


 ALPHA ENGINEERING INTERNATIONAL	Oil & Gas Engineering Services	
FINAL REPORT ISOMETRIC DRAWING FOR PIPELINES AT AL-JURF FIELD		
CONTRACTOR DOCUMENT N°	COMPANY DOCUMENT N°	REV 01



FINAL REPORT
ISOMETRIC DRAWING FOR PIPELINES
AT AL-JURF FIELD – MABROUK OIL OPERATIONS

01	27/09/2022	FINAL REPORT	M.SH	R. ZY	K.HA
Rév.	Date	Description	Prep	Check	Approved

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1. Introduction:

The main goal of the project is to draw an isometric drawing for specific pipe lines in FPSO ship according to the Mabruk Oil Operation (MOO) company selection. The project has been done by two site visits to the FPSO ship. The first one, that took place on April 12–14, 2022, was to collect the required documents and take the pipe line measurements to draw the isometric drawings of the pipes. And the second one, which took place on September 03–06, 2022, was to investigate the drawn documents and audit the pipe lines' measurements, sizes, and directions according to the isometric drawings that were drawn. And make sure the valve sizes and numbers are correct.

2. Scope of Work:

The scope of work is to draw an isometric drawing for some pipe lines that have been selected by the client, which are comprised of five parts as shown below.

1. FPSO diesel bunkering line and diesel line to Aft fire pump.
2. Cross over Water discharge overboard line.
3. FPSO Instrument/service airline.
4. Engine room pipes (seawater cooling system).
5. FW cooling line.



3. Work Parts Description:

According to the site visit and the collected documents, the isometric drawings for each part of the MOO scope of work parts have been drawn. Some parts have one pipe line while others have several pipe lines. Each part of the scope has been drawn in several sheets as shown below.

3.1. FPSO Diesel Bunkering Line and Diesel Line to Aft Fire Pump:

In the FPSO Diesel part, there were three lines that were drawn according to the client's requirement. (See Appendix 1)

3.1.1. Diesel Transfer System

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It has been drawing this line on four sheets of paper.

- DIESEL LINE.1.5 INCH-01
- DIESEL LINE.1.5 INCH-02
- DIESEL LINE.1.5 INCH-03
- DIESEL LINE.1.5 INCH-04

3.1.2. DIESEL FILLING SYSTEM

This line has been drawn this line on two sheets.

- DIESEL LINE.4 INCH-01
- DIESEL LINE.4 INCH-02

3.1.3. DIESEL BUNKERING LINE (CO2S)



This line has been drawn in four sheets.

- DIESEL LINE.CO2S-01
- DIESEL LINE.CO2S-02
- DIESEL LINE.CO2S-03
- DIESEL LINE.CO2S-04

3.2. Cross Over Water Discharge Overboard Line

In this part, there were specific pipe spools which were selected by the client that had been drawn in six sheets. (See Appendix 2)

- C.O.W.250-216
- C.O.W.250-217
- C.O.W.250-279
- C.O.W.350-219-1

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- C.O.W.350-219-2
- C.O.W.350-249

3.3. FPSO Instrument Service Airline.



It has been drawn this line on eight sheets. (See Appendix 3)

- I.S.A.40-105-01
- I.S.A.40-105-02
- I.S.A.40-105-03
- I.S.A.40-105-04
- I.S.A.40-105-05
- I.S.A.40-105-06
- I.S.A.40-105-07
- I.S.A.40-105-08

3.4. Engine Room Pipes (Seawater Cooling System):

In this part, there were specific pipe spools which were selected by the client that were drawn in ten sheets. (See Appendix 4)

- Seawater System. SP-01
- Seawater System. SP-02
- Seawater System. SP-03
- Seawater System. SP-04
- Seawater System. SP-05
- Seawater System. SP-06

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- Seawater System. SP-07
- Seawater System. SP-08
- Seawater System. SP-09
- Seawater System. SP-10

3.5. FW Cooling Line:

In the FW Cooling Line part, there were two lines that were drawn according to the client's requirements. (See Appendix 5)

3.5.1. Line 200-139



Have been draw this line in five sheets.

- FW Cooling Line.200-139-01
- FW Cooling Line.200-139-02
- FW Cooling Line.200-139-03
- FW Cooling Line.200-139-04
- FW Cooling Line.200-139-05

3.5.2. 2-Line 200-140

Have been draw this line in five sheets.

- FW Cooling Line.200-140-01
- FW Cooling Line.200-140-02
- FW Cooling Line.200-140-03
- FW Cooling Line.200-140-04
- FW Cooling Line.200-140-05

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4. Conclusion and Recommendation

4.1. Conclusion

The project has been successfully completed.

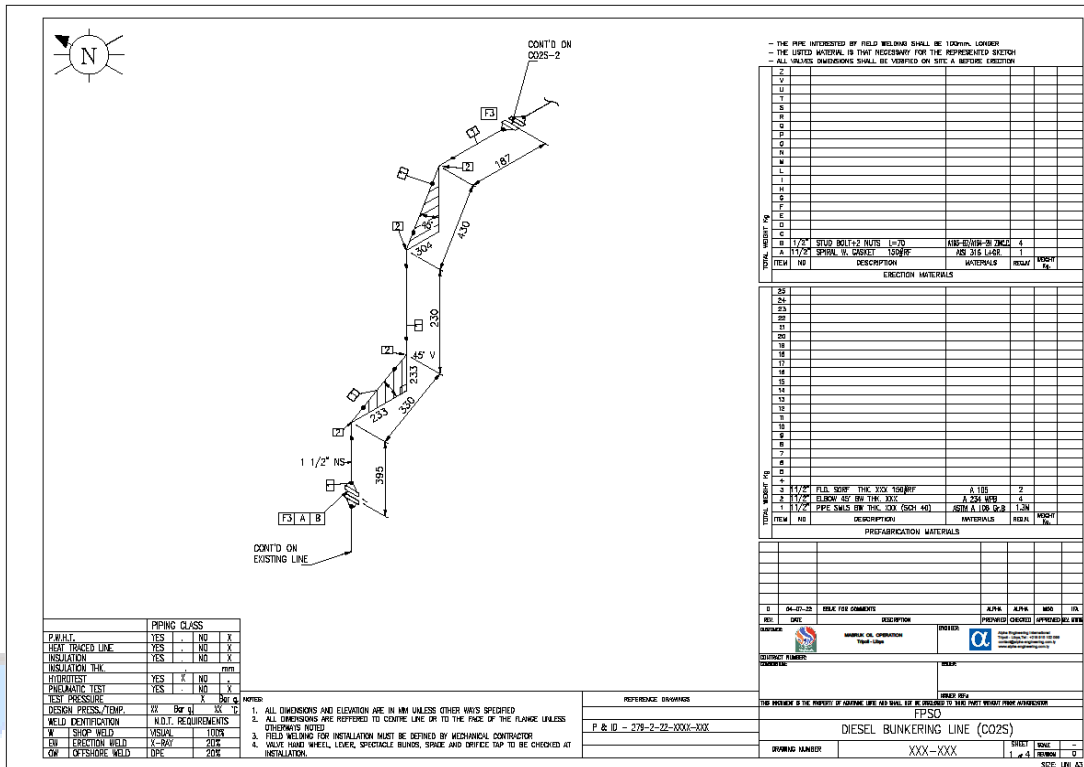
4.2. Recommendations

At the end of the project, we can summarise some points that have been found during the line isometric drawings:

