

INSTRUMENT / FUNCTION SYMBOLS				
	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	PRIMARY LOCATION NORMALLY INACCESSIBLE TO OPERATION
DISCRETE INSTRUMENTS				
SHARED DISPLAY, SHARED CONTROL				
COMPUTER FUNCTION				
PROGRAMMABLE LOGIC CONTROL				
PANEL MOUNTED PATCH-BOARD POINT				
MISCELLANEOUS CONFIGURATIONS				
TWO INSTRUMENTS NOT SHARING COMMON HOUSING		INSTRUMENTS SHARING COMMON HOUSING		

INSTRUMENT IDENTIFICATION				
	FIRST POSITION	SECOND POSITION	THIRD POSITION	FORTH POSITION
A	ANALYSIS	ALARM	ALARM	
B	BURNER, COMBUSTION		BOARD	
C	CONDUCTIVITY (ELECTRICAL)	CONTROL, CONTROLLER	CONTROLLER	CONTROL
D	DENSITY OR SPECIFIC GRAVITY	DIFFERENTIAL	DEVICE	
E	VOLTAGE (EMF)	ELEMENT	SENSOR, PRIMARY ELEMENT	
F	FLOW	FRACTION (RATIO)		
G		GLASS	GLASS, GAUGE, VIEWING DEVICE	
H	HAND INITIATED	HAND INITIATED	HIGH	HIGH
I	CURRENT (ELECTRICAL)	INDICATOR, INDICATING	INDICATOR, INDICATING	INDICATOR
J	POWER	SCAN	SCAN	
K	TIME	TRANSMITTER	CONTROL STATION	
L	LEVEL	MULTIFUNCTION	LOW	LOW
M	MOISTURE OR HUMIDITY	MOMENTARY	MIDDLE	MIDDLE
N	TORQUE			
O	OXYGEN, DISSOLVED OXYGEN	ORIFICE (RESTRICTION)	OPEN	
P	PRESSURE OR VACUUM	POINT (TEXT CONN.)	SET POINT	
Q	QUANTITY OR EVENT	INTEGRATE (TOTALIZE)		
R	RADIOACTIVITY	RECORDER	RECORDER	RECORDER
S	SPEED OR FREQUENCY	SWITCH, SAFETY	SWITCH, SAFETY	
T	TEMPERATURE	TRANSMITTER	TRANSMITTER	
U	MULTIVARIABLE	MULTIVARIABLE	MULTIVARIABLE	MULTIVARIABLE
V	VIBRATION, MECH, ANALYSIS	VALVE, DAMPER, LOUVER	VALVE, DAMPER, LOUVER	VALVE, DAMPER, LOUVER
W	WEIGHT OR FORCE	WELL		
X	SHUTDOWN	SHUTDOWN, X-AXIS		
Y	EVENT, STATE OR PRESENCE	RELAY, Y-AXIS	RELAY	
Z	POSITION	DRIVE, FINAL CONTROL ELEMENT, Z-AXIS	DRIVE, FINAL CONTROL ELEMENT	

PROCESS LINES AND CONNECTIONS	
SYMBOL	TYPE
	PRIMARY PROCESS FLOW LINE
	SECONDARY PROCESS FLOW LINE
	EXISTING FLOW LINE
	FUTURE FLOW LINE
	CHANNEL
	OFF-PAGE CONNECTOR
SIGNAL LINES	
SYMBOL	TYPE
	PNEUMATIC SIGNAL
	ELECTRICAL SIGNAL
	HYDRAULIC SIGNAL
	CAPILLARY TUBE
	LEADER
	SONIC/ ELECTROMAGNETIC SIGNAL (GUIDED)
	SONIC/ ELECTROMAGNETIC SIGNAL (UNGUIDED)
	MECHANICAL LINK
	LOGIC INTERNAL SYSTEM LINK

**NOTES**

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**ZAKUMI**  
Consulting Engineers

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993



REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT

POLOKWANE REGIONAL WWTW

DRAWING DESCRIPTION

SYMBOL LEGEND 01

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	ORIGINAL SIZE	SCALE
2025-08	A1	N/A
DRAWING NUMBER		
PROJ # - PHASE - DISCIPLINE - SEQ # - SHEET #		
PK278-01-PRC-DRG-1000-0001		
REV	T	

### HAND OPERATED VALVES

SYMBOL	TYPE
	GATE VALVE
	GLOBE VALVE
	SLUDGE VALVE
	NEEDLE VALVE
	PINCH VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	KNIFE GATE VALVE
	ANGLE VALVE
	3-WAY VALVE
	4-WAY VALVE
	GAUGE COCK
	KNOCKOUT POT
	HAND STOP
	SLUICE GATE

### SAFETY RELIEF VALVES

SYMBOL	TYPE
	VACUUM RELIEF VALVE
	PRESSURE - VACUUM RELIEF VALVE
	PRESSURE - VACUUM RUPTURE DISC

### CONTROL VALVES

SYMBOL	TYPE
	BACK PRESSURE REDUCING REGULATOR SELF CONTAINED
	PRESSURE REDUCING REGULATOR SELF CONTAINED
	BACK PRESSURE REDUCING REGULATOR WITH EXTERNAL TAP
	PRESSURE REDUCING REGULATOR WITH EXTERNAL TAP
	DIFFERENTIAL PRESSURE REDUCING REGULATOR

### CONTROL VALVES ACTUATORS

SYMBOL	TYPE
	CYLINDER SINGLE ACTION
	DIAPHRAGM/PRESSURE BALANCED
	ELECTRO-HYDRAULIC
	SOLENOID WITHOUT/WITH RESET

### CONTROL VALVES ACTUATORS

SYMBOL	TYPE
	ELECTRIC MOTOR
	MANUAL ACTUATOR

### FLOW METERS

SYMBOL	TYPE
	RESTRICTING ORIFICES
	MAGNETIC FLOW METER
	TURBINE FLOW METER
	ULTRA SONIC FLOW METER
	VORTEX FLOW METER
	PITOT TUBE
	AVERAGING PITOT TUBE
	NOZZLE
	VENTURI
	FLUME
	WEIR PLATE
	CALIBRATION TUBE

### TENDER DRAWING

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Consulting Engineers

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PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

CLIENT

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NATURALLY PROGRESSIVE

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PROJECT

POLOKWANE REGIONAL  
WWTW

DRAWING DESCRIPTION

SYMBOL LEGEND 02

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	ORIGINAL SIZE	SCALE
2025-08	A1	N/A
DRAWING NUMBER		
PROJ # - PHASE - DISCIPLINE - SEQ # - SHEET #	REV	
PK278-01-PRC-DRG-1000-0002	T	

FLANGES	
SYMBOL	TYPE
	FLANGE
	UNION
	OPEN BLIND
	CLOSED BLIND
	QUICK ACTING BLIND
	SPECIAL OPEN BLIND
	ORIFICE PLATE
	ORIFICE PLATE PAIR
	ORIFICE PLATE WITH VALVES
	ORIFICE PLATE WITH VALVES TAPPED
	BLEED RING
	BLEED RING WITH VALVE
REDUCERS	
SYMBOL	TYPE
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER

PIPE FITTING JOINTS	
SYMBOL	TYPE
	FLEXIBLE JOINT
	FLEXIBLE HOSE
NOZZELS AND CONNECTORS	
SYMBOL	TYPE
	NO FLANGE
	FLANGE WITH BLIND
	DOUBLE FLANGE WITH BLIND
	HOSE CONNECTION
	PIPE END CAP
	SPRAYER
	CHEMICAL SEAL
	DRAIN - OVERFLOW POINT
BLOWERS AND COMPRESSORS	
SYMBOL	TYPE
	POSITIVE DISPLACEMENT BLOWER (ROOTS)
	CENTRIFUGAL BLOWER

BLOWERS AND COMPRESSORS	
SYMBOL	TYPE
	COMPRESSOR (SINGLE STAGE)
PUMPS	
SYMBOL	TYPE
	DIAPHRAGM PUMP
	CENTRIFUGAL (SELF PRIMING PUMP)
	POSITIVE DISPLACEMENT PUMP
	DOSING PUMP
OTHER EQUIPMENT	
SYMBOL	TYPE
	OVERHEAD CRANE
	AIR SCRUBBER
	BELT THICKENER/ LINEAR SCREEN
	SMALL SKIP/ BIN
	WASH COMPACTOR WITH AGITATOR
	BELT FILTER PRESS
	CAPSTAN WINCH

TENDER DRAWING

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Consulting Engineers

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

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CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT

**POLOKWANE REGIONAL WWTW**

DRAWING DESCRIPTION

**SYMBOL LEGEND 03**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ # - PHASE - DISCIPLINE - SEQ # - SHEET #		REV
PK278-01-PRC-DRG-1000-0003		T

OTHER EQUIPMENT	
SYMBOL	TYPE
	WEIR
	HAND RAKED SCREEN
	CLARIFIER ROTATING BRIDGE
	VORTEX DEGRITTER
	SKIP ON RAIL DOLLY AND TRACK
	VERTICAL SHAFT MIXER
	FINE BUBBLE AERATION GRID
	FLAP VALVE
	VERTICAL ADJUSTABLE WEIR
	FILTER
	FRONT RAKED SCREEN
	MOISTURE TRAP
	CHLORINATOR
	VACUUM CHANGE OVER
	CHANNEL MOUNTED AXIAL PUMP

OTHER EQUIPMENT	
SYMBOL	TYPE
	GRIT CLASSIFIER
	VAPORISER
	EJECTOR/ INJECTOR
	PRESSURE VESSEL
	MULTI PORT INJECTOR
	AIR DRYER
	HOPPER AND FEEDER

TENDER DRAWING

**NOTES**

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21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

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T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

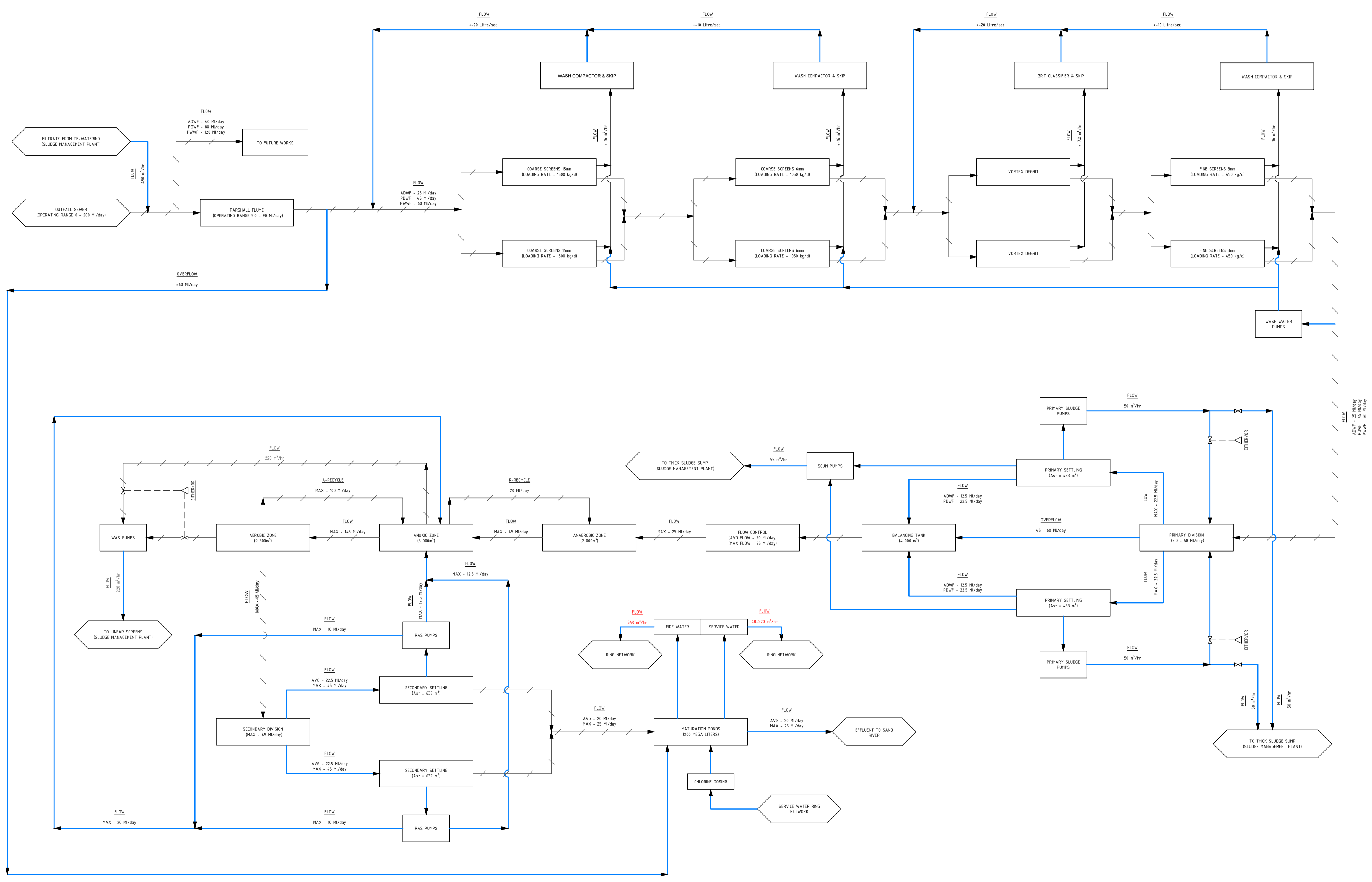
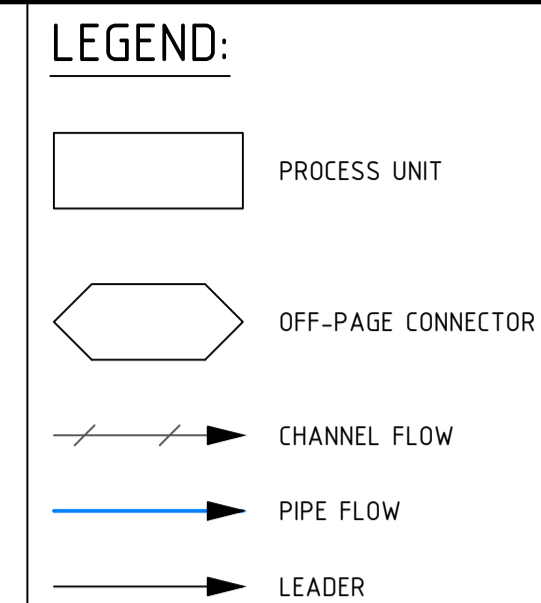
PROJECT

**POLOKWANE REGIONAL WWTW**

DRAWING DESCRIPTION

**SYMBOL LEGEND 04**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ # - PHASE - DISCIPLINE - SEQ # - SHEET #	REV	
PK278-01-PRC-DRG-1000-0004	T	



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21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

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T	2025-08	ISSUED FOR TENDER

**PROJECT**

POLOKWANE REGIONAL WWTW

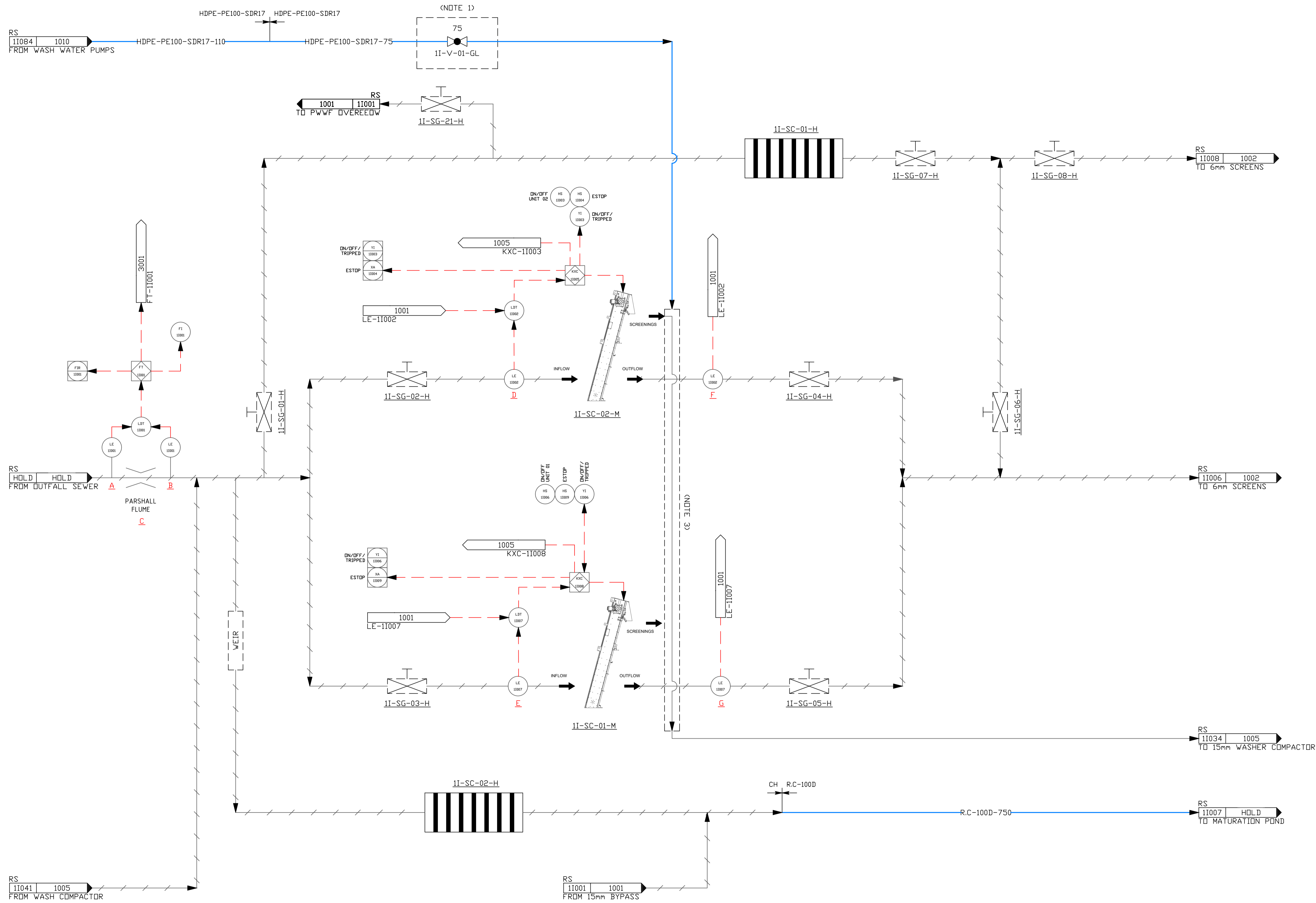
**DRAWING DESCRIPTION**

PROCESS FLOW DIAGRAM - LIQUID PLANT

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	ORIGINAL SIZE	SCALE
2025-08	A1	N/A
DRAWING NUMBER		
PROJ # - PHASE - DISCIPLINE - SEQ # - SHEET #		
PK278-01-PRC-DRG-1000-0005		
REV		
T		





- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  3. HYDRAULIC SCREENINGS LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
  4. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-SC-01-M
SCREEN APERTURE	15mm
DRIVE	1.5kw

TAG	11-SC-02-M
SCREEN APERTURE	15mm
DRIVE	1.5kw


TAG	11-SC-01-H
SCREEN APERTURE	15mm
DRIVE	NONE

TAG	11-SC-02-H
SCREEN APERTURE	15mm
DRIVE	NONE

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1001		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
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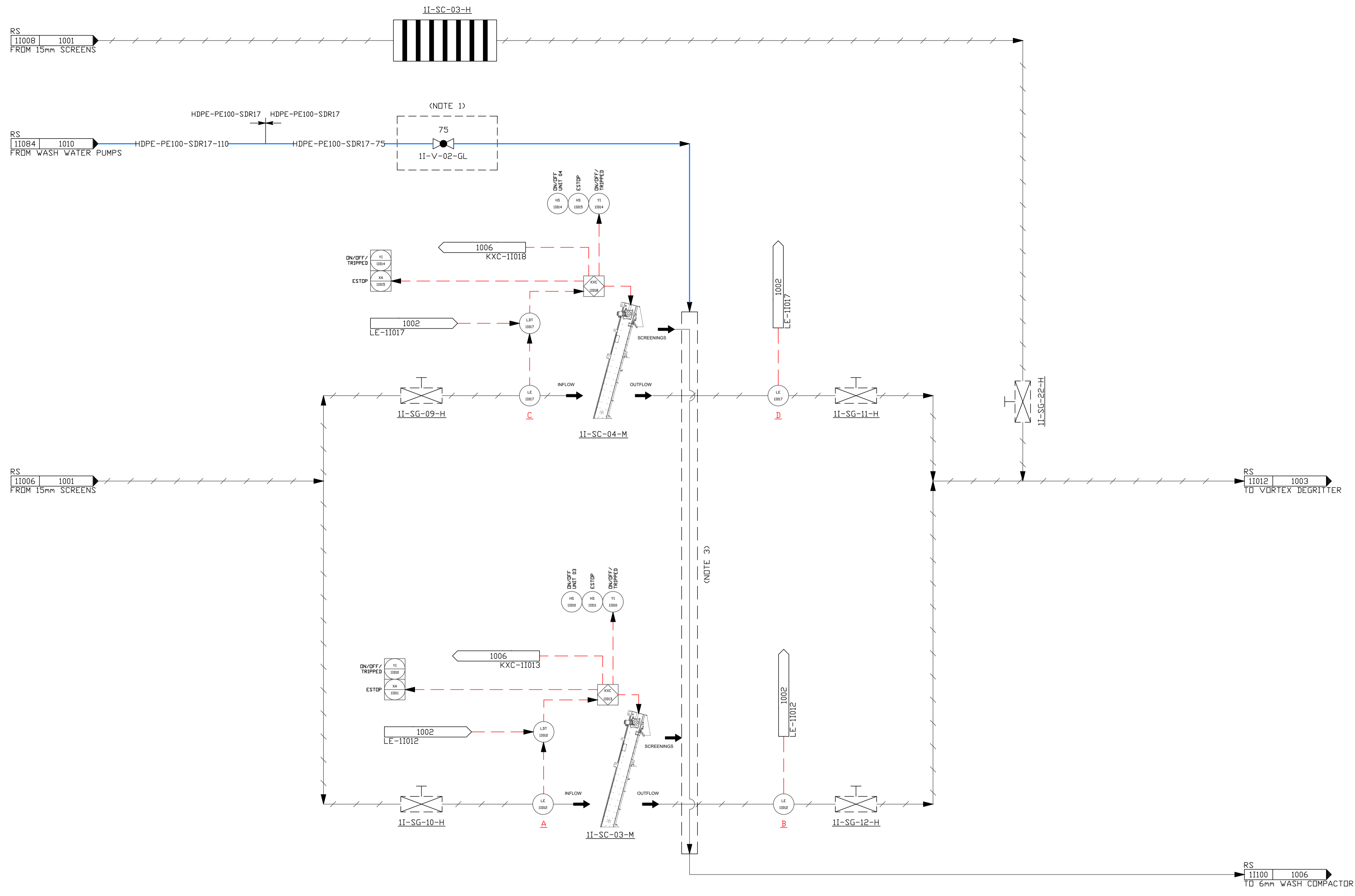
**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  


REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 15MM MECHANICAL FRONT  
 RAKED SCREENS



**NOTES:**

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3. HYDRAULIC SCREENINGS LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
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TAG	11-SC-03-M
SCREEN APERTURE	6mm
DRIVE	1.5kW

TAG	11-SC-04-M
SCREEN APERTURE	6mm
DRIVE	1.5kW

TAG	11-SC-03-H
SCREEN APERTURE	10mm
DRIVE	NONE

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET) REV		
PK278-01-PRC-DRG-1000-1002		
		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

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**REVISION SCHEDULE**

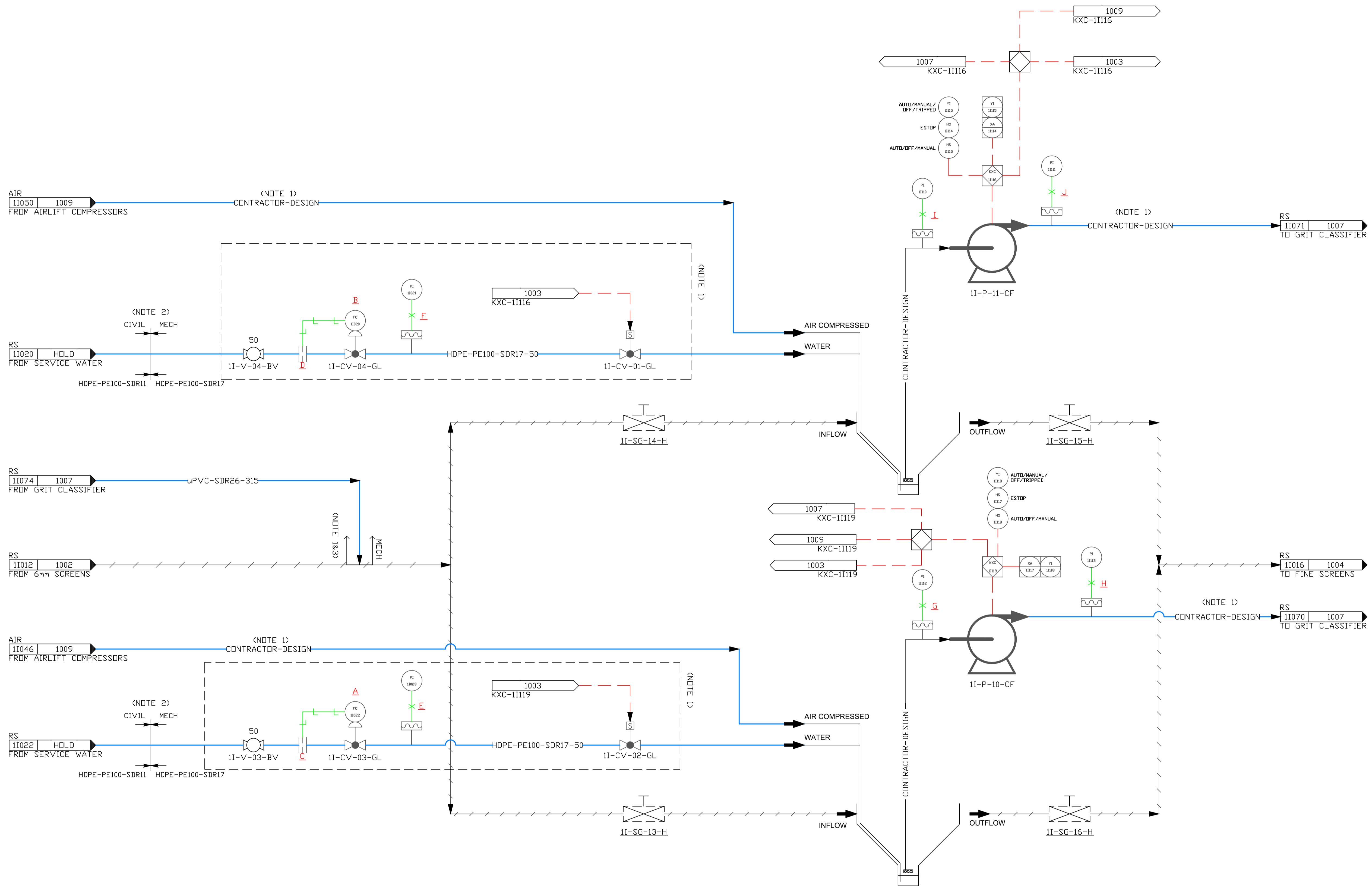
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 6MM MECHANICAL FRONT  
 RAKED SCREENS



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. CIVIL CONTRACTOR TO PROVIDE T-PIECE CONNECTION POINT FOR MECHANICAL CONTRACTOR.
  3. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  4. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-P-10-CF
Duty Point	CONTRACTOR
DRIVE	CONTRACTOR

TAG	11-P-11-CF
DUTY POINT	CONTRACTOR
DRIVE	CONTRACTOR

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
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 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
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 WEBSITE: www.polokwane.gov.za  
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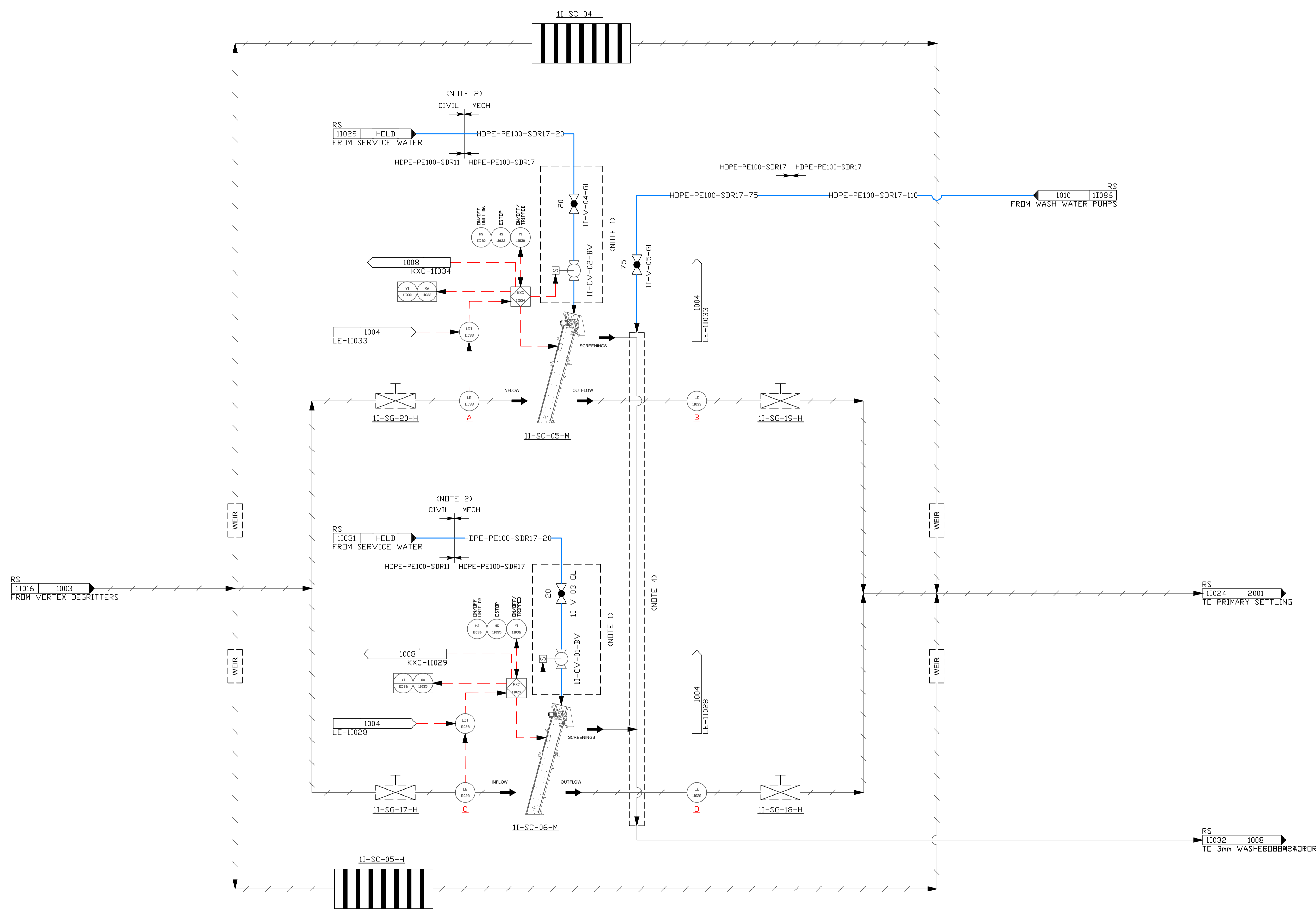
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CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 VORTEX DEGRITTERS

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-1003	T	



- NOTES:**
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  4. HYDRAULIC SCREENINGS LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
  5. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-SC-05-M
SCREEN APERTURE	3mm
DRIVE	1.1kW

