



OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT (LOCAL) ISLAMABAD
SCHEDULE OF REQUIREMENT

Material : **REPAIR OF CRUDE STORAGE TANK 3000 BBLS CAPACITY**

Due Date:

Tender Enquiry No: **PROC/LF/PT/17651/19**

Bid Bond Value : **RS.480,000/-**

EVALUATION WILL BE CARRIED OUT ON FULL

Attachment(if any) : **YES (27 PAGES)**

Sr No	Description	Quantity	Make/Brand offered	Unit	Unit Price (PKR) Inclusive Of All Taxes Except GST/PST	Unit Price (PKR) Inclusive of GST/PST	Total Price (PKR) Inclusive of GST/PST	Delivery Period Offered	deviation from Tender Spec. If Any
1	Repair/FRP Coating with Material of Condensate Storage Tank T-2811 As Per Scope Attached.	1		Number					

Special Note: The prospective bidders also download the master set of Tender Document

- The prospective bidders may keep in touch with OGDCL web site for downloading the clarifications/amendments (if any) issued by OGDCL.
- PROJECT COMPLETION=CLAUSE # 20 OF SCOPE.PAYMENT=100% AFTER COMPLETION/ACCEPTANCE OF WORK AS PER LPO/SCOPE.BID VALIDITY=150 DAYS FROM TECHNICAL BID(S).

Discount (if any) shall only be entertained on Schedule of Requirement of Bidding Document (Financial Proposal). If the discount is mentioned elsewhere in the bid, the same shall not be entertained.



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Mandatory Checklist

Please confirm the compliance of the following mandatory information along with the bid(s) (failing which bids(s) will not be accepted)

Documents	To be Attached with the Technical/Financial Bids	Compliance	
		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Original Bid Bond	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Copy of NTN Certificate	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Copy of GST Certificate	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Confirmation that the Firm is appearing on FBR's Active Taxpayer List	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-A (Un-priced)	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-B	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-D	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-L on Company's Letterhead	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-M on Company's Letterhead	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-N on Non-Judicial Stamp Paper duly attested by Notary Public	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-A (Priced)	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-C	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-E	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>



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For the Vendors/Contractors who opt to submit Bank Draft/Call Deposit/Pay order against Bid Bond/Performance Bond, our Accounts Department has finalized an arrangement for online payment to such Vendors/Contractors, which will be processed through (IBFT & LFT) for which following information is required:

i.	IBAN No. (International Bank Account Number 24 Digits)	
ii.	Vendor Name as per Title of their Bank Account	
iii.	Contact No.of Company's CEO/ Owner (Mobile & Landline)	
iv.	Bank Name.	
v.	Bank Branch Name and Code	

Name, Sign and Stamp of the authorized official of the Bidder(s) _____

1. **SCOPE**

This specification given hereunder describes for guideline purpose and covers the minimum requirement of all the mechanical construction, painting, testing, calibration, third party inspection and supervision, inspection and commissioning of condensate storage tank of 3,000 barrels capacity at OGDCL Qadirpur Gas Field District Ghotki Sindh.

OGDCL intends to hire the services of an experienced and well reputed contractor for repair of Condensate storage tank in these facilities along with allied services. The scope of work includes all civil work for foundation repair/mechanical works included dismantling/new installation of 04 Top shell courses, tank bottom, roof, roof supporting structure, Procurement of material, Construction as per drawings, testing /inspection, Commissioning of the Condensate storage Tank. Successful contractor shall have to offer at least 10-year maintenance free guarantee of the installed Tank.

2. **CONTRACTORS' SCOPE (GENERAL).**

The contractor shall be responsible for minimum but not limited to the following.

The contractor is to carry out the work as per drawings and provided scope of work as per contract. Erection, Procurement of material, External epoxy coating, Internal FRP coating, commissioning and testing etc. would also carried out by the contractor. The Tank is to be completed and tested as per applicable API 650 & API 653 standards.

The contractor shall perform the site survey prior to bid submission and start of work at site after award of contract.

All the required material regarding pipe, fittings and other allied equipment associated with tank etc. is included in this scope of supply of contractor. All the mechanical/ civil works will be carried out by the contractor according to package duly approved by OGDCL.

OGDCL would carry inspection including review of the mechanical construction schedule and progress reporting as per following details.

OGDCL inspection would include.

2.1 **Scope of Inspection:**

1. Repair of civil works
2. Review as built drawings.
3. Material Identification through mill test certificates or through laboratory testing (if required)
4. Review / Witnessing of Procedure's qualification record and welder's qualification tests
5. Inspection of roof, shell and bottom plates materials as per specification given in agreement
6. Inspection of welding consumables and to check the quality and suitability.

Qadirpur 3,000 barrels Condensate Storage Tanks

7. Inspection of Steel Structure assembly and welding.
8. Inspection of Shell Peaking, Bending, Roundness & Plumbness.
9. Inspection of Nozzle Orientation.
10. Witnessing of DPT and Pneumatic Leak Test where necessary.
11. Inspection of quality of welding of bottom, shell and roof plates.
12. Witnessing of vacuum box testing of bottom weld joints
13. Review results of radiography of horizontal, vertical and T-Joints of tank.
14. Stage inspections / hold points to be decided according to the Quality Inspection plan to be submitted by bidder/ contractor manufacturer.
15. Witnessing of Hydrostatic Testing
16. Report of findings.
17. Overall responsibility for the excellent workmanship guaranteed through the above inspections and continuous site supervision by contractor's the API 653 certified Inspector at site at its own cost.

Note:

All Inspection results must be evaluated by API-653 Certified Inspector on part of contractor. The contractor would facilitate and support the OGDCL engineers / inspectors during all the phases of the project.

3. Dismantling of Existing walls of Tank K-2811

Contractor dismantles the already installed condensate storage Tank selected areas i-e tank roof, Bottom, Top 04 shell courses safely and the scrap should be placed properly in the allocated area of Qadirpur store.

4. CODES AND STANDARDS.

All the erection, testing & inspection must be as per following standards of oil & gas industry.

- API Standard 650
- API-653
- RP-651
- ASME Section IX
- ASME Section IIIV
- ANSI B31.3 – Petroleum Refinery Piping
- PS 1020 or 1025 specification for carbon steel plate and profiles should be as per ASTM 283-C ASTM-A 106, Sch. 40 (For Seamless pipe.)

5. **MATERIAL PROCUREMENT / HANDLING / STORAGE.**

- 5.1 After, final approval from the company, the contractor will proceed for materials procurement and supply as per approved BOQ and data sheets.
- 5.2 In this regard bidder/ contractor's responsibilities include procurement of material, transportation from manufacturer's site to the Qadirpur store already established by the contractor.
- 5.3 The loading / un-loading of the material and shifting from site store to the site location shall be the responsibility of the contractor. OGDCL will not provide any sort of transportation / loading / un-loading facilities. If in case OGDCL provide such facility on contractor's request, that will be charges as per actual.
- 5.4 To determine the originality & authenticity of the material being used for this project, all material shall be 100% traceable and suitably marked for easy identification of manufacturer or supplier, grade, source, size and rating.
- 5.5 All foreign and local procured material shall be inspected by OGDCL engineer(s). OGDCL inspection engineer(s) shall have full right to accept / reject any material / equipment at contractor warehouse. Inspection report should be prepared by contractor and duly signed by OGDCL engineer after inspection and submitted after inspection.
- 5.6 The defected / sub-standard / rejected material not conforming to the OGDCL requirement will be replaced with the new one at bidder/ contractor's account including transportation, handling demurrage etc.
- 5.7 The replaced material will be inspected once again and then be used by contractor after clearance form OGCL professional.
- 5.8 All material shall be kept / stored on wooden skids / platform. No. material shall be kept on ground.
- 5.9 Spreader bar shall be used for lifting plates
- 5.10 Contractor shall submit detailed procedure of material handling storage for approval to OGDCL before commencement of any work.

6. **CONSTRUCTION AND INSTALLATION.**

OGDCL will propose the area for construction of Condensate storage Tank.

- 6.1 The bidder/ contractor should be thoroughly familiar with the specifications of all the mechanical works and shall ensure that all works are being completed in accordance with good industrial practice,

Qadirpur 3,000 barrels Condensate Storage Tanks

relevant specifications and API standards. The approved bidder/contractor must submit the detailed scope of work of each task during erection after approval.

- 6.2 Contractor shall be responsible for all, Fabrication, Inspection, Testing jobs required for completing the project as per approval

6.3 **MECHANICAL WORKS.**

The mechanical works include but not limited to following.

- Fabrication & welding of steel plates for Tank bottom, top 04 shell courses and roof.
- Fabrication and welding of tank roof supporting structure (Internal / external stairs, top fence etc.)
- Fabrication and welding of all tank internals defects/Pitting by welding or patch work (If any).
- Fabrication and welding of pipe and fitting for all required nozzles along with valves, gaskets stud / nuts, companion flanges and mono block insulation joints wherever required.
- Placement of wind socks on tank.
- Top roof railings and fencing with support stairs/steps till the center of top tank.

Note: Contractor has to provide all the relative data of welding material & procedures to be used during project.

- 6.4 The contractor shall conduct welder's qualification test by any reputable 3rd party for this project according to ASME Section IX and API-650. Only the qualified welders will be allowed for welding jobs for this contract. Contractor Site Engineer must have the copies of the certificates of the welders all the time till completion of the project.
- 6.5 All the necessary test should be conducted regularly during the construction phase to maintain the quality of construction works mechanical like welding radiography physical inspection, hardness and other related tests.
- 6.6 The Tank and pipes should be painted according to good industrial practice and specifications. After sand blasting a layer of primer coat must be done on the tank followed by other coats of good quality Epoxy Industrial paint as per design specifications.
- 6.7 The bottom and internal walls & roof including structure of Tank should be FRP coated to protect the internals against the corrosive effects of water.
- 6.8 The contractor is responsible to take care of all the necessary safety measures for doing the fabrication, installation and electrical jobs in the

Qadirpur 3,000 barrels Condensate Storage Tanks

- potential hazardous areas of oil & gas handling facilities both for the workers and machinery as per safety rules.
- 6.9 The contractor is responsible for living arrangement of its manpower at his own account. Further he is also responsible for ensuring and using all necessary machinery at site required for construction, fabrication, installation and material handling during the entire project schedule at his own account.
- 6.10 Fitness certificates of all the machinery required at site area must be available on site office of the contractor.
- 6.11 Company shall have right to inspect all equipment that shall be brought for work. Company has the right to reject any equipment it deems not fit for work. In that case contractor shall immediately remove and replace the equipment with no cost to the company.
- 6.12 If any damage occurred to any equipment due to miss handling, improper storage, wrong installation procedure etc. during the project, that damage shall have to be rectified by the contractor without any cost to OGDCL.
- 6.13 Contractor should take all safety measures before starting of each day job, including safety meeting, emergency response plan meeting necessary HC detection test before and during the process of any hot job or electrical works where the possibility of spark generation. All the necessary safety documents must be available at site / office of the contractors.
- 6.14 A graduate Project Site Engineer must be deputed by the contractor as the Incharge of all fabrication and construction activities for communication / correspondence with OGDCL site / project Incharge. The said engineer must be supported by qualified supervisors for each job.
- 6.15 Bidder/ contractor is required to provide the project team details and organization to OGDCL with its technical and financial proposal. Any change in organization and person of project team must be intimated to OGDCL for information / approval as required.

7.0 COATING & PAINTING

Before the final handover of the Tank, the contractor would ensure the application of internal coating and external painting as per guidelines mentioned below.

7.1 External Protective Coating.

For Shell and Fixed Roof

1. 1 coat of zinc rich epoxy primer at 50 microns dft

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2. 2 coat of iron oxide paint at per coat 100 microns dft/each coat
3. 1 coat of acrylic modified polyurethane at 50 microns dft

Total dft 300 micron

7.2 Internal Protective Coating

Internal Tank Complete must be coated with FRP coating @ 3mm thickness Average.

1. FRP material should be DION 490 terephthalic resin/equivalent (Imported). Procurement/ arrangement of material required to complete the job is in contractor/ bidder/ contractor scope.
2. Holiday test must be conducted by the contractor/ bidder/ contractor in presence of
3. OGDCL officials review for any leakage/ to measure the quality of work.

All the tank must be cleaned by sand blasting internally & application of FRP imported Grade material.

8.0 INSPECTION, TESTING & COMMISSIONING.

- 8.1 Bidder/ contractor is responsible to carry out all test during construction and post construction phase ensuring the integrity and performance of each Condensate Storage Tank. This should include:
 - i. Material inspection jointly with Reps. of Contractor and OGDCL prior to commencement of construction work.
 - ii. Welder qualification test.
 - iii. Radiography of weld joints of tank as per API-650
 - iv. Radiography of weld joints of piping spools.
 - v. Hydraulic and vacuum test of tank.
- 8.2 Prior to testing and commissioning. The Contractor Shall Submit Detailed Testing & Commissioning Procedures as per codes of the area to be tested.
- 8.3 Purchaser / Engineering Contractor shall receive from Contractor all information regarding various phases of fabrication work so that Engineer's inspection can establish the quality of workmanship at the required fabrication stages.
- 8.4 Inspection by Owner or his representative shall not relieve the Contractor of the responsibility to replace any inadequate material and to repair any poor workmanship found on site.
- 8.5 Any material or workmanship that does not meet the requirements of this engineering specification may be rejected.

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- 8.6 Material Certificates of all material etc. proposed to use for the tank shall be witnessed.
- 8.7 Any defective material or works found after acceptance at the time of rolling, machining or during erection and testing of tank shall be replaced without charge even if it has been accepted previously.
- 8.8 Welding procedure specification shall be submitted for approval, prior to welding procedure qualification.
- 8.9 Welding procedure qualification and welder qualification tests shall be carried out in the test facility to be approved.
- 8.10 Butt welds shall be full penetration and fusion. Quality of shell welded joints shall be evidenced by radiographic inspection, as specified in API-650.
- 8.11 Extent of Radiography shall be as specified in API-650. Purchaser / Engineering Contractor at any time reserve the right to have any joint radiograph. All welds which are unacceptable shall be repaired and retested through radiograph at contractors expenses.
- 8.12 All radiographic reports along with the films shall be submitted for approval.
- 8.13 Fillet welds inspection shall be visual. In case that visual inspection of Purchaser's / Engineering Contractor's inspector reveals poor welds, acceptance or rejection shall depends on sectioning of these welds as per API-650
- 8.14 All tests be witnessed and approved by Engineer.
- 8.15 Surface preparation for painting shall have to be approved prior to the application of paint.
- 8.16 Inspection of fabrication and erection work shall not relieve the manufacturer of the responsibility to replace any inadequate material and to repair any poor workmanship found on site.

8.17 Tank Bottom Testing.

After welding the tank bottom, the welded joints shall be tested by means of vacuum chamber. Welding seams shall be brushed with soap suds, flax oil or other materials suitable to detect leakage.

8.18 Tank Shell Testing

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- After erection of the whole tank, all attachments and fixtures used for erection shall be removed and prior to connection to external piping the shell shall be tested by water filling.
- The tank shall be filled upto 2" (50 mm) above the top angle.
- All connections shall be blanked off.
- Filling rate shall not exceed 45m³ / hour upto top shell lower edge. From top shell lower edge upwards filling rate shall not exceed to 30m³ / hours.
- The telltale holes shall be used to pneumatically test attachment welds on reinforcing pads. The telltale holes shall be plugged after hydro test with non-hardening sealant or grease.

8.19 **Tank Roof Testing**

After the tank is finished, the welds of the roof shall be tested by an inner pressure which shall not exceed roof plate weight or by vacuum chamber applied on weld outer surface. Welding seams shall be lubricated with soap solution flax oil or other liquid suitable to tested leakage.

- 8.20 All material sources required for the testing (Like water, pneumatic air etc.) will be provided by OGDCL, while all other arrangement will be made by the contractor at its own cost. It is not OGDCL responsibility.

8.21 **Inspection / Quality Plan**

<u>Activity</u>	<u>Purchaser Inspection</u>
Preproduction Meeting	H
Material Procurement	R
Heat Treatment Certificates	R
Mill Test Report	R
Material Inspection	H
Welding Procedure & Welder Qualification	H
Fabrication	M
Radiographic Testing	M
Welding Repairs	M
Hydrostatic Testing	H
Painting and Coating	H

Note:

- H - Hold point, inspection or testing shall not proceed without the presence of the purchaser's representative.
- M - Monitor point, notification to the purchaser's representative of impending inspection or test activity is required.
- R - Review documents, presentation of the specified.

11. **MARKING.**

- 11.1 All plates, reinforcements, access steel structures, etc. shall be marked as specification in the detailed engineering design.
- 11.2 Marking shall be stamped in an easily visible place, using a striking dye, after protective coating application (if specified).
- 11.3 Tank identification tag with capacity, service, dimension, treatment, and year of manufacturing with Contractor complete address to be affixed permanently.

12. **WORK SCHEDULE & REPORTS.**

After the award of contractor, a detailed kick-off meeting to discuss the reporting channels and work schedule for timely completion of the project would be held at Qadirpur Gas Field. OGDCL engineers would perform material inspection at the contractor's site; before mobilization for the material of construction, and contractor would intimate its schedule accordingly.

13. **PROGRESS REPORTS.**

The contractor shall prepare and submit to the company a weekly progress report detailing all actions that have occurred in the preceding week and actions anticipated in the coming week, the detail should be included but not limited to;

- Work in progress in shape executive summary.
- Work completed during the week.
- Problem areas.
- Proposal remedial actions associated with shortfalls/problems areas.
- Out standing matters
- All weekly reports will be submitted on or before Saturday of every week with API Inspector signature as well.

14. **FINAL INSPECTION & COMMISSIONING.**

OGDCL would under take its routine site monitoring for the progress and reserves the right to carry out the mutually agreed inspection. Moreover, calibration of Tank; as per API certification requirement; is included in the contractor's scope of work.

Contractor will install Name Plate as per API 653 code.

15. **EXPERIENCE**

The contractor who intends for participate in this project must have **08 (2011~ 2019) years** of fabrication and installation experience. Further the contractor should submit a list of recent projects of similar nature carried out by him with brief scope of work, cost and completion duration

along the technical portion of the bid, **otherwise his bid shall not be considered for further evaluation.**

16. HIRING OF SERVICES

In case Contractor hires the services of any activity for the project like installation, fabrication, inspection, FRP coating etc. from other company. He must propose a reputed companies at the time of submission of bids having at least 10 years relevant experience. After approval of the bid no change regarding replacement of the sub contractor can be made OGDCL would finally nominate one of he proposed sub contractor.

17. REPAIRS.

All welding defects shall be brought to the Purchaser's / Engineering Contractor's knowledge and approval shall be obtained before repairing them.

All remedies must get approval of the Purchaser / Engineering Contract.

18. PEAKING.

Using a horizontal mould to radius of 1m long peaking in any area of inside shell surface shall not exceed 12.7mm.

19. BANDING.

With a vertical sweep board 1m long, banding shall not exceed 12.7m. Measurements for tank would be performed before hydraulic test.

20. DELIVERY OF TANK.

The contractor period is 240 days in all respects from the date of issuance of Purchase Order.

21. BOX-UP

After testing and calibration, Tank shall be emptied and water disposed of as per instruction of Contractor. Tank shall be thoroughly cleaned internally and boxed-up, including mounting, fitting, fixing and bolting of tank fittings and accessories provided.

23. Applicable Codes & Standards.

- i. The contractor shall have to follow all applicable international codes / standards (*especially following listed NACE, API or equivalent BSI codes*) and local regulations and practice in vogue to complete the job.
 - a. NACE RP - 01 – 0169 / 2002.
 - b. NACE RP – 01 – 99.
 - c. NACE RP – 05 – 72.
 - d. NACE RP – 02 – 86.
 - e. API RP – 651.

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- f. BS – 7361.
- ii. It will be contractor's responsibility to be fully aware of the requirement of the applicable codes and standards.

24. Boarding, Lodging, messing, transportation.

- i. Boarding and Lodging facilities to contractor's team / workers would be arranged by contractor itself, OGDCL would only provide secure place within fenced area.
- ii. All utilities like water; electricity etc would be the responsibility of the Contractor.
- iii. All kind of transportation for men-material shall be sole responsibility of the contractor.

