



GENERAL NOTES:

- A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
B. ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530--.
C. ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030--.
D. FOR TYPICAL INSTRUMENT CONNECTION, SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.
E. FOR MISCELLANEOUS TYPICAL VALVING, DRAWINGS & GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS, STRAINERS & CONTROL VALVES SEE DRAWINGS 50489-530-020-PID-1108.001 TO 1108.010.
F. DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT.NO.
G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
H. DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
I. PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
J. LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
K. FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

1. CABLE GLANDS FOR CONTRACTOR CONNECTION ARE PUMP VENDOR SCOPE OF SUPPLY.
2. ABSENCE OF PAL-0416 AND PAL-0418 IS USED FOR START PERMISSIVE SIGNAL OF G-005A.
3. DELETED.
4.  VENDOR
CONTRACTOR
5. BARRIER FLUID: POTABLE WATER / PROPYLENE GLYCOL (85% / 15%).
6. WHEN PUMP IS OPERATED, SEAL FLUID FAN COOLER MOTOR IS OPERATED AND WHEN PUMP IS STOPPED, SEAL FLUID FAN COOLER MOTOR IS STOPPED.
7. a) WHEN PIT-0416 OR 0418 IS ALARMED AS LOW WHILE MAIN PUMP RUNNING, ATU DUTY PUMP IS STARTED AND WHEN BOTH PIT IS ALARMED AS HIGH WHILE MAIN PUMP RUNNING, ATU PUMPS ARE STOPPED.
b) IN CASE OF DEMAND & DUTY PUMP FAIL TO START ARE DEVELOP PRESSURE, STANDBY SHALL START.
8. VENDOR REFERENCE DOC. NO.
(a) 50489-530-020-07673-PID-V002.
(b) OPERATION CONTROL PHILOSOPHY OF PACKAGES (50489-530-020-07673-PHL-V001).
(c) ALARM & TRIP SCHEDULE (50489-530-020-07673-LST-V006).
9. ISOLATION VALVES OF PRESSURE TRANSMITTER (CONNECTED TO ESD) ARE LO TYPE.

AS-BUILT
KOC APPROVAL
NAME / KOC No:
DESIGNATION :
GROUP / TEAM :
SIGNATURE :
DATE :

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME : VAIBHAV VERMA
DESIGNATION : AGM
SIGNATURE : 
DATE : 27-Sep-2018
DEPT/ DIVISION : ENGINEERING

Z0	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	RAK	27.09.18
01	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	08.11.16
0	ISSUED FOR CONSTRUCTION	HSH/PRS	AKG	SRA	RAK	26.05.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSH/PS	AKG	SRA	RAK	19.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	10.09.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	19.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	05.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
				APPRD.		

CONTRACTOR REVISION

**KUWAIT OIL CO.**
K. S. C.

شركة نفط الكويت
ش.م.ك.
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation

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

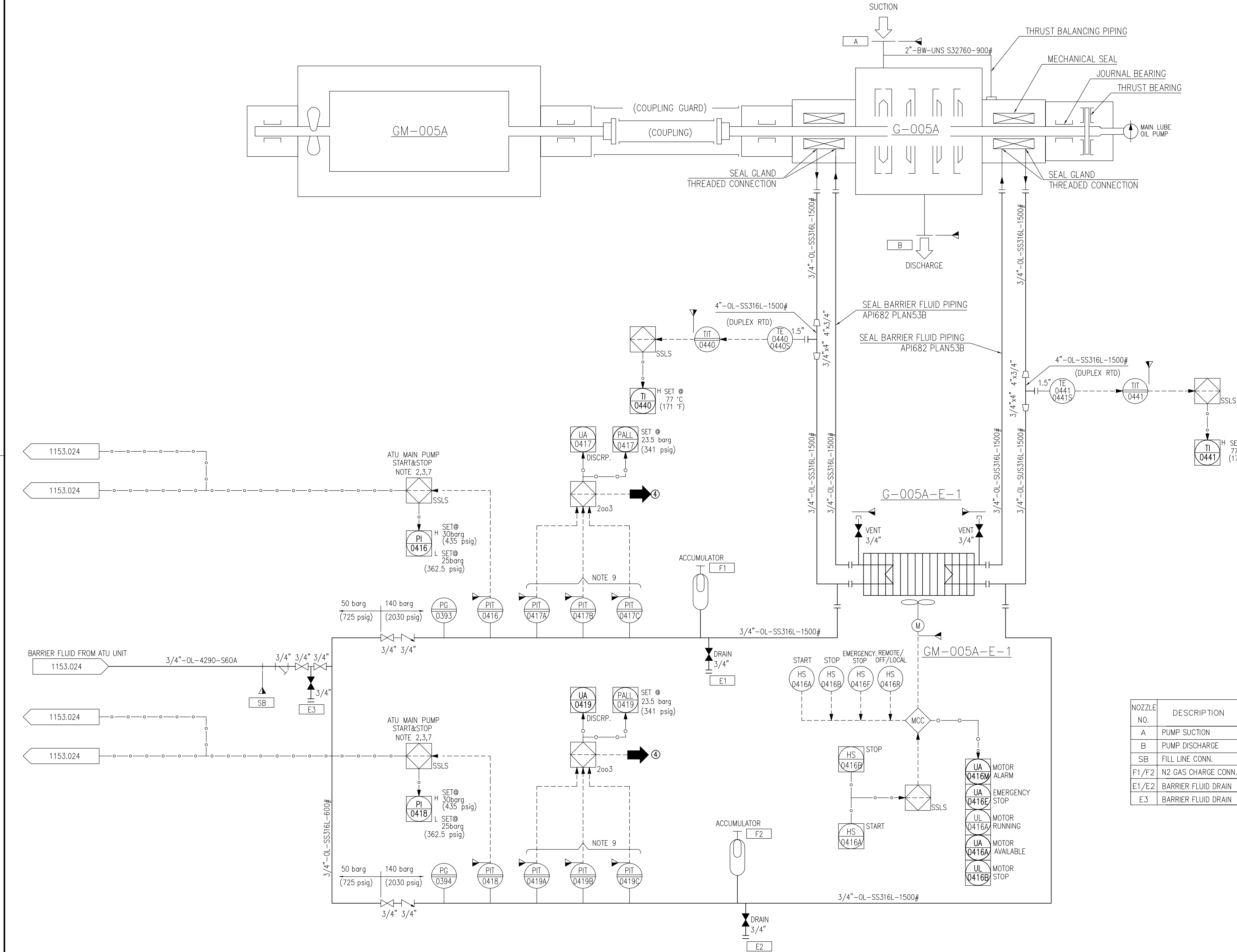
PROJECT TITLE:-
NEW GATHERING CENTRE GC-30
IN NORTH KUWAIT

DOCUMENT TITLE:-
PIPING & INSTRUMENTATION DIAGRAM
SEAL SYSTEM FOR TREATED WATER DISPOSAL PUMP
(G-005A)

PROJECT NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
EF1902	CONTRACTOR DRG. NO. 50489-530-020-PID-1153.016 SHEET NO. 16 OF 25 COMPANY DRG. NO. EF1902-530-DC0-PID-0153.008 SHEET NO.	Z0		
		REV.	SHEET NO.	
		A1		

G-005A-E-1
SEAL FLUID COOLER

DUTY KW (HP) : 6 (8)
OPERATING PRESS./DESIGN PRESS barg (psig). : 30 (435)/ 140 (2030)
OPERATING INLET/OUTLET TEMP. °C (°F) : 80 (176)/ 65 (149)
DESIGN TEMP. °C (°F) : -3~100 (27~212)



NOZZLE NO.	DESCRIPTION	NOZZLE SIZE (INCH)	RATING (Lbs)	TYPE	MATERIAL
A	PUMP SUCTION	12	900	RTJ	A890 G5A
B	PUMP DISCHARGE	8	900	RTJ	A890 G5A
SB	FILL LINE CONN.	3/4	600	RF	A182 F316L
F1/F2	N2 GAS CHARGE CONN.	1/4	BSP M	—	A182 F316L
E1/E2	BARRIER FLUID DRAIN	3/4	1500	RTJ	A182 F316L
E3	BARRIER FLUID DRAIN	3/4	1500	RTJ	A182 F316L