TAG	11-SC-06-M
SCREEN APERTURE	3mm
DRIVE	1.1kW

TAG	11-SC-04-H
SCREEN APERTURE	5mm
DRIVE	NONE

TAG	11-SC-05-H
SCREEN APERTURE	5mm
DRIVE	NONE

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
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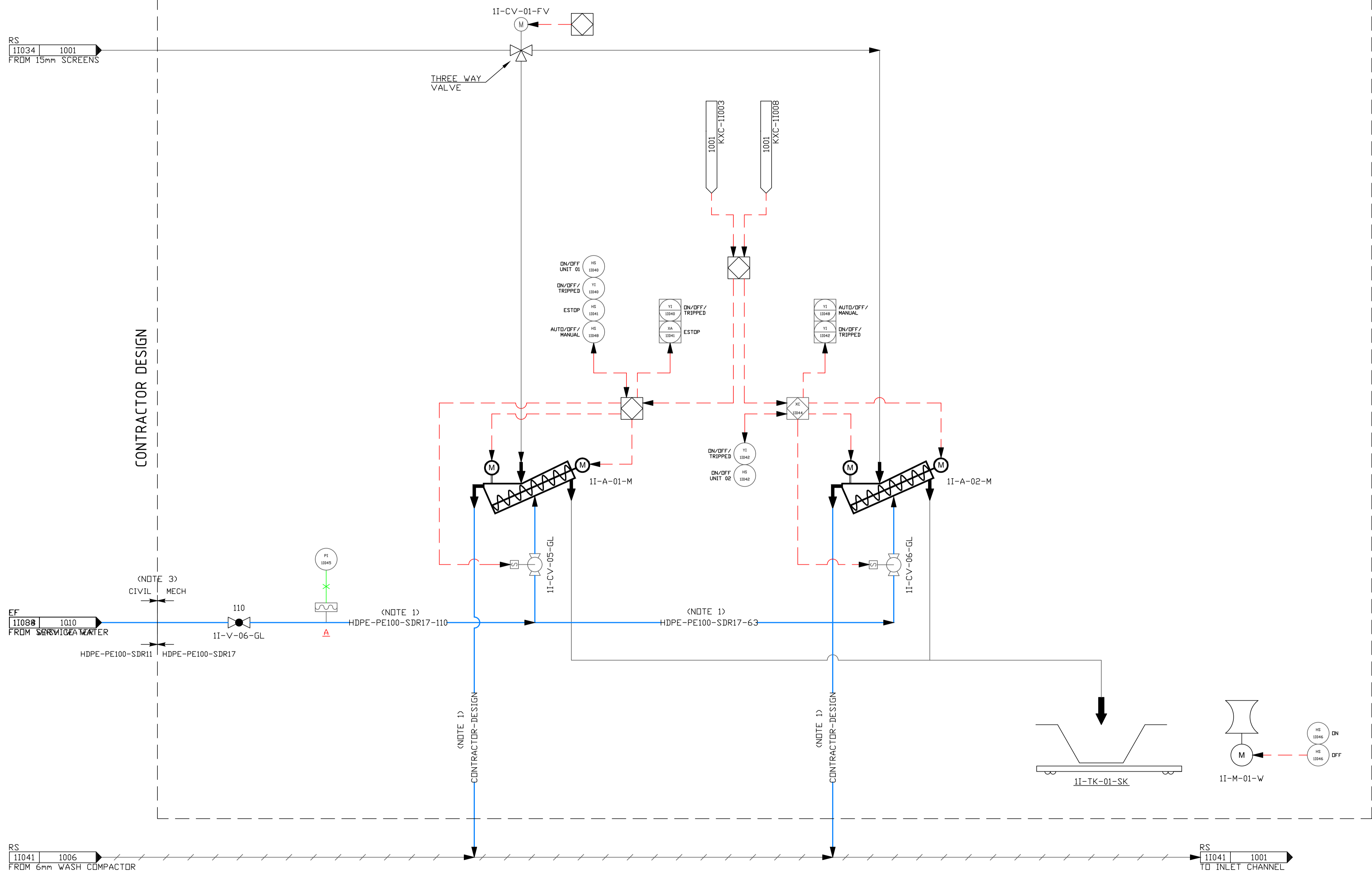

REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 3MM FINE SCREENS

TENDER DRAWING		
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DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1004		T



- NOTES:**
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TAG	1I-A-01-M
SCREENING MASS RATE	62.5kg/HR
DRIVE	1.1kW

TAG	1I-A-02-M
SCREEN APERTURE	62.5kg/HR
DRIVE	1.1kW

TAG	1I-TK-01-SK
VOLUME STORAGE	6.0m³

TAG	1I-M-01-W
SAFE WORKING LOAD	4.0 tonne
DRIVE	CONTRACTOR

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 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  

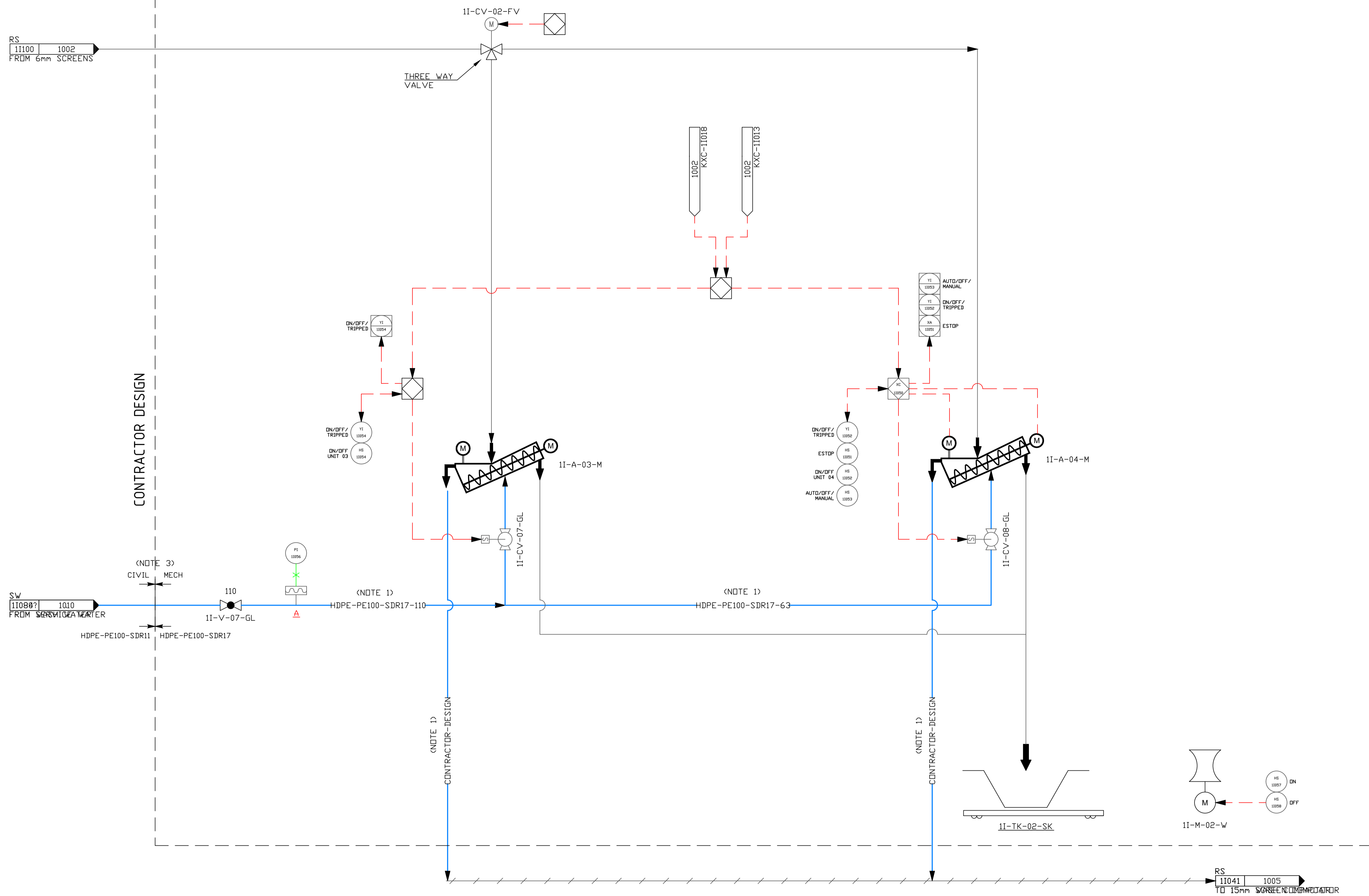

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER: \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT: \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 15MM WASH COMPACTOR

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1005		T



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. CIVIL CONTRACTOR TO PROVIDE T-PIECE CONNECTION POINT FOR MECHANICAL CONTRACTOR.
  3. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES THE PIPE TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  4. HYDRAULIC SCREENINGS LAUNDRY CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
  5. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	1I-A-03-M
SCREENING MASS RATE	43.75kg/HR
DRIVE	1.1kW

TAG	1I-A-04-M
SCREEN APERTURE	43.75kg/HR
DRIVE	1.1kW

TAG	1I-TK-02-SK
VOLUME STORAGE	6.0m <sup>3</sup>

TAG	1I-M-02-W
SAFE WORKING LOAD	4.0 tonne
DRIVE	CONTRACTOR

CONTRACTOR DESIGN

CONTRACTOR-DESIGN

CONTRACTOR-DESIGN

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**ZAKUMI**  
 Consulting Engineers

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

**CITY OF Polokwane**  
 NATURALLY PROGRESSIVE

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

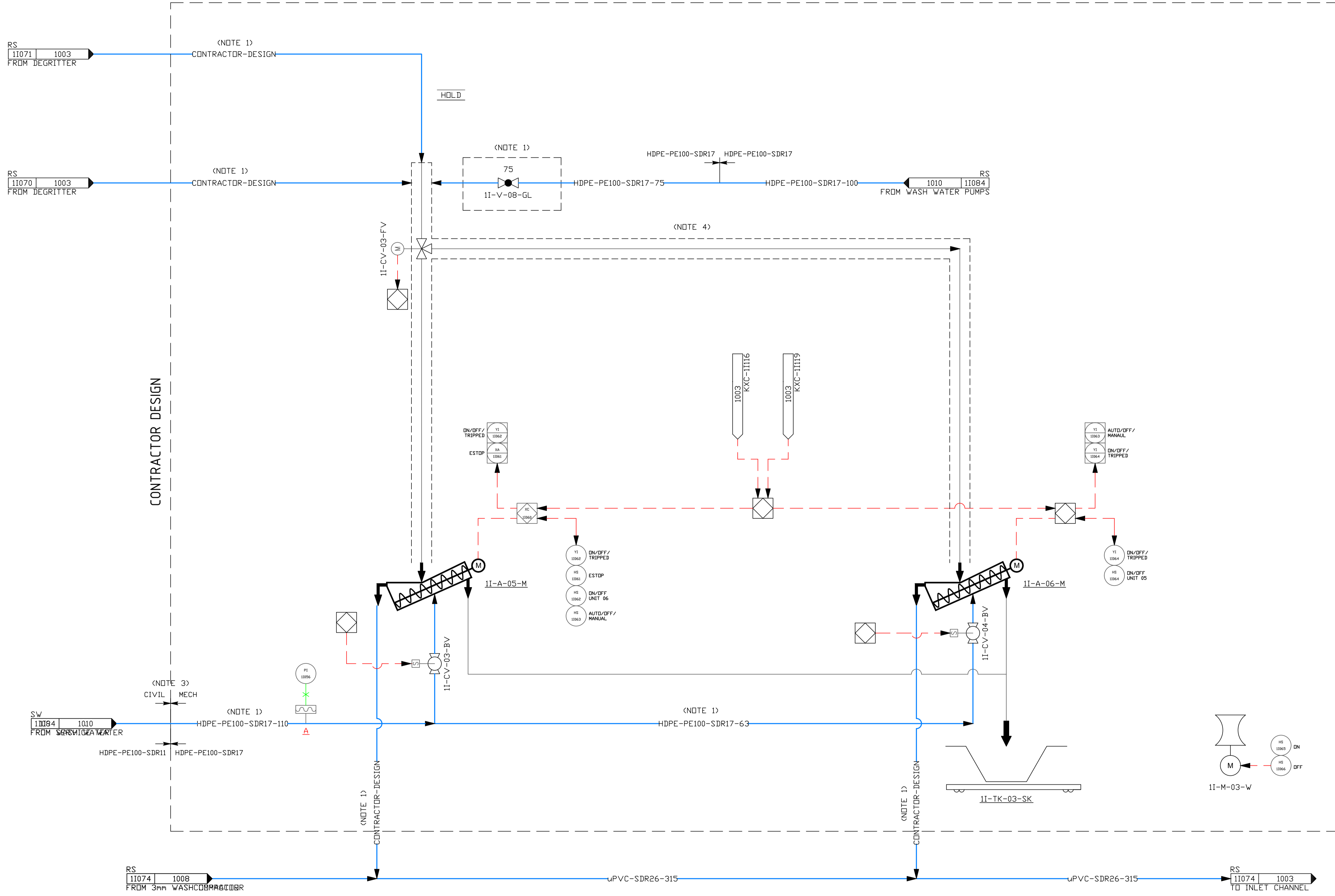
ENGINEER: \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT: \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 6MM WASH COMPACTOR

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1006		T



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. CIVIL CONTRACTOR TO PROVIDE T-PIECE CONNECTION POINT FOR MECHANICAL CONTRACTOR.
  3. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  4. HYDRAULIC GRIT LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
  5. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-A-05-M
GRIT LOADING RATE	400kg/day
DRIVE	0.37kW

TAG	11-A-06-M
SOLIDS LOADING RATE	400kg/day
DRIVE	0.37kW

TAG	11-TK-03-SK
VOLUME STORAGE	6.0m <sup>3</sup>

TAG	11-M-03-M
SAFE WORKING LOAD	4.0 tonne
DRIVE	CONTRACTOR

**CONSULTANT**

ZAKUMI Consulting Engineers

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

City of Polokwane

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER: \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT: \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**

POLOKWANE REGIONAL WWTW

**DRAWING DESCRIPTION**

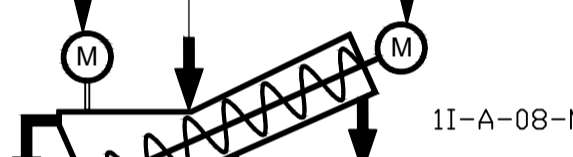
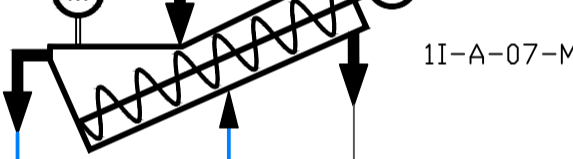
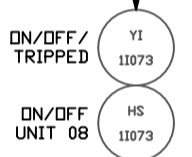
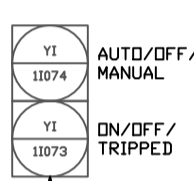
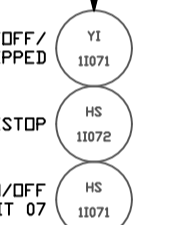
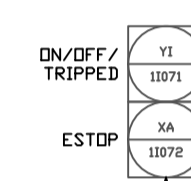
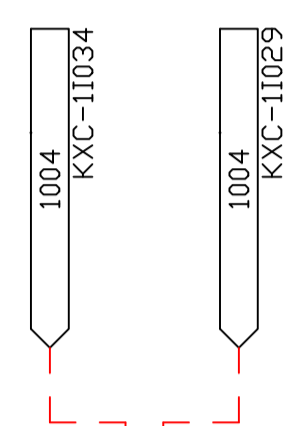
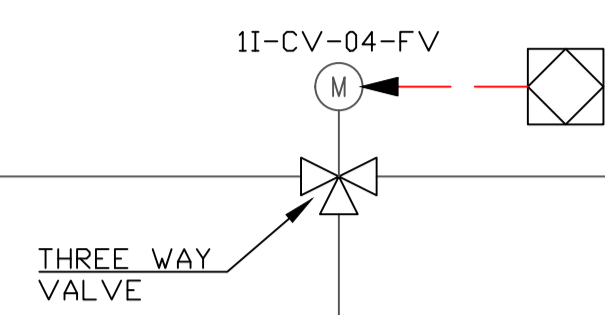
GRIT CLASSIFIER

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1007		T

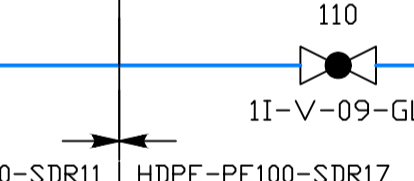
RS  
11032 | 1004  
FROM 3mm SCREEN A

CONTRACTOR DESIGN



(NOTE 3)  
CIVIL MECH

EF  
11088 | 1010  
FROM SENSITIVE WATER

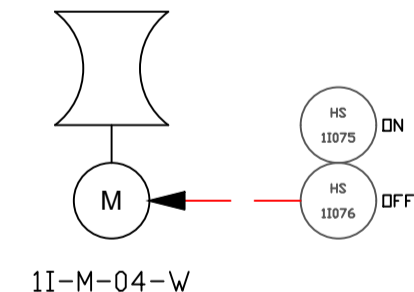
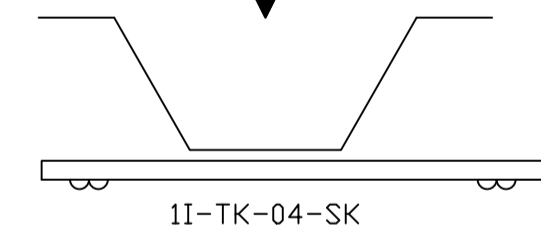


(NOTE 1)  
HDPE-PE100-SDR17-110

(NOTE 1)  
HDPE-PE100-SDR17-63

CONTRACTOR DESIGN

CONTRACTOR DESIGN



(NOTE 1)

(NOTE 1)

uPVC-SDR26-315

uPVC-SDR26-315

RS  
11074 | 1007  
TO INLET CHANNEL

**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. CIVIL CONTRACTOR TO PROVIDE T-PIECE CONNECTION POINT FOR MECHANICAL CONTRACTOR.
3. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
4. HYDRAULIC SCREENINGS LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
5. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-A-07-M
MASS LOADING RATE	18.75kg/HR
DRIVE	1.1kW

TAG	11-A-08-M
MASS LOADING RATE	18.75kg/HR
DRIVE	1.1kW

TAG	11-TK-04-SK
VOLUME	6.0m³
DRIVE	NONE

TAG	11-M-04-W
SAFE WORKING LOAD	4.0 tonne
DRIVE	CONTRACTOR

**CONSULTANT**  
  
21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
  
TEL: +27 15 291 1176  
FAX: +27 15 291 1993



**CLIENT**  
  
Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218



REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

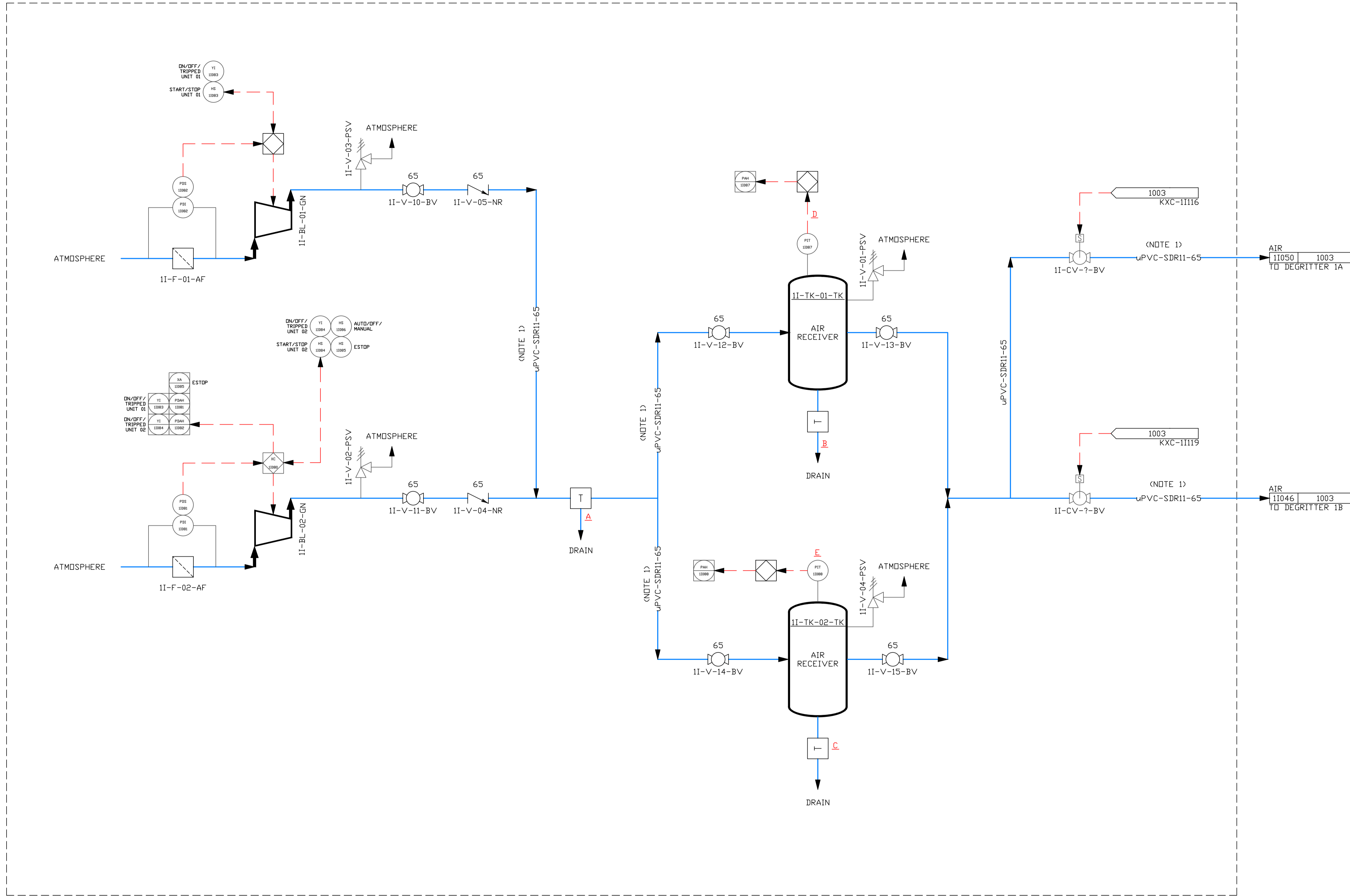
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
  
POLOKWANE REGIONAL  
WWTW

**DRAWING DESCRIPTION**  
  
3MM WASH COMPACTOR

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1008		T

CONTRACTOR DESIGN



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  3. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR WHERE NECESSARY .

TAG	11-BL-01-GN
FLOW RATE	0.625 m <sup>3</sup> /HR
DRIVE	2.2kW

TAG	11-BL-02-GN
FLOW RATE	0.625 m <sup>3</sup> /HR
DRIVE	2.2kW

TAG	11-TK-01-TK
VOLUME	100 LITRE
WORKING PRESSURE	1000kPa

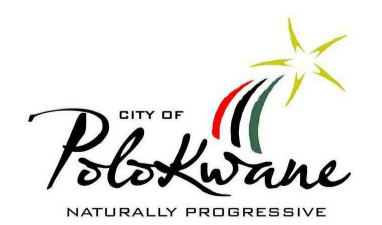
TAG	11-TK-02-TK
VOLUME	100 LITRE
WORKING PRESSURE	1000kPa

TENDER DRAWING

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 AIR SPARGING  
 COMPRESSORS

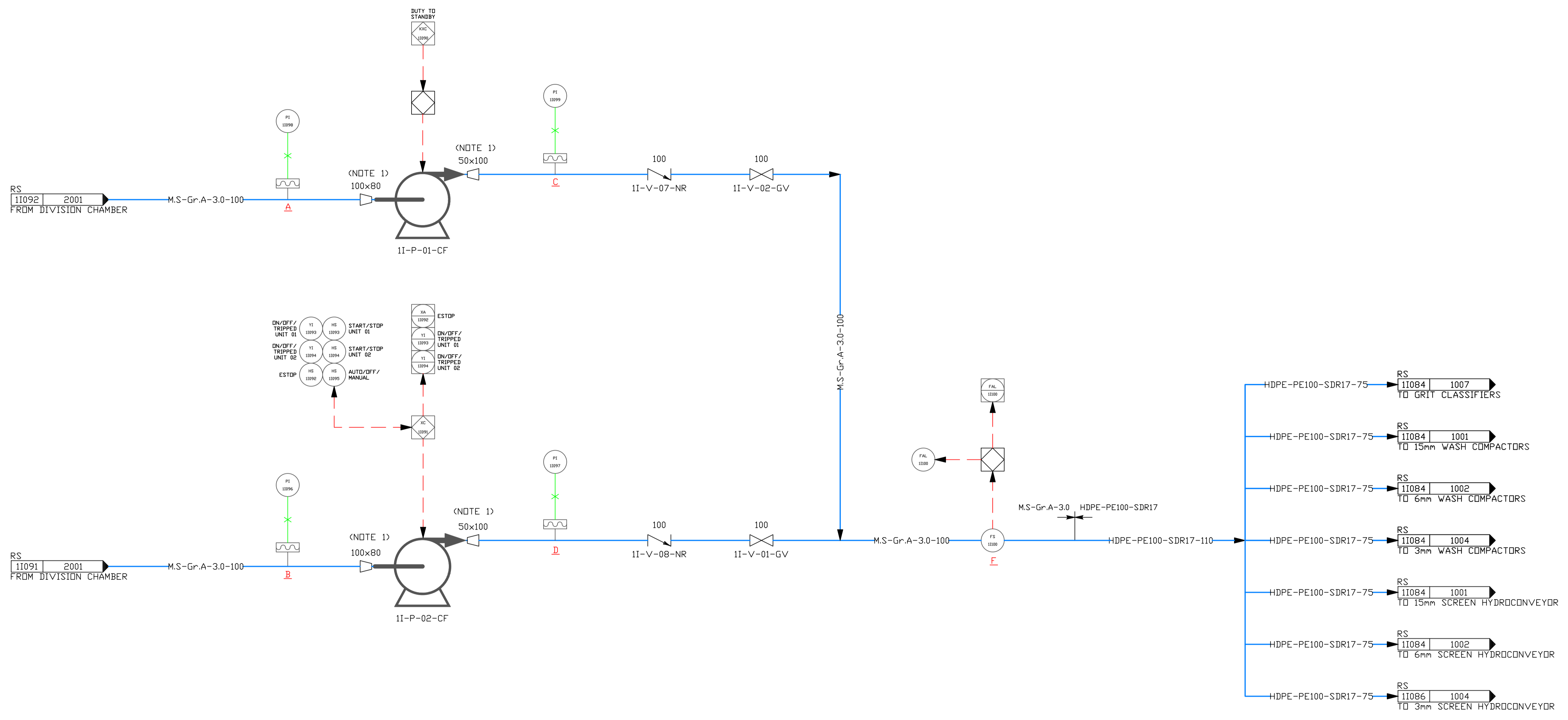
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-1009	T	

**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR WHERE NECESSARY .

TAG	11-P-01-CF
Duty Point	Contractor
DRIVE	Contractor

TAG	11-P-02-CF
DUTY POINT	Contractor
DRIVE	Contractor



**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

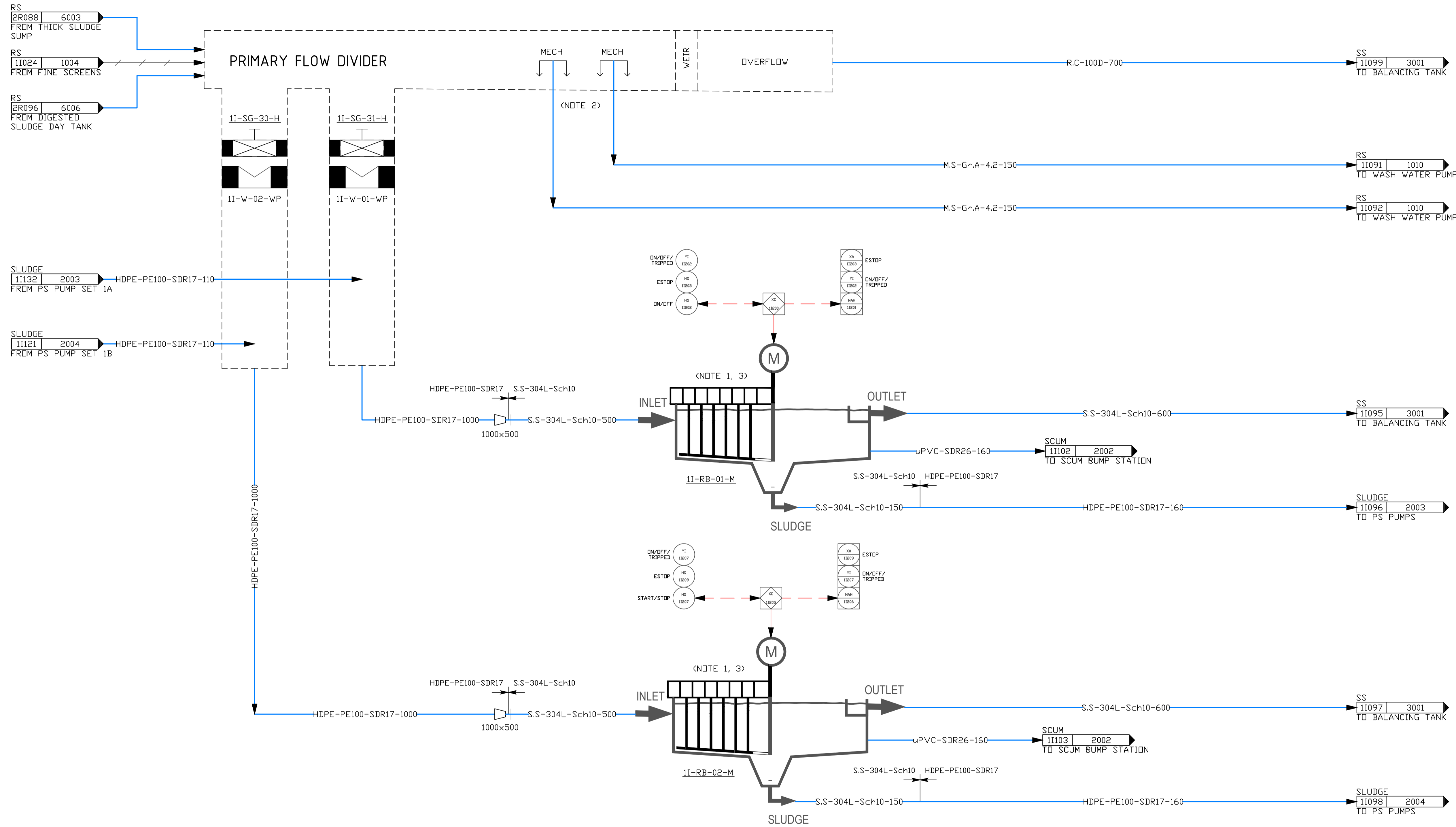
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 INLET WORKS WASHWATER  
 PUMPS

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-1010		T



- NOTES:**
1. ROTATING BRIDGE TO BE DESIGNED AND SUPPLIED BY CONTRACTOR.
  2. MECHANICAL CONTRACTOR TO ANCHOR THE PIPE TO THE WALL BY MEANS OF A PIPE BRACE.
  3. MECHANICAL CONTRACTOR TO CONFIRM SCUM DRAW OFF SYSTEM WITH ENGINEER PRIOR TO INSTALLATION.