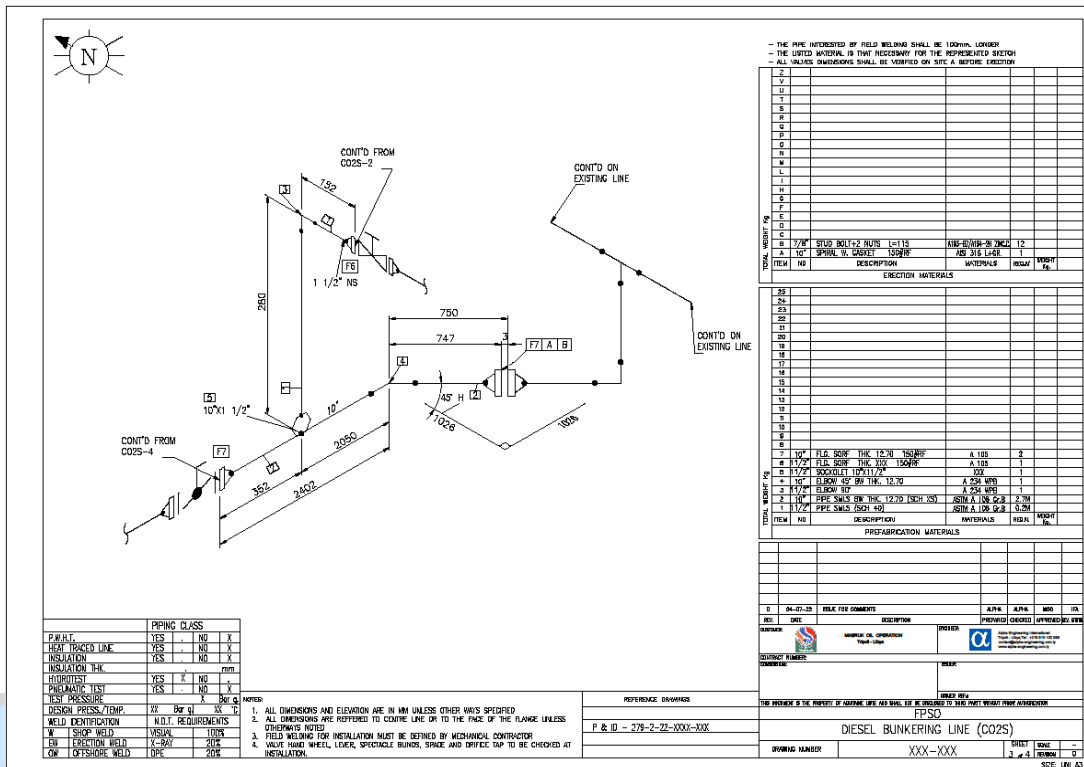
- Firstly, we have found that the P&IDs are not updated, some of them are not clear, and there is no clear softcopy of them, which makes it difficult to find out some data.
- Secondly, we were unable to find the pipe specification documents earlier which led us to rely on data from the P&IDs in where some data required were missing.
- Thirdly, some of the pipes and valves were not tagged on site, which made it difficult to follow the lines.
- Lastly, we recommend updating the P&IDs; it is better to have a pipe specification document separately, and also update the line tagging on site.

