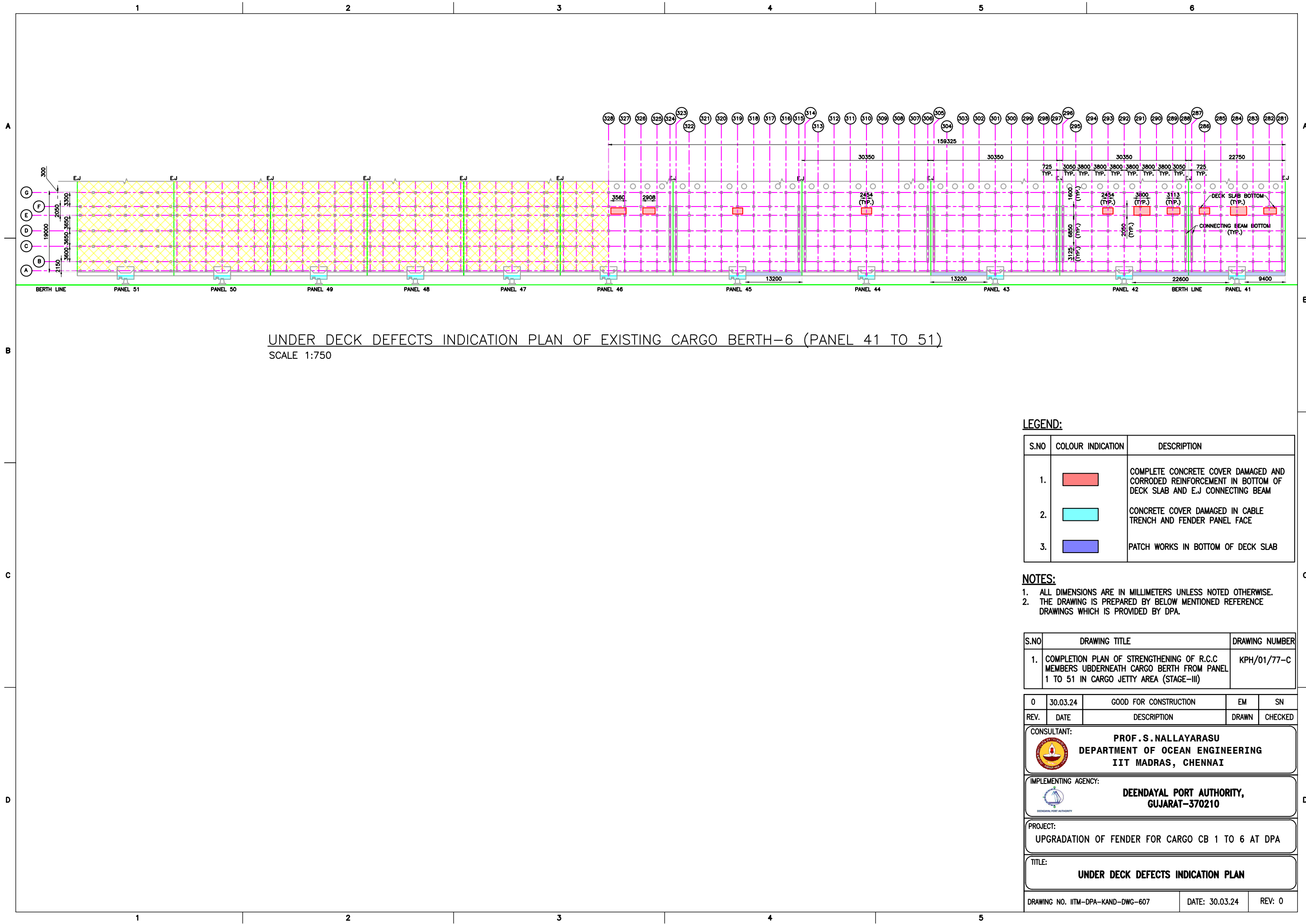
DETAIL 1
SCALE 1:100
EXISTING FENDER PANEL DETAILS
SCALE 1:100

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UNDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-II)	KPH/01/77-C
2.	IITM REPORT MARCH 2011	IIT/DOE/KPT/09
3.	IITM REPORT MARCH 2011	IIT/DOE/KPT/10
4.	IITM REPORT MARCH 2011	IIT/DOE/KPT/11

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: EXISTING FENDER PANEL DETAILS				
DRAWING NO. IITM-DPA-KAND-DWG-606			DATE: 30.03.24	REV: 0



UNDER DECK DEFECTS INDICATION PLAN OF EXISTING CARGO BERTH-6 (PANEL 41 TO 51)
SCALE 1:750

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.	<div></div>	COMPLETE CONCRETE COVER DAMAGED AND CORRODED REINFORCEMENT IN BOTTOM OF DECK SLAB AND E.J CONNECTING BEAM
2.	<div></div>	CONCRETE COVER DAMAGED IN CABLE TRENCH AND FENDER PANEL FACE
3.	<div></div>	PATCH WORKS IN BOTTOM OF DECK SLAB


NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

CONSULTANT:



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

IMPLEMENTING AGENCY:



DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

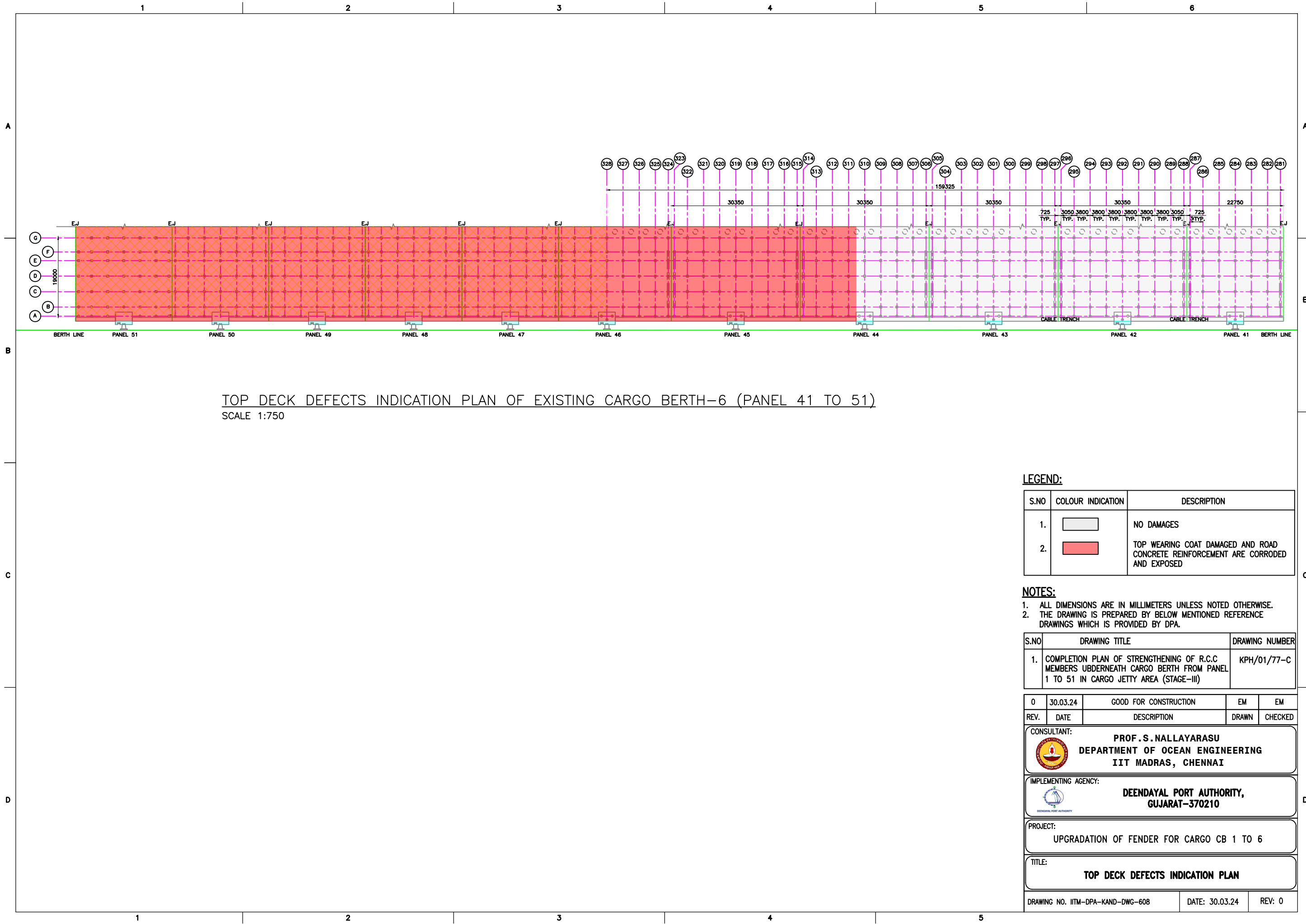
PROJECT:

UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA

TITLE:

UNDER DECK DEFECTS INDICATION PLAN

DRAWING NO. IITM-DPA-KAND-DWG-607	DATE: 30.03.24	REV: 0
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TOP DECK DEFECTS INDICATION PLAN OF EXISTING CARGO BERTH-6 (PANEL 41 TO 51)
SCALE 1:750

LEGEND:

S.NO	COLOUR INDICATION	DESCRIPTION
1.	<div></div>	NO DAMAGES
2.	<div></div>	TOP WEARING COAT DAMAGED AND ROAD CONCRETE REINFORCEMENT ARE CORRODED AND EXPOSED


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. THE DRAWING IS PREPARED BY BELOW MENTIONED REFERENCE DRAWINGS WHICH IS PROVIDED BY DPA.

S.NO	DRAWING TITLE	DRAWING NUMBER
1.	COMPLETION PLAN OF STRENGTHENING OF R.C.C MEMBERS UBDERNEATH CARGO BERTH FROM PANEL 1 TO 51 IN CARGO JETTY AREA (STAGE-III)	KPH/01/77-C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED
0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM

CONSULTANT:



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

IMPLEMENTING AGENCY:



DEENDAYAL PORT AUTHORITY,
GUJARAT-370210

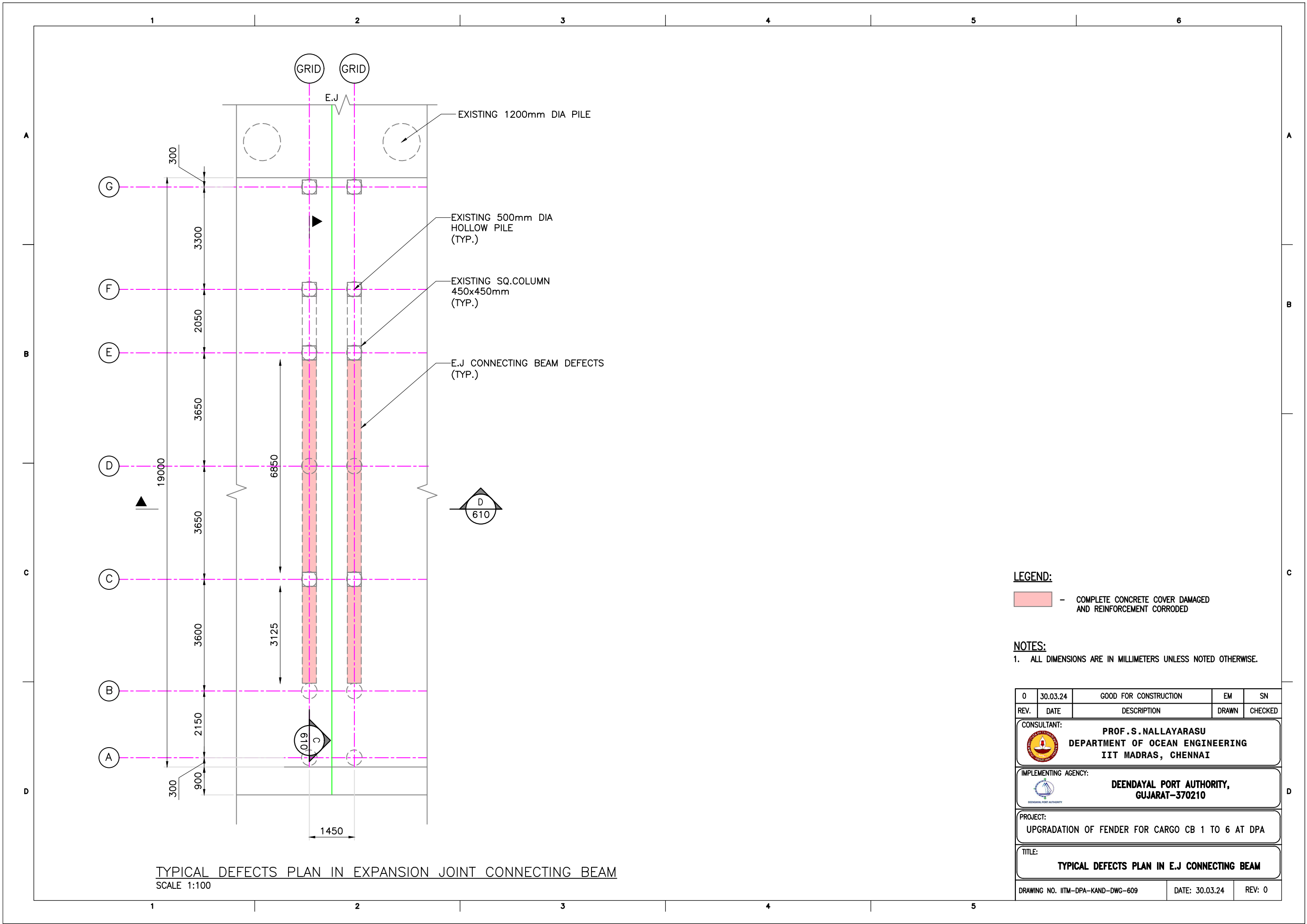
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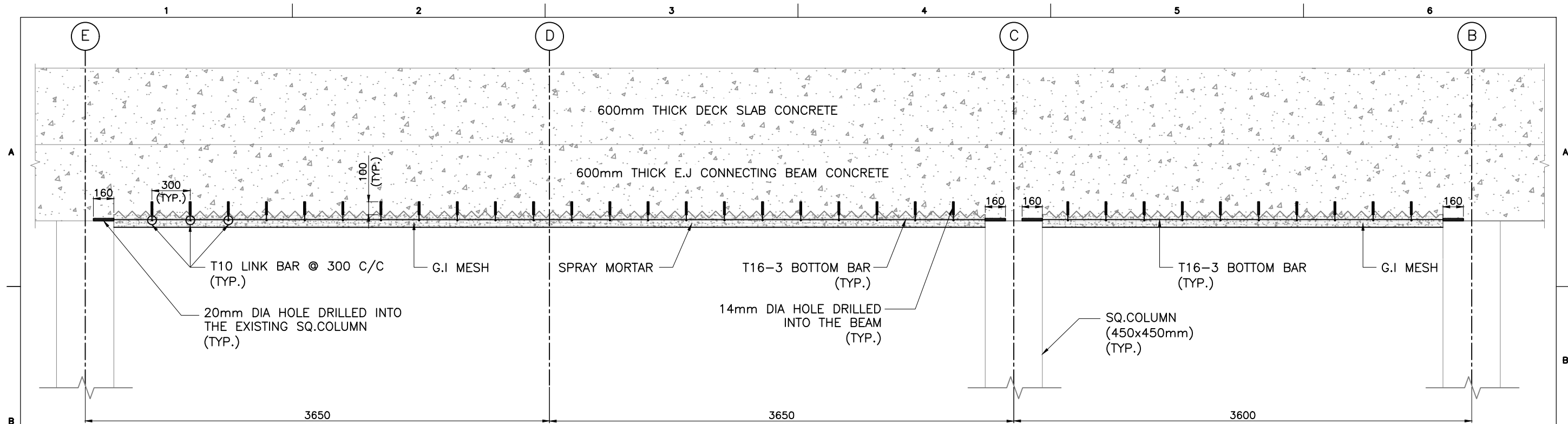
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6

TITLE:

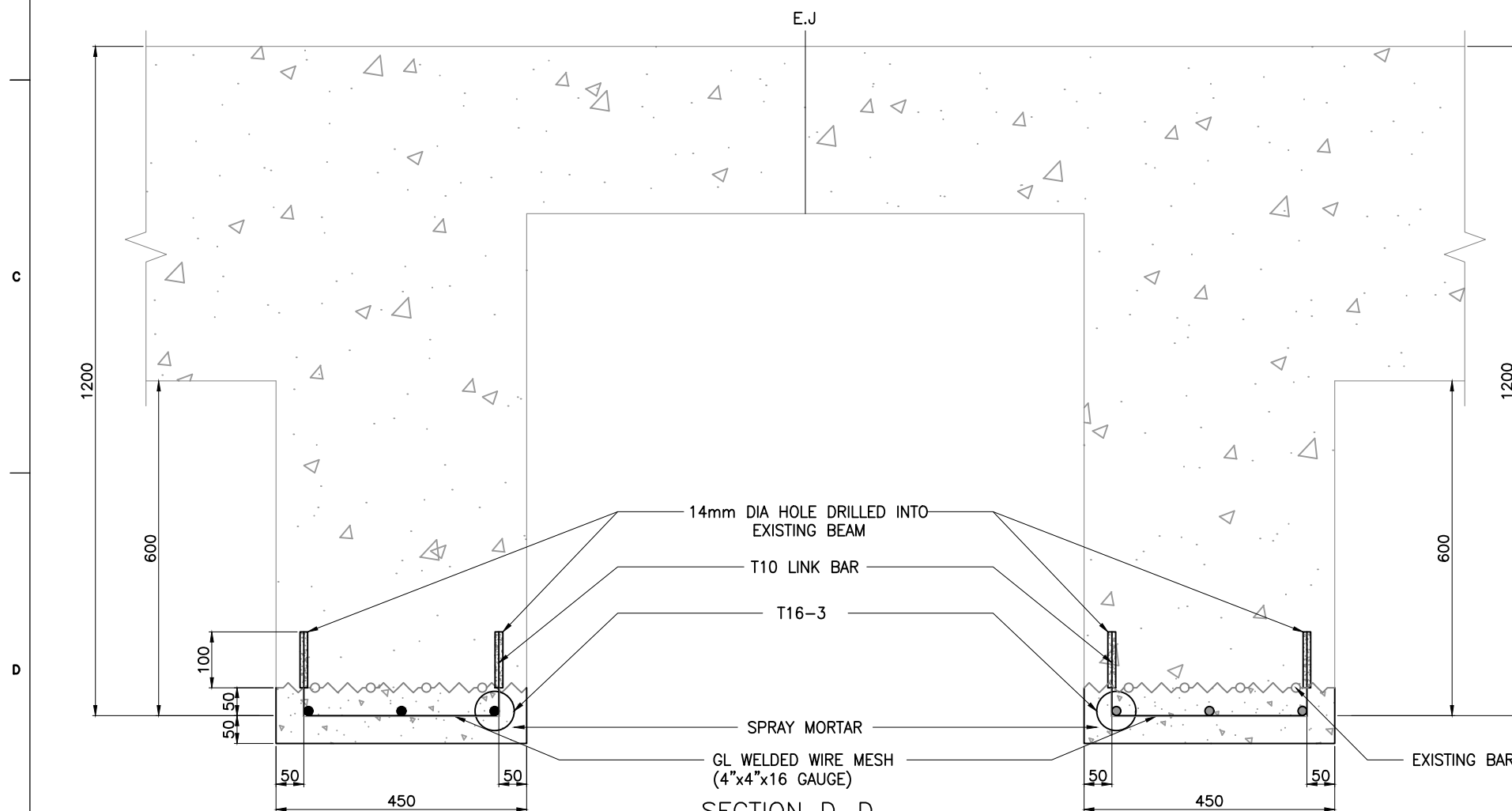
TOP DECK DEFECTS INDICATION PLAN

DRAWING NO. IITM-DPA-KAND-DWG-608	DATE: 30.03.24	REV: 0
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SECTION C-C
SCALE 1:30

