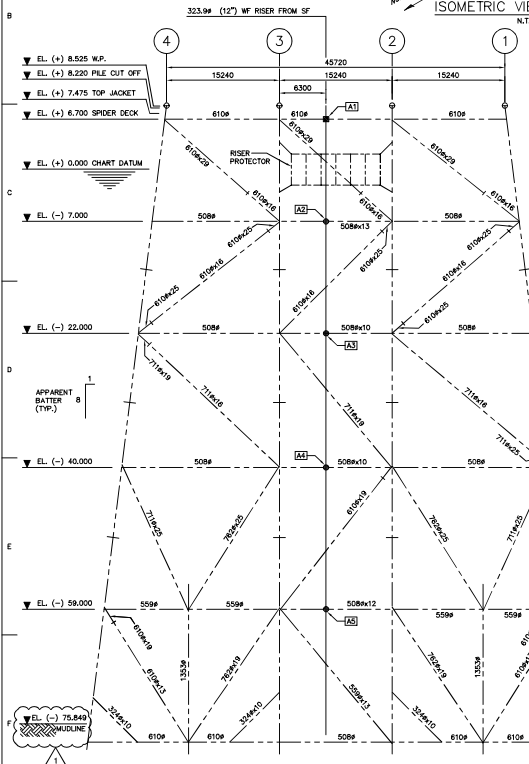
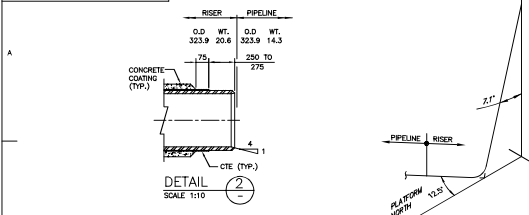
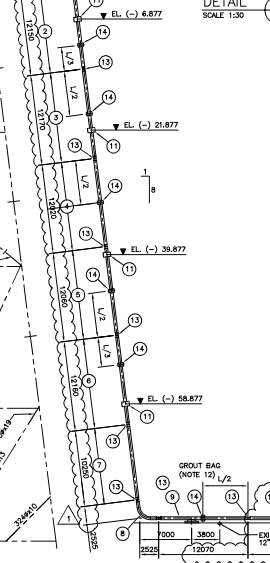
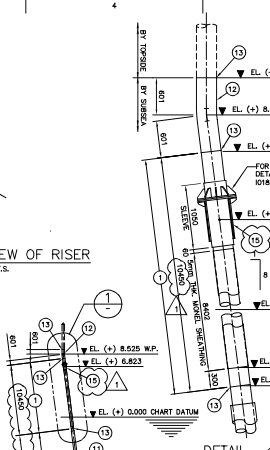


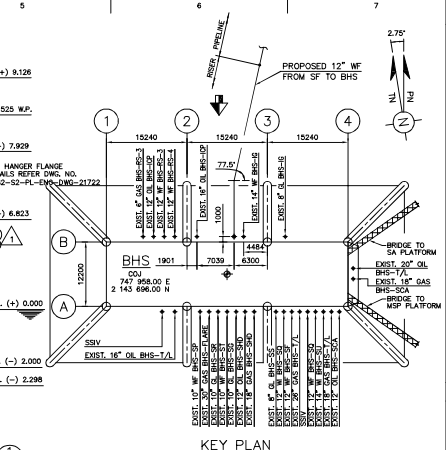
10182-S2-PL-ENG-DWG-21704
DRAWING NUMBER



ELEVATION AT ROW B
SCALE 1:250



12" WF RISER ELEVATION
SCALE 1:250



MATERIAL SCHEDULE FOR RISER				
NO.	DESCRIPTION	QTY.	APPROX. LENGTH	REMARKS
1	323.99 x 23.8 WT RISER PIPE WITH 5mm THK. MONEL SHEATHING AND HANGER SUPPORT	1	10.450m	MONEL SHEATHED PIPE
2	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.150m	CONCRETE COATED PIPE
3	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.170m	CONCRETE COATED PIPE
4	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.020m	CONCRETE COATED PIPE
5	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.060m	CONCRETE COATED PIPE
6	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.160m	CONCRETE COATED PIPE
7	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	10.250m	CONCRETE COATED PIPE LENGTH ADJUSTED BASED ON METROLOGY
8	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	-	BEND ANGLE 83.0°
9	323.99 x 20.6 WT RISER PIPE WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	12.070m	CONCRETE COATED PIPE
10	323.99 x 20.6 WT RISER PIPE (ZONE I) WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	9.450	CONCRETE COATED PIPE LENGTH ADJUSTED BASED ON METROLOGY
11	RISER GUIDES	4	-	FOR DETAILS REFER DWG. NO. 10182-S2-PL-ENG-DWG-21503
12	323.99 x 23.8 WT 50 TRANSITION BEND, 1619.5mm RADIUS, 1000mm TANGENT LENGTH WITH 4.75mm THK. CTE, 30mm CONCRETE COATING AND CENTRAL ANODE	1	-	BEND ANGLE 7.1° COATING TO COMPLY WITH ONGC SPECIFICATION 2005, REV-2
13	FIELD JOINT	12	-	TO COMPLY WITH ONGC SPECIFICATION 2005, REV-2
14	ANODES (TYPE 52-45)	6	-	470mm LONG EACH 35.8kg
15	HANGER SUPPORT	1	-	FOR DETAILS REFER DWG. NO. 10182-S2-PL-ENG-DWG-21502

12" WF RISER ELEVATION
SCALE 1:250

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES U.A.O.
- ALL LEVELS ARE WITH RESPECT TO CHART DATUM.
- INSTALLATION CONTRACTOR SHALL ENSURE THAT EDGE OF ALL ANODES AND FIELD JOINTS TO HAVE A MINIMUM CLEARANCE OF 500mm FROM THE EDGE OF CLAMP/JOINT.
- MONEL SHEATH FABRICATION CONTRACTOR SHALL USE RISER PIPE JOINT (LENGTH) OF MINIMUM LENGTH 10.30m FOR 12" WF RISER.
- CONTRACTOR TO ENSURE UNIFORM CONCRETE SURFACE FOR THE RISER PIPE FOR A PROPER FITUP OF RISER CLAMPS.
- INSTALLATION CONTRACTOR SHALL ENSURE THAT THE RISER IS ADJUSTEDLY BRACED (KNEE BRACE) AT RISER LOWER END AND SHALL REMAIN THE SAME AFTER INSTALLATION OF THE RISER AND RETRIEVE IT TO THE SURFACE (BID REQUIREMENT).
- THE OVERALL LENGTH OF RISER SECTION FROM HANGER CLAMP TO SEAMED LEVEL SHALL BE MEASURED PRIOR TO RISER ASSEMBLY.
- THE CONTRACTOR SHALL MEASURE THE PIPE JOINT LENGTHS AND MARK ON COATED PIPE JOINTS PRIOR TO TRANSPORTATION.
- NO. OF FIELD JOINTS INDICATED IN THE RISER MATERIAL SCHEDULE IS TENTATIVE AND MAY VARY DEPENDING ON FIELD MEASUREMENTS AND INDIVIDUAL RISER PIPE LENGTH. INSTALLATION CONTRACTOR SHALL SUBMIT THE FINAL RISER MAKE UP BASED ON THE PIPE LENGTH PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- JACKET ANODES, IF REQUIRED TO BE REMOVED FOR RISER INSTALLATION SHALL BE RE-LOCATED AT THE NEAREST SUITABLE LOCATION.
- PRIOR TO INSTALLATION OF RISER THE BRAT LANDING AND BARGE BUMPER SHALL BE REMOVED AND RE-INSTALLED AFTER RISER INSTALLATION AS PER BID REQUIREMENT.
- REFER TO DRAWING 10182-S2-PL-ENG-DWG-21600 FOR DROUT BAG SUPPORT DETAILS.

LEGEND

- - HANGER CLAMP (HC)
- - FIXED CLAMP (FC)
- - ADJUSTABLE CLAMP (AC)
- W.P. - WORKING POINT
- TN - TRUE NORTH
- PN - PLATFORM NORTH
- W - WATER INJECTION
- WF - WELL FLUID
- GL - GAS LIFT
- COU - CENTER OF JACKET

REFERENCE DRAWINGS/DOCUMENTS

S.NO.	DWG./DOC. NO.	REV. NO.	TITLE
1	10182-S2-PL-ENG-DWG-21501	-	DRAWING INDEX
2	10182-S2-PL-ENG-DWG-21502	-	RISER CLAMP DETAILS
3	10182-S2-PL-ENG-DWG-21503	-	TYPICAL KNEE BRACE DETAIL FOR RISER
4	10182-S2-PL-ENG-DWG-21504	-	RISER PIPE COATING SCHEDULE
5	10182-S2-PL-ENG-DWG-21505	-	PIPELINE ALIGNMENT 12" WF FROM SF TO BHS
6	10182-S2-PL-ENG-DWG-21506	-	BHS PLATFORM PIPELINE APPROACH AND DEPARTURE
7	10182-S2-PL-ENG-DWG-21507	-	BHS PLATFORM - LOCATION OF 12" WF RISER & RISER CLAMPS
8	10182-S2-PL-ENG-DWG-21508	-	BHS PLATFORM - 12" WF RISER HANG OFF ELEVATION DETAIL
9	10182-S2-PL-ENG-DWG-21509	-	12" WF FROM SF TO BHS PIPELINE CROSSING DETAILS

AS-BUILT

OWNER : OIL & NATURAL GAS CORPORATION LTD.
ONGC SECTION, EAC DIVISION

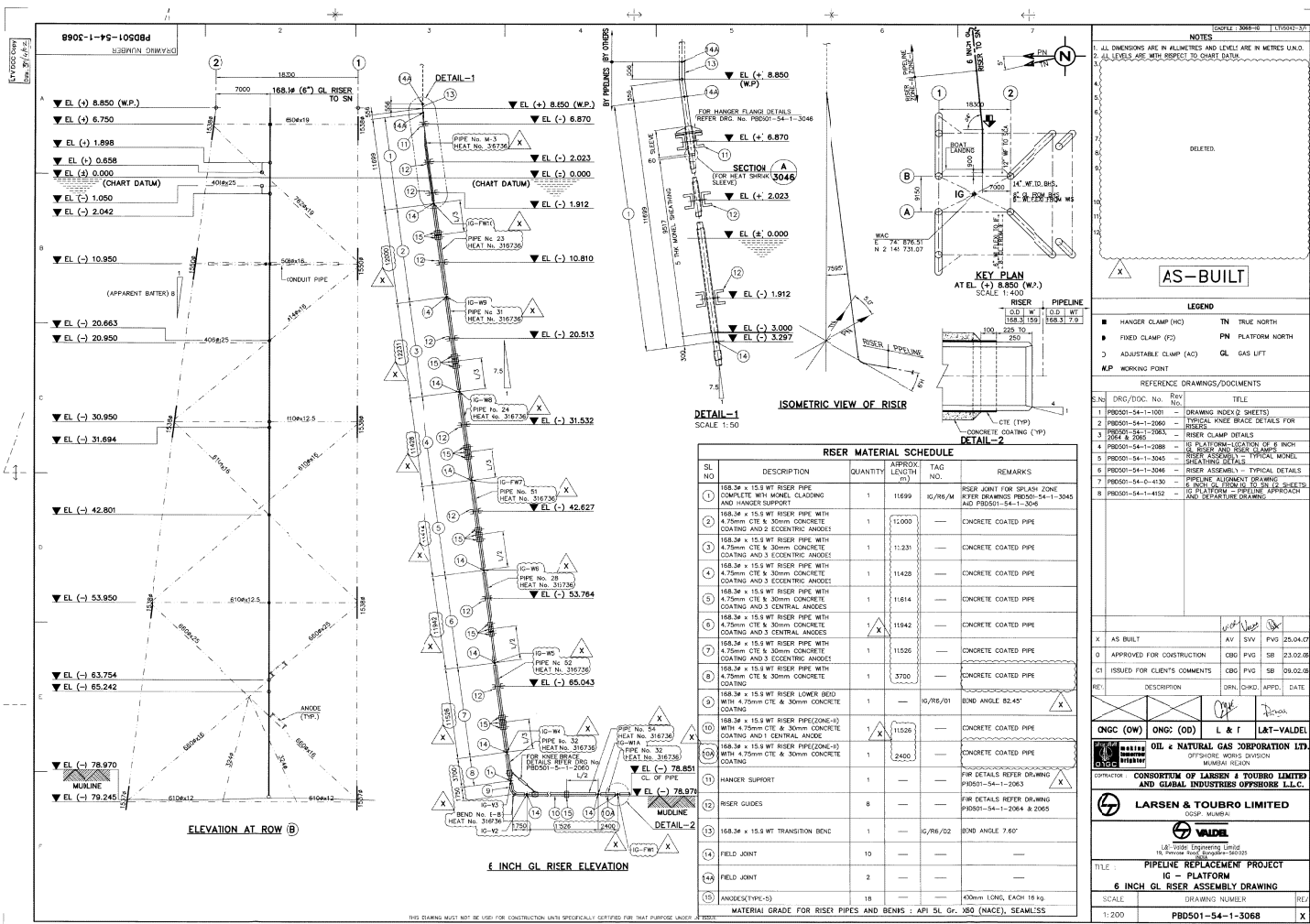
CONSULTANT : INTECSEA

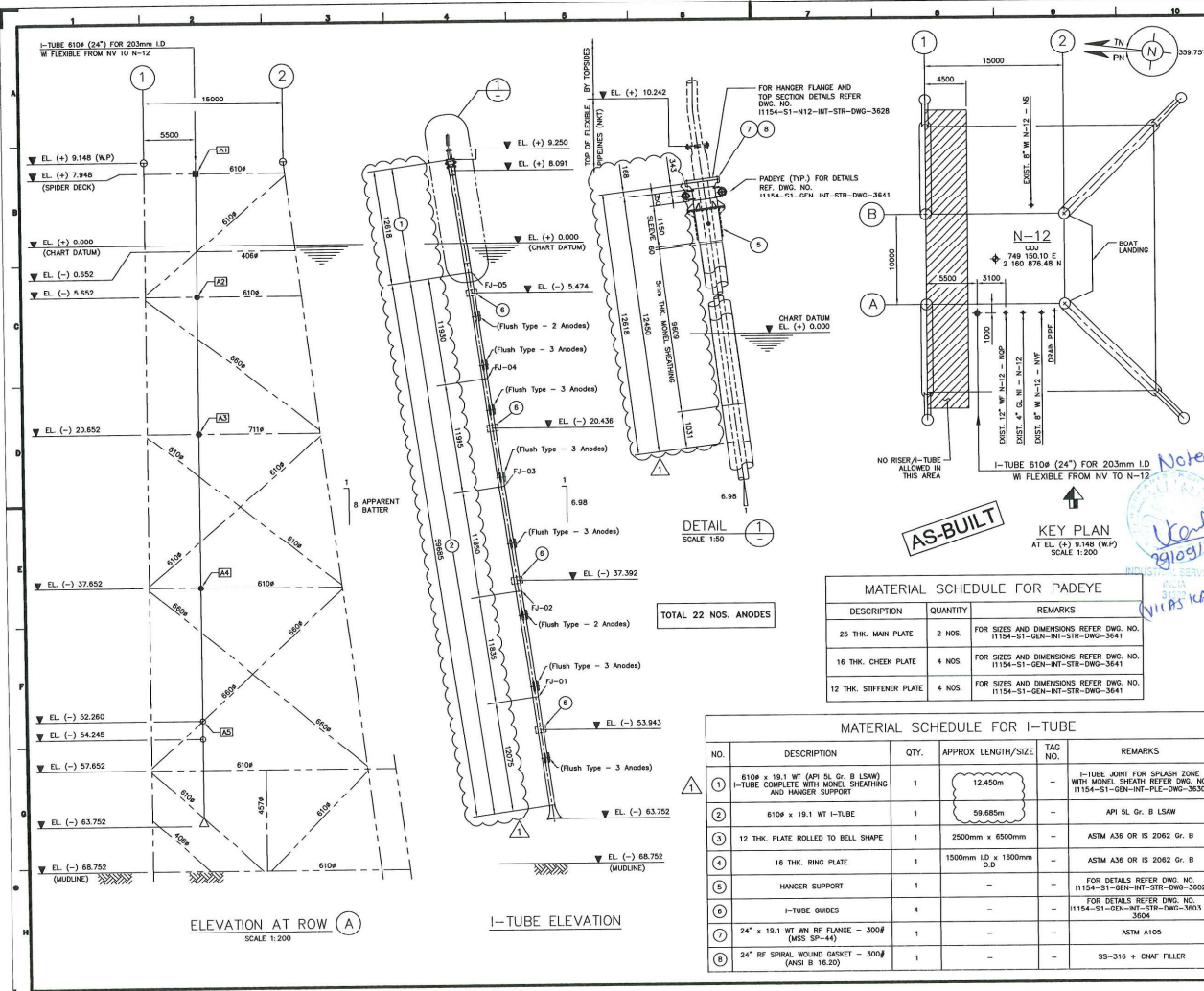
CONTRACTOR : LEIGHTON CONTRACTORS INDIA PVT. LTD.

