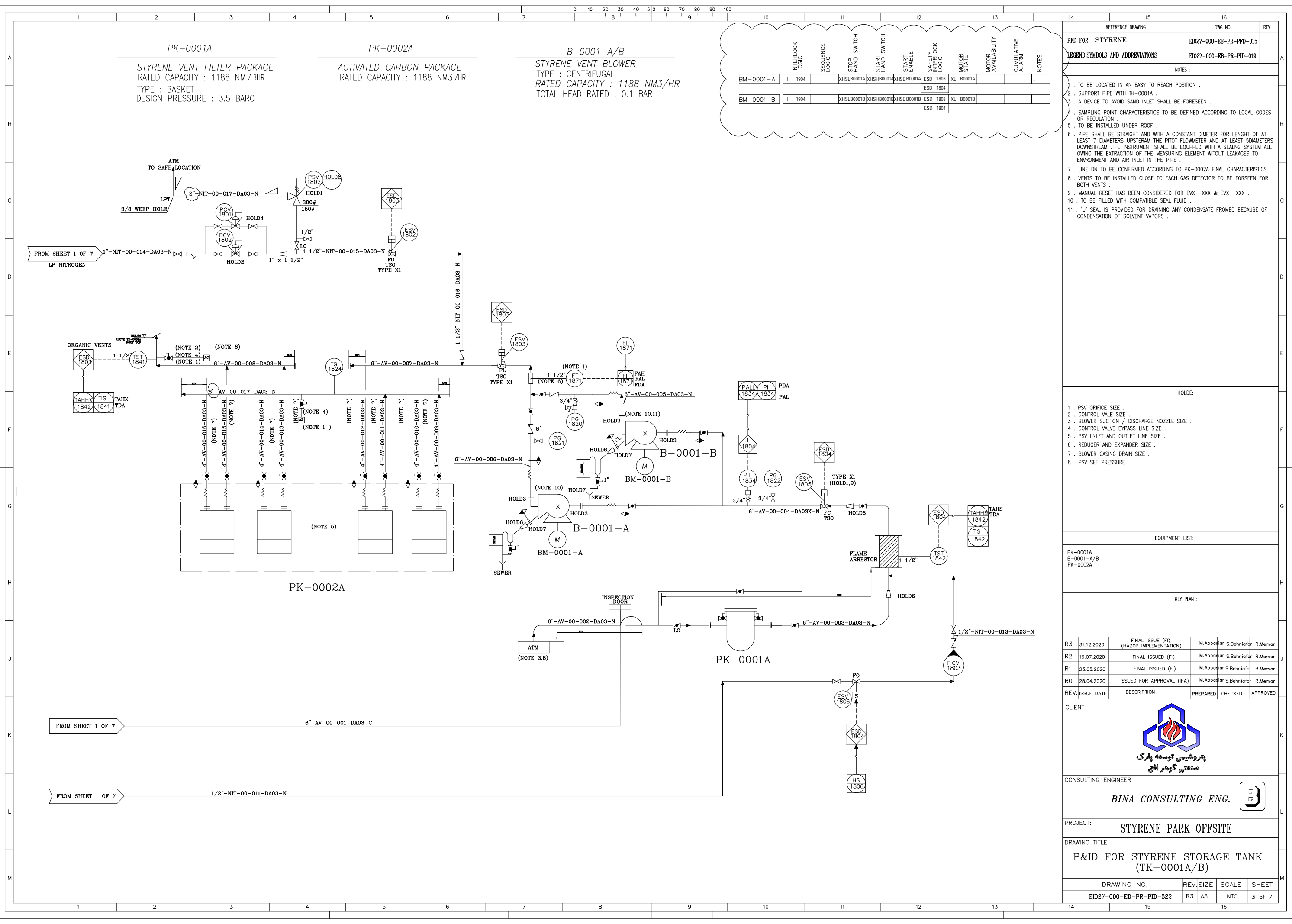


| REFERENCE DRAWING | | DWG NO. | REV. |
|---|--|-------------------------|------|
| PPD FOR STYRENE | | EI027-000-EB-PR-PPD-015 | |
| LEGEND,SYMBOLS AND ABBREVIATIONS | | EI027-000-EB-PR-PID-019 | |
| NOTES : | | | |
| 1 . TO BE LOCATED IN AN EASY TO REACH POSITION . | | | |
| 2 . VENT IN THE HIGHEST POSITION . | | | |
| 3 . PIPELINE TO BE USED IN CASE OF TK-0001 SHUT-DOWN . MINIMIZE THE LENGTH AS MUCH AS POSSIBLE . THE POSITION OF THE PISTON VALVES WHERE THE BYPASS PIPE RECONNECTED SHALL BE CHOSEN IN ORDER TO MINIMIZE THE LENGTH OF THE BYPASS PIPE . | | | |
| 4 . TO BE INSTALLED OUTSIDE THE BASIN (IF ANY) IN EASY TO REACH POSITION . | | | |
| 5 . VALVE WHEEL SHALL BE EASY TO REACH FROM OUTSIDE THE PIT . | | | |
| 6 . PSV OUTLET LINE CONTAINS LIQUID IN HYDRAULIC EXPANSION CASE . | | | |
| 7 . EMERGENCY POWER TO BE CONSIDERED . | | | |
| 8 . PIPING ARRANGEMENT TO FACILITATE REMOVAL OF SPOOL PIECE . | | | |
| 9 . STYRENE RECIRCULATING PUMPS (P-0004-A-D) ARE NOT DESIGNED FOR STEAM OUT CONDITION . THEREFOR PUMPS SHALL BE ISOLATED OR DISMANTLED IF REQUIRED DURING LINE (UPSTREAM AND DOWNSTREAM) PURGING WITH STEAM . | | | |
| 10 . FOR REFRIGERATION UNIT PACKAGE REFER TO VENDORS DATA BOOK. | | | |
| 11 . TO BE CLOSED ON CONFIRMED RUPTURE OR FIRE CASE. | | | |
| HOLDS: | | | |
| 1 . PSV ORIFICE SIZE . | | | |
| 2 . CONTROL VALE SIZE . | | | |
| 3 . PUME SUCTION /DISCHARGE NOZZLE SIZE . | | | |
| 4 . CONFIGURATION OF PUMP VENT /DRAIN . | | | |
| 5 . FLOWMETER CONNECTION SIZE . | | | |
| 6 . CONTROL VALVE BYPASS LINE SIZE . | | | |
| 7 . PSV UNLET AND OUTLET LINE SIZE . | | | |
| 8 . REDUCER AND EXPANDER SIZE . | | | |
| 9 . NOZZLE SIZE . | | | |
| 10 . PSV SET PRESSURE . | | | |
| EQUIPMENT LIST: | | | |
| TK-0001A P-0004-A/B RU-0001-A/B | | | |
| KEY PLAN : | | | |