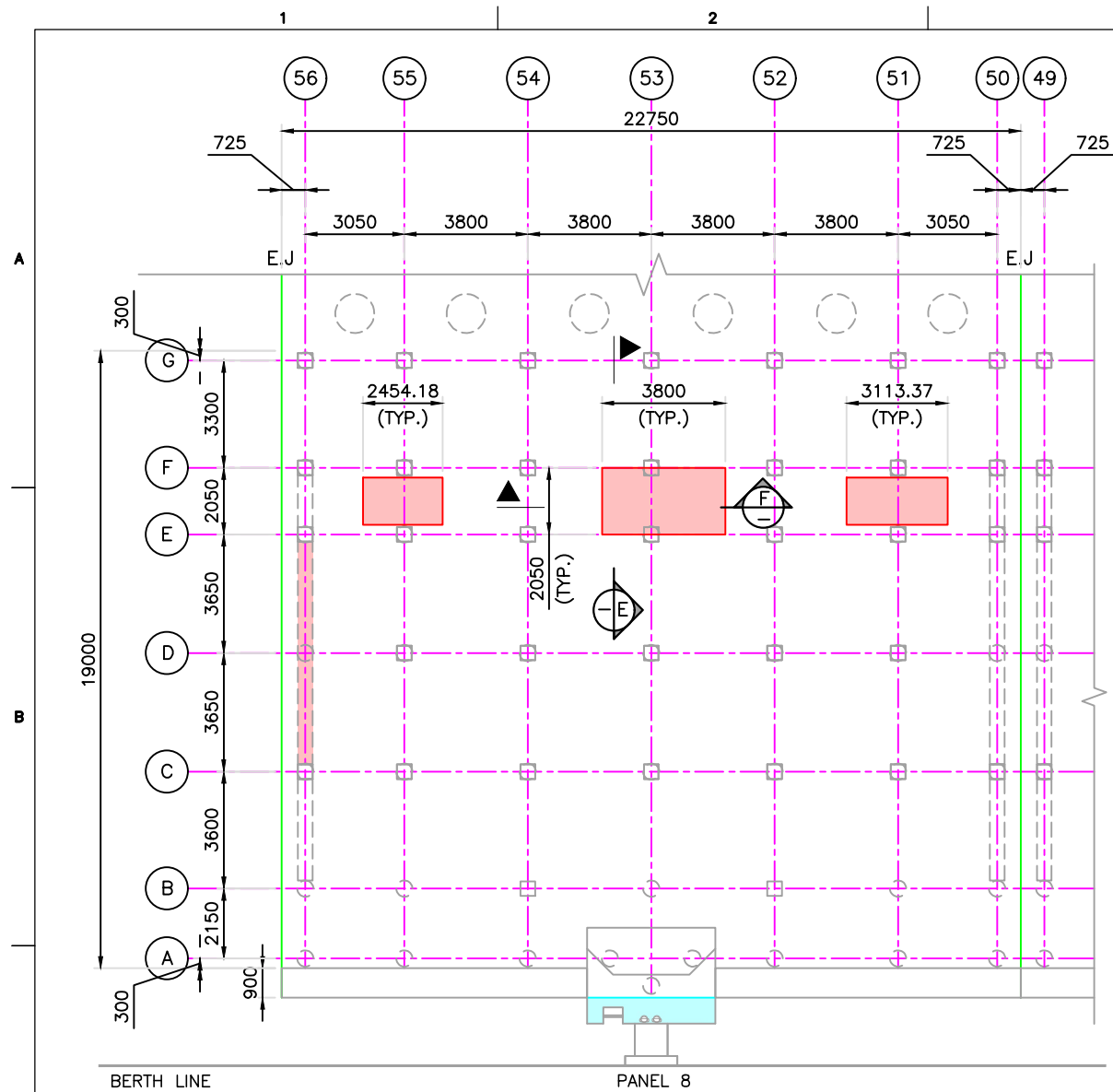


SECTION D-D
SCALE 1:10

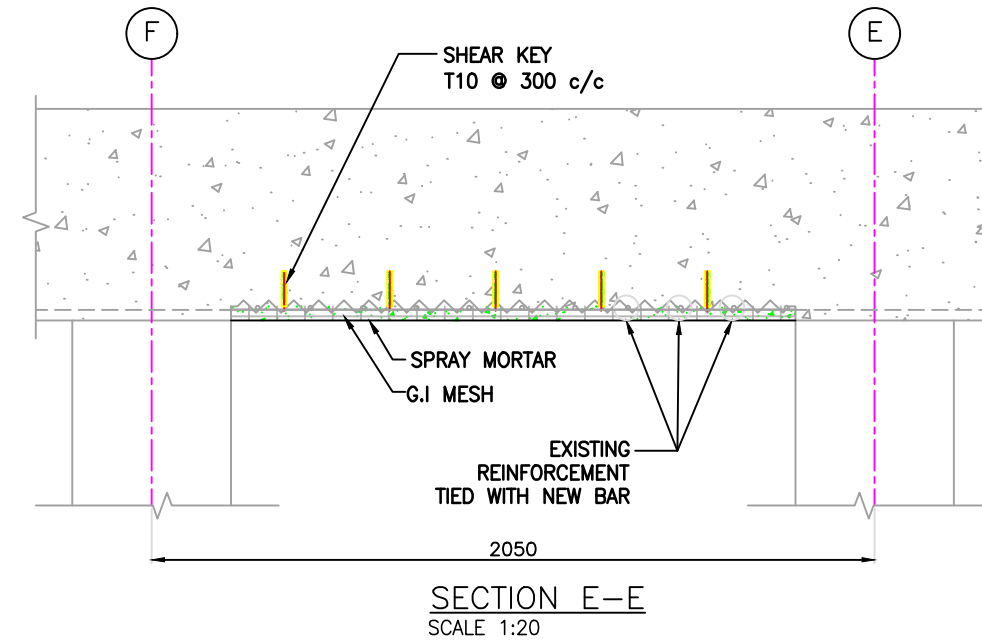
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

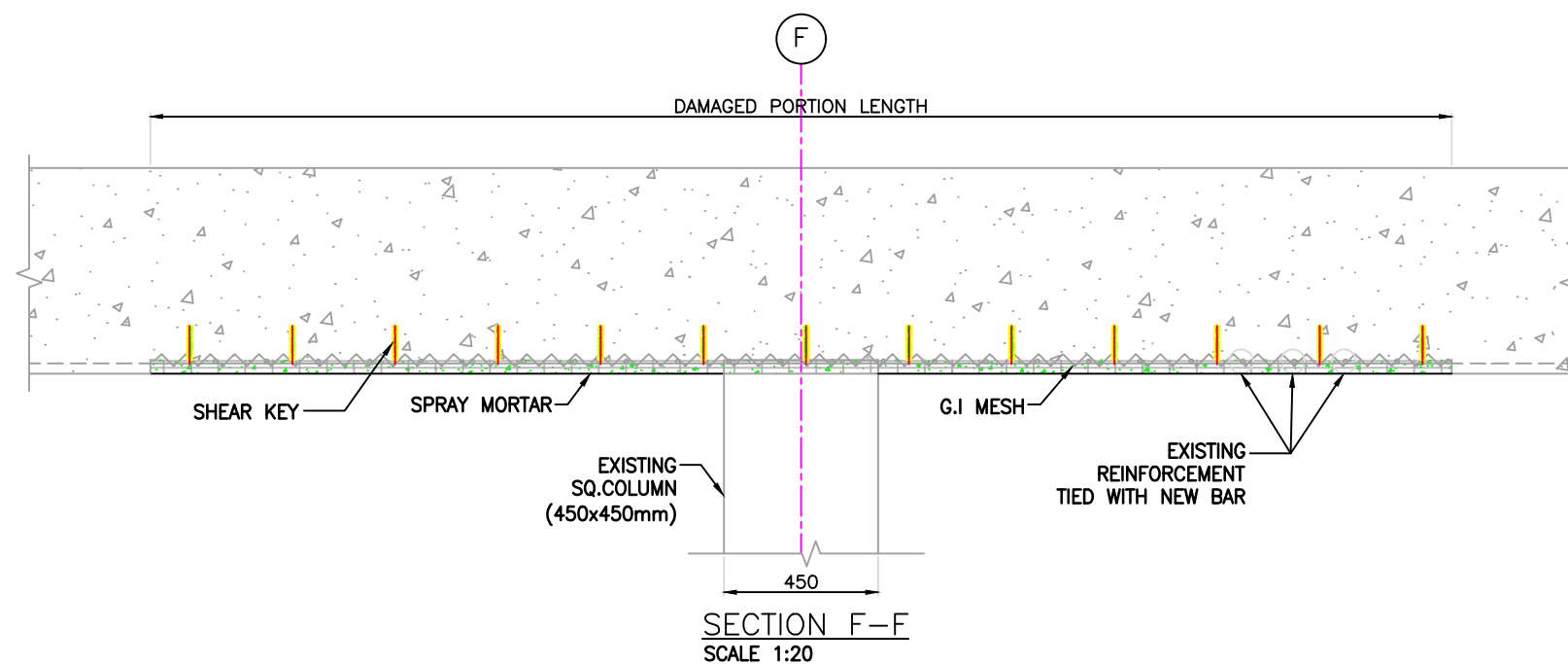
REV.	DATE	DESCRIPTION	EM	SN
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1			DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF E.J. CONNECTING BEAM DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-610			DATE: 30.03.24	
			REV: 0	



