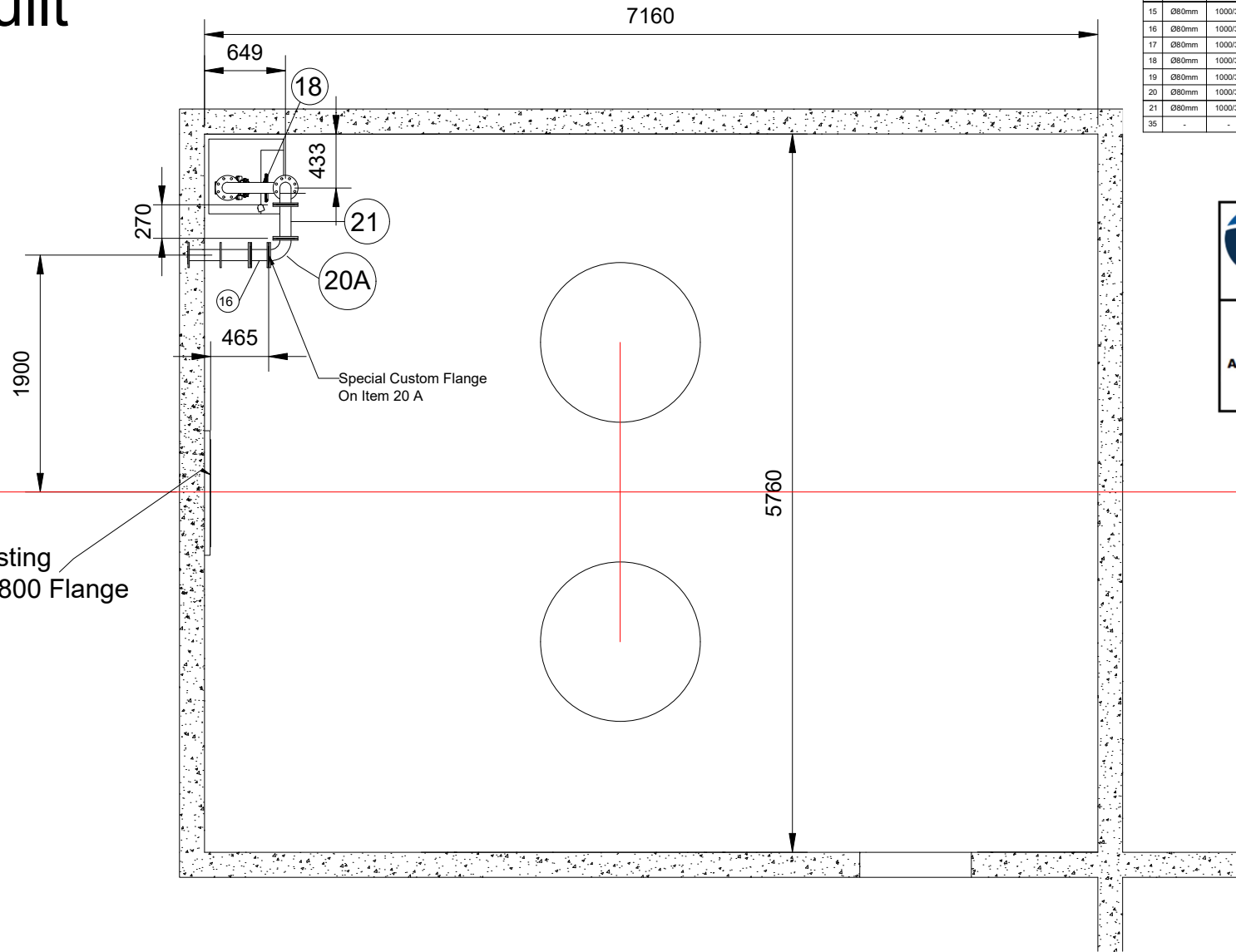


# As Built



PIPE FITTING SCHEDULE							
No.	DIAMETER	SANS 1123 Table Drilling	CLASS	MATERIAL	SIZE	DESCRIPTION	QUANTITY
15	Ø80mm	1000/3	PN10	SS316	-	80NB/65NB Reducer With 80NB Flange & 65NB Swage Nipple Reinforce Pipe & Heavy Duty Hose Clamps	1
16	Ø80mm	1000/3	PN10	SS316	150mm FTF	Ø80mm PIPE: FBE	2
17	Ø80mm	1000/3	PN10	SS316	260mm FTF	Ø80mm NON-RETURN VALVE	1
18	Ø80mm	1000/3	PN10	-	280mm FTF	Ø80mm WEDGE GATE VALVE	1
19	Ø80mm	1000/3	PN10	SS316	2428mm FTF	Ø80mm PIPE: FBE	2
20	Ø80mm	1000/3	PN10	SS316	114.3mm CTE	Ø80mm 90° RADIUS BEND: FBE	2
21	Ø80mm	1000/3	PN10	SS316	270mm FTF	Ø80mm PIPE: FBE	1
35	-	-	-	-	-	SEEPAGE PUMP	1

Vacuum Pumps & Pump Systems  
Piping and Structural Equipment for Water, Waste and Industry

**APPROVED FOR CONSTRUCTION**

Approved By: Date: 2023-01-12

CHECKED BY: Johan Bester  
STATUS: **ACCEPTED**  
DATE: 21/01/2023  
SIGNED:

iXengineers (Pty) Ltd.  
Cape Town  
Reg No: 2016/275143/07  
31 Allen Drive, Loevenstein, 7530  
PO Box 398, Bellville, 7535  
+27 (0)21 912 3000  
+27 (0)21 912 3222

ACCEPTANCE ARE IN PRINCIPLE AND SUBJECT TO SPECIFICATION

## GA - Seepage Pumps System Top View

DRAWN	RD	06/04/2022
CHECKED	JDK	.
PROJECT MANAGER	JN	.
QA	.	.
MFG	.	.
APPROVED	.	.