TAG	1I-RB-01-M
BRIDGE DIAMETER	25.6m
SIDE WALL DEPTH	4.6m

TAG	1I-RB-02-M
BRIDGE DIAMETER	25.6m
SIDE WALL DEPTH	4.6m

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 PRIMARY SETTLING TANKS  
 1A AND 1B

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-2001		
		REV
		T

**NOTES:**

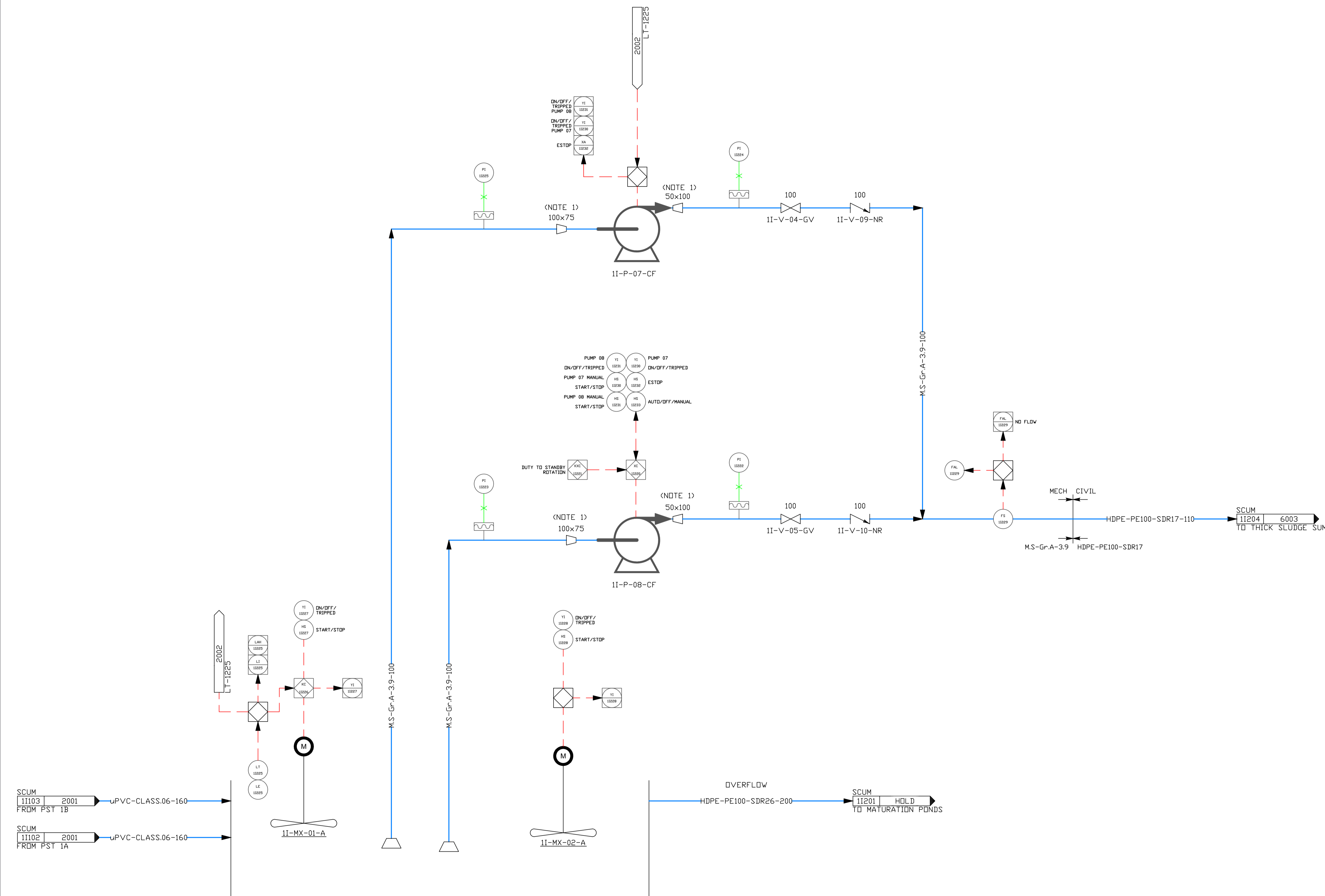
- FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
- FIELD MOUNTED DISCRETE VALVE POSITION INDICATOR ONLY REQUIRED FOR NON-RISING SPINDLE ACTUATORS. CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.
- 

TAG	11-P-07-CF
FLOW (m <sup>3</sup> /hr)	55.0
HEAD (m)	29.3

TAG	11-P-08-CF
FLOW (m <sup>3</sup> /hr)	55.0
HEAD (m)	29.3

TAG	11-MX-01-A
MIXING VOLUME	13.0 - 5m <sup>3</sup>
VELOCITY GRADIENT (G)	200 1/sec

TAG	11-MX-02-A
MIXING VOLUME	13.0 - 5m <sup>3</sup>
VELOCITY GRADIENT (G)	200 1/sec



**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
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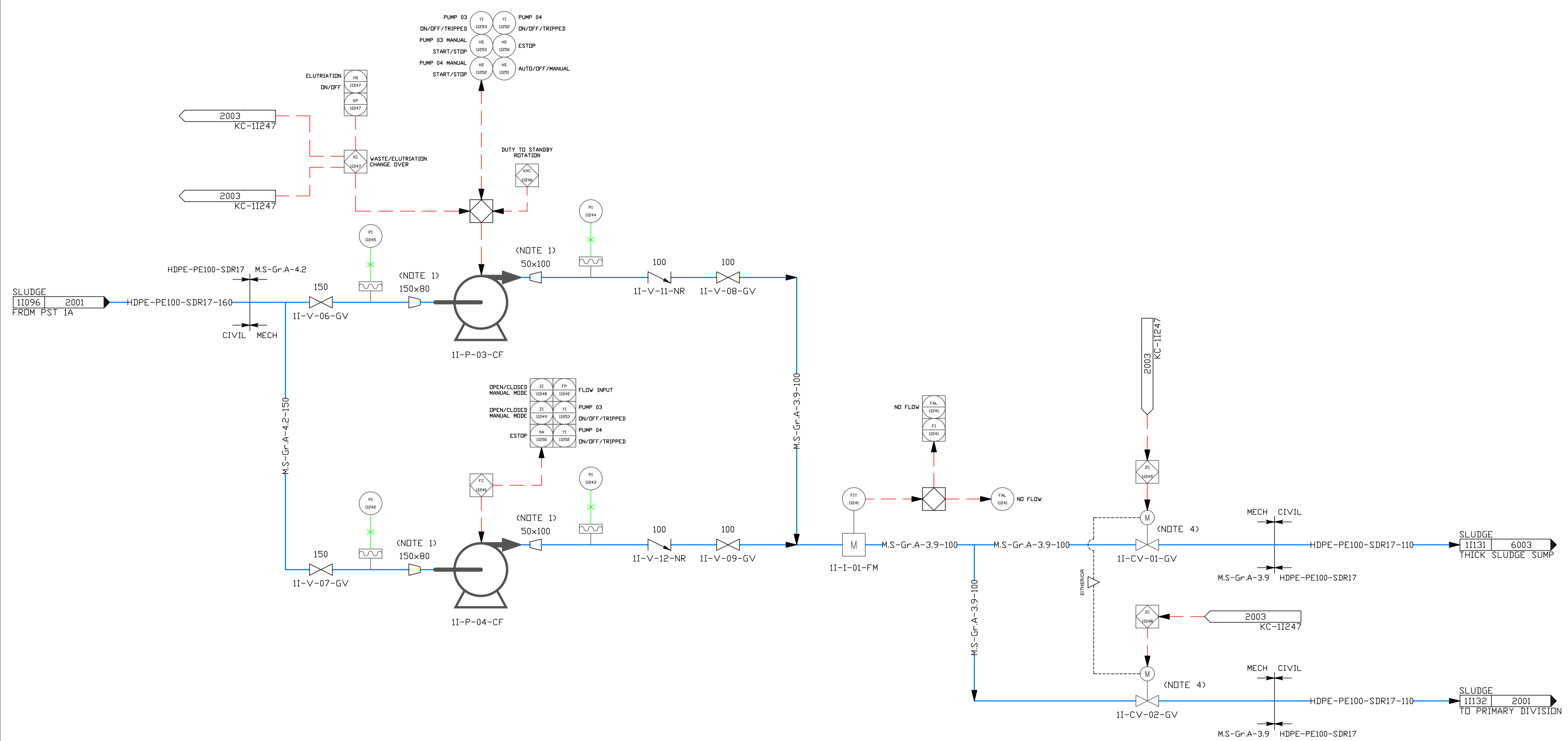

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER: \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT: \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 SCUM PUMP STATION

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-2002		T



- NOTES:**
- FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  - FIELD MOUNTED DISCRETE VALVE POSITION INDICATOR ONLY REQUIRED FOR NON-RISING SPINDLE ACTUATORS.
  - CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.
  - THE ELUTRIATION TO WASTE CHANGEOVER VALVE SHALL BE A WEDGE GATE TYPE.

TAG	11-P-03-CF
FLOW (m³/hr)	45.0 - 45.0
HEAD (m)	18.4 - 8.3

TAG	11-P-04-CF
FLOW (m³/hr)	45.0 - 45.0
HEAD (m)	18.4 - 8.3

**TENDER DRAWING**

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
 Consulting Engineers

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
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**City of Polokwane**  
 NATURALLY PROGRESSIVE

REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

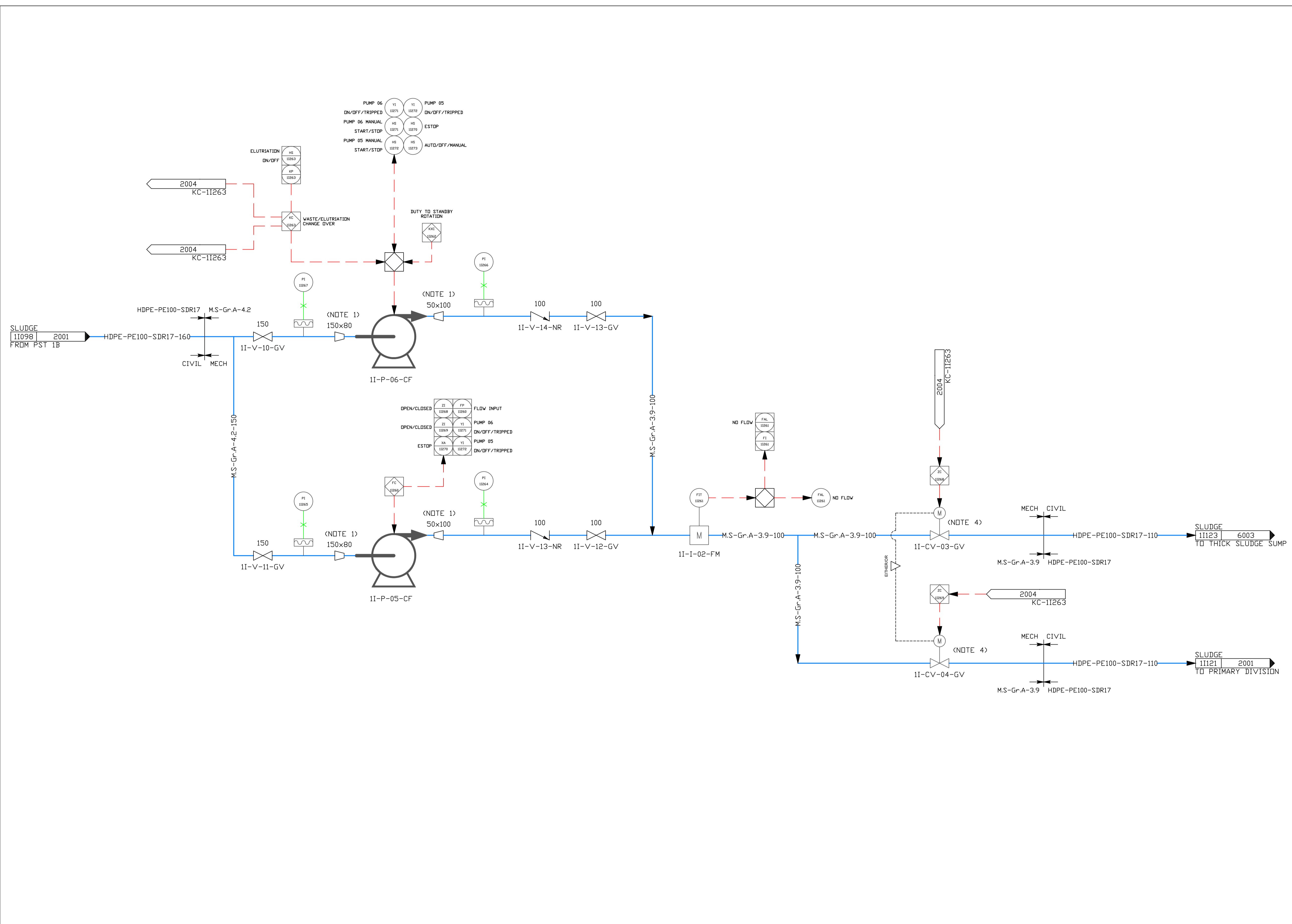
**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**PRIMARY SETTLING TANK 1A  
 SLUDGE PUMPS**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-2003		
		REV
		T



- NOTES:**
- FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  - FIELD MOUNTED DISCRETE VALVE POSITION INDICATOR ONLY REQUIRED FOR NON-RISING SPINDLE ACTUATORS.
  - CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.
  - THE ELUTRIATION TO WASTE CHANGEDOVER VALVE SHALL BE A WEDGE GATE TYPE.

TAG	11-P-05-CF
FLOW (m³/hr)	45.0 - 45.0
HEAD (m)	18.4 - 8.3

TAG	11-P-06-CF
FLOW (m³/hr)	45.0 - 45.0
HEAD (m)	18.4 - 8.3

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
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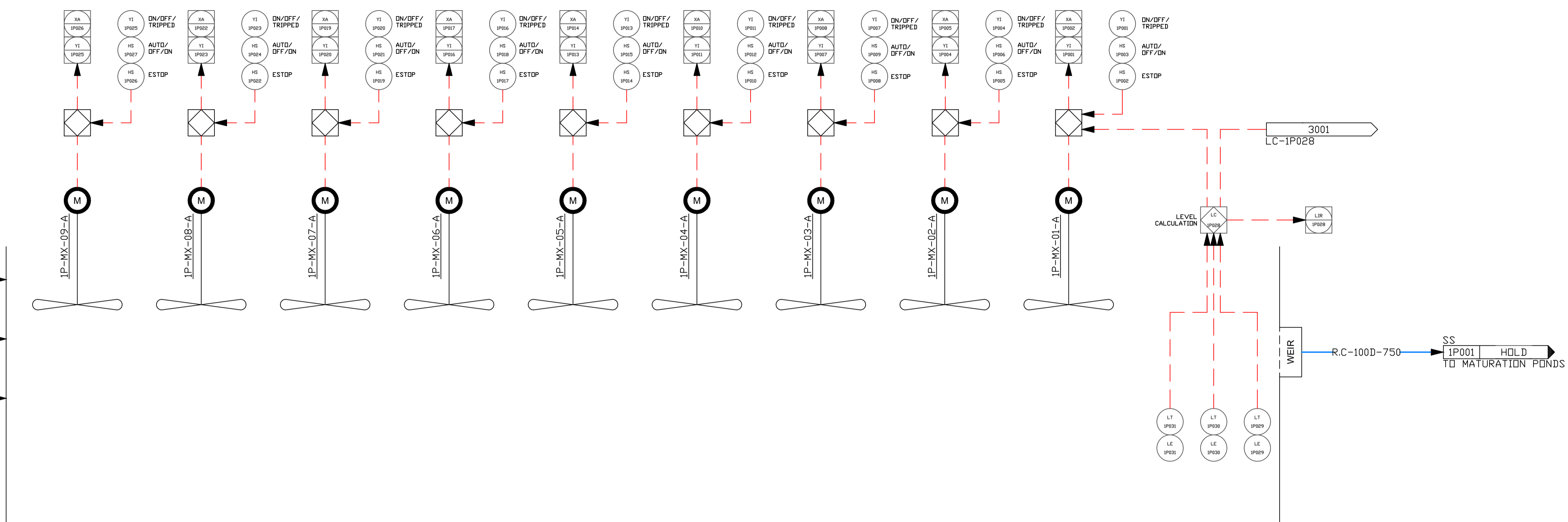
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 PRIMARY SETTLING TANK 1B  
 SLUDGE PUMPS

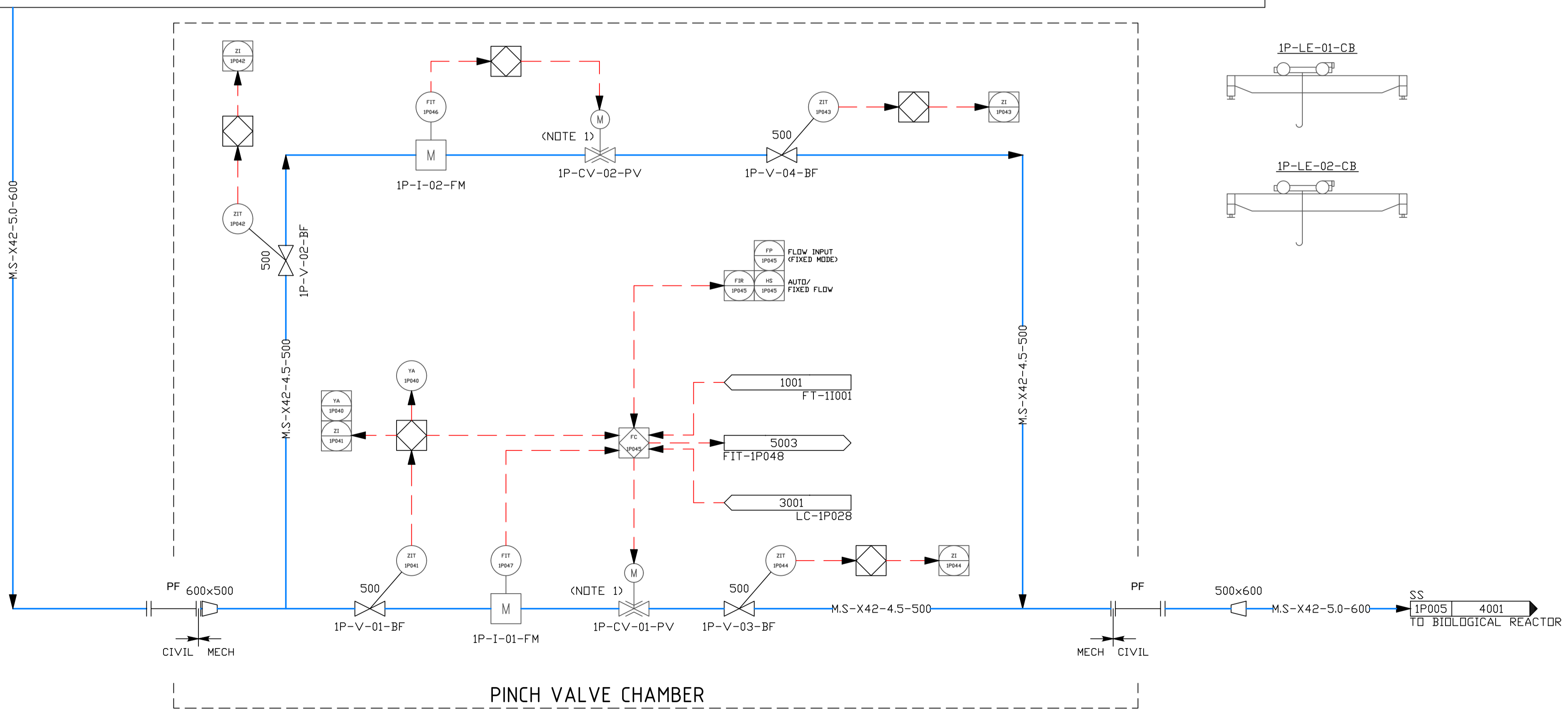
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DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-2004	T	



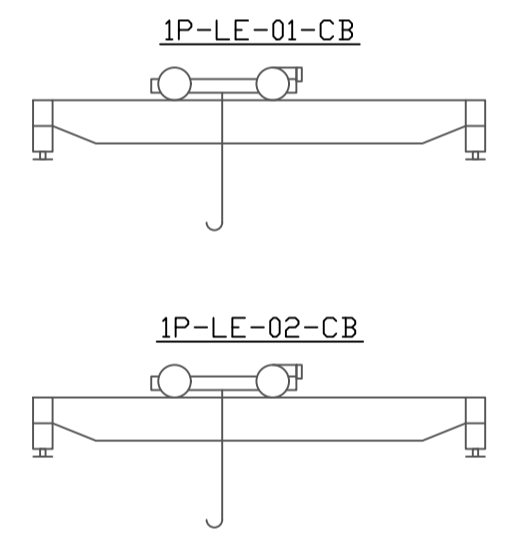
SS 11095 2001 FROM PST 1A

SS 11097 2001 FROM PST 1B

SS 11099 2001 FROM FLOW DIVISION



PINCH VALVE CHAMBER



NOTES:

1. PIPE SEGMENTS LENGTHS TO BE FINALIZED ONCE PINCH VALVE SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.

TAG	1P-LE-01-CB
SAFE LOAD (TONNE)	4.0
TYPE	CRAWL BEAM

TAG	1P-LE-02-CB
SAFE LOAD (TONNE)	4.0
TYPE	CRAWL BEAM

TAG	1P-MX-01-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-02-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-03-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-04-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-05-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-06-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-07-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-08-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-09-A
MIXING VOLUME	400 - 100m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

**CONSULTANT**

ZAKUMI Consulting Engineers

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

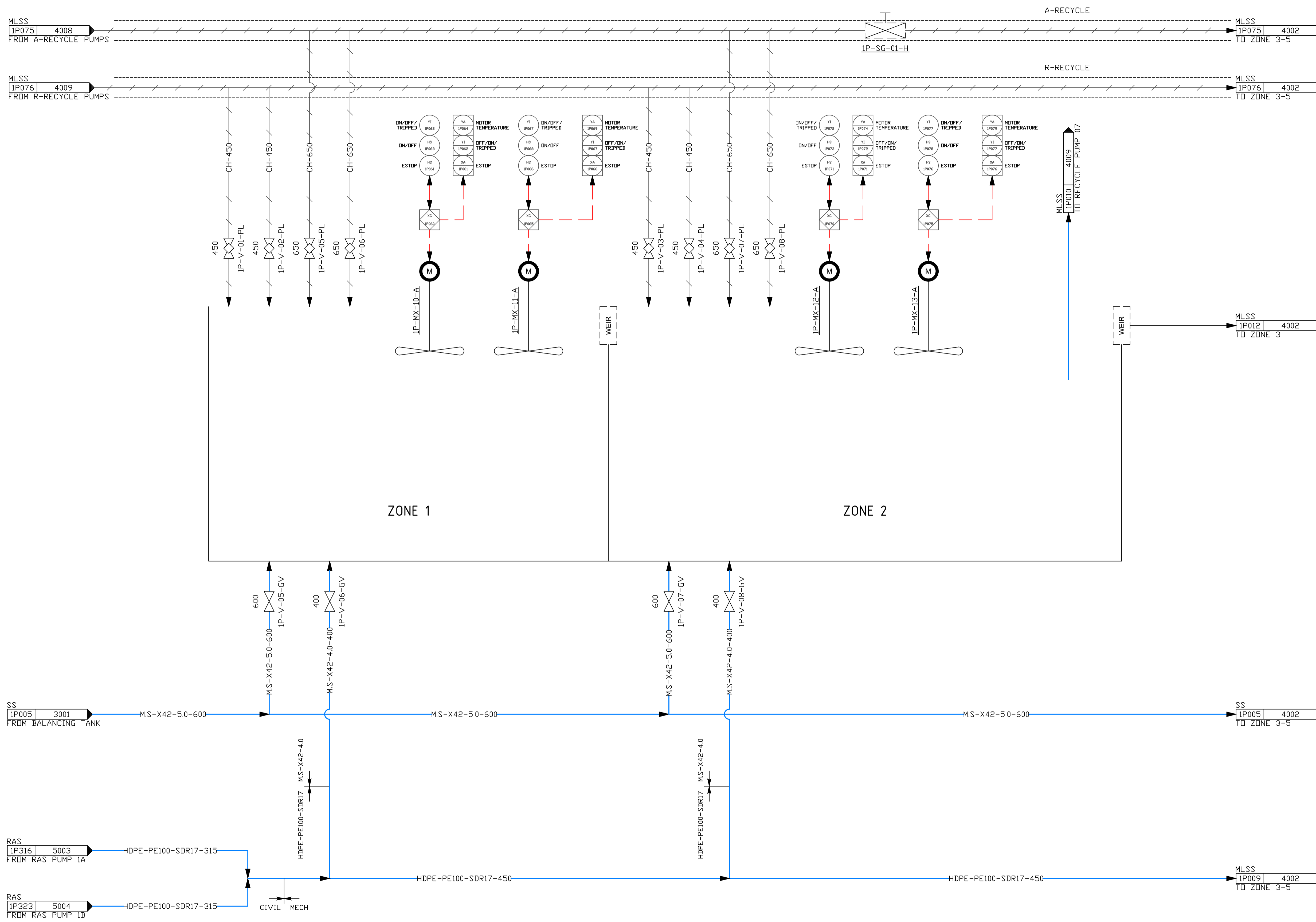
POLOKWANE REGIONAL WWTW

**DRAWING DESCRIPTION**

BALANCING TANK

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-3001		
REV		
		T



**NOTES:**

TAG	1P-MX-10-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-11-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-12-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-13-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

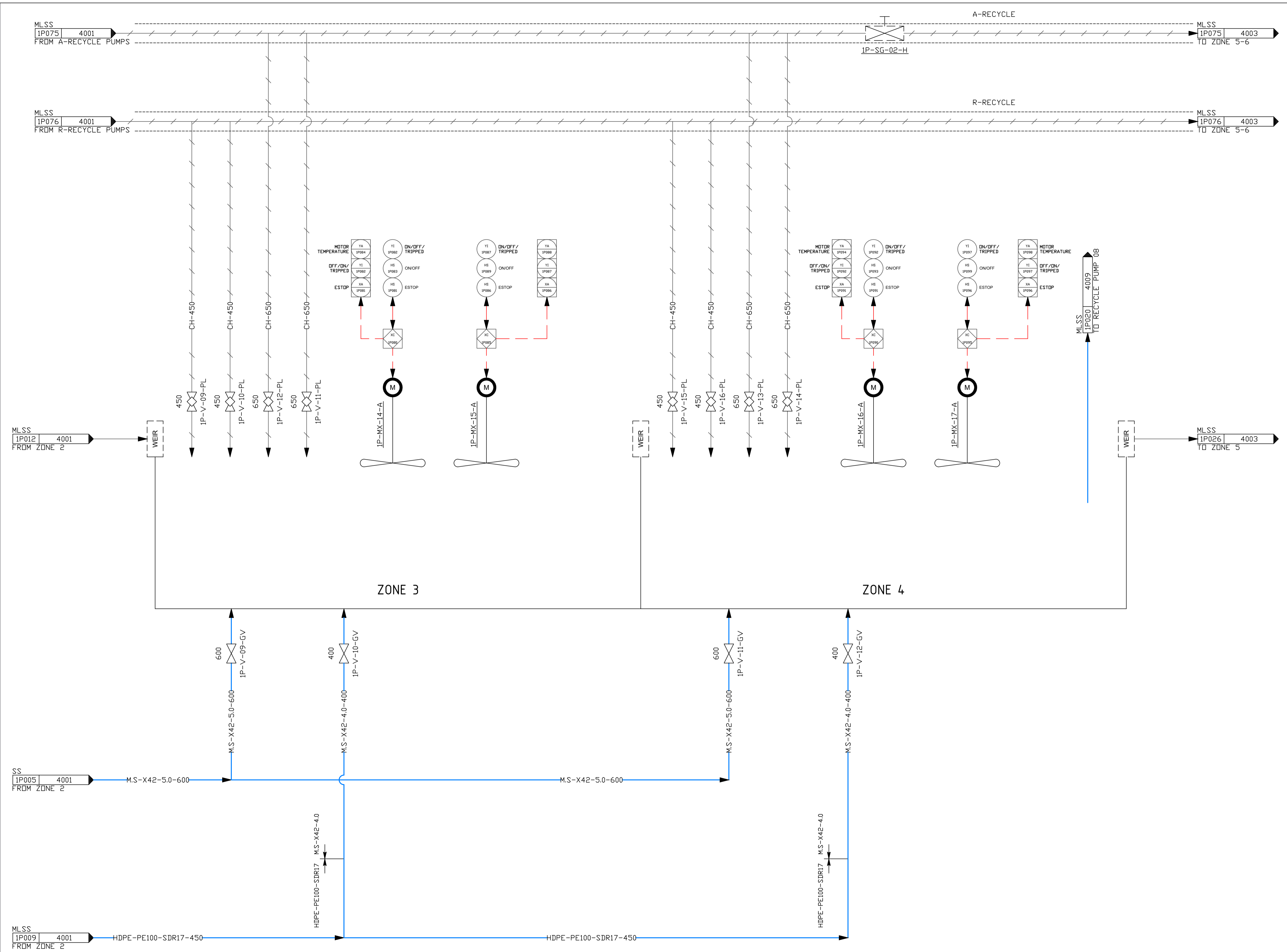
POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**

BIOLOGICAL REACTOR -  
 ZONE 1 & 2

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4001	T	



**NOTES:**

TAG	1P-MX-14-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-15-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-16-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-17-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

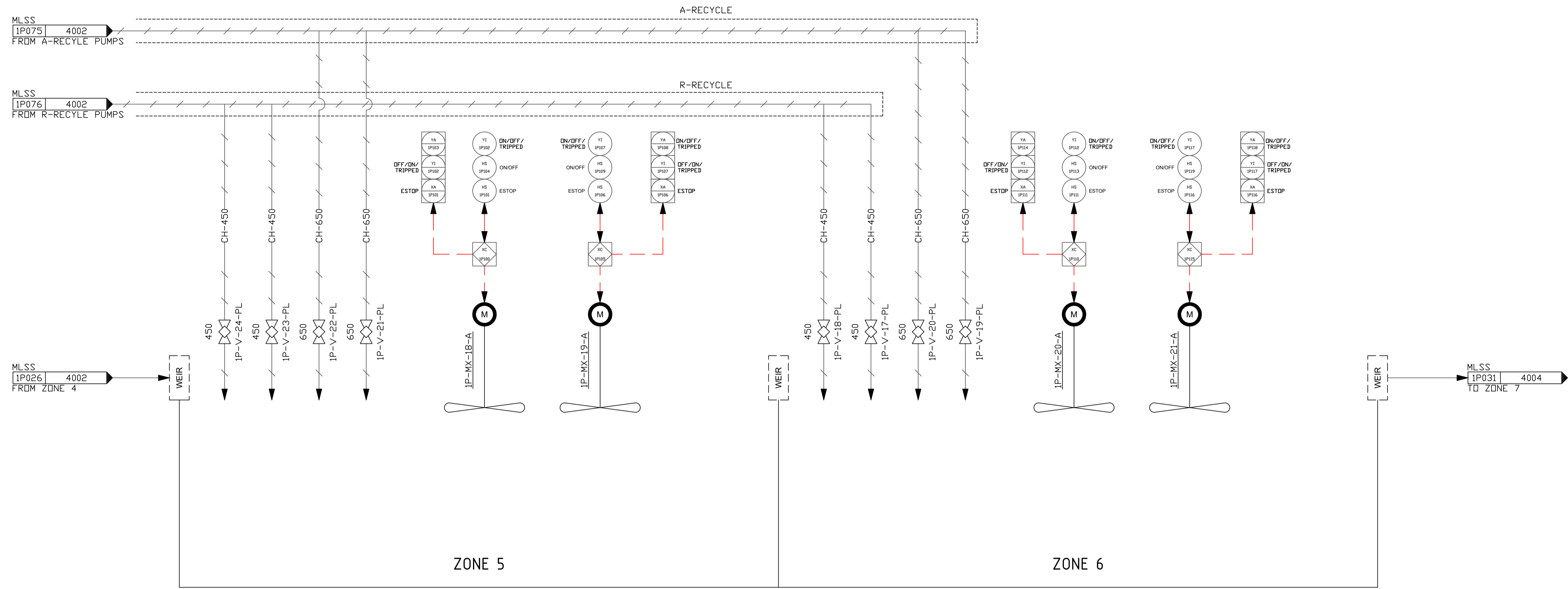
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER: \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE: \_\_\_\_\_  
 CLIENT: \_\_\_\_\_ DATE: \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 BIOLOGICAL REACTOR -  
 ZONE 3 & 4

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4.002	T	



**NOTES:**

TAG	1P-MX-18-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-19-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-20-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-21-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
 Consulting Engineers

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

**CITY OF Polokwane**  
 NATURALLY PROGRESSIVE

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

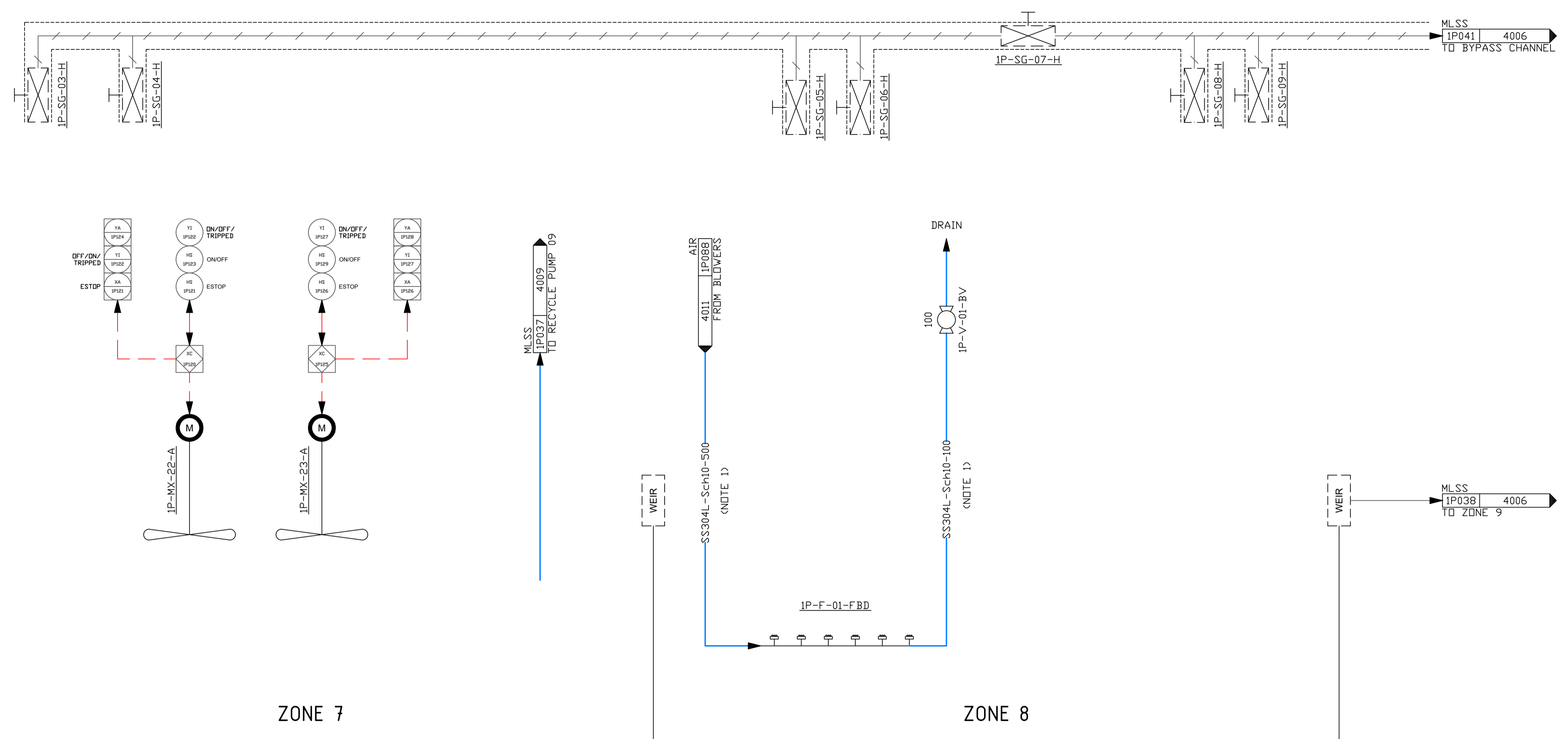
**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**BIOLOGICAL REACTOR - ZONE 5 TO 6**

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-4.003		
REV		
T		



**NOTES:**

1. PIPE SIZE, VALVE PLACEMENT AND PIPE MATERIAL SELECTION FOR THE FINE BUBBLE AERATION SYSTEM TO BE DESIGNED BY CONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL.

