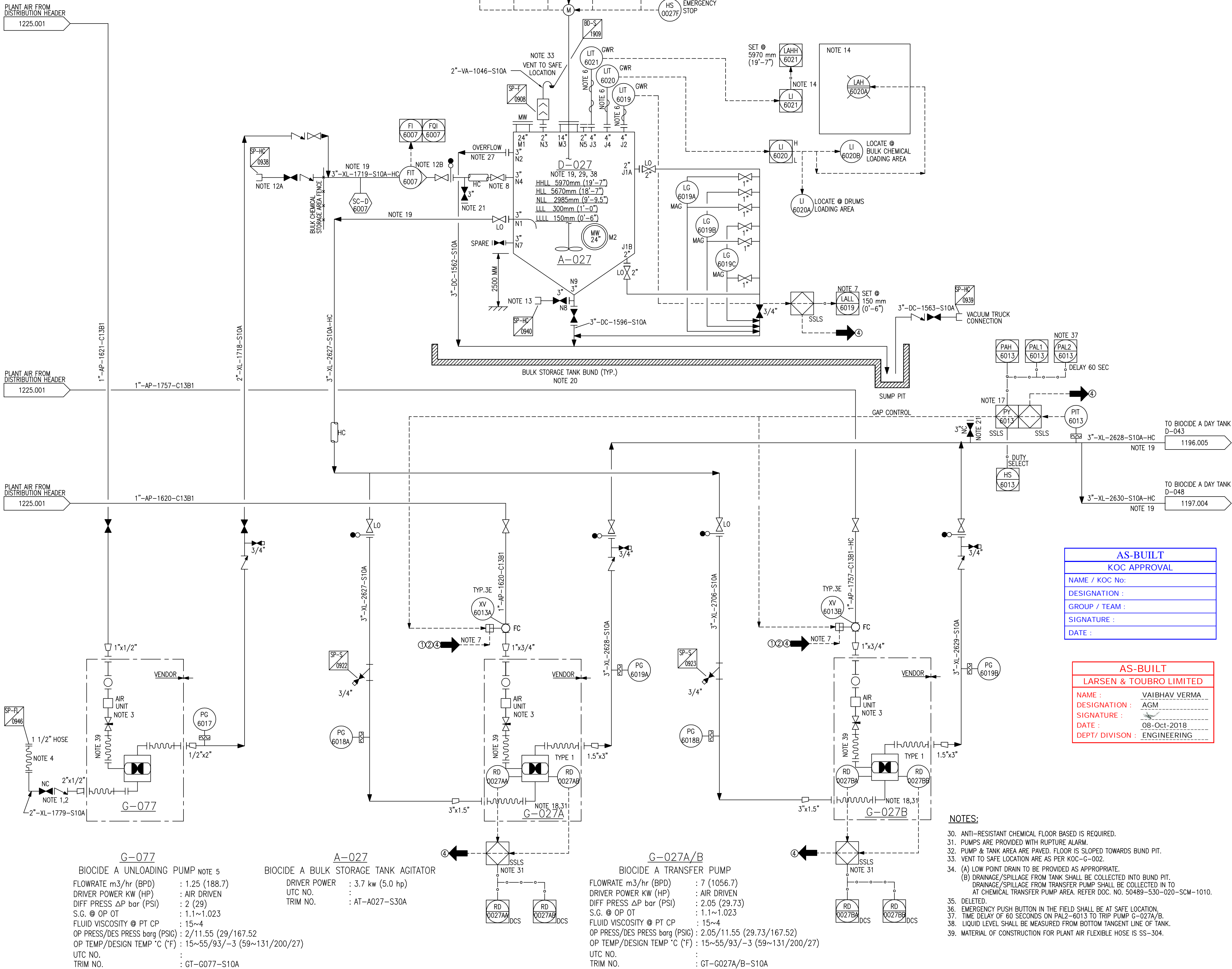


D-027

BIOCIDE A BULK STORAGE TANK

CAPACITY m3 (BBLs) : 84.38 (530.8)  
ID mm (ft.-in) : 4000 (13'-1")  
HEIGHT (F/T)mm (ft.-in) : 6330 (20'-9")  
OP PRESS /DES PRESS barg (PSIG) : ATM/ATM+STATIC HEAD  
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~131/200/27)  
UTC NO. :  
TRIM NO. : DT-D027-S10A/S30A



