



GENERAL NOTES:

- A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & 1104.002.  
B. ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-..  
C. FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS NOS. 50489-530-020-PID-1106.001 TO 004, 006 & 007.  
D. FOR MISCELLANEOUS PIPING DETAILS SEE DRAWING NOS. 50489-530-020-PID-1108.001.  
E. FOR TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTATION, PUMPS AND CONTROL VALVES SEE DRAWING NOS. 50489-530-020-PID-1108.001 TO 010.  
F. DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-000-PID-XXXX.SHT. NO.

NOTES:

1. IN GENERAL HYDRANTS ARE INSTALLED NOT MORE THAN 30 METER INTERVAL EXCEPT FOR CRUDE TANK FARMS WHERE IT IS 23 METER INTERVAL.  
2. SECTIONING VALVES ARE INSTALLED AT NOT MORE THAN 91 METER INTERVAL.  
3. RINGMAIN MINIMUM COVER IS OF 1 METER FROM TOP OF PIPE.  
4. HYDRANT NOZZLES ARE PARALLEL TO BUND WALL.  
5. FIRE WATER PUMP DISCHARGE HEADER IS HAVING TWO SEPARATE CONNECTIONS TO FIRE WATER DISTRIBUTION SYSTEM.  
6. THE FIRE WATER SYSTEM IS DESIGNED IN ACCORDANCE WITH 015-YH-1003, KOC-L-009 & KOC-GH-1004.  
7. DELETED  
8. FIRE WATER LINE NUMBER QUOTED ON FIREWATER PUMP P&ID No's 50489-530-000-PID-1111.001 & 1112.  
9. FIRE ENGINE SUCTION RISER ARE PROVIDED AS PER CLAUSE 7.5.3 OF KOC-L-009.  
10. ISOLATION VALVES ARE POST INDICATOR TYPE  
11. HYDRANT AS PER CLAUSE NUMBER 7.5.1 OF KOC-L-009.  
12. CATHODIC PROTECTION FOR FIRE WATER RING MAIN IS PROVIDED AS PER KOC-L-015 & 015-WH-1006.  
13. FOR DETAILS OF WATER SPRAY SYSTEM DOWNSTREAM OF TAP-OFF POINTS FROM THE FIRE WATER DISTRIBUTION NETWORK, REFER RESPECTIVE WATER SPRAY SYSTEM P&ID'S

LEGEND:

- (Symbol) → FIRE HYDRANT  
→ (Symbol) → FIRE HYDRANT WITH PRESSURE INDICATOR  
→ (Symbol) → FIRE HYDRANT WITH PUMPER CONNECTION  
→ (Symbol) → POST INDICATOR ISOLATION VALVES IN CONCRETE PIT  
→ (Symbol) → FIRE MONITOR  
→ (Symbol) → DELUGE VALVE SKID  
→ (Symbol) → FIRE ENGINE SUCTION RISER  
FH-XXX FIRE HYDRANT TAG NUMBER  
FM-XXX FIRE MONITOR TAG NUMBER  
FESR-XXX FIRE ENGINE SUCTION RISER TAG NUMBER  
PIV-XXX POST INDICATOR VALVE TAG NO.

REFERENCE DOCUMENTS:

1. FIRE WATER NETWORK LAYOUT - 50489-530-000-LAD-1065  
2. FIRE PROTECTION HYDRAULIC CALCULATION - 50489-530-000-CAL-1002  
3. OVERALL PLOT PLAN - 5089-530-050-PLP-1001  
4. UNDERGROUND PIPING LAYOUT SLOP TANK AREA - WEST - 5089-530-050-GAD-1013.004  
5. UNDERGROUND PIPING LAYOUT PIG LAUNCHER RECEIVER AREA FOR FUEL GAS / TREATED WATER / CRUDE EXPORT - 5089-530-050-GAD-1013.002

Z1	RE-ISSUED FOR AS-BUILT	JSI/HSA	NIJ	SRA	RAK	10.10.18
Z0	ISSUED FOR AS-BUILT	JSI/HSA	NIJ	SRA	RAK	03.09.18
03	RE-ISSUED FOR CONSTRUCTION	JSI/HSA	NIJ	SRA	RAK	10.08.16
02	ISSUED FOR CONSTRUCTION(WITHDRAWN)	JSI/HSA	NIJ	SRA	RAK	21.06.16
01	ISSUED FOR CONSTRUCTION	JSI/HSA	NIJ	SRA	RAK	04.02.16
0	ISSUED FOR DESIGN (GENERALLY REVISED)	JSI/HSA	NIJ	SRA	RAK	03.12.15
B	ISSUED "INCORPORATED CLIENT COMMENTS"	HSH/HSA	NIJ	SRA	RAK	12.08.15
A	ISSUED FOR APPROVAL	PAK/HSA	NIJ	SRA	RAK	13.02.15
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

CONTRACTOR REVISION

**KUWAIT OIL CO.**  
**K. S. C.**  
شركة نفط الكويت  
ش.م.ك.  
A Subsidiary of Kuwait Petroleum Corporation

CONTRACTOR DETAILS:-  
**LARSEN & TOUBRO LIMITED**  
**FARIDABAD**

PROJECT TITLE:-  
**NEW GATHERING**  
**CENTRE GC-30 IN NORTH KUWAIT**

DOCUMENT TITLE:-  
**PIPING & INSTRUMENTATION DIAGRAM**  
**FIRE WATER DISTRIBUTION**

PROJECT NO.	DRAWING NO.		
EF1902	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.
	50489-530-000-PID-1101.002	Z1	
	SHEET NO. 2 OF 2		SHEET NO.
	COMPANY DRG. NO.	REV.	
SHEET NO.			

**AS-BUILT**  
**KOC APPROVAL**

NAME / KOC No:
DESIGNATION :
GROUP / TEAM :
SIGNATURE :
DATE :

**AS-BUILT**  
**LARSEN & TOUBRO LIMITED**

NAME :
DESIGNATION :
SIGNATURE :
DATE :
DEPT/ DIVISION :