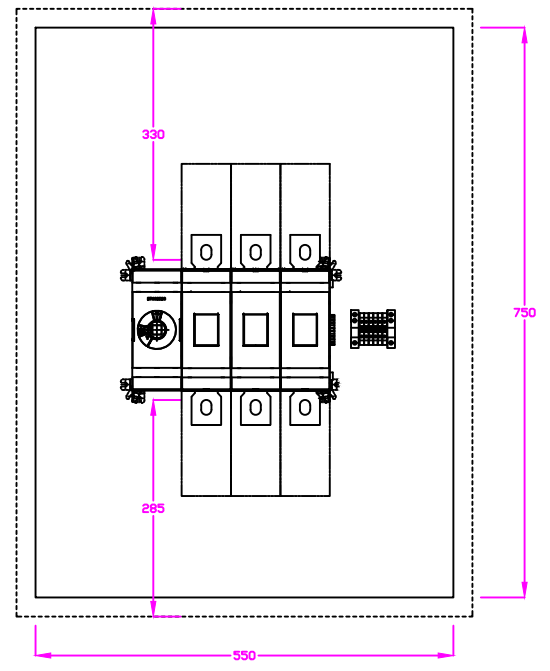
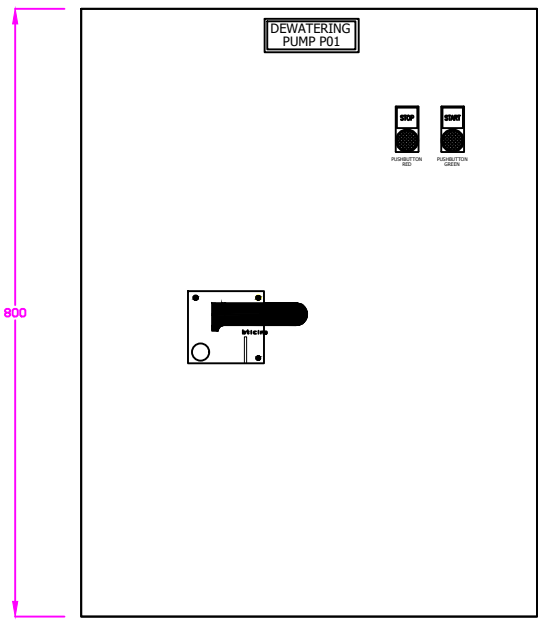
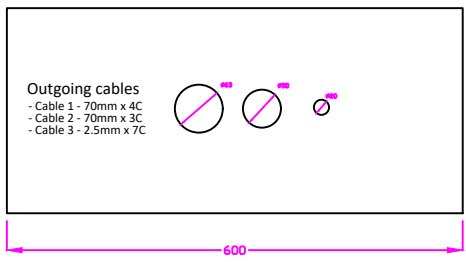
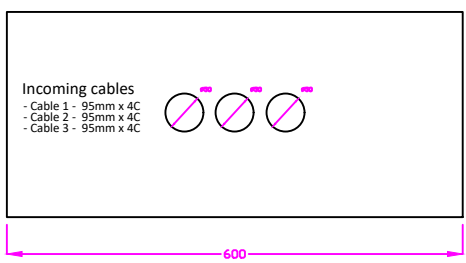
**Vacuum and Fluid Technology** cc

Vacuum Pumps & Pump Systems  
Piping and Structural Equipment for Water, Waste and Industry

<b>HAW &amp; INGLIS (H &amp; I)</b>		
TITLE SEEPAGE SYSTEM PIPING GENERAL ASSEMBLY		
SIZE A1	DWG NO 11311-03-04	REV 0
SCALE SHOWN	SHEET 1 of 3	

All rights, title and copyright in drawings, design, specification, manuals and technical information prepared for or provided to the supplier by Vacuum and Fluid Technology (Pty) Ltd, and are provided to the supplier in confidence. The supplier shall hold such information and design in confidence and shall not reproduce, divulge to others or use purposes other than in fulfillment of Vacuum and Fluid Technology (Pty) Ltd. Drawings that do not have a signed, official, ink stamp, are not valid for manufacturing or construction and therefore no responsibility will be accepted for their authenticity.

NOTE : MATERIAL - 3CR12  
COLOUR - ELECTRIC ORANGE  
RATING - IP65  
INCOMING - TOP ENTRY  
OUT GOING - BOTTOM



R102 EAST COAST RESORT RD  
MEISIES HALT  
EAST LONDON  
5200  
Tel: 043 731 2001

REV	DATE	CAD OP	DESCRIPTION:	P.M.	APPROVE	DATE
A	22.09.22	BG	GA DRAWING MCC			



Sheet Size: A3 SCALE: -  
Dimensions shown in mm (U.O.N.)  
General Tolerance as follows.  
Concrete work +/- 12.0mm  
Assemblies +/- 3.0mm  
Structural Parts +/- 3.0mm  
Machined Parts +/- 0.2mm