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 PREFIXED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV AND ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, 006 & 007.
- FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS & CONTROL VALVES SEE DRAWING 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:**
- FLEXIBLE HOSE WITH LONG PIPE END IS INSERTED INTO CHEMICAL DRUM FOR UNLOADING.
  - UTILITY STATION TO BE PROVIDED IN DRUM UNLOADING AREA.
  - COMBINATION FILTER, REGULATOR, PRESSURE GAUGE AND LUBRICATOR.
  - FLEXIBLE HOSE WITH DRY BREAK COUPLING IS CONNECTED TO HARD PIPE WITH 2"x1 1/2" REDUCING FLANGE FOR CONNECTION TO DRUM / SEMI-BULK CONTAINER (APPLICABLE FOR ALL BULK STORAGE TANK).
  - TWO SPARE PUMPS G-080 AND G-081 WITH ALL THE ANCILIARIES ARE LOCATED IN THE MAINTENANCE BUILDING.
  - GWR TYPE LEVEL TRANSMITTER.
  - LOW LOW LIQUID LEVEL STOPS BIOCIDE A TRANSFER PUMPS G-027A/B AND AGITATOR, A-027.
  - LOCATE VALVE WITHIN SIGHT OF LEVEL GAUGE.
  - DELETED.
  - A. CHEMICAL TANKER LOADING CONNECTION.  
B. TRANSMITTER IS PROVIDED WITH LOCAL COUNTER WHICH IS RESETTABLE INSTANTANEOUS AND NON-RESETTABLE TOTAL INDICATIONS.
  - CHEMICAL PUMP OUT CONNECTION TO BE EASILY ACCESSIBLE.
  - PROVIDE ANNUNCIATOR SCHEME TO SUIT REQUIREMENTS AS INDICATED.  
TANK HIGH LEVEL ALARM IS DEDICATED TO A SPECIFIC LEVEL.  
(A) ONE TEST (IN DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHERS.  
ONE RESET (IN DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHERS.  
(B) TANK (D-021) AREA HAS INDIVIDUAL FLASHING RED LIGHT ON TANK LEVEL HIGH: TWO (2) COMMON HORNS XA-6035B/XA-6029A ON ANY TANK LEVEL HIGH-HIGH.  
(C) UNLOADING AREA-ONE COMMON FLASHER ON ANY TANK HIGH LEVEL (LAH-6034A) ONE COMMON HORN XA-6035A ON ANY TANK LEVEL HIGH-HIGH.
  - EYEWASH & SAFETY SHOWERS ARE TO BE INSTALLED AT LOADING CONNECTION OUTSIDE FENCE, CHEMICAL TRANSFER PUMP SHELTER AND BULK CHEMICAL STORAGE TANK/INJECTION PUMP SHELTER AREAS.
  - DELETED.
  - (A) HLL IN BOTH D-043 OR D-050 STOPS DUTY AND STANDBY TRANSFER PUMPS G-027A/B BY SLS LOGIC CLOSING XV-6013A/B.  
(B) PAH-6013 STOPS DUTY AND STANDBY PUMPS BY DCS CLOSING XV-6013A/B.  
(C) PAL1-6013 STARTS DUTY TRANSFER PUMP BY DCS OPENING XV-6013A OR B.  
(D) PAL2-6013 STARTS STANDBY PUMP BY DCS OPENING XV-6013A OR B.  
(E) ZSC OF LCV-6095 & LCV-6110 STOPS DUTY & STANDBY TRANSFER PUMP G-027A/B BY SLS LOGIC.
  - PUMPS ARE LOCATED IN CURBED AREA TO CONTAIN SPILLAGES.
  - BIOCIDE A SHALL BE STORED BELOW 60°C. INJECTION PUMP SUCTION LINE SHALL BE KEPT TO A MINIMUM. BULK STORAGE TANK, PUMP SUCTION AND DISCHARGE SHALL BE PROTECTED FROM DIRECT SUNLIGHT.
  - TANK CONCRETE BUND IS 115% CONTAINMENT OF D-027.
  - NEAREST POSSIBLE BYPASS CONNECTION FOR BULK STORAGE TANK TO BIOCIDE A TRANSFER PUMP DISCHARGE HEADER.
  - DELETED.
  - BIOCIDE IS CARCINOGENIC. DETAILED DESIGN SHALL ENSURE PERSONNEL PROTECTION INCLUDING BUT NOT LIMITED TO; VENTS TO SAFE LOCATION, COVERED DRAIN PIT, FENCING TO RESTRICT PERSONNEL ACCESS.
  - OVERFLOW NOZZLE TO BE ABOVE HLL.
  - DRAINAGE/SPILLAGE FROM TANK ARE COLLECTED INTO SUMP PIT DRAINAGE/SPILLAGE FROM TRANSFER PUMP ARE COLLECTED INTO SUMP PIT AT CHEMICAL TRANSFER PUMP AREA.  
a) VERTICALLY MOUNTED MOTOR TYPE AGITATOR.  
b) ALLOW ADEQUATE HEAD ROOM OF SHELTER FOR AGITATOR WITHDRAWAL.

Z1	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	RAK	08.10.18
Z0	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	RAK	24.09.18
01	ISSUED FOR CONSTRUCTION	BAK/CHS	AKG	SRA	RAK	23.11.16
0	ISSUED FOR CONSTRUCTION	HS/VSA	AKG	SRA	RAK	01.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	21.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	JSI/SSI	AKG	SRA	RAK	03.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	21.02.15
A	ISSUED FOR APPROVAL	BAK/ABY	AKG	SRA	RAK	12.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

CONTRACTOR REVISION

**KUWAIT OIL CO. K. S. C.**  
شركة النفط الكويتي 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 BIOCIDE A STORAGE TANK (D-027) AND DISTRIBUTION**

PROJECT NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
EF1902	50489-530-020-PID-1191	Z1		
	SHEET NO. 1 OF 1			
	COMPANY DRG. NO.	REV.		
	EF1902-530-DCO-PID-0191.001	A5		
	SHEET NO.			