PROJECT : PIPELINE REPLACEMENT PROJECT-2

TITLE : BHS PLATFORM
12" WF RISER ASSEMBLY

SCALE	DRAWING NUMBER	REV.
AS SHOWN	10182-S2-PL-ENG-DWG-21704	1





NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES U.N.O.
- ALL LEVELS ARE WITH RESPECT TO CHART DATUM.
- INSTALLATION CONTRACTOR SHALL ENSURE MINIMUM CLEARANCE OF 500mm (END TO END) BETWEEN THE FOLLOWING:
 - FIELD JOINT AND THE CLAMP
 - FIELD JOINT AND THE ANODE
 - CLAMP AND THE ANODE
- MONEL SHEATH FABRICATION CONTRACTOR SHALL USE I-TUBE JOINT (LENGTH) OF MINIMUM LENGTH 12.200m FOR 6109 I-TUBE.
- JACKET ANODES, IF REQUIRED TO BE REMOVED FOR I-TUBE INSTALLATION SHALL BE RE-LOCATED AT THE NEAREST SUITABLE LOCATION.
- PRIOR TO INSTALLATION OF I-TUBE THE BOAT LANDING AND BARGE BUMPER SHALL BE REMOVED AND RETAINED IF NECESSARY. THE BOAT LANDING AND BARGE BUMPER SHALL BE RE-INSTALLED AFTER I-TUBE INSTALLATION AS PER BIR REQUIREMENT.
- FOR QUANTITY AND LOCATION OF ANODES INSTALLED ON THE I-TUBE, REFER DRAWING NO. 11154-S1-N12-INT-STR-DWG-3624
- THE LOCATION OF THE EXISTING PLATFORMS AND PIPELINES ARE BASED ON THE UTM CO-ORDINATES ARE BASED ON THE EVEREST 1830 SPHEROID, UTM ZONE 42, CENTRAL MERIDIAN 89° EAST ON MUMBAI HIGH DATUM.

LEGEND

- - HANGER CLAMP (HC)
- - FIXED CLAMP (FC)
- - ADJUSTABLE CLAMP (AC)
- WP - WORKING POINT
- PN - TRUE NORTH
- PN - PLATFORM NORTH
- WI - WATER INJECTION
- WF - WELL FLUID
- UL - URS L1
- COJ - CENTER OF JACKET

REFERENCE DRAWINGS/DOCUMENTS

NO.	DESCRIPTION	REV.	DATE
1	AS BUILT	1	13.08.14
2	APPROVED FOR CONSTRUCTION	1	15.03.13
3	RE-ISSUED FOR CLIENT REVIEW	1	31.01.13
4	ISSUED FOR CLIENT REVIEW	1	23.10.12

REVISION

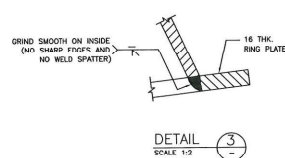
NO.	DESCRIPTION	REV.	DATE
1	AS BUILT	1	13.08.14
2	APPROVED FOR CONSTRUCTION	1	15.03.13
3	RE-ISSUED FOR CLIENT REVIEW	1	31.01.13
4	ISSUED FOR CLIENT REVIEW	1	23.10.12

PROJECT: PIPELINE REPLACEMENT PROJECT-3

TITLE: N-12 PLATFORM (203mm I.D. WI FROM NV TO N-12) 610mm O.D. I-TUBE ASSEMBLY SHEET 1 OF 2

SCALE: DRAWING NUMBER: 11154-S1-N12-INT-STR-DWG-3624-1

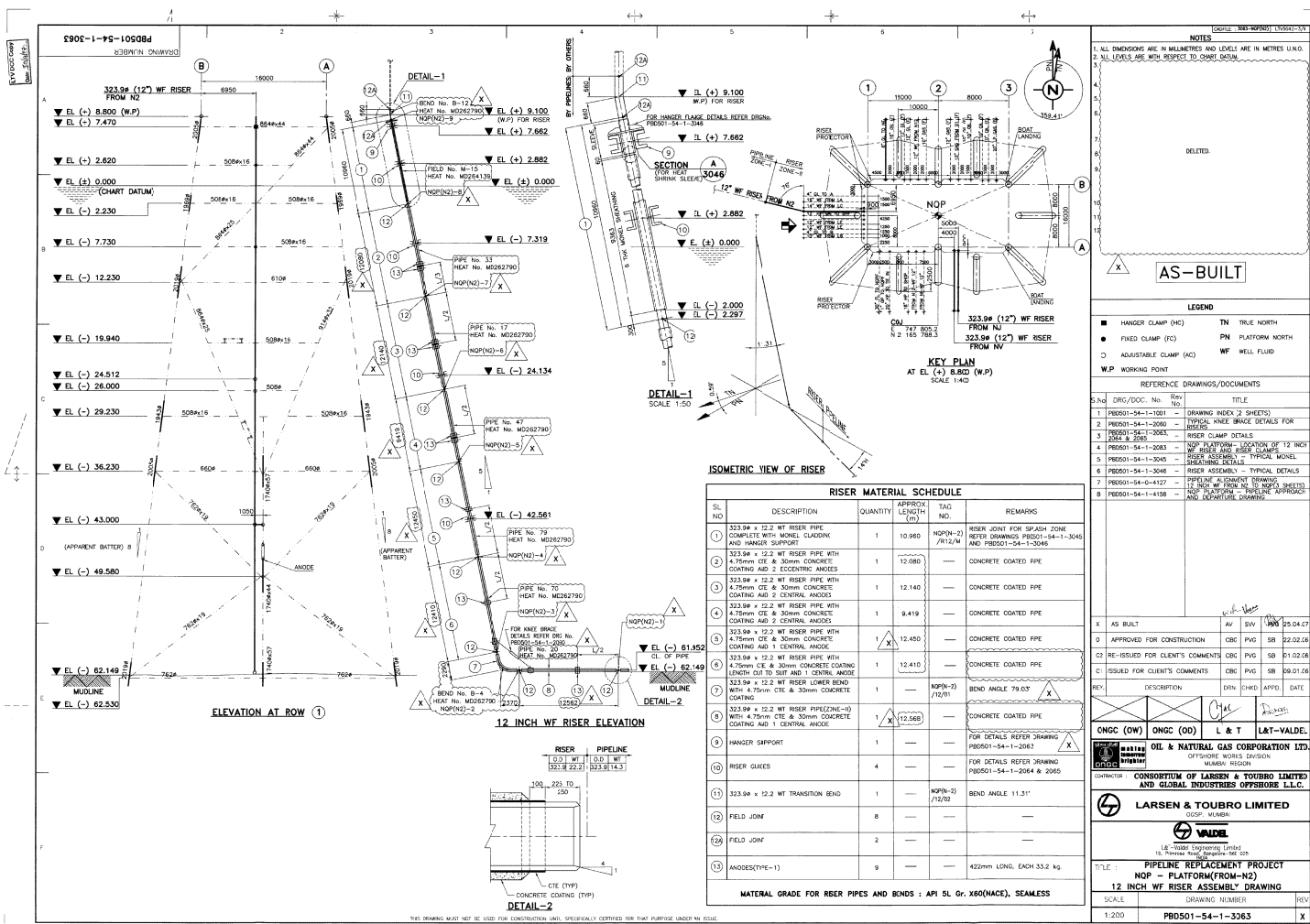
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DETAIL 3
SCALE 1:2

AS-BUILT

AS SHOWN	I1154-S1-N12-INT-STR-DWG-3624-2	1
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1012-S2-PL-ENG-DWG-21701

REVISION NUMBER

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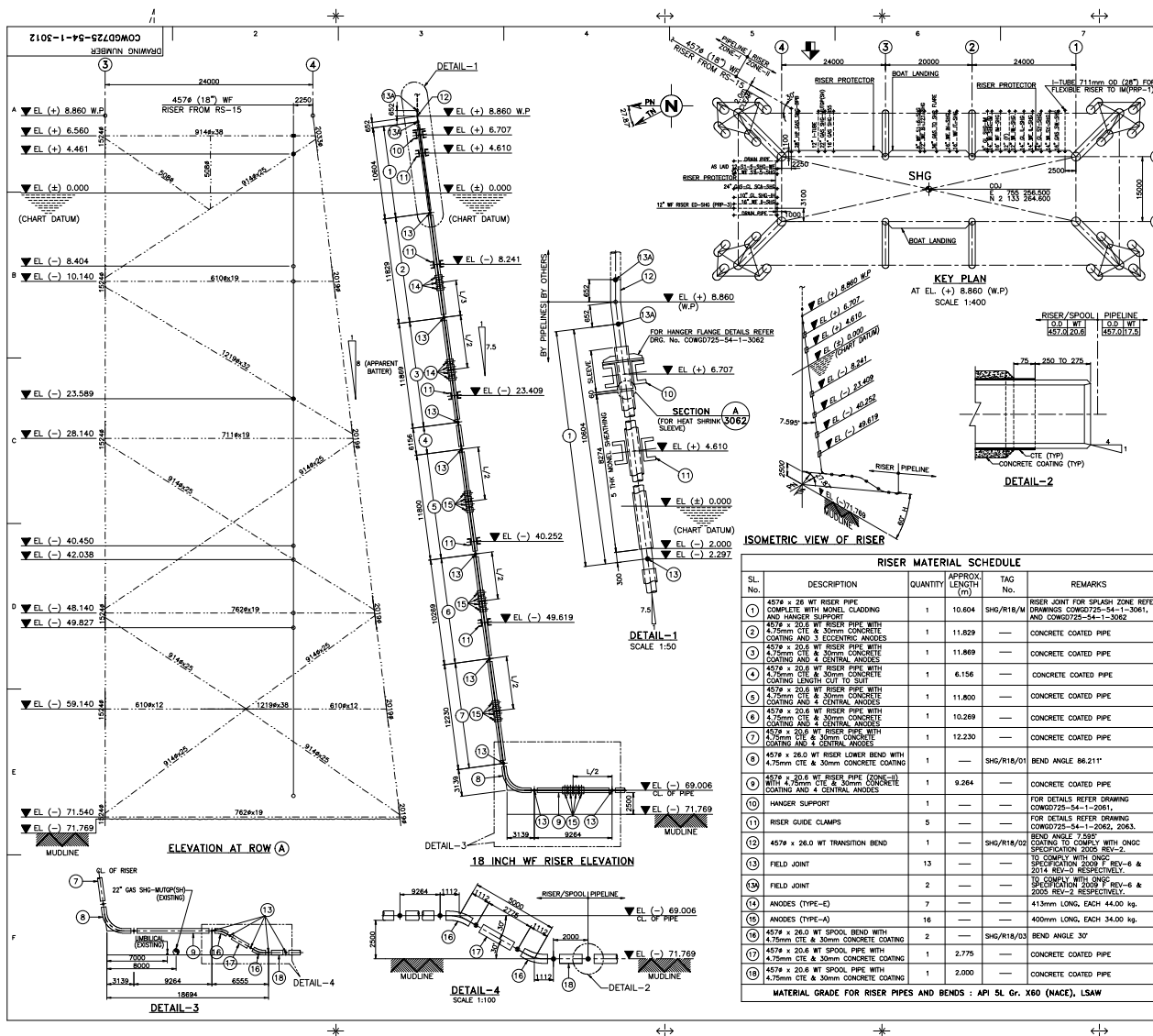
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FILE : 3012 - SHG

LTV-5042-1/20

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES U.N.O.