| CLIENT | | | |
| CONSULTING ENGINEER | | | |
| PROJECT: STYRENE PARK OFFSITE | | | |
| DRAWING TITLE: P&ID FOR STYRENE STORAGE TANK (TK-0001A/B) | | | |
| DRAWING NO. | | REV. | SIZE |
| EI027-000-ED-PR-PID-522 | | R3 | A3 |
| SCALE | | NTC | |
| SHEET | | 1 of 7 | |



| INTERLOCK LOGIC | SEQUENCE LOGIC | STOP HAND SWITCH | START HAND SWITCH | START ENABLE | SAFETY INTERLOCK LOGIC | MOTOR STATE | MOTOR AVAILABILITY | CUMULATIVE ALARM | NOTES |
|-----------------|----------------|------------------|-------------------|--------------|------------------------|-------------|--------------------|------------------|-------|
| | | | | | | | | | |
| BM-0001-A | I 1904 | XHSLB0001A | XHSHB0001A | XHSEB0001A | ESD 1803 | XL B0001A | | | |
| BM-0001-B | I 1904 | XHSLB0001B | XHSHB0001B | XHSEB0001B | ESD 1803 | XL B0001B | | | |

REFERENCE DRAWING

DWG NO.

REV.

PD FOR STYRENE

EI027-000-EB-PR-PID-015

LEGEND, SYMBOLS AND ABBREVIATIONS

EI027-000-EB-PR-PID-019

NOTES :

1 . TO BE LOCATED IN AN EASY TO REACH POSITION .

2 . SUPPORT PIPE WITH TK-0001A .

3 . A DEVICE TO AVOID SAND INLET SHALL BE FORESEEN .

4 . SAMPLING POINT CHARACTERISTICS TO BE DEFINED ACCORDING TO LOCAL CODES OR REGULATION .

5 . TO BE INSTALLED UNDER ROOF .

6 . PIPE SHALL BE STRAIGHT AND WITH A CONSTANT DIMETER FOR LENGHT OF AT LEAST 7 DIAMETERS UPSTREAM THE PITOT FLOWMETER AND AT LEAST 50 DIAMETERS DOWNSTREAM . THE INSTRUMENT SHALL BE EQUIPPED WITH A SEALING SYSTEM ALL OWING THE EXTRACTION OF THE MEASURING ELEMENT WITOUT LEAKAGES TO ENVIRONMENT AND AIR INLET IN THE PIPE .

7 . LINE DN TO BE CONFIRMED ACCORDING TO PK-0002A FINAL CHARACTERISTICS.

8 . VENTS TO BE INSTALLED CLOSE TO EACH GAS DETECTOR TO BE FORSEEN FOR BOTH VENTS .

9 . MANUAL RESET HAS BEEN CONSIDERED FOR EVX -XXX & EVX -XXX .

10 . TO BE FILLED WITH COMPATIBLE SEAL FLUID .