5.3. Diesel Bunkering Line (CO2S)

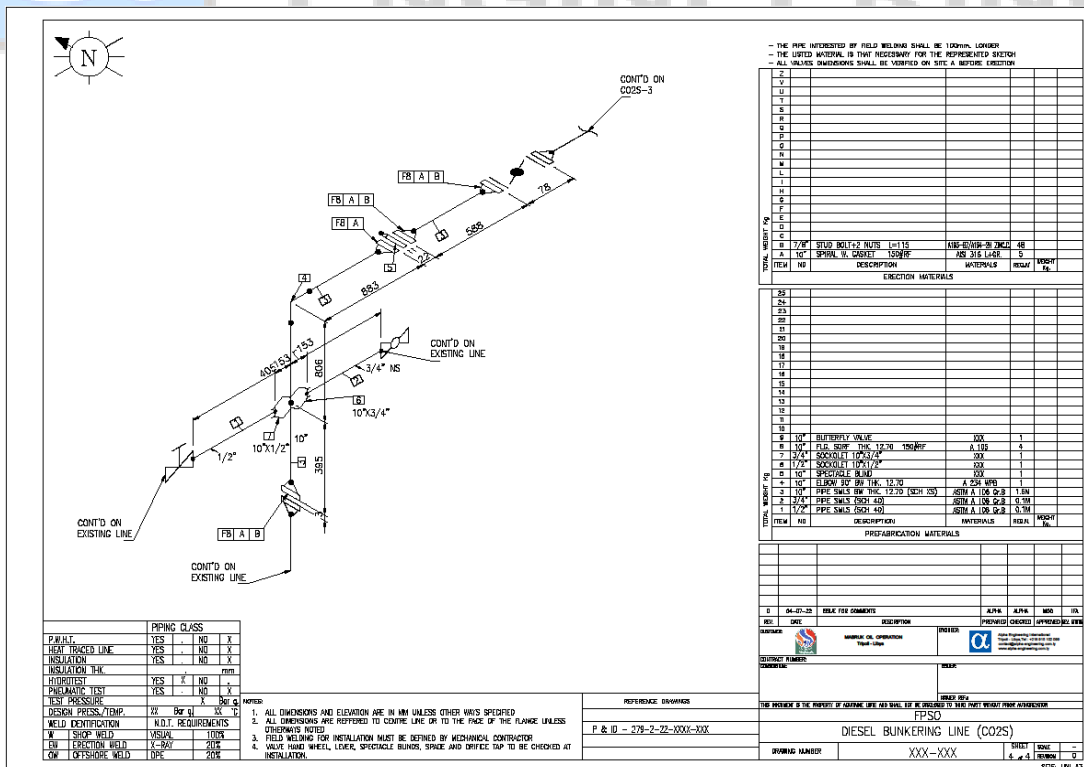
5.3.1. Diesel Line.CO2S-Sheet-01



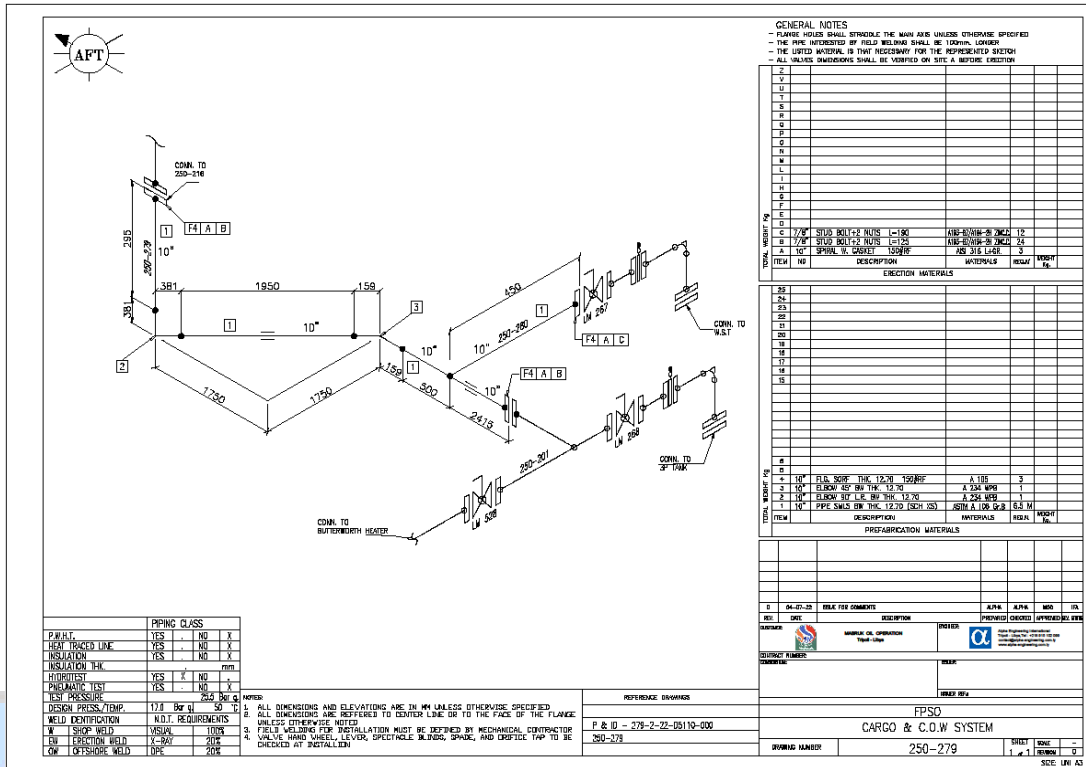
5.3.3. Diesel Line.CO2S-Sheet-03



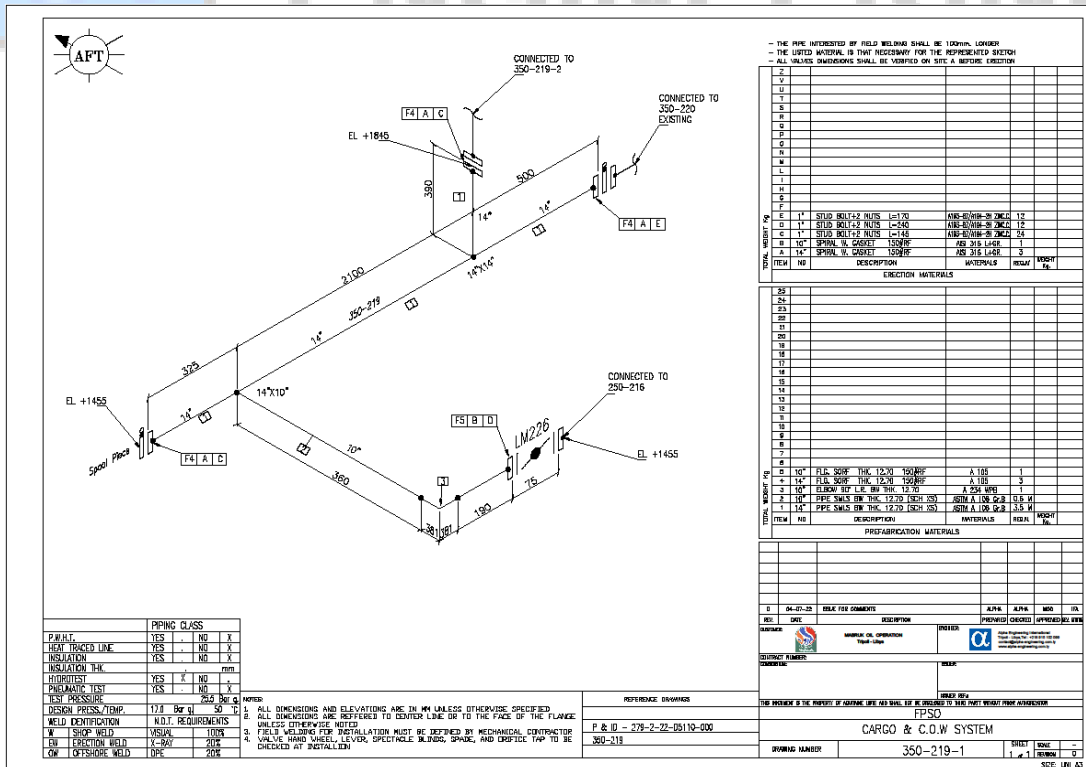
5.3.4. Diesel Line.CO2S-Sheet-04



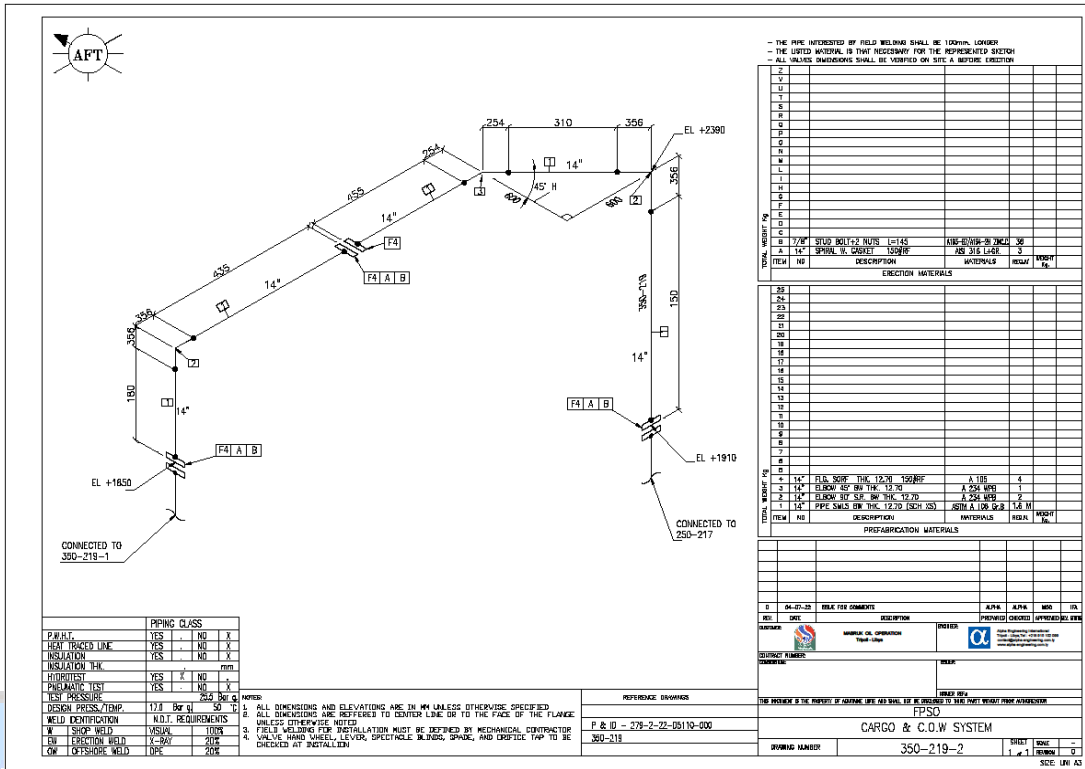
