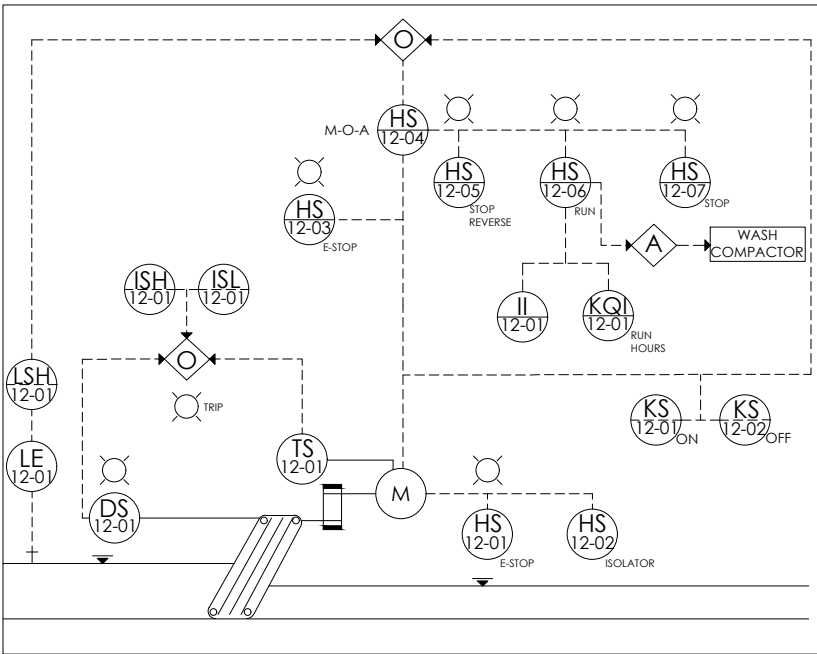


DETAIL 1: INLET WORKS MECHANICAL SCREENS



NOTE 1

A MANUAL, OFF OR AUTOMATIC MODE (HS12-04) CAN BE SELECTED BY THE OPERATOR. IN MANUAL MODE, THE MECHANICAL SCREENS CAN BE SWITCHED ON BY HS12-06 OR OFF BY HS12-07 PRESS BUTTONS. RUN OR STOP INDICATORS ARE ILLUMINATED BASED ON THE OPERATOR'S SELECTION IN MANUAL MODE.

IN AUTOMATIC MODE KS12-01 IS ACTIVATED BY LSH12-01 AND ALLOWS THE MECHANICAL SCREEN TO RUN FOR A FIXED PERIOD (ADJUSTABLE) THEN IS SWITCHED OFF BY KS12-02. IF THE MOTOR HAS NOT RUN FOR A SPECIFIC TIME INTERVAL THEN KS12-01 WILL SWITCH ON THE MECHANICAL SCREEN TO RUN FOR A FIXED PERIOD, THEN KS12-02 WILL SWITCH THE SCREEN OFF. IN THIS MODE A RUN SIGNAL IS ALSO SENT TO THE WASH COMPACTOR.

WHEN HS12-04 TOGGLE SWITCH IS SET TO OFF, HS12-05 IS A SPRING LOADED SWITCH THAT ACTIVATES ONLY WHILE IT IS PRESSED/PUSHED, AND REVERTS TO OFF POSITION WHEN RELEASED. THE REVERSE SWITCH IS ONLY FOR MAINTENANCE PURPOSES TO RELEASE JAGGED OBJECTS FROM THE SCREEN. A REVERSE INDICATOR IS ACTIVATED WHEN THE MECHANICAL SCREEN IS IN REVERSE MODE.