11 . 'U' SEAL IS PROVIDED FOR DRAINING ANY CONDENSATE FROMED BECAUSE OF CONDENSATION OF SOLVENT VAPORS .

HOLDE:

1 . PSV ORIFICE SIZE .

2 . CONTROL VALE SIZE .

3 . BLOWER SUCTION / DISCHARGE NOZZLE SIZE .

4 . CONTROL VALVE BYPASS LINE SIZE .

5 . PSV UNLET AND OUTLET LINE SIZE .

6 . REDUCER AND EXPANDER SIZE .

7 . BLOWER CASING DRAIN SIZE .

8 . PSV SET PRESSURE .

EQUIPMENT LIST:

PK-0001A

B-0001-A/B

PK-0002A

KEY PLAN :

| | | | | |
|----|------------|--|---------------------|---------|
| R3 | 31.12.2020 | FINAL ISSUE (FI) (HAZOP IMPLEMENTATION) | M.Abbas S.Behniafar | R.Memar |
| R2 | 19.07.2020 | FINAL ISSUED (FI) | M.Abbas S.Behniafar | R.Memar |
| R1 | 23.05.2020 | FINAL ISSUED (FI) | M.Abbas S.Behniafar | R.Memar |
| R0 | 28.04.2020 | ISSUED FOR APPROVAL (IFA) | M.Abbas S.Behniafar | R.Memar |

| REV. | ISSUE DATE | DESCRIPTION | PREPARED | CHECKED | APPROVED |
|------|------------|-------------|----------|---------|----------|
| | | | | | |

CLIENT

پتروشیمی توسعه پارک

صنعتی گوهر افق

CONSULTING ENGINEER

BINA CONSULTING ENG.

PROJECT: STYRENE PARK OFFSITE

DRAWING TITLE: P&ID FOR STYRENE STORAGE TANK (TK-0001A/B)


| DRAWING NO. | REV. | SIZE | SCALE | SHEET |
|-------------------------|------|------|-------|--------|
| EI027-000-ED-PR-PID-522 | R3 | A3 | NTC | 3 of 7 |

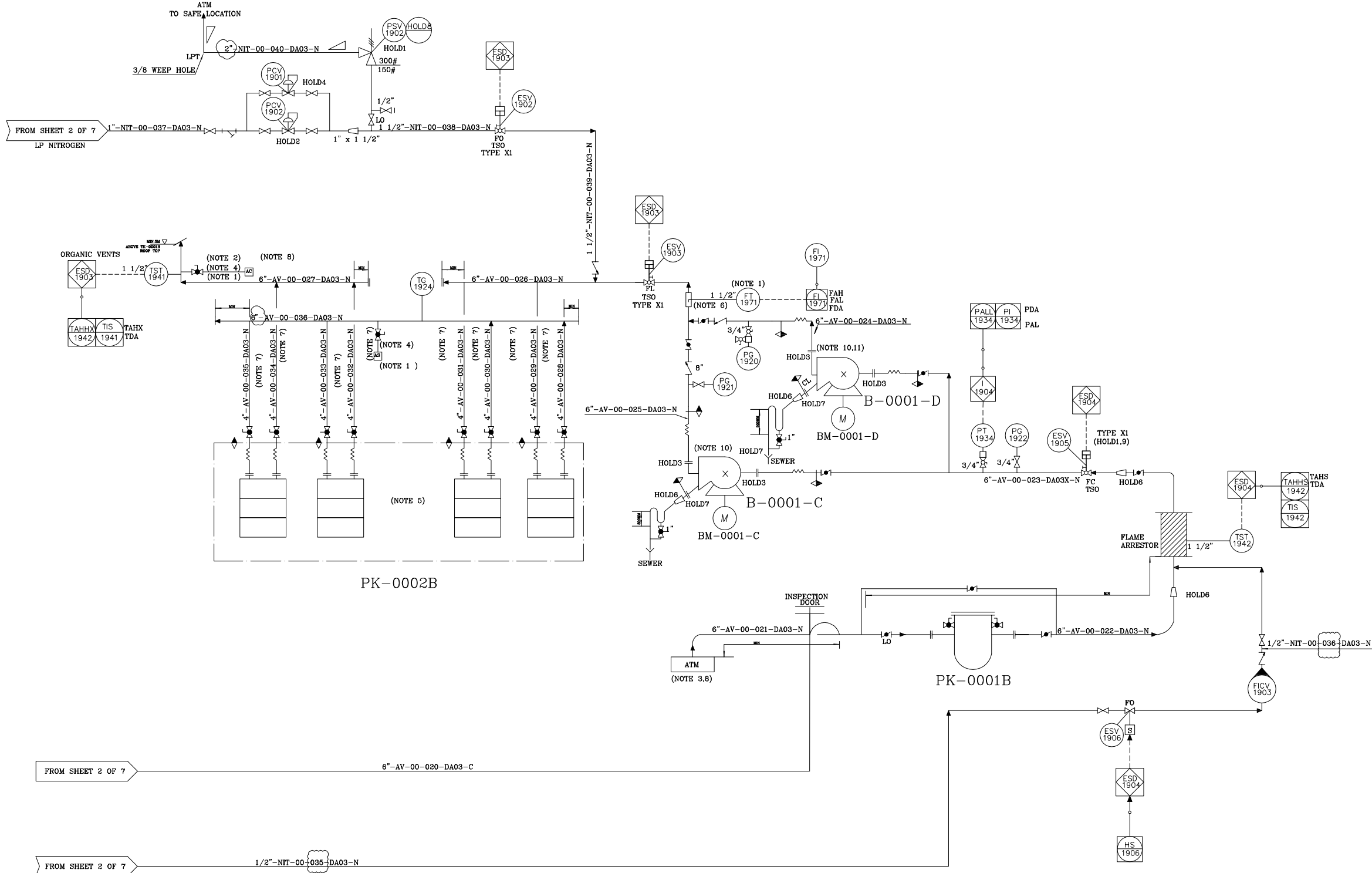
PK-0001B
STYRENE VENT FILTER PACKAGE
RATED CAPACITY : 1188 NM³/3HR
TYPE : BASKET
DESIGN PRESSURE : 3.5 BARG