2.1.3. C.O.W.250-279



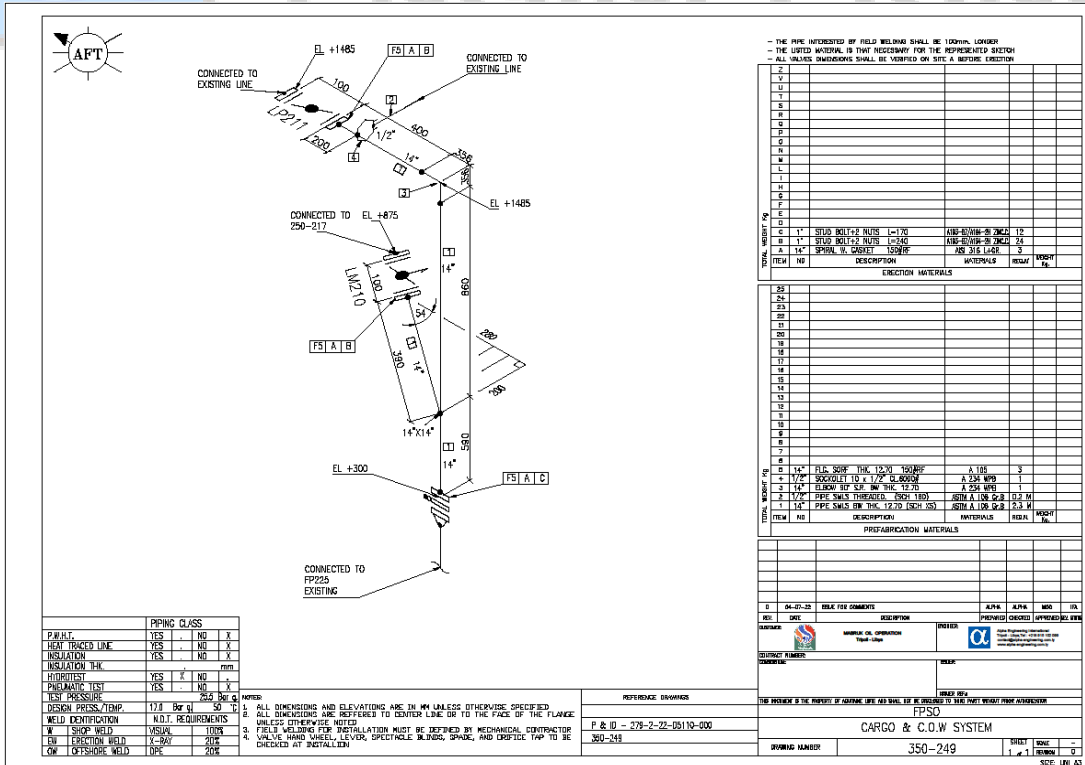
2.1.4. C.O.W.350-219-Sheet-01



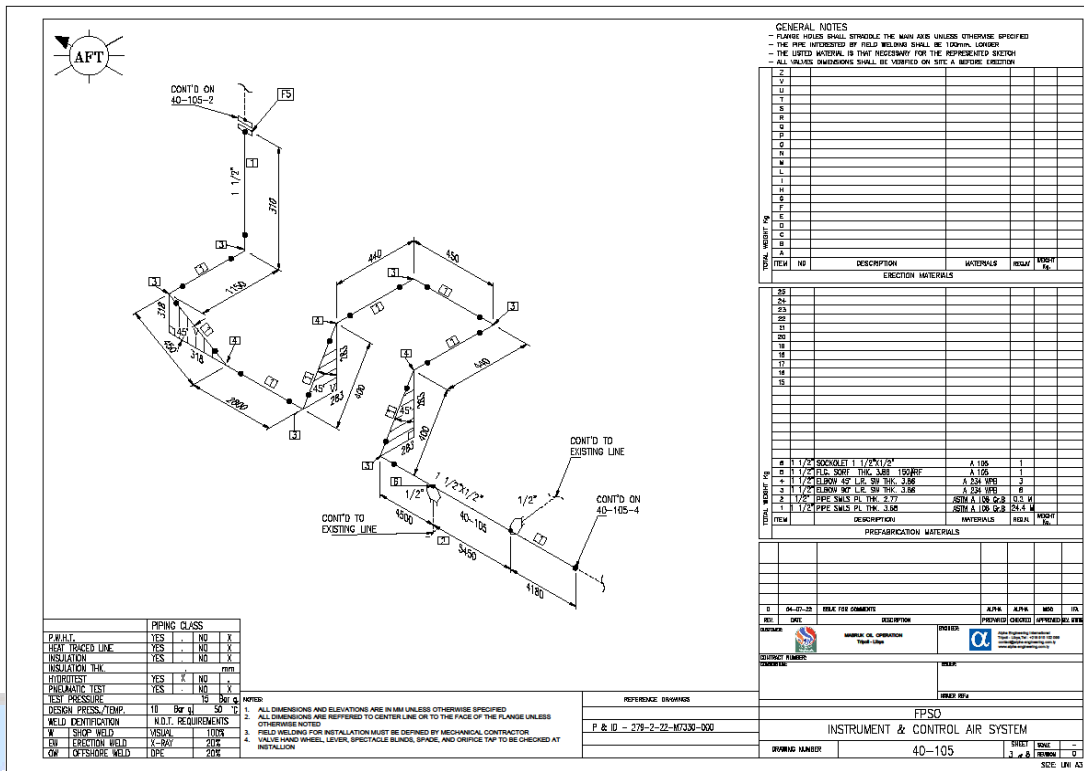
2.1.5. C.O.W.350-219-Sheet-02



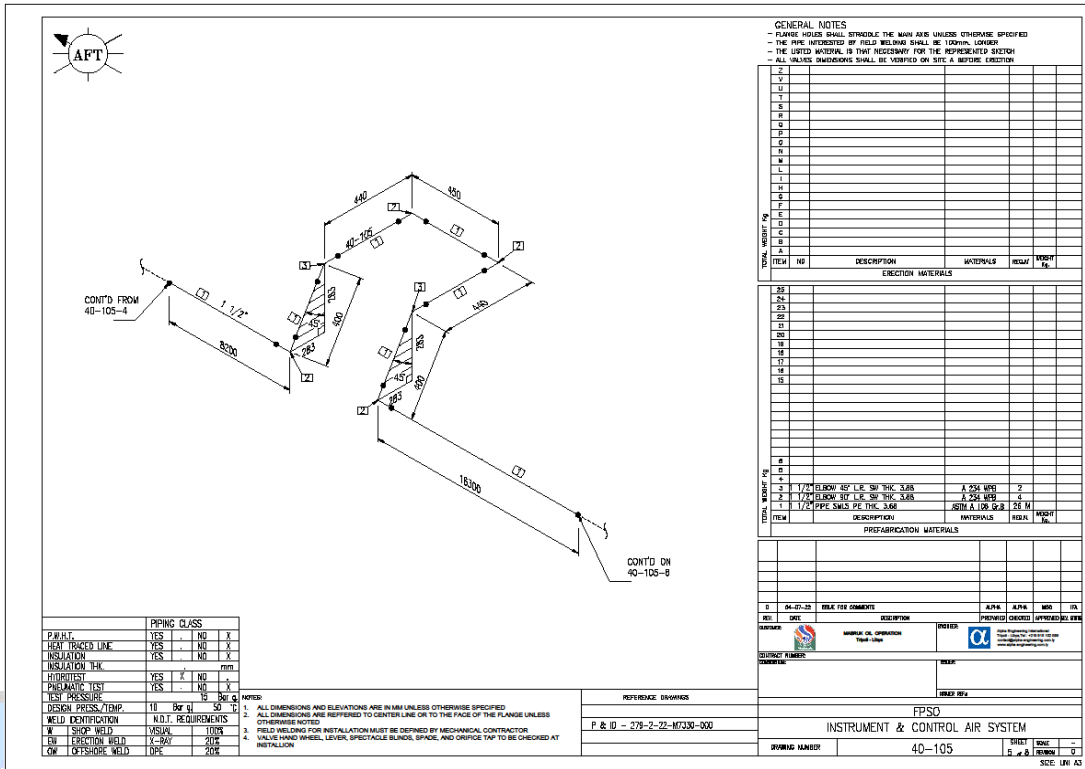
2.1.6. C.O.W.350-249



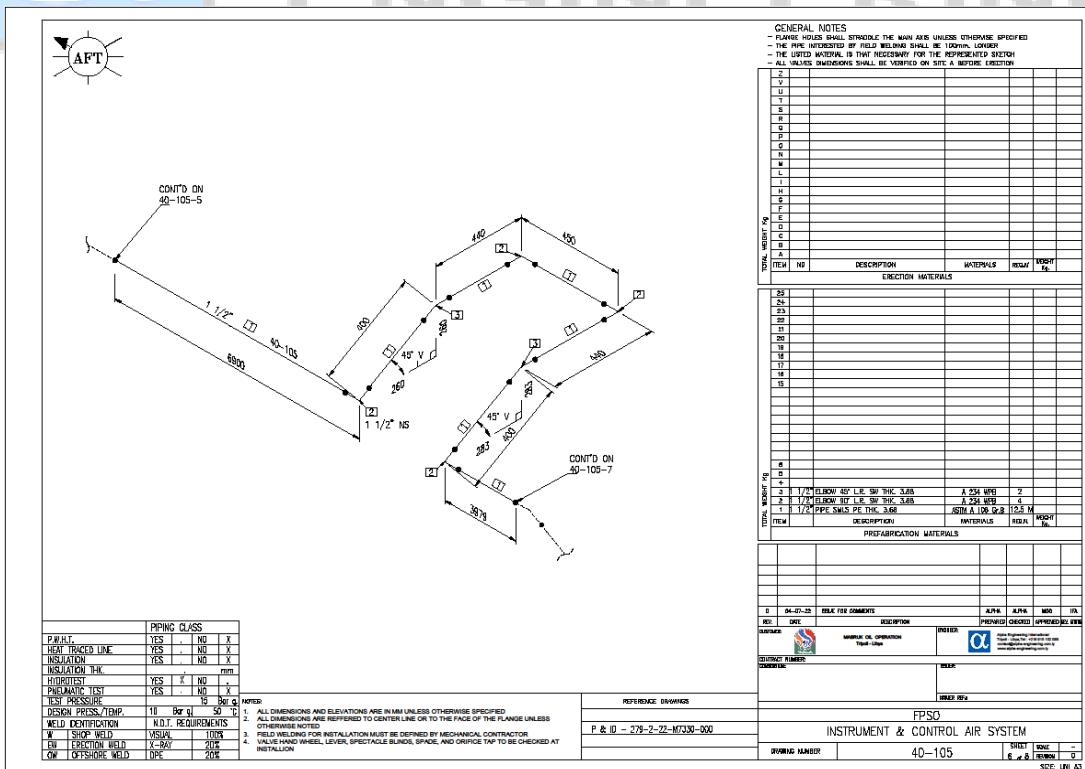