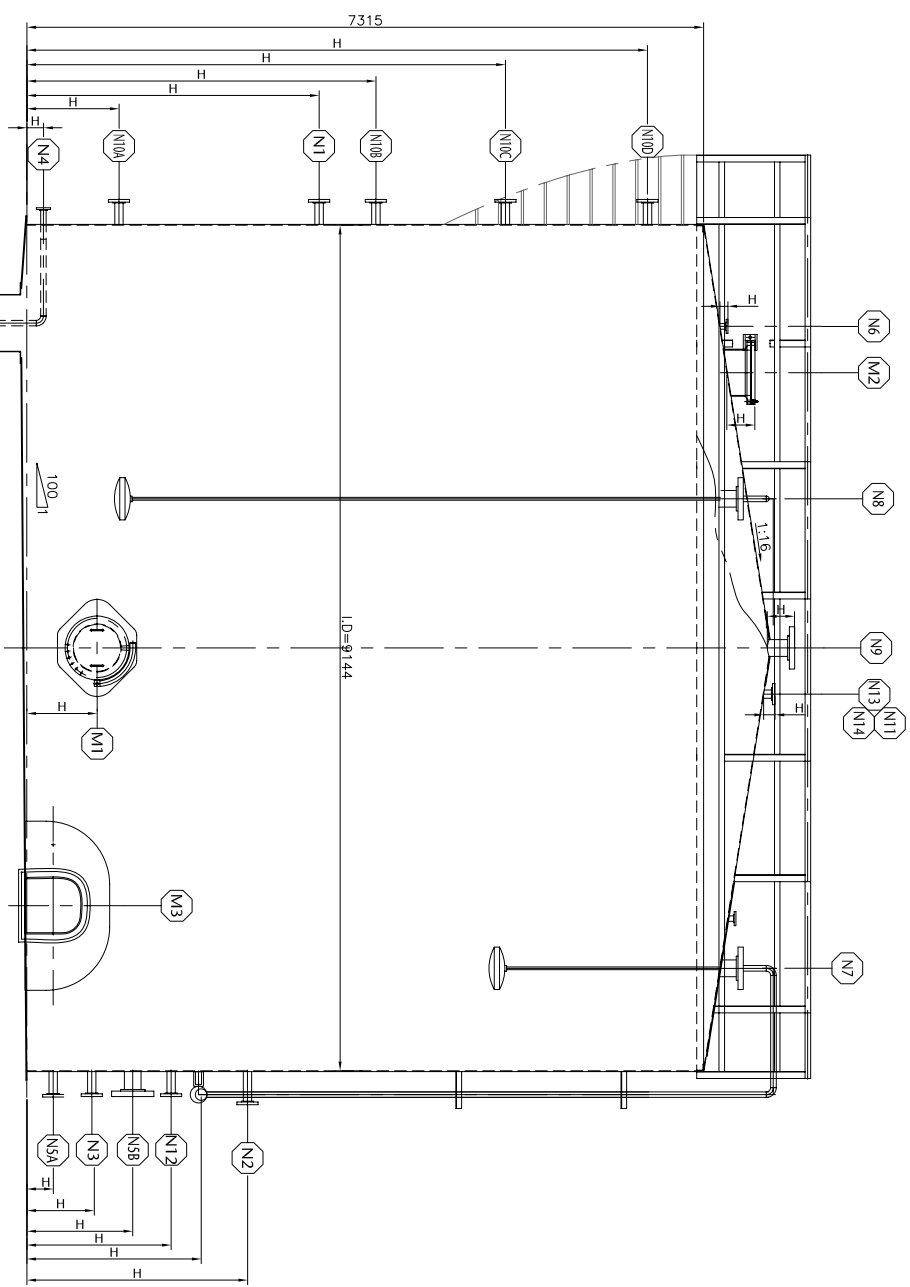
Technical Evaluation Criteria

Sr. #	Evaluation Item	Max. Marks / Calculations	Max. Marks	Min. Qualifying Marks	Remarks	Remarks from Bidder/ contractor
1.	Bidder/ contractor Experience	10 Years (30 Marks) 07 Years (20 Marks) Less Than 05 Years= (Zero Marks)	30	20	Provide evidence for experience	
2.	Complete compliance of TOR	20 Marks	20	20	Bidder/ contractor to confirm the compliance with separate letter.	
3.	Previous Service Order between 2011 ~2019	10 No's of Tanks with similar/ higher capacity have been fabricated/ repaired (10Marks) 05 No's of Tanks with similar/ higher capacity have been fabricated/ repaired (05Marks)	10	05	Provide the purchase orders with their details	

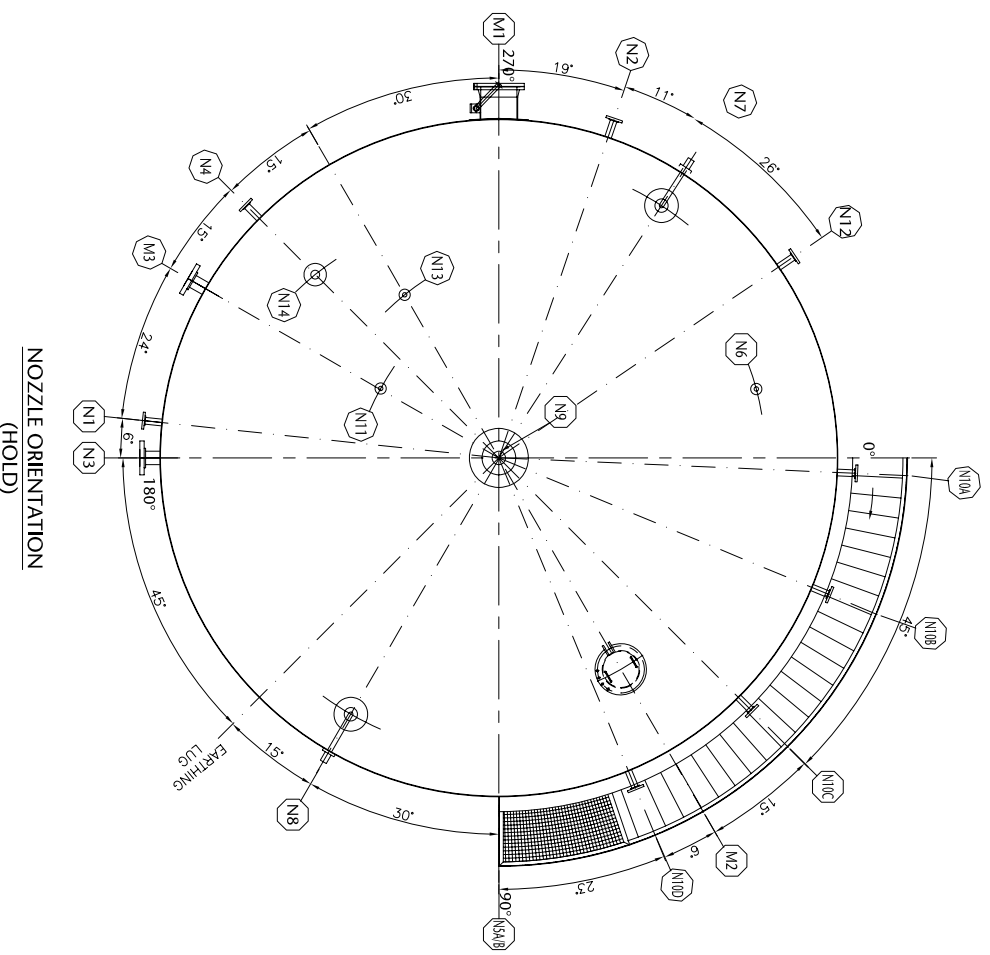
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Sr. #	Evaluation Item	Max. Marks / Calculations	Max. Marks	Min. Qualifying Marks	Remarks	Remarks from Bidder/ contractor
4.	Previous Service Order between 2012 ~2019	10 No's FRP coatings of Tanks with similar/ higher capacity have been performed (10Marks) 05 No's FRP coating of Tanks with similar/ higher capacity have been performed (05 Marks)	10	05	Provide the purchase orders with their details	
5.	Experience of site Supervisor	10 Years' Experience (20 Marks) 07 Years' Experience (15 Marks)	20	15	Bidder/ contractor should submit the Cv of Site supervisor	
6.	ISO 9000 Certification.	10 Marks	10	10	Bidder/ contractor should submit the valid copy of certificates. If the certificate status is in progress, no marks shall be given.	
Total Marks			100			
Qualifying Marks			75			

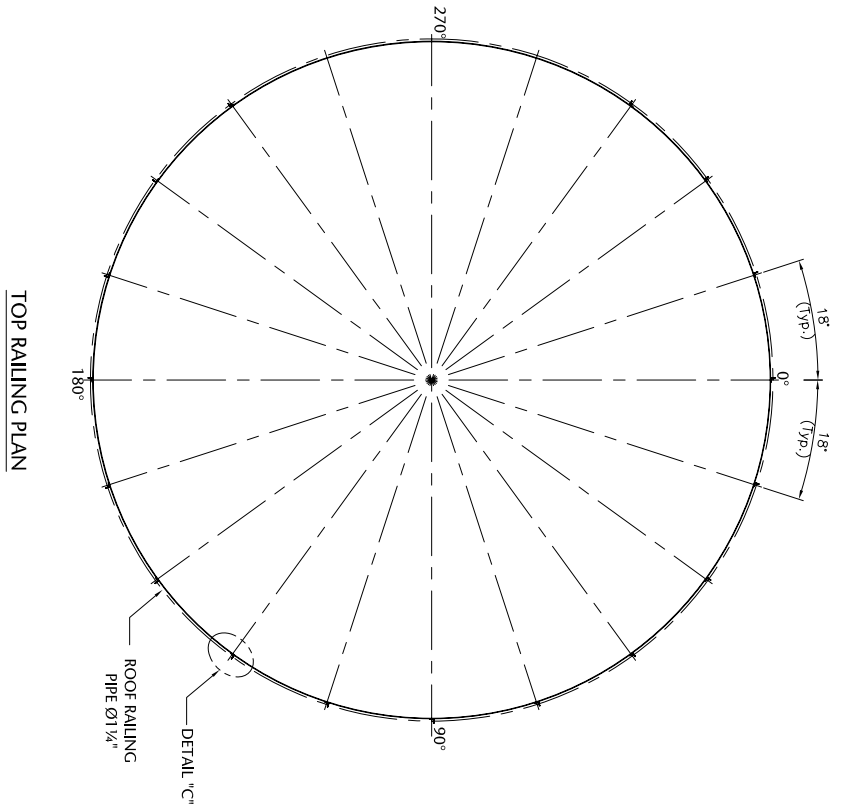
Contractor should get minimum qualifying marks in each category as mentioned in above table, bid will be rejected if above mentioned minimum qualifying marks in any category will not be scored by the contractor.



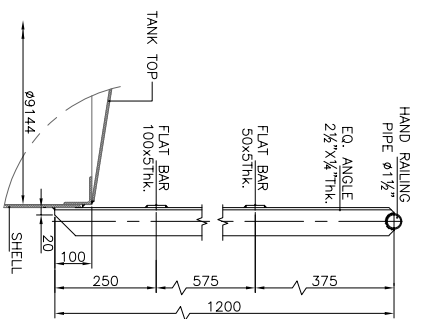
FRONT VIEW



NOZZLE ORIENTATION (HOLD)



TOP RAILING PLAN



DETAIL 'C'

NOZZLE / SCHEDULE							
DATA SHEET TAG	NOZZLE No.	QTY.	SIZE (DN)	RATING	SERVICE	ELEV. (ft)	REMARK
A	N1	1	3"	150# S.O.R.F.	LIQUID INLET	238	
B	N2	1	6"	150# S.O.R.F.	CONDENSATE OUTLET	163	
C	N3	1	3"	150# S.O.R.F.	WATER OUTLET	763	
D	N4	1	2"	150# S.O.R.F.	DRAW OFF	688	
E	NSA/B	2	3"	150# S.O.R.F.	STAND PIPE (G/LT)	250/1500	
F	N6	1	2"	150# S.O.R.F.	GAS BLANKETING	-	ON ROOF
G	N7	1	6"	150# S.O.R.F.	LEVEL INDICATOR PIPE CONDENSATE WATER (100T THE)	-	ON ROOF
H	N8	1	6"	150# S.O.R.F.	VENT	-	ON ROOF
I	N9	1	6"	150# S.O.R.F.	TEMPERATURE GAUGE	1500/1500/4500/6000	ON ROOF
J	NI0A/B/C/D	4	2"	150# S.O.R.F.	NOZZLE FOR PAV	-	ON ROOF
K	NI1	1	4"	150# S.O.R.F.	SAMPLE CONNECTION	1600	ON ROOF
L	NI2	1	2"	150# S.O.R.F.	SPARE NOZZLES	800	ON ROOF
M	NI3	1	2"	150# S.O.R.F.	HATCH DIP	-	ON ROOF
N	NI4	1	8"	150# S.O.R.F.	SHELL MANWAY	350	ON ROOF
O	M1	1	24"	150# S.O.R.F.	ROOF MANWAY	-	ON ROOF
P	M2	1	24"	150# S.O.R.F.	CLEAN OUT DOOR	00	
Q	M3	1	24"	150# S.O.R.F.			

DESIGN DATA	
SERVICE	CONDENSATE
OPERATING PRESSURE	ATM
DESIGN PRESSURE	ATM
SPECIFIC GRAVITY	0.755
CAPACITY NOMINAL	3000 BBL
CORROSION ALLOW	3 mm
OPERATING TEMP.	121 °F
DESIGN TEMP	180 °F
WIND VELOCITY	-
WIND PRESSURE	100
INSULATION	NONE
PAINTING	A5 PER SPEC.
BLASTING	A5 PER SPEC.
EARTH QUAKE ZONE	-
HYDROSTATIC TEST	FULL WATER
JOINT EFFICIENCY	SHELL
HEAT TREATMENT	No.
RADIOGRAPHY	-
EMPTY WEIGHT	53356 LBS
TEST WEIGHT	-
CODE OF SPEC	API 650
NO. OF TANK RECD.	ONE

- NOTES:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 2. NOZZLE ORIENTATION WOULD BE ADJUSTED AS PER PILING. THE CONTRACTOR / FABRICATOR SHALL CHECK & VERIFY THE DIMENSION PRIOR TO START OF FABRICATION AND DEVELOP AND OBTAIN THE DIMENSION SHELL BE WITH WRITTEN APPROVAL OF COMPANY PRIOR TO EXECUTION OF WORK.

REV.	DATE	DESCRIPTION OF REVISION	SJD	JSM	ZH	ZH	AM
1	05-10-2016	COMMENTS ARE IN CORPORATE					
0	22-09-2016	ISSUED FOR APPROVAL					

ENAR
 ENAR PETROTECH SERVICES (PRIVATE) LIMITED
 7-B, Sector 7-A Korangi Industrial Area, Korangi Pakistan
 TEL: (9221) 5062791 E-mail: info@enar.com.pk
 www.enar.com.pk

ENAR
 OIL & GAS DEVELOPMENT COMPANY LIMITED
 QADIRPUR GAS FIELD DEVELOPMENT
 GENERAL ARRANGEMENT
 FOR CONDENSATE TANK (T-2811)

Dwg. No. 14-1483
 1483-SD-7701

DESIGNER	1483-SD-7701
CHECKER	AT
SCALE	NIS
REVISIONS	

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5	CURB ANGLE 75x75x6THK.28726.72 LG)	1	A-36	6.8 Kg./m	195.34
4	P-4 PLATE 4717x1500X6THK.	3	A-283 Gr.C	47.1 Kg./m ²	999.77
3	P-3 PLATE 6000x1500X6THK.	12	A-283 Gr.C	47.1 Kg./m ²	5086.80
2	P-2 PLATE 4717x1500X8THK.	2	A-283 Gr.C	62.8 Kg./m ²	888.68
1	P-1 PLATE 6000x1500X8THK.	8	A-283 Gr.C	62.8 Kg./m ²	4521.60
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT TOTAL WEIGHT (Kg.)	11692.2

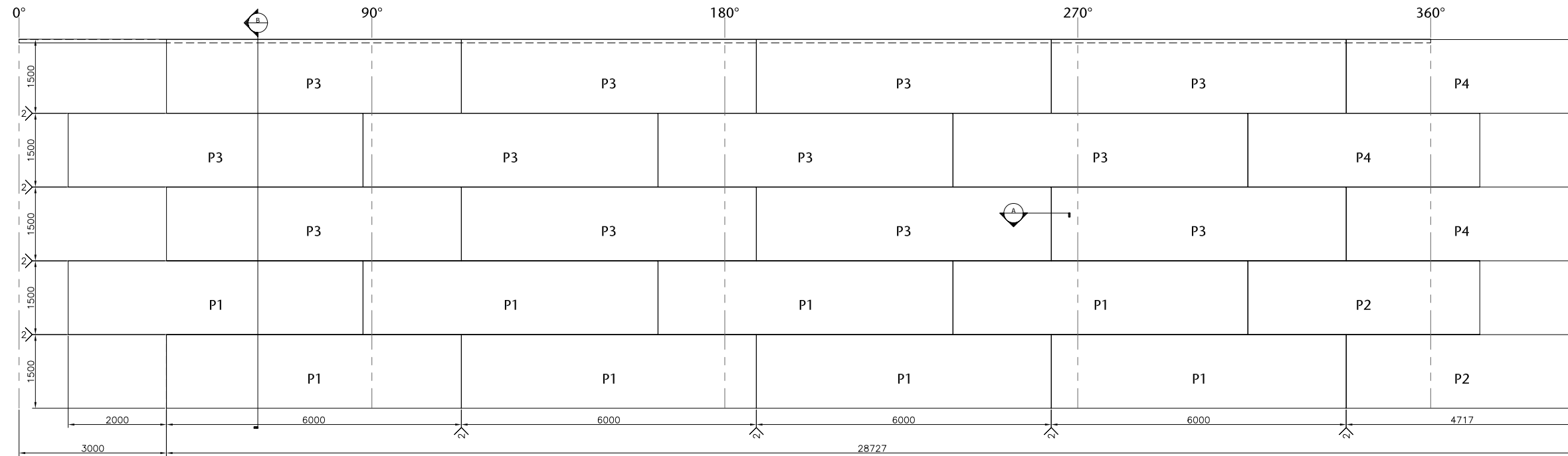
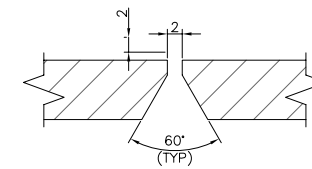
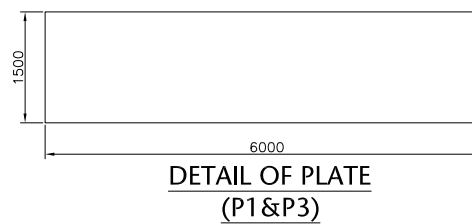


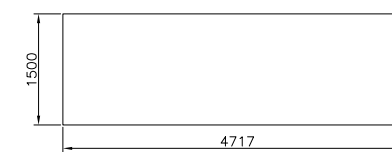
PLATE DEVELOPMENT



SECTION A-A
TPY. VERTICAL WELDING DETAIL



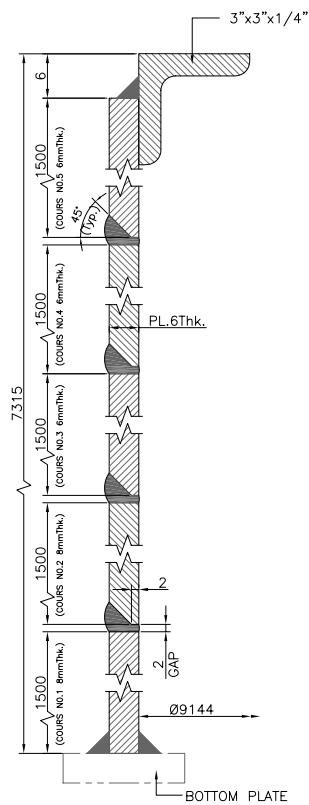
DETAIL OF PLATE
(P1 & P3)



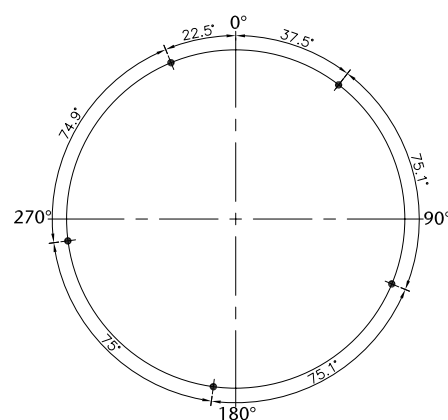
DETAIL OF PLATE
(P2 & P4)

NOTES:

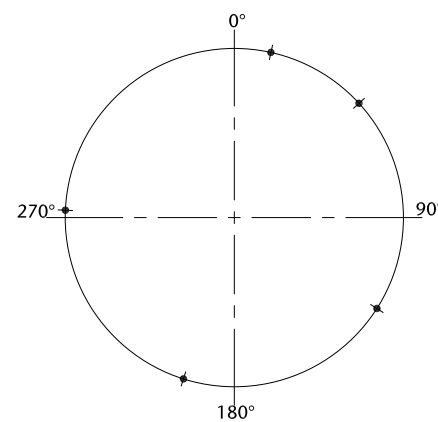
- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.