2. ALL LEVELS ARE WITH RESPECT TO CHART DATUM.

AS BUILT

LEGEND

Ø - DIAMETER

WT - WALL THICKNESS

mm - MILLIMETRE

TN - TRUE NORTH

W.C. - WELL ARRAY CENTER

W.P. - WORKING POINT

E.L. - ELEVATION

TYP - TYPICAL

WF - WELL FLUID

PN - PLATFORM NORTH

THK - THICKNESS

No. - NUMBER

kg - KILOGRAM

UNO - UNLESS NOTED OTHERWISE

REFERENCE DRAWINGS/DOCUMENTS

S.No.	DRG/DOC. No.	Rev	TITLE
1	COWG725-54-1-1000	1	DRAWING INDEX
2	COWG725-54-1-2012	1	SHG PLATFORM - LOCATION OF 18 INCH WF RISER AND RISER CLAMPS
3	COWG725-54-1-2061	1	RISER CLAMP DETAILS (FOR EXISTING PLATFORMS)
4	COWG725-54-1-2071	1	TYPICAL KNEE BRACE DETAILS FOR RISERS
5	COWG725-54-1-3061	1	RISER ASSEMBLY
6	COWG725-54-1-3062	1	RISER ASSEMBLY
7	COWG725-54-1-4021	1	PIPELINE ALIGNMENT DRAWING (18 INCH WF FROM RS-15 TO SHG (8 SHEETS))
8	COWG725-54-1-4022	1	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG (8 SHEETS))
9	2005	2	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG)
10	2009 F	6	FUNCTIONAL SPECIFICATION FOR SHG PLATFORM
11	2012	1	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG)
12	2013	1	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG)
13	2014	1	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG)
14	2015	1	SHG PLATFORM AND DEPARTURE DRAWING (18 INCH WF FROM RS-15 TO SHG)

X AS BUILT DRAWING

U SW PVG 23.06.09

0 APPROVED FOR CONSTRUCTION

AKH SW PVG 09.01.09

C2 REVISED AND RE-ISSUED FOR CLIENT'S COMMENTS

AKH SW PVG 12.11.08

C1 ISSUED FOR CLIENTS COMMENTS

AKH SW PVG 01.10.08

REV DESCRIPTION DRN DRG APPD DATE

LTV L&T ONGC-OD ONGC-OW

OIL & NATURAL GAS CORPORATION LTD. INDIA

LARSEN & TOUBRO LIMITED

OIL & GAS SPECIAL PROJECTS

VALE

L&T-Voidel Engineering Limited

15, Pinnas Road, Bangalore-560 025

PROJECT: MHS RE-DEVELOPMENT PROJECT PHASE-II

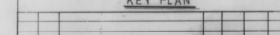
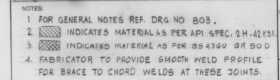
TITLE: SHG PLATFORM

18 INCH WF RISER ASSEMBLY DRAWING

SCALE: 1:200 TOTAL NO. OF SHTS: -

DRAWING NUMBER: COWG725-54-1-3012

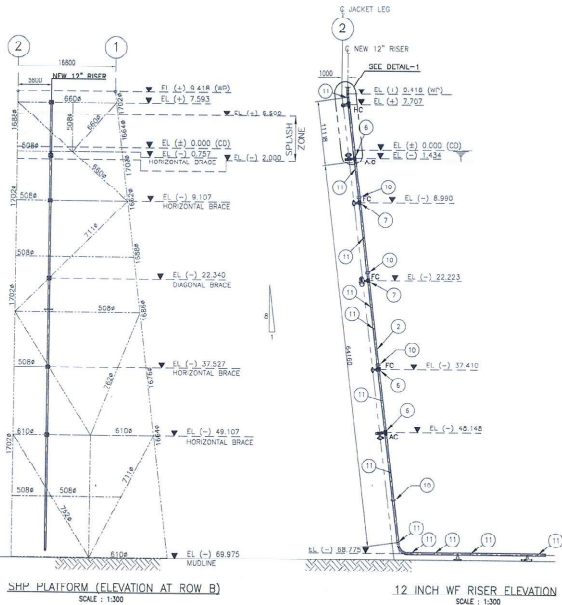
REV. X



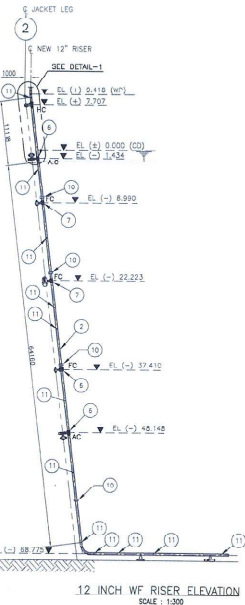
1	SHEET NO. 1 OF 1							DATE	BY	CHKD	APPD	BY
2	REVISIONS							BY	CHKD	APPD	BY	
OIL & NATURAL GAS COMMISSION BOMBAY INDIA												
HINDUSTAN SHIPYARD LTD. VISAKHAPATNAM INDIA												
IL WELL PLATFORM												
JACKET VERTICAL FRAMEWORK AT ROW# 1 & 2												
SCALE		JOB NO.		DRAWING NO.								
AS NOTED		2487		2487-48-IL-A-1-722								
EX-502		A-B4		DISTRIBUTION CODE								

CLIENT DRAWING NO. JPK DRAWING NO.

CT1800-11-J-DW-075 4-028-01-S-0-006

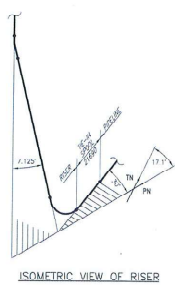


SHP PLATFORM (ELEVATION AT ROW B)
SCALE: 1:300

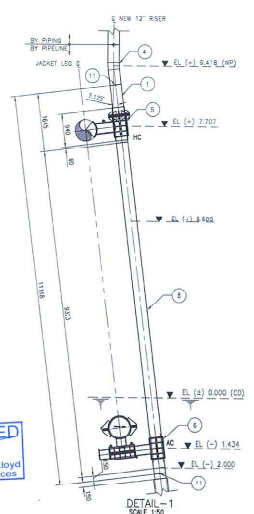


12 INCH WF RISER ELEVATION
SCALE: 1:300

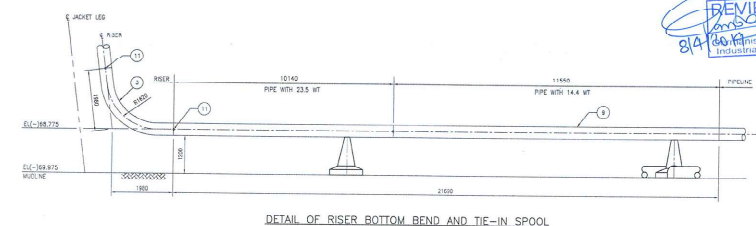
RISER MATERIAL SCHEDULE					
SL. NO.	DESCRIPTION	MATERIAL	QUANTITY	APPROX. LENGTH	TAG NO.
1	323.84 OD x 23.5 WT RISER PIPE COMPLETE WITH HANG-OFF SLEEVE (WITH DIFFUSER)	API 5L Q-X80 NACE	1	1.083m	-
2	323.84 OD x 23.5 WT RISER PIPE WITH 3 mm SLIP COATING & 30 mm CONCRETE COATING	API 5L Q-X80 NACE	1	64.988m (5x12.2m)	-
3	323.84 OD x 23.5 WT RISER BOTTOM BEND WITH 4 mm ALUM. COATING & 30 mm CONCRETE WITH 500 mm HANG-OFF LENGTH	API 5L Q-X80 NACE	1	83.8-85.0m	-
4	323.84 OD x 23.5 WT TRANSITION BEND WITH 500 mm HANG-OFF LENGTH	API 5L Q-X80 NACE	1	7.104 m 0m 12-21.5	-
5	HANGER CLAMP	-	1	-	-
6	BOLTED ADJUSTABLE CLAMP	-	2	-	-
7	BOLTED FIXED CLAMP	-	3	-	-
8	323.84 OD x 23.5 WT SPLASH-ZONE RISER PIPE COMPLETE WITH 30mm THK. HOLES, SPOILING	API 5L Q-X80 NACE	-	8.323m	-
9	323.84 OD x 23.5 WT SPOOL WITH 3 mm SLIP COATING & 30 mm CONCRETE COATING	API 5L Q-X80 NACE	-	-	-
10	BRACKET ANGLE PIPE 6 50mm Long x 20mm THK. PLACED AT 90° PIPE JOINT	-	4	-	-
11	FIELD WELD WITH FIELD JOINT COATING	-	12	-	-



ISOMETRIC VIEW OF RISER

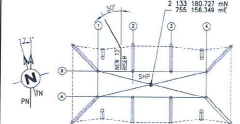


DETAIL-1
SCALE: 1:50



DETAIL OF RISER BOTTOM BEND AND TIE-IN SPOOL
SCALE: 1:50

- NOTES**
- ALL DIMENSIONS ARE IN mm AND ELASTICITY ARE IN METERS WITH RESPECT TO CHART DATUM.
 - ALL RISER PIPE MATERIAL IS IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV.4 AND ITS ADDENDUM.
 - RISER TRANSITION AND RISER BOTTOM BEND IS IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV.2.
 - RISER CORROSION COATING IS 3PP IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV.2.
 - WELD SPOILING OF RISER WITHIN SPLASH ZONE IS 20mm THICK IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV.2.
 - FIELD JOINT COATING IS IN ACCORDANCE WITH COMPANY SPECIFICATION 6-11-0000 REV.2 AND ITS ADDENDUM.
 - FOR DETAILS OF RISER CLAMPS REFER TO STRUCTURAL CLAMP DRAWING: CT1800-11-J-DW-0713.
 - RISER SECTION ABOVE SPLASH ZONE IS PAINTED/COATED AS PER COMPANY NO. 2. ANNEXURE-A 800-800-18-11-00-01.
 - ANNEXURE-A TO DESIGN CRITERIA FOR CLUSTER-7 PROJECT.
 - ALL DIMENSIONS, ELEVATIONS AND PIPELINE BEARING IS VERIFIED BASED ON PRE-CONSTRUCTION SURVEY AND JACKET FACE SURVEY.
 - WHENEVER WELDING OF PIPES OF DIFFERENT WALL THICKNESS ARE INVOLVED, A MINIMUM TAPER IS PROVIDED AT THE WELDING END OF THE HIGHER THICKNESS PIPE/BEND.
 - THE NEW 12" RISER AT SHP PLATFORM IS INSTALLED AS THE REPLACEMENT OF 14" W. RISER.
 - FINAL RISER ELEVATION IS AS PER SITE CONDITION.



- REFERENCE DRAWINGS**
- | NO. | DRAWING TITLE | NO. |
|-----|--|---------------------|
| 1 | SHP PLATFORM PIPELINE APPROACH AND DEPARTURE | CT1800-11-J-DW-0807 |
| 2 | OVERALL FIELD LAYOUT | CT1800-11-J-DW-0801 |
| 3 | TYPICAL RISER HANGER TUNNEL LAYOUT | CT1800-11-J-DW-0710 |
| 4 | RISER CLAMP DETAIL FOR 12" WT RISER AT SHP PLATFORM | CT1800-11-J-DW-0713 |
| 5 | PIPELINE TIE-IN SPOOL AT SHP PLATFORM 12" WT FROM BEE TO SHP | CT1800-11-J-DW-0817 |
| 6 | PIPELINE APPROACH FOR 12" WT FROM BEE TO SHP | CT1800-11-J-DW-0815 |
| 7 | PIPELINE CROSSING DETAIL (BEE - SHP PIPELINE) | CT1800-11-J-DW-0815 |

NO.	REVISIONS	DATE	BY	CHKD	APPD
1	AS BUILT	08/04/2014	V. PALANDE		

CT1800-11-J-DW-075	4-028-01-S-0-006
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Oil and Natural Gas Corporation Ltd., India

Swiber Consortium of Swiber Offshore India Pvt. Ltd & Swiber Offshore Construction Pte. Ltd.

Trading Division of PT WOOD GROUP INDONESIA

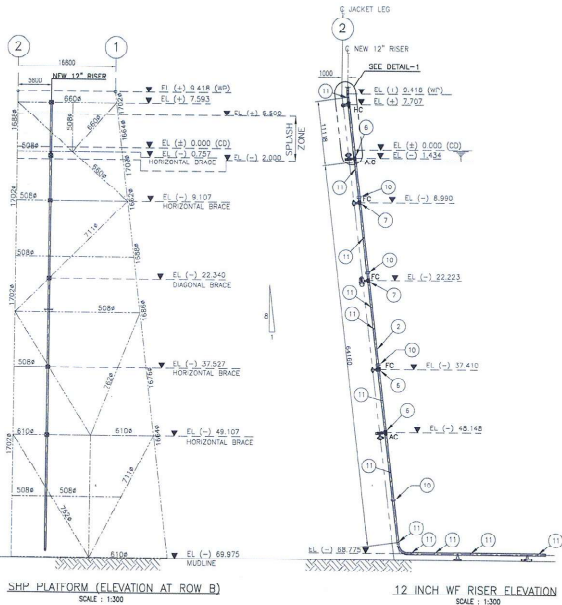
PROJECT TITLE: CLUSTER-7 PIPELINES PROJECT
DRAWING TITLE: RISER ASSEMBLY FOR 12" RISER AT SHP PLATFORM

SCALE	DRAWING NO.	SHEET NO.	TOTAL
AS SHOWN	CT1800-11-J-DW-075	1 OF 1	2

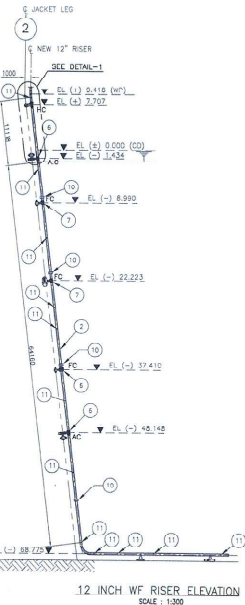
REVIEWED AND WITNESSED
VINOD V. PALANDE 08/04/2014
For INDIAN REGISTER OF SHIPPING

CLIENT DRAWING NO. JPK DRAWING NO.

CT1800-11-J-DW-075 4-028-01-S-0-006

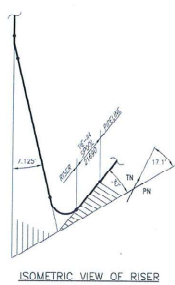


SHP PLATFORM (ELEVATION AT ROW B)
SCALE: 1:300

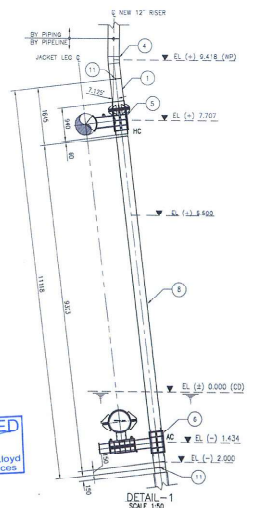


12 INCH WF RISER ELEVATION
SCALE: 1:300

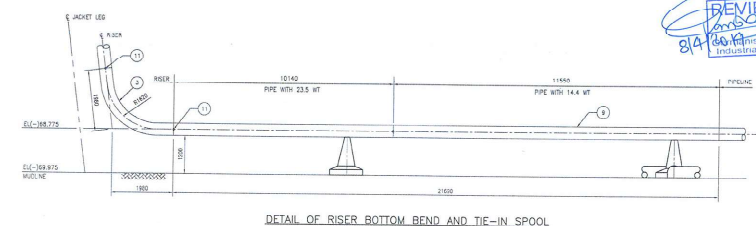
RISER MATERIAL SCHEDULE					
SL. NO.	DESCRIPTION	MATERIAL	QUANTITY	APPROX. LENGTH	TAG NO.
1	323.84 OD x 23.5 WT RISER PIPE COMPLETE WITH HANG-OFF SLEEVE (WITH DIFFUSER)	API 5L Q-X80 NACE	1	1.083m	-
2	323.84 OD x 23.5 WT RISER PIPE WITH 3 mm SLPP COATING & 30 mm CONCRETE COATING	API 5L Q-X80 NACE	1	64.988m (5x12.2m)	-
3	323.84 OD x 23.5 WT RISER BOTTOM BEND WITH 4 mm ALUM. COATING & 30 mm CONCRETE WITH 500 mm HANG-OFF LENGTH	API 5L Q-X80 NACE	1	83.8-85.0m	-
4	323.84 OD x 23.5 WT TRANSITION BEND WITH 500 mm HANG-OFF LENGTH	API 5L Q-X80 NACE	1	7.104 m 0m 12-21.5	-
5	HANGER CLAMP	-	1	-	-
6	BOLTED ADJUSTABLE CLAMP	-	2	-	-
7	BOLTED FIXED CLAMP	-	3	-	-
8	323.84 OD x 23.5 WT SPLASH-ZONE RISER PIPE COMPLETE WITH 30mm THK. HOLES, SPOILING	API 5L Q-X80 NACE	-	8.323m	-
9	323.84 OD x 23.5 WT SPOOL WITH 3 mm SLPP COATING & 30 mm CONCRETE COATING	API 5L Q-X80 NACE	-	-	-
10	BRACKET ANGLE PIPE 6 50mm Long x 20mm THK. PLACED AT 90° PIPE JOINT	-	4	-	-
11	FIELD WELD WITH FIELD JOINT COATING	-	12	-	-