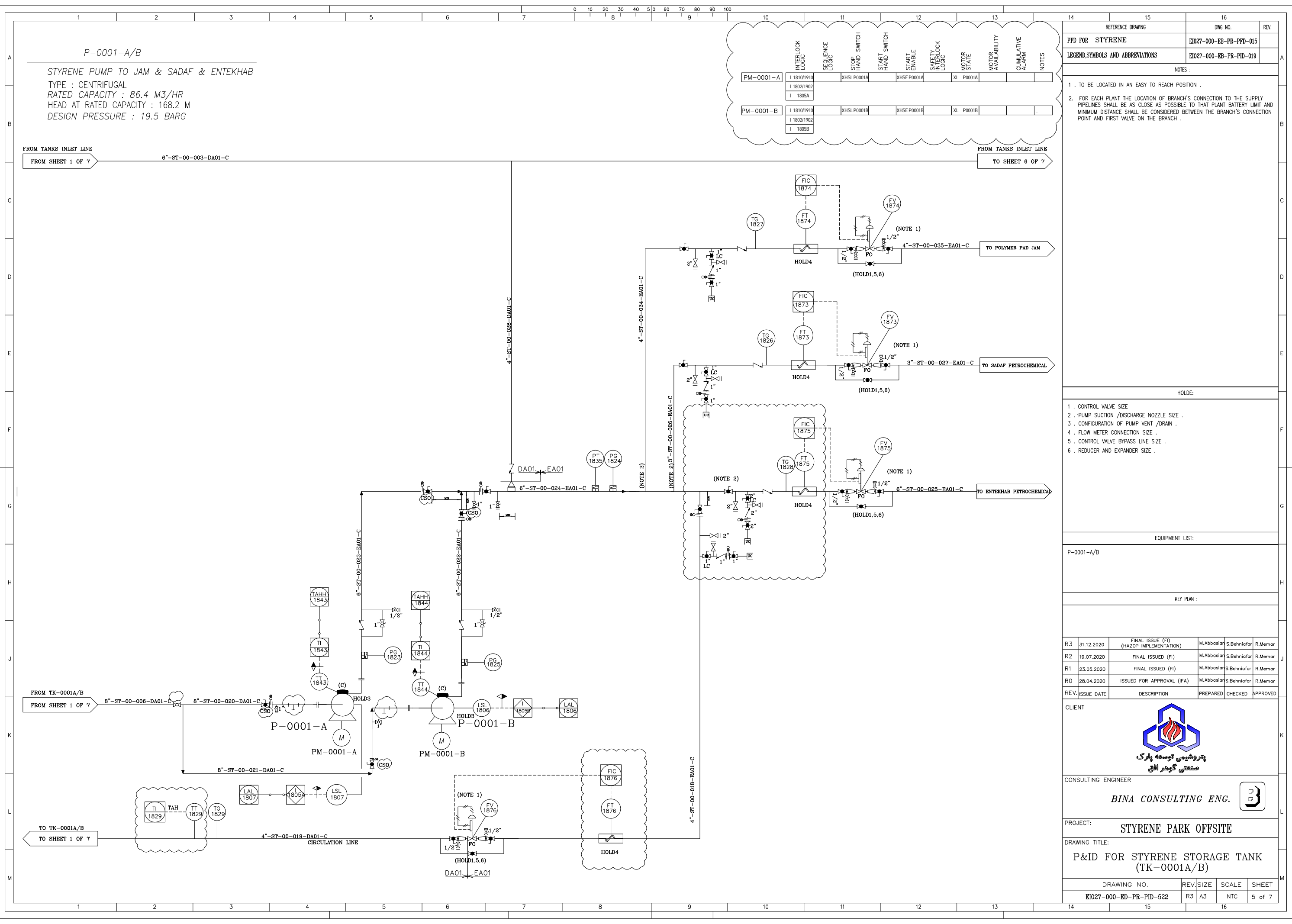
PK-0002B
ACTIVATED CARBON PACKAGE
RATED CAPACITY : 1188 NM³/HR

B-0001-C/D
STYRENE VENT BLOWER
TYPE : CENTRIFUGAL
RATED CAPACITY : 1188 NM³/HR
TOTAL HEAD RATED : 0.1 BAR

| | INTERLOCK LOGIC | SEQUENCE LOGIC | STOP HAND SWITCH | START HAND SWITCH | START ENABLE | SAFETY INTERLOCK LOGIC | MOTOR STATE | MOTOR AVAILABILITY | CUMULATIVE ALARM | NOTES |
|-----------|-----------------|----------------|------------------|-------------------|--------------|------------------------|-------------|--------------------|------------------|-------|
| BM-0001-C | I 1904 | | XHSLB0001C | XHSHB0001C | XHSEB0001C | ESD 1903 ESD 1904 | XL B0001C | | | |
| BM-0001-D | I 1904 | | XHSLB0001D | XHSHB0001D | XHSEB0001D | ESD 1903 ESD 1904 | XL B0001D | | | |

| REFERENCE DRAWING | DWG NO. | REV. | | | |
|---|-------------------------|--|---------------------|---------|----------|
| PPD FOR STYRENE | EI027-000-EB-PR-PPD-015 | | | | |
| LEGEND,SYMBOLS AND ABBREVIATIONS | EI027-000-EB-PR-PID-019 | | | | |
| NOTES : | | | | | |
| 1 . TO BE LOCATED IN AN EASY TO REACH POSITION . | | | | | |
| 2 . SUPPORT PIPE WITH TK-0001B . | | | | | |
| 3 . A DEVICE TO AVOID SAND INLET SHALL BE FORESEEN . | | | | | |
| 4 . SAMPLING POINT CHARACTERISTICS TO BE DEFINED ACCORDING TO LOCAL CODES OR REGULATION . | | | | | |
| 5 . TO BE INSTALLED UNDER ROOF . | | | | | |
| 6 . PIPE SHALL BE STRAIGHT AND WITH A CONSTANT DIMETER FOR LENGHT OF AT LEAST 7 DIAMETERS UPSTERAM THE PITOT FLOWMETER AND AT LEAST 50DIAMETERS DOWNSTREAM .THE INSTRUMENT SHALL BE EQUIPPED WITH A SEALING SYSTEM ALL OWING THE EXTRACTION OF THE MEASURING ELEMENT WITOUT LEAKAGES TO ENVIRONMENT AND AIR INLET IN THE PIPE . | | | | | |