SECTION B-B



POSITION OF PLATE
(P1 & P2)



POSITION OF PLATE
(P2 & P4)

0	05-09-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
		ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job No. 14-1483			
		7-B, Sector 7-A, Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5082791 E-mail: info@enar.com.pk URL: www.enar.com.pk	Dwg. No. 1483-SDF-7801			
		OIL & GAS DEVELOPMENT COMPANY LIMITED	1483-SDF-7801-0			
		QADIRPUR GAS FIELD DEVELOPMENT	SHEET SIZE: A1			
		SHELL DETAILS DETAIL	SCALE: MTS			
		FOR CONDENSATE TANK (T-2811)	REPLACES DWG. NO.			
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL						

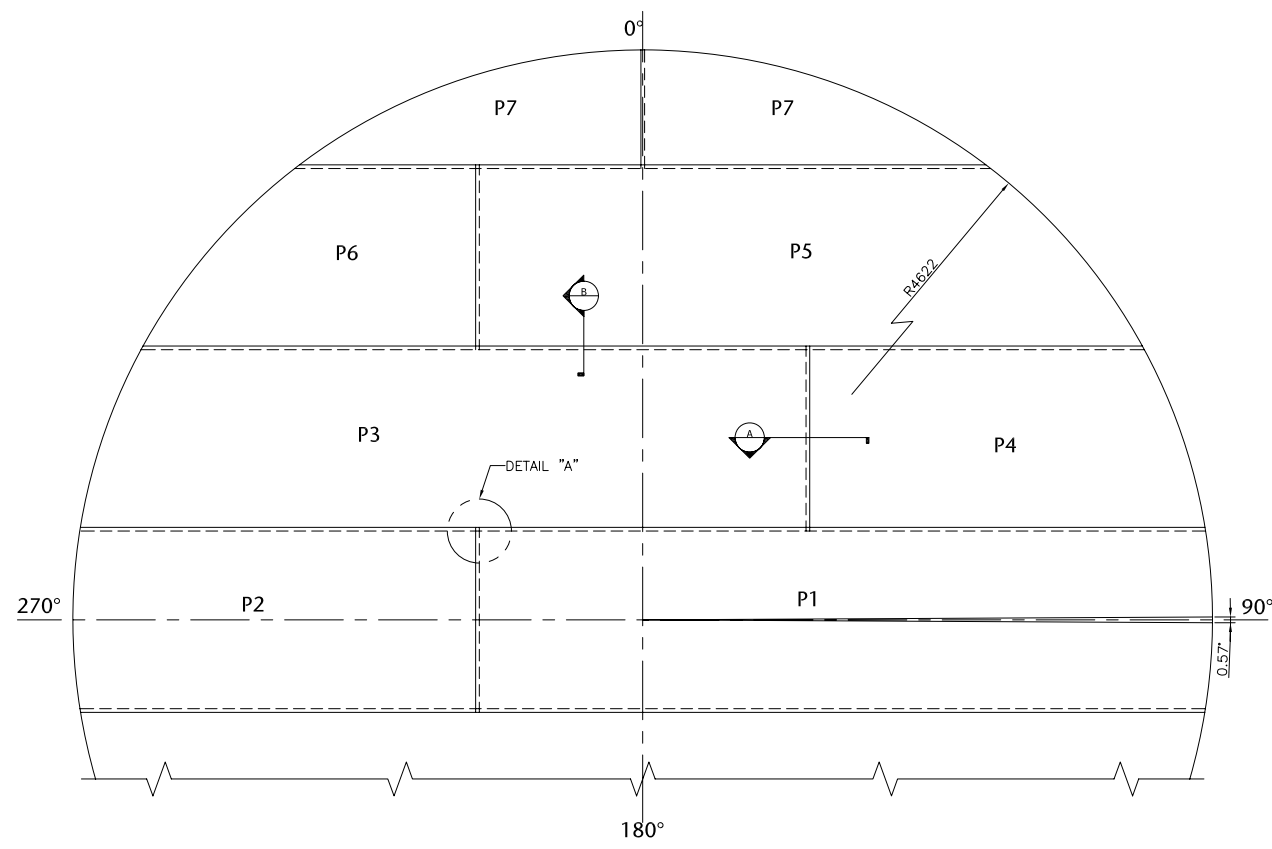
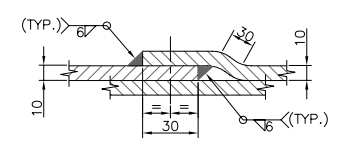
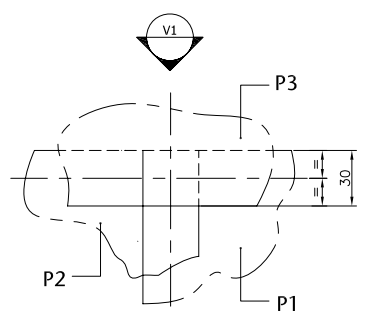


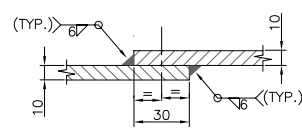
PLATE DEVELOPMENT



VIEW "V1"

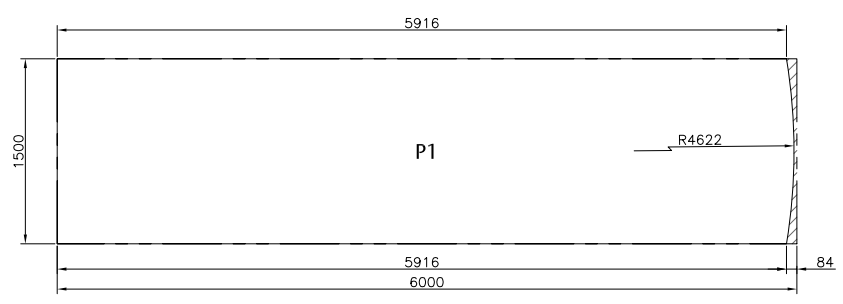


DETAIL "A"

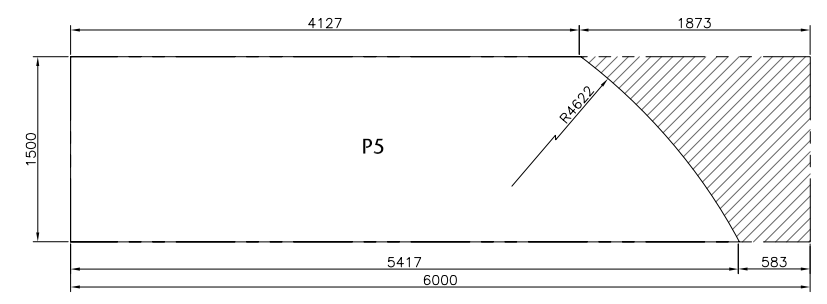


SECTION B-B

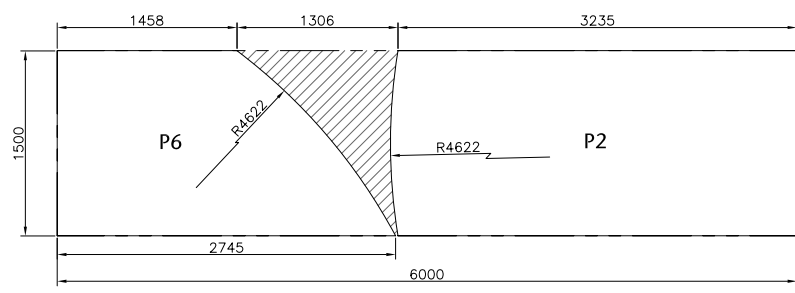
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT (Kg.)	TOTAL WEIGHT (Kg.)
7	P-7 PLATE 10THK.	4	A-283 Gr.C	78.5 Kg./m ²	586.0
6	P-6 PLATE 10THK.	2	A-283 Gr.C	78.5 Kg./m ²	517.2
5	P-5 PLATE 10THK.	2	A-283 Gr.C	78.5 Kg./m ²	1148.4
4	P-4 PLATE 10THK.	2	A-283 Gr.C	78.5 Kg./m ²	714.4
3	P-3 PLATE 10THK.	2	A-283 Gr.C	78.5 Kg./m ²	1345.4
2	P-2 PLATE 10THK.	1	A-283 Gr.C	78.5 Kg./m ²	385.8
1	P-1 PLATE 10THK.	1	A-283 Gr.C	78.5 Kg./m ²	701.0
					5398.2



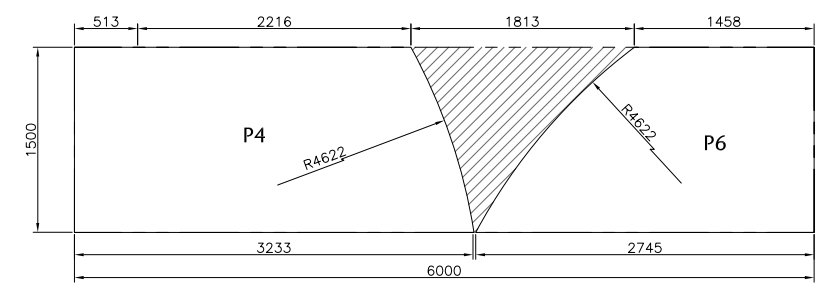
REQ. 01 PLATE



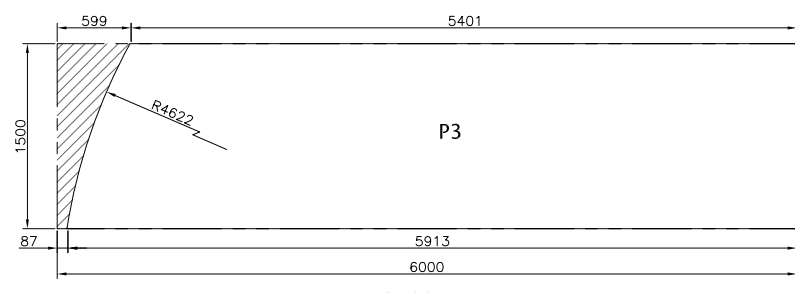
REQ. 02 PLATE



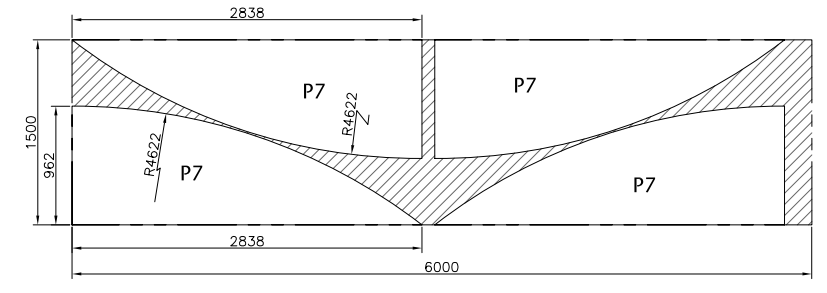
REQ. 01 PLATE



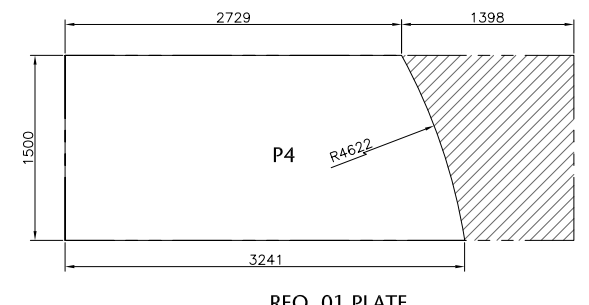
REQ. 01 PLATE



REQ. 02 PLATE



REQ. 01 PLATE



REQ. 01 PLATE

NOTES:
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.

REV.	DATE	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
0	05-09-2016					
		DESCRIPTION OF REVISION	DRAWN DESIGNED CHECKED APPR.			
		ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job No. 14-1483			
		7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL: www.enar.com.pk	Dwg. No. 1483-SDF-7802			
		OIL & GAS DEVELOPMENT COMPANY LIMITED	1483-SDF-7802-0			
		QADIRPUR GAS FIELD DEVELOPMENT	COMPUTER CODE			
		BOTTOM CUTTING DETAIL	SHEET SIZE A1			
		FOR CONDENSATE TANK (T-2811)	SCALE MTS			
			REPLACES DWG. NO.			
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL						

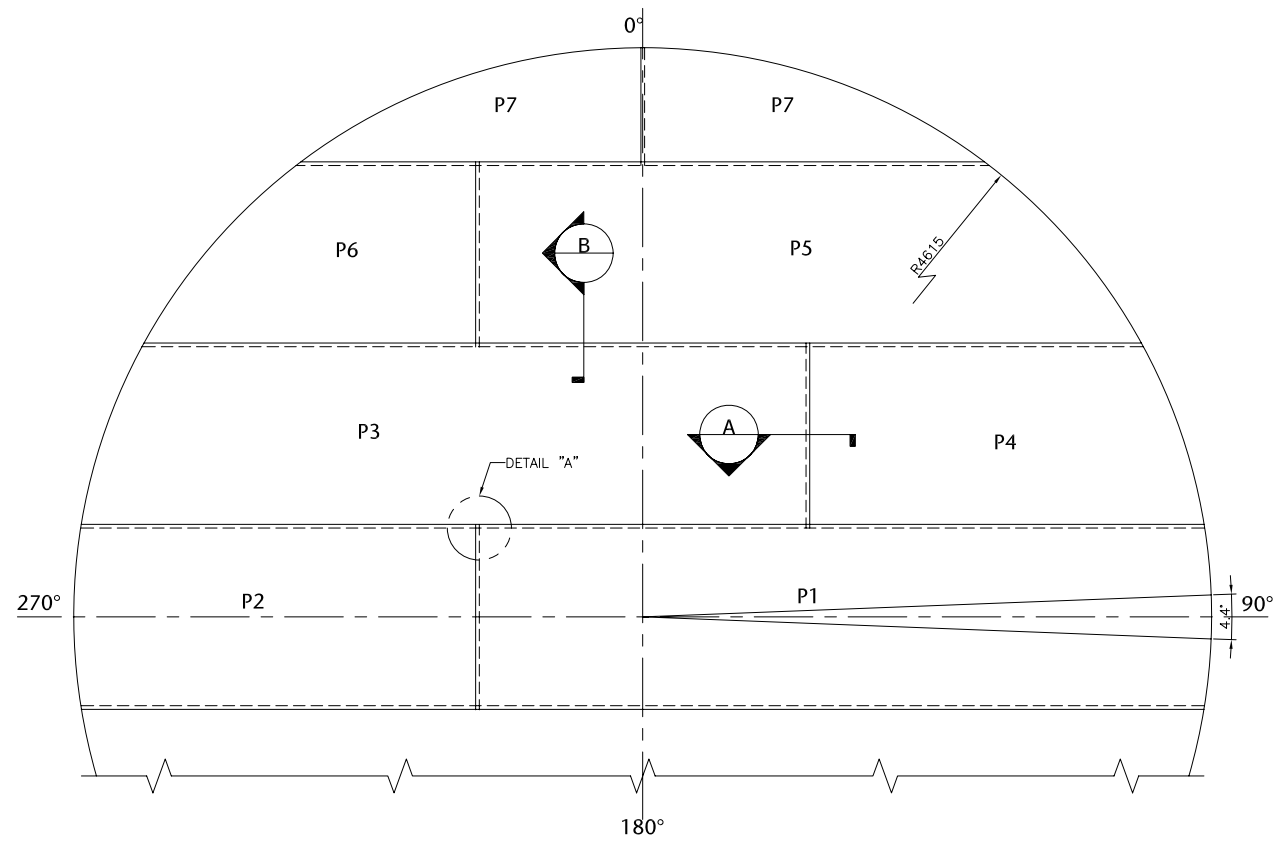
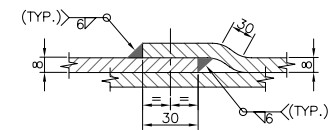
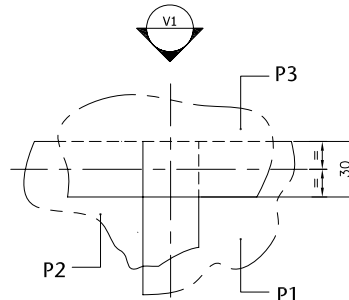


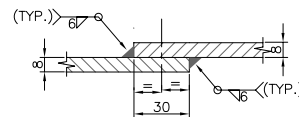
PLATE DEVELOPMENT



VIEW "V1"

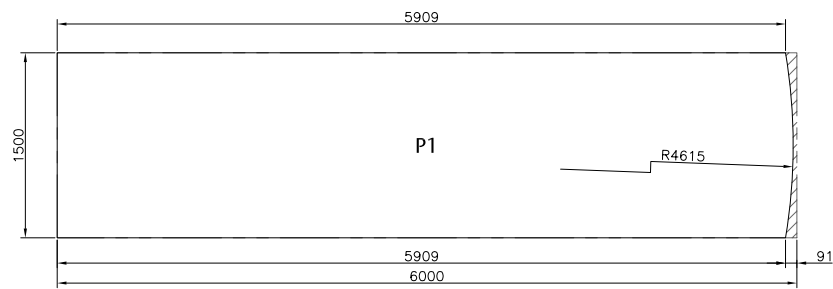


DETAIL "A"

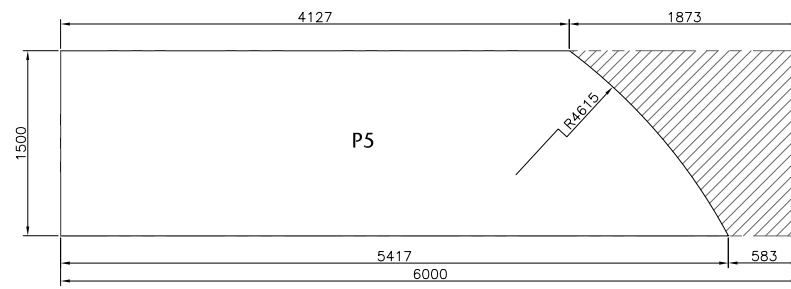


SECTION B-B

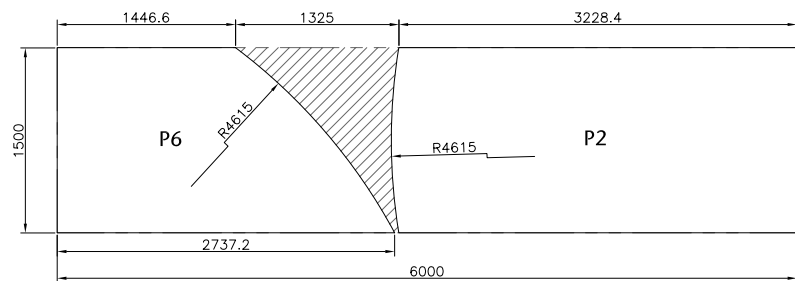
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT (Kg.)	TOTAL WEIGHT (Kg.)
7	P-7 PLATE 8THK.	4	A-283 Gr.C	47.1 Kg./m ²	464.0
6	P-6 PLATE 8THK.	2	A-283 Gr.C	47.1 Kg./m ²	412.0
5	P-5 PLATE 8THK.	2	A-283 Gr.C	47.1 Kg./m ²	917.0
4	P-4 PLATE 8THK.	2	A-283 Gr.C	47.1 Kg./m ²	570.2
3	P-3 PLATE 8THK.	2	A-283 Gr.C	47.1 Kg./m ²	1150.0
2	P-2 PLATE 8THK.	1	A-283 Gr.C	47.1 Kg./m ²	308.0
1	P-1 PLATE 8THK.	1	A-283 Gr.C	62.8 Kg./m ²	560.5
					4381.7



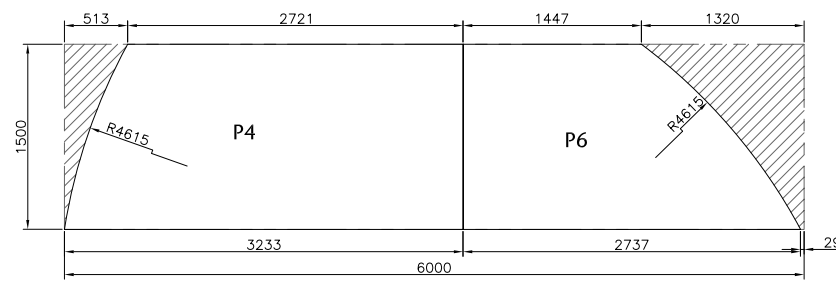
REQ. 01 PLATE



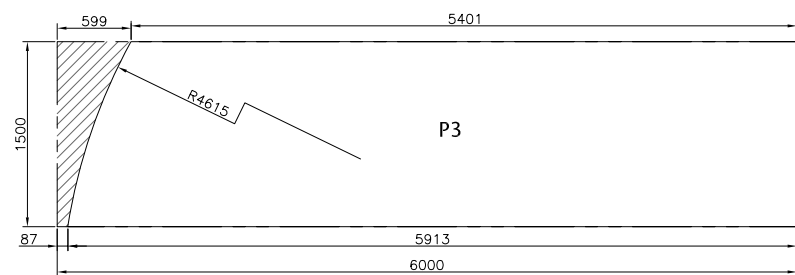
REQ. 02 PLATE



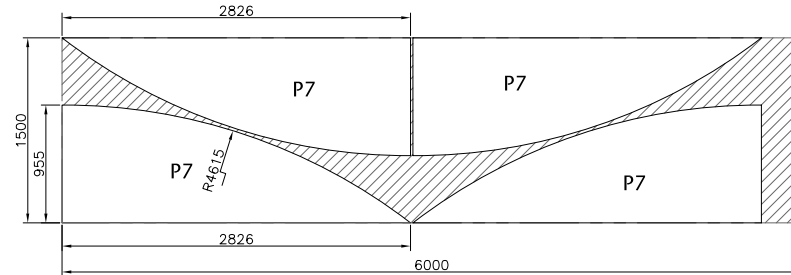
REQ. 01 PLATE



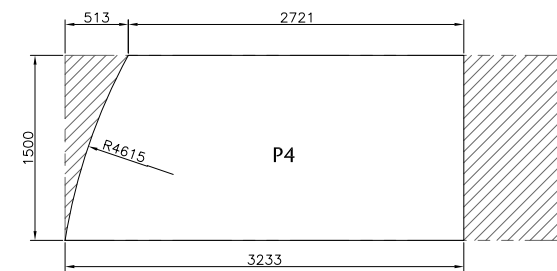
REQ. 01 PLATE



REQ. 02 PLATE



REQ. 01 PLATE



REQ. 01 PLATE

NOTES:

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.