TYPICAL PLAN OF DECK SLAB BOTTOM DEFECTED PORTION
SCALE 1:200





SECTION E-E
SCALE 1:20

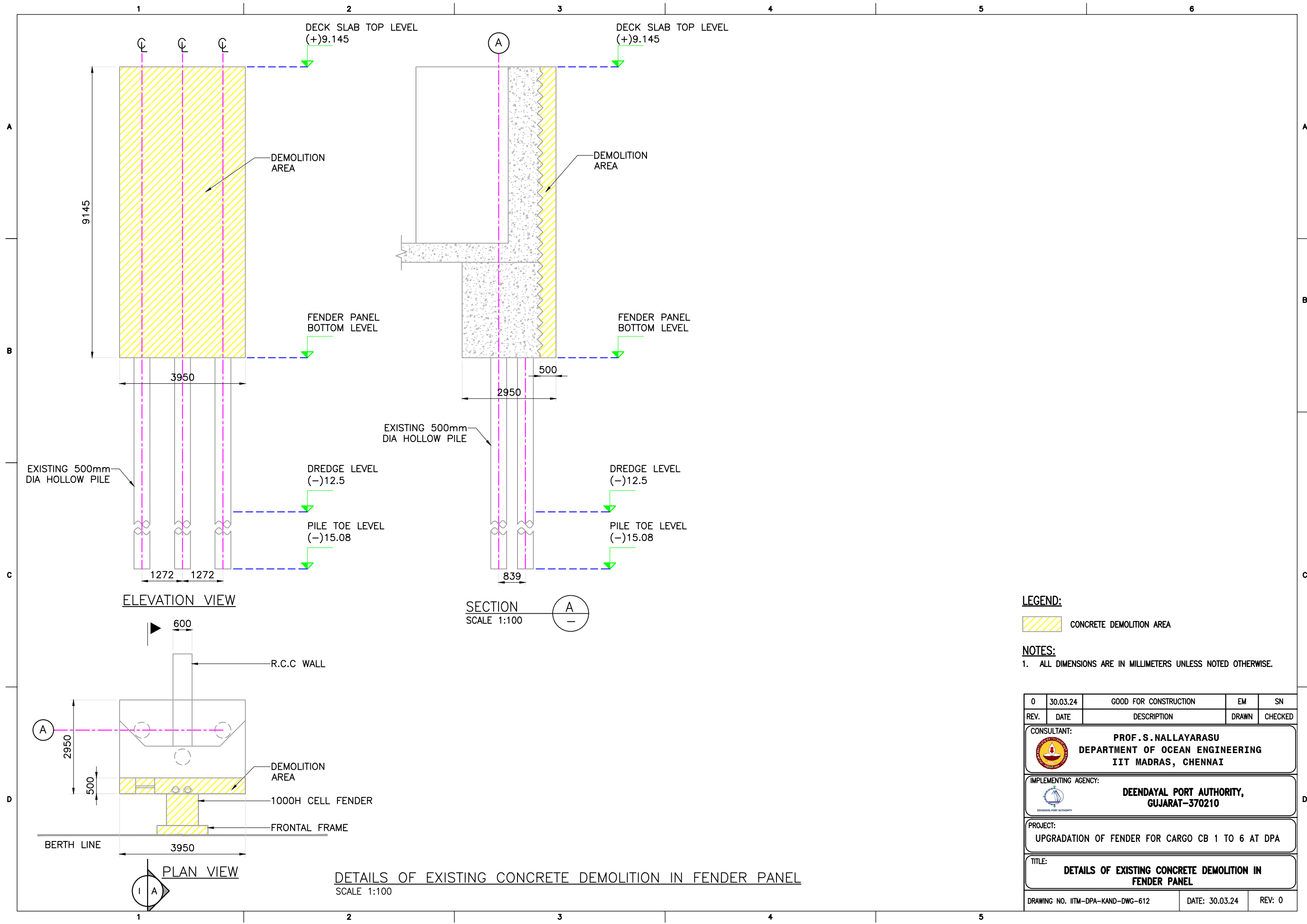


SECTION F-F
SCALE 1:20
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
 PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
 DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
TYPICAL REPAIR SCHEME OF DECK SLAB DEFECTS				
DRAWING NO. IITM-DPA-KAND-DWG-611			DATE: 30.03.24	REV: 0



LEGEND:

CONCRETE DEMOLITION AREA

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

REV.	DATE	DESCRIPTION	EM	SN
0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN

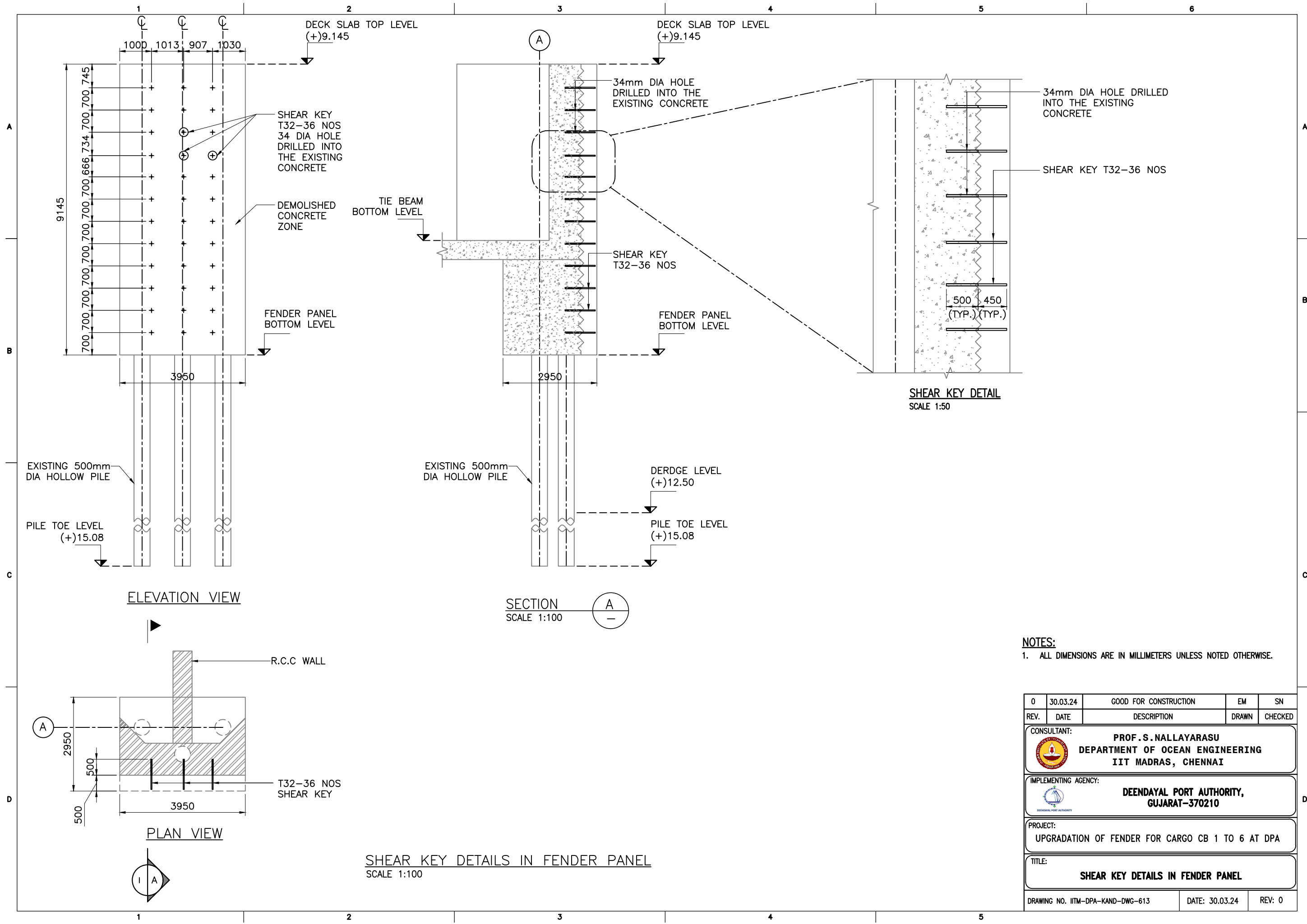
CONSULTANT: **PROF. S. NALLAYARASU**
DEPARTMENT OF OCEAN ENGINEERING
IIT MADRAS, CHENNAI