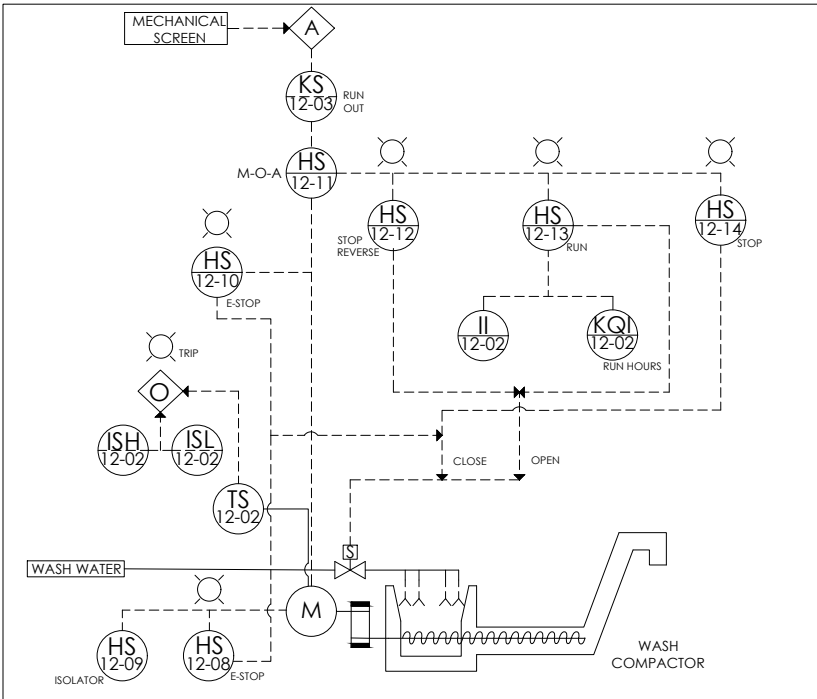
WHEN THE MECHANICAL SCREEN IS IN OPERATION EITHER IN MANUAL, REVERSE OR AUTOMATIC, II12-01 AND KQI12-01 METERS ARE ACTIVATED.

AN IN-FIELD E-STOP (HS12-01), ISOLATOR (HS12-02) AND ON PANEL E-STOP (HS12-03) ARE SET TO CUT POWER TO THE MECHANICAL SCREEN, WHETHER IN MANUAL, OFF OR AUTOMATIC MODE. A STOP INDICATOR IS ILLUMINATED WHEN MECHANICAL SCREEN IS OFF.

WHEN TRIPS ON THE MOTOR OF MECHANICAL SCREEN OR MECHANICAL SCREEN ARE ACTIVATED, THE MECHANICAL SCREEN SWITCHES OFF. A TRIP SWITCHES OFF THE MECHANICAL SCREEN AND THE TRIP INDICATOR IS ILLUMINATED.

TRIPS ON THE MECHANICAL SCREEN AND MOTOR INCLUDE, EXCESSIVE TORQUE (DS12-01) ON THE MECHANICAL SCREEN, HIGH TEMPERATURE (TS12-01) IN THE MOTOR, UNDERLOAD CURRENT (ISL12-01) AND OVERLOAD CURRENT (ISH12-01).

DETAIL 2: INLET WORKS WASH COMPACTOR



NOTE 2

A MANUAL, OFF OR AUTOMATIC MODE (HS12-11) CAN BE SELECTED BY THE OPERATOR. IN MANUAL MODE, THE WASH COMPACTOR CAN BE SWITCHED ON BY HS12-13 OR OFF BY HS12-14 PRESS BUTTONS. WHEN THE WASH COMPACTOR IS ON IN MANUAL MODE, THE SOLENOID VALVE OPENS. THE SOLENOID VALVE CLOSSES WHEN THE WASH COMPACTOR IS OFF IN MANUAL MODE. RUN OR STOP INDICATORS ARE ILLUMINATED BASED ON THE OPERATOR'S SELECTION IN MANUAL MODE.