REV.	DATE	DESCRIPTION OF REVISION	SJD	JSW	ZAH	AH
0	05-09-2016	ISSUED FOR APPROVAL				

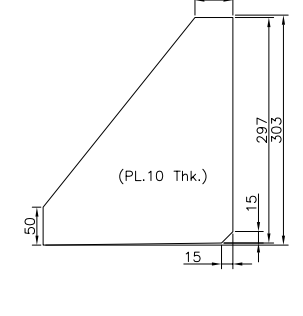
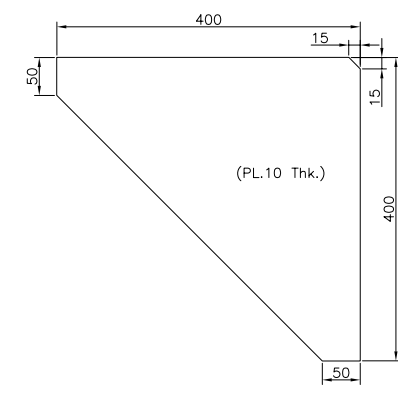
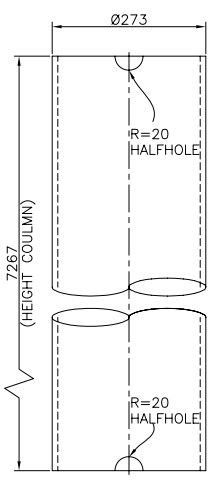
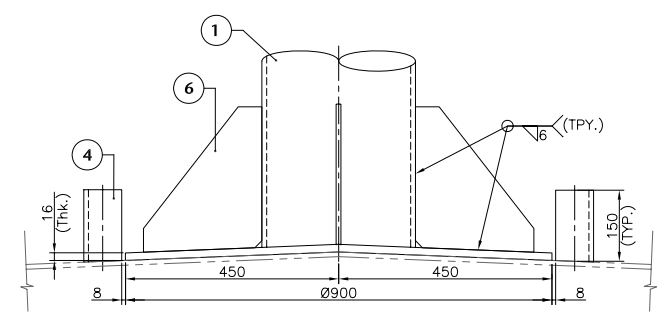
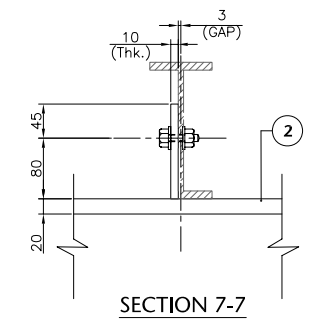
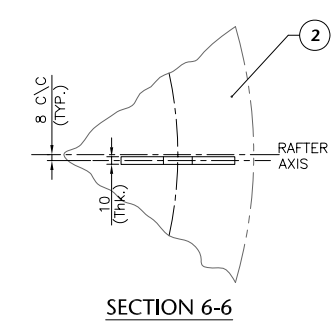
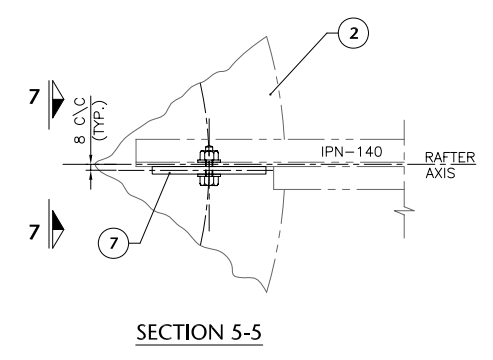
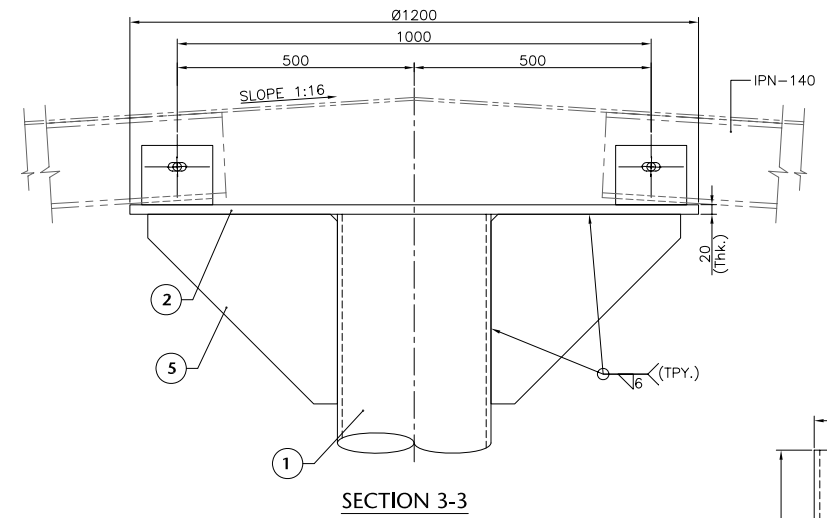
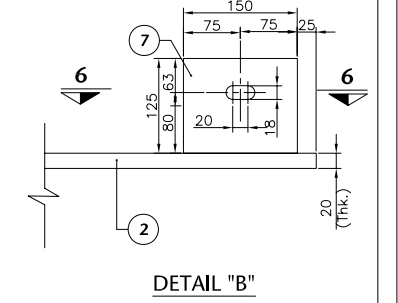
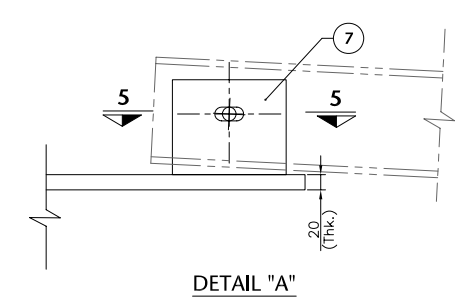
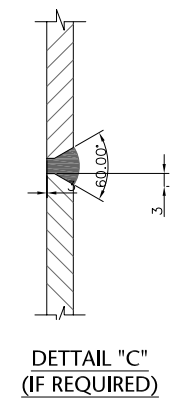
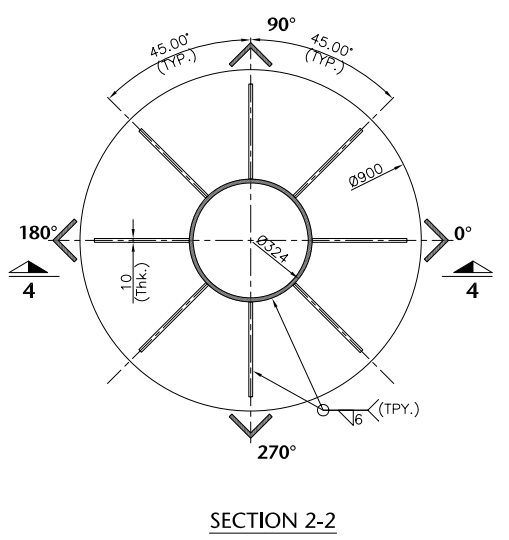
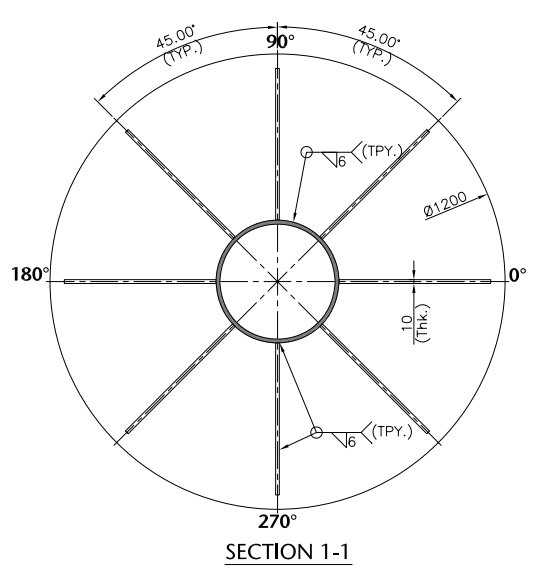
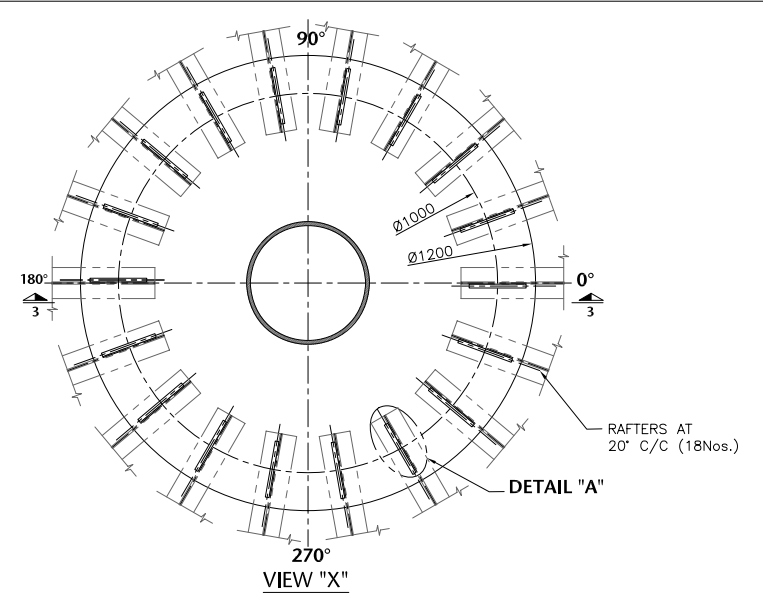
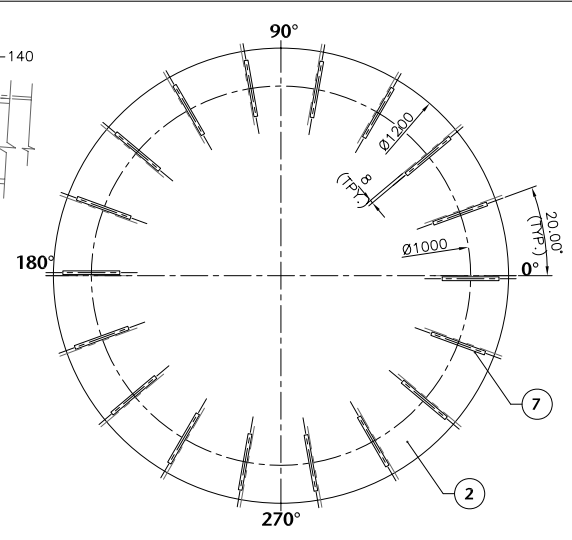
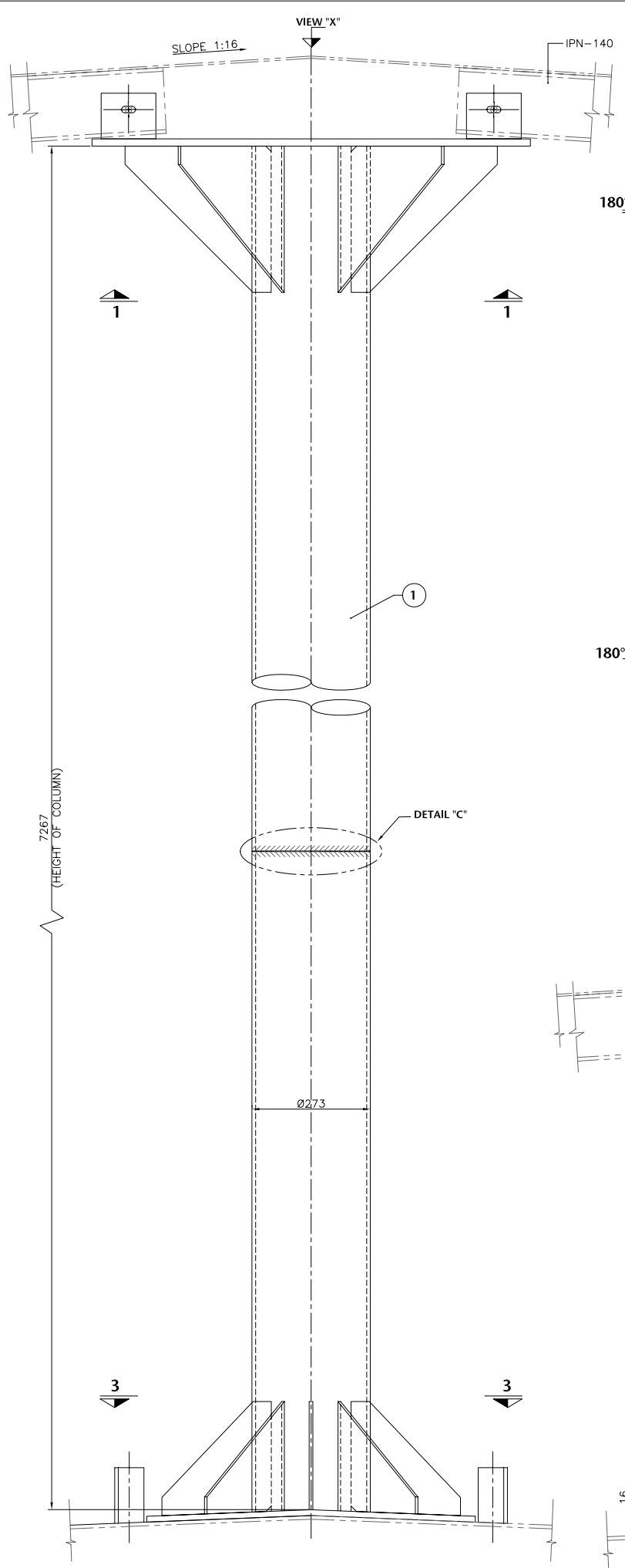
ENAR PETROTECH SERVICES (PRIVATE) LIMITED
 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan
 TEL: (9221) 5082791 E-mail: info@enar.com.pk URL: www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED
 QADIRPUR GAS FIELD DEVELOPMENT
 ROOF CUTTING DETAIL
 FOR CONDENSATE TANK (T-2811)

Job No. 14-1483
 Dwg. No. 1483-SDF-7803

COMPUTER CODE: 1483-SDF-7803-0
 SHEET SIZE: A1
 SCALE: MTS
 REPLACES: DWG. NO.

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ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT TOTAL WEIGHT (Kg.)	
10	WASHER OD 30 x ID 19 x 3THK.	36	ATM AF436	0.68 Kg./100 Pcs.	1
9	NUT M16	18	A-563 Gr.A	3.90 Kg./100 Pcs.	1
8	BOLT M16 x 70 LONG	18	A-516 Gr.60	13 Kg./100 Pcs.	3
7	CLEAT PLATE 10 THK.	18	A-516 Gr.60	78.5 Kg./m ²	27
6	GUSSET PLATE 10 THK.	8	A-516 Gr.60	78.5 Kg./m ²	31
5	GUSSET PLATE 10 THK.	8	A-516 Gr.60	78.5 Kg./m ²	62
4	BASE GUIDE L-80x80x10x150LONG	4	A-36	11.9 Kg./m ²	7
3	BASE PLATE Ø900 x 16 THK.	1	A-516 Gr.60	125.6 Kg./m ²	80
2	TOP PLATE Ø1200 x20 THK.	1	A-516 Gr.60	157 Kg./m ²	178
1	PIPE 10"Ø SCH.STD x7268 LONG	1	A-106 Gr.B	81.0 Kg./m	588.7
				976.7	

NOTES:
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.

REV.	DATE	ISSUED FOR APPROVAL	DESCRIPTION OF REVISION	SJD	JSW	ZAH	AH
0	05-09-2016						

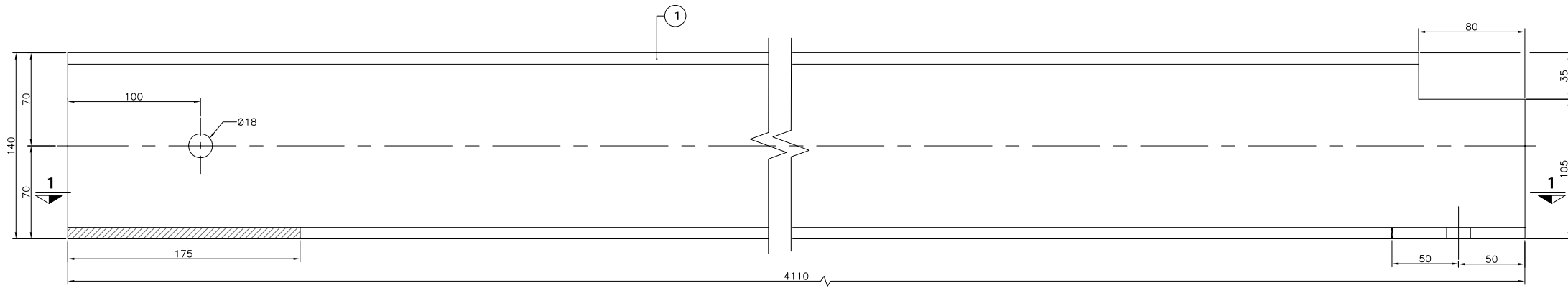
ENAR ENAR PETROTECH SERVICES (PRIVATE) LIMITED
7-B, Sector 7-A Karachi Industrial Area, Karachi Pakistan
TEL: (9221) 5082731 E-mail: info@enar.com.pk URL: www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED
QADIRPUR GAS FIELD DEVELOPMENT
ROOF CUTTING DETAIL FOR CONDENSATE TANK (T-2811)

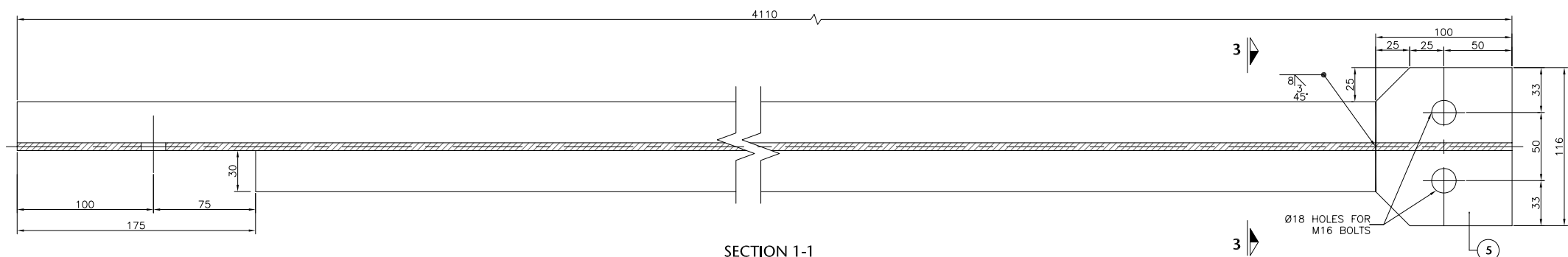
Job No. 14-1483
Dwg. No. 1483-SDF-7804

CS/PROJECT CODE: 1483-SDF-7804-0
SHEET SIZE: A1
SCALE: NTS
REPLACES DWG. NO.

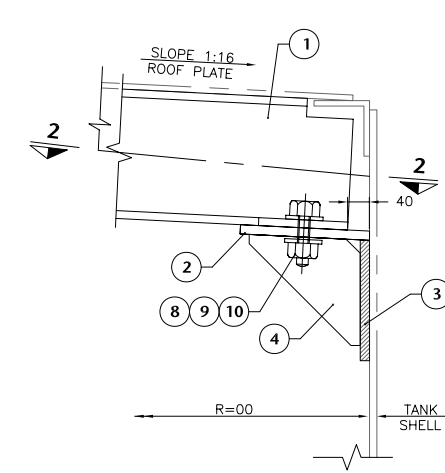
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL.