| 7 . LINE DN TO BE CONFIRMED ACCORDING TO PK-0002B FINAL CHARACTERISTICS. | | | | | |
| 8 . VENTS TO BE INSTALLED CLOSE TO EACH GAS DETECTOR TO BE FORSEEN FOR BOTH VENTS . | | | | | |
| 9 . MANUAL RESET HAS BEEN CONSIDERED FOR EVX -XXX & EVX -XXX . | | | | | |
| 10 . TO BE FILLED WITH COMPATIBLE SEAL FLUID . | | | | | |
| 11 . 'U' SEAL IS PROVIDED FOR DRAINING ANY CONDENSATE FROMED BECAUSE OF CONDENSATION OF SOLVENT VAPORS . | | | | | |
| HOLDE: | | | | | |
| 1 . PSV ORIFICE SIZE . | | | | | |
| 2 . CONTROL VALE SIZE . | | | | | |
| 3 . BLOWER SUCTION / DISCHARGE NOZZLE SIZE . | | | | | |
| 4 . CONTROL VALVE BYPASS LINE SIZE . | | | | | |
| 5 . PSV UNLET AND OUTLET LINE SIZE . | | | | | |
| 6 . REDUCER AND EXPANDER SIZE . | | | | | |
| 7 . BLOWER CASING DRAIN SIZE . | | | | | |
| 8 . PSV SET PRESSURE . | | | | | |
| EQUIPMENT LIST: | | | | | |
| PK-0001B B-0001-C/D PK-0002B | | | | | |
| KEY PLAN : | | | | | |
| R3 | 31.12.2020 | FINAL ISSUE (FI) (HAZOP IMPLEMENTATION) | M.Abbas S.Behniafar | R.Memar | |
| R2 | 19.07.2020 | FINAL ISSUED (FI) | M.Abbas S.Behniafar | R.Memar | |
| R1 | 23.05.2020 | FINAL ISSUED (FI) | M.Abbas S.Behniafar | R.Memar | |
| R0 | 28.04.2020 | ISSUED FOR APPROVAL (IFA) | M.Abbas S.Behniafar | R.Memar | |
| REV. | ISSUE DATE | DESCRIPTION | PREPARED | CHECKED | APPROVED |
| CLIENT | | | | | |
|  پتروشیمی توسعه پارک صنعتی گوهر افق | | | | | |
| CONSULTING ENGINEER | | | | | |
| BINA CONSULTING ENG. | | | | | |
| PROJECT: STYRENE PARK OFFSITE | | | | | |
| DRAWING TITLE: | | | | | |
| P&ID FOR STYRENE STORAGE TANK (TK-0001A/B) | | | | | |
| DRAWING NO. | | REV. | SIZE | SCALE | SHEET |
| EI027-000-ED-PR-PID-522 | | R3 | A3 | NTC | 4 of 7 |