WHEN IN AUTOMATIC MODE, THE WASH COMPACTOR RUNS AND THE SOLENOID VALVE IS OPEN WHENEVER THE MECHANICAL SCREEN IS IN OPERATION IN AUTOMATIC MODE. THE WASH COMPACTOR AND SOLENOID VALVE CONTINUES OPERATING FOR AN ADJUSTABLE PERIOD OF TIME SET BY KS12-03 AFTER COMPLETION OF THE SCREW CONVEYOR'S OPERATING CYCLE TO ENSURE THE WASH COMPACTOR IS "CLEAN" FOR THE FOLLOWING SEQUENCE (TIME REQUIRED TO COMPLETE ONE FULL ROTATION). A RUN INDICATOR IS ILLUMINATED WHEN WASH COMPACTOR IS RUNNING.

WHEN HS12-11 TOGGLE SWITCH IS SET TO OFF, HS12-12 IS A SPRING LOADED SWITCH THAT ACTIVATES ONLY WHILE IT IS PRESSED/PUSHED, AND REVERTS TO OFF POSITION WHEN RELEASED. THE REVERSE SWITCH IS ONLY FOR MAINTENANCE PURPOSES TO RELEASE BLOCKED OBJECTS FROM THE COMPACTOR. THE SOLENOID VALVE OPENS WHEN THE WASH COMPACTOR IS TOGGLED TO RUN IN A REVERSE DIRECTION. THE REVERSE INDICATOR ILLUMINATES WHEN THE WASH COMPACTOR IS IN REVERSE MODE.

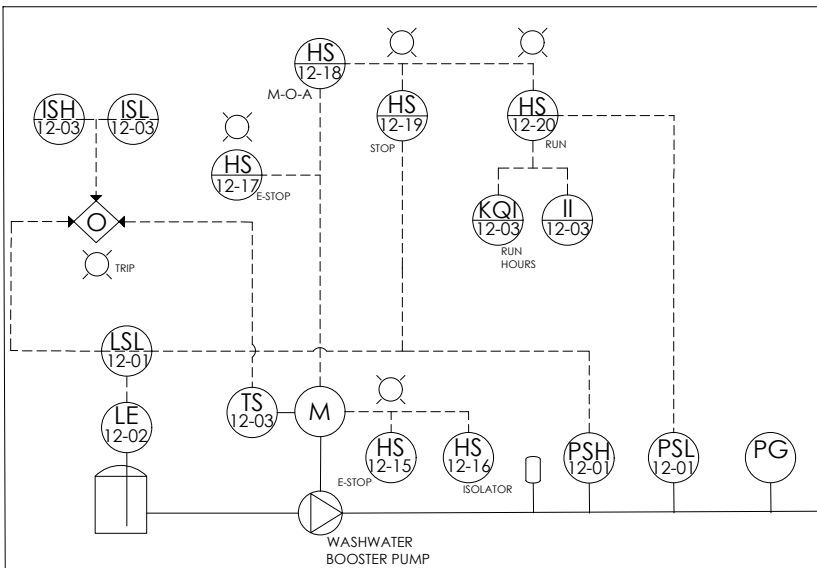
WHEN THE SCREW CONVEYOR IS IN OPERATION EITHER IN MANUAL, REVERSE OR AUTOMATIC, II12-03 AND KQI12-03 METERS ARE ACTIVATED.

AN ON-FIELD E-STOP (HS12-08), ISOLATOR (HS12-09) AND ON PANEL E-STOP (HS12-10) ARE SET TO CUT POWER TO THE WASH COMPACTOR AND CLOSSES THE SOLENOID VALVE, WHETHER IN MANUAL, OFF OR AUTOMATIC MODE.

WHEN TRIPS ON THE MOTOR OR WASH COMPACTOR ARE ACTIVATED, THE WASH COMPACTOR SWITCHES OFF AND THE SOLENOID VALVE CLOSSES. A TRIP SWITCHES OFF THE WASH COMPACTOR AND THE TRIP INDICATOR IS ILLUMINATED.