TAG	1P-MX-22-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-MX-23-A
MIXING VOLUME	562m <sup>3</sup>
VELOCITY GRADIENT (G)	80-100 1/sec

TAG	1P-F-01-FBD
O2 REQUIREMENTS	4 320 kgO2/DAY
HEAD	Contractor Design

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  

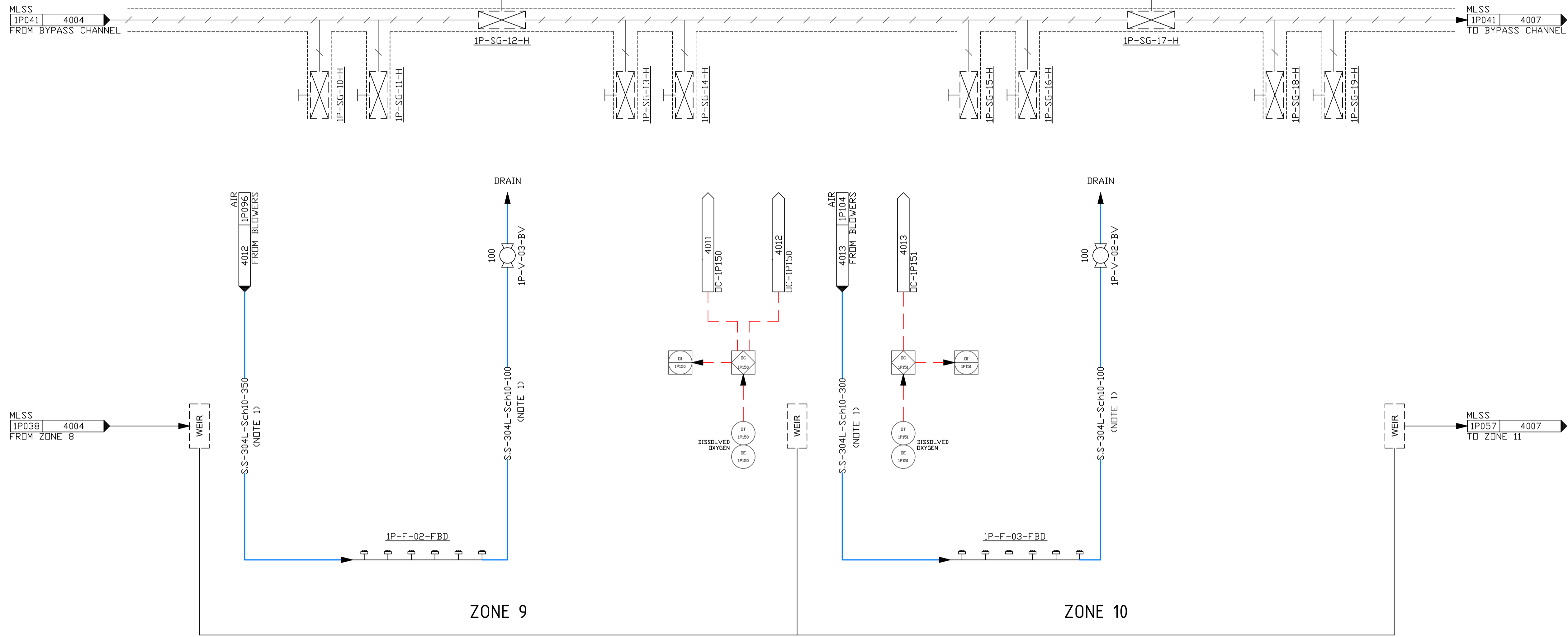

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 BIOLOGICAL REACTOR -  
 ZONE 7 TO 8

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4.004	T	



**NOTES:**

- PIPE SIZE, VALVE PLACEMENT AND PIPE MATERIAL SELECTION FOR THE FINE BUBBLE AERATION SYSTEM TO BE DESIGNED BY CONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL.

TAG	1P-F-02-FBD
O2 REQUIREMENTS	2 770 kgO2/DAY
HEAD	Contractor Design

TAG	1P-F-03-FBD
O2 REQUIREMENTS	1 630 kgO2/DAY
HEAD	Contractor Design

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  

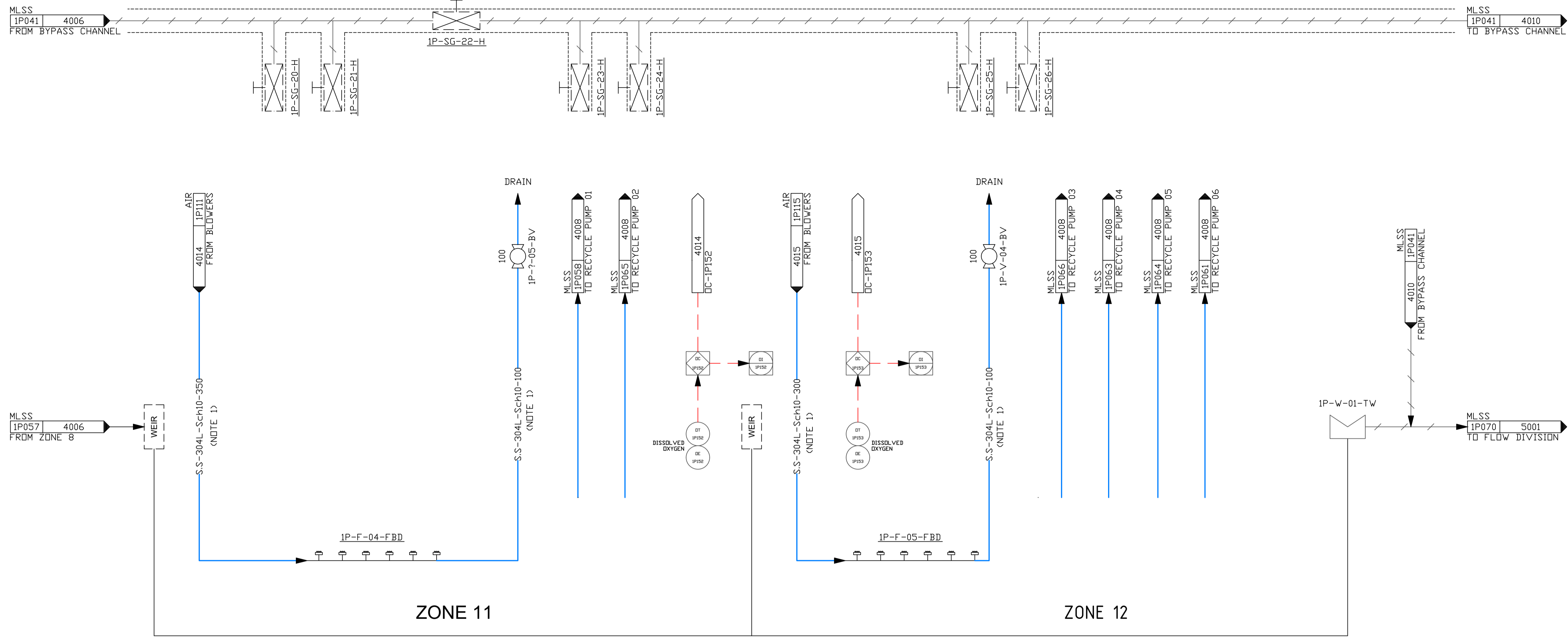

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 BIOLOGICAL REACTOR -  
 ZONE 9 TO 10

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.006		T



**NOTES:**

- PIPE SIZE, VALVE PLACEMENT AND PIPE MATERIAL SELECTION FOR THE FINE BUBBLE AERATION SYSTEM TO BE DESIGNED BY CONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL.

TAG	1P-F-04-FBD
O2 REQUIREMENTS	1 140 kgO2/DAY
HEAD	Contractor Design

TAG	1P-F-04-FBD
O2 REQUIREMENTS	1 140 kgO2/DAY
HEAD	Contractor Design

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.007		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
Consulting Engineers

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

**CITY OF Polokwane**  
NATURALLY PROGRESSIVE

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

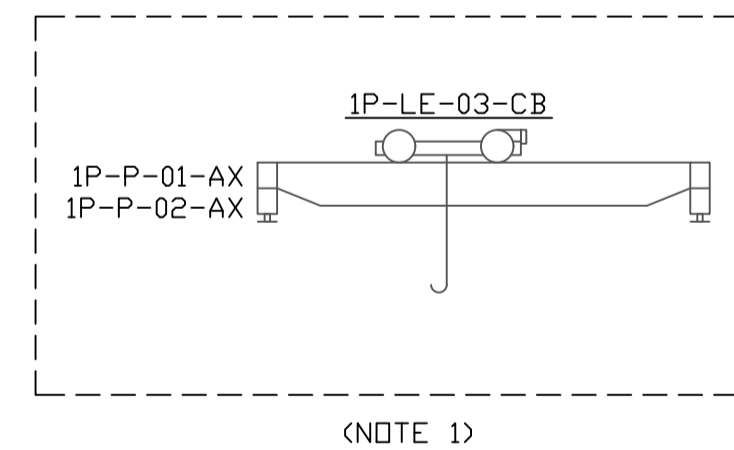
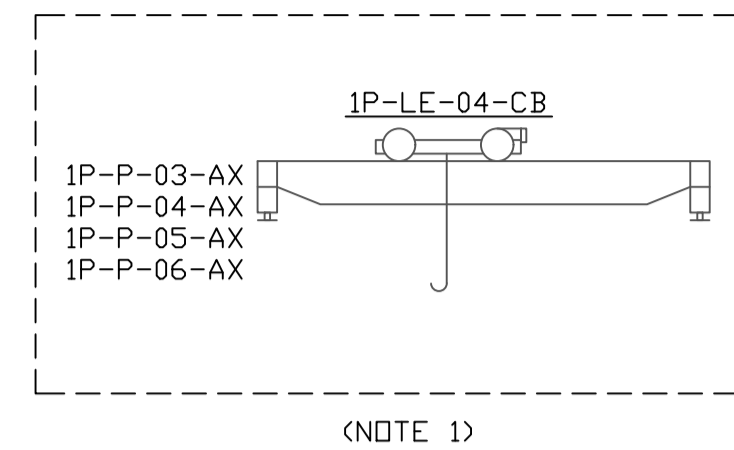
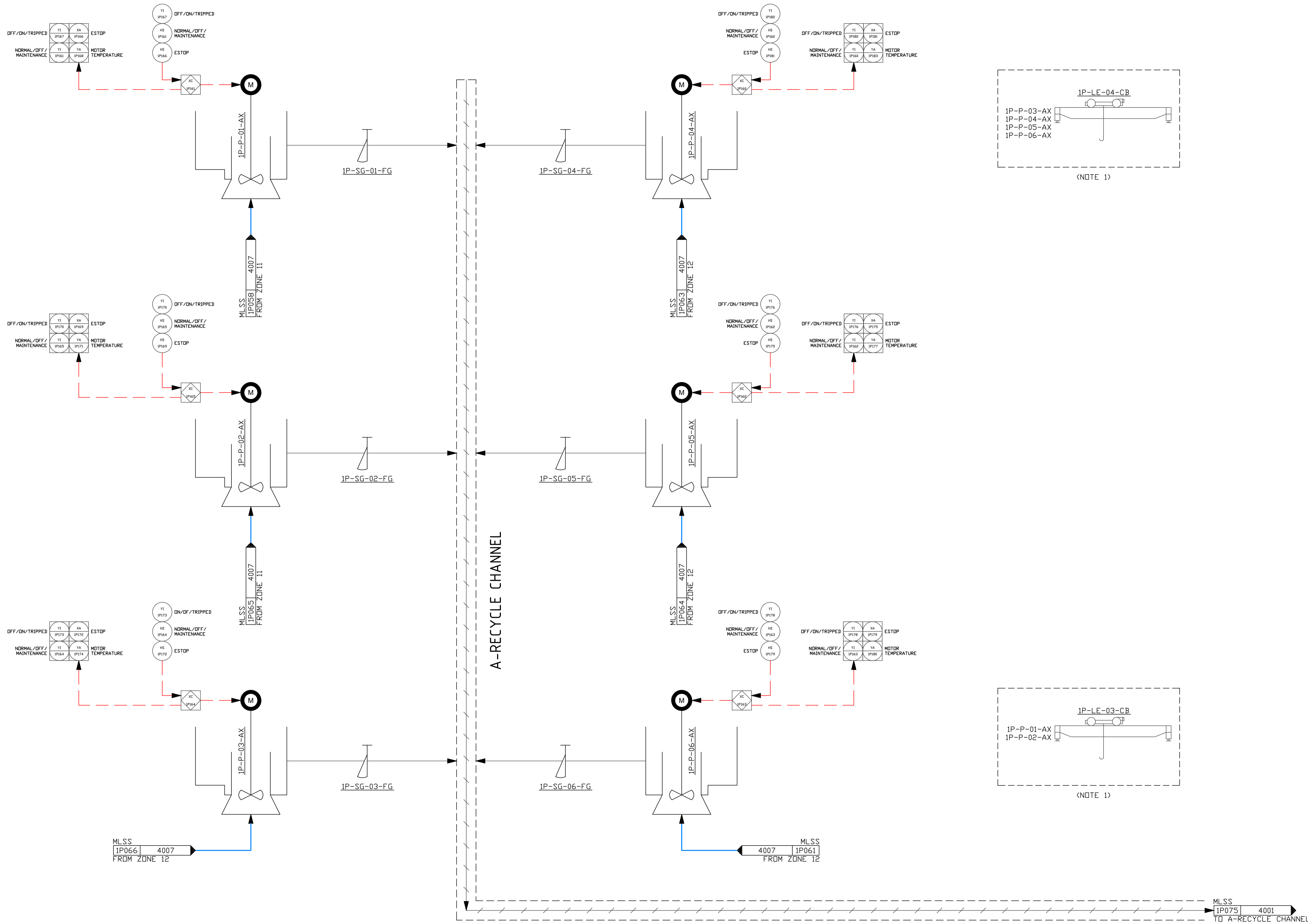
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**BIOLOGICAL REACTOR - ZONE 11 TO 12**



**NOTES:**

1. LIFTING CRAWL BEAM AND PULLEY SYSTEM TO BE DESIGNED AND SUPPLIED BY CONTRACTOR.

TAG	1P-P-01-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-P-02-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-P-03-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-P-04-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-P-05-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-P-06-AX
FLOW (m³/hr)	833 - 833
HEAD (m)	2.8 - 3.3

TAG	1P-LE-03-CB
SAFE LOAD (TONNE)	CONTRACTOR

TAG	1P-LE-04-CB
SAFE LOAD (TONNE)	CONTRACTOR

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-4.008		
		REV
		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
Consulting Engineers

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

**CITY OF Polokwane**  
NATURALLY PROGRESSIVE

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

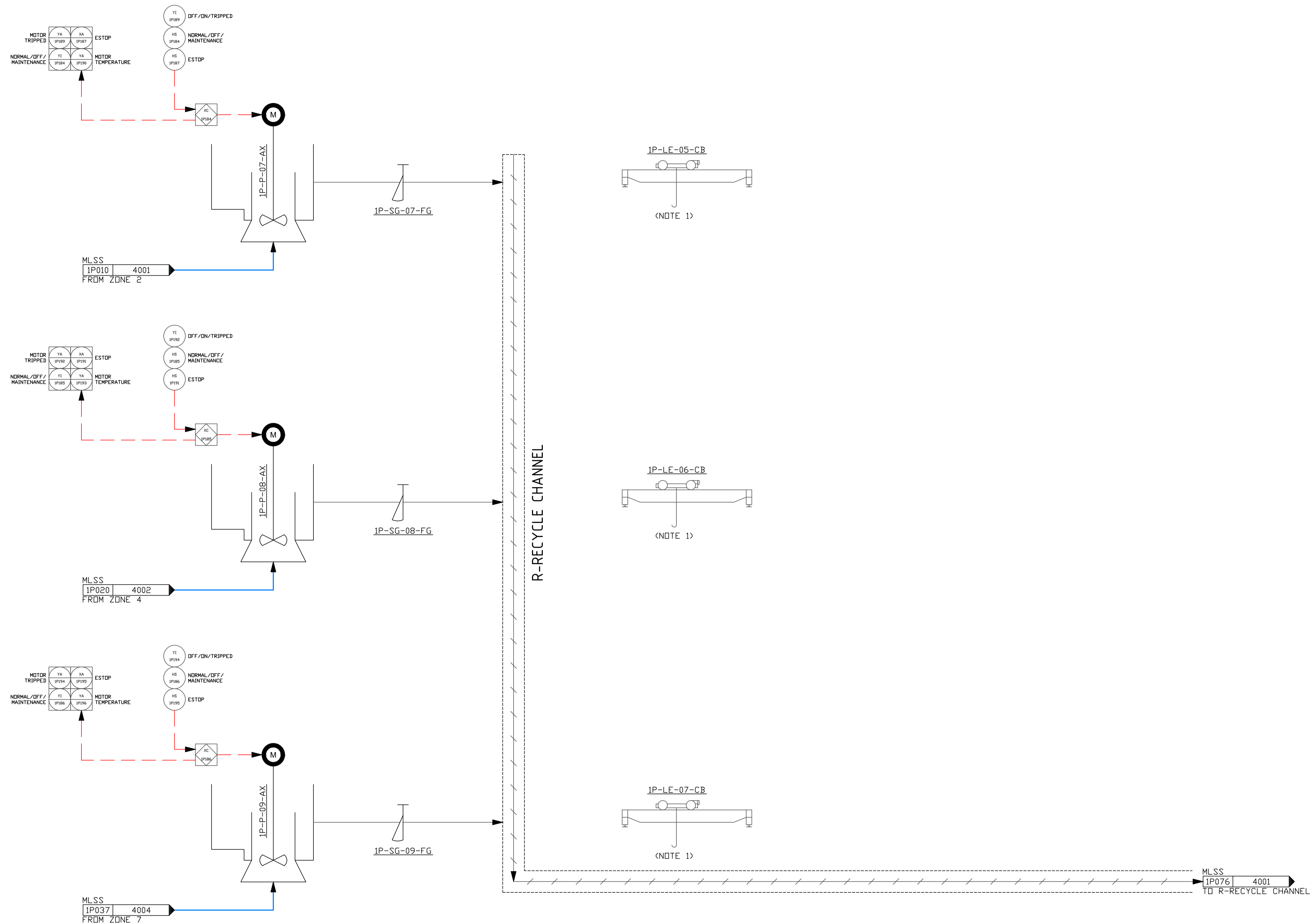
CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**A-RECYCLE AXIAL PUMPS**



**NOTES:**

1. LIFTING CRAWL BEAM AND PULLEY SYSTEM TO BE DESIGNED AND SUPPLIED BY CONTRACTOR.

TAG	1P-P-07-AX
FLOW (m <sup>3</sup> /hr)	833 - 833
HEAD (m)	1.2 - 1.2

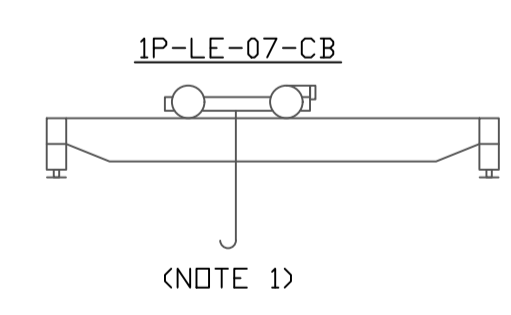
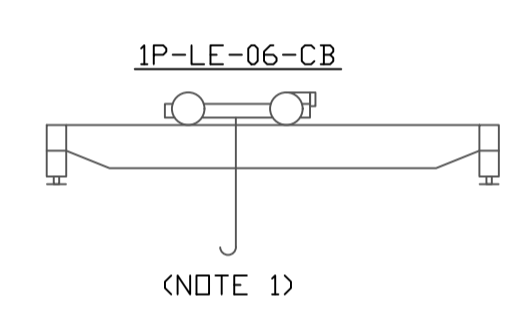
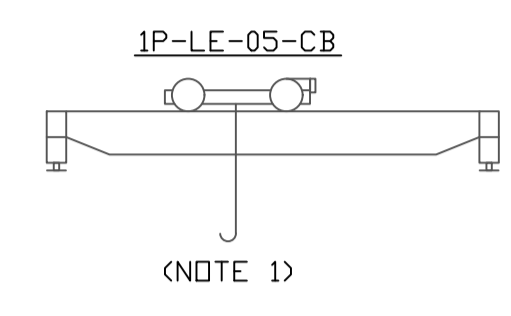
TAG	1P-P-08-AX
FLOW (m <sup>3</sup> /hr)	833 - 833
HEAD (m)	1.2 - 1.2

TAG	1P-P-09-AX
FLOW (m <sup>3</sup> /hr)	833 - 833
HEAD (m)	1.9 - 2.4

TAG	1P-LE-05-CB
SAFE LOAD (TONNE)	1.0

TAG	1P-LE-06-CB
SAFE LOAD (TONNE)	CONTRACTOR

TAG	1P-LE-07-CB
SAFE LOAD (TONNE)	CONTRACTOR

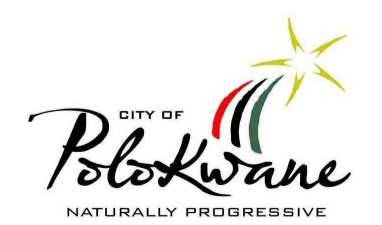


**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



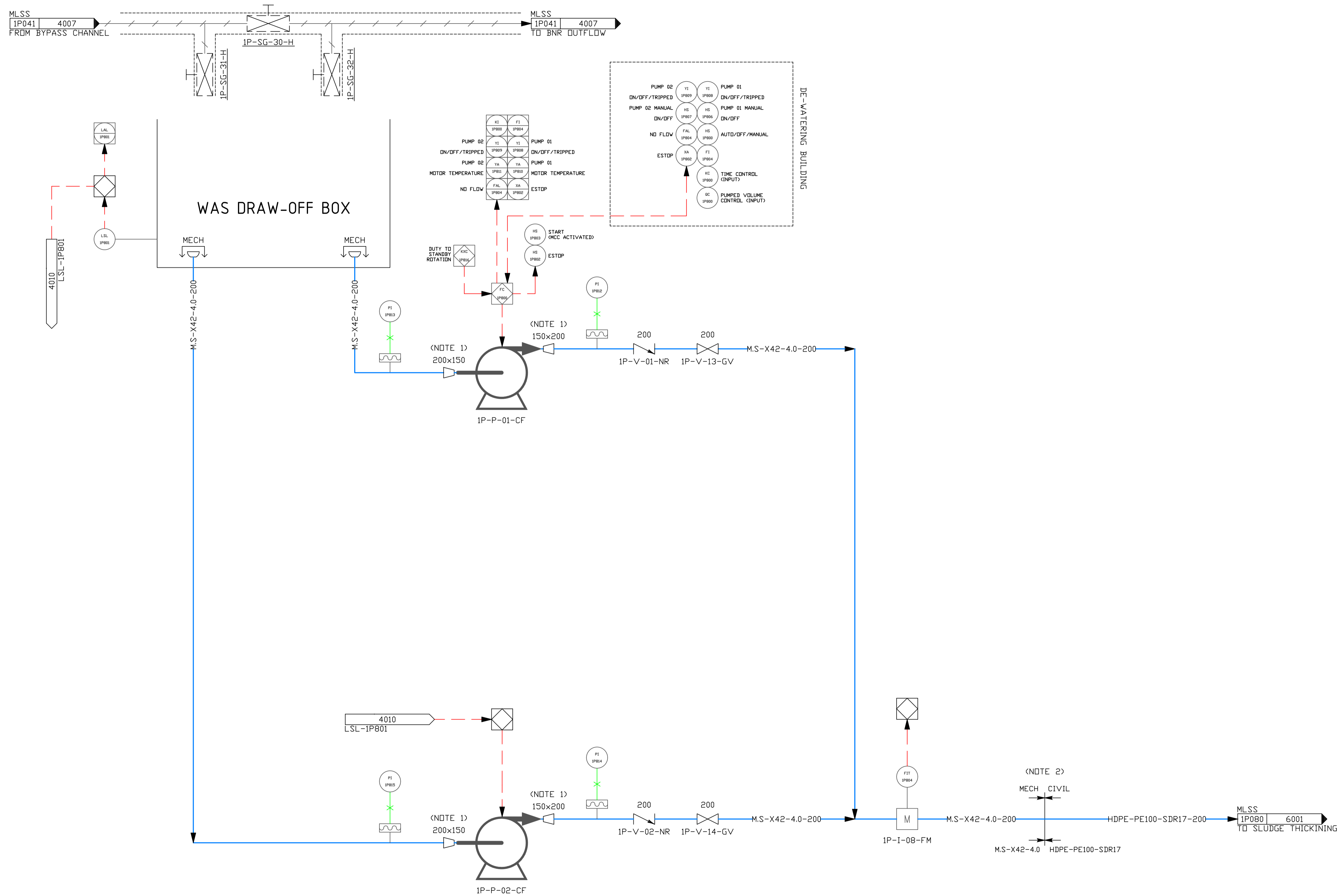
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 R-RECYCLE AXIAL PUMPS

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4.009	T	



**NOTES:**

- FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
- CIVIL CONTRACTOR TO PROVIDE FLANGE CONNECTION POINT FOR MECHANICAL CONTRACTOR.