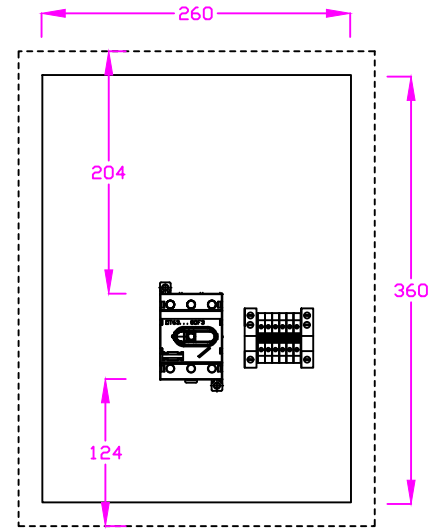
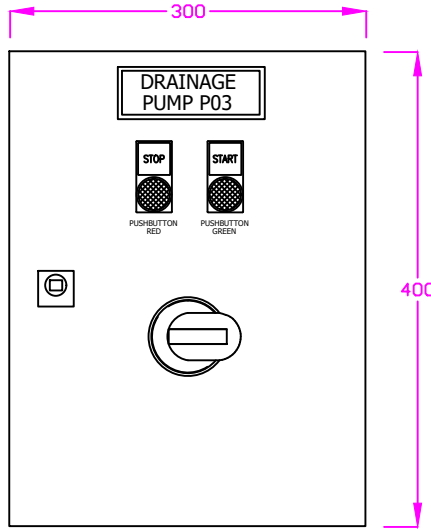
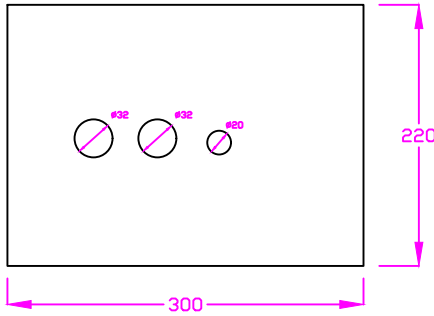
PROJECT: ROBINSON DRY DOCK  
TITLE:  
**DEWATERING PUMP P01  
ISOLATOR FIELD ENCLOSURE**