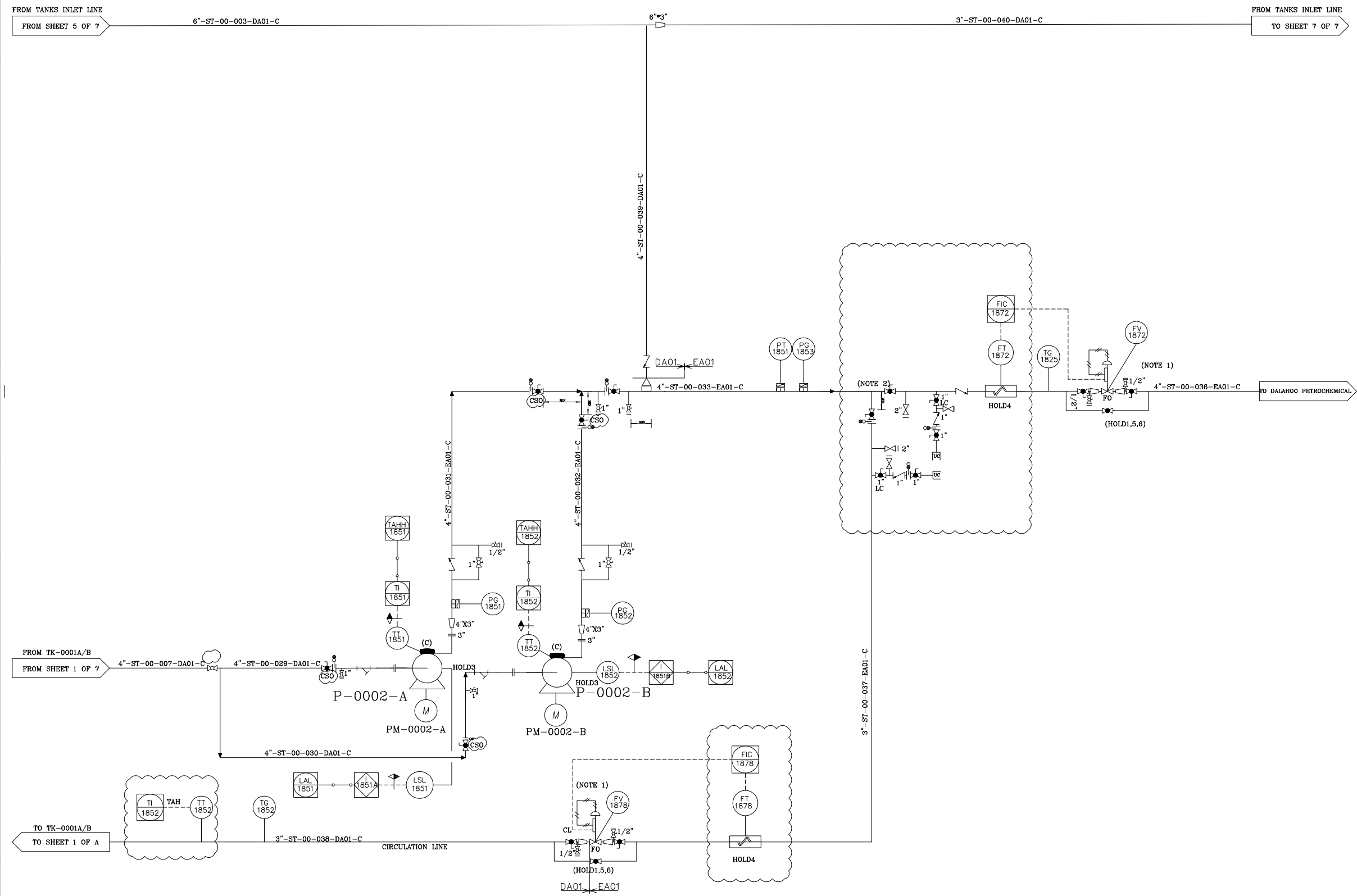


STYRENE PUMP TO DALAHOO
TYPE : CENTRIFUGAL
RATED CAPACITY : 45.4 M3/HR
HEAD AT RATED CAPACITY : 168.2 M
DESIGN PRESSURE : 19.5 BARG