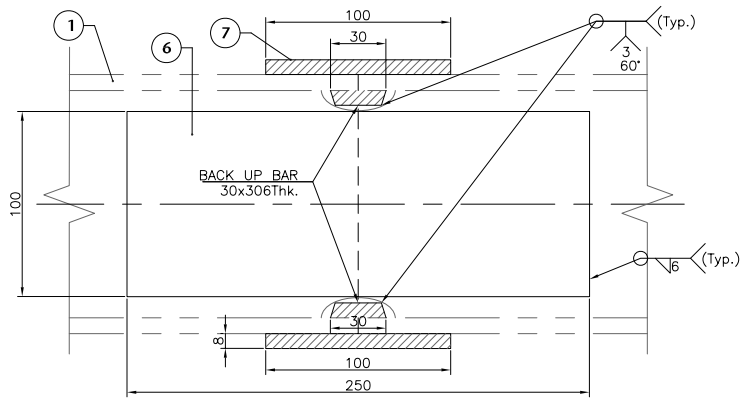
RAFTER



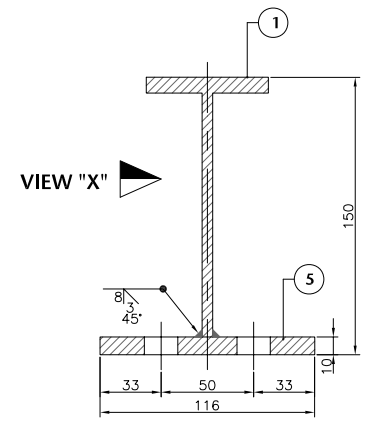
SECTION 1-1



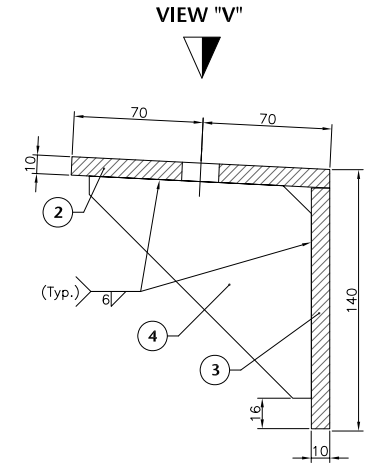
DETAIL "X"



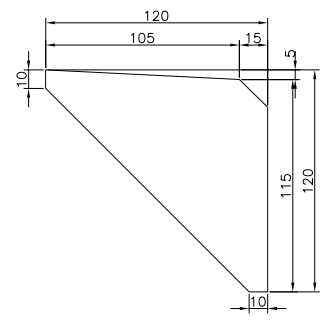
RAFTER FRONT SPICING DETAIL



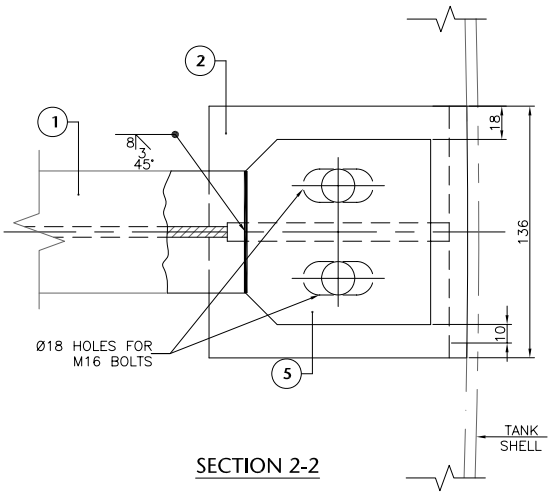
SECTION 3-3



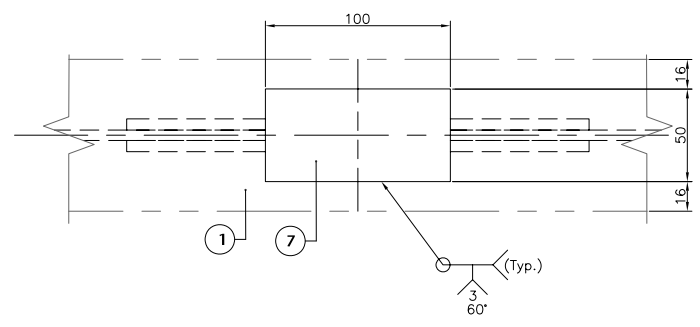
BRACKET SUPPORT DETAIL



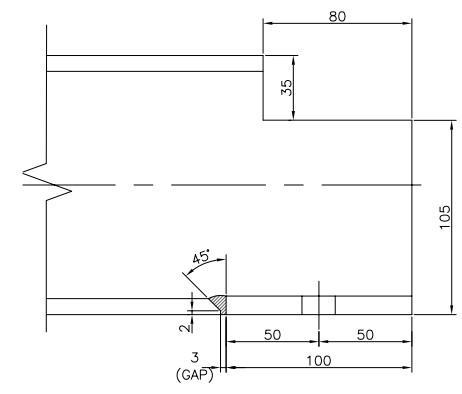
ITEM-4



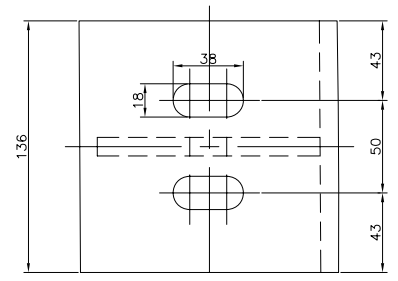
SECTION 2-2



RAFTER TOP SPICING DETAIL



VIEW DETAIL "X"



VIEW DETAIL "V"

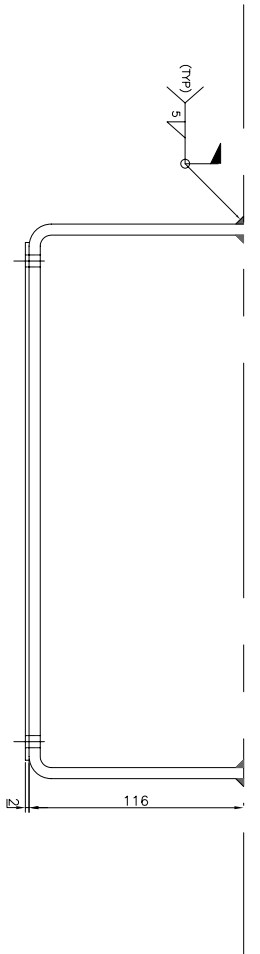
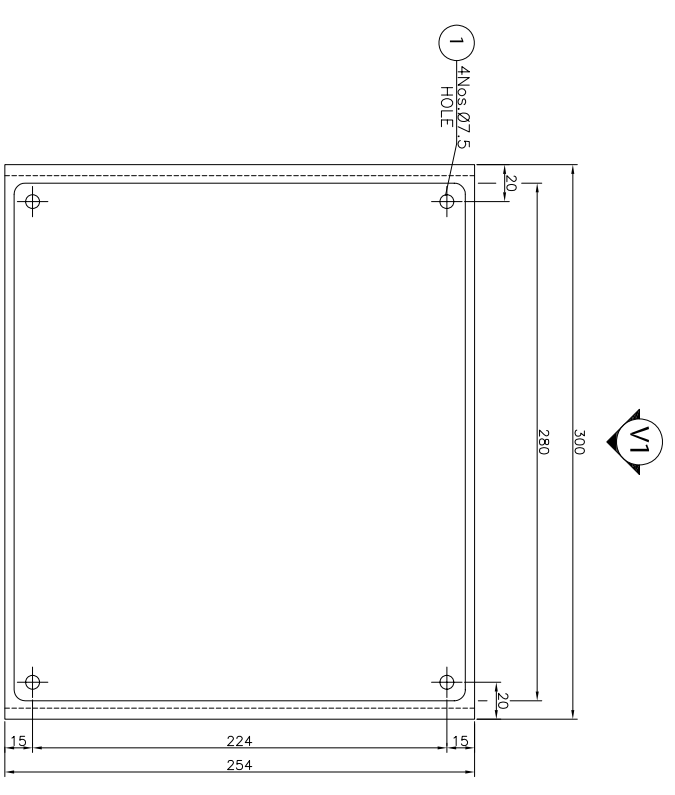
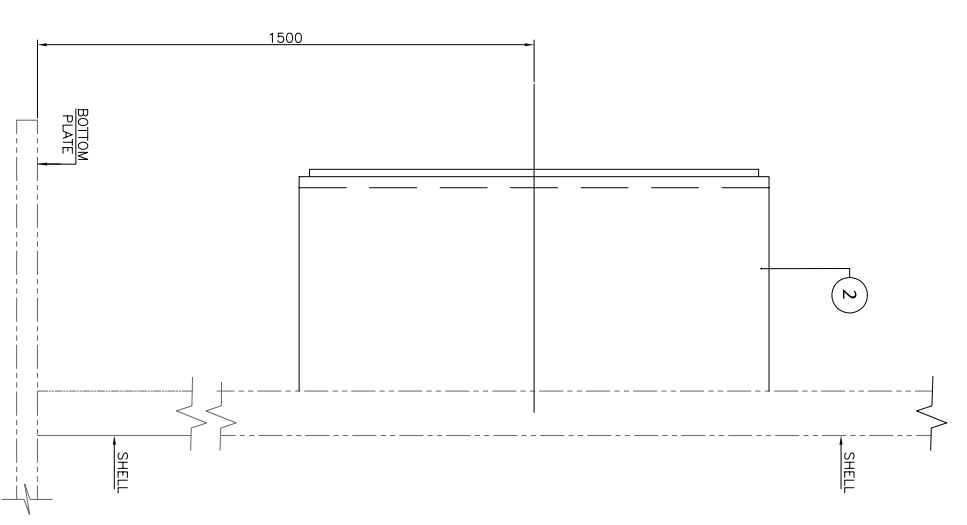
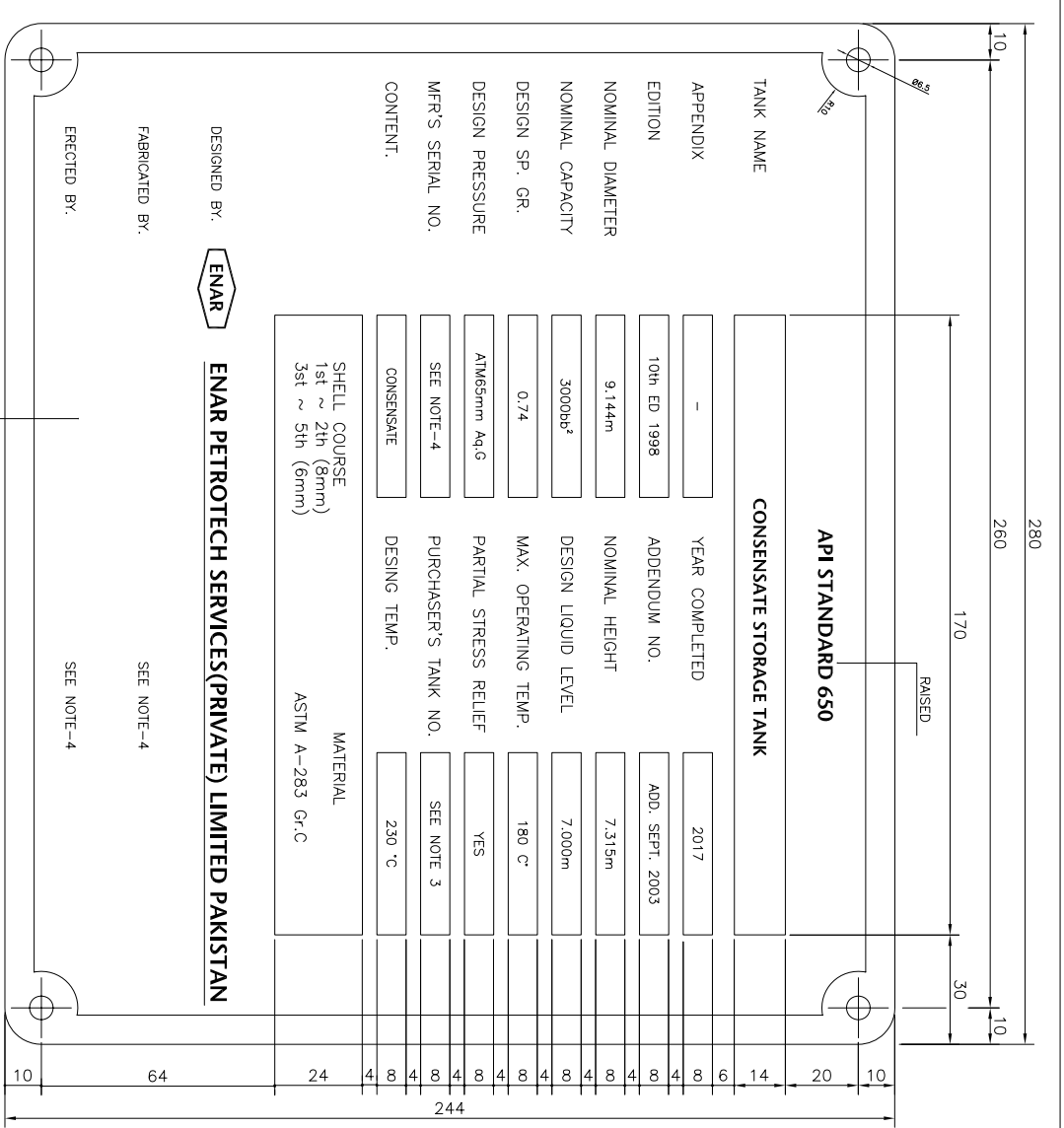
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT (Kg.)	TOTAL WEIGHT
10	NUT M16	48	A-583 Gr.A	36Kg./100PCS	1.0
9	WASHER I.D.19xO.D.30x3 THK.	64	AF436	36Kg./100PCS	24.0
8	BOLT M 16x50 LONG.	36	A-516 Gr.60	47.4 Kg./m ²	2.0
7	PLATE 100x50x6 THK.	36	A-516 Gr.60	47.4 Kg./m ²	8.0
6	PLATE 250x100x6 THK.	36	A-516 Gr.60	47.1 Kg./m ²	42.0
5	PLATE 116x100x10 THK.	18	A-516 Gr.60	78.5 Kg./m ²	16.0
4	GUSSET PLATE 10 THK.	18	A-516 Gr.60	78.5 Kg./m ²	11.0
3	PLATE 130x120x10 THK.	18	A-516 Gr.60	78.5 Kg./m ²	22.0
2	PLATE 140x136x10 THK.	18	A-516 Gr.60	78.5 Kg./m ²	27.0
1	RAFTERS IPN-140x 4110 LONG	18	A-36	14.3 Kg./m	1057.9
				UNIT WEIGHT	
				TOTAL WEIGHT (Kg.)	1134

NOTES:
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.

0	05-09-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
		ENAR PETROTECH SERVICES (PRIVATE) LIMITED	Job No. 14-1483			
		7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5082791 E-mail: info@enar.com.pk URL: www.enar.com.pk	Dwg. No. 1483-SDF-7805			
		OIL & GAS DEVELOPMENT COMPANY LIMITED	1483-SDF-7805			
		QADIRPUR GAS FIELD DEVELOPMENT	COMPUTER CODE 1483-SDF-7805-0			
		RAFTER AND BRACKET DETAIL	SHEET SIZE A1			
			SCALE MTS			
			REPLACES DWG. NO.			

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3	ROUND HEAD SCREW & NUT M6x16 LG	4	A193/B7, A194/ZH	Kg./m	
2	BRACKET PLATE 532x254x6THK	1	A-516 Gr.60	47.1 Kg./m	6.4
1	NAME PLATE 280x244x2THK	1	SS 304	16.0 Kg./m ³	1.1
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WT.	T.WT. (KG)
					7.5



- NOTES:-**
1. ALL DIMENSIONS ARE IN mm, UNLESS OTHERWISE STATED.
 2. THE PORTIONS SHOWN BY IN THE ILLUSTRATION OF THIS PLATE ARE TO BE OF RAISED SURFACE AND THE DESCRIPTIONS ENTERED THERE IN ARE TO BE ENGRAVED BY MEANS OF ETCHING UNLESS OTHERWISE SPECIFIED;HOWEVER, REGARDING THE OTHER PORTIONS, THE LETTERING ITSELF SHALL BE IN RELIEF.
 3. 1020-TK-5/6.
 4. TO BE SPECIFIED BY THE CONTRACTOR.

0	05-09-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.

ENAR ENAR PETROTECH SERVICES (PRIVATE) LIMITED

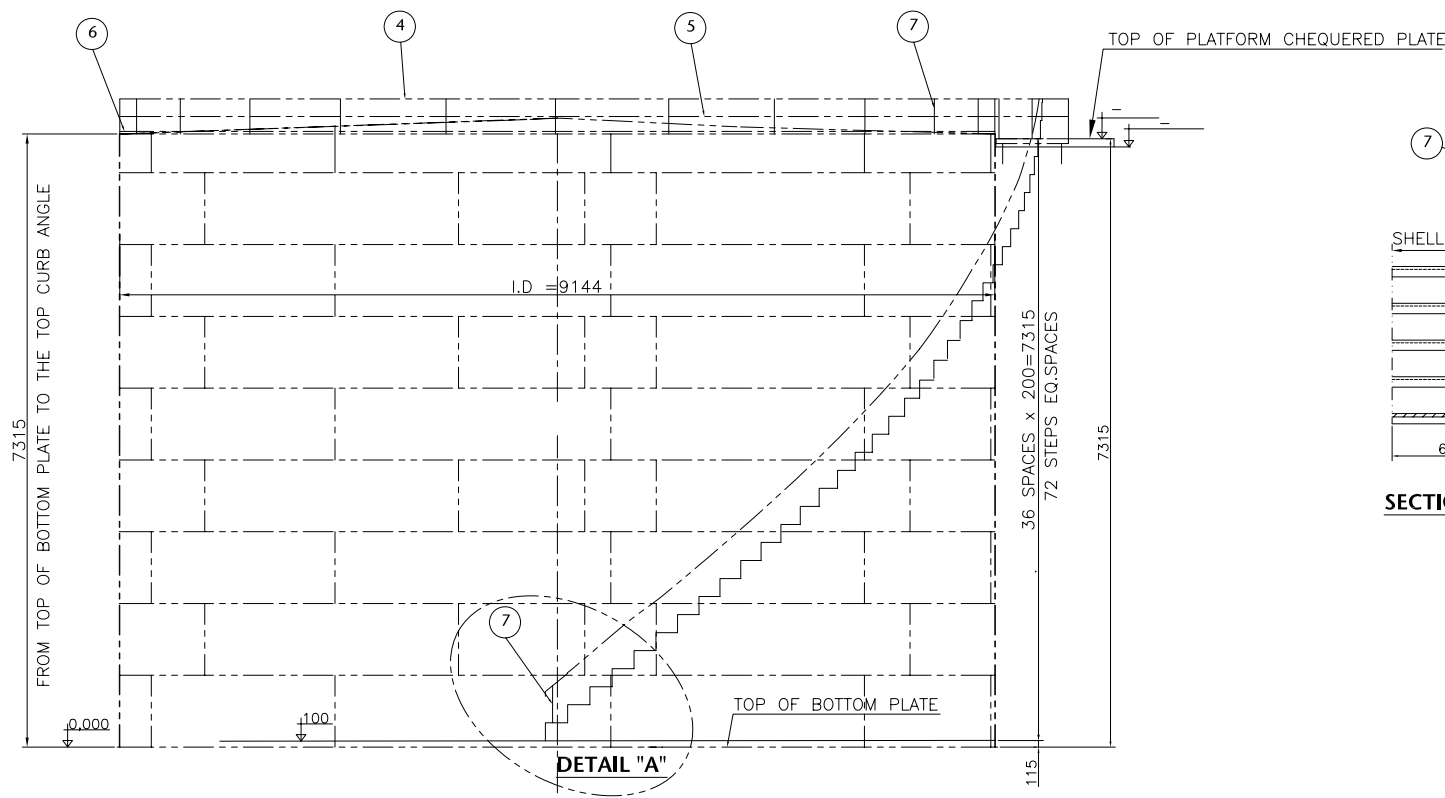
7-B, Sector 7-A, Korangi Industrial Area, Karachi, Pakistan
 TEL: (9221) 5062791 E-mail: info@enar.com.pk
 URL: www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED
 QADIRPUR GAS FIELD DEVELOPMENT
 DETAIL OF LEVEL GAUGE CONNECTIONS
 FOR CONDENSATE TANK (T-2811)

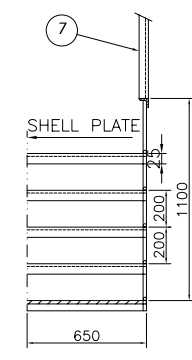
Job No. 14-1483
 Dwg. No. 1483-SDF-7806

COMPUTER 1483-SDF-7806-0
 SHEET SIZE A3
 SCALE NTS
 REVISIONS
 DWG. NO.