QUOTE NO. :  
DRW NO.: E001

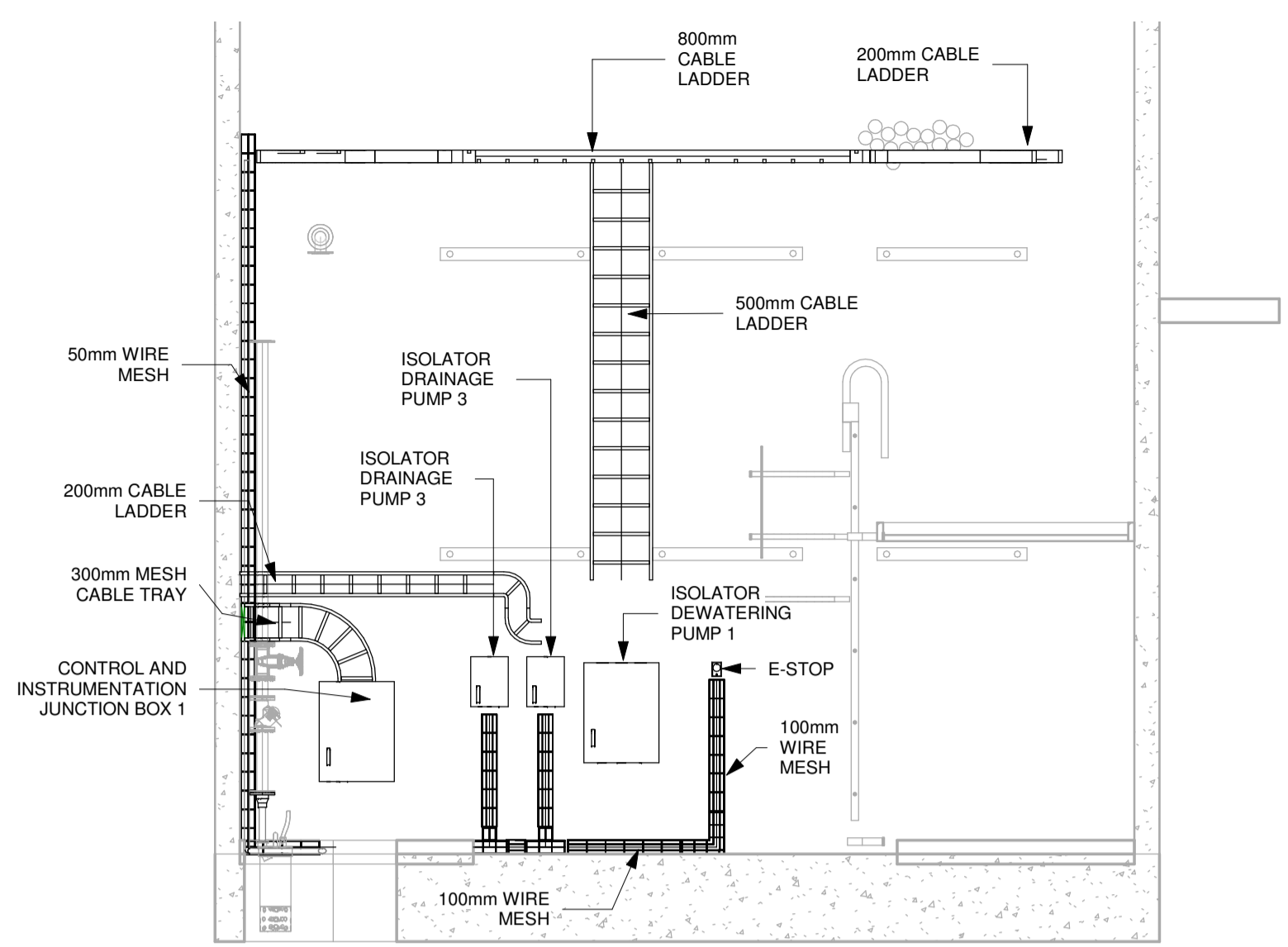
SHEET 1 OF 1

NOTE : MATERIAL - 3CR12  
COLOUR - ELECTRIC ORANGE  
RATING - IP65  
INCOMING - BOTTOM  
OUT GOING - BOTTOM

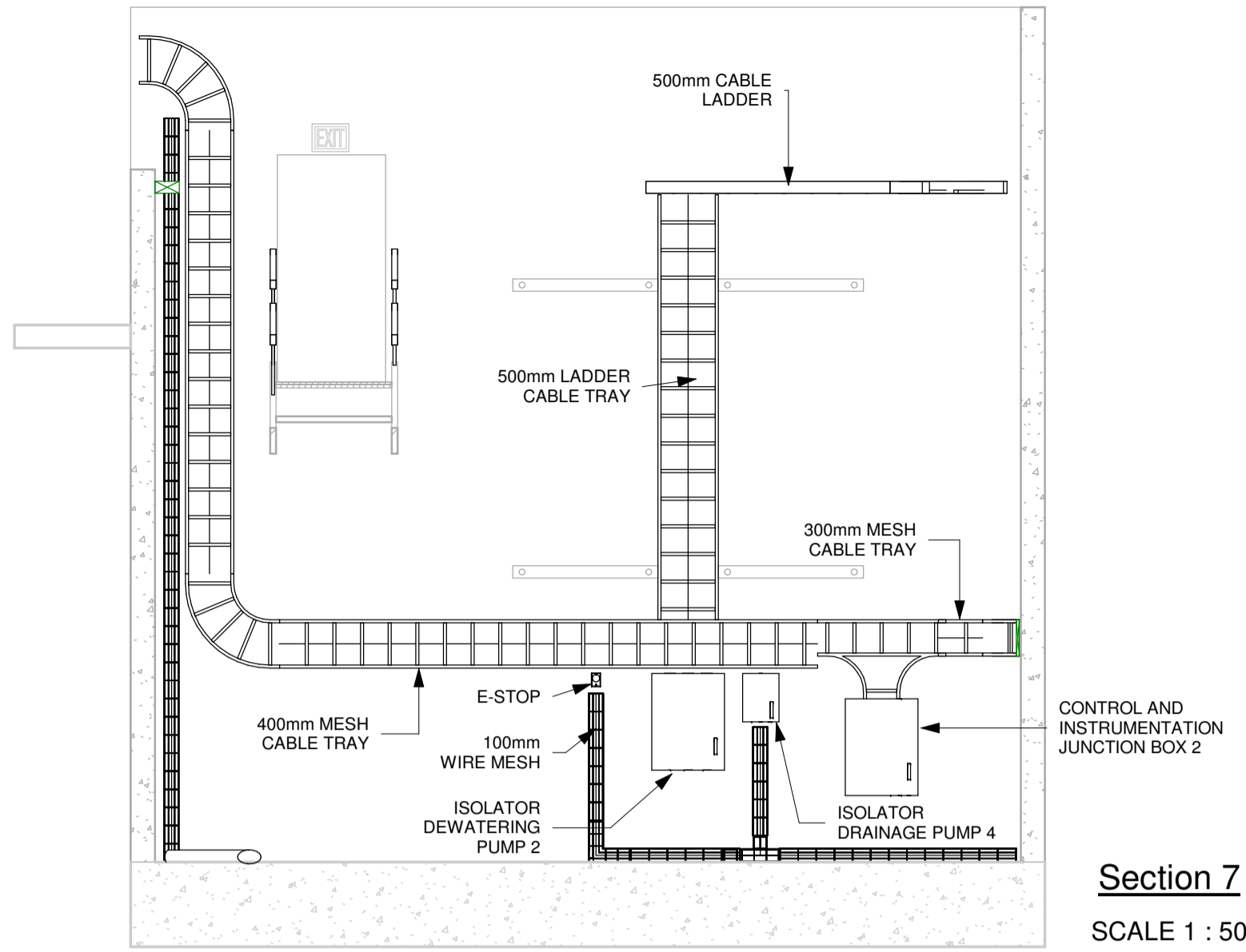
Incoming cables  
- Cable 1 - 16mm x 4C  
Outgoing cables  
- Cable 1 - 16mm x 4C  
- Cable 2 - 2.5mm x 7C