ISOMETRIC VIEW OF RISER

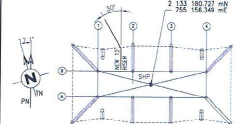


DETAIL-1
SCALE: 1:50

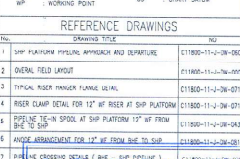


DETAIL OF RISER BOTTOM BEND AND TIE-IN SPOOL
SCALE: 1:50

- NOTES**
- ALL DIMENSIONS ARE IN mm AND ELASTICITY ARE IN METERS WITH RESPECT TO CHART DATUM.
 - ALL RISER PIPE MATERIAL IS IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV. 4 AND ITS ADDENDUM.
 - RISER TRANSITION AND RISER BOTTOM BEND IS IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV. 2.
 - RISER CORROSION COATING IS 3PP IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV. 2.
 - WELD SPOILING OF RISER WITHIN SPLASH ZONE IS 20mm THICK IN ACCORDANCE WITH COMPANY SPECIFICATION NO. 8-11-0000 REV. 2.
 - FIELD JOINT COATING IS IN ACCORDANCE WITH COMPANY SPECIFICATION 6-11-0000 REV. 2 AND ITS ADDENDUM.
 - FOR DETAILS OF RISER CLAMPS REFER TO STRUCTURAL CLAMP DRAWING: CT1800-11-J-DW-0713.
 - RISER SECTION ABOVE SPLASH ZONE IS PAINTED/COATED AS PER COMPANY NO. 2. ANNEXURE-A 800-800-18-11-00-01.
 - ANNEXURE-A TO DESIGN CRITERIA FOR CLUSTER-7 PROJECT.
 - ALL DIMENSIONS, ELEVATIONS AND PIPELINE BEARING IS VERIFIED BASED ON PRE-CONSTRUCTION SURVEY AND JACKET FACE SURVEY.
 - WHENEVER WELDING OF PIPES OF DIFFERENT WALL THICKNESS ARE INVOLVED, A MINIMUM TAPER IS PROVIDED AT THE WELDING END OF THE HIGHER THICKNESS PIPE/BEND.
 - THE NEW 12" RISER AT SHP PLATFORM IS INSTALLED AS THE REPLACEMENT OF 14" W. RISER.
 - FINAL RISER ELEVATION IS AS PER SITE CONDITION.



- REFERENCE DRAWINGS**
- | NO. | DRAWING TITLE | NO. |
|-----|--|---------------------|
| 1 | SHP PLATFORM PIPELINE APPROACH AND DEPARTURE | CT1800-11-J-DW-0807 |
| 2 | OVERALL FIELD LAYOUT | CT1800-11-J-DW-0801 |
| 3 | TYPICAL RISER HANGER TUNNEL LAYOUT | CT1800-11-J-DW-0710 |
| 4 | RISER CLAMP DETAIL FOR 12" WT RISER AT SHP PLATFORM | CT1800-11-J-DW-0713 |
| 5 | PIPELINE TIE-IN SPOOL AT SHP PLATFORM 12" WT FROM BEE TO SHP | CT1800-11-J-DW-0817 |
| 6 | PIPELINE APPROACH FOR 12" WT FROM BEE TO SHP | CT1800-11-J-DW-0815 |
| 7 | PIPELINE CROSSING DETAIL (BEE - SHP PIPELINE) | CT1800-11-J-DW-0815 |



REV.	DATE	REVISIONS	BY	CHKD.	APPD.
1	08/04/2014	AS-BUILT FOR CONSTRUCTION	SV	SV	SV
2	08/04/2014	APPROVED FOR CONSTRUCTION	SV	SV	SV
3	08/04/2014	REVISED FOR APPROVAL	SV	SV	SV
4	08/04/2014	REVISED FOR COMMENT	SV	SV	SV
5	08/04/2014	REVISED FOR QC	SV	SV	SV

AS BUILT

Oil and Natural Gas Corporation Ltd., India

Swiber Consortium of Swiber Offshore India Pvt. Ltd & Swiber Offshore Construction Pte. Ltd.

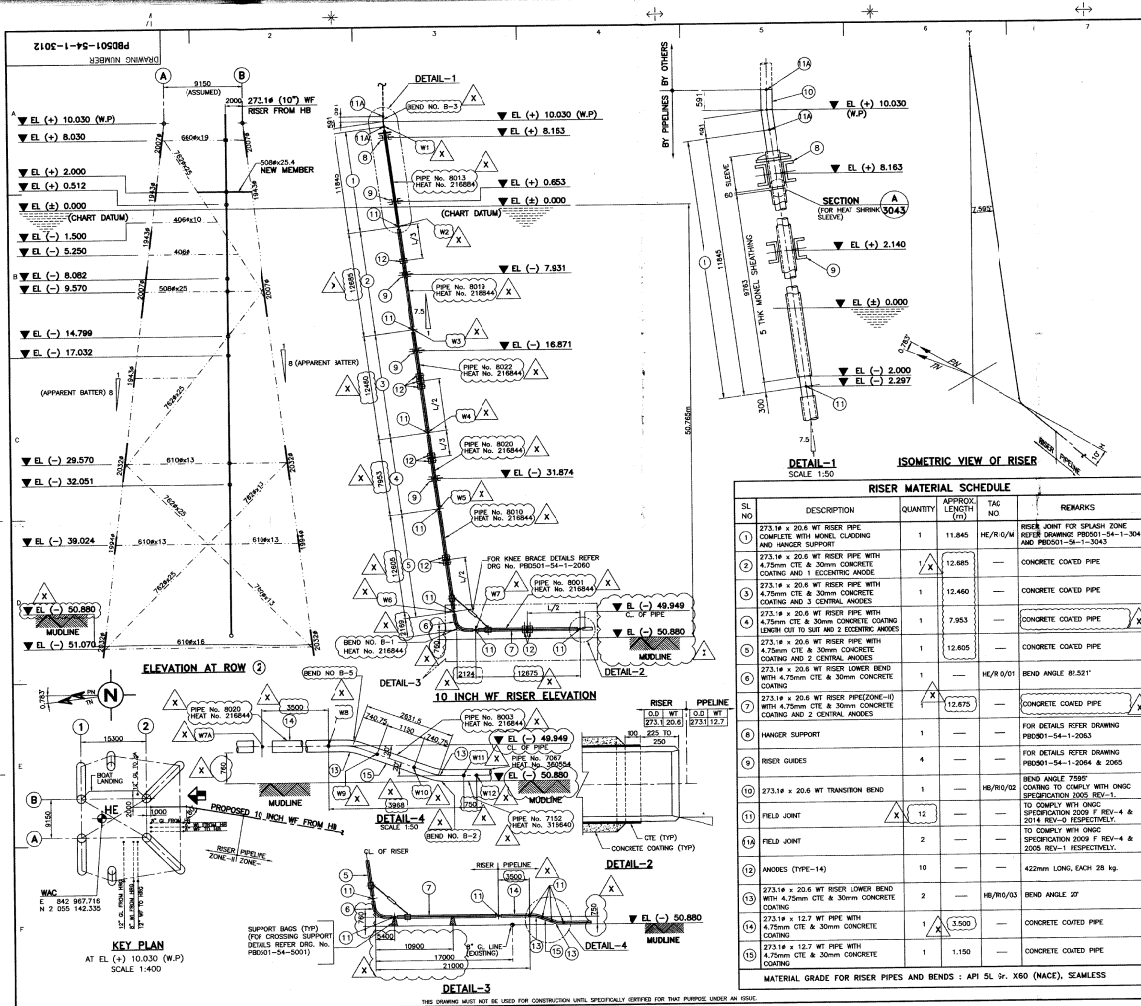
Trading Division of PT WOOD GROUP INDONESIA

PROJECT TITLE: CLUSTER-7 PIPELINES PROJECT

DRAWING TITLE: RISER ASSEMBLY FOR 12" RISER AT SHP PLATFORM

SCALE: 1:300 SHEET NO. 1 OF 2

REVIEWED AND WITNESSED
VINOD V. PALANDE 08/04/2014
For INDIAN REGISTER OF SHIPPING



DATE: 2012-06-11 TIME: 10:50:30

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES U.N.D.
2. ALL LEVELS ARE WITH RESPECT TO CHART DATUM.

DELETED

AS-BUILT

LEGEND

- HANGER CLAMP (HC) TN TRUE NORTH
- FIXED CLAMP (FC) PN PLATFORM NORTH
- ADJUSTABLE CLAMP (AC) WF WELL FULLED

W.P. WORKING POINT

REFERENCE DRAWINGS/DOCUMENTS

S.N.	DRG./DOC. No.	Rev.	TITLE
1	PBD001-54-1-1000	1	DRAWING INDEX (3 SHEETS)
2	PBD001-54-1-1001	1	HE PLATFORM - LOCATION OF RISER AND BRACE
3	PBD001-54-1-1002	1	RISER CLAMP DETAILS
4	PBD001-54-1-1003	1	TYPICAL KNEE BRACE DETAILS FOR RISER
5	PBD001-54-1-1004	1	RISER ASSEMBLY - TYPICAL DETAILS
6	PBD001-54-1-1005	1	RISER ASSEMBLY - TYPICAL DETAILS
7	PBD001-54-1-1006	1	RISER ASSEMBLY - TYPICAL DETAILS
8	PBD001-54-1-1007	1	RISER ASSEMBLY - TYPICAL DETAILS
9	PBD001-54-1-1008	1	RISER ASSEMBLY - TYPICAL DETAILS
10	2009 F	A	ONDC GENERAL SPECIFICATION FOR INSTALLATION OF RISER
11	2012	A	ONDC GENERAL SPECIFICATION FOR INSTALLATION OF RISER
12	2013	A	ONDC GENERAL SPECIFICATION FOR INSTALLATION OF RISER
13	2014	0	ONDC GENERAL SPECIFICATION FOR INSTALLATION OF RISER
14	2015	1	ONDC GENERAL SPECIFICATION FOR INSTALLATION OF RISER

X	AS BUILT	SW	PWG	SB	16.09.09
0	APPROVED FOR CONSTRUCTION	SW	PWG	SB	16.11.10
C2	RE-ISSUED FOR CLIENT'S COMMENTS	SW	PWG	SB	02.11.11
C1	ISSUED FOR CLIENT'S COMMENTS	SW	PWG	SB	15.07.11
REV.	DESCRIPTION	DRN.	CHKD.	APPR.	DATE

ONDC (OW)	ONDC (OD)	L & T	LRT-YALDEN
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ONGC (OW) ONDC (OD) L & T LRT-YALDEN

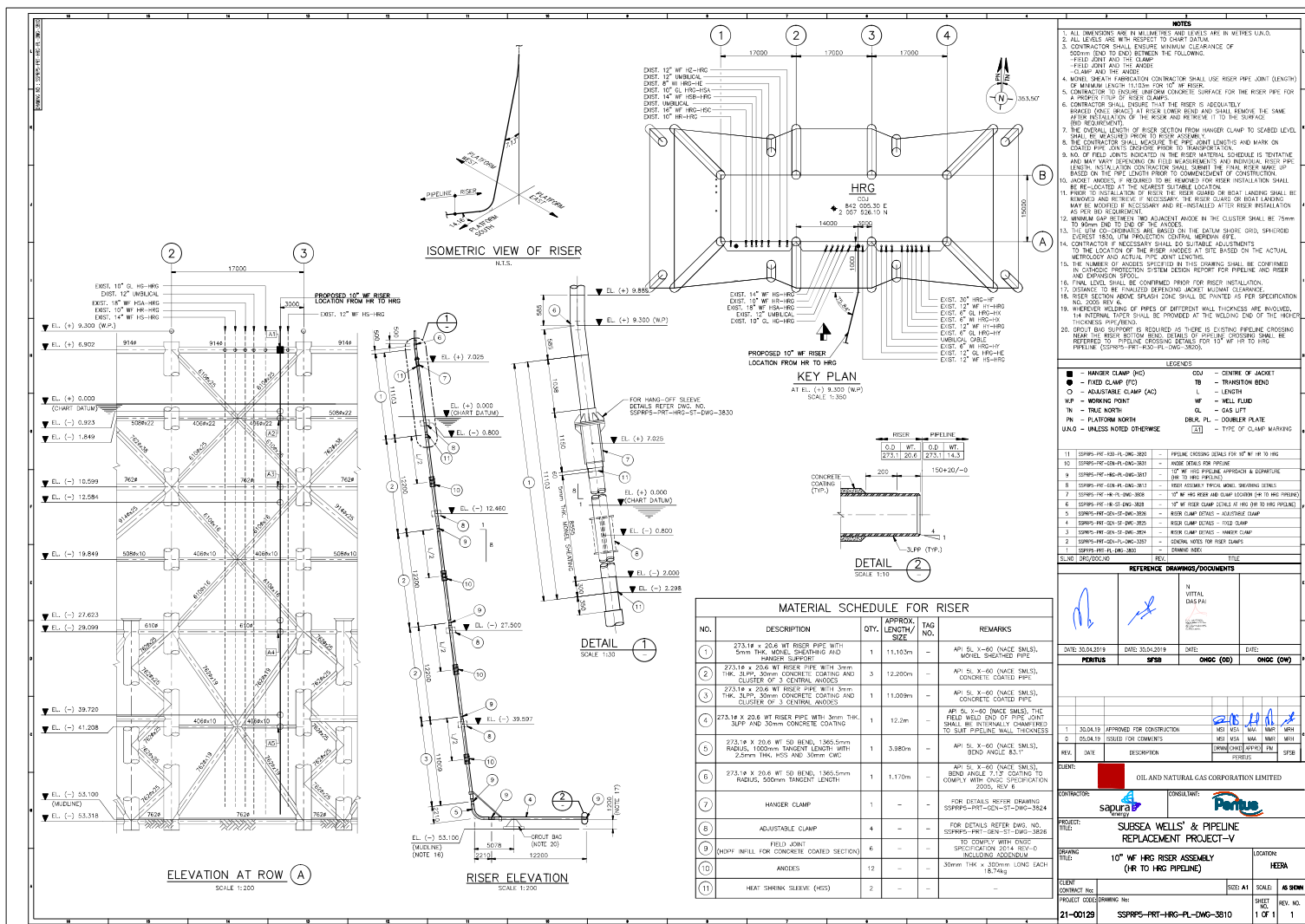
OIL & NATURAL GAS CORPORATION LIMITED
OFFICE OF THE DIRECTOR, MUMBAI REGION
MUMBAI REGION

