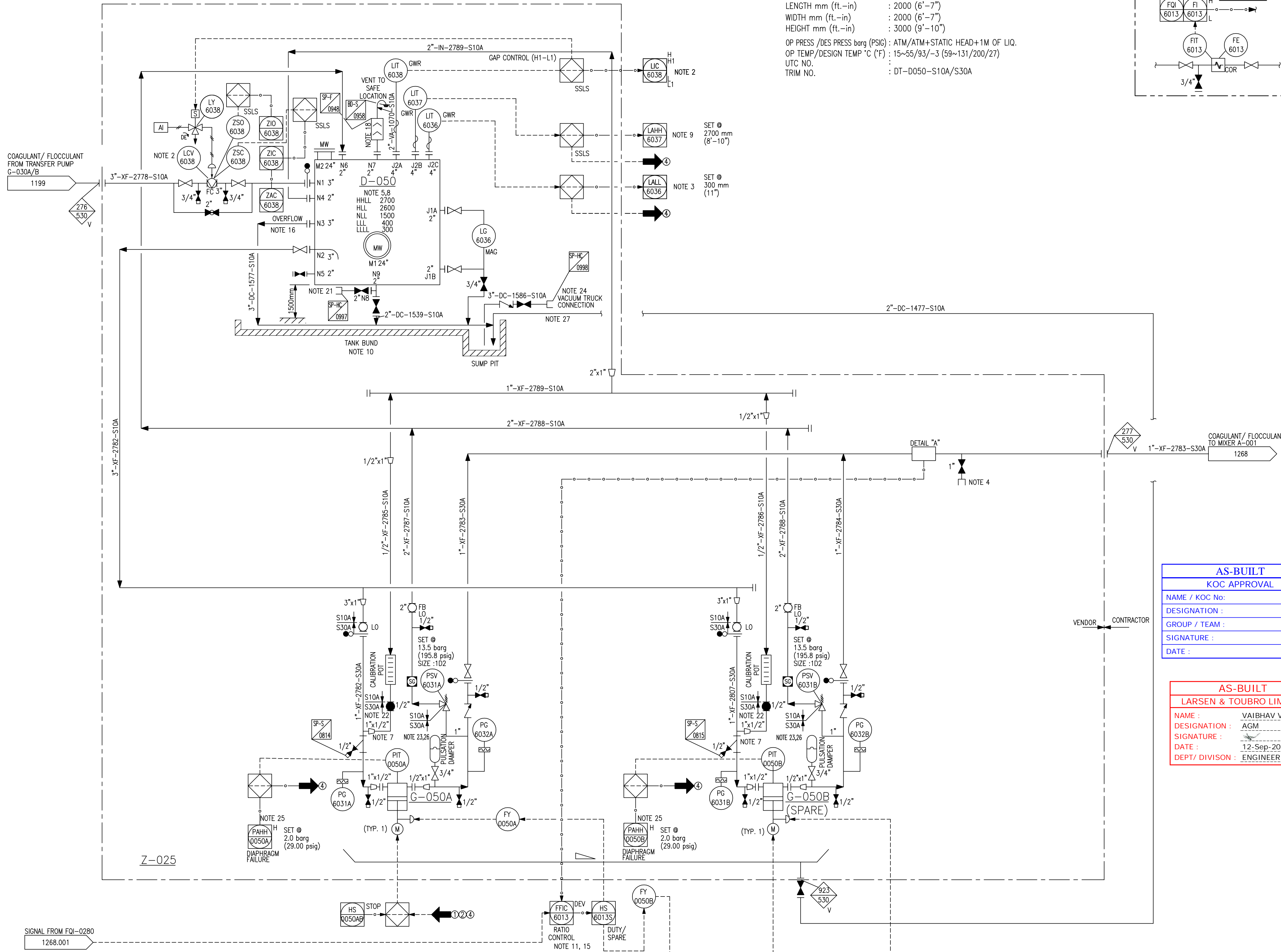
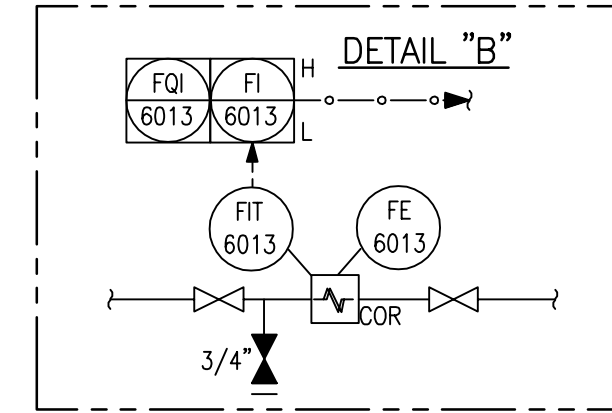