TAG	1P-P-01-CF
FLOW (m <sup>3</sup> /hr)	110
HEAD (m)	19.9

TAG	1P-P-02-CF
FLOW (m <sup>3</sup> /hr)	110
HEAD (m)	19.9

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
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 TEL: 015 290 2000/1  
 FAX: 015 290 2218



REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

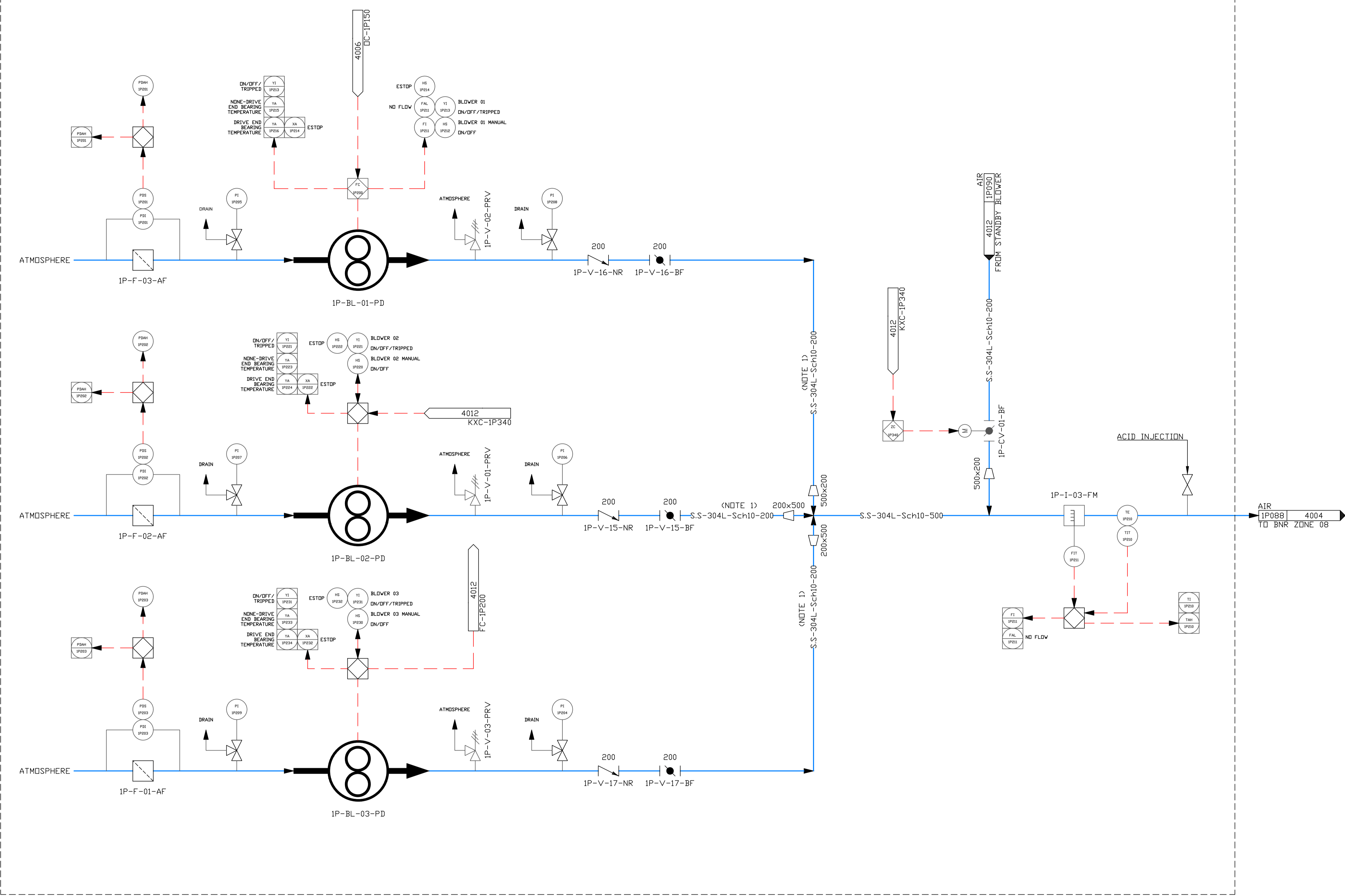
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 WAS DRAW-OFF BOX

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4.010	T	

(NOTE 1)



**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-01-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-02-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-03-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  


REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

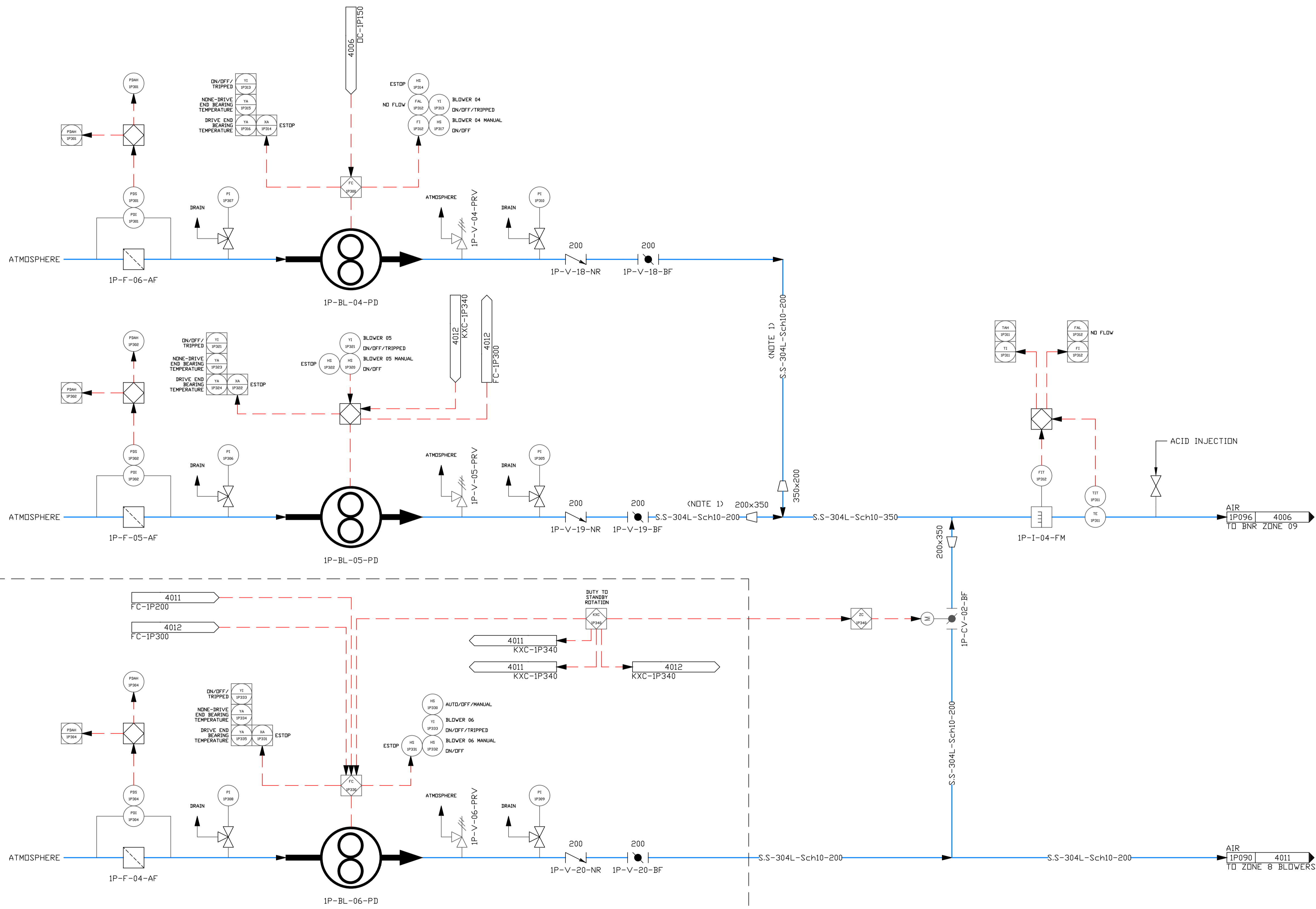
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ZONE 8 BLOWERS

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-4011	T	

(NOTE 1)



**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-04-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-05-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-06-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

DEDICATED STANDBY BLOWER FOR ZONE 8 AND 9

**TENDER DRAWING**

**CONSULTANT**  
21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
Consulting Engineers  
TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**  
Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218



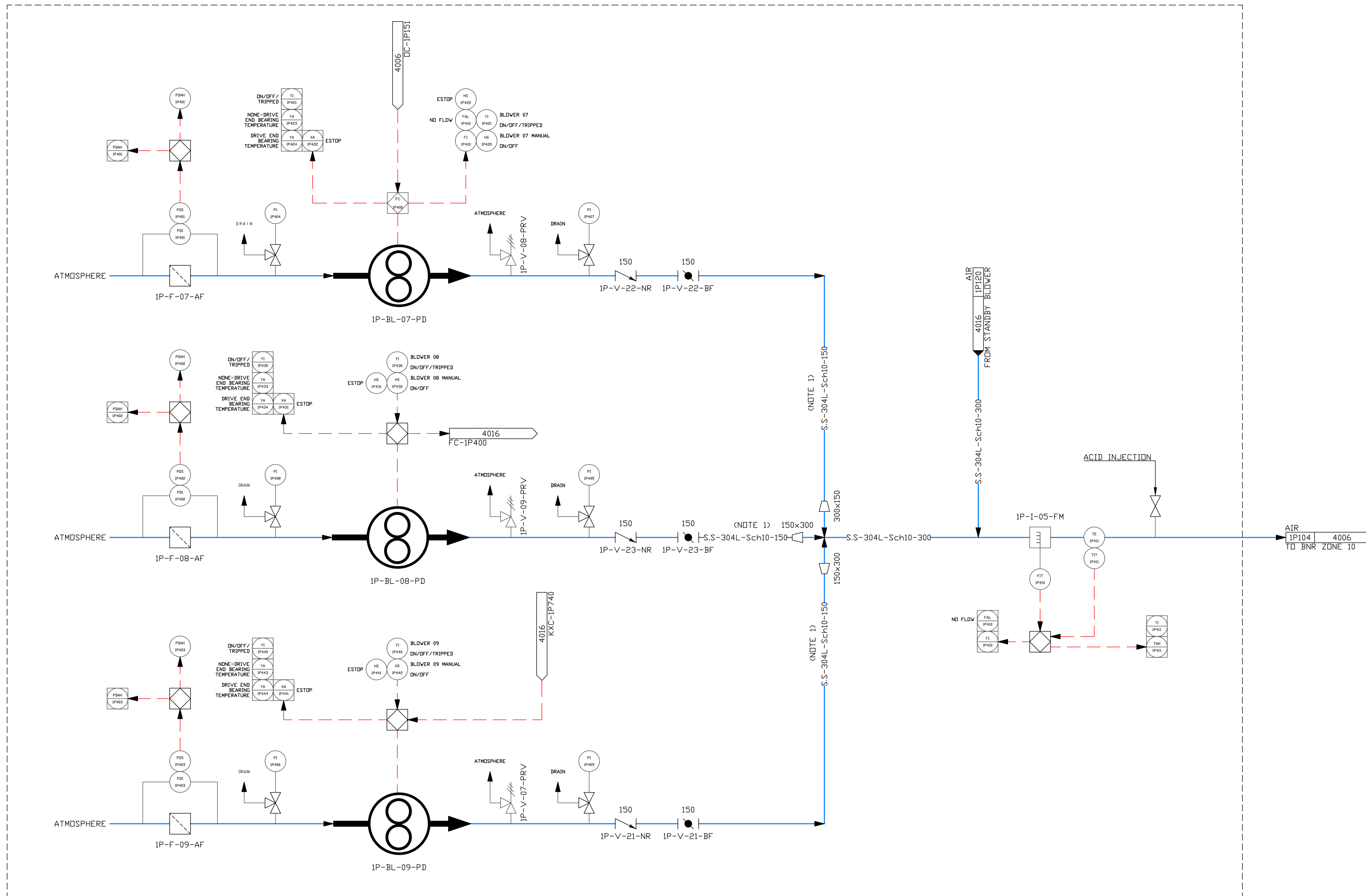
REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
POLOKWANE REGIONAL  
WWTW

**DRAWING DESCRIPTION**  
ZONE 9 BLOWERS AND  
ZONE 8-9 STANDBY  
BLOWER

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.012		T



(NOTE 1)

**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-07-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-08-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-09-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



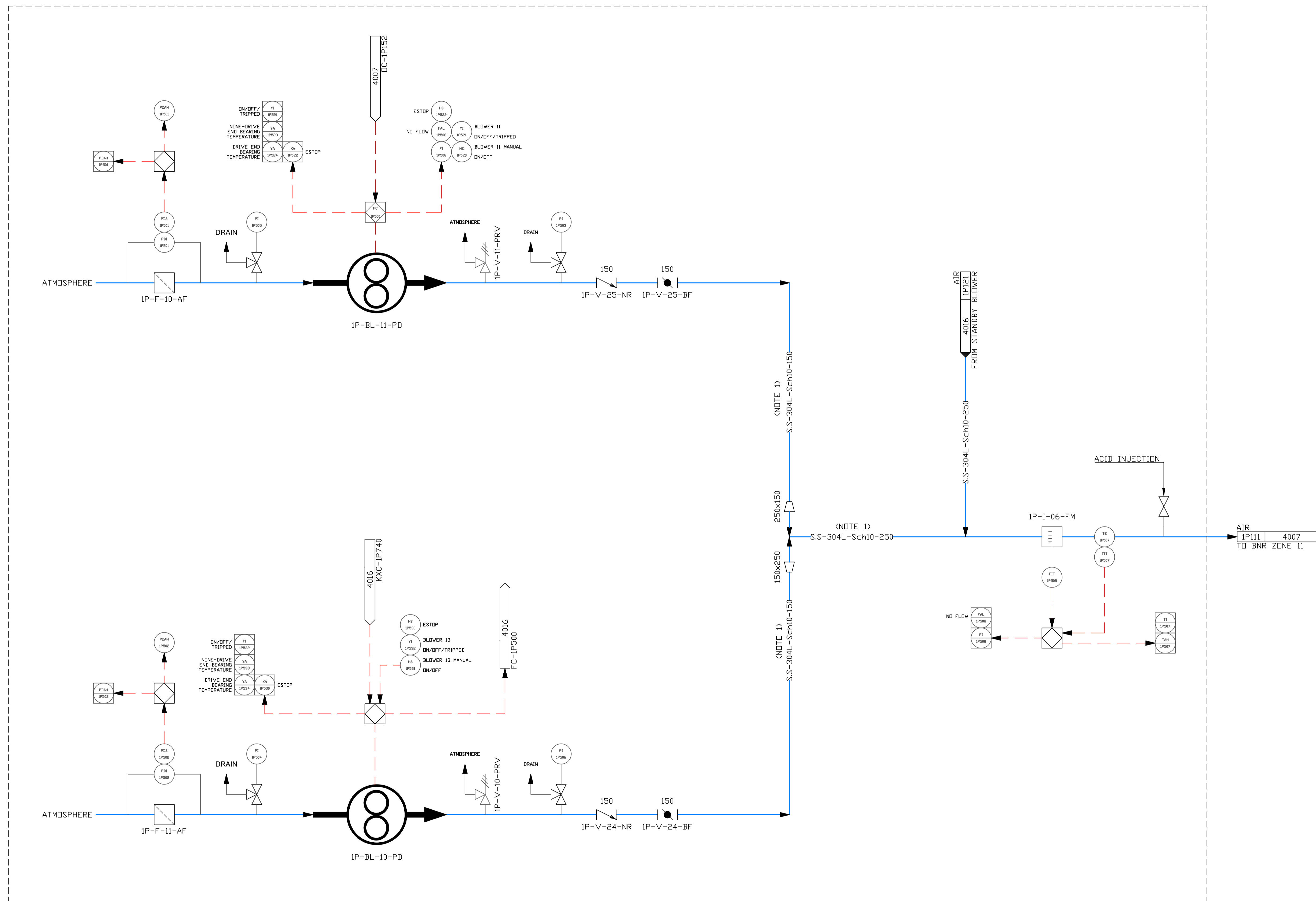
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ZONE 10 BLOWERS

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-4.013		
REV	T	



(NOTE 1)

**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-10-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-11-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.014		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

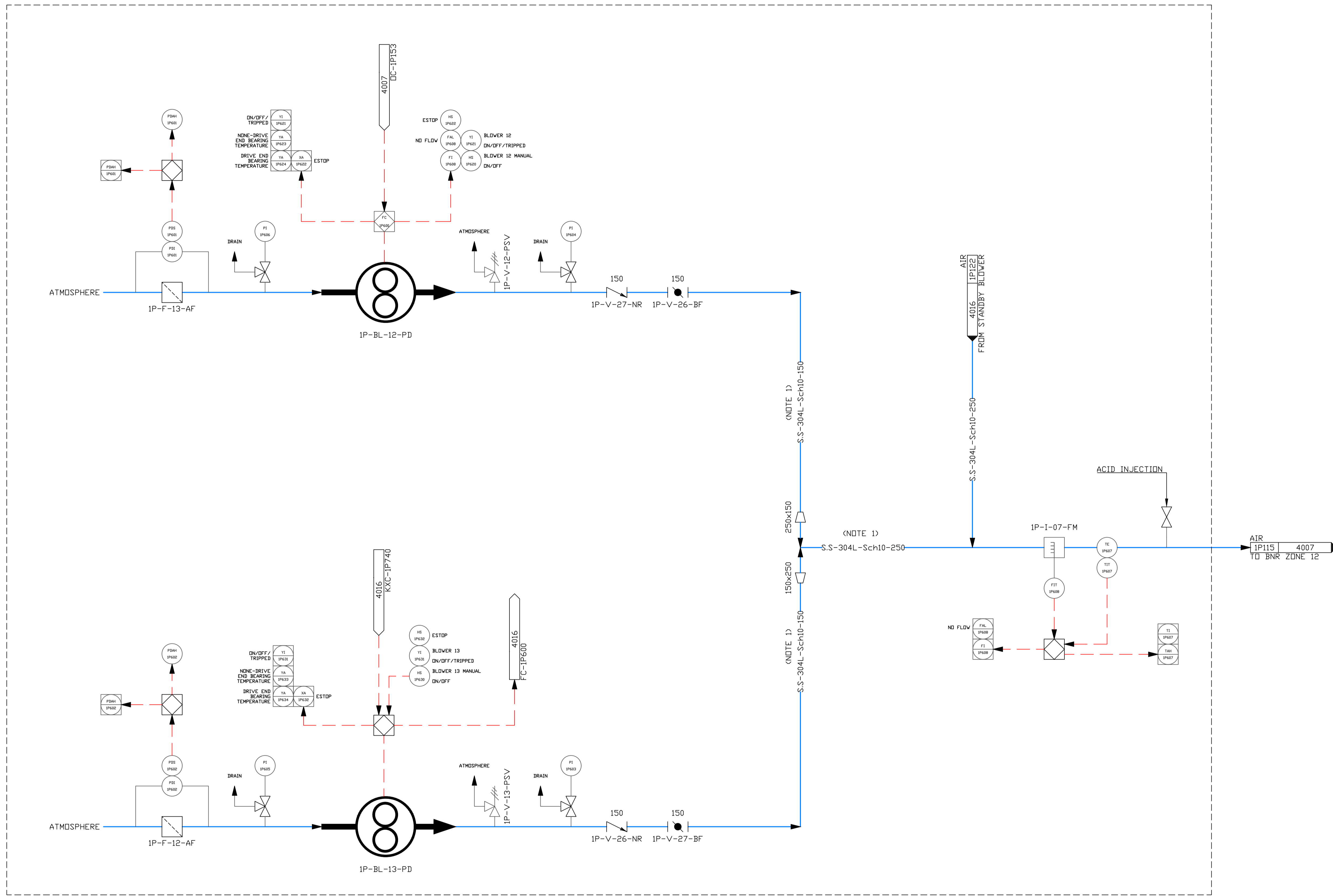
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**ZONE 11 BLOWERS**



(NOTE 1)

**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-12-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-13-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



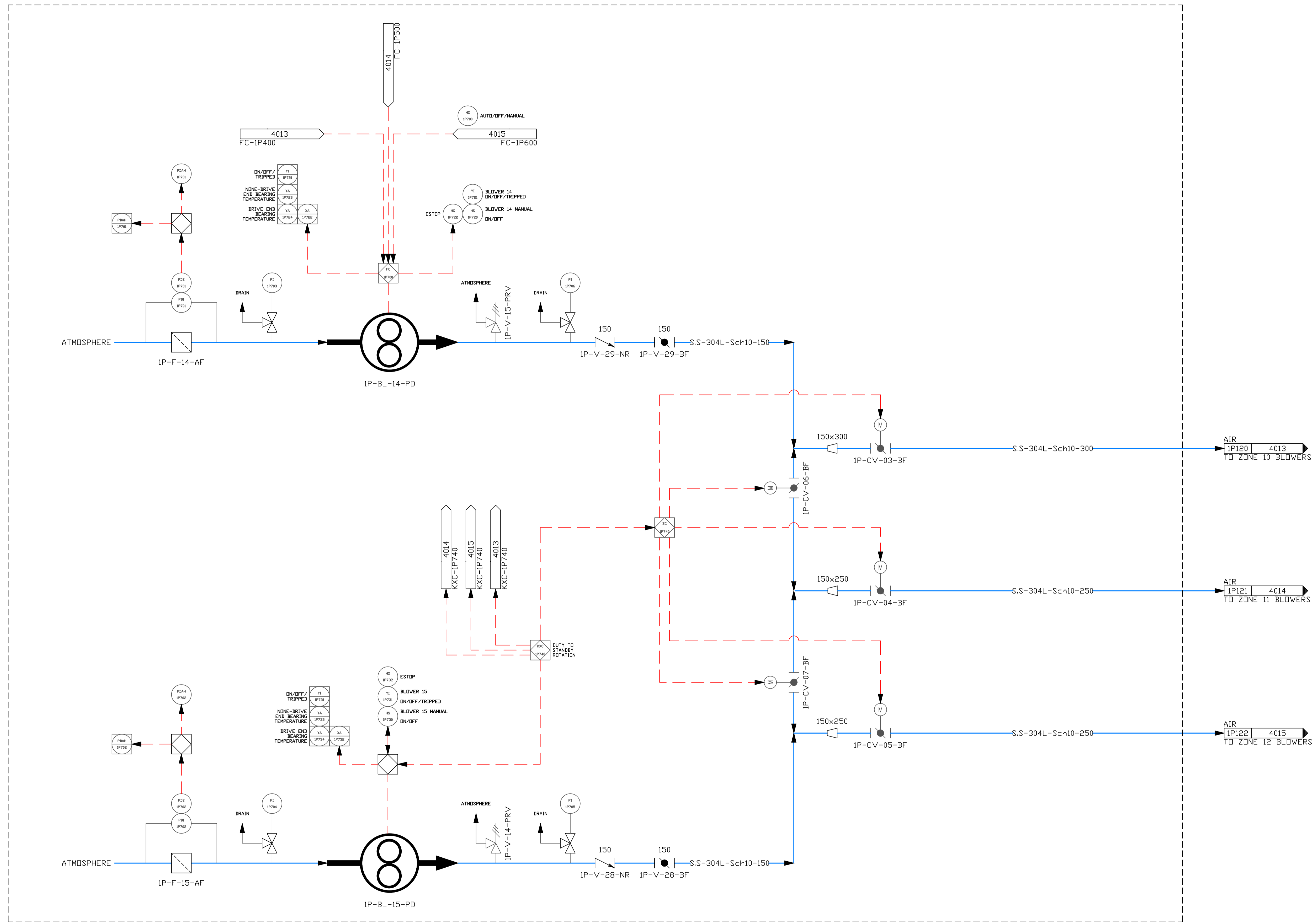
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ZONE 12 BLOWERS

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.015		T



(NOTE 1)

**NOTES:**

1. PIPE SIZE, FITTINGS, VALVE SIZES AND PIPE MATERIAL TO BE CONFIRMED BY CONTRACTOR AS PER HIS/HER DESIGNS.

TAG	1P-BL-14-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

TAG	1P-BL-15-PD
FLOW (Nm <sup>3</sup> /hr)	CONTRACTOR DESIGN
HEAD (m)	CONTRACTOR DESIGN

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-4.016		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

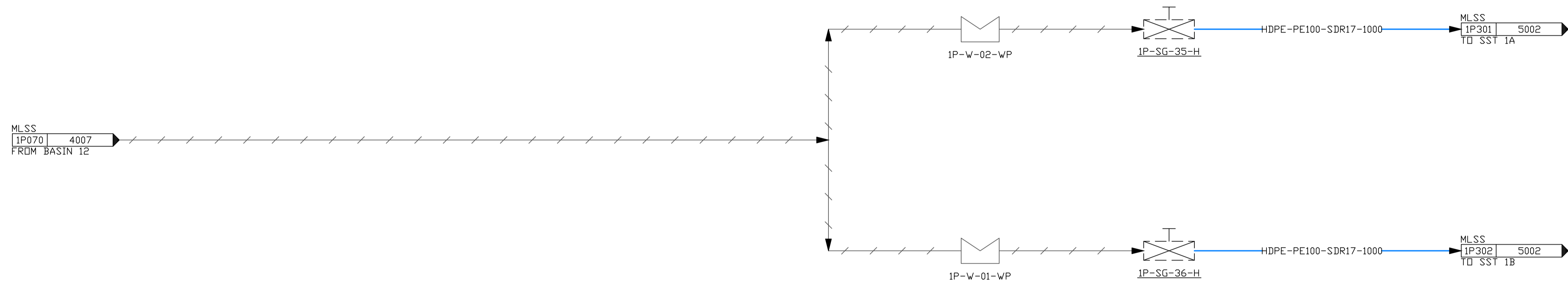
**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  


REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ZONE 10 TO 12 STANDBY  
 BLOWERS



TENDER DRAWING

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



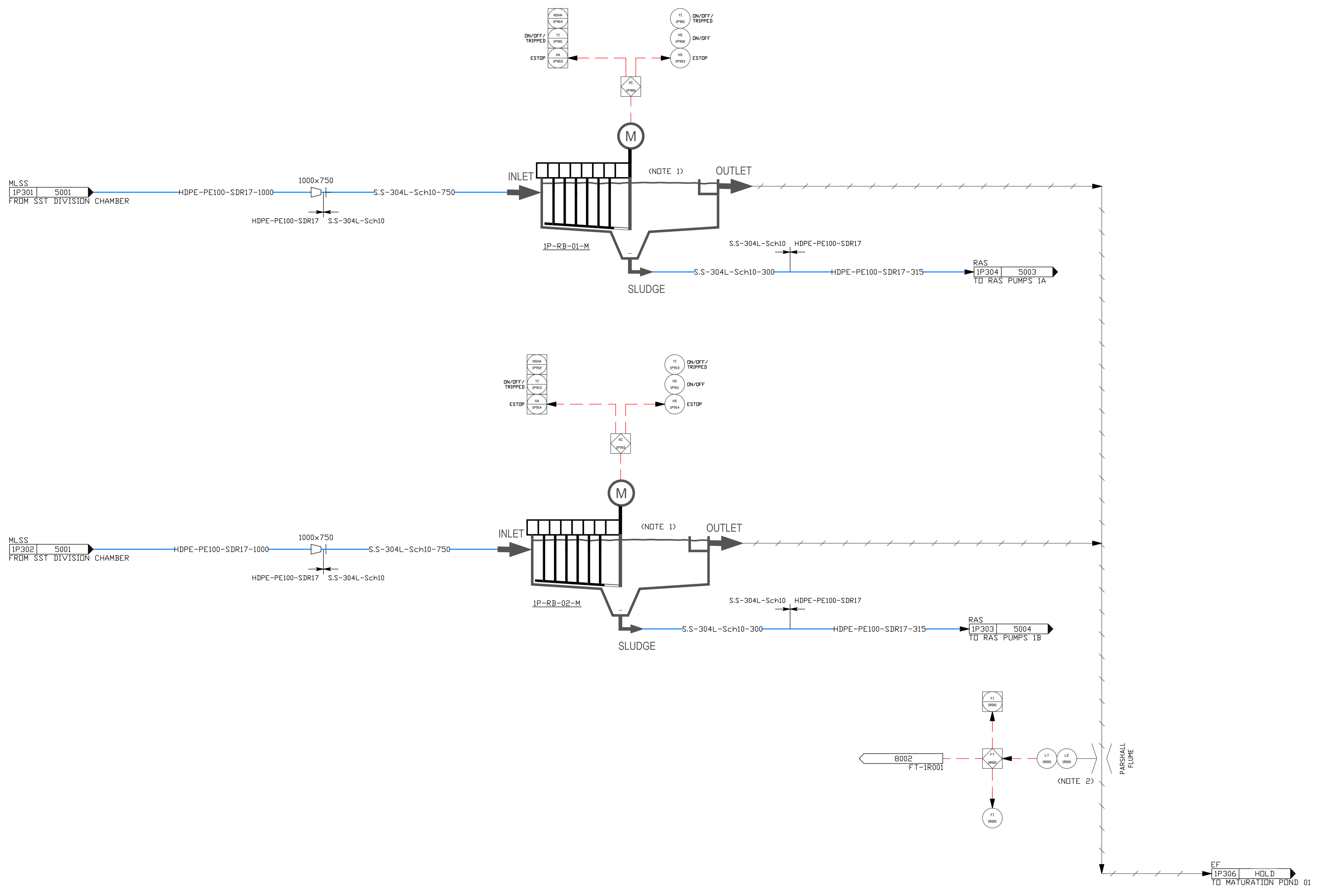
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

-----  
 ENGINEER PR ENG no. DATE  
 -----  
 CLIENT DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 SECONDARY SETTLING  
 TANKS DIVISION CHAMBER

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-5001		T



- NOTES:**
1. ROTATING BRIDGE TO BE DESIGNED AND SUPPLIED BY CONTRACTOR.
  2. PRE-FABRICATED PARSHALL FLUME TO BE MANUFACTURED FROM 304 STAINLESS STEEL OR HDPE PLASTICS.