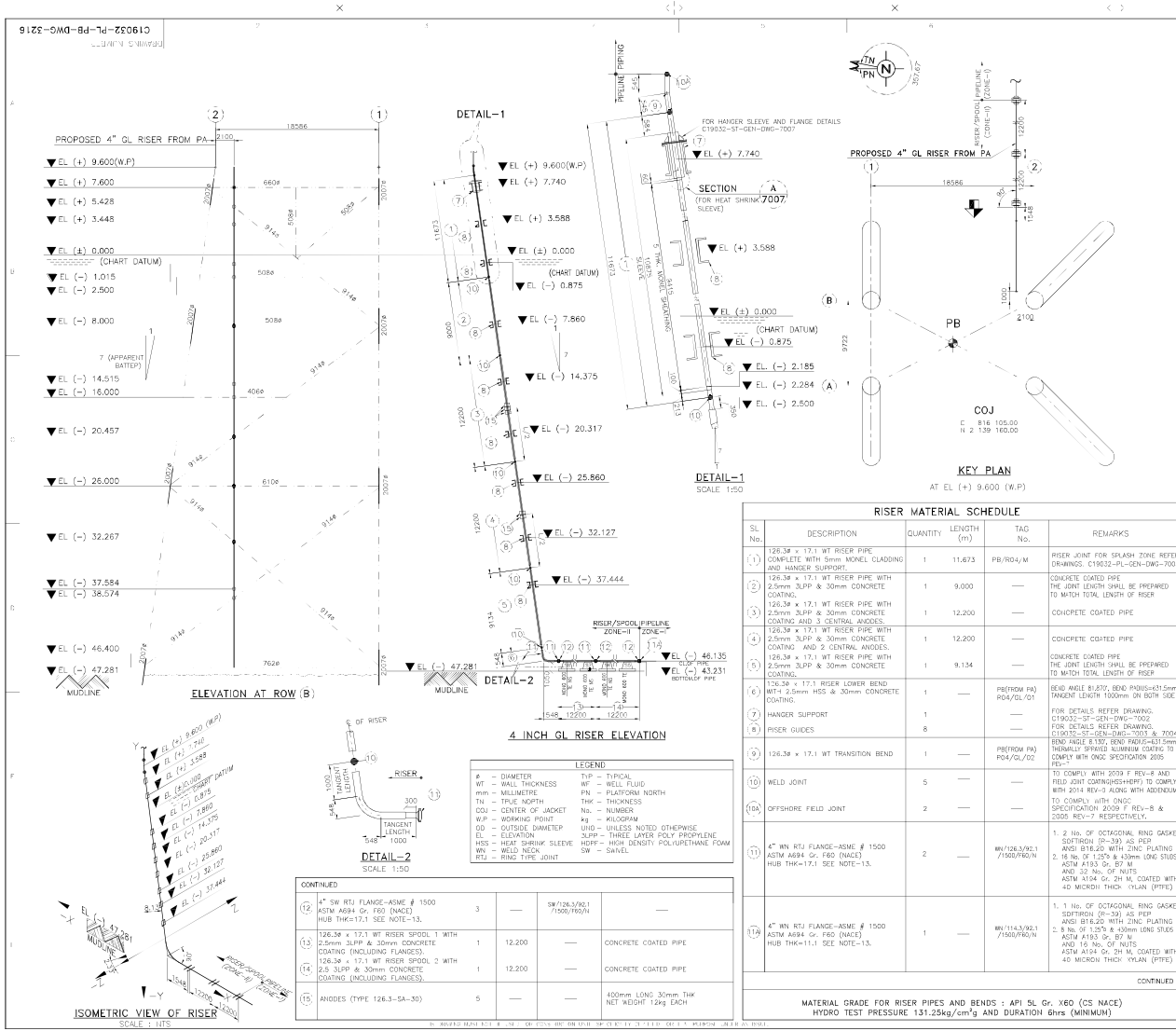
CONTRACTOR: **CONSOLIDATOR OF LARSEN & TOUBRO LIMITED AND GLOBAL INDUSTRIES OFFSHORE I.L.C.**

LARSEN & TOUBRO LIMITED



100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

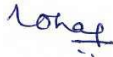
TITLE:	PIPELINE REPLACEMENT PROJECT HE PLATFORM
SCALE	DRAWING NUMBER
1:200	PBD001-54-1-3012






C19032-PL-PB-DWG-3216		NOTES	
1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METRES (W.L.D.).			
2. ALL LEVELS ARE WITH RESPECT TO CHART DATUM.			
3. THE UTM COORDINATES ARE BASED ON THE EVEREST 1830 SPHEROID.			
4. GIRTH MEASUREMENTS OF RISER SHALL BE TAKEN AT THE PROPOSED RISER CLAMPS AT A DISTANCE OF MIN 500mm TO THE EXTENT POSSIBLE.			
5. AVERAGE LENGTH OF PIPE JOINT IS CONSIDERED AS 12.2m.			
6. MONEL SHEATH FABRICATION CONTRACTOR SHALL USE RISER PIPE JOINT LENGTH OF MINIMUM LENGTH 11.673 m FOR 4 INCH GL PB RISER.			
7. WELD-CONCRETE AND CONCRETE COATING CONTRACTOR TO ENSURE UNIFORM CONCRETE SURFACE FOR THE RISER PIPE FOR A PROPER FIT OF RISER CLAMPS.			
8. THE JACKET ANODES SHALL BE SUITABLY MOVED/RE-LOCATED TO AVOID INTERFERENCE WITH THE CLAMPS FOR THE PROPOSED RISER.			
9. MONEL PLUG AND NUTS SHALL BE ORIENTED FACING OUTSIDE JACKET.			
10. NO. OF FIELD JOINTS INDICATED IN THE RISER MATERIAL SCHEDULE IS TENTATIVE AND MAY VARY DEPENDING ON FIELD MEASUREMENTS AND INDIVIDUAL RISER PIPE LENGTH. INSTALLATION CONTRACTOR SHALL SUBMIT THE FINAL RISER MAKE UP BASED ON THE PIPE LENGTH PRIOR TO COMMENCEMENT OF FABRICATION.			
11. THE OVERALL LENGTH OF RISER SECTION FROM HAUSER CLAMP TO SEALED LEVEL SHALL BE MEASURED PRIOR TO RISER ASSEMBLY.			
12. ORIENTATION & CO-ORDINATES OF (PB) PLATFORM IS BASED ON AS-BUILT DATA AND AS GIVEN IN THE BID DOCUMENT.			
13. ALL THE SUBSEA FLANGES SHALL BE COATED WITH LIQUID EPOXY EXTERNALLY. LFT OF COATING SHALL BE 45 MICRON (MINIMUM).			
14. RISER COATING SYSTEM IS OF ONC 2005 REV 7. THERE SHALL BE NO COATING APPLIED ON THE FLANGE FACE. SURFACE PREPARATION SHALL BE DONE EITHER POWER BRUSH OR MANUAL BRUSH CLEANING. THE LIQUID EPOXY COATING SHALL BE APPLIED BY BRUSH EITHER IN ONE COAT OR TWO.			
15. INSTALLATION CONTRACTOR SHALL ENSURE THAT EDGE OF ALL ANODES AND FIELD JOINTS TO HAVE A MINIMUM CLEARANCE OF 500mm FROM THE EDGE OF CLAMP/JOINT.			
16. WELD NECK AND WELD FLANGES BELOW RISER BOTTOM BEND CAN BE INTERCHANGED IF FOUND NECESSARY DURING RISER INSTALLATION.			
REFERENCE DRAWINGS/DOCUMENTS			
1. C19032-PL-PB-DWG-1000		DRAWING INDEX – PIPELINE	
2. C19032-PL-PB-DWG-1002		RISER CLAMP DETAILS (ENDING PLATFORM)	
3. C19032-PL-PB-DWG-1005		RISER ASSEMBLY FOR 4" RISER	
4. C19032-PL-PB-DWG-7006		RISER ASSEMBLY FOR 6" RISER	
5. C19032-PL-PB-DWG-7007		RISER ASSEMBLY FOR 8" RISER	
6. C19032-PL-PB-DWG-7216		RISER ASSEMBLY FOR 10" RISER	
7. C19032-PL-PB-DWG-4116		RISER APPROACH AND RISER CLAMP DETAILS	
8. 2005		FUNCTIONAL SPECIFICATION FOR PROTECTIVE COATING	
9. 2009		FUNCTIONAL SPECIFICATION FOR PROTECTIVE COATING	
10. 2012		FUNCTIONAL SPECIFICATION FOR PROTECTIVE COATING	
11. 2013		FUNCTIONAL SPECIFICATION FOR PROTECTIVE COATING	
12. 2015		FUNCTIONAL SPECIFICATION FOR PROTECTIVE COATING	
13. PREP-VIB-200-19001-025		PRE-ENGINEERING DUE SURVEY REPORT FOR RISER FROM PA TO PB AT 10" RISER	
APPROVED			
SUNIL BHALWANT DESHPANDE		BHASKAR R. MALHIC K	
ROHIT TANT		ONC-OW	
ONC-OW		ONC-OW	
L&T – Enrg		L&T – Project	
ACCEPTED FOR L&T		ACCEPTED FOR L&T	
0 ISSUED FOR APPROVAL		PVC SSA 10.06.23	
0 ISSUED FOR CLIENT COMMENTS		MARC M/DVG 10.06.23	
REV		REV	
CLIENT		CLIENT	
OIL & NATURAL GAS CORPORATION LTD. INDIA			
EPC CONTRACTOR & ENG CONSULTANT			
L&T Energy			
LARSEN & TOUBRO LIMITED			
PROJECT: PIPELINE REPLACEMENT PROJECT VII (PRE-VII RTR)			
TITLE: RISER ASSEMBLY DRAWING			
SCALE: 1/200			
SHEET NO: 1 OF 1			
C19032-PL-PB-DWG-3216			

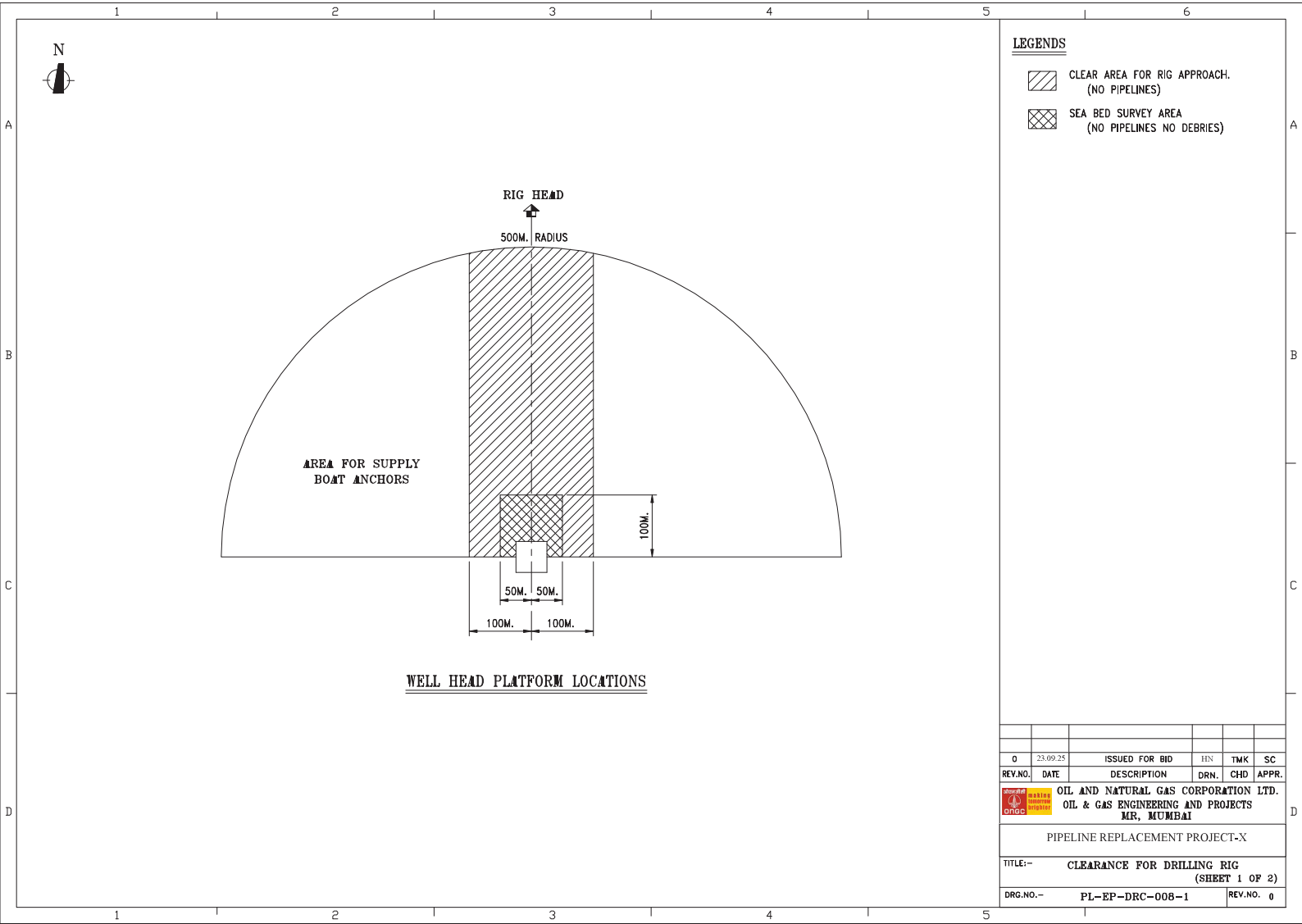
		PIPELINE REPLACEMENT PROJECT VII (PRP-VII RTR) MR/ES/MM/PRP-VII RTR/10/2021/P851C21003		
		COMMENTS RESOLUTION SHEET		
ONGC REF. & DATE: OPMAC Notification Dated 29-Apr-2023.			DOC./DWG TITLE: RISER ASSEMBLY DRAWING (PA TO PB) FOR 4" GL PB	
L&T REF. & DATE: DTN-PRP-VII-RTR-LNT-ONGC-T-1063 Dated 15-Apr-2023.			DOC./DWG. NO. & REV.: C19032-PL-PB-DWG-3216 (Rev. C1)	
CRS NO.: CRS-C19032-PL-PB-DWG-3216-C1			DISCIPLINE: PIPELINE	CRS DATE: 09-May-2023
SR. NO.	REFERRED DOC. / SECTION / PAGE	ONGC OBSERVATIONS / COMMENTS	L&T RESPONSE / CLARIFICATION	STATUS
1	Sheet 1 of 1	Location of riser clamps shall be as per approved riser and clamp design report.	Noted & confirmed. The location of clamps mentioned in the riser assembly drawing are in line with the latest / approved riser and clamp design report, as submitted to Company.	Closed
2	Sheet 1 of 1	Location of Anode shall be as per approved CP design report.	Noted & confirmed.	Closed
3	Sheet 1 of 1	Spool Isometric and Spool plan view shall also to be shown in the drawing.	Noted & incorporated, as below - 1) The Spool plan view is included in the Key Plan. 2) Spool isometric is included in isometric view of the riser.	Closed


 (Mohan Madhvesha Char / 09-May-2023)