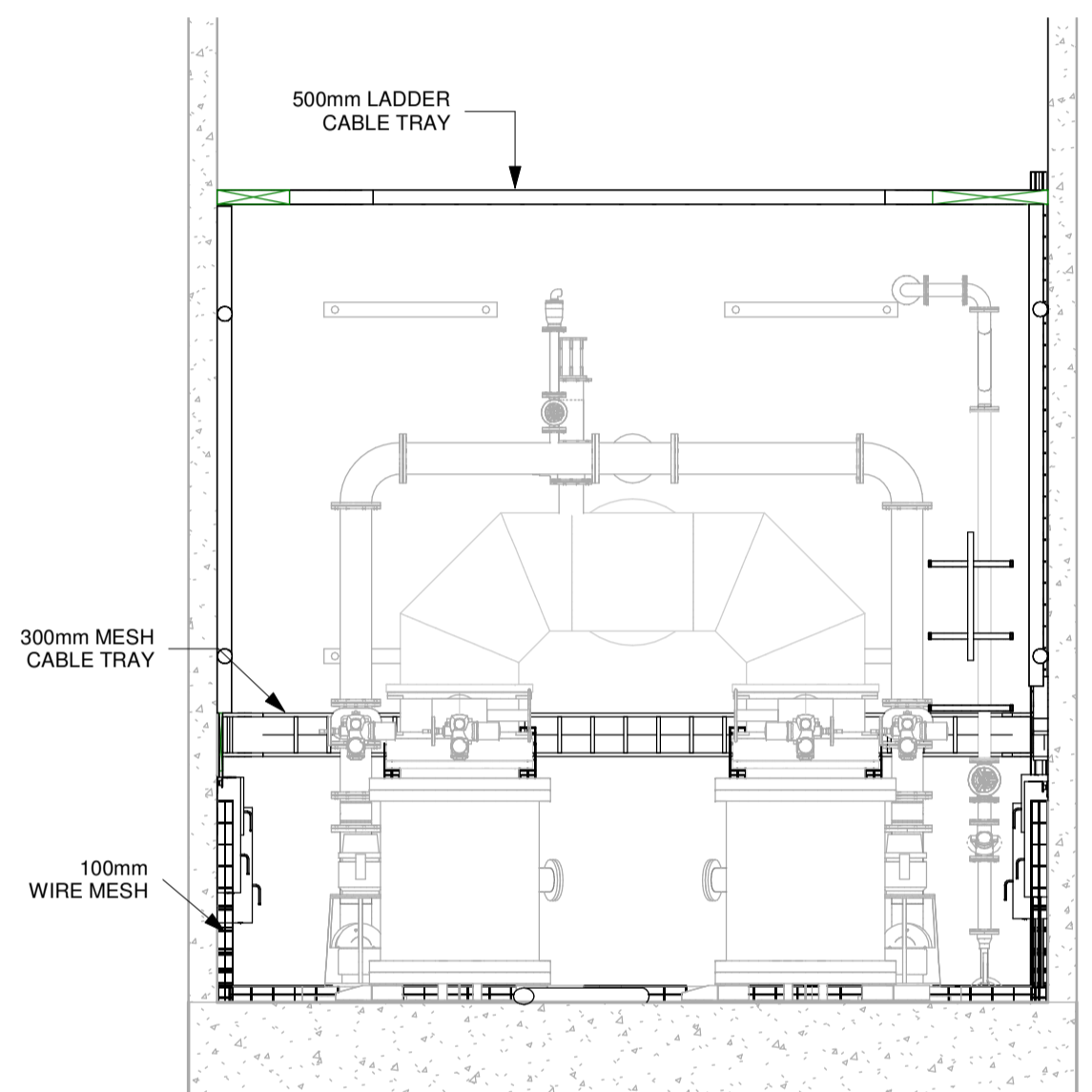
R102 EAST COAST RESORT RD MEISIES HALT EAST LONDON 5200  Tel: 043 731 2001	REV	DATE	CAD OP	DESCRIPTION:	P.M.	APPROVE	DATE	 <small>THIS DRAWING IS THE PROPERTY OF HLUMISA ENGINEERING SERVICES IT IS SUBJECT TO RECALL WITHOUT ANY PRIOR NOTICE. IT MAY NOT BE REPRODUCED NOR ITS CONTENTS DIVULGED WITHOUT WRITTEN CONSENT</small>	Sheet Size: A3	SCALE: -	PROJECT: <b>ROBINSON DRY DOCK</b>	 <b>TITLE:</b> <b>DRAINAGE PUMP 1 ISOLATOR FIELD ENCLOSURE</b>
	A	05.10.22	BG	GA DRAWING					Dimensions shown in mm (U.O.N.) General Tolerance as follows. Concrete work +/- 12.0mm Assemblies +/- 3.0mm Structural Parts +/- 3.0mm Machined Parts +/- 0.2mm	CLIENT/REF DRAWING NO.:	QUOTE NO. : DRW no.: E001	