Z-025
CHEMICAL INJECTION SKID

D-050
COAGULANT/FLOCCULANT DAY TANK

CAPACITY m3 (BBLs) : 7.75 (48.75)HOLD
LENGTH mm (ft.-in) : 2000 (6'-7")
WIDTH mm (ft.-in) : 2000 (6'-7")
HEIGHT mm (ft.-in) : 3000 (9'-10")
OP PRESS /DES PRESS barg (PSIG) : ATM/ATM+STATIC HEAD+1M OF LIQ.
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/~3 (59~131/200/27)
UTC NO. : DT-D050-S10A/S30A
TRIM NO. :



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

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME: VAIBHAV VERMA
DESIGNATION: AGM
SIGNATURE:
DATE: 12-Sep-2018
DEPT/ DIVISION: ENGINEERING

- 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:
- AUTOMATIC VARIABLE PUMP STROKE ADJUSTMENT IS THROUGH DCS.
 - VALVE CLOSURES AT HIGH LIQUID LEVEL H1 (SET @2580mm) VALVE OPENS AT LOW LIQUID LEVEL L1 (SET @420mm). ZSC OF LCV-6038 STOPS DUTY & STANDBY TRANSFER PUMPS G-030A/B BY SLS LOGIC.
 - LOW LIQUID LEVEL IND-D-050 STOPS COAGULANT/ FLOCCULANT INJECTION PUMPS, G-050A/B.
 - FLUSHING CONNECTIONS.
 - DAY TANK COMES UNDER BUND AREA & COAGULANT/ FLOCCULANT 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.
 - HIGH LIQUID LEVEL IN D-050 STOPS COAGULANT/ FLOCCULANT TRANSFER PUMP G-030A/B.
 - TANK BUND SHALL BE 115% CONTAINMENT OF D-050.
 - DEVIATION ALARMS ARE CONFIGURED IN THE DCS TO ALARM IF ACTUAL FLOW DIFFERS FROM SET BY 10%.
 - DELETED.
 - DELETED.
 - DELETED.
 - CHEMICAL INJECTION RATIO CONTROLLER IS SET IN PPM.
 - OVERFLOW NOZZLE IS LOCATED ABOVE HHL.
 - 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
 - ANTI-RESISTENT CHEMICAL FLOOR ARE PROVIDED.
 - 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 COAGULANT/FLOCCULANT 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	BAK/CHS	AKG	SRA	DER	12.09.18
01	ISSUED FOR CONSTRUCTION	BAK/CHS	AKG	SRA	DER	19.12.16
0	ISSUED FOR CONSTRUCTION	HSJ/CHS	AKG	SRA	RAK	06.06.16
D	ISSUED INCORPORATED CLIENT COMMENTS	PAK/ABY	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	03.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	24.02.15
A	ISSUED FOR APPROVAL	BAK/ABY	AKG	SRA	RAK	12.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

CONTRACTOR REVISION



CONTRACTOR DETAILS:-
LARSEN & TOUBRO LIMITED
FARIDABAD

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

DOCUMENT TITLE:-
PIPING & INSTRUMENTATION DIAGRAM
CHEMICAL INJECTION SKID #5 COAGULANT/FLOCCULANT
(D-050 & G-050A/B)

PROJECT NO.	CONTRACTOR DRG. NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
EF1902	50489-530-020-PID-1200	Z0			
	SHEET NO. 1 OF 1				
	COMPANY DRG. NO.	REV.			
	EF1902-530-DCO-PID-0200.001	A3			
		SHEET NO.			

G-050A/B(SPARE) NOTE 1, 3
COAGULANT/FLOCCULANT INJECTION PUMP
FLOWRATE l/hr (USGPH) : 46.1 (12.18)
DRIVER POWER KW (HP) : 0.75 (1.0)
DIFF PRESS ΔP bar (PSI) : 6.41 (92.97)
S.G. @ OP OT : 1.315~1.004
FLUID VISCOSITY @ PT CP : 200
OP PRESS/DES PRESS barg (PSIG) : 6.41/13.5 (92.97/195.8)
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/~3 (59~131/200/27)
UTC NO. :
TRIM NO. : GT-G050A/B-S30A