 (L&T : SIGN, NAME & DATE)


SUNIL
 BALWANT
 DESHPANDE


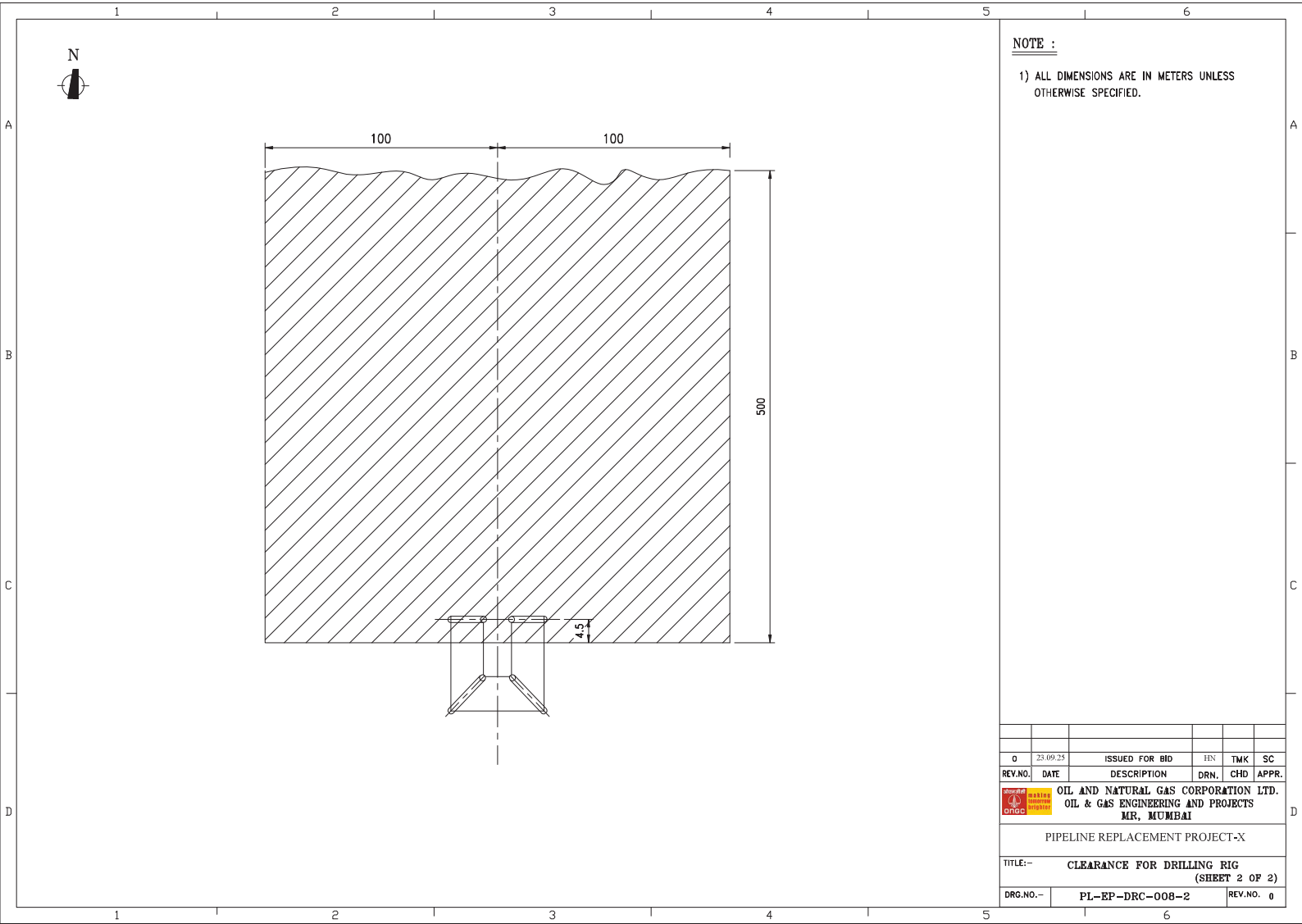
 (ONGC : SIGN & DATE)



LEGENDS

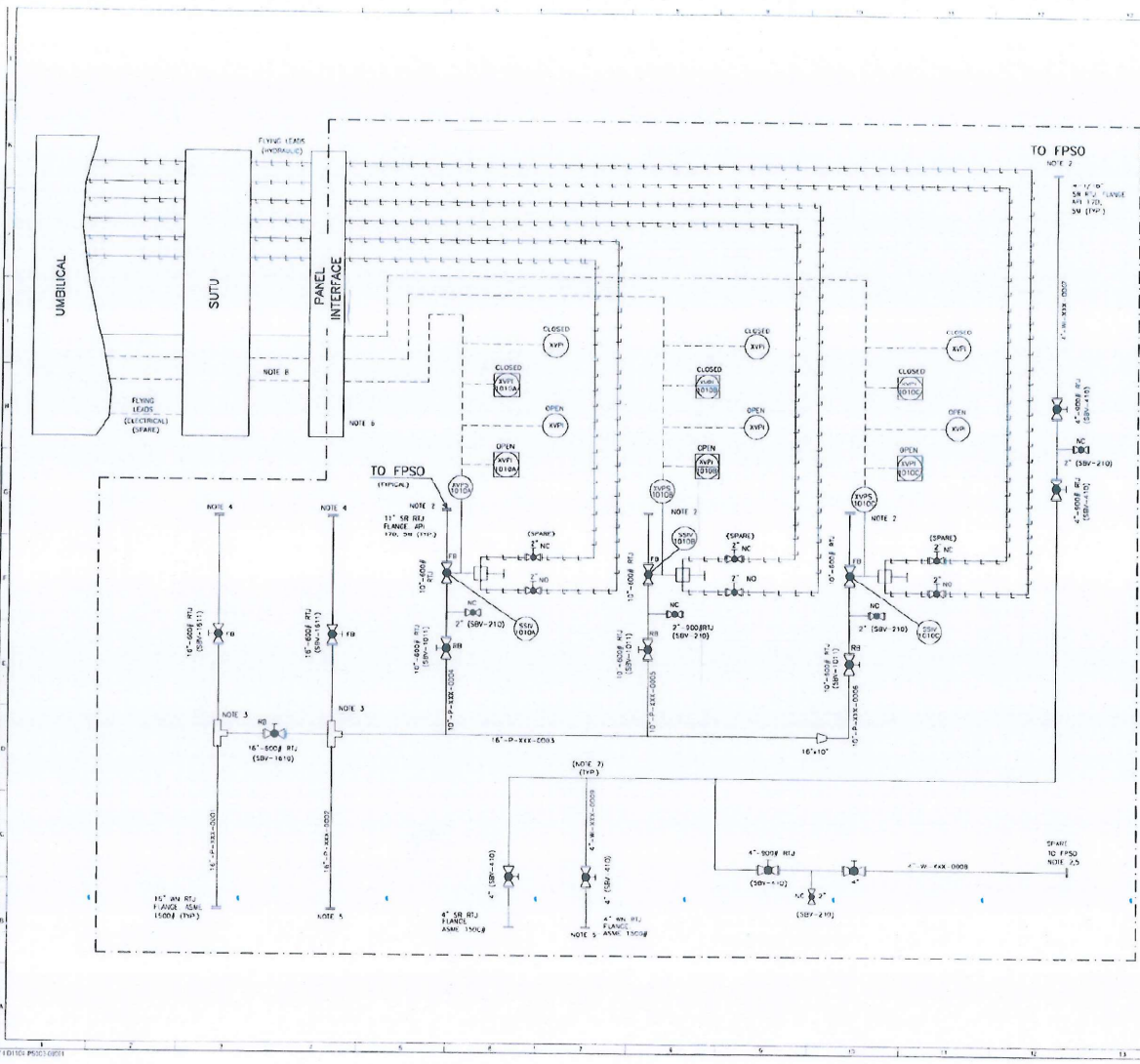
- CLEAR AREA FOR RIG APPROACH.
(NO PIPELINES)
- SEA BED SURVEY AREA
(NO PIPELINES NO DEBRIS)

0	23.09.25	ISSUED FOR BID	HN	TMK	SC
REV.NO.	DATE	DESCRIPTION	DRN.	CHD	APPR.
 OIL AND NATURAL GAS CORPORATION LTD. OIL & GAS ENGINEERING AND PROJECTS MR, MUMBAI					
PIPELINE REPLACEMENT PROJECT-X					
TITLE:- CLEARANCE FOR DRILLING RIG (SHEET 1 OF 2)					
DRG.NO.- PL-EP-DRC-008-1				REV.NO. 0	



NOTE :
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

0	23.09.25	ISSUED FOR BID	HN	TMK	SC
REV.NO.	DATE	DESCRIPTION	DRN.	CHD	APPR.
<div><div><div>ONGC</div><div>Oil & Natural Gas Corporation Ltd.</div><div>Oil & Gas Engineering and Projects</div><div>MR, MUMBAI</div></div></div> <div>PIPELINE REPLACEMENT PROJECT-X</div>					
TITLE:-- CLEARANCE FOR DRILLING RIG (SHEET 2 OF 2)					
DRG.NO.-- PL-EP-DRC-008-2			REV.NO. 0		



NOTES

1. REFERRED
2. ANY TWO FLANGES FOR HIGH UP TO FPSO PARALLELS
3. ALUM. TEE
4. FURNISH THE W. CONNECTION FOR THE RECEIVER
5. FURNISH THE W. CONNECTION
6. INTERFACE PANEL TO BE INCLUDED IN PUMP SCOPE OF WORK
7. FOR DETAILS OF THE PIPE, VALVES, FLANGES, FITTINGS, ETC. REFER TO PUMP PIPING ISOMETRIC DRAWING
8. EACH ELECTRICAL LINE REPRESENTS A CABLE CABLE PROVIDING 100% SIGNAL REDUNDANCY
9. ALL PROCESS LINES (EXCEPT FLUING) 10", 12" AND 14" SHALL COMPLY WITH PUMP REQUIREMENTS
10. 2" HYDRAULIC VALVES ARE PART OF THE SSW ACTUATING PACKAGE AND DETAILS ARE TO BE PROVIDED BY VENDOR LATER

AS BUILT

Valve Tag Numbers

TAG NO.	REFERENCE DATA SHEET
SSW-1011	12007-I-01104-PL004-00001
SSW-1012	12007-I-01104-PL004-00002
SSW-1013	12007-I-01104-PL004-00003
SSW-1014	12007-I-01104-PL004-00004
SSW-1015	12007-I-01104-PL004-00005
SSW-1016	12007-I-01104-PL004-00006
SSW-1017	12007-I-01104-PL004-00007
SSW-1018	12007-I-01104-PL004-00008
SSW-1019	12007-I-01104-PL004-00009
SSW-1020	12007-I-01104-PL004-00010

REFERENCE DRAWINGS/DOCUMENTS

S.NO	DWG./DOC. NO.	REV.	TITLE
1	12007-I-01104-PL004-00001	1	DRAWING INDEX
2	12007-I-01104-PL004-00002	1	FLUING PIPING ARRANGEMENT
3	12007-I-01104-PL004-00003	1	FLUING PIPING ARRANGEMENT
4	12007-I-01104-PL004-00004	1	FLUING PIPING ARRANGEMENT
5	12007-I-01104-PL004-00005	1	FLUING PIPING ARRANGEMENT
6	12007-I-01104-PL004-00006	1	FLUING PIPING ARRANGEMENT
7	12007-I-01104-PL004-00007	1	FLUING PIPING ARRANGEMENT
8	12007-I-01104-PL004-00008	1	FLUING PIPING ARRANGEMENT
9	12007-I-01104-PL004-00009	1	FLUING PIPING ARRANGEMENT
10	12007-I-01104-PL004-00010	1	FLUING PIPING ARRANGEMENT

REVISIONS

REV.	DATE	BY	CHKD.	APPD.	REVISION
01	12/07/2012	AS BUILT			
02	12/12/12	ISSUED FOR CONSTRUCTION			
03	12/11/12	ISSUED FOR APPROVAL			
04	12/11/12	ISSUED FOR APPROVAL			
05	12/11/12	ISSUED FOR APPROVAL			
06	12/11/12	ISSUED FOR APPROVAL			

CONTRACTOR

OIL AND NATURAL GAS CORPORATION LTD.

ESSAR

ESSAR OFFSHORE SUBSEA LTD.

ENGINEERING CONSULTANT

INTECSEA

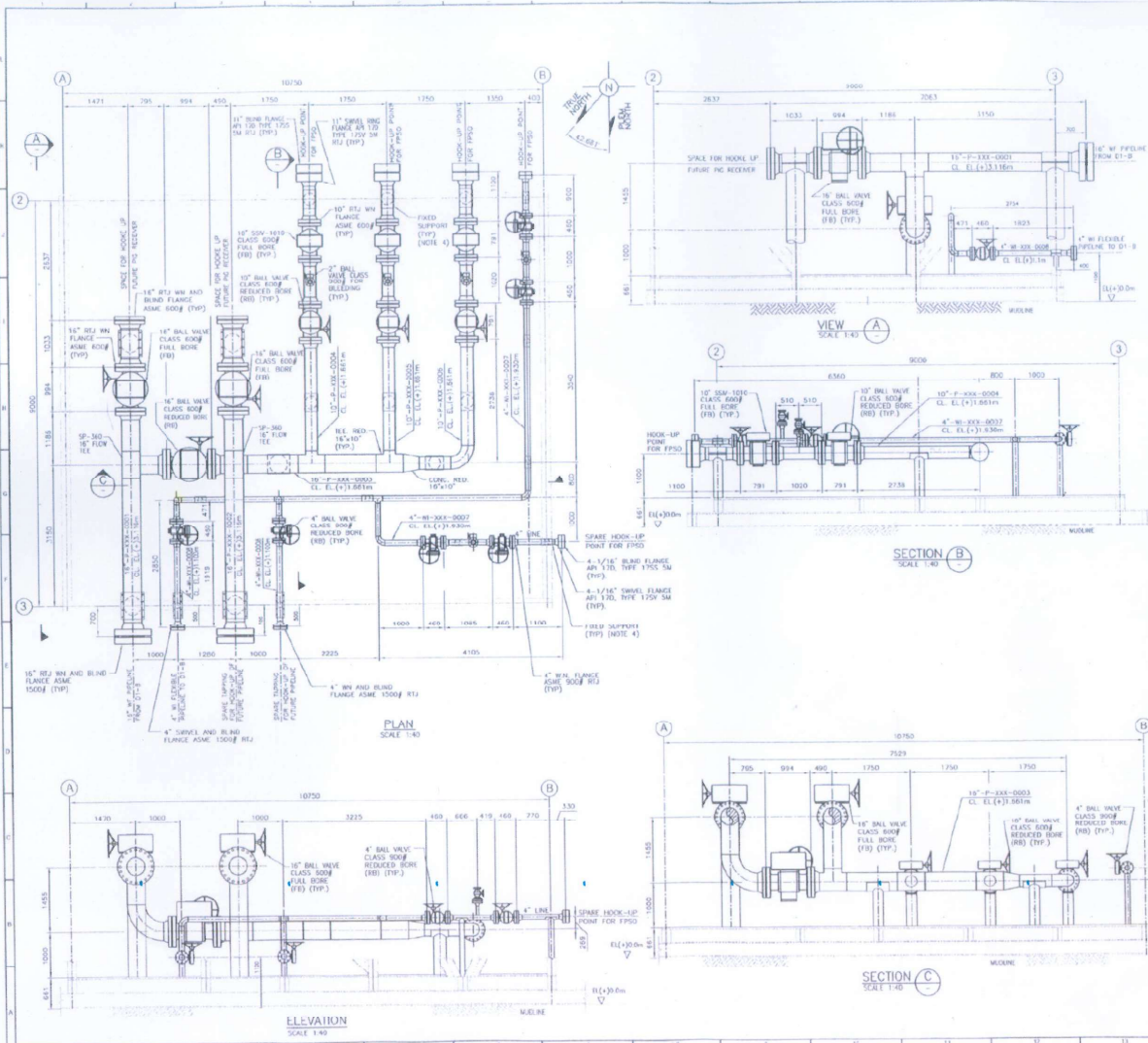
WorleyParsons Group

D-1 DEVELOPMENT PROJECT

PLEM P & ID

AS BUILT

72007-I-01104-PS005-00001 | **OF** | **03**



NOTES

1. ALL 4\"/>

HOLDS

1. VALVE DIMENSIONS



REFERENCE DRAWINGS/DOCUMENTS

S.NO	DWG/DOC. NO.	REV. NO.	TITLE
1	72007-01-0104-P1012-00001		CONCRETE INDEX
2	72007-01-0104-P1012-00001		PIEN PIPING ARRANGEMENT
3	72007-01-0104-P1012-00001		PIEN GENERAL ARRANGEMENT
4	72007-01-0104-P1012-00001		PIEN PAD
5	72007-01-0104-P1012-00001		PIEN PIPING SUPPORT DETAILS

REV	DATE	DESCRIPTION	BY	CHKD	APPD	CHECKED
1	12.12.18	ISSUED FOR REVIEW	WDR	WDR	WDR	
2	12.12.18	ISSUED FOR REVIEW	WDR	WDR	WDR	
3	12.12.18	ISSUED FOR REVIEW	WDR	WDR	WDR	

OWNER:
OIL AND NATURAL GAS CORPORATION LTD.