TRIPS ON THE WASH COMPACTOR AND MOTOR MAY INCLUDE, HIGH TEMPERATURE (TS12-03) IN THE MOTOR, UNDERLOAD CURRENT (ISL12-02) AND OVERLOAD CURRENT (ISH12-02).

DETAIL 3: INLET WORKS WASHWATER BOOSTER PUMP



NOTE 3:

A MANUAL, OFF OR AUTOMATIC MODE (HS12-18) CAN BE SELECTED BY THE OPERATOR. MANUAL MODE IS FOR MAINTENANCE PURPOSES AS THE WASHWATER BOOSTER PUMP OPERATES IN AUTOMATIC MODE ONLY AND SWITCHES ON WHEN THE PRESSURE DOWNSTREAM OF THE WASHWATER BOOSTER PUMP REACHES A PREDETERMINED LOW PRESSURE (PSL). THE RUN INDICATOR ILLUMINATES WHEN THE WASHWATER BOOSTER PUMP IS SWITCHED ON.

THE WASHWATER BOOSTER PUMP SWITCHES OFF WHEN A SET HIGH PRESSURE (PSH) DOWNSTREAM OF THE WASHWATER BOOSTER PUMP IS REACHED. THE STOP INDICATOR ILLUMINATES WHEN THE WASHWATER BOOSTER PUMP IS SWITCHED OFF.

IN AUTOMATIC MODE, THE WASHWATER BOOSTER PUMP DOES NOT OPERATE WHEN THE WATER INSIDE THE STORAGE TANK IS AT A SET LOW LEVEL (LSL12-01). THE TRIP INDICATOR ILLUMINATES WHEN THE STORAGE TANK LEVEL IS LOW.

AN IN-FIELD E-STOP (HS12-15), ISOLATOR (HS12-16) AND ON PANEL E-STOP (HS12-17) ARE SET TO CUT POWER TO THE WASHWATER BOOSTER PUMP. THE STOP INDICATOR ILLUMINATES WHEN THE WASHWATER BOOSTER PUMP IS SWITCHED OFF.

WHEN THE WASHWATER BOOSTER PUMP IS IN OPERATION II12-03 AND KQI12-03 METERS ARE ACTIVATED.

WHEN TRIPS ON THE MOTOR ARE ACTIVATED POWER TO THE WASHWATER BOOSTER PUMP MOTOR IS CUT AND THE TRIP INDICATOR IS ILLUMINATED.

TRIPS ON THE WASHWATER BOOSTER PUMP AND MOTOR INCLUDE, HIGH TEMPERATURE (TS12-03) IN THE MOTOR, UNDERLOAD CURRENT (ISL12-03) AND OVERLOAD CURRENT (ISH12-03).

NOTES:
REFER TO DRAWING 10909001-7000 FOR PROCESS AND INSTRUMENTATION LEGEND.



ISSUED FOR TENDER

0 50 100 MILLIMETRES ON ORIGINAL DRAWING		
(A) BEFORE CONTRACT COMMENCES		
(A) AFTER CONSTRUCTION CONTRACT HAS COMMENCED		
Nr.	DATE	AMENDMENTS
COPYRIGHT IS VESTED IN V3 CONSULTING ENGINEERS IN TERMS OF THE COPYRIGHT ACT (ACT 98 OF 1978)		



PROJECT
TSHAME WWTW REFURBISHMENT

DRAWING DESCRIPTION
P&ID SIGNAL DIAGRAMS, NOTES & DETAILS:
PART 1

DRAWING NO.	REVISION
10909001 - 7018	(T1)

DESIGNED:	JAW	CHECKED:	ECSA PR No: 20130658	SP
DRAWN:	SP	SCALE:	N.T.S	A3
APPROVED:	ECSA PR No: 20130658	INCEPTION DATE:	JUL'24	
FILE PATH:	SHAREPOINT / BLOEMFONTEIN - 10909001 TSHAME WWTW / 04 DOC PROC / 04 DRAW			



ISSUED FOR TENDER