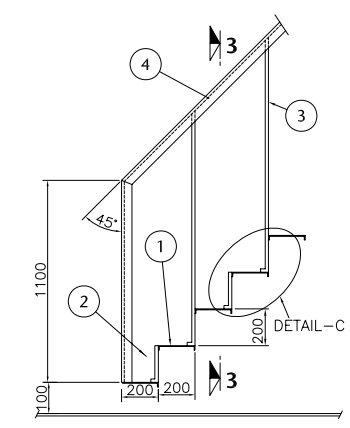
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL



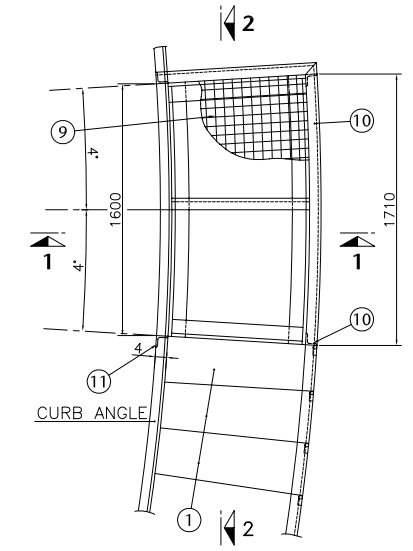
FRONT VIEW



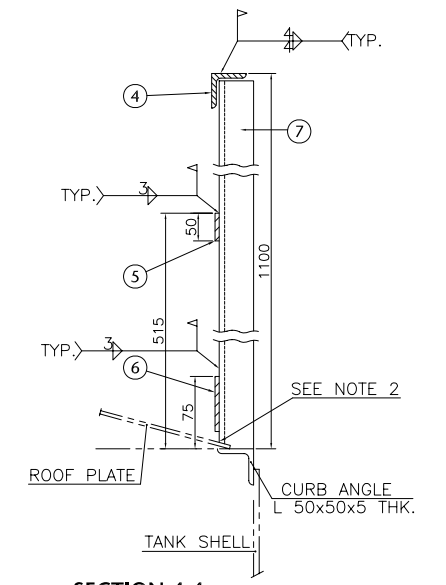
SECTION 3-3



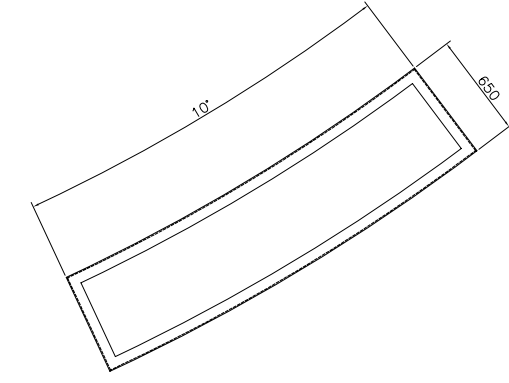
DETAIL-A



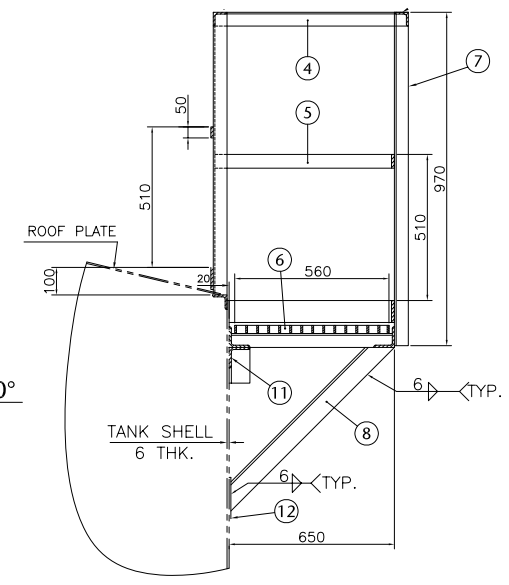
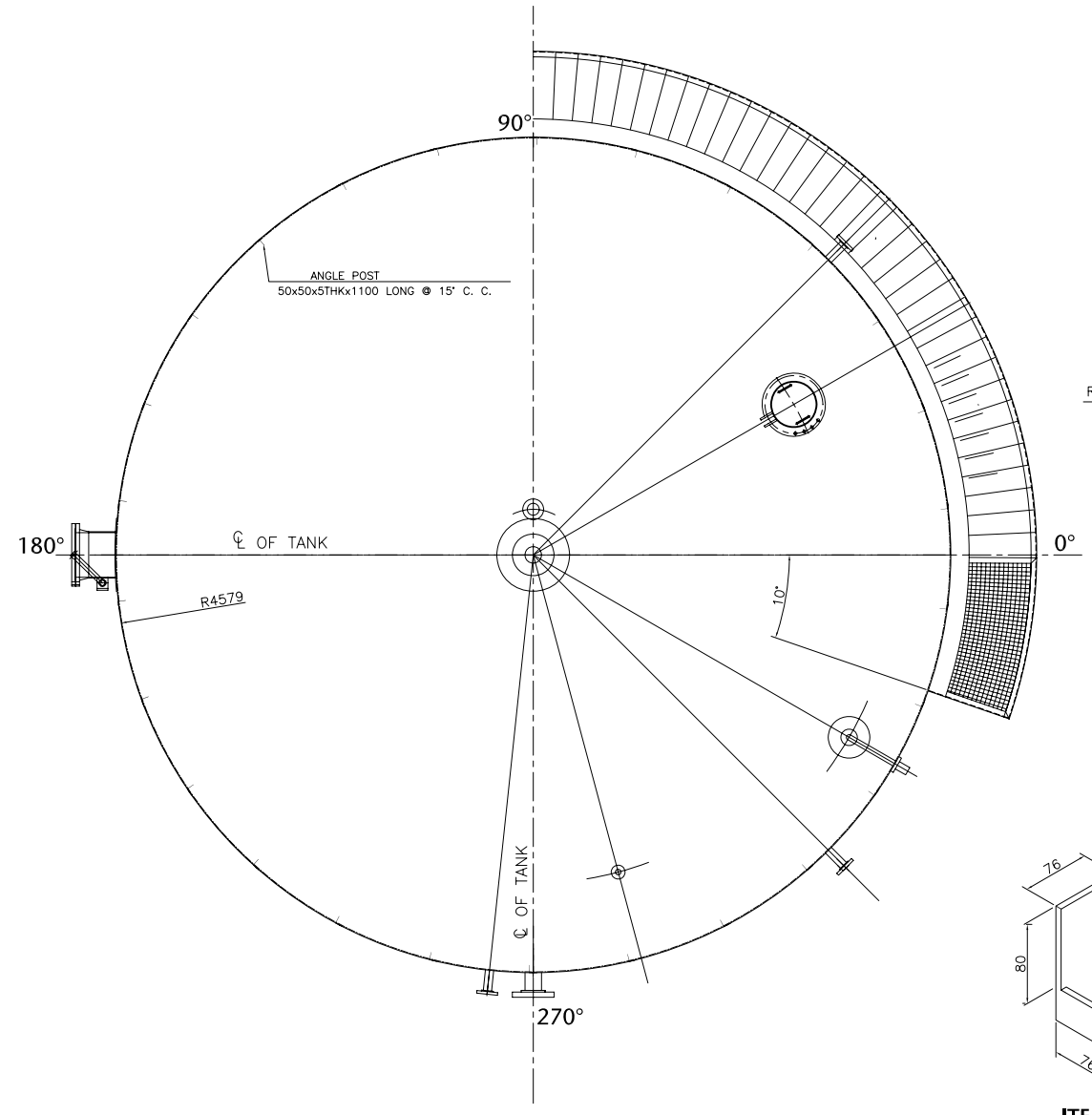
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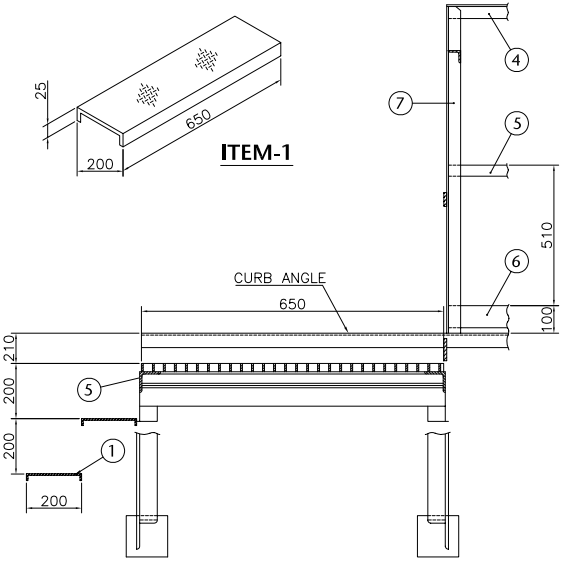
SECTION 4-4



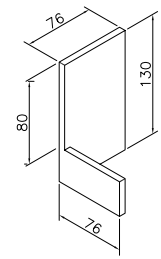
ITEM - 10



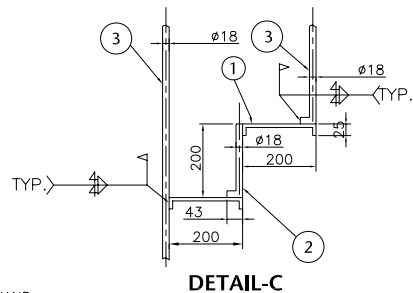
SECTION 1-1



SECTION 2-2



ITEM-11



DETAIL-C

DETAIL OF CUT SHOWN IS FOR RIGHT HAND SIDE FOR LEFT HAND SIDE CUT AT BOTTOM

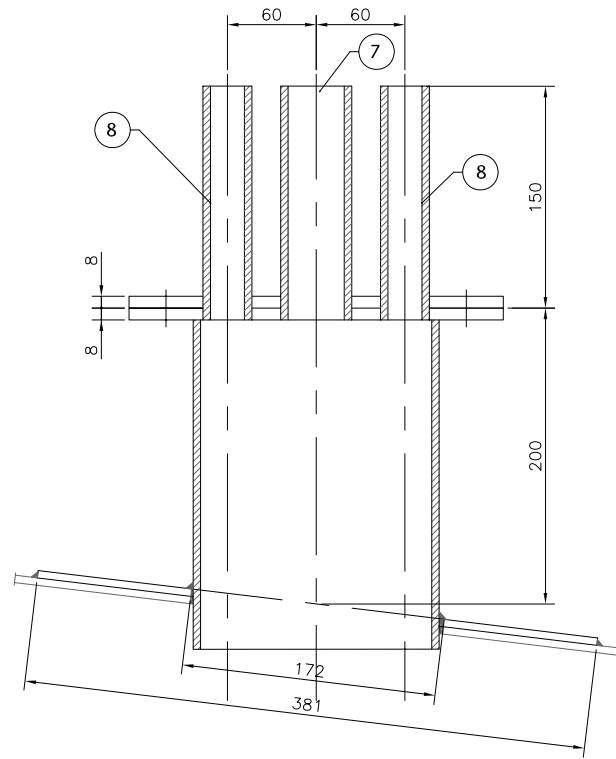
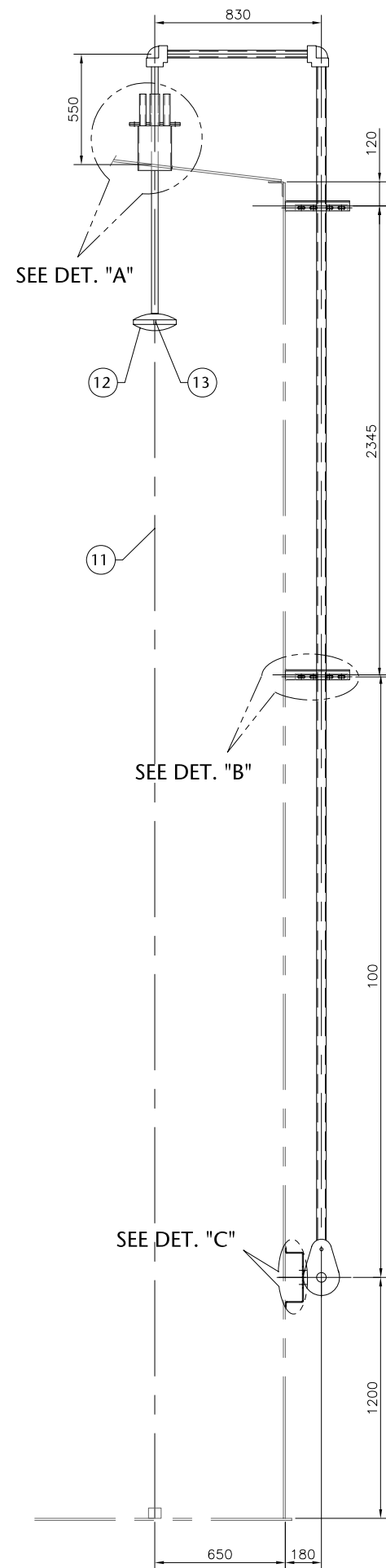
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WT. TOTAL (Kg)	904.5
12	PLATE 150x150x6 THK.	2	PAK STEEL HR-235	1.05 Kg/Pc.	2.20
11	ANGLE CLEAT 75x75x8 THK. x 130 LONG	2	DO	7.95 Kg/m	2.00
10	ANGLE FRAME FOR TOP PLATFORM L=70x70x7 THK. x 4610 LONG	1	DO	7.30 Kg/m	33.00
9	CHEQUERED PLATE 6 THK. (AREA=1M ²) FOR TOP PLAT LANDING	1	DO	34.9 Kg/m ²	35.00
8	EQ. ANGLE BRACING 70x70x7THK. 850 L FOR MID & TOP PLAT PLATFORM	4	DO	7.30 Kg/m	25.00
7	ANGLE POST 50x50x5 THK. x 1100	26	DO	3.77 Kg/m	205.00
6	TOE BAR 80x5 THK. x 30M LONG	1	DO	2.30 Kg/m	69.00
5	KNEE BAR 60x4 THK. x 30M LONG	1	DO	1.25 Kg/m	38.00
4	HAND RAILING L=50x50x5 THKx40M LONG	1	DO	3.77 Kg/m	151.00
3	ROUND BAR 18x18x1100 LONG.	18	DO	2.2 Kg/Pc	41.00
2	ROUND BAR 18x18x225 LONG.	18	DO	0.635 Kg/Pc	12.00
1	CHEQUERED PLATE 650x250x6 THK.(STEPS)	36	A-36	49.74 Kg/m ²	291.00

NOTES:

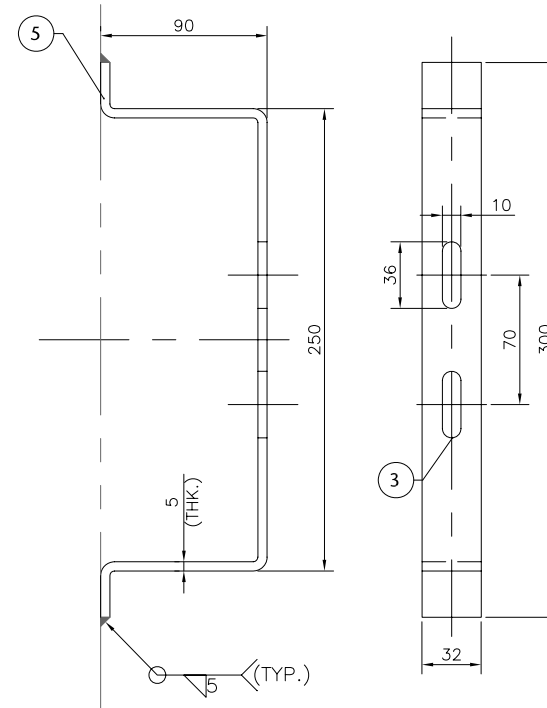
- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
- THE ORIENTATION OF STAIRCASE SHALL BE AS SHOWN IN THE COVER DRAWING OF THE RELEVANT TANK.
- THE OUTER EDGE OF WELDS OF BRACKET SUPPORT PLATE SHALL BE ATLEAST 152 mm FROM THE VERTICAL SHALL JOINT AND 76 mm FROM THE HORIZONTAL SHALL JOINT. THE BRACKET LOCATION MAY BE CHANGED ON SITE ALONG THE DIAGONAL SHOWN TO MAINTAIN THESE DISTANCES.

ISSUED FOR APPROVAL

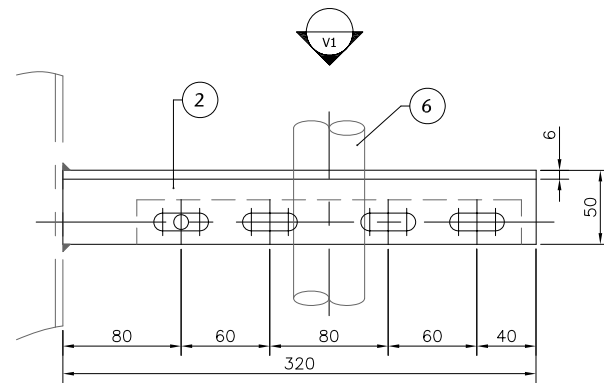
0	05-10-2016	ISSUED FOR APPROVAL	SALEEM	JSW	ZAH	AH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
ENAR PETROTECH SERVICES (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL: www.enar.com.pk			Job No. 14-1483 Dwg. No. 1483-SDF-7807			
OIL & GAS DEVELOPMENT COMPANY LIMITED QADIRPUR GAS FIELD DEVELOPMENT SPIRAL STAIR CASE DETAIL FOR CONDENSATE TANK (T-2811)			COMPUTER CODE 1483-SDF-7807-0 SHEET SIZE A1 SCALE NTS REPLACES DWG. NO.			
THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL						



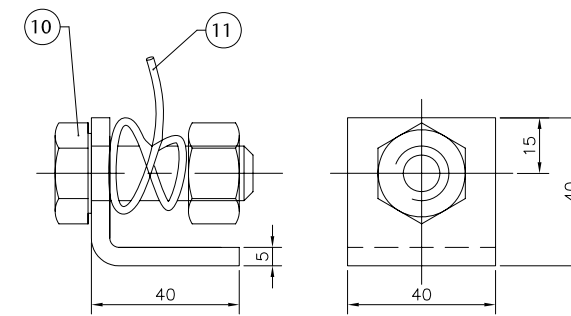
DETAIL : "A"



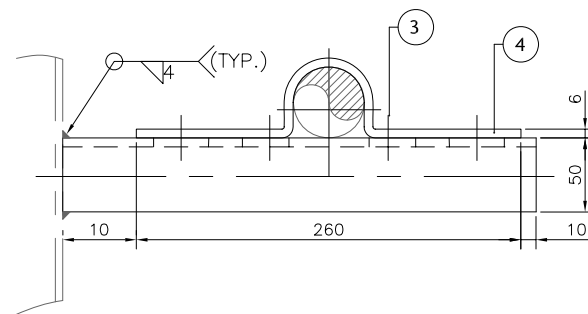
DETAIL : "C"



DETAIL : "B"