3.1.3. I.S.A.40-105-Sheet-03



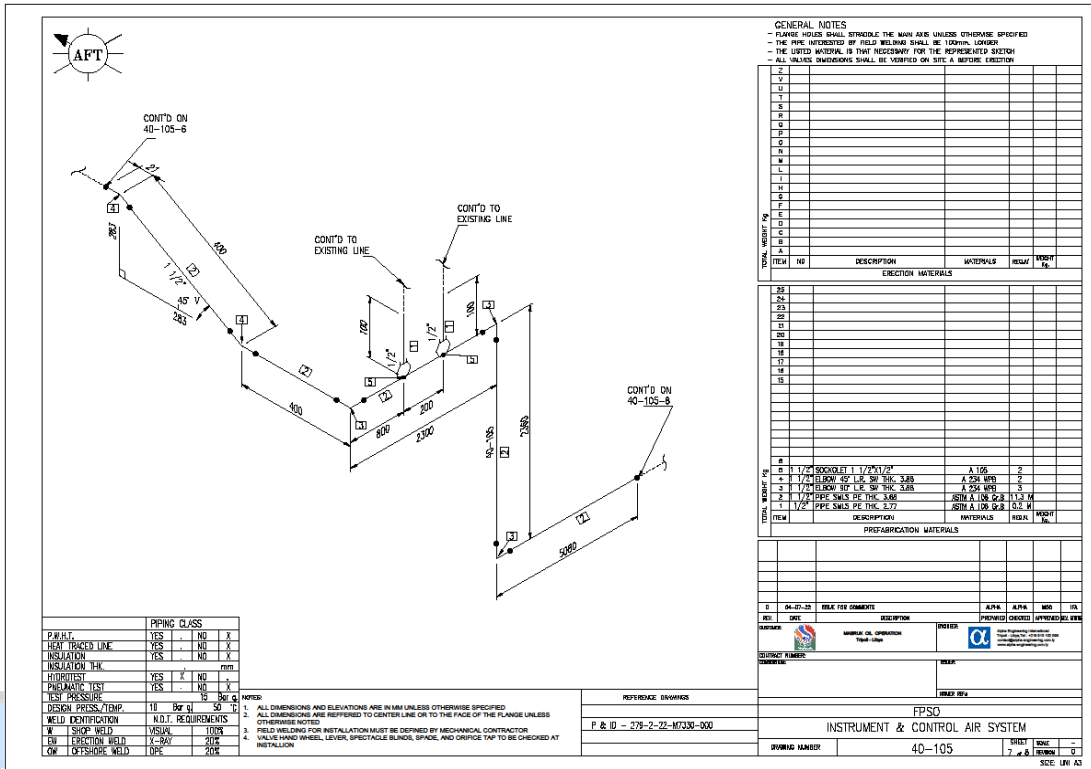
3.1.5. I.S.A.40-105-Sheet-05



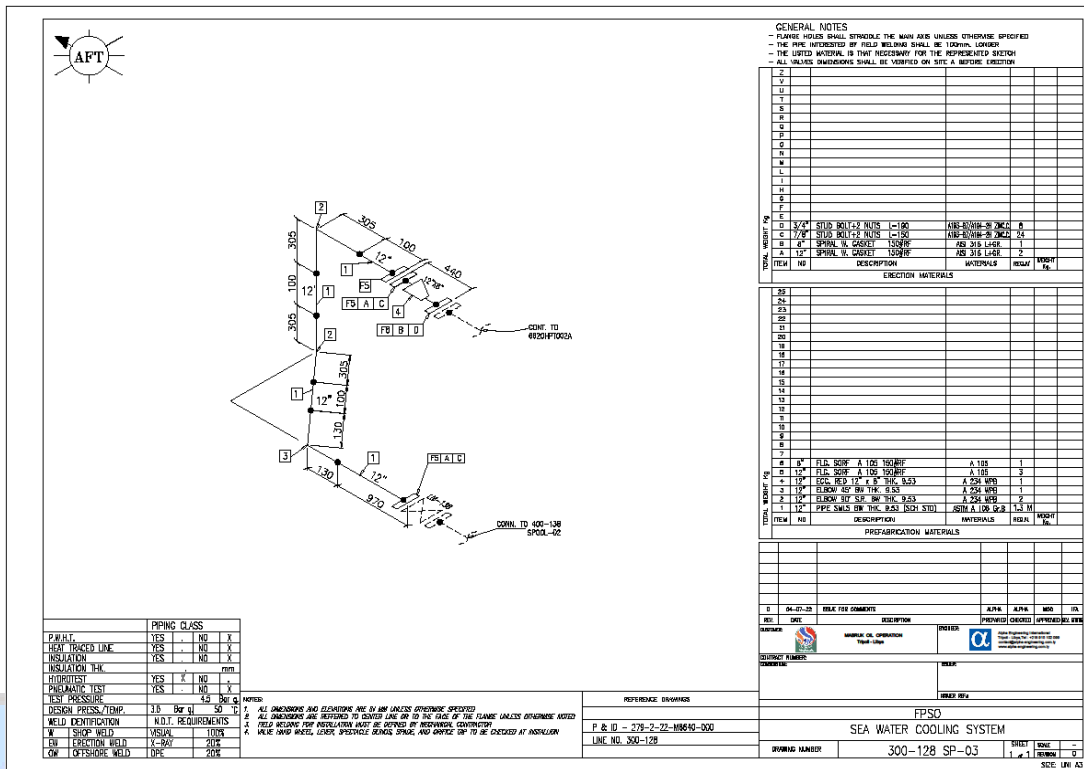
3.1.6. I.S.A.40-105-Sheet-06



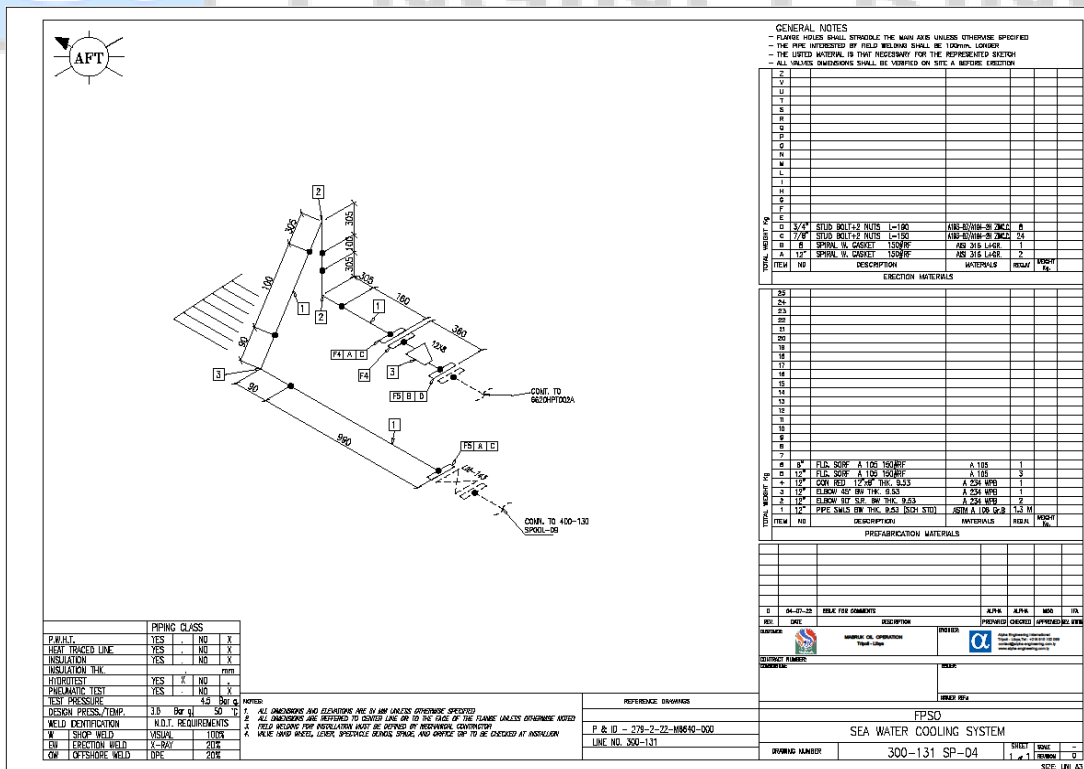
3.1.7. I.S.A.40-105-Sheet-07



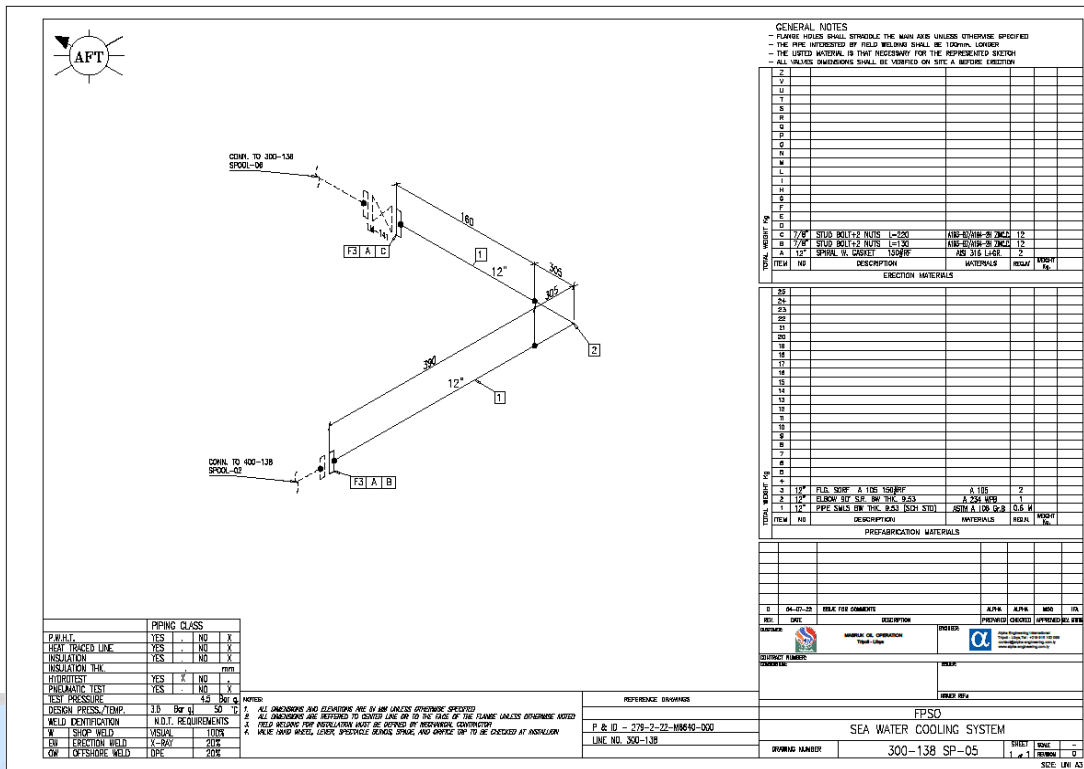