CONTRACTOR:
ESSAR OFFSHORE SUBSEA LTD.

ENGINEERING CONSULTANT:
INTECSEA

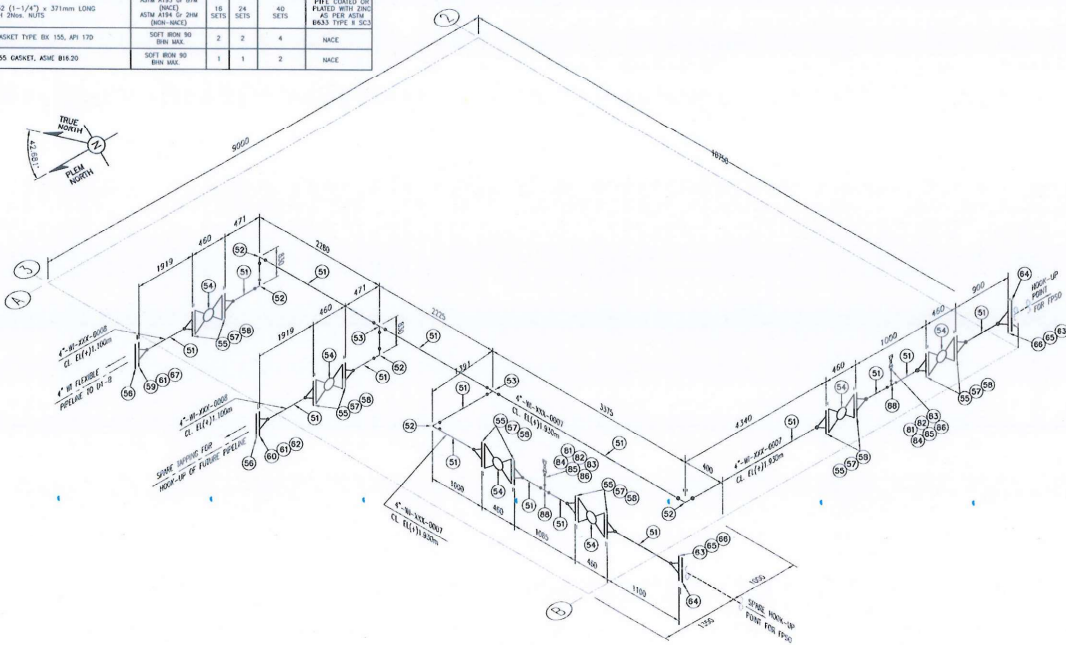
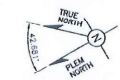
PROJECT:
D-1 FLEM DEVELOPMENT PROJECT

DWG TITLE:
FLEM PIPING ARRANGEMENT
AS BUILT

DATE	DRAWING NO.	REV. NO.	REV.
12/07/2018	72007-01-0104-P1012-00001	1	02

4" PIPING MATERIAL SCHEDULE						
NO.	DESCRIPTION	MATERIAL	QTY.	UNIT	APPROX. LENGTH / TOTAL QTY.	REMARKS
(51)	4" (114.3mm O.D.) x 11.1mm WT LINE PIPE	API 5L X60 F52	36.6m	24.6m	61.2m	NON-NACE
(52)	4" (114.3mm O.D.) x 11.1mm WT 90° LR ELBOW	MSS SP75 WPHY 60 (ASTM A184 F60)	5	1	6	NON-NACE
(53)	4" (114.3mm O.D.) x 11.1mm WT EQUAL TEE	MSS SP75 WPHY 60 (ASTM A184 F60)	2	1	3	NON-NACE
(54)	4" SUBSEA BALL VALVE, NB, FLANGED ENDS, CLASS 300#, RTJ	API 6D	6	-	6	NON-NACE
(55)	4" RTJ NB FLANGE, ASME, CLASS 300#, TO MATCH ADJACENT 4.5" PIPE WITH WT 11.1mm	ASTM A184 F60 (NON-NACE)	10	1	10	HIGH BUILT EPOXY COATING 2 PARTS
(56)	4" RTJ BLIND FLANGE, ASME, CLASS 1500#	ASTM A184 F60 (NON-NACE)	2	1	3	HIGH BUILT EPOXY COATING 2 PARTS
(57)	STANDARD BOLT M20 (1-1/8") x 345mm LONG COMPLETE WITH NUTS	ASTM A193 G 8 (INCL) / ASTM A194 G 21M (NON-NACE)	95	192	288	SETS
(58)	4" RTJ R37 CASSET OCTAGONAL, ASME B16.20	SOFT IRON 90 BHN MAX	12	24	36	NACE
(59)	4" RTJ SWIRL RING FLANGE, ASME, CLASS 1500#, TO MATCH ADJACENT 4.5" OLD PIPELINE WITH WT 11.1mm	ASTM A184 F60 (NON-NACE)	1	-	1	HIGH BUILT EPOXY COATING 2 PARTS
(60)	4" RTJ NB FLANGE, ASME, CLASS 1500#, TO MATCH ADJACENT 4.5" OLD PIPELINE WITH WT 11.1mm	ASTM A184 F60 (NON-NACE)	1	-	1	HIGH BUILT EPOXY COATING 2 PARTS
(61)	STANDARD BOLT M22 (1-1/4") x 371mm LONG COMPLETE WITH NUTS	ASTM A193 G 8 (INCL) / ASTM A194 G 21M (NON-NACE)	16	32	48	SETS
(62)	4" RTJ R39 CASSET OCTAGONAL, ASME B16.20	SOFT IRON 90 BHN MAX	1	1	2	NACE
(63)	4" 1/16" RTJ SWIRL FLANGE, API 17B, TYPE 1700, 5M, TO MATCH ADJACENT 4.5" PIPELINE WITH WT 11.1mm	ASTM A184 F60 (NON-NACE)	2	1	3	HIGH BUILT EPOXY COATING 2 PARTS
(64)	4" 1/16" RTJ BLIND FLANGE, API 17B, TYPE 1700, 5M	ASTM A184 F60 (NON-NACE)	2	1	3	HIGH BUILT EPOXY COATING 2 PARTS
(65)	STANDARD BOLT M22 (1-1/4") x 371mm LONG COMPLETE WITH NUTS	ASTM A193 G 8 (INCL) / ASTM A194 G 21M (NON-NACE)	16	32	48	SETS
(66)	4" 1/16" RTJ CASSET TYPE BK 155, API 17D	SOFT IRON 90 BHN MAX	2	2	4	NACE
(67)	4" RTJ S55 CASSET, ASME B16.20	SOFT IRON 90 BHN MAX	1	1	2	NACE

2" PIPING MATERIAL SCHEDULE						
NO.	DESCRIPTION	MATERIAL	QTY.	SPARE	APPROX. LENGTH / TOTAL QTY.	REMARKS
(68)	2" (50.8mm O.D.) x 11.1mm WT LINE PIPE	API 5L X60 F52	6m	12m	18m	NACE
(69)	2" SUBSEA BALL VALVE, NB, FLANGED ENDS, CLASS 300#, RTJ	API 6D	2	-	2	NACE
(70)	2" RTJ NB FLANGE, ASME, CLASS 300#, TO MATCH ADJACENT 2" PIPE WITH WT 11.1mm	ASTM A184 F60 (ASTM A184 F60)	2	1	3	HIGH BUILT EPOXY COATING 2 PARTS
(71)	2" RTJ BLIND FLANGE, ASME, CLASS 300#	ASTM A184 F60 (ASTM A184 F60)	2	1	3	HIGH BUILT EPOXY COATING 2 PARTS
(72)	STANDARD BOLT 1/2" x 290mm LONG COMPLETE WITH NUTS	ASTM A193 G 8 (INCL) / ASTM A194 G 21M (INCL)	16	32	48	SETS
(73)	2" RTJ R24 CASSET OCTAGONAL, ASME B16.20	SOFT IRON 90 BHN MAX	2	4	6	NACE
(74)	2" (114.3mm O.D.) x 11.1mm WT 180° ELBOW x 3.355" (86.32mm O.D. x 11.1mm, BORE) REDUCED TEE	MSS SP75 WPHY 60 (ASTM A184 F60)	1	1	2	NON-NACE



- NOTES
- SPOOL PIECE TO BE ANCHORED TO PLEM STRUCTURE
 - REFERENCE IS MADE TO PAND NO 7078-00-1020 & 7078-00-1021
 - FLANGE TYPE / RATING IS BASED ON ADVICE FROM (RAC) F250 CONSULTANT
 - SPOL LENGTH PROPOSED SHALL BE VERIFIED FOR HYDRATION TENSION REQUIREMENTS.

AS BUILT



LEGEND

--- INTERFACE PIPE
--- PLEM PIPING

REFERENCE DRAWINGS/DOCUMENTS			
S.NO.	DWG./DOC. NO.	REV. NO.	TITLE
1	72007-1-01104-PP02-00001	-	DRAWING INDEX
2	72007-1-01104-PP03-00001	-	PLEM PIPING ARRANGEMENT
3	72007-1-01104-PP04-00001	-	PLEM GENERAL ARRANGEMENT
4	72007-1-01104-PP05-00001	-	PLEM PAND
5	7078-00-1021	-	FIELD SURGEON WATER INJECTION MANIFOLD

REV.	DATE	DESCRIPTION	BY	CHKD	APPD	COUNT	APPR.
1	09/02/12	ISSUED FOR CONSTRUCTION	SAD	SHD	SHD	-	-
2	09/02/12	ISSUED FOR APPROVAL	SAD	SHD	SHD	-	-
3	09/02/12	RE-ISSUED FOR REVIEW	SHD	SHD	SHD	-	-
4	09/02/12	RE-ISSUED FOR REVIEW	SHD	SHD	SHD	-	-
5	09/02/12	ISSUED FOR REVIEW	SHD	SHD	SHD	-	-

CONTRACTOR:

ESSAR
ESSAR OFFSHORE SUBSEA LTD.

ENGINEERING CONSULTANT:

INTECSEA
WorleyParsons Group

PROJECT:

D-1 DEVELOPMENT PROJECT

DEVELOPMENT:

PLEM PIPING ISOMETRIC
AS BUILT

SCALE:

72007-1-01104-PP04-00001 2 OF 2

16" PIPING MATERIAL SCHEDULE						
NO.	DESCRIPTION	MATERIAL	QTY	SPARE	APPROX. LENGTH / TOTAL QTY	REMARKS
(1)	16" (406.4mm O.D.) x 19.1mm W.T. LINE PIPE	API 5L, X60, 15L2	24.4m	24.4m	48.8m	NACE
(2)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(3)	16"x16" (406.4mm O.D. x 406.4mm I.D.) 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(4)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(5)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(6)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(7)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(8)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(9)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(10)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(11)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(12)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(13)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(14)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(15)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(16)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(17)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(18)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(19)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(20)	16" (406.4mm O.D.) x 15.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE

10" PIPING MATERIAL SCHEDULE						
NO.	DESCRIPTION	MATERIAL	QTY	SPARE	APPROX. LENGTH / TOTAL QTY	REMARKS
(1)	10" (253.8mm O.D.) x 14.3mm W.T. LINE PIPE	API 5L, X60, 15L2	24.4m	24.4m	48.8m	NACE
(2)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(3)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(4)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(5)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(6)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(7)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(8)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(9)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(10)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(11)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(12)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(13)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(14)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(15)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(16)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(17)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(18)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(19)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(20)	10" (253.8mm O.D.) x 14.3mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE

2" PIPING MATERIAL SCHEDULE						
NO.	DESCRIPTION	MATERIAL	QTY	SPARE	APPROX. LENGTH / TOTAL QTY	REMARKS
(1)	2" (50.8mm O.D.) x 11.1mm W.T. LINE PIPE	API 5L, X60, 15L2	12m	12m	24m	NACE
(2)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(3)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(4)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(5)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(6)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(7)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(8)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(9)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(10)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(11)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(12)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(13)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(14)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(15)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(16)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(17)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(18)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(19)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE
(20)	2" (50.8mm O.D.) x 11.1mm W.T. 90° ELBOW	MS SP25 WHT 60 (ASTM A561 F50)	1	1	2	NACE

NOTES

- SPWEL: PIPES TO BE ANCHORED TO PLEM STRUCTURE
- REFERENCE IS MADE TO P&ID NO 72007-1-D1104-PP004-00001
- FLANGE TYPE / RATING IS BASED ON ADVISE FROM SHOP ENGINEER
- STUD LENGTH PROVIDED SHALL BE VERIFIED FOR INTERMEDIATE DESIGN REQUIREMENTS.

AS BUILT

AS OFFSHORE SUBSEA LTD
Mumbai

2012

LEGEND

----- RUSTICATED PIPE

----- PLEM PIPING

REFERENCE DRAWINGS/DOCUMENTS

S.NO	DOC. NO.	REV.	TITLE
1	72007-1-D1104-PP004-00001	1	DRAWING INDEX
2	72007-1-D1104-PP004-00001	1	PLEM PIPING ARRANGEMENT
3	72007-1-D1104-PP004-00001	1	PLEM GENERAL ARRANGEMENT
4	72007-1-D1104-PP004-00001	1	PLEM P&ID
5	72007-1-D1104-PP004-00001	1	PAID SURVEY WELL FLUID MANDREL

OWNER:

OIL AND NATURAL GAS CORPORATION LTD.