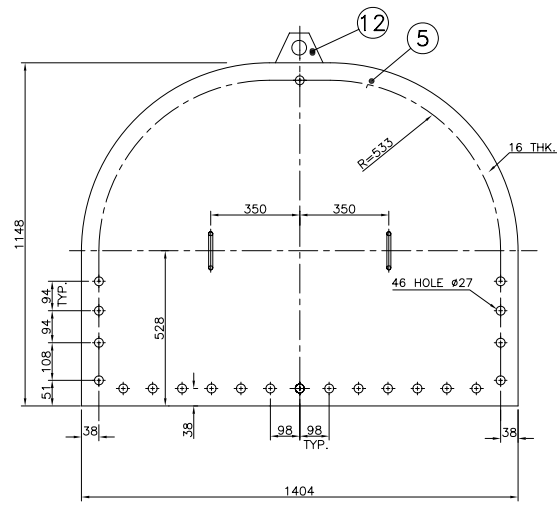
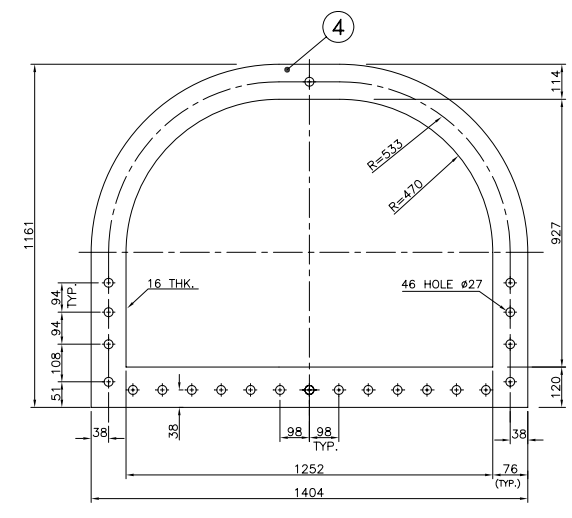
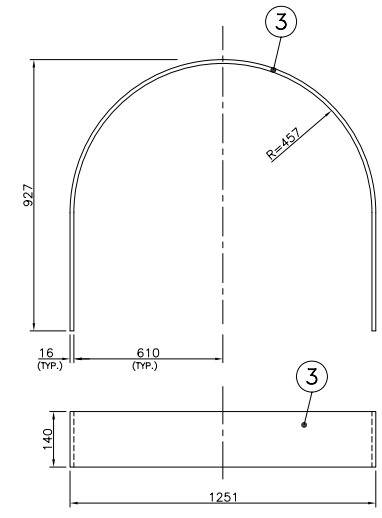
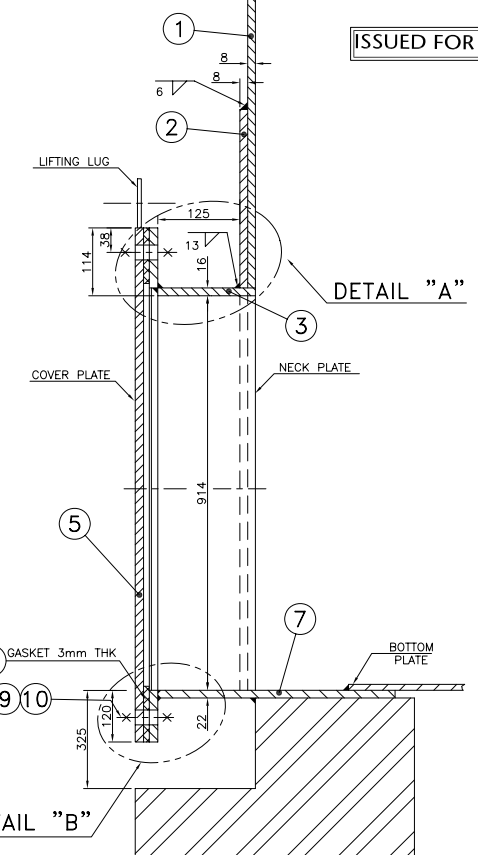
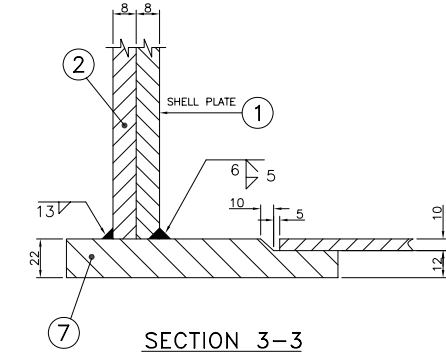
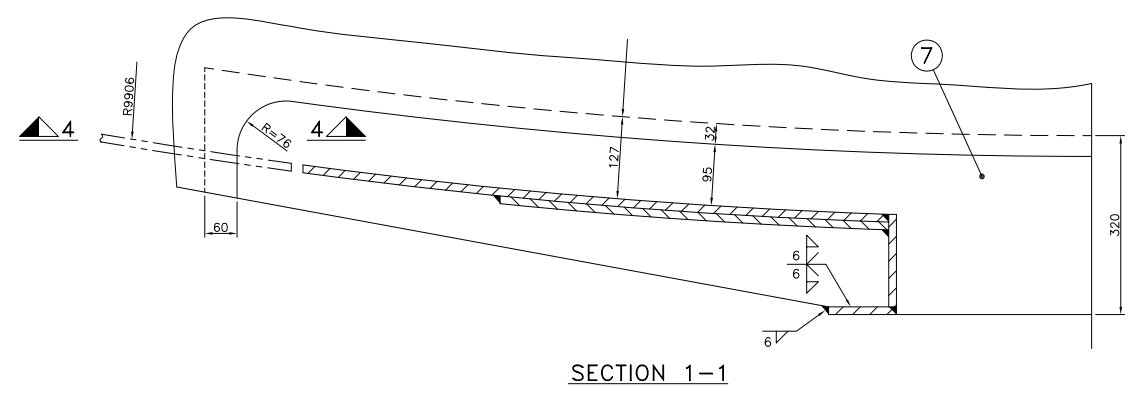
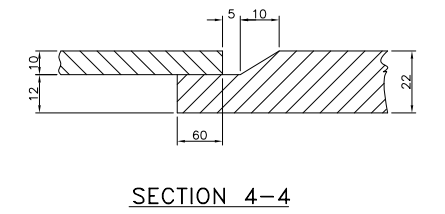
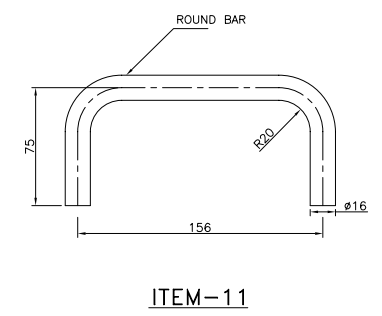
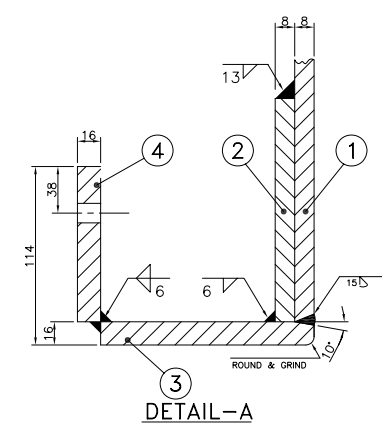
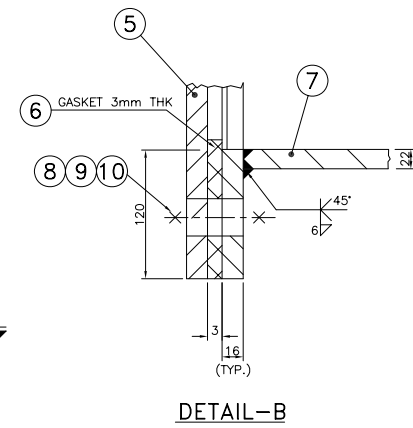
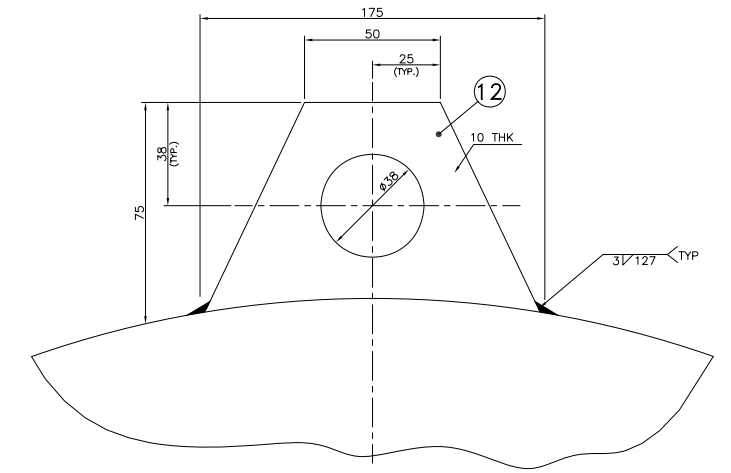
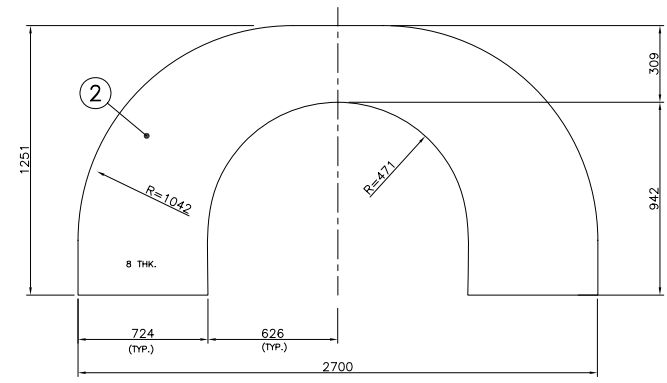
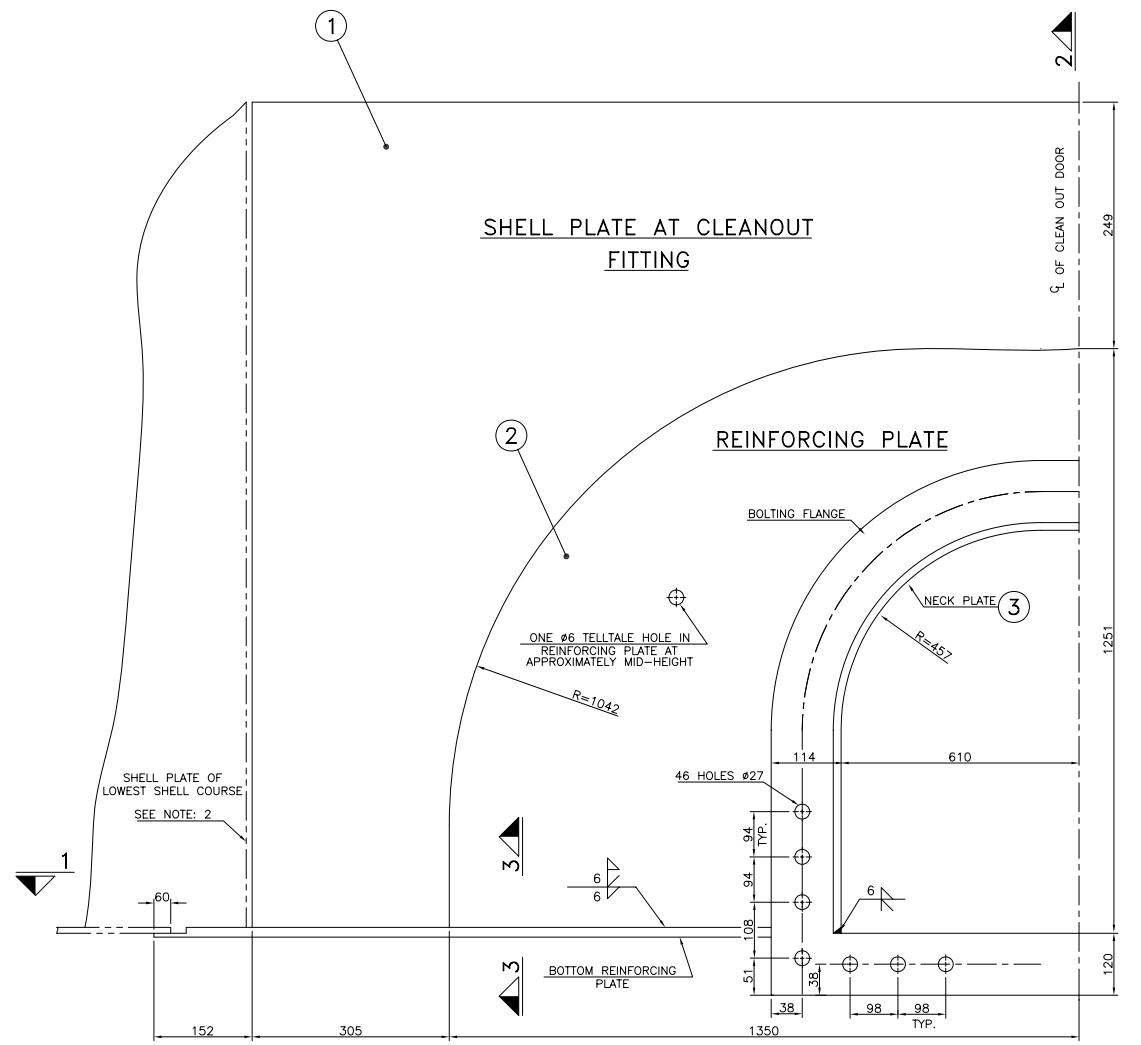
DETAIL : "D"



VIEW "V1"

ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT TOTAL WEIGHT (Kg.)	
15	1½" ELBOW NB LR		A-234 WPB		
14	LEVEL GAUGE INDICATOR				BY VENDER
13	FLOAT SIDE RINGS	2			BY VENDER
12	FLOAT	1			BY VENDER
11	STAINLESS STEEL GUID WIRE		SS 316		
10	LUG PLATE (40x32x5Thk.)	2	A-283 Gr.C	39.5 Kg./m	1.0
9	HEX NUT BOLT WITH WASHER M10x30LG	2	A193/B7, A194/2H	78.5 Kg./m ²	517.2
8	1" PIPE Sch. STD.	2	A-283 Gr.C	78.5 Kg./m ²	517.2
7	1½" NB Sch. STD.	2	A-283 Gr.C	78.5 Kg./m ²	517.2
6	1½" PIPE Sch. STD.	1	A-283 Gr.C	78.5 Kg./m ²	258.6
5	GAUGE PLATE (475x36x5Thk.)	1	A-283 Gr.C	39.7 Kg./m	18.9
4	CLAMP PLATE (335x40x6Thk.)	1	A-283 Gr.C	47.1 Kg./m	15.8
3	HEX. NUT BOLT WITH WASHER	10	A193/B7, A194/2H	Kg./m	
2	PIPE SUPPORT ANGLE 50x50x6 (320 LG)	2	A36	4.47 Kg./m	0.6
1	STAINLESS STEEL TAPE		SS 318		
					1846.5

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	06-10-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
			ENAR PETROTECH SERVICES (PRIVATE) LIMITED Job No. 14-1483 Dwg. No. 1483-SDF-7809 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL: www.enar.com.pk			
			OIL & GAS DEVELOPMENT COMPANY LIMITED QADIRPUR GAS FIELD DEVELOPMENT TITLE: DETAIL OF LEVEL GAUGE CONNECTIONS FOR CONDENSATE TANK (T-2811)			
			COMPUTER CODE	1483-SDF-7809-0		
			SHEET SIZE	A3		
			SCALE	NTS		
			REPLACES DWG. NO.			
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ITEM NO.	DESCRIPTIONS	QTY.	MATERIAL	UNIT WT.	TOTAL WT.
12	LIFTING LUG	1	ASTM A-36	0.4 Kg./PC	-
11	HANDLE ROUND BAR ϕ 16x289 LONG	2	ASTM A36	0.46 Kg./PC	1
10	NUTS M24	92	ASTM A194 Gr.2H	12.5 Kg./100PC	12
9	WASHER ID=27xOD=44x3 THK.	92	ASTM AF436	2.23 Kg./100PC	2
8	STUD BOLTS M24x120 LONG	46	ASTM A193 Gr.B7	35.2 Kg./100PC	16
7	BOTTOM REINFORCING PLATE, 22THK	1	ASTM A-36	172.7 Kg./m ²	200
6	GASKET	1	NON ASBESTOS FILLED	-	-
5	COVER PLATE 16 THK.	1	ASTM A-36	125.6 Kg./m ²	400
4	BOLTING FLANGE 16 THK.	1	ASTM A-36	125.6 Kg./m ²	110
3	NECK PLATE 16 THK.	1	ASTM A-36	125.6 Kg./m ²	35
2	REINFORCING PLATE 8 THK.	1	ASTM A-36	62.8 Kg./m ²	150
1	SHELL PLATE AT CLEANOUT FITTING 6000x1500x8 THK.	1	ASTM A-36	62.8 Kg./m ²	-
					926 Kg.

NOTE:
 1. ALL DIMENSIONS ARE IN mm . UNLESS OTHERWISE STATED.
 2. SHELL PLATE AT CLEANOUT FITTING TO HAVE BEVELLED ENDS FOR WELDING WITH ADJACENT SHELL PLATES WELDING AND BEVELING DETAILS WOULD BE AS SHOWN IN RELEVANT SHELL PLATE DRAWINGS.
 3. CLEANOUT FITTING AND SHELL CONNECTIONS SHALL BE THERMALLY STRESS RELIEVED AT A TEMPERATURE OF 1100F FOR ONE HOUR.

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
0	05-10-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH

ENAR PETROTECH SERVICES (PRIVATE) LIMITED
 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan
 TEL: (9221) 5062791 E-mail: info@enar.com.pk URL:www.enar.com.pk

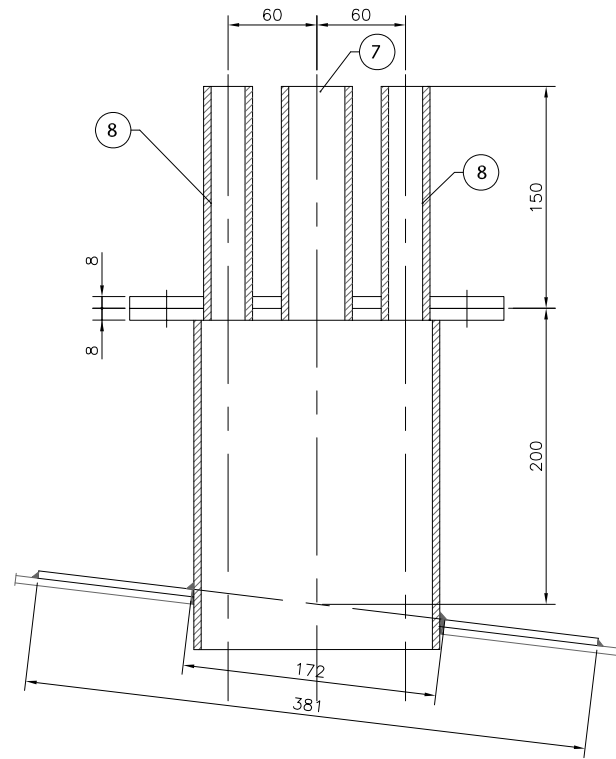
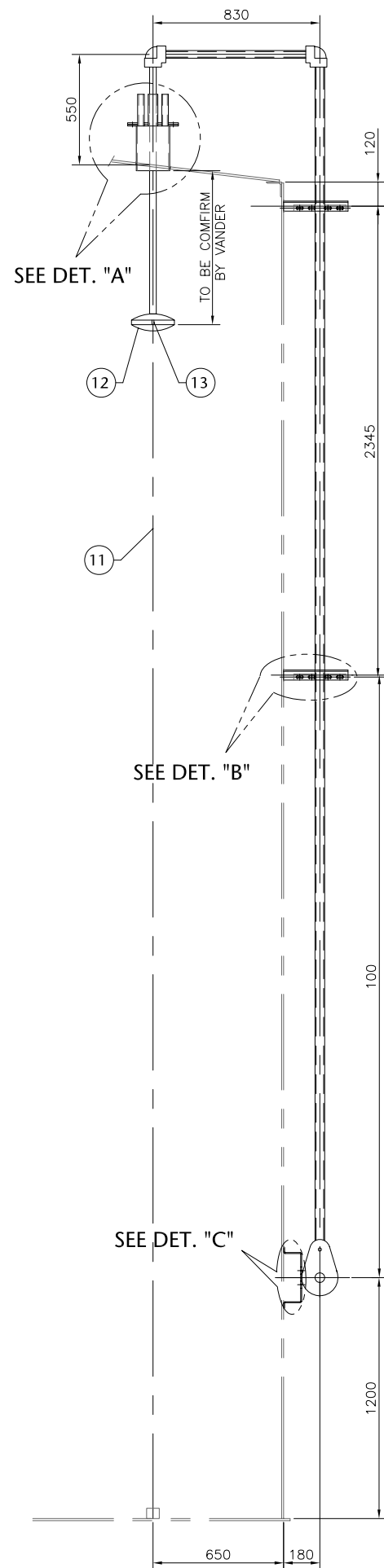
OIL & GAS DEVELOPMENT COMPANY LIMITED
 QADIRPUR GAS FIELD DEVELOPMENT

Job No. 14-1483
Dwg. No. 1483-SDF-7810

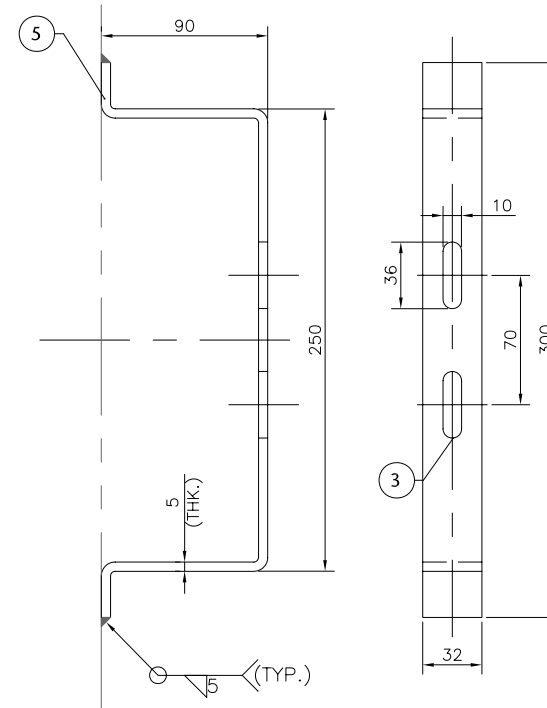
TITLE: 24"x36" FLUSH TYPE CLEANOUT DETAILS FOR CONDENSATE TANK (T-2811)

COMPUTER CODE: 1483-SDF-7810-0
 SHEET SIZE: A1
 SCALE: NTS
 REPLACES DWG. NO.

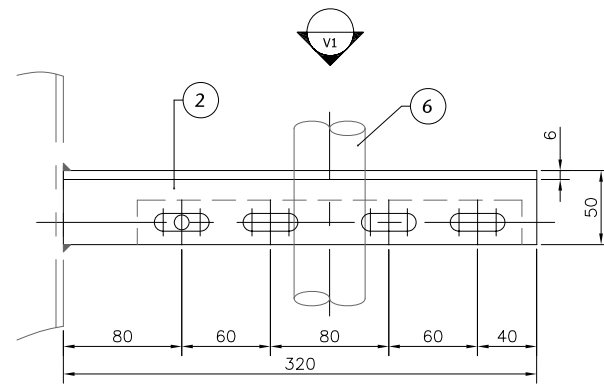
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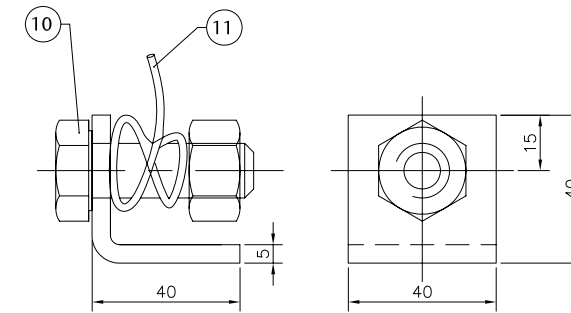
DETAIL : "A"



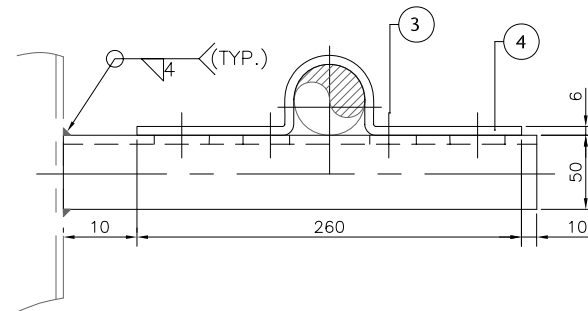
DETAIL : "C"



DETAIL : "B"



DETAIL : "D"



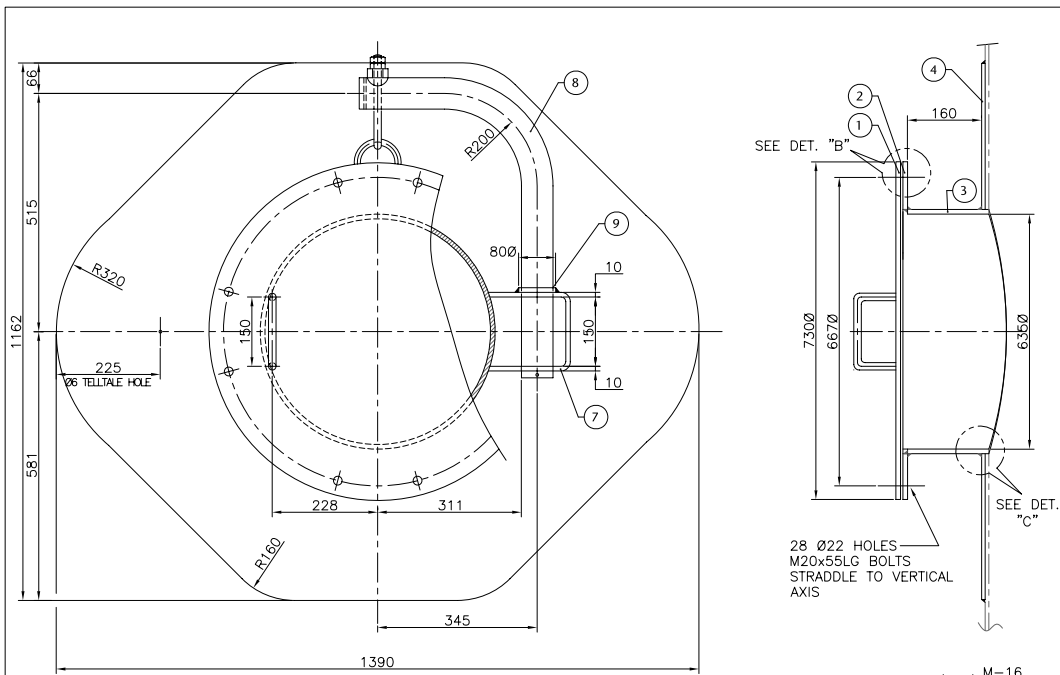
VIEW "V1"

