



GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
 - ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
 - ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
 - FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.
 - FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE & GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS, STRAINERS & CONTROL VALVES SEE DRAWINGS 50489-530-020-PID-1108.001 TO 1108.010.
 - DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT.NO.
 - FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
 - DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
 - PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
 - LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
 - FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
 - FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.
- NOTES:**
- DELETED.
 - AUTOMATIC VARIABLE PUMP STROKE ADJUSTMENT IS THROUGH DCS.
 - DELETED.
 - VALVE CLOSING AT HIGH LIQUID LEVEL H1 (SET @2785mm) VALVE OPENS AT LOW LIQUID LEVEL L1 (SET @410mm). ZSC OF LCV-6095 & LCV-6110 STOPS DUTY & STANDBY TRANSFER PUMP G-027A/B BY SLS LOGIC.
 - DELETED.
 - DELETED.
 - LOW LIQUID LEVEL STOPS BIOCIDES A INJECTION PUMPS, G-048A/B/C/D AND AGITATOR.
 - FLUSHING CONNECTIONS.
 - BIOCIDES A DAY TANK COMES UNDER BUND AREA BIOCIDES A INJECTION PUMP IS PART OF PUMP SKID.
 - EYEWASH AND SAFETY SHOWERS ARE PROVIDED IN THE CHEMICAL INJECTION SKID AREA.
 - PROVIDE CORIOLIS FLOW MEASUREMENT AND FACILITY FOR LOCAL CALIBRATION.
 - TANK LEVEL INSTRUMENTS ARE CALIBRATED IN VOLUMETRIC UNITS.
 - DELETED.
 - HIGH LIQUID LEVEL STOPS BIOCIDES A TRANSFER PUMP G-027A/B.
 - BIOCIDES A SHALL BE STORED BELOW 60°C. PIPING TO BE INSULATED TO PROTECT THE FLOW FROM HEAT BUILD UP DUE TO SOLAR RADIATION.
 - TANK BUND NOT IN VENDOR SCOPE. TANK CONCRETE BUND SHALL BE 115% CONTAINMENT OF D-048.
 - DEVIATION ALARMS ARE CONFIGURED IN THE DCS TO ALARM IF ACTUAL FLOW DIFFERS FROM SET BY 10%.
 - FLAME ARRESTOR INSTALLED WITH GOOSE NECK PIPE FOR VENT.
 - DELETED.
 - DELETED.
 - CHEMICAL INJECTION RATIO CONTROLLER IS SET IN PPM.
 - ANTI-RESISTANT CHEMICAL FLOOR ARE PROVIDED.
 - OVERFLOW NOZZLE IS LOCATED ABOVE HLL.
 - TANK AREA ARE PAVED. FLOOR IS SLOPED TOWARDS SUMP PIT.
 - VENT TO SAFE LOCATION ARE AS PER KOC-G-002 ALONG WITH GOOSE NECK & BIRD SCREEN.
 - (A) LOW POINT DRAIN IS PROVIDED AS APPROPRIATE.
(B) DELETED.
 - CHEMICAL PUMPOUT CONNECTION.
 - PUMP SUCTION BALL VALVE & CALIBRATION POT BALL VALVE ARE LOCATED ADJACENT TO ONE ANOTHER FOR MEASURING THE FLOW.
 - PUMPS ARE PROVIDED WITH DIAPHRAGM RUPTURE ALARM (PAHH).
 - VACUUM TRUCK CONNECTION (PIPE & VALVE) : L&T SCOPE.
 - PAHH STOPS EFFLUENT WATER BALANCE TANK BIOCIDES A INJECTION PUMP.
 - DIRECT MOUNTING TO THE PUMP HEAD FOR DETECTING RUPTURE OF DIAPHRAGM.
 - CHEMICAL SKID DRAIN LINE TILL INLINE TEE CONNECTION IS IN L&T SCOPE.
 - MINIMUM STROKE OF 10% IS PROVIDED FOR ALL CHEMICAL INJECTION PUMP.

Z0	ISSUED FOR AS-BUILT	HSB/CHS	AKG	SRA	RAK	18.08.18
O1	ISSUED FOR CONSTRUCTION	HSB/CHS	AKG	SRA	RAK	22.12.16
O	ISSUED FOR CONSTRUCTION	HSB/CHS	AKG	SRA	RAK	06.06.16
D	ISSUED INCORPORATED CLIENT COMMENTS	PAK/CHS	AKG	SRA	RAK	08.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	30.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	04.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	24.02.15
A	ISSUED FOR APPROVAL	PK/ABY	AKG	SRA	RAK	12.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
				APPRD.		

CONTRACTOR REVISION

KUWAIT OIL CO. K. S. C.

شركة نفط الكويت ش.م.ك.

Oil Company

شركة نفط الكويت

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

CHEMICAL INJECTION SKID #4 - BIOCIDES A (CONTINUOUS DOSING)

(D-048 & G-048A/B)

PROJECT NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
50489-530-020-PID-1197.004	Z0			
SHEET NO. 4 OF 7				
COMPANY DRG. NO.				
EF1902-530-DCO-PID-0197.004	A3			
SHEET NO.				