IMPLEMENTING AGENCY: **DEENDAYAL PORT AUTHORITY,**
GUJARAT-370210

PROJECT: **UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA**

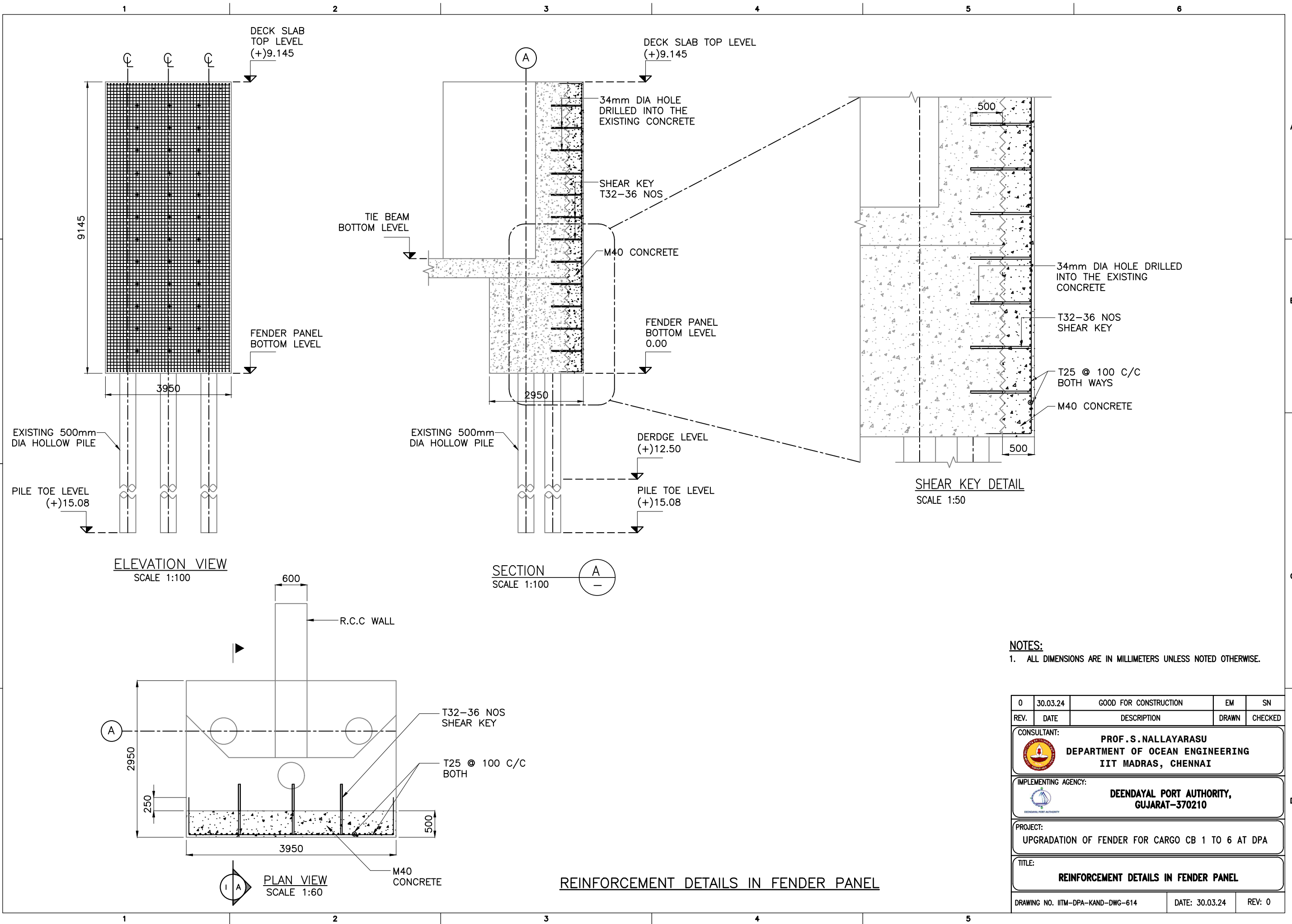
TITLE: **DETAILS OF EXISTING CONCRETE DEMOLITION IN FENDER PANEL**

DRAWING NO. IITM-DPA-KAND-DWG-612 DATE: 30.03.24 REV: 0





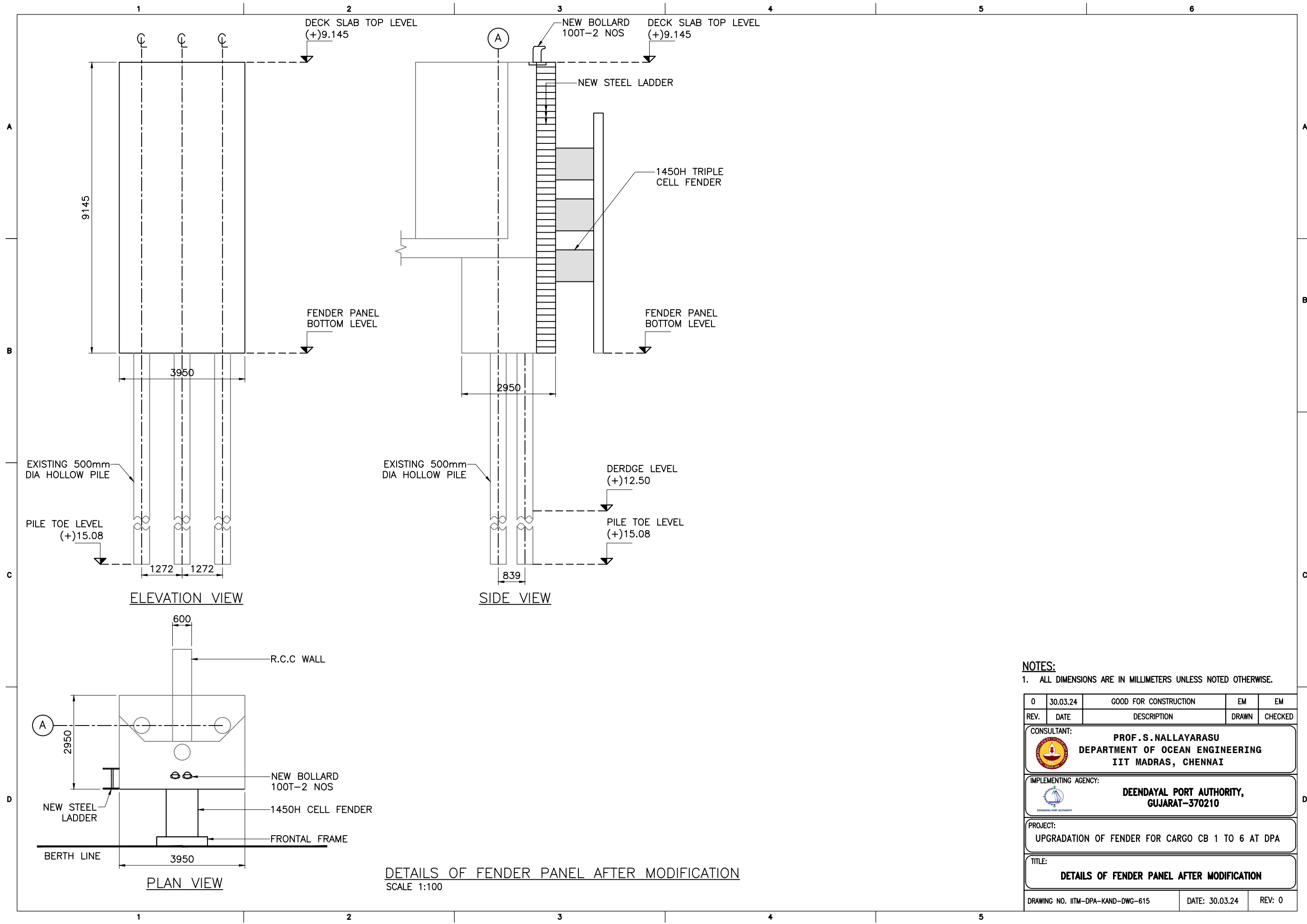
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:				
PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:				
DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT:				
UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE:				
SHEAR KEY DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-613			DATE: 30.03.24	REV: 0



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	SN
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT:  PROF. S. NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY:  DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: REINFORCEMENT DETAILS IN FENDER PANEL				
DRAWING NO. IITM-DPA-KAND-DWG-614			DATE: 30.03.24	REV: 0



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

0	30.03.24	GOOD FOR CONSTRUCTION	EM	EM
REV.	DATE	DESCRIPTION	DRAWN	CHECKED
CONSULTANT: PROF.S.NALLAYARASU DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI				
IMPLEMENTING AGENCY: DEENDAYAL PORT AUTHORITY, GUJARAT-370210				
PROJECT: UPGRADATION OF FENDER FOR CARGO CB 1 TO 6 AT DPA				
TITLE: DETAILS OF FENDER PANEL AFTER MODIFICATION				
DRAWING NO. IITM-DPA-KAND-DWG-615			DATE: 30.03.24	REV: 0