CONTRACTOR:

ESSAR
ESSAR OFFSHORE SUBSEA LTD.

ENGINEERING CONSULTANT:

INTECSEA
Worleyparsons Group

PROJECT:

D-1 DEVELOPMENT PROJECT

NO. 1111

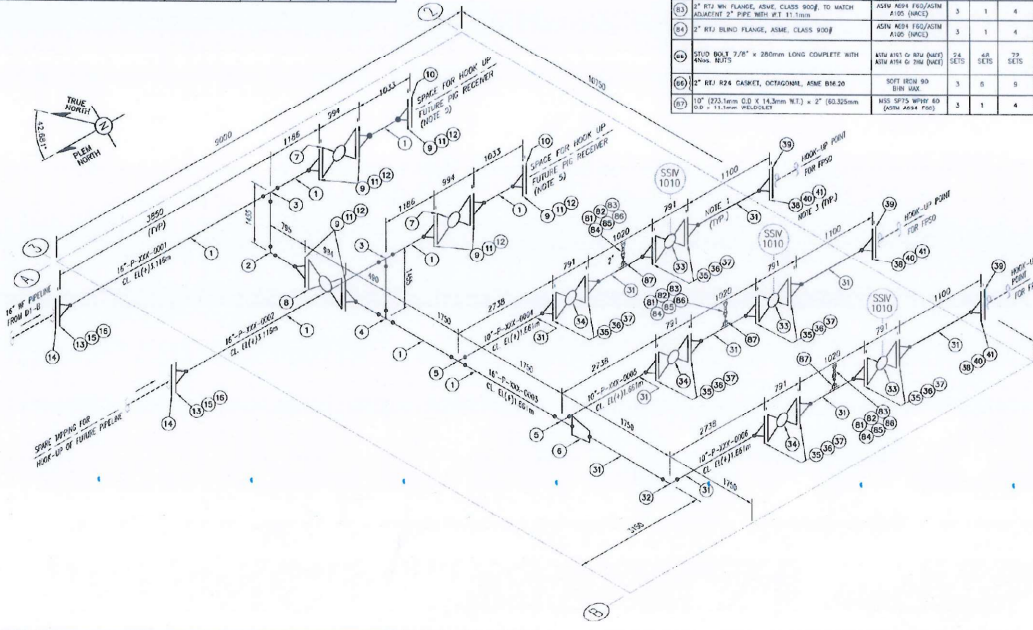
PLEM PIPING ISOMETRIC
AS BUILT

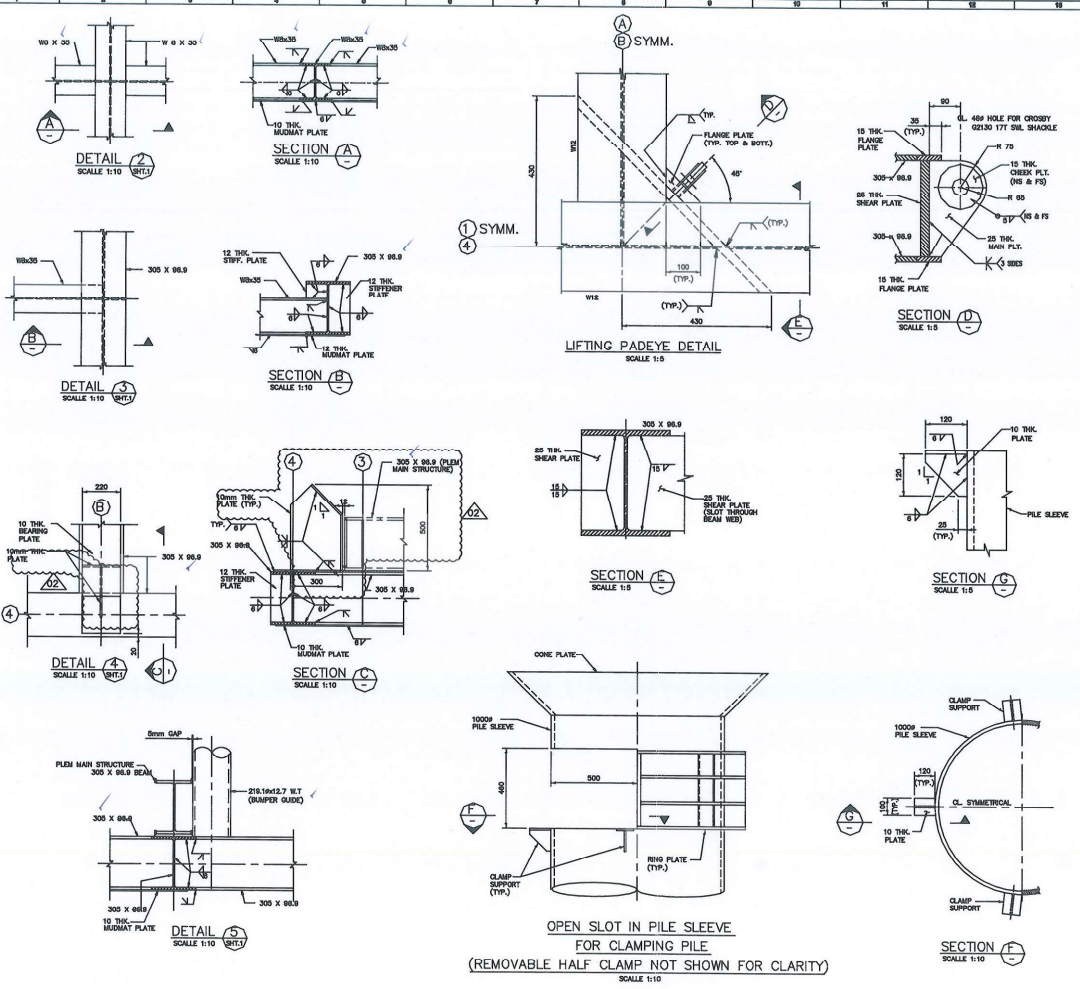
DATE:

72007-1-D1104-PP004-00001

OF 2

02





ELEVATION ROW 4

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES (MM) U.N.O.
2. ALL STRUCTURAL STEEL MATERIALS SHALL BE ASTM A572 OR 50 OR EQUIVALENT U.N.O./S 305 & 300 OR 30 OR 30.
3. ALL WELDING TO BE FULL PENETRATION U.N.O.
4. LIFTING PACKAGES ARE DESIGNED FOR BASE STRUCTURE LIFT WEIGHT OF 20.2 MT.
5. FABRICATOR SHALL WEIGH THE STRUCTURE TO CONFORM FINAL LIFT WEIGHT AND CENTER OF GRAVITY.
6. STRUCTURE TO BE PAINTED IN ACCORDANCE TO ONGC SPECIFICATION PS-2005 U.N.O.

AS BUILT

REFERENCE DRAWINGS/DOCUMENTS

S.NO.	DWG./DOC. NO.	REV.	TITLE
1	72007-4-0104-PL02-0001	-	DRAWING INDEX
2	72007-4-0104-PP03-0001	-	PLEM PIPING ARRANGEMENT
3	72007-4-0104-0103-0001	-	PLEM GENERAL ARRANGEMENT
4	72007-4-0104-0101-0001	-	PLEM MAIN STRUCTURE DETAILS
5	72007-4-0104-0101-0001	-	PLEM DETAILS

REVISIONS

NO.	DATE	REASON	BY	APP.	STATUS
1					

ONGC (OW) ONGC (OD) ESSAR INTECSEA

CONTRACTOR

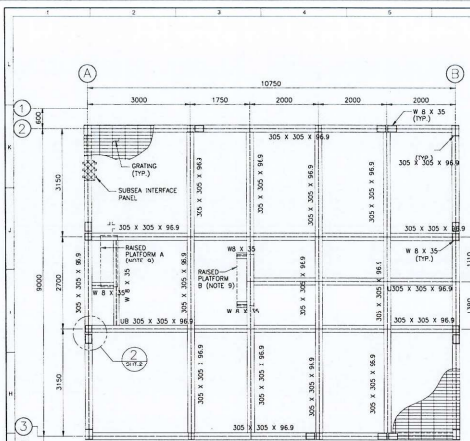
ENGINEERING CONSULTANT

PROJECT

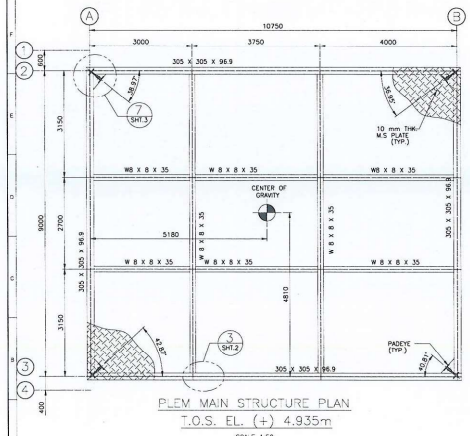
D-1 DEVELOPMENT PROJECT

PLEM BASE STRUCTURE DETAILS- AS BUILT

72007-4-D1104-ST011-00001 2 OF 3 02



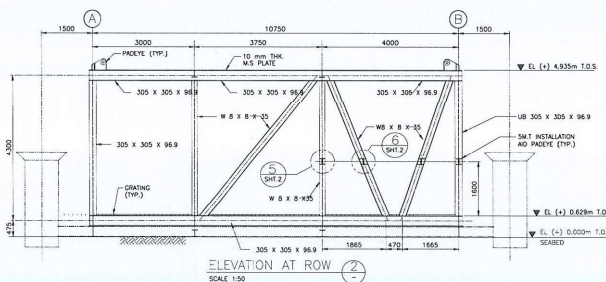
PLEM MAIN STRUCTURE PLAN
T.O.S. EL. (+) 0.629m
SCALE 1:50



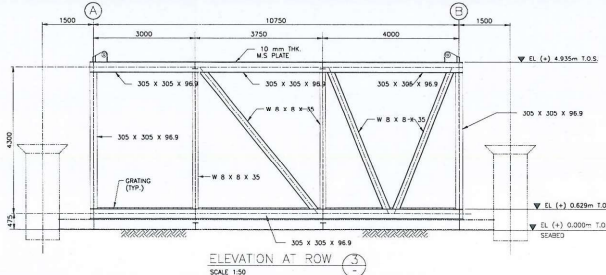
PLEM MAIN STRUCTURE PLAN
T.O.S. EL. (+) 4.935m
SCALE 1:50

S.NO.	ITEM	QUANTITY	UNIT	WEIGHT (Kg)
1	305 X 305 X 96.9	177	m	16408
2	305 X 305 X 96.9	13	m	1205
3	WB400X25	150	m	7770
4	10 mm THK M.S. PLATE	96.75	m ²	8761
5	30x5mm GRATING	111.8	m ²	3700
6	35mm THK SHEAR PLATE	1.2	m ²	330
7	25mm THK MAIN PLATE	1.2	m ²	330
8	15mm THK CHECK PLATE	0.14	m ²	17
9	20mm THK STIFFENER PLATE	4.8	m ²	758
10	15mm THK TOP FLANGE PLATE	0.5	m ²	60
11	15mm THK BOTTOM FLANGE PLATE	0.25	m ²	30
12	12mm THK STIFFENER PLATE	0.8	m ²	57
13	25mm THK SLEEVE PLATE	3.8	m ²	750
14	16mm THK STIFFENER PLATE	4.2	m ²	530
15	25mm THK REBbed POLYCHLOROPRENE LINER	4.0	m ²	290
16	A325 W30 STUD BOLTS	12	PCS	34
17	A325 W30 NUT	24	PCS	5
18	10mm THK SPHERICAL WASHER	24	PCS	12
19	A325 W22 STUD BOLTS	6	PCS	3.5
20	A325 W22 NUT	12	PCS	0.8
21	8mm THK NUTLON / STEEL WASHER	12	PCS	1.5
22	114.3x 11.1 WT	10.5	m	445
23	273.1x 14.3 WT	11	m	946
24	188.3x 9.5 WT	7.3	m	280
25	1100 X 100 X 8	28	m	408
TOTAL WEIGHT				42961

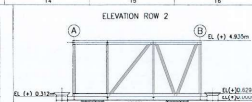
(SEE NOTE 8)



ELEVATION AT ROW 2
SCALE 1:50



ELEVATION AT ROW 3
SCALE 1:50



NOTES

1. ALL STRUCTURAL STEEL MATERIAL ASTM A572-50 OR / S 355 J2 OR 20 OR 22.
2. TOP PLATE MATERIAL SHALL BE ASTM-A36 OR EQUIVALENT.
3. ALL WELDING TO BE FULL PENETRATION WELD.
4. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
5. LIFTING AND MOVING SHALL BE DONE BY MEANS OF LIFTING EQUIPMENT OF 100 T.
6. FABRICATOR SHALL DESIGN THE STRUCTURE TO CARRY FULL LIFT WEIGHT AND CENTER OF GRAVITY. FACTOR OF SAFETY SHALL BE ADJUSTED TO SUIT FINAL CENTER OF GRAVITY POSITION.
7. STRUCTURE TO BE PAINTED IN ACCORDANCE TO OCEC SPECIFICATION PS-2005 UNLESS OTHERWISE SPECIFIED.
8. ALL WELDS AND BOLTS SHALL BE COATED WITH PPGI.
9. QUANTITIES FOR ANCHORS ARE SHOWN IN DIM NO. 10007-I-01104-0007-0007. THE QUANTITIES SPECIFIED ARE NET QUANTITIES EXCLUDING SHARES.
10. LOCATION OF ANCHORS PLATFORMS TO SUIT PILING UNLESS OTHERWISE SPECIFIED.
11. GRATING SHALL BE 30 x 5mm SERRATED GRATING.



REFERENCE DRAWINGS/DOCUMENTS

S.NO.	DWG./DOC. NO.	REV.	TITLE
1	10007-I-01104-0001-0001	1	DRAWING INDEX
2	10007-I-01104-0002-0001	1	PLEM PILING ARRANGEMENT
3	10007-I-01104-0003-0001	1	PLEM GENERAL ARRANGEMENT
4	10007-I-01104-0004-0001	1	PLEM BASE STRUCTURE DETAILS
5	10007-I-01104-0005-0001	1	PLEM ANCHOR DETAILS
6	10007-I-01104-0006-0001	1	PLEM PILING SUPPORT DETAILS
7	10007-I-01104-0007-0001	1	FILE DETAILS

OWNER: OIL AND NATURAL GAS CORPORATION LTD.

CONTRACTOR: ESSAR OFFSHORE SUBSEA LTD.

ENGINEERING CONSULTANT: INTELSEA

PROJECT: D-1 DEVELOPMENT PROJECT

DWG TITLE: PLEM MAIN STRUCTURE DETAILS- AS BUILT

SCALE: DRAWING NUMBER: SHEET NO. REV.

AS SHOWN: 72007-I-01104-ST011-00002-1 OF 3, 2