4.1.3. Seawater System. SP-03



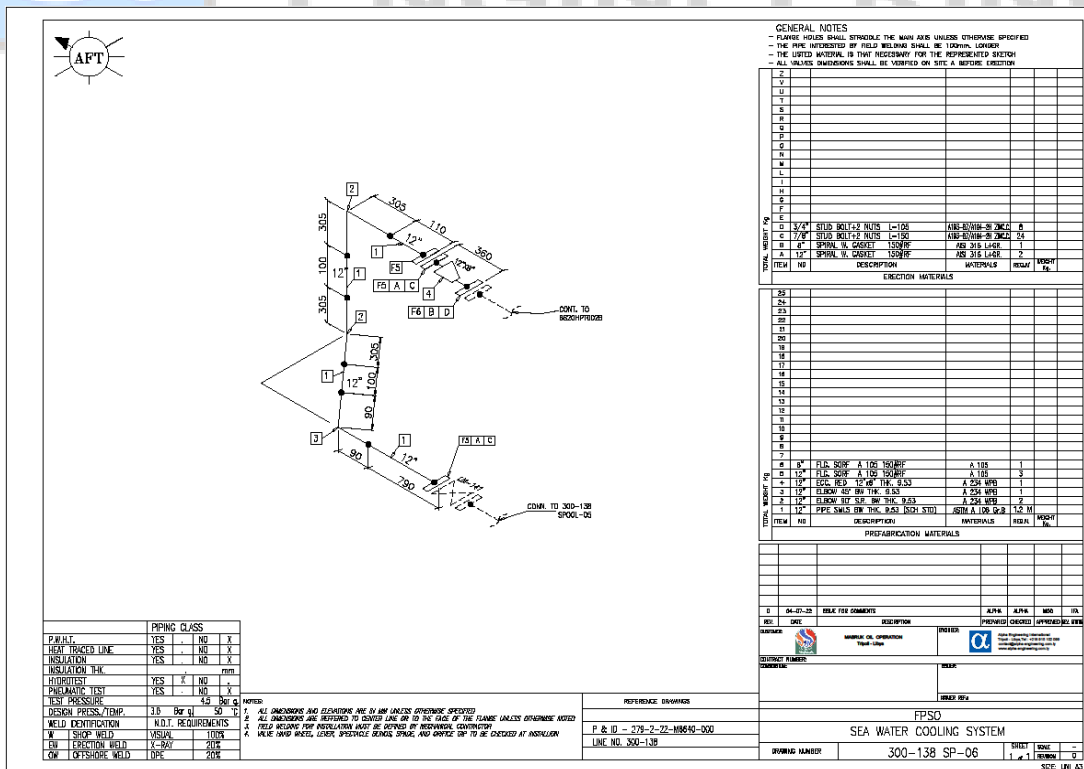
4.1.4. Seawater System. SP-04



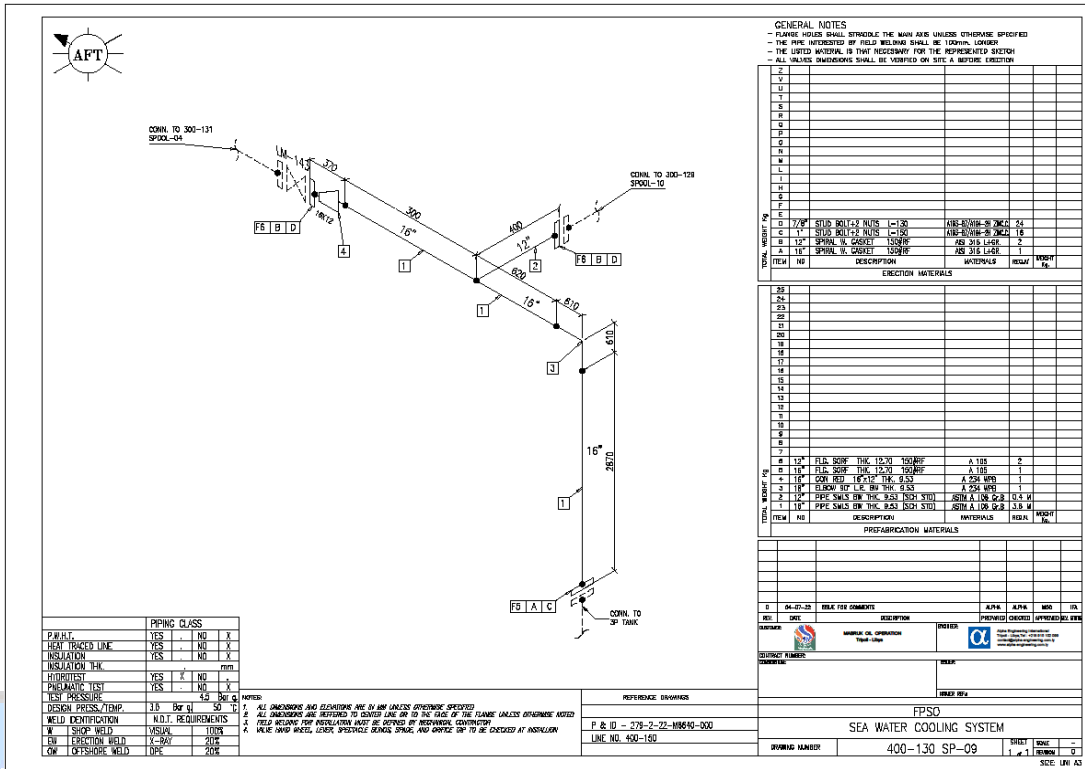
4.1.5. Seawater System. SP-05



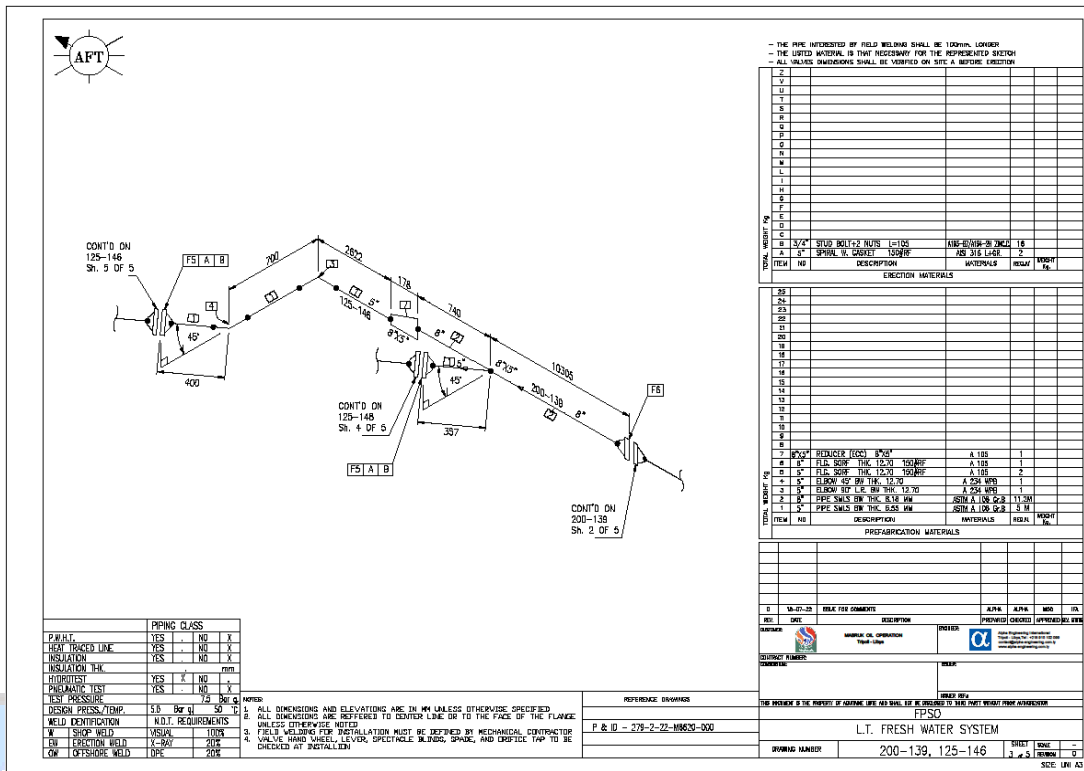
4.1.6. Seawater System. SP-06



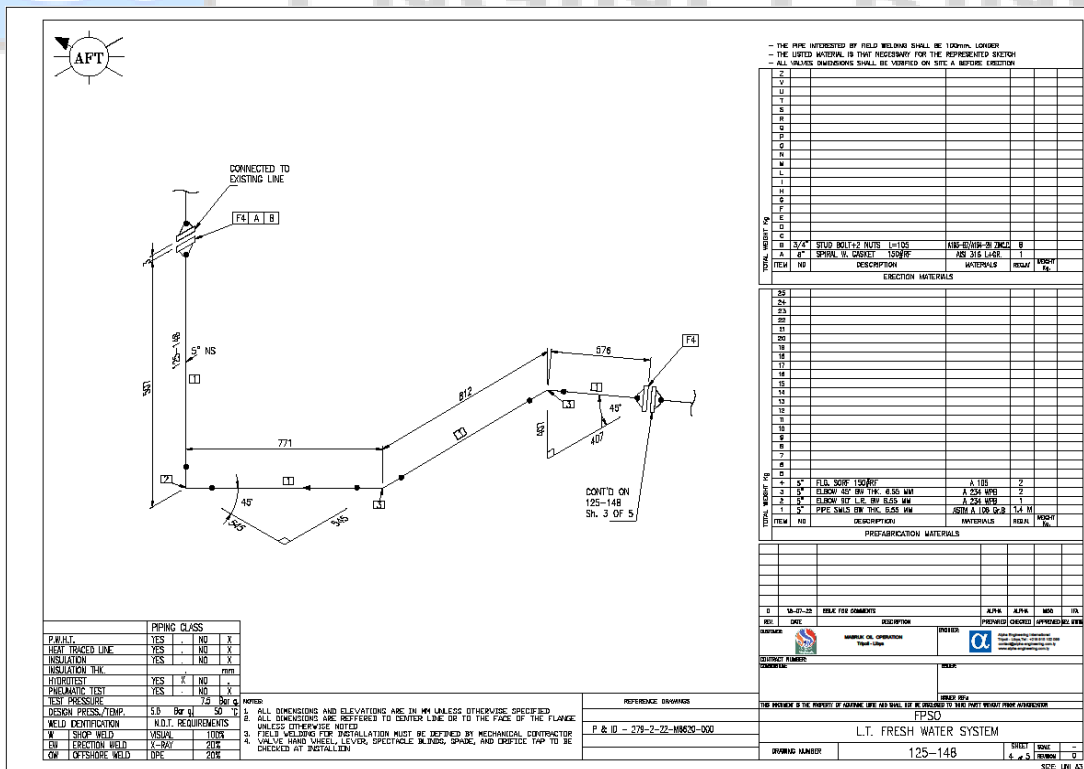