TAG	1P-RB-01-M
BRIDGE DIAMETER	30m
VERTICAL WALL DEPTH	4.6m

TAG	1P-RB-02-M
BRIDGE DIAMETER	30m
VERTICAL WALL DEPTH	4.6m

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
 Consulting Engineers

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

**CITY OF Polokwane**  
 NATURALLY PROGRESSIVE

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

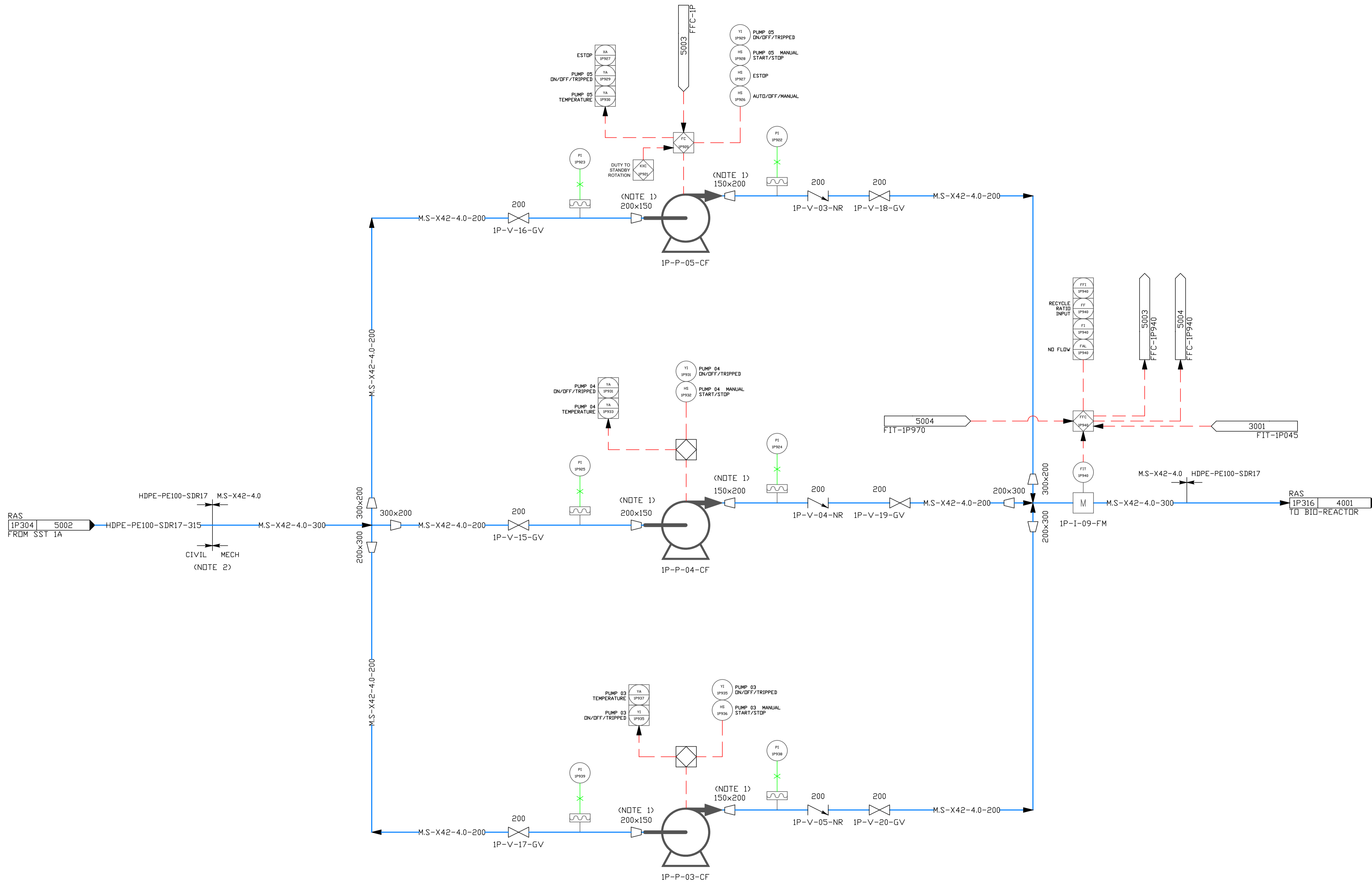
**PROJECT**

POLOKWANE REGIONAL WWTW

**DRAWING DESCRIPTION**

SECONDARY SETTLING TANKS AND EFFLUENT FLUME

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-5002	T	



**NOTES:**

- PIPE AND FITTING SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
- CIVIL CONTRACTOR TO PROVIDE PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	11-P-03-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

TAG	11-P-04-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

TAG	11-P-05-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
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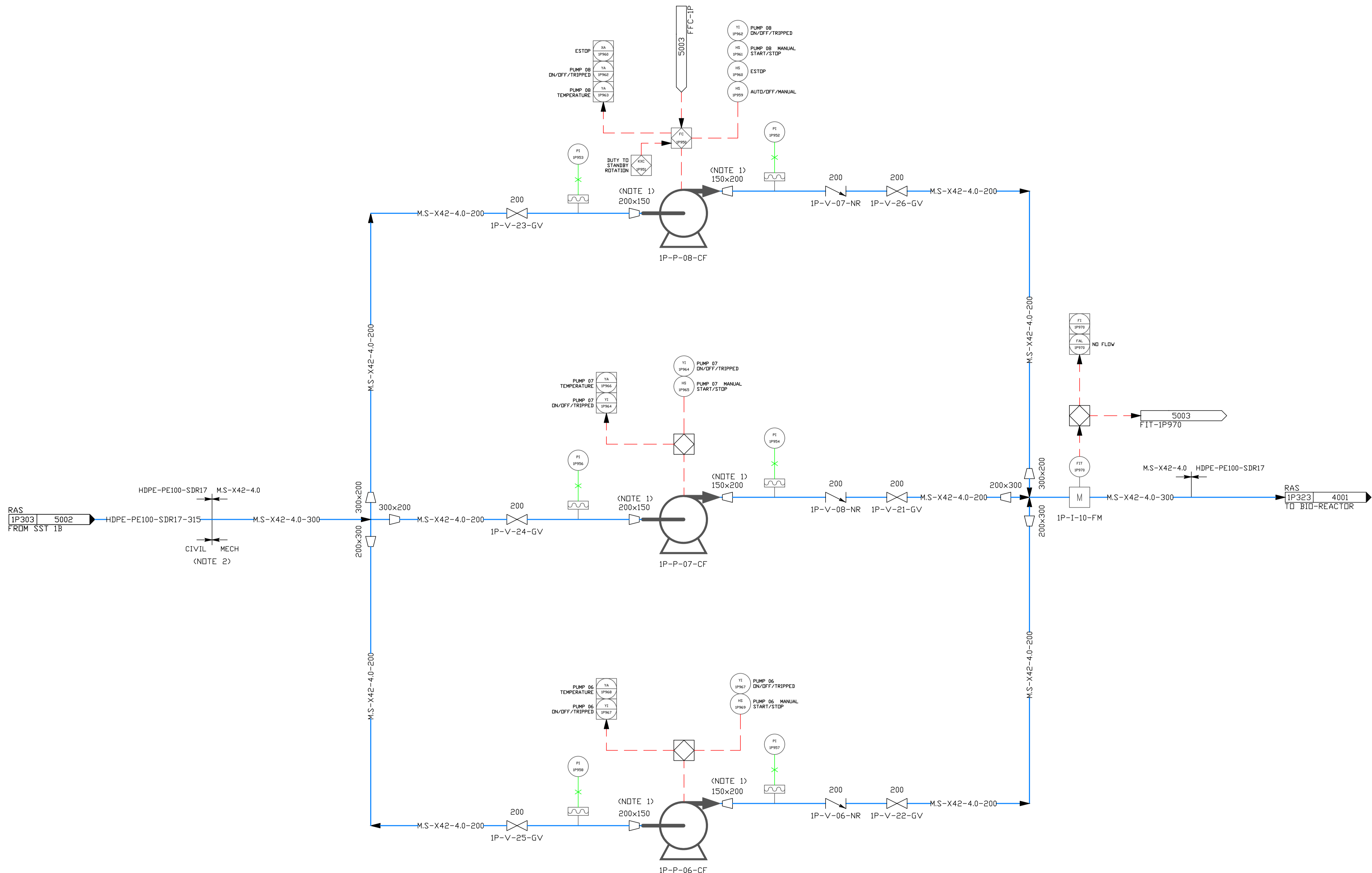
REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 RAS PUMP STATION 1A

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-5003		
		REV
		T



**NOTES:**

1. PIPE AND FITTING SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. CIVIL CONTRACTOR TO PROVIDE PN10 PIPE FLANGE FOR MECHANICAL CONTRACTOR.

TAG	1I-P-06-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

TAG	1I-P-07-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

TAG	1I-P-08-CF
FLOW (m³/hr)	210 - 150
HEAD (m)	5.1 - 4.4

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  


REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 RAS PUMP STATION 1B

**TENDER DRAWING**

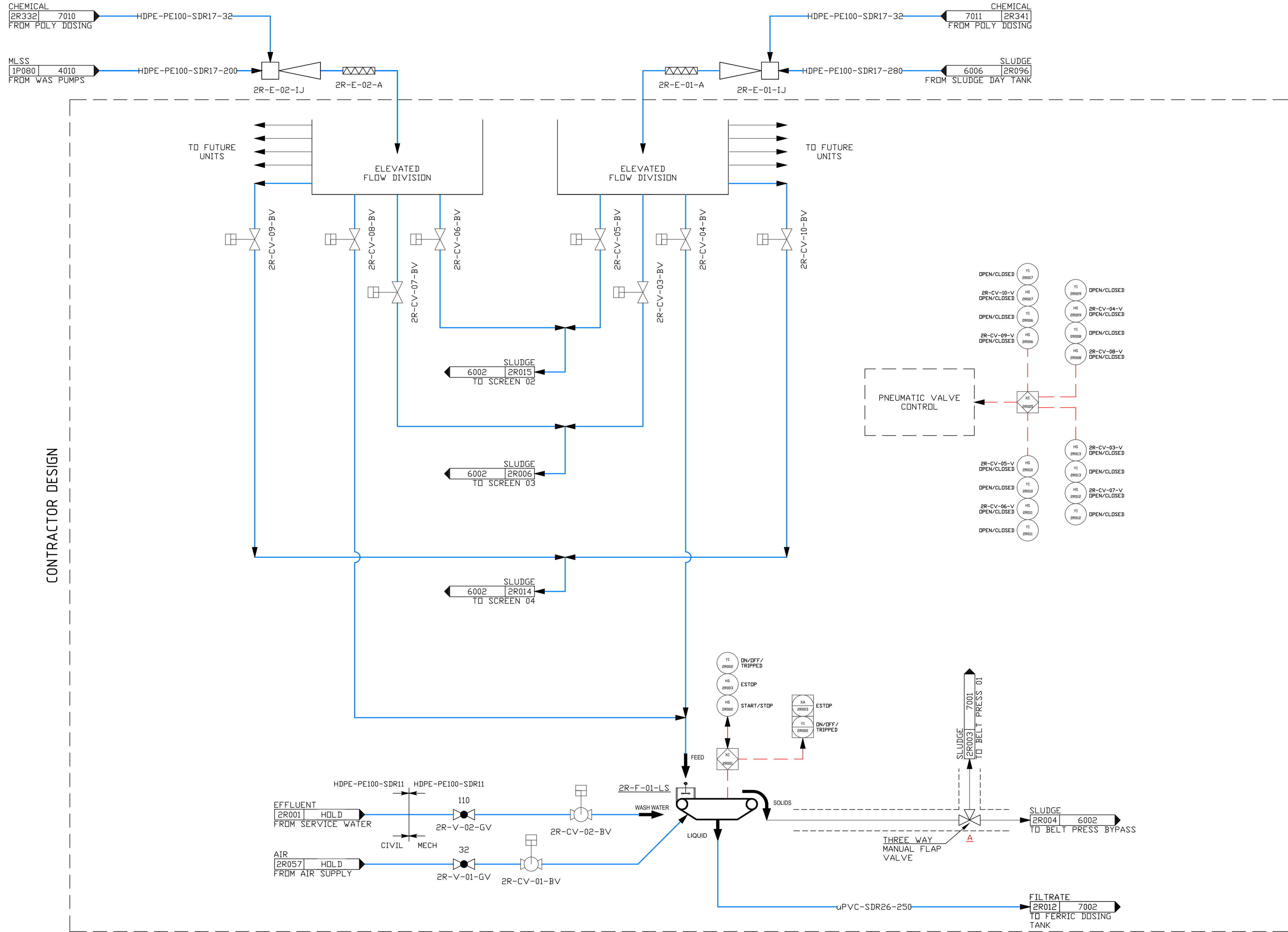
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-5004		T

**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES THE PIPE TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-01-LS
INFLOW	55m <sup>3</sup> /hr
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kw

CONTRACTOR DESIGN



**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-6001		
		REV
		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



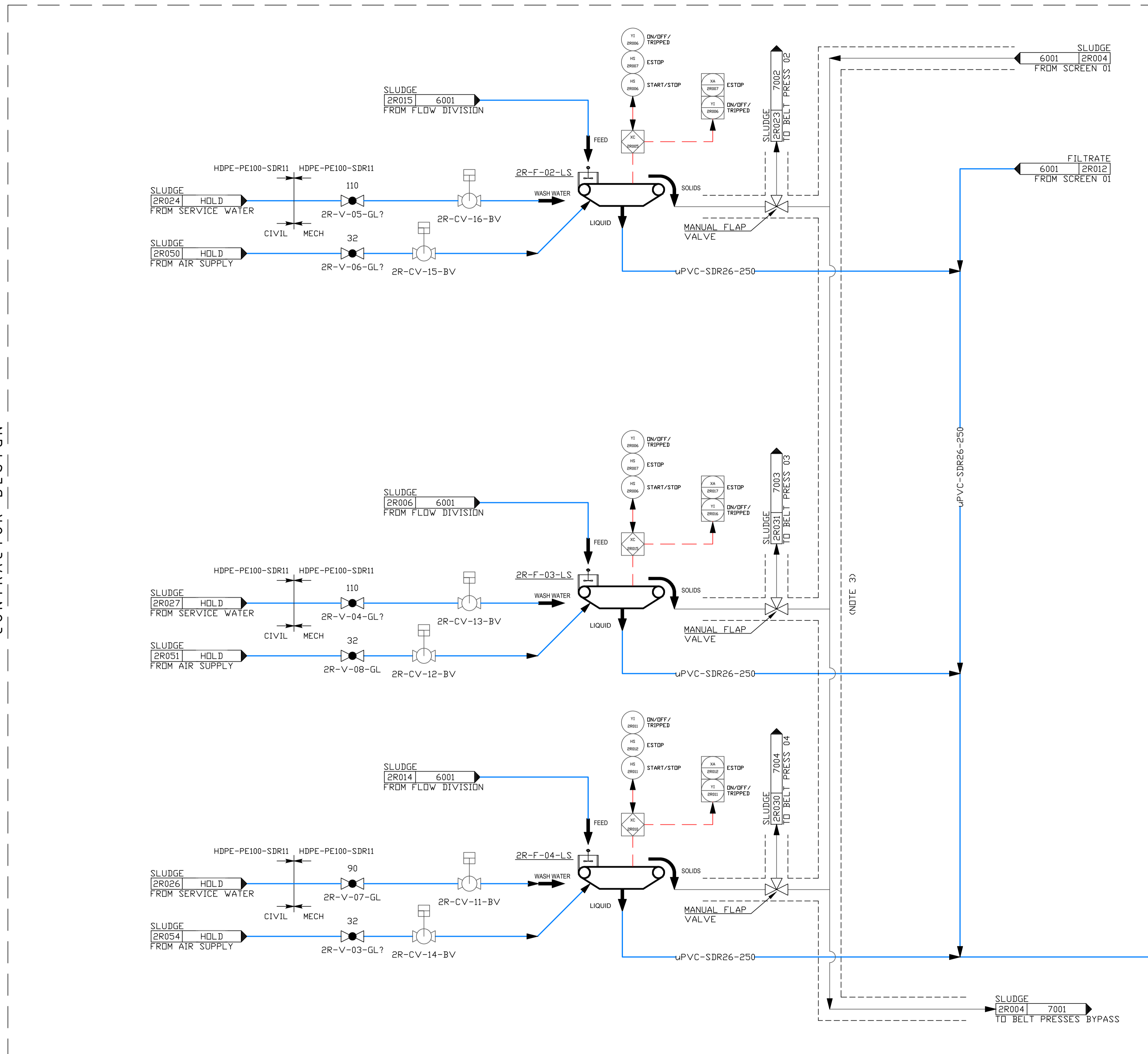
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 LINEAR SCREEN FLOW  
 DIVISION AND LINEAR  
 SCREEN UNIT 01

CONTRACTOR DESIGN



**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE PIPE TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-02-LS
INFLOW	55m <sup>3</sup> /hr
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

TAG	2R-F-03-LS
INFLOW	55m <sup>3</sup> /hr
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

(NOTE 3)

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-6002		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



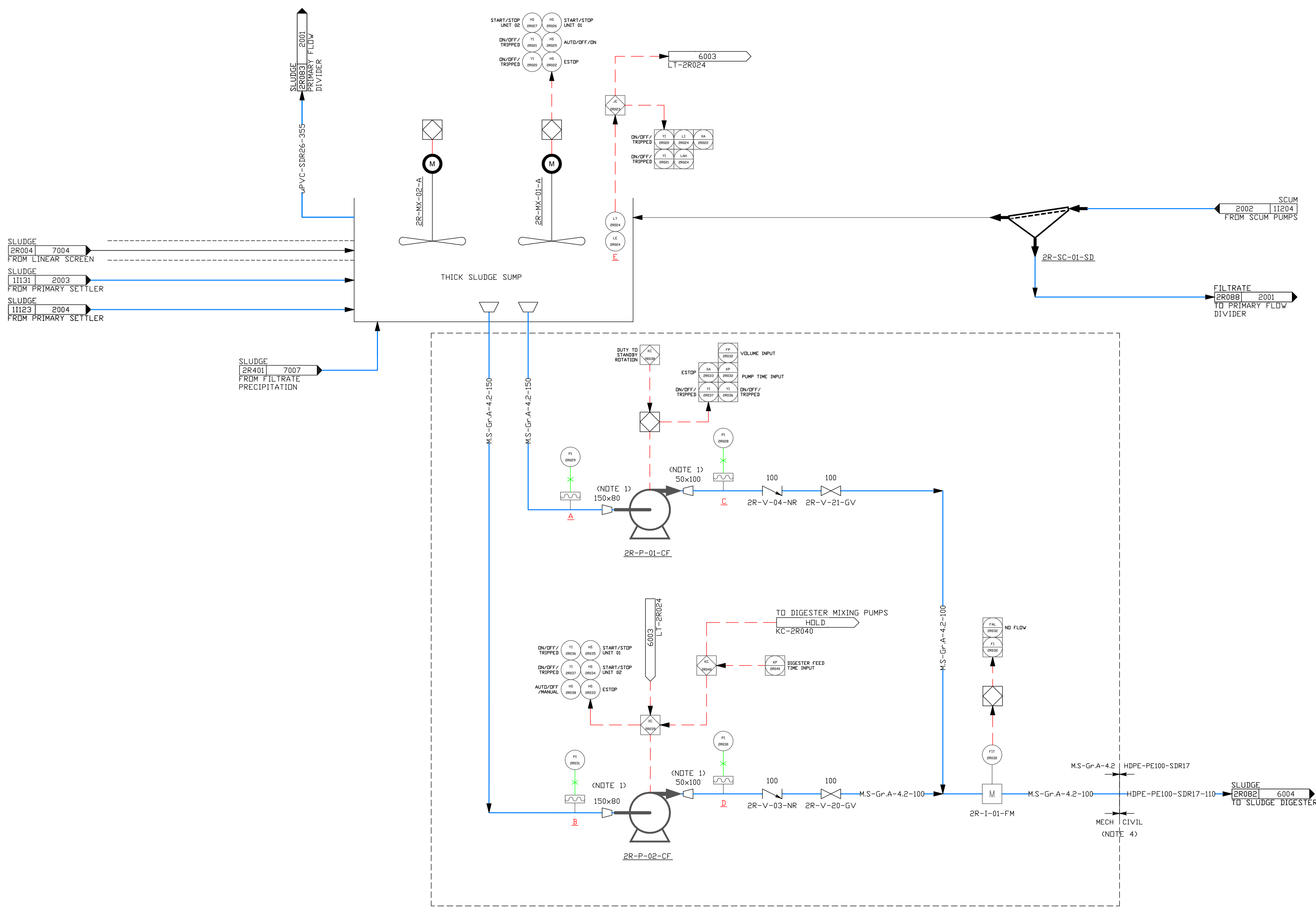
**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 LINEAR SCREEN UNIT 02  
 AND UNIT 03



**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES THE PIPE TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
4. CIVIL CONTRACTOR TO PROVIDE FLANGE CONNECTION POINT FOR MECHANICAL CONTRACTOR.

TAG	2R-P-01-CF
DUTY POINT	45m <sup>3</sup> /hr @ 18.6m
DRIVE	CONTRACTOR

TAG	2R-P-02-CF
DUTY POINT	45m <sup>3</sup> /hr @ 18.6m
DRIVE	CONTRACTOR

TAG	2R-MX-01-A
MIXING VOLUME	156m <sup>3</sup>
VELOCITY GRADIENT (G)	80 - 100 1/sec

TAG	2R-MX-02-A
MIXING VOLUME	156m <sup>3</sup>
VELOCITY GRADIENT (G)	80 - 100 1/sec

TAG	2R-SC-01-SD
APERTURE	0.25mm
FLOW	55m <sup>3</sup> /hr

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-6003		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

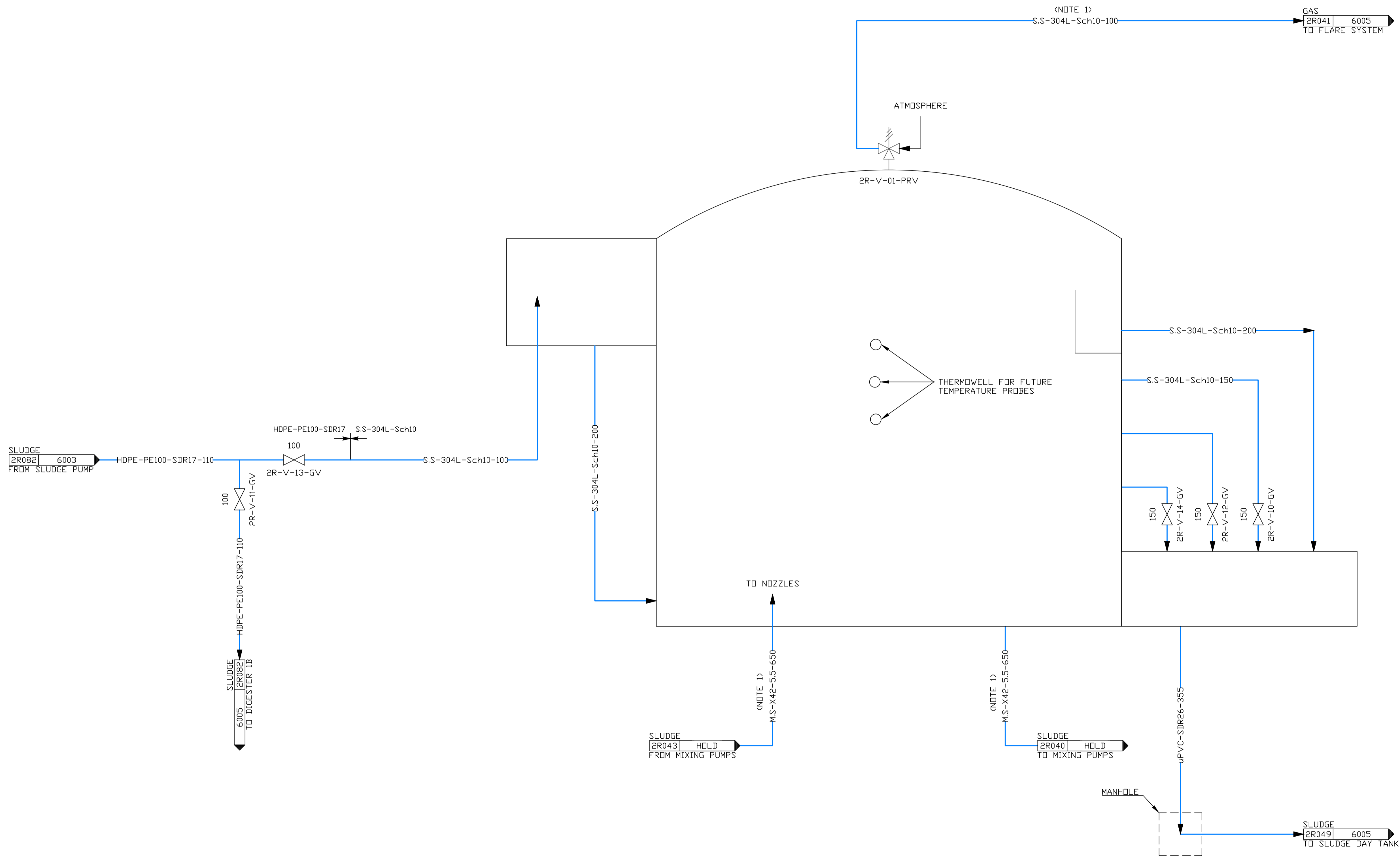
**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 THICK SLUDGE SUMP AND  
 PUMPS



**NOTES:**

1. VALVE, PIPE SIZE AND MATERIAL TYPE TO BE FINALIZED ONCE CONTRACTOR DESIGN SELECTION HAS BEEN SUBMITTED AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. CIVIL CONTRACTOR TO PROVIDE FLANGE CONNECTION POINT FOR MECHANICAL CONTRACTOR.

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  

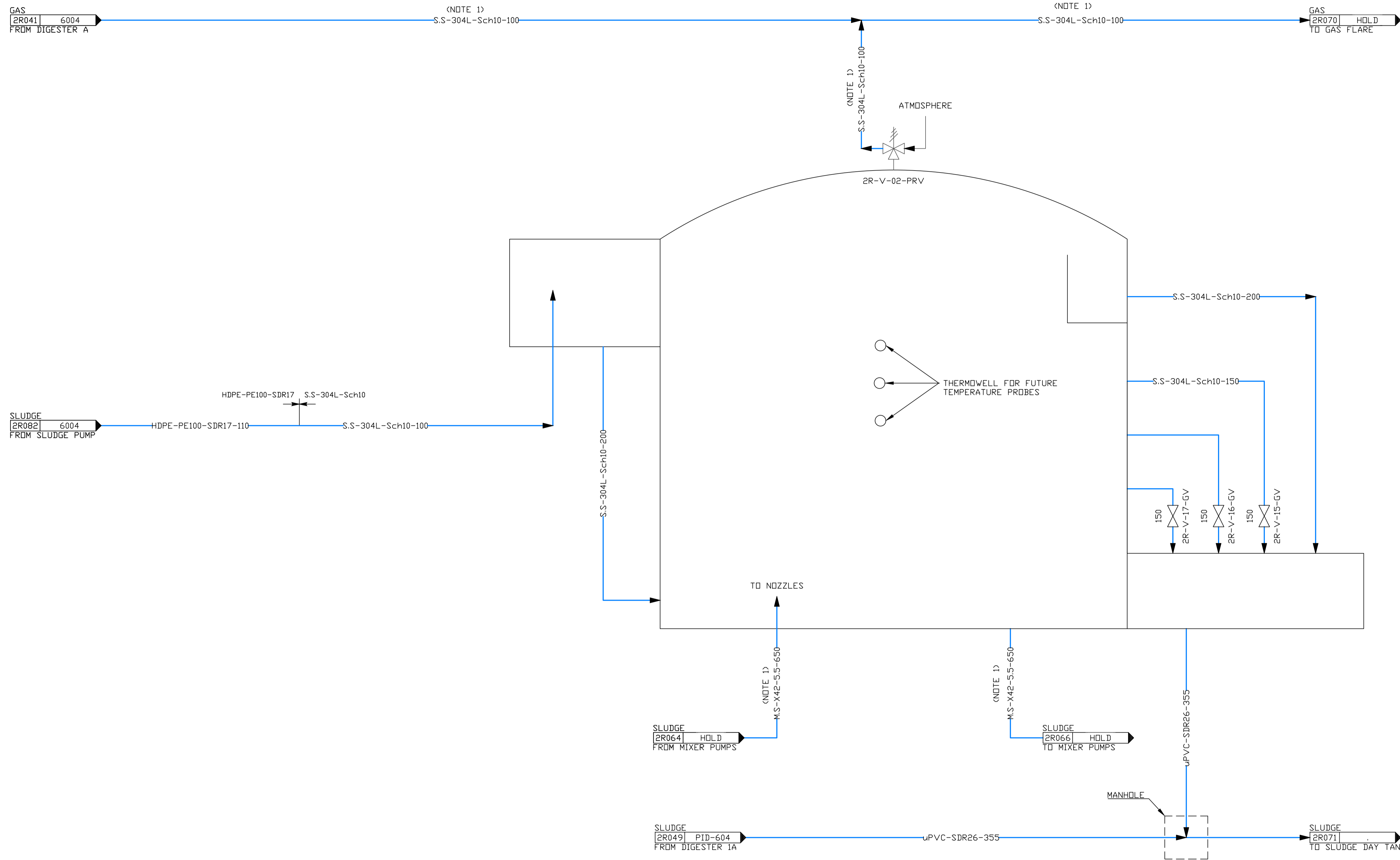

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ANAEROBIC SLUDGE  
 DIGESTER A

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET) REV		
PK278-01-PRC-DRG-1000-6004 T		



**NOTES:**

1. VALVE, PIPE SIZE AND MATERIAL TYPE TO BE FINALIZED ONCE CONTRACTOR DESIGN SELECTION HAS BEEN SUBMITTED AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. CIVIL CONTRACTOR TO PROVIDE FLANGE CONNECTION POINT FOR MECHANICAL CONTRACTOR.

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



**REVISION SCHEDULE**

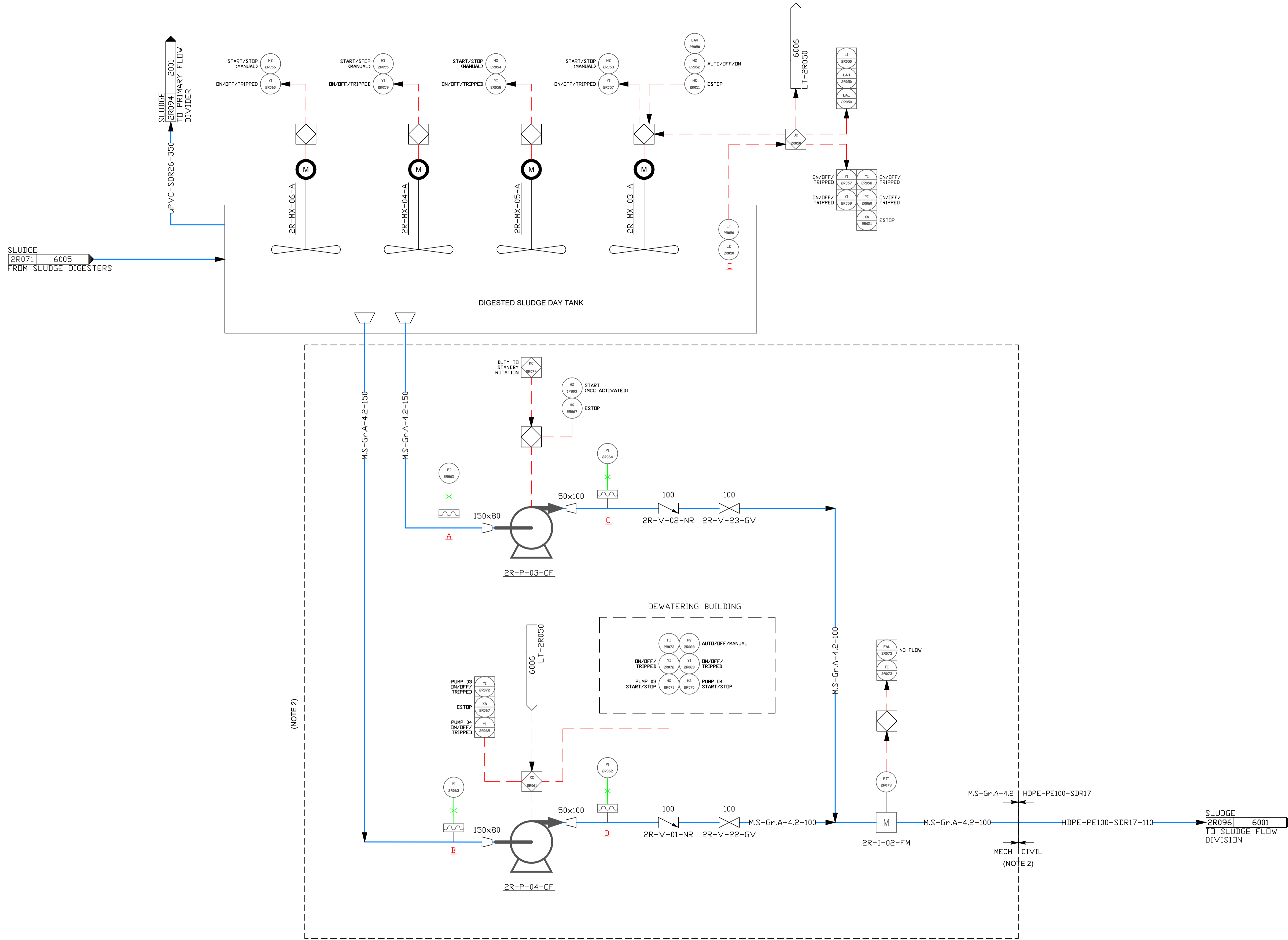
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 ANAEROBIC SLUDGE  
 DIGESTER B

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-6005		
		REV
		T



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE PIPE TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  3. LAUNDRY CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.
  4. CIVIL CONTRACTOR TO PROVIDE FLANGE CONNECTION POINT FOR MECHANICAL CONTRACTOR.