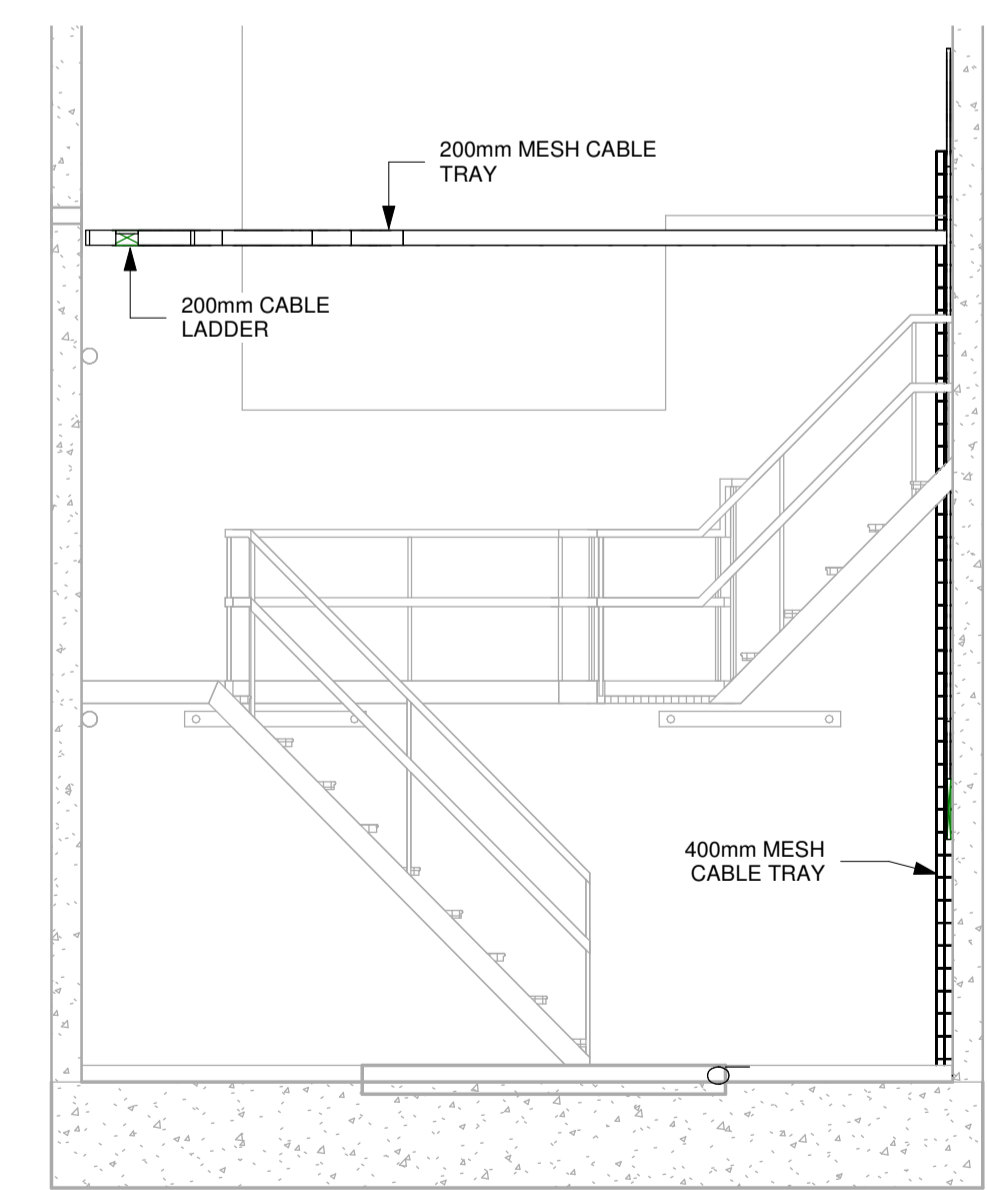
**Section 3**  
SCALE 1 : 50



**Section 7**  
SCALE 1 : 50



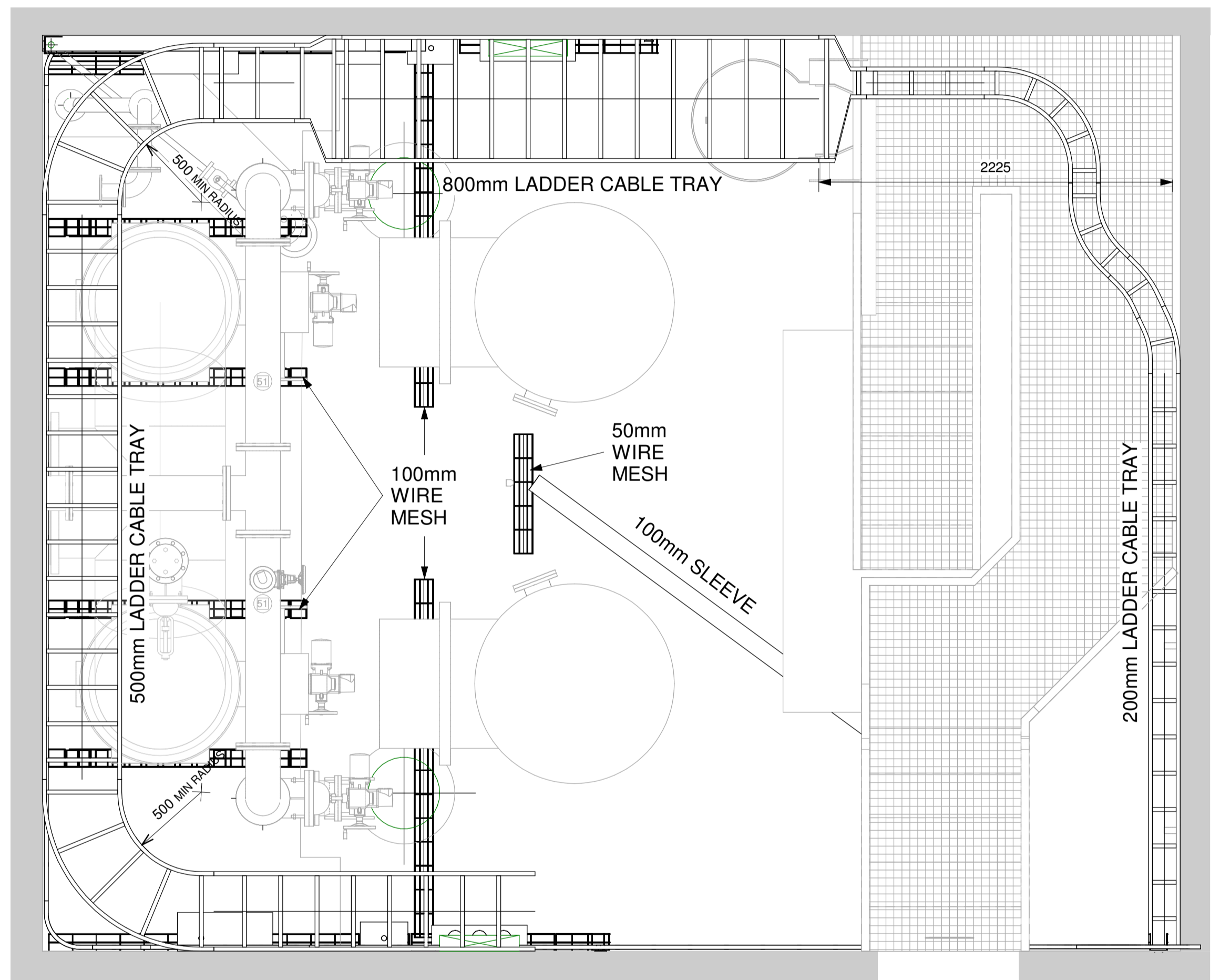
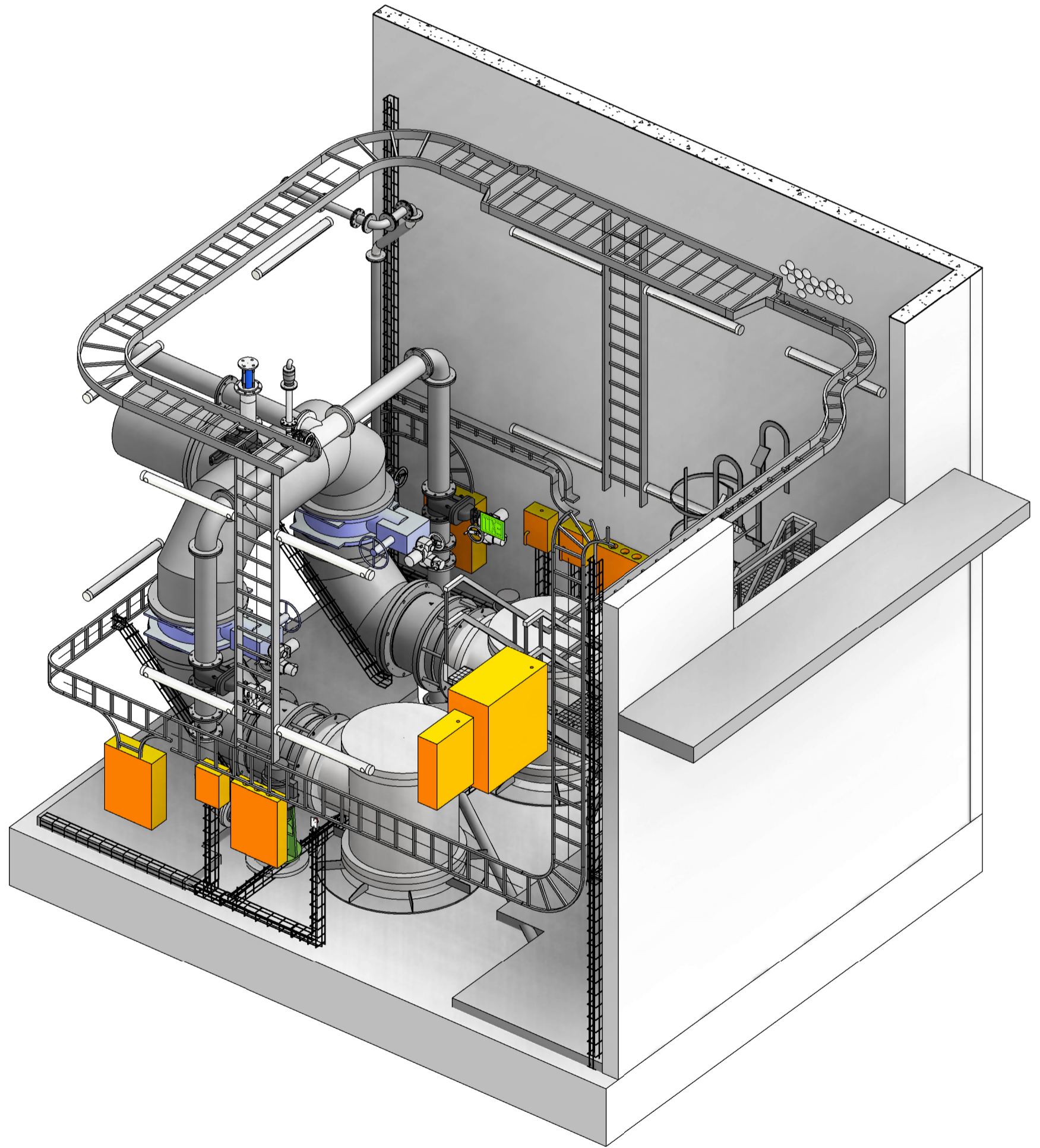
**Section 5**  
SCALE 1 : 50



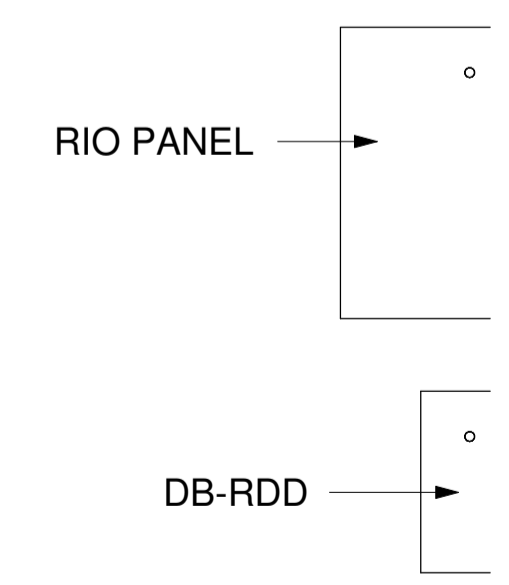
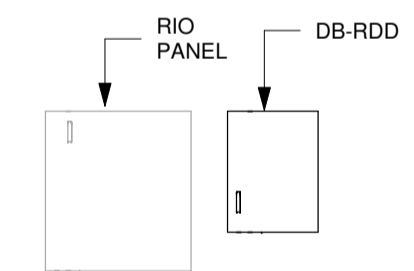
**Section 6**  
SCALE 1 : 50

Acceptance	Name	Signature	Date
Senior Engineer	Transnet		
Project Engineer	Transnet		
Managing contractor	WSP		

- GENERAL NOTES:**
- LARGE SCALE DRAWINGS ENJOY PREFERENCE OVER SMALL SCALE DRAWINGS.
  - DO NOT SCALE DRAWINGS, DIMENSIONS ONLY TO BE USED.
  - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE INDICATED.