4.1.9. Seawater System. SP-09



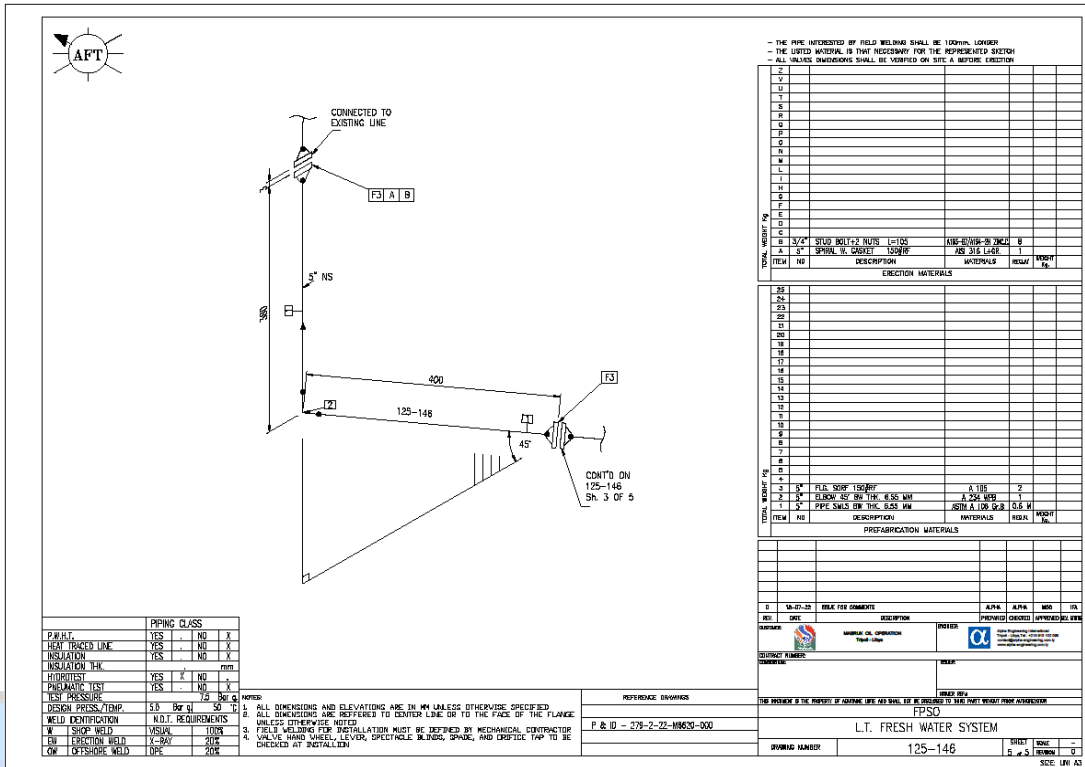
5.1.3. FW Cooling Line.200-139-Sheet-03



5.1.4. FW Cooling Line.200-139-Sheet-04

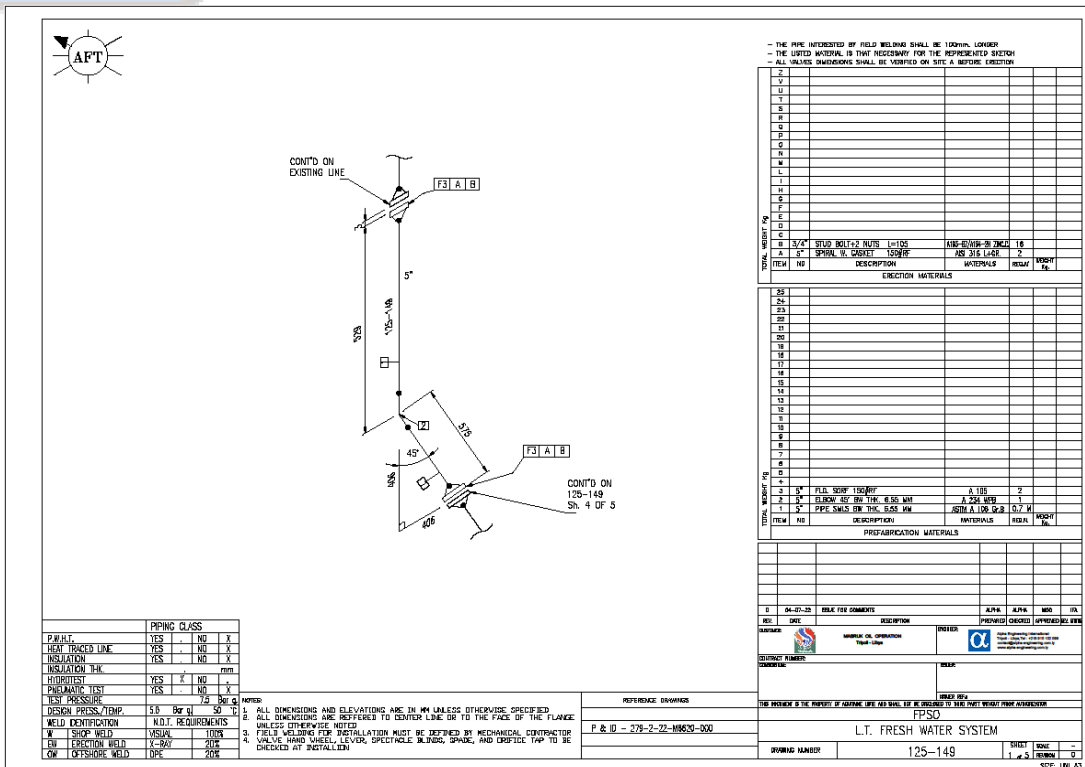


5.1.5. FW Cooling Line.200-139-Sheet-05

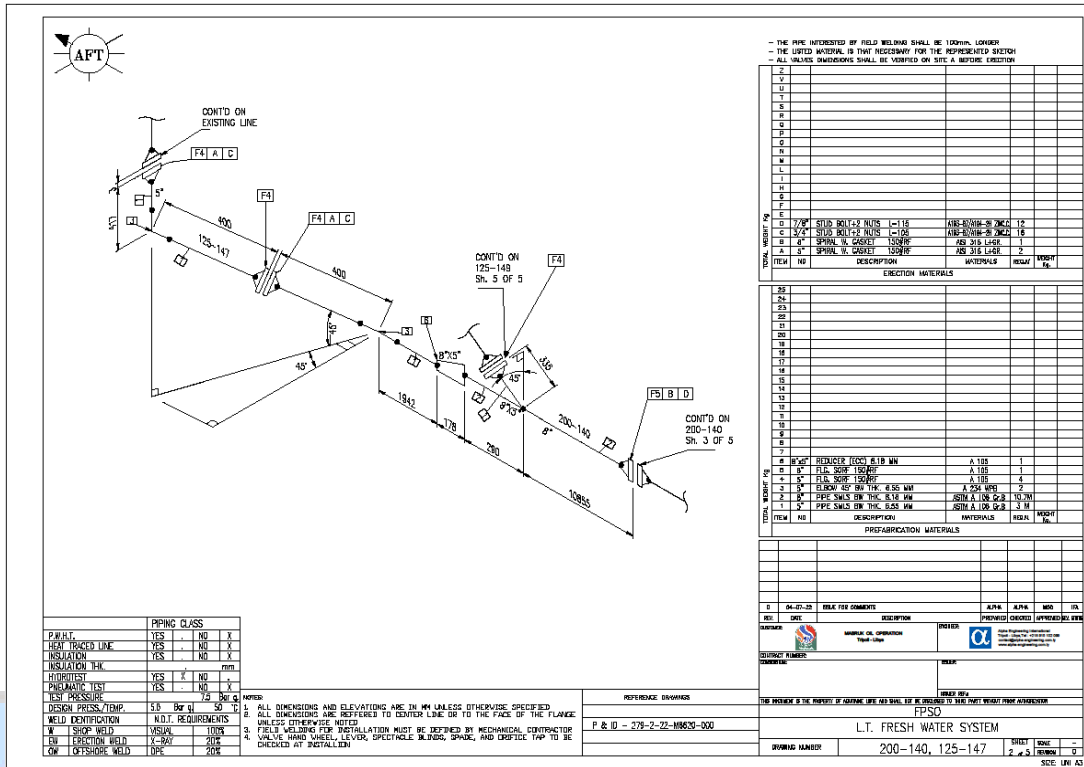


5.2. FW Cooling Line.200-140