TAG	2R-P-03-CF
DUTY POINT	45m <sup>3</sup> /hr @ 18.6m
DRIVE	CONTRACTOR

TAG	2R-P-04-CF
DUTY POINT	45m <sup>3</sup> /hr @ 18.6m
DRIVE	CONTRACTOR

TAG	2R-MX-03-A
MIXING VOLUME	
VELOCITY GRADIENT (G)	80 - 100 1/sec

TAG	2R-MX-04-A
MIXING VOLUME	
VELOCITY GRADIENT (G)	80 - 100 1/sec

TAG	2R-MX-05-A
MIXING VOLUME	
VELOCITY GRADIENT (G)	80 - 100 1/sec

TAG	2R-MX-06-A
MIXING VOLUME	
VELOCITY GRADIENT (G)	80 - 100 1/sec

(NOTE 2)

MECH CIVIL (NOTE 2)

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-6006		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
Consulting Engineers

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

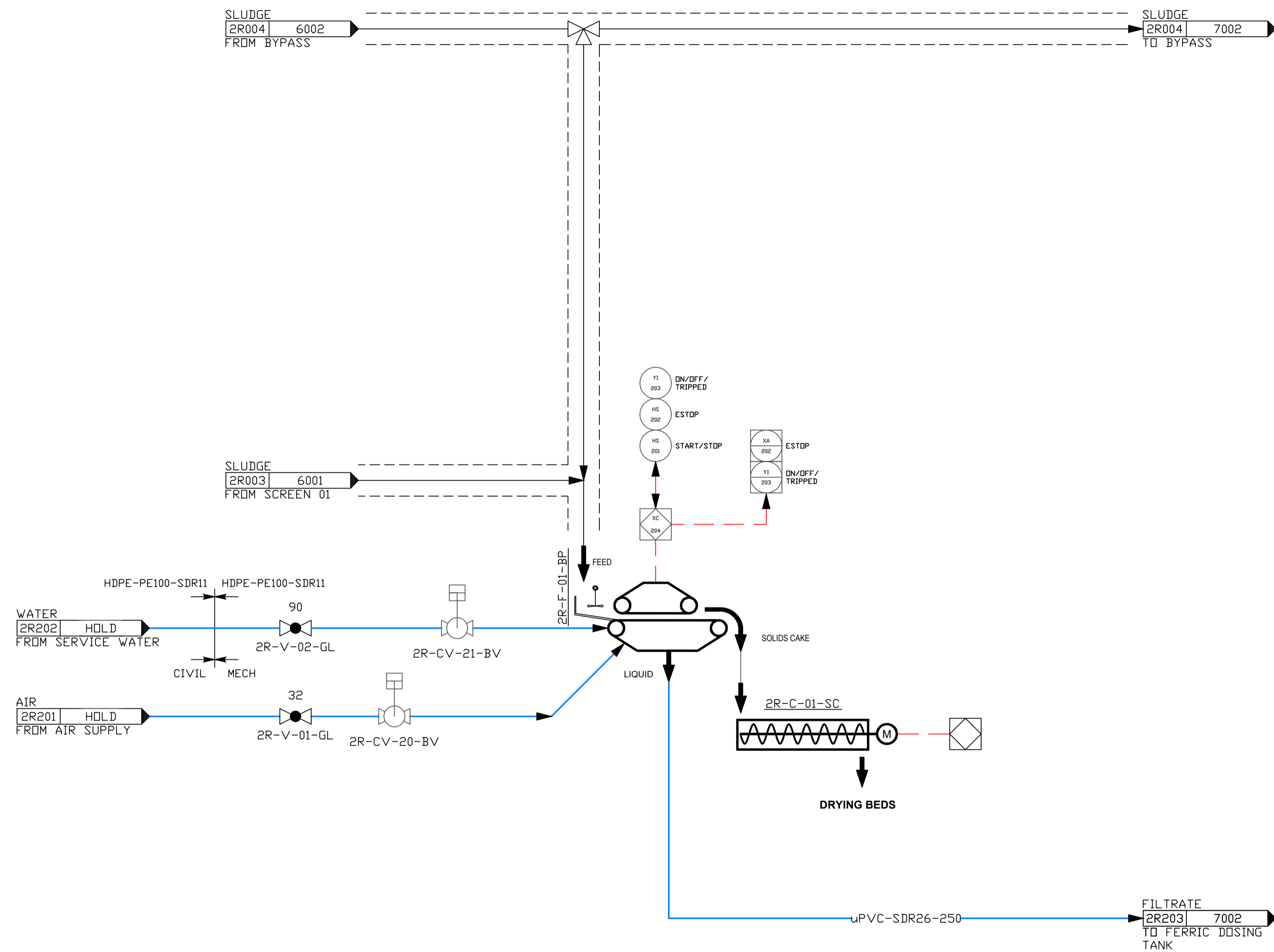
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

POLOKWANE REGIONAL WWTW

**DRAWING DESCRIPTION**

DIGESTED SLUDGE DAY TANK AND PUMPS



**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-01-BP
INFLOW	
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



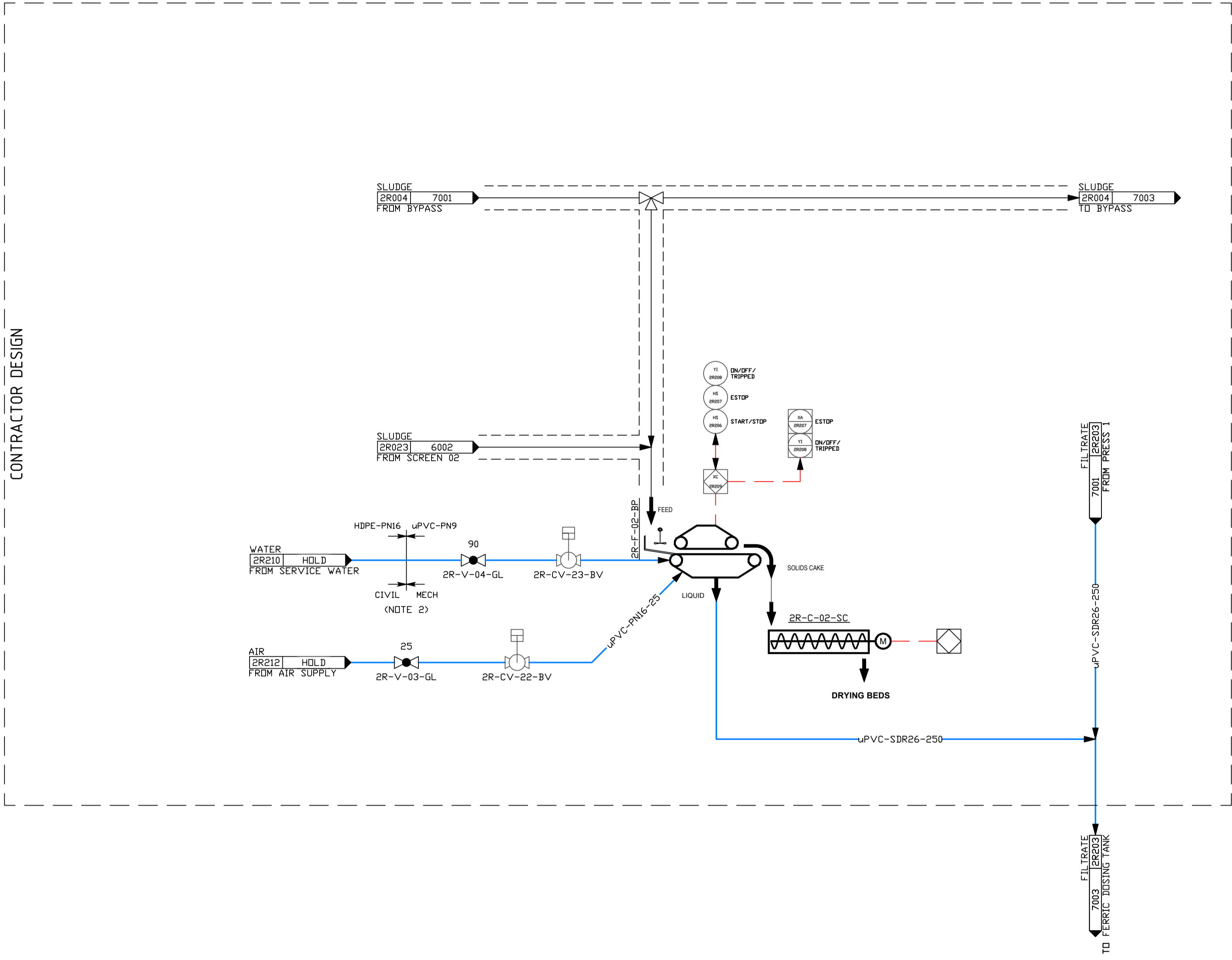
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 SLUDGE DEWATERING  
 PRESS 01

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7001		T



CONTRACTOR DESIGN

**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-01-BP
INFLOW	
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



REVISION SCHEDULE	
NO.	DATE
T	2025-08
	ISSUED FOR TENDER

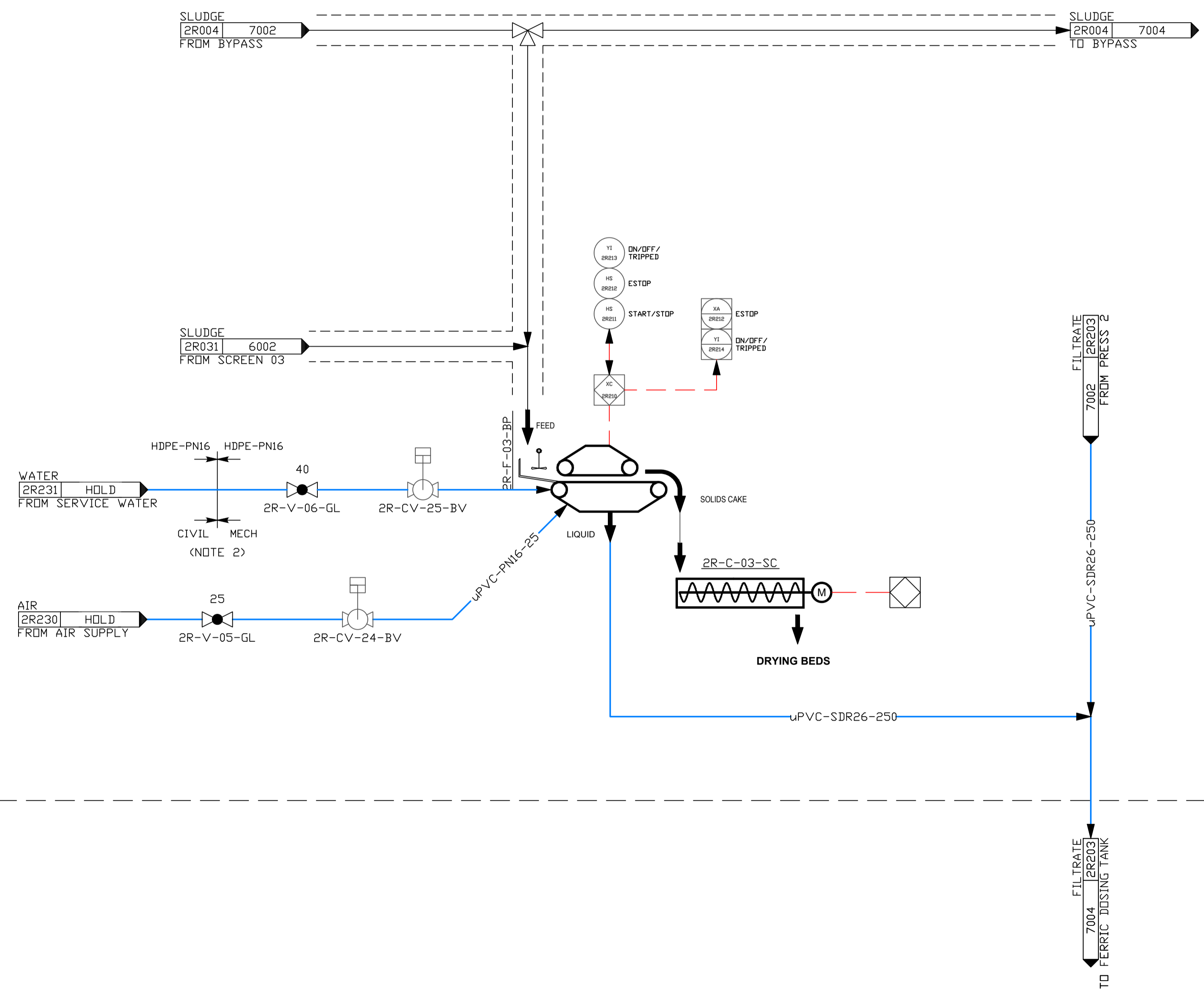
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 SLUDGE DEWATERING  
 PRESS 02

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7002		T

CONTRACTOR DESIGN



**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-01-BP
INFLOW	
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

**TENDER DRAWING**

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
Consulting Engineers

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

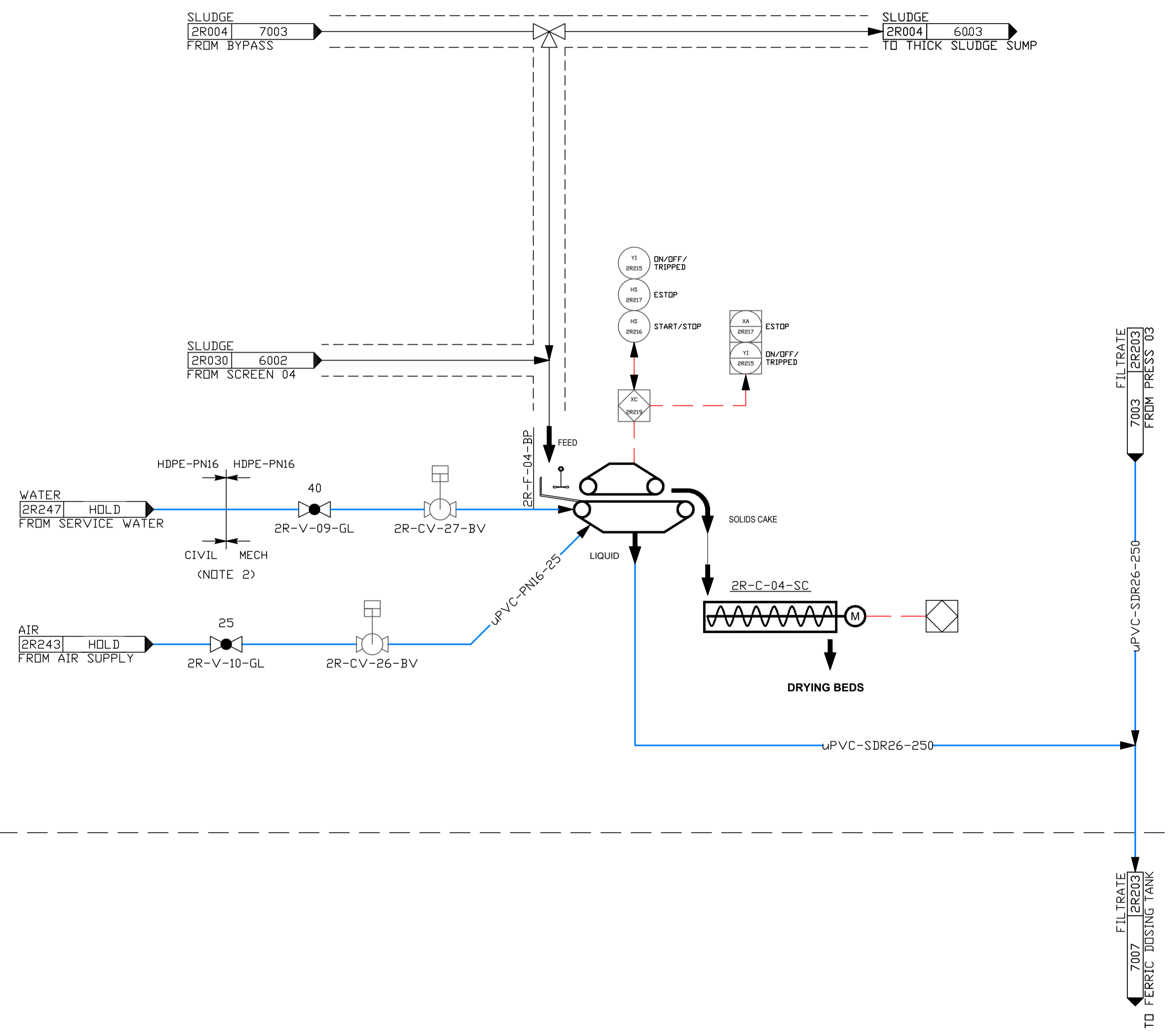
**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

**SLUDGE DEWATERING PRESS 03**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7003		T

CONTRACTOR DESIGN



- NOTES:**
1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
  2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
  3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-F-01-BP
INFLOW	
SOLIDS LOADING	300 kg/hr
DRIVE	2.2kW

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
 Consulting Engineers

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

**CITY OF Polokwane**  
 NATURALLY PROGRESSIVE

REVISION SCHEDULE	
NO.	DATE
T	2025-08

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

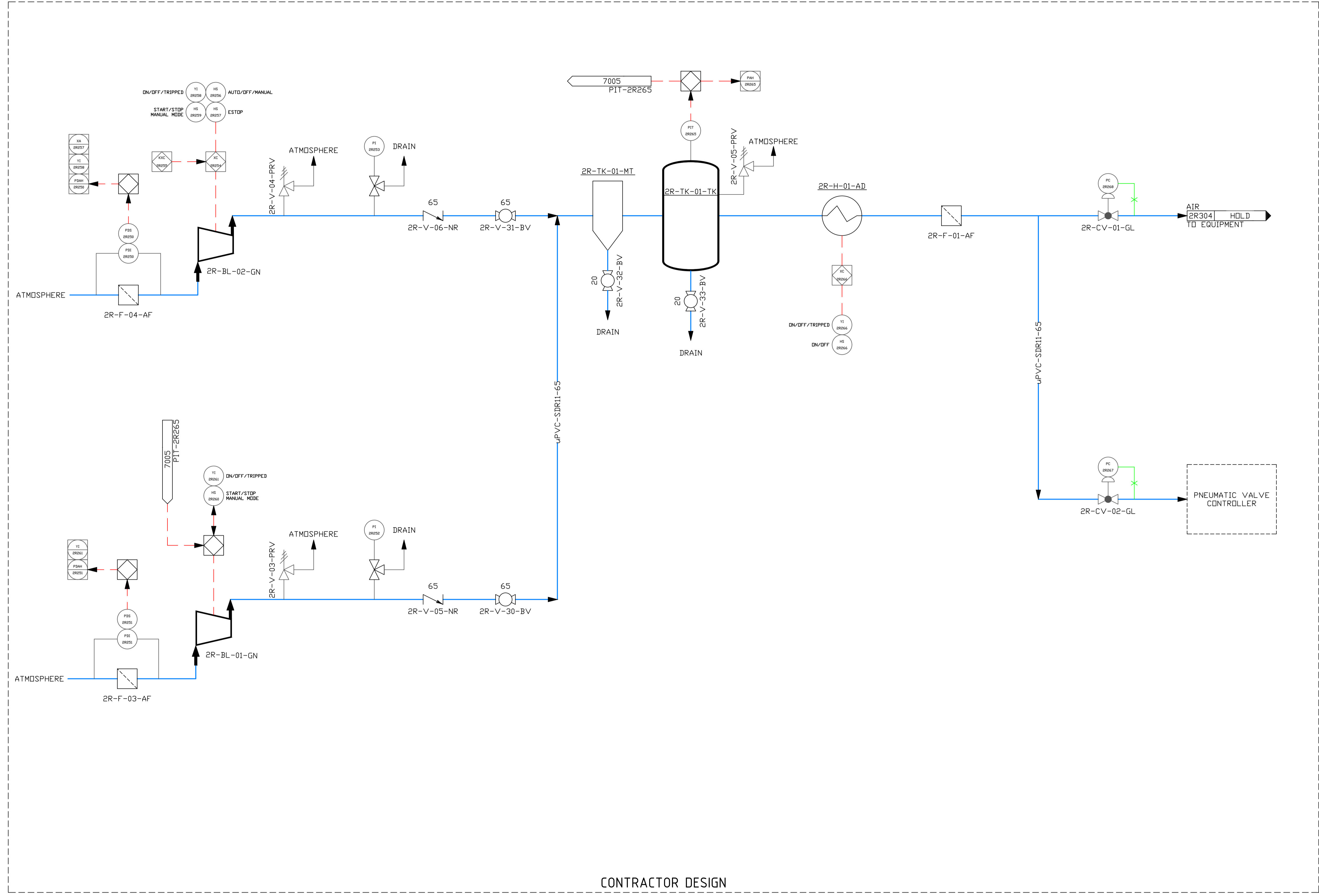
**PROJECT**

POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**

SLUDGE DEWATERING  
 PRESS 04

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)	REV	
PK278-01-PRC-DRG-1000-7004	T	



**NOTES:**

1. VALVE AND PIPE SIZE TO BE FINALIZED ONCE EQUIPMENT SELECTION HAS BEEN MADE AND APPROVED BY ENGINEER.
2. MECHANICAL CONTRACTOR TO ANCHOR STEEL PIPES TO THE WALL/FLOOR BY MEANS OF A PUDDLE FLANGE OR THRUST COLLAR.
3. LAUNDER CHANNEL TO BE MANUFACTURED FROM 304 OR 316 STAINLESS STEEL.

TAG	2R-BL-01-GN
INFLOW	CONTRACTOR
PRESSURE	CONTRACTOR
DRIVE	-

TAG	2R-BL-02-GN
INFLOW	CONTRACTOR
PRESSURE	CONTRACTOR
DRIVE	-

CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218



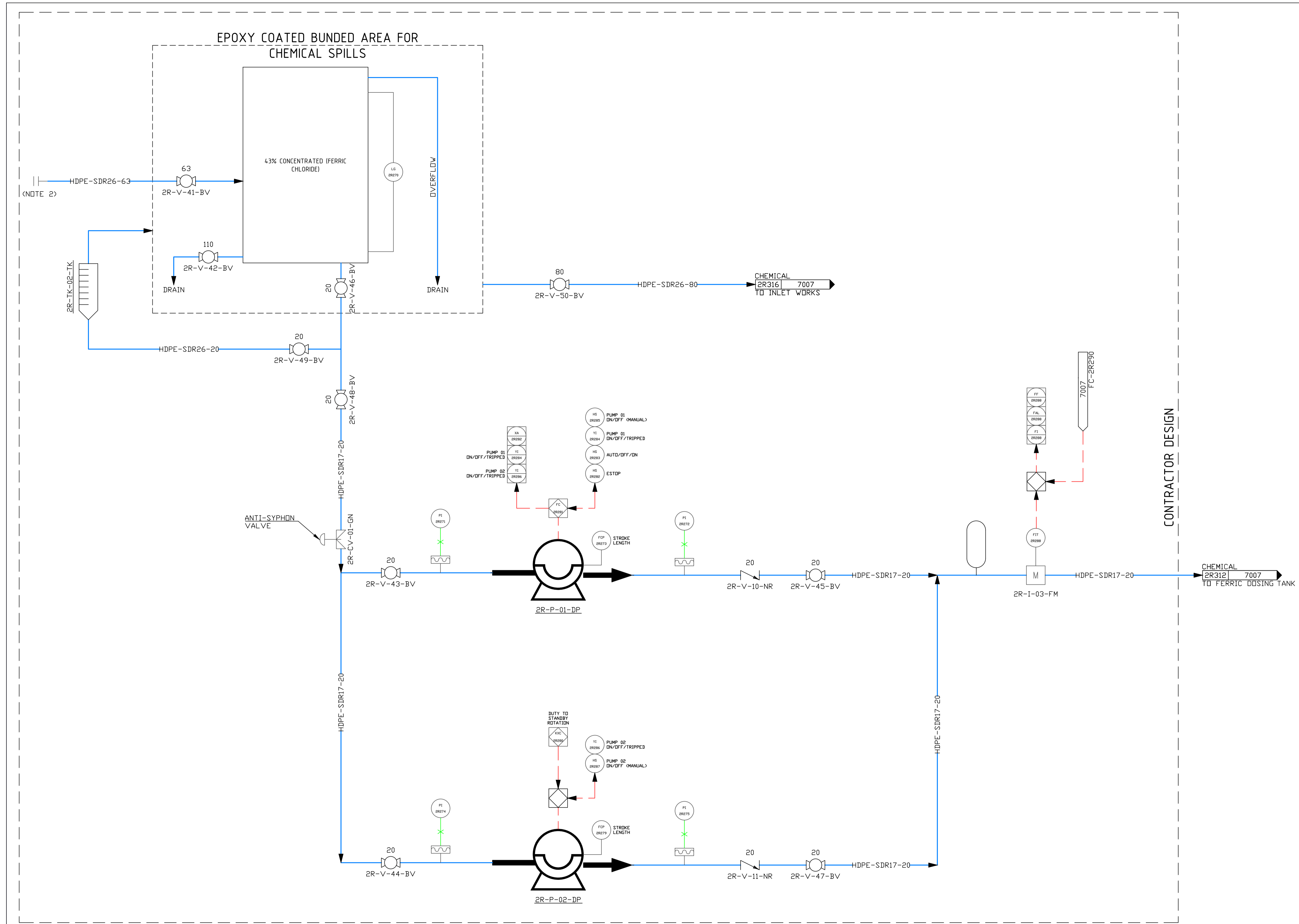
REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 SLUDGE HANDLING AIR  
 SUPPLY

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-7005		
REV		
T		



- NOTES:**
- PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.
  - DELIVERY TRUCK HOSE CONNECTION POINT.
  - CIVIL CONTRACTOR TO SUPPLY MECHANICAL CONTRACTOR WITH FLANGE FOR CONNECTION.

TAG	2R-P-01-DP
FLOW	18l/hr - 180l/hr
PRESSURE	60m-80m
DRIVE	

TAG	2R-P-01-DP
FLOW	18l/hr - 180l/hr
PRESSURE	60m-80m
DRIVE	

CONTRACTOR DESIGN

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7006		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

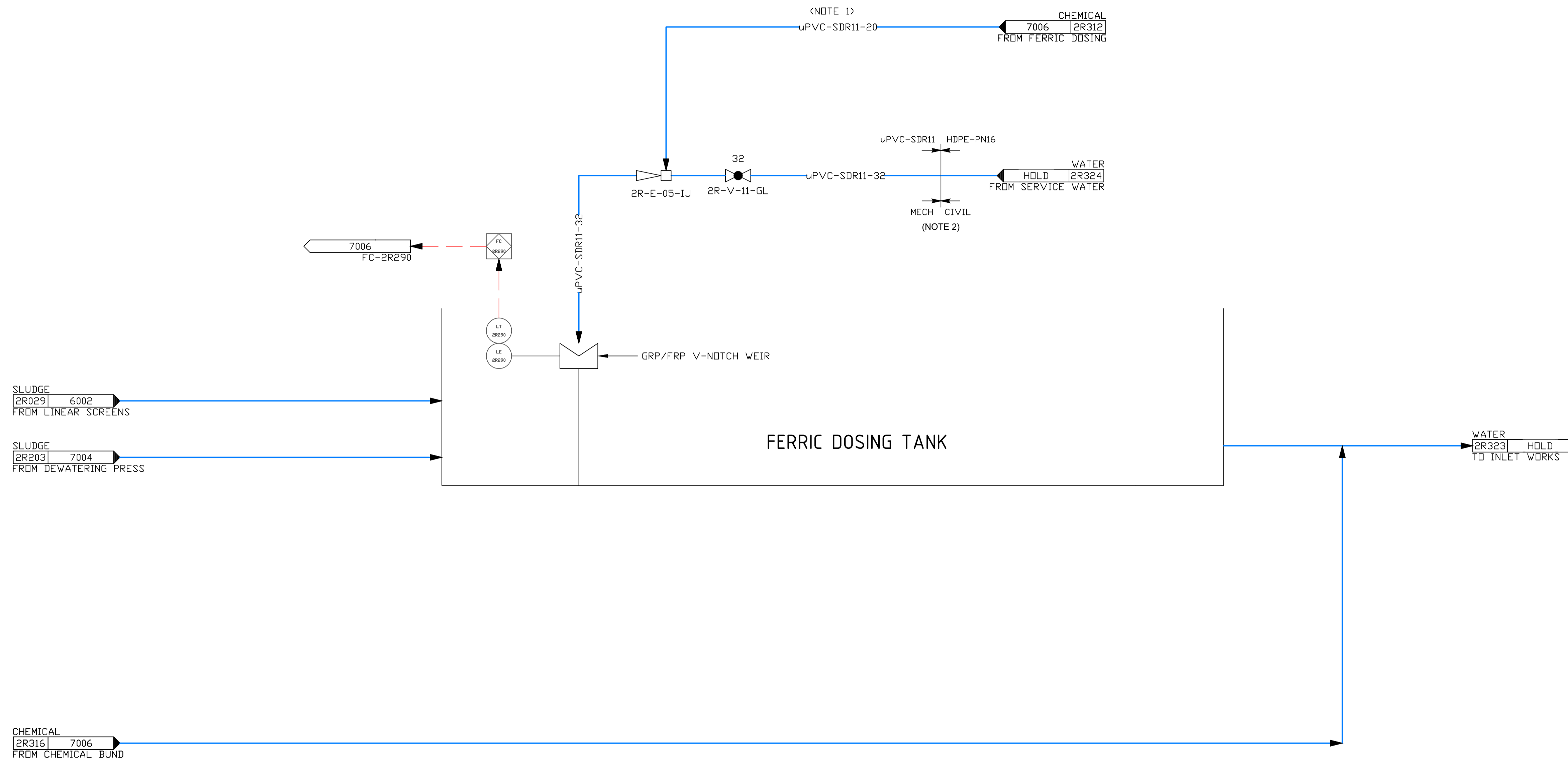
**CLIENT**  
 Cnr Landdros Mare & Bodenstien Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 FERRIC CHLORIDE DOSING



**NOTES:**  
 1. PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218  


REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

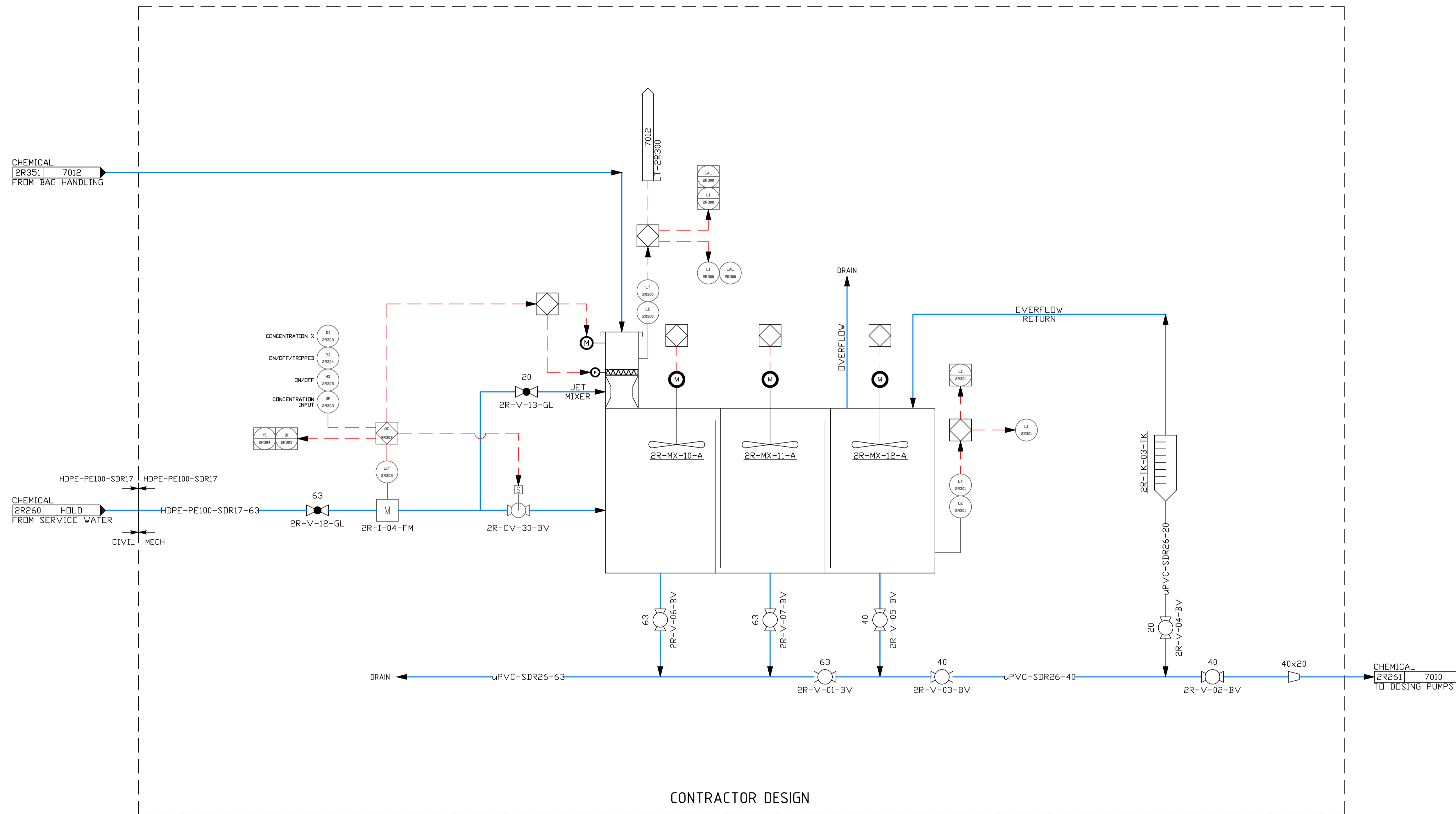
**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 FERRIC DOSING TANK