**CABLE TRAY LAYOUT**  
SCALE 1 : 25



**AS BUILT**

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REVISION SCHEDULE				
No	DATE	DESCRIPTION	DRW	CHK
Z	02/03/23	AS BUILT	JET	WS

PROFESSIONAL ENGINEER		
SIGNATURE	W Snyman 2005166	02/03/23
	NAME AND PR No	DATE
CONTRACTOR		
SIGNATURE	NAME	DATE
DESIGNED	DRAWN	CHECKED
WMS	TP	WMS

**CONSULTANT**

**ixengineers** Infrastructure Excellence **H&I**

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Haw & Inglis Hillcrest Farm, Tygerberg Valley Rd, Durbanville, Cape Town, 7550

**CLIENT**

**TRANSNET**

**TRANSNET**

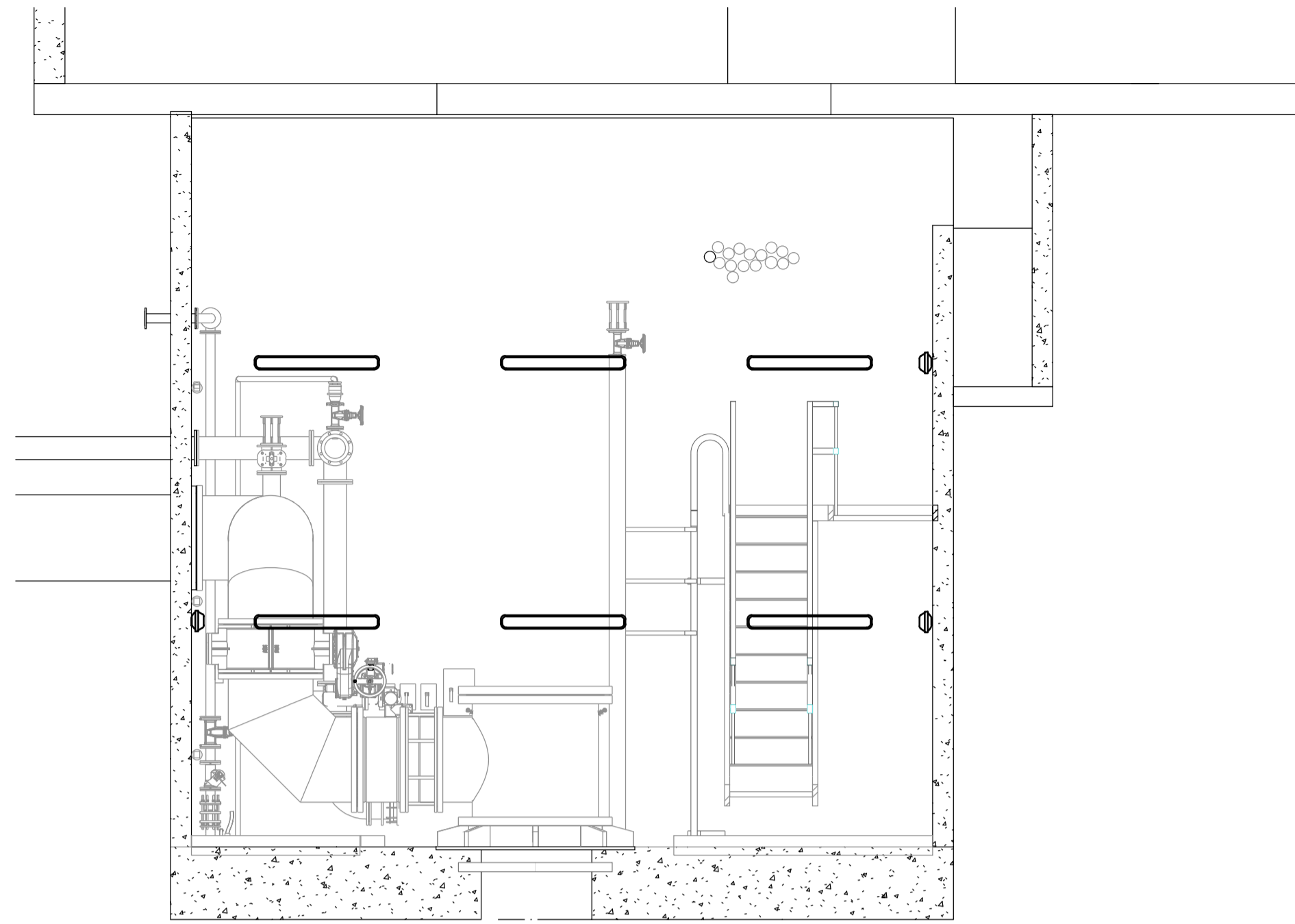
**PROJECT**

**ROBINSON DRY DOCK DEWATERING SYSTEMS**

**DRAWING DESCRIPTION**