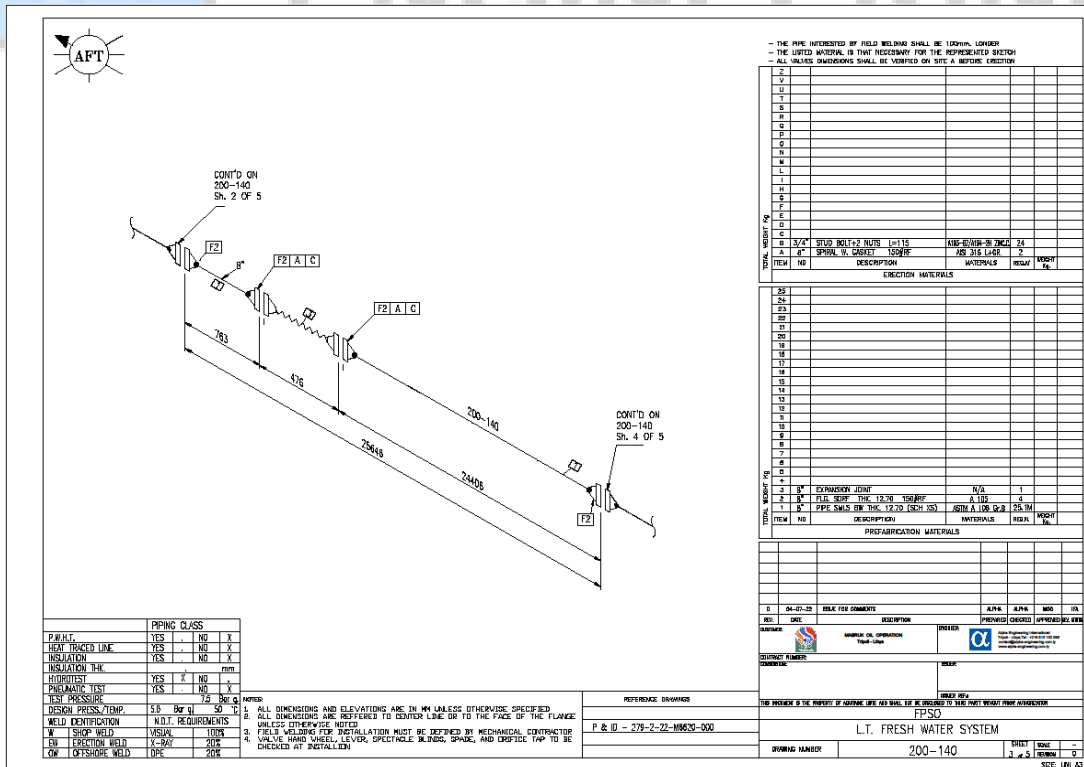
5.2.1. FW Cooling Line.200-140-Sheet-01



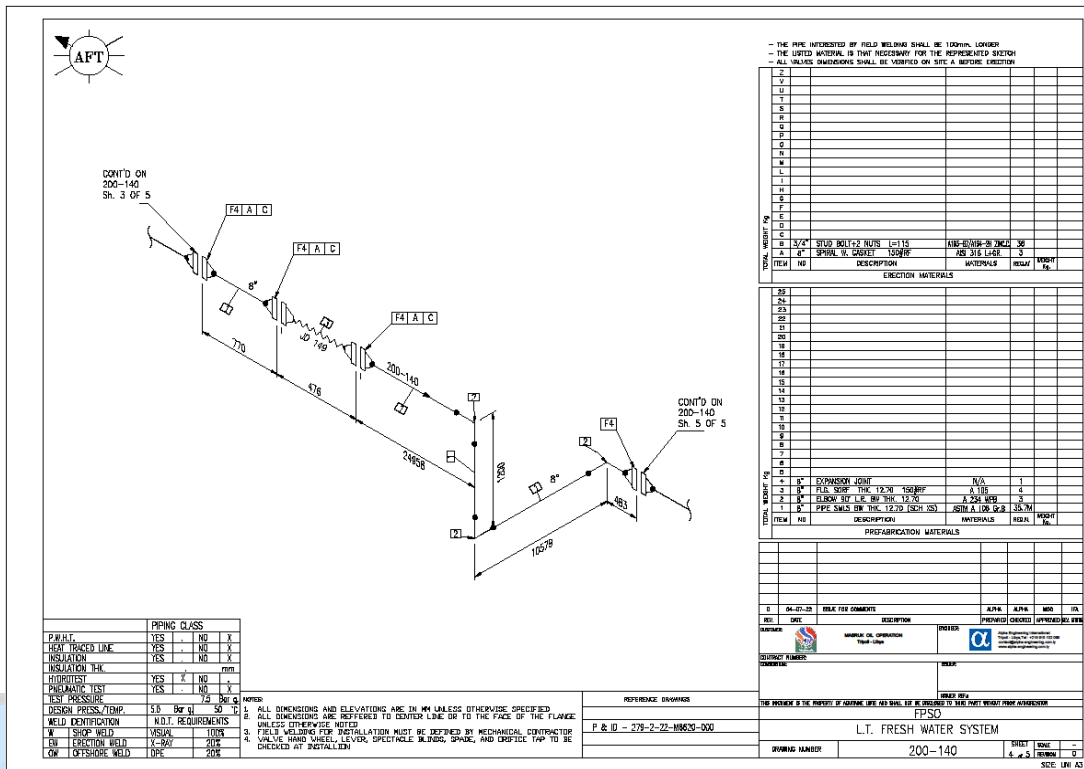
5.2.2. FW Cooling Line.200-140-Sheet-02



5.2.3. FW Cooling Line.200-140-Sheet-03



5.2.4. FW Cooling Line.200-140-Sheet-04



5.2.5. FW Cooling Line.200-140-Sheet-05