TENDER DRAWING		
DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7007		T

**NOTES:**

1. PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.



CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
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 TEL: 015 290 2000/1  
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REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

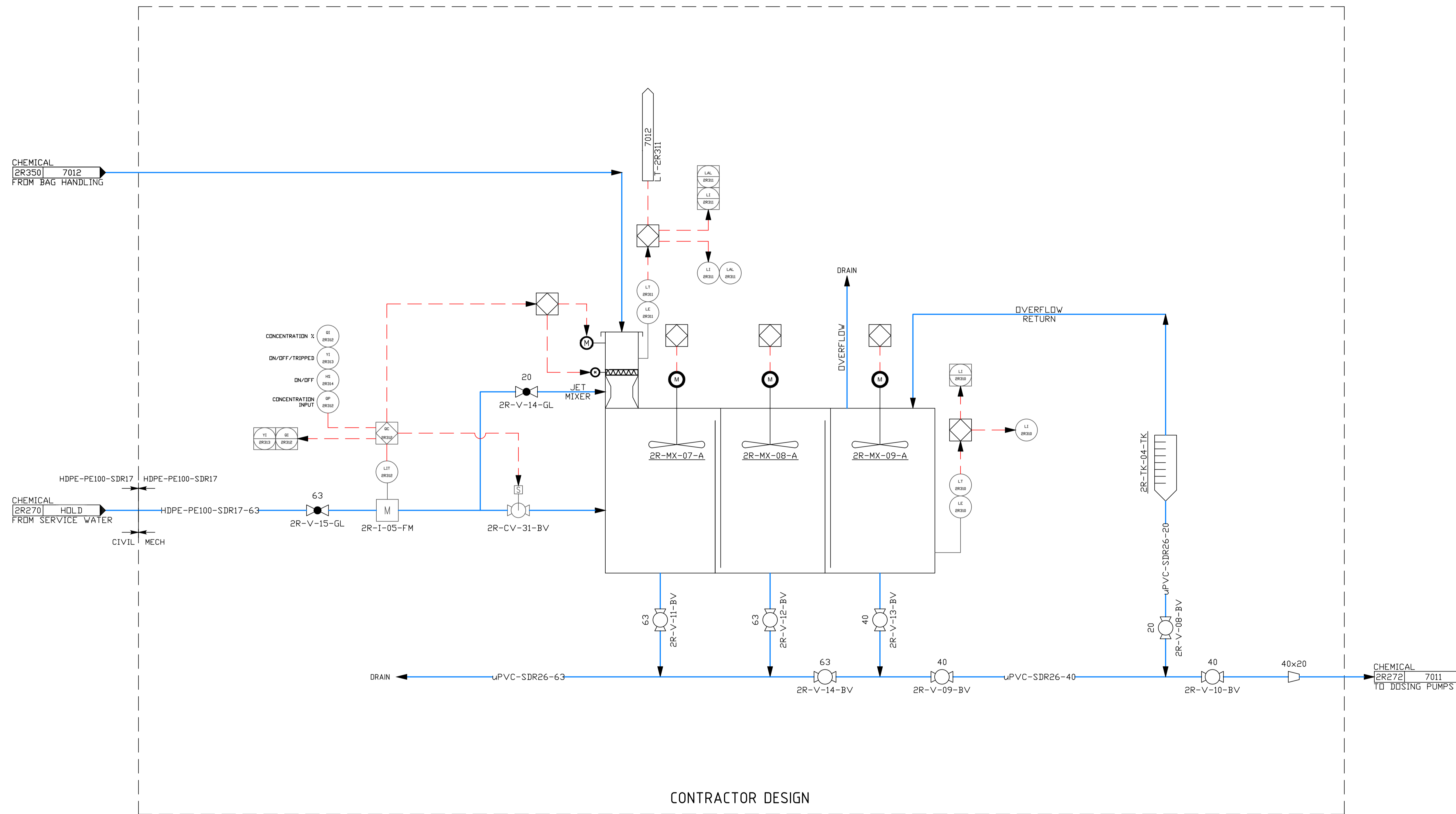
**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 POLYELECTROLYTE MAKEUP  
 TANK 1A

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-7008		
		REV
		T

**NOTES:**

1. PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.



CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
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REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 POLYELECTROLYTE MAKEUP  
 TANK 1B

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-7009		
		REV
		T

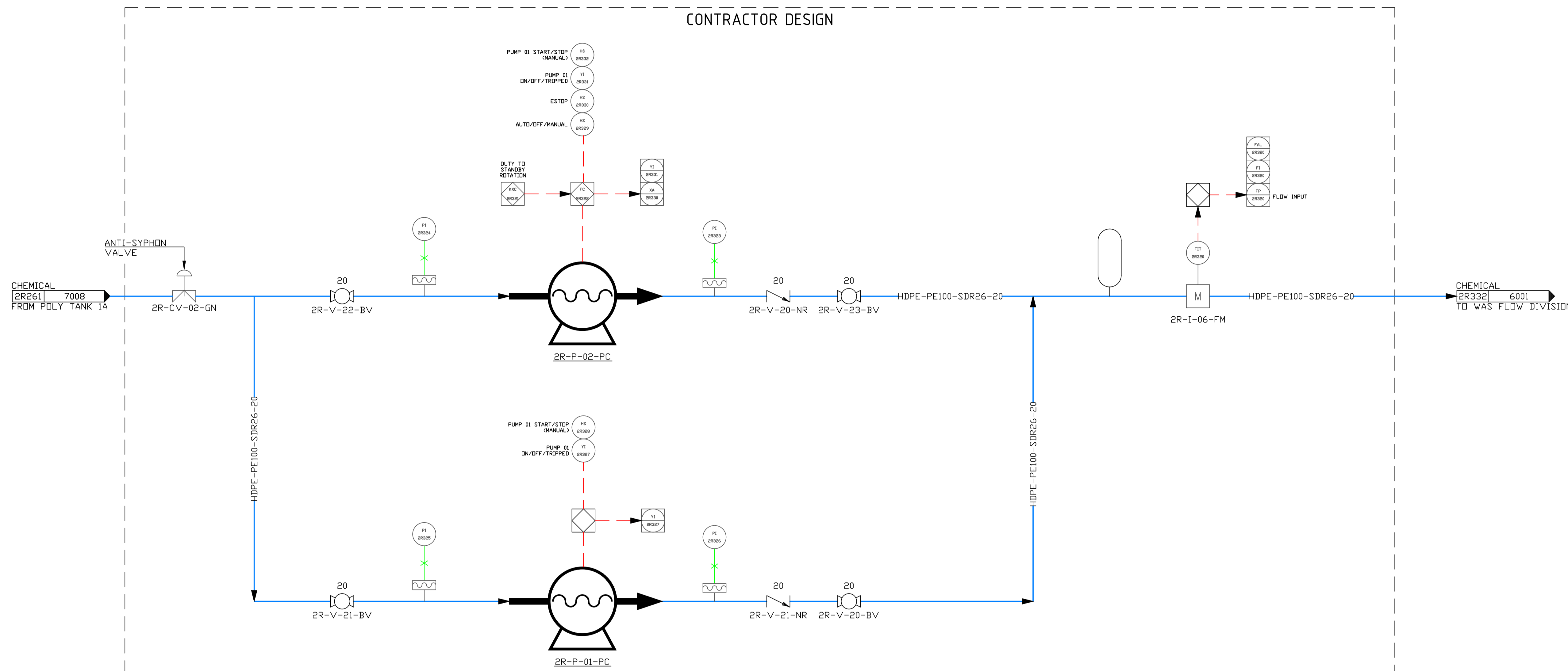
**NOTES:**

- PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.

TAG	2R-P-01-PC
INFLOW	CONTRACTOR
HEAD	CONTRACTOR
DRIVE	

TAG	2R-P-02-PC
INFLOW	CONTRACTOR
HEAD	CONTRACTOR
DRIVE	

**CONTRACTOR DESIGN**



**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-01-PRC-DRG-1000-7010		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
WEBSITE: www.polokwane.gov.za  
TEL: 015 290 2000/1  
FAX: 015 290 2218

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

**POLOKWANE REGIONAL WWTW**

**DRAWING DESCRIPTION**

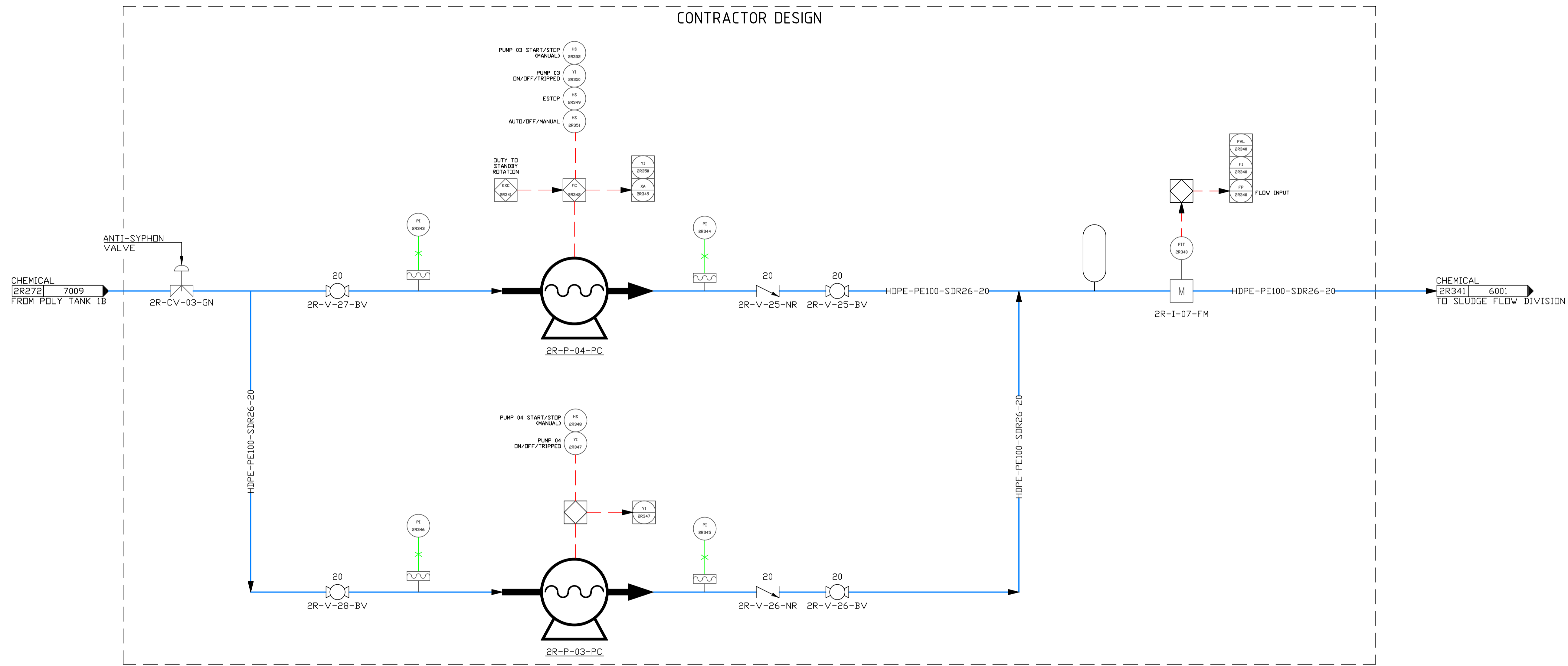
**POLYELECTROLYTE DOSING PUMPS 1A**

1. PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.

TAG	2R-P-03-PC
INFLOW	CONTRACTOR
HEAD	CONTRACTOR
DRIVE	

TAG	2R-P-04-PC
INFLOW	CONTRACTOR
HEAD	CONTRACTOR
DRIVE	

CONTRACTOR DESIGN



TENDER DRAWING

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
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REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 POLYELECTROLYTE DOSING  
 PUMPS 1B

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET) REV		
PK278-01-PRC-DRG-1000-7011 T		

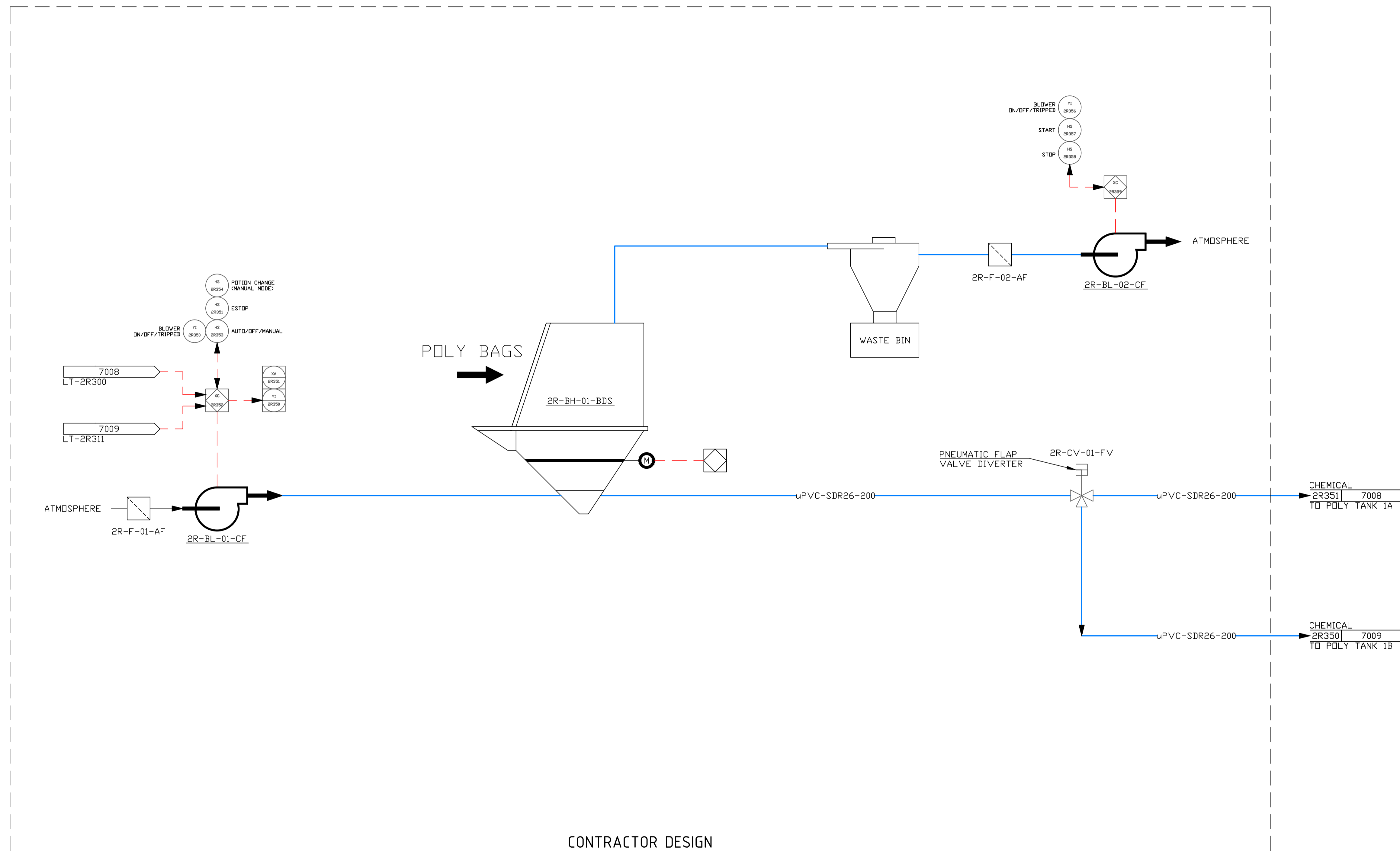
**NOTES:**

- PIPE, FITTINGS AND VALVE SIZES TO BE FINALIZED ONCE EQUIPMENT SELECTION AND CONTRACTOR DESIGN HAS BEEN APPROVED BY ENGINEER.

TAG	2R-BH-01-BDS
HOPPER	50 litre
DRIVE	

TAG	2R-BL-01-CF
FLOW	CONTRACTOR
PRESSURE	CONTRACTOR
DRIVE	

TAG	2R-BL-01-CF
FLOW	CONTRACTOR
PRESSURE	CONTRACTOR
DRIVE	



CONTRACTOR DESIGN

**TENDER DRAWING**

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
**ZAKUMI**  
 Consulting Engineers  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
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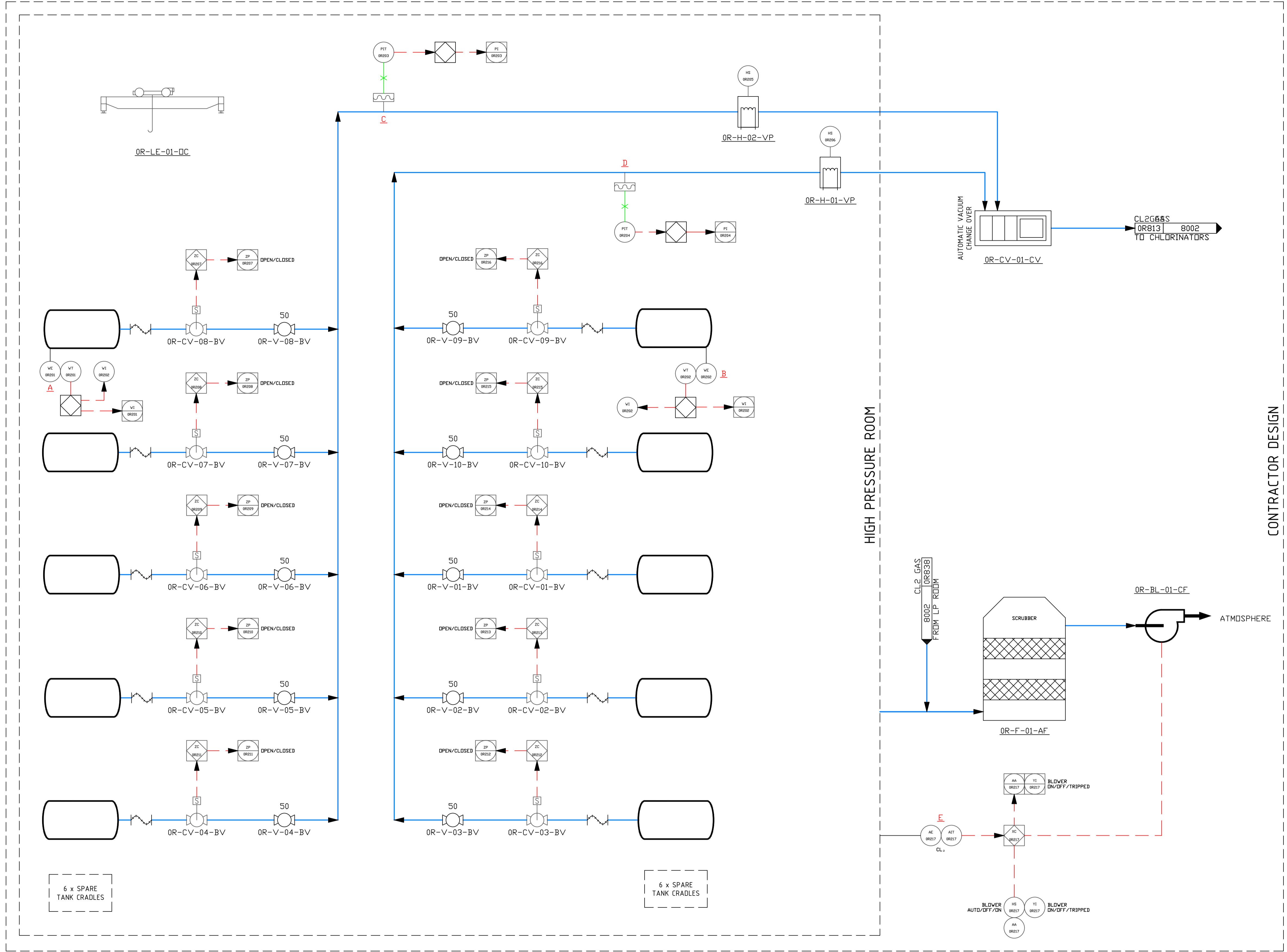

REVISION SCHEDULE		
NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER \_\_\_\_\_ PR ENG no. \_\_\_\_\_ DATE \_\_\_\_\_  
 CLIENT \_\_\_\_\_ DATE \_\_\_\_\_

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 POLYELECTROLYTE BAG  
 HANDLING

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
<b>DRAWING NUMBER</b>		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		
PK278-01-PRC-DRG-1000-7012		
REV	T	



- NOTES:**
1. ALL CHLORINE BUILDING EQUIPMENT MUST BE PROVIDED WITH A BATTERY/GENERATOR BACKUP SUPPLY.
  2. CHLORINE SENSOR TO BE CALIBRATED AS PER SANS REQUIREMENTS.
  3. SIX 1.0 TONNE CHLORINE TANK SPARE CRADLES MUST BE PROVIDED FOR FUTURE EXPANSION.

TAG	OR-BL-01-CF
FLOW	6.5 AIR CHANGES
HEAD	CONTRACTOR DESIGN

TAG	OR-LE-01-CB
SAFE LOAD (TONNE)	2.0

HIGH PRESSURE ROOM

CONTRACTOR DESIGN

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-SMEC-01-PRC-DRG-1000-8001		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700

**ZAKUMI**  
 Consulting Engineers

TEL: +27 15 291 1176  
 FAX: +27 15 291 1993

**CLIENT**

Cnr Landdros Mare & Bodenstien Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
 WEBSITE: www.polokwane.gov.za  
 TEL: 015 290 2000/1  
 FAX: 015 290 2218

**CITY OF Polokwane**  
 NATURALLY PROGRESSIVE

**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

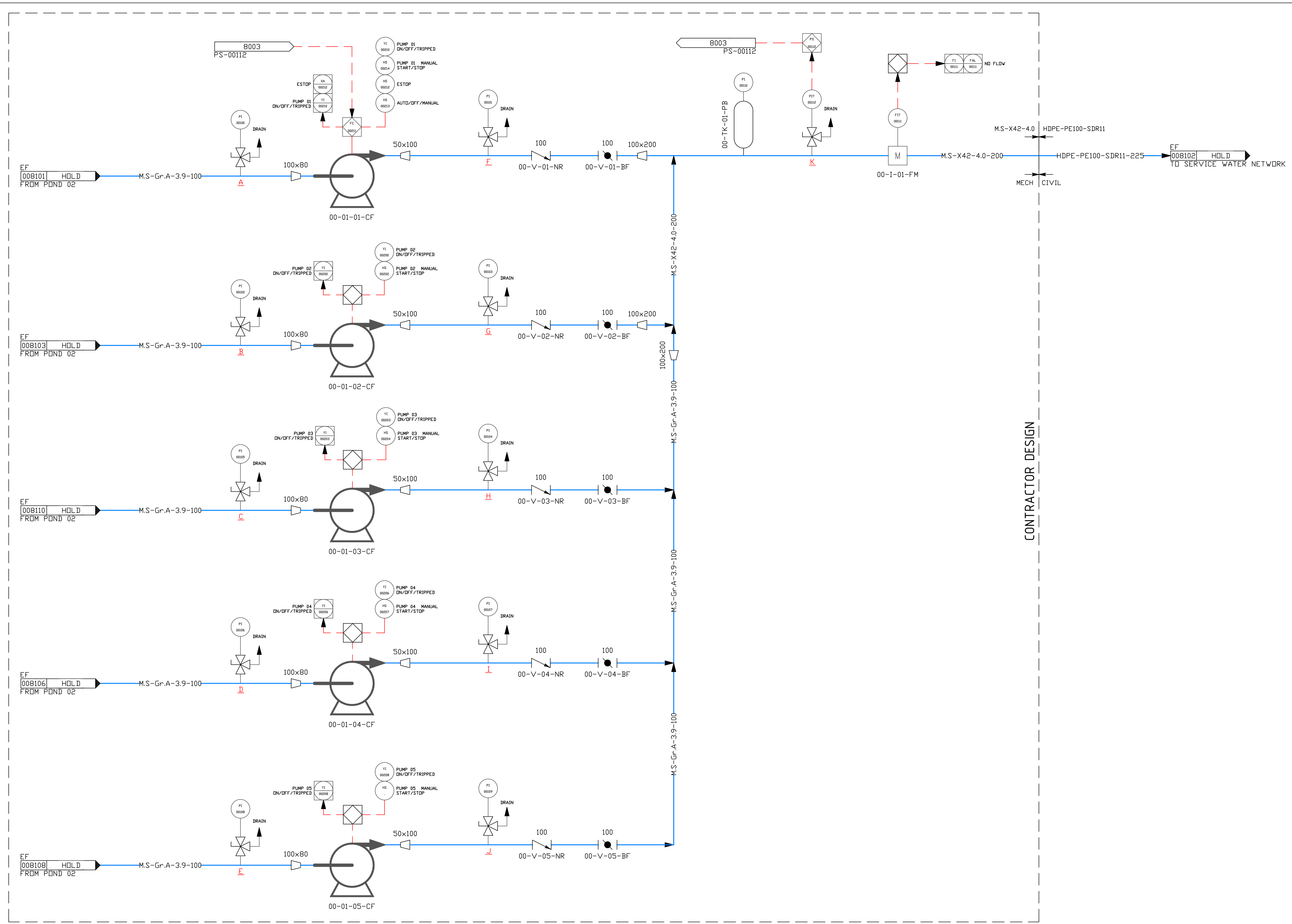
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**

CHLORINE GAS - HIGH  
 PRESSURE ROOM



**NOTES:**

1. CIVIL CONTRACTOR TO PROVIDE FLANGED CONNECTION FOR MECHANICAL CONTRACTOR.
2. PIPE FITTINGS AND VALVE SIZE TO BE CONFIRM BY CONTRACTOR AS PER HIS/HER DESIGNS.

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-SMEC-01-PRC-DRG-1000-8003		T

**CONSULTANT**

21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
PO BOX 3154, POLOKWANE, LIMPOPO, 0700

TEL: +27 15 291 1176  
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**CLIENT**

Cnr Landdros Mare & Bodenstein Streets, Polokwane  
PO Box 111, Polokwane, 0700  
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**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

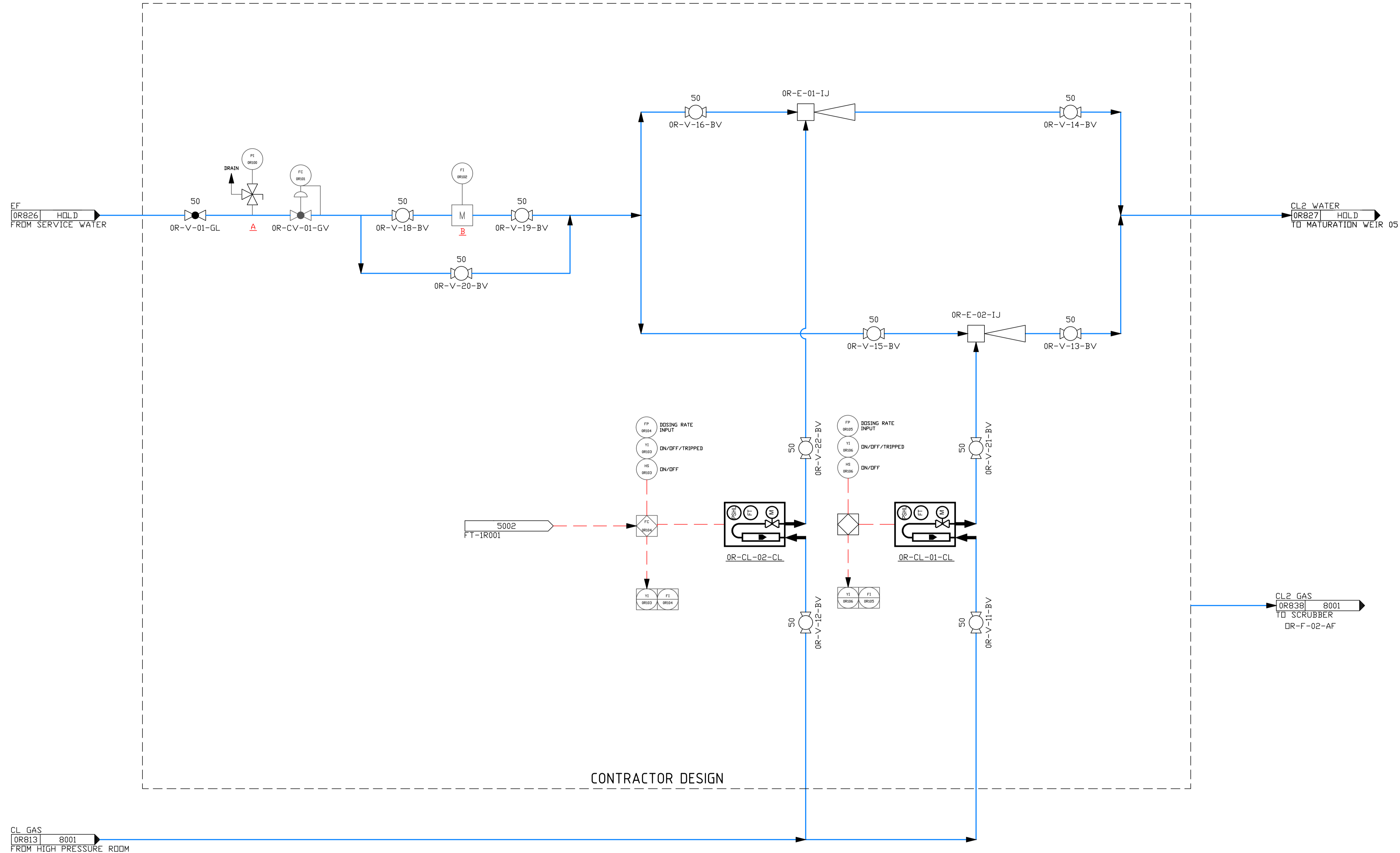
ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**

POLOKWANE REGIONAL  
WWTW

**DRAWING DESCRIPTION**

SERVICE WATER PUMP  
STATION



**NOTES:**

1. ALL CHLORINE BUILDING EQUIPMENT MUST BE PROVIDED WITH A BATTERY/GENERATOR BACKUP SUPPLY.
2. CHLORINE SENSOR TO BE CALIBRATED AS PER SANS REQUIREMENTS.

TAG	OR-BL-02-CF
FLOW	6.5 AIR CHANGES
HEAD	CONTRACTOR DESIGN

TAG	OR-CL-01-CL
DOSING RATE (kg/hr)	0.0 - 12.0

TAG	OR-CL-01-CL
DOSING RATE (kg/hr)	0.0 - 12.0

TAG	OR-E-01-IJ
FLOW REQUIRED	CONTRACTOR DESIGNED
HEAD REQUIRED	CONTRACTOR DESIGNED

TAG	OR-E-02-IJ
FLOW REQUIRED	CONTRACTOR DESIGNED
HEAD REQUIRED	CONTRACTOR DESIGNED

**TENDER DRAWING**

DESIGNED	DRAWN	CHECKED
DESIGNER	AUTHOR	CHECKER
REV DATE	SCALE	ORIGINAL SIZE
2025-08	N/A	A1
DRAWING NUMBER		
PROJ No - PHASE - DSPLN - TYPE - SEQ No - (SHEET)		REV
PK278-SMEC-01-PRC-DRG-1000-8002		T

**CONSULTANT**  
 21 COMPENSATIE STREET, POLOKWANE, LIMPOPO, 0699  
 PO BOX 3154, POLOKWANE, LIMPOPO, 0700  
 TEL: +27 15 291 1176  
 FAX: +27 15 291 1993



**CLIENT**  
 Cnr Landdros Mare & Bodenstein Streets, Polokwane  
 PO Box 111, Polokwane, 0700  
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**REVISION SCHEDULE**

NO.	DATE	REVISION DESCRIPTION
T	2025-08	ISSUED FOR TENDER

ENGINEER	PR ENG no.	DATE
CLIENT		DATE

**PROJECT**  
 POLOKWANE REGIONAL  
 WWTW

**DRAWING DESCRIPTION**  
 CHLORINE GAS - LOW  
 PRESSURE ROOM