| | INTERLOCK LOGIC | SEQUENCE LOGIC | STOP HAND SWITCH | START HAND SWITCH | START ENABLE | SAFETY INTERLOCK LOGIC | MOTOR STATE | MOTOR AVAILABILITY | CUMULATIVE ALARM | NOTES |
|-----------|--|----------------|------------------|-------------------|--------------|------------------------|-------------|--------------------|------------------|-------|
| PM-0002-A | I 18101/1910 I 1802/1902 I 1851A | | XHSL P0002A | | XHSE P0002A | | XL P0002A | | | . |
| PM-0002-B | I 18101/1910 I 1802/1902 I 1851B | | XHSL P0002B | | XHSE P0002B | | XL P0002B | | | . |

| | | |
|----------------------------------|-------------------------|------|
| REFERENCE DRAWING | DWG NO. | REV. |
| PPD FOR STYRENE | EI027-000-EB-PR-PPD-015 | |
| LEGEND,SYMBOLS AND ABBREVIATIONS | EI027-000-EB-PR-PID-019 | |

| | |
|--|---|
| NOTES : | |
| 1 . TO BE LOCATED IN AN EASY TO REACH POSITION . | |
| 2. FOR EACH PLANT THE LOCATION OF BRANCH'S CONNECTION TO THE SUPPLY PIPELINES SHALL BE AS CLOSE AS POSSIBLE TO THAT PLANT BATTERY LIMIT AND MINIMUM DISTANCE SHALL BE CONSIDERED BETWEEN THE BRANCH'S CONNECTION POINT AND FIRST VALVE ON THE BRANCH . | B |



HOLDE:

- | | |
|---|---|
| 1 . CONTROL VALVE SIZE 2 . PUMP SUCTION /DISCHARGE NOZZLE SIZE . 3 . CONFIGURATION OF PUMP VENT /DRAIN . 4 . FLOW METER CONNECTION SIZE . 5 . CONTROL VALVE BYPASS LINE SIZE . 6 . REDUCER AND EXPANDER SIZE . | F |
|---|---|

EQUIPMENT LIST:

P-0002-A/B

KEY PLAN :

| | | | | | |
|------|------------|--|------------|-------------|----------|
| R3 | 31.12.2020 | FINAL ISSUE (FI) (HAZOP IMPLEMENTATION) | M.Abbasior | S.Behniafar | R.Memar |
| R2 | 19.07.2020 | FINAL ISSUED (FI) | M.Abbasior | S.Behniafar | R.Memar |
| R1 | 23.05.2020 | FINAL ISSUED (FI) | M.Abbasior | S.Behniafar | R.Memar |
| R0 | 28.04.2020 | ISSUED FOR APPROVAL (IFA) | M.Abbasior | S.Behniafar | R.Memar |
| REV. | ISSUE DATE | DESCRIPTION | PREPARED | CHECKED | APPROVED |

CLIENT



| | |
|---------------------|---|
| CONSULTING ENGINEER |  |
|---------------------|---|

BINA CONSULTING ENG.

| | |
|----------|----------------------|
| PROJECT: | STYRENE PARK OFFSITE |
|----------|----------------------|

DRAWING TITLE:

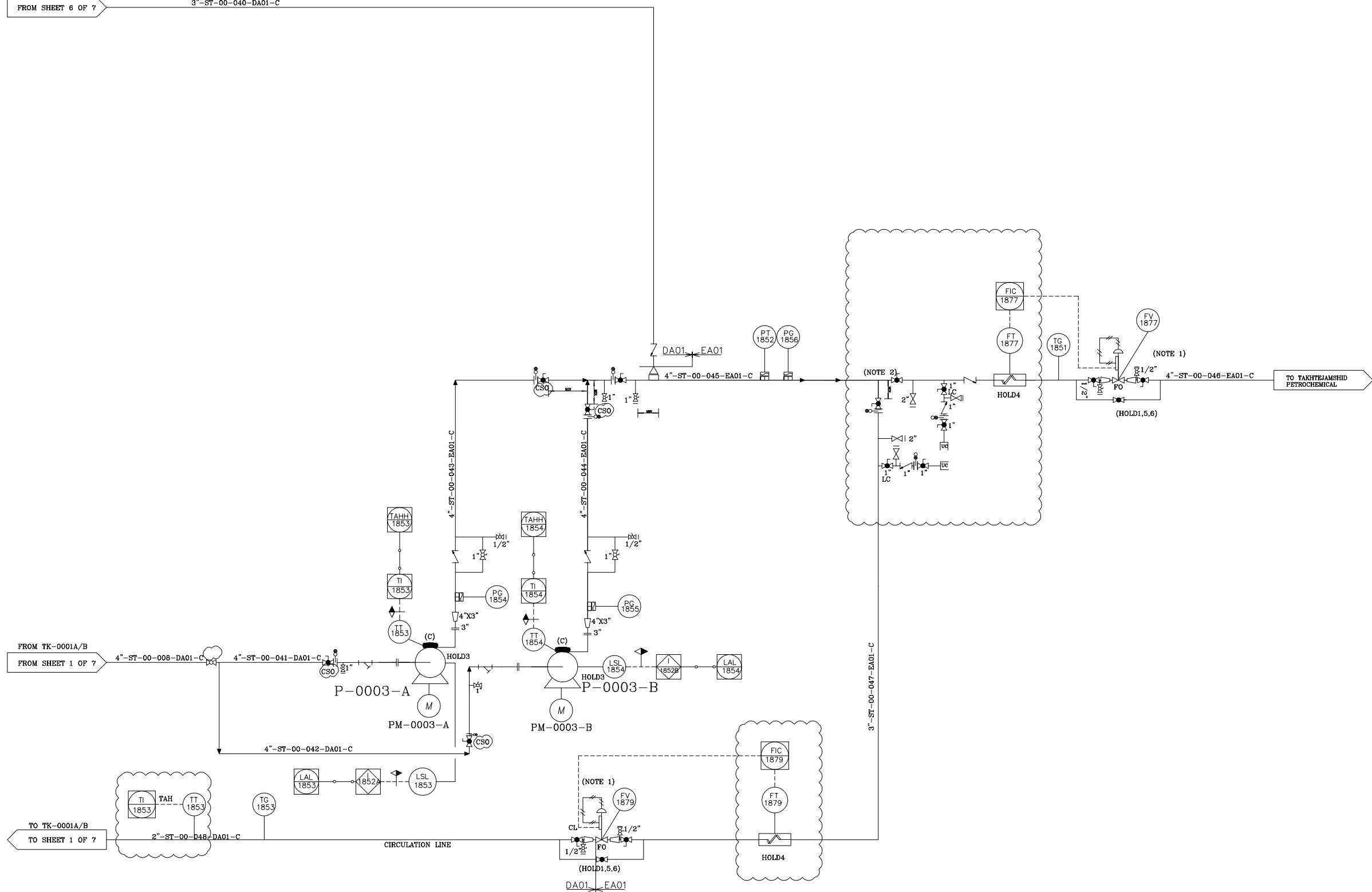
P&ID FOR STYRENE STORAGE TANK
(TK-0001A/B)

| | | | | |
|-------------------------|------|------|-------|--------|
| DRAWING NO. | REV. | SIZE | SCALE | SHEET |
| EI027-000-ED-PR-PID-522 | R3 | A3 | NTC | 6 of 7 |

TYPE : CENTRIFUGAL
RATED CAPACITY : 14.3 M3/HR
HEAD AT RATED CAPACITY : 168.8 M
DESIGN PRESSURE : 19.5 BARG

3"-ST-00-040-DA01-C

FROM SHEET 6 OF 7

[illegible]

NOTES :

1. TO BE LOCATED IN AN EASY TO REACH POSITION .
2. FOR EACH PLANT THE LOCATION OF BRANCH'S CONNECTION TO THE SUPPLY PIPELINES SHALL BE AS CLOSE AS POSSIBLE TO THAT PLANT BATTERY LIMIT AND MINIMUM DISTANCE SHALL BE CONSIDERED BETWEEN THE BRANCH'S CONNECTION POINT AND FIRST VALVE ON THE BRANCH .

HOLDE:

- 1 . CONTROL VALVE SIZE
- 2 . PUMP SUCTION /DISCHARGE NOZZLE SIZE
- 3 . CONFIGURATION OF PUMP VENT /DRAIN .
- 4 . FLOW METER CONNECTION SIZE .
- 5 . CONTROL VALVE BYPASS LINE SIZE .
- 6 . REDUCER AND EXPANDER SIZE .

EQUIPMENT LIST:

P-0003-A/B

KEY PLAN :

| | | | | | |
|------|------------|--|------------|-------------|----------|
| R3 | 31.12.2020 | FINAL ISSUE (FI) (HAZOP IMPLEMENTATION) | M.Abbasior | S.Behniafor | R.Memrar |
| R2 | 19.07.2020 | FINAL ISSUED (FI) | M.Abbasior | S.Behniafor | R.Memrar |
| R1 | 23.05.2020 | FINAL ISSUED (FI) | M.Abbasior | S.Behniafor | R.Memrar |
| RO | 28.04.2020 | ISSUED FOR APPROVAL (IFA) | M.Abbasior | S.Behniafor | R.Memrar |
| REV. | ISSUE DATE | DESCRIPTION | PREPARED | CHECKED | APPROVED |

CLIENT



CONSULTING ENGINEER

BINA CONSULTING ENG.

PROJECT:

STYRENE PARK OFFSITE

DRAWING TITLE:

P&ID FOR STYRENE STORAGE TANK
(TK-0001A/B)

| | | | | |
|-------------------------|------|------|-------|--------|
| DRAWING NO. | REV. | SIZE | SCALE | SHEET |
| EI027-000-ED-PR-PID-522 | R3 | A3 | NTC | 7 of 7 |