15	1 1/2" ELBOW NB LR		A-234 WPB		
14	LEVEL GAUGE INDICATOR		BY VENDER		
13	FLOAT SIDE RINGS	2	BY VENDER		
12	FLOAT	1	BY VENDER		
11	STAINLESS STEEL GUID WIRE		SS 316		
10	LUG PLATE (40x32x5Thk.)	2	A-283 Gr.C	39.5 Kg./m	1.0
9	HEX NUT BOLT WITH WASHER M10x30LG	2	A193/B7, A194/2H	78.5 Kg./m ²	517.2
8	1" PIPE Sch. STD.	2	A-283 Gr.C	78.5 Kg./m ²	517.2
7	1 1/2" NB Sch. STD.	2	A-283 Gr.C	78.5 Kg./m ²	517.2
6	1 1/2" PIPE Sch. STD.	1	A-283 Gr.C	78.5 Kg./m ²	258.6
5	GAUGE PLATE (475x36x5Thk.)	1	A-283 Gr.C	39.7 Kg./m	18.9
4	CLAMP PLATE (335x40x6Thk.)	1	A-283 Gr.C	47.1 Kg./m	15.8
3	HEX. NUT BOLT WITH WASHER	10	A193/B7, A194/2H	Kg./m	
2	PIPE SUPPORT ANGLE 50x50x6 (320 LG)	2	A36	4.47 Kg./m	0.6
1	STAINLESS STEEL TAPE		SS 318		
ITEM	DESCRIPTION	QTY.	MATERIAL	UNIT WEIGHT TOTAL WEIGHT (Kg.)	1846.5

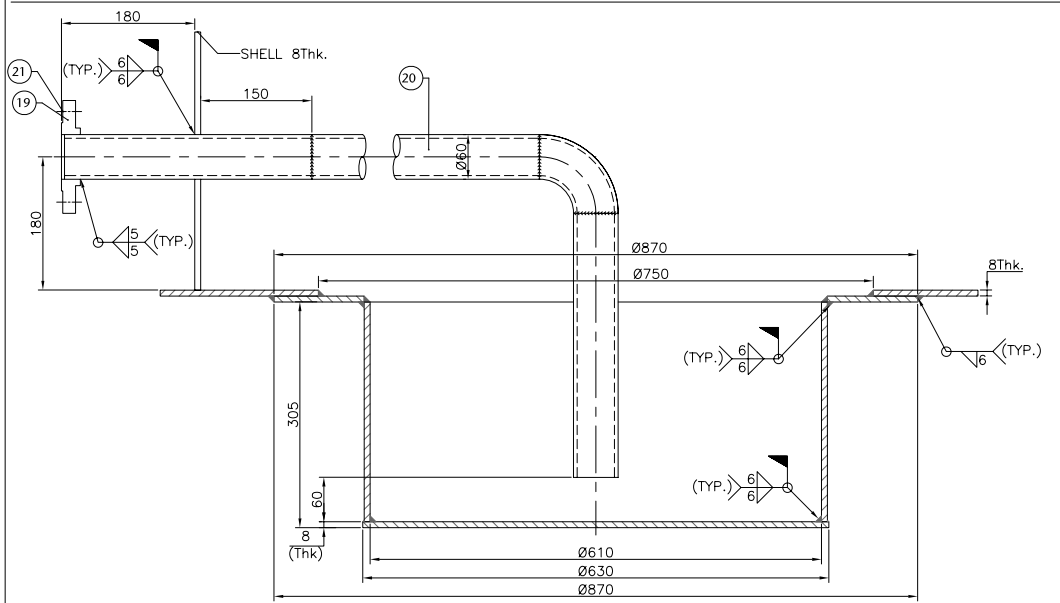
NOTES:

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
2. ITEM # 12, 13, 14 ARE VENDER SCOPE WITH ALL RESPECT.
3. B.O.Q IS ONLY FOR ONE FLOAT GAUGE FOR TWO GAUGES MULTIPLE B.O.Q QUANTITIES BY 2.
4. THE CONTRACTOR / FABRICATION SHALL CHECK & VERIFIED THE DIMENSION PRIOR TO START OF FABRICATION. ANY DEVIATION OCCUR DURING FABRICATION SHELL BE WITH WRITTEN APPROVAL OF COMPANY PRIOR TO EXECUTION OF WORK.

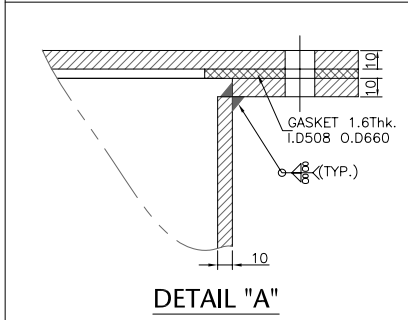
0	07-10-2016	ISSUED FOR APPROVAL	SJD	JSW	ZAH	AH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	DESIGNED	CHECKED	APPR.
ENAR PETROTECH SERVICES (PRIVATE) LIMITED 7-B, Sector 7-A Korangi Industrial Area, Karachi Pakistan TEL: (9221) 5062791 E-mail: info@enar.com.pk URL: www.enar.com.pk			Job No. 14-1483			
			Dwg. No. 1483-SDF-7811			
OIL & GAS DEVELOPMENT COMPANY LIMITED QADIRPUR GAS FIELD DEVELOPMENT			COMPUTER CODE: 1483-SDF-7811-0 SHEET SIZE: A3 SCALE: NTS REPLACES DWG. NO.:			
TITLE: DETAIL OF LEVEL GAUGE CONNECTIONS FOR CONDENSATE TANK (T-2811)			THIS DOCUMENT IS THE PROPERTY OF ENAR & THE CONTENTS MUST BE TREATED AS CONFIDENTIAL			



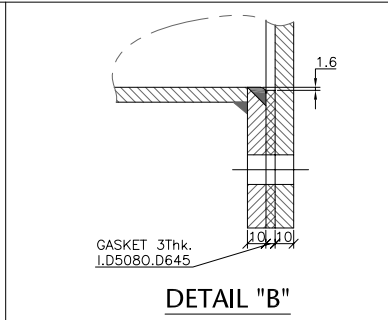
SHELL MANHOLE "M1"



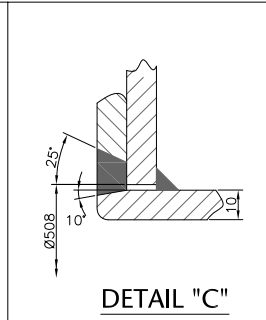
DETAIL NOZZLE "N4"



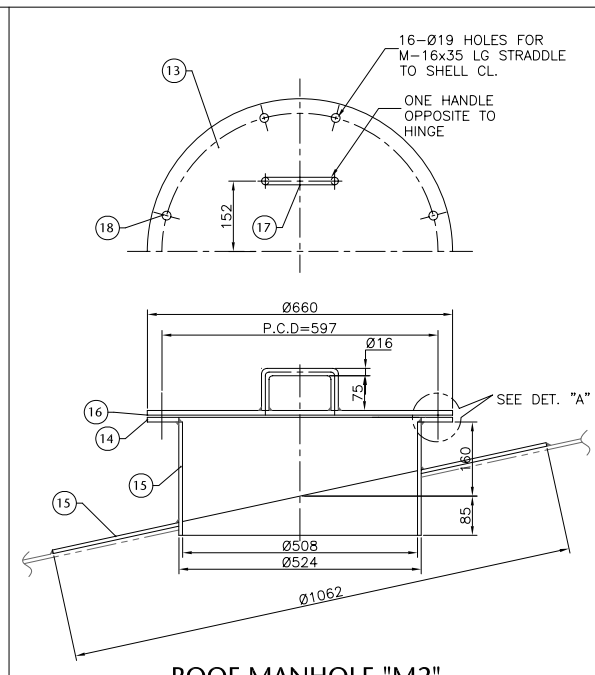
DETAIL "A"



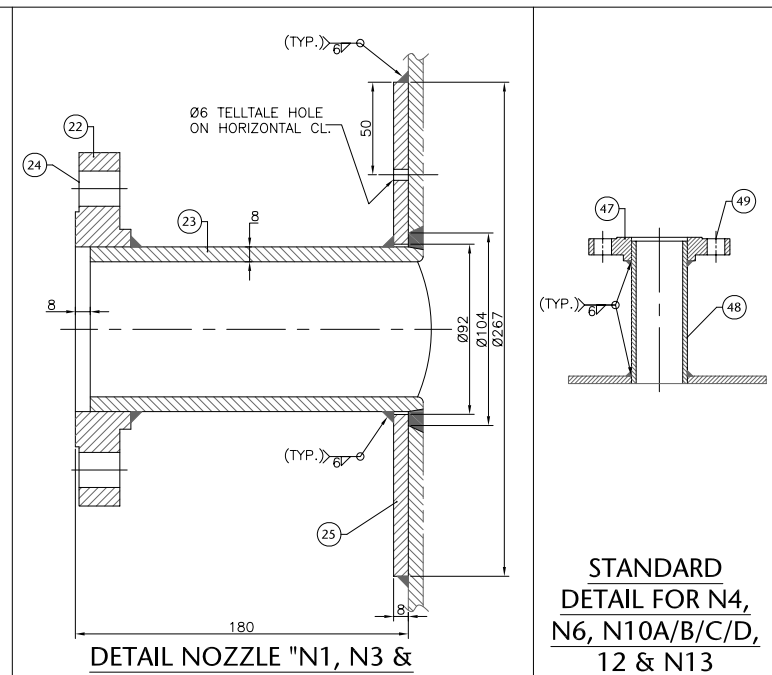
DETAIL "B"



DETAIL "C"

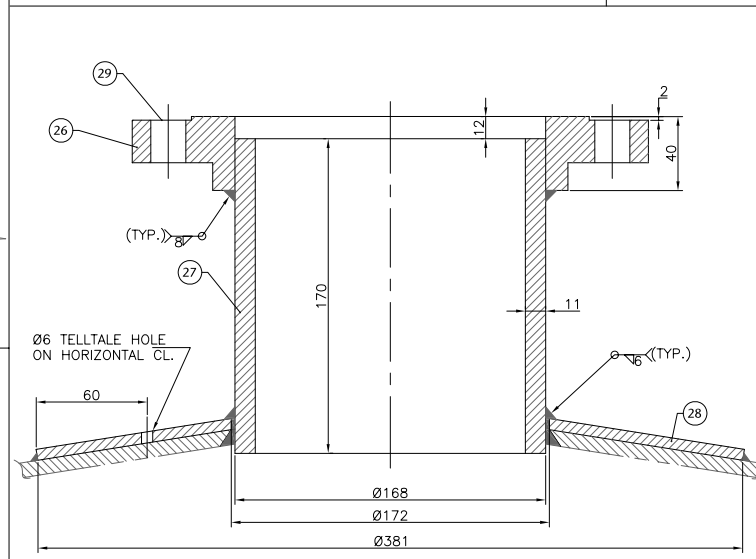


ROOF MANHOLE "M2"

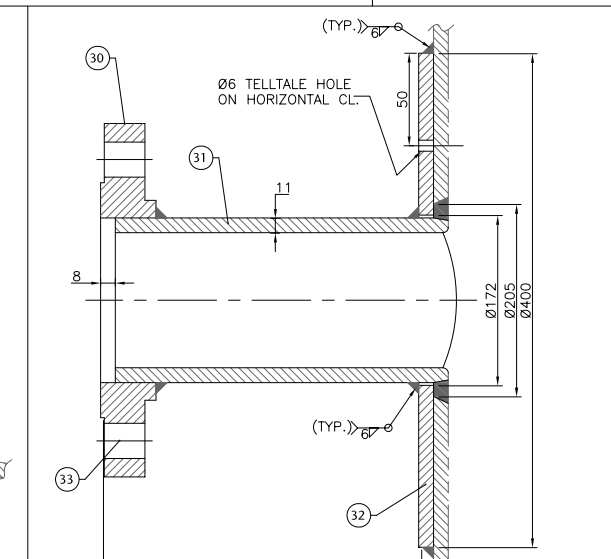


DETAIL NOZZLE "N1, N3 & N5A/B"

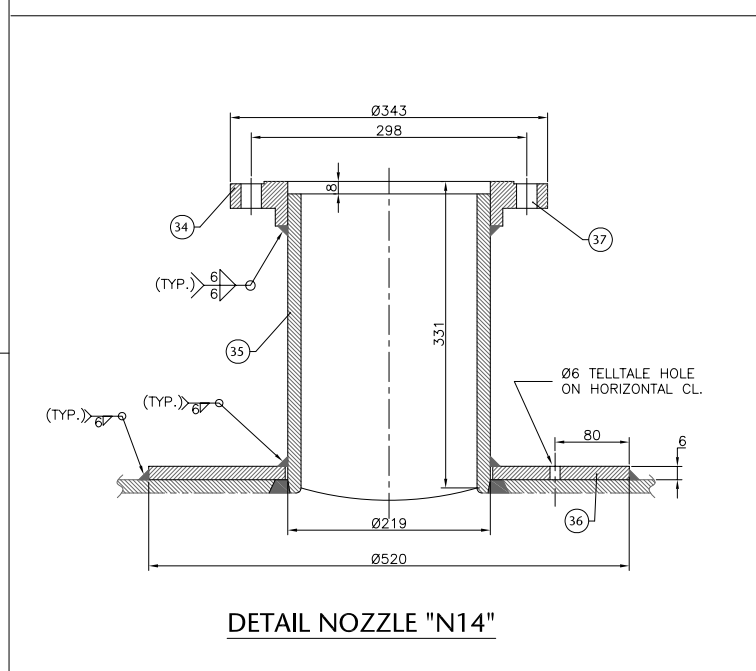
STANDARD
DETAIL FOR N4,
N6, N10A/B/C/D,
12 & N13



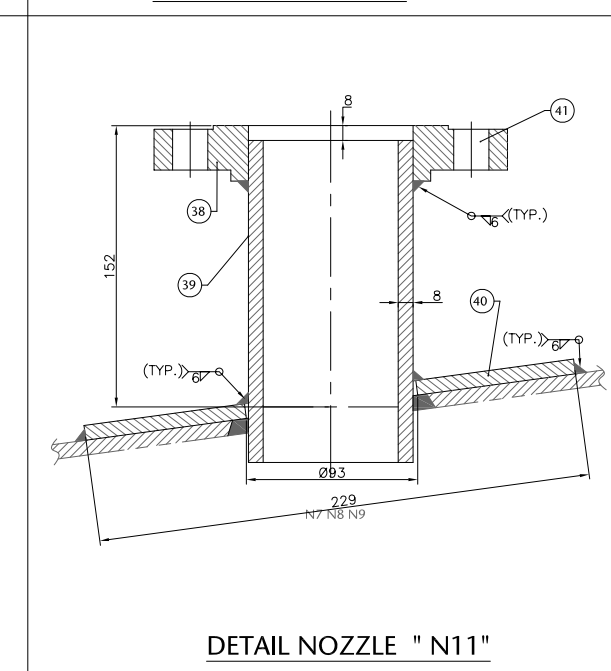
DETAIL NOZZLE "N9"



DETAIL NOZZLE "N2"



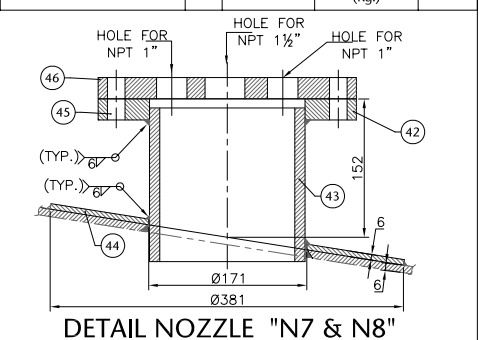
DETAIL NOZZLE "N14"



DETAIL NOZZLE "N11"

49	NUT & BOLTS M16x85LG	64	A193/B7	-	
48	PIPE N.B 2" x STG (150 LG)	8	A-106	5.0 Kg./m	6.0
47	FLANGE N.B 2" SORF 150# ANSI	8	A-105	2.3 Kg./Pice	18.4
46	BLIND FLANGE N.B 6" SORF 150# ANSI	1	A-105	11.7 Kg./Pice	11.7
45	NUT & BOLTS M20x100LG	16	A193/B7	-	
44	REF. PL ID172 x OD 381 x 8Thk.	2	A-283 Gr.C	62.8 Kg./m ²	5.8
43	PIPE N.B 6" x STG (170 LG)	2	A-106	28.0 Kg./m	9.4
42	FLANGE N.B 6" SORF 150# ANSI	2	A-105	8.7 Kg./Pice	17.4
41	NUT & BOLTS M16x90LG	8	A193/B7	-	
40	PIPE N.B 4" x STG (170 LG)	1	A-106	16.0 Kg./m	4.9
39	FLANGE N.B 4" SORF 150# ANSI	1	A-105	5.9 Kg./Pice	5.9
37	NUT & BOLTS M20x100LG	8	A193/B7	-	
36	REF. PL ID219 x OD 520 x 8Thk.	1	A-283 Gr.C	62.8 Kg./m ²	6.4
35	PIPE N.B 8" x STG (170 LG)	1	A-106	43.0 Kg./m	7.3
34	FLANGE N.B 8" SORF 150# ANSI	1	A-105	13.7 Kg./Pice	13.7
33	NUT & BOLTS M20x100LG	8	A193/B7	-	
32	REF. PL ID172 x OD 400 x 8Thk.	1	A-283 Gr.C	62.8 Kg./m ²	6.4
31	PIPE N.B 6" x STG (170 LG)	1	A-106	28.0 Kg./m	4.9
30	FLANGE N.B 6" SORF 150# ANSI	1	A-105	8.7 Kg./Pice	8.7
29	NUT & BOLTS M20x100LG	8	A193/B7	-	
28	REF. PL ID172 x OD 381 x 8Thk.	1	A-283 Gr.C	62.8 Kg./m ²	5.7
27	PIPE N.B 6" x STG (170 LG)	1	A-106	28.0 Kg./m	4.7
26	FLANGE N.B 6" SORF 150# ANSI	1	A-105	8.7 Kg./Pice	8.7
25	REF. PL ID92 x OD 267 x 8Thk.	4	A-283 Gr.C	62.8 Kg./m ²	58.8
24	NUT & BOLTS M14x90LG	32	A193/B7	-	
23	PIPE N.B 3" x STG (180 LG)	4	A-106	11.0 Kg./m	4.4
22	FLANGE N.B 3" SORF 150# ANSI	4	A-105	3.7 Kg./Pice	14.8
21	NUT & BOLTS M14x70LG	4	A193/B7	-	0.0
20	PIPE N.B 2" x STG (1100 LG)	0	A-106	5.0 Kg./m	5.5
19	FLANGE N.B 2" SORF 150# ANSI	0	A-105	1.5 Kg./Pice	1.5
18	NUT & BOLTS M16x35LG	20	A193/B7	-	0.0
17	HANDLE Ø16x300 LG	2	A-106 Gr.B	1.75 Kg./m	1.1
16	GASKET ID 508 x OD 660 3Thk.	1	-	-	-
15	REF. PL ID 508 x OD 1067 x 6Thk.	1	A-283 Gr.C	47.1 Kg./m ²	52.0
14	FLANGE PL ID 508 x OD 660 x 10Thk.	1	A-105	78.5 Kg./m ²	11.0
13	COVER PL Ø660x10Thk.	1	A-283 Gr.C	78.5 Kg./m ²	26.8
12	ROUND BAR DIA16x100LG	1	A-283 Gr.C	1.75 Kg./m	0.2
11	ROUND BAR DIA10x106LG	1	A-283 Gr.C	0.62 Kg./m	0.1
10	ROUND BAR DIA10x300LG	1	A-283 Gr.C	0.62 Kg./m	0.2
9	WASHER D.O 80x I.D70 x 10 Thk.	1	A-283 Gr.C	-	-
8	PIPE N.B 2" x STG (914 LG)	1	A-106	5.0 Kg./Pice	6.4
7	FLAT 120x390x10Thk.	1	A-283 Gr.C	78.5 Kg./m ²	3.2
6	GASKET ID 508 x OD645 3Thk.	1	-	-	-
5	NUT & BOLTS M20x55LG	28	A193/B7	-	-
4	REF. PL ID 520 x OD 11620 x 8Thk.	1	A-283 Gr.C	62.5 Kg./m ²	62.6
3	MANHOLE PL ID 508 x OD 730x10Thk.	1	A-283 Gr.C	78.5 Kg./m ²	39.8
2	FLANGE PL ID 508 x OD 730 x 10Thk.	1	A-283 Gr.C	78.5 Kg./m ²	17.0
1	COVER PL Ø730x10Thk.	1	A-283 Gr.C	78.5 Kg./m ²	32.8

ITEM	DESCRIPTION	QTY	MATERIAL	TOTAL WEIGHT (Kg.)	UNIT WEIGHT (Kg.)
				490.5	



DETAIL NOZZLE "N7 & N8"

REV.	DATE	ISSUED FOR APPROVAL	DESCRIPTION OF REVISION	SJD	JSW	ZAH	AH
0	13-10-2016						

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 URL: www.enar.com.pk

OIL & GAS DEVELOPMENT COMPANY LIMITED
 QADIRPUR GAS FIELD DEVELOPMENT
 NOZZLES DETAIL
 FOR CONDENSATE TANK (T-2811)

Job No. 14-1483
 Dwg No. 1483-SDF-7812

COMPUTER CODE 1483-SDF-7812-0
 SHEET SIZE A1
 SCALE MTS
 REPLACES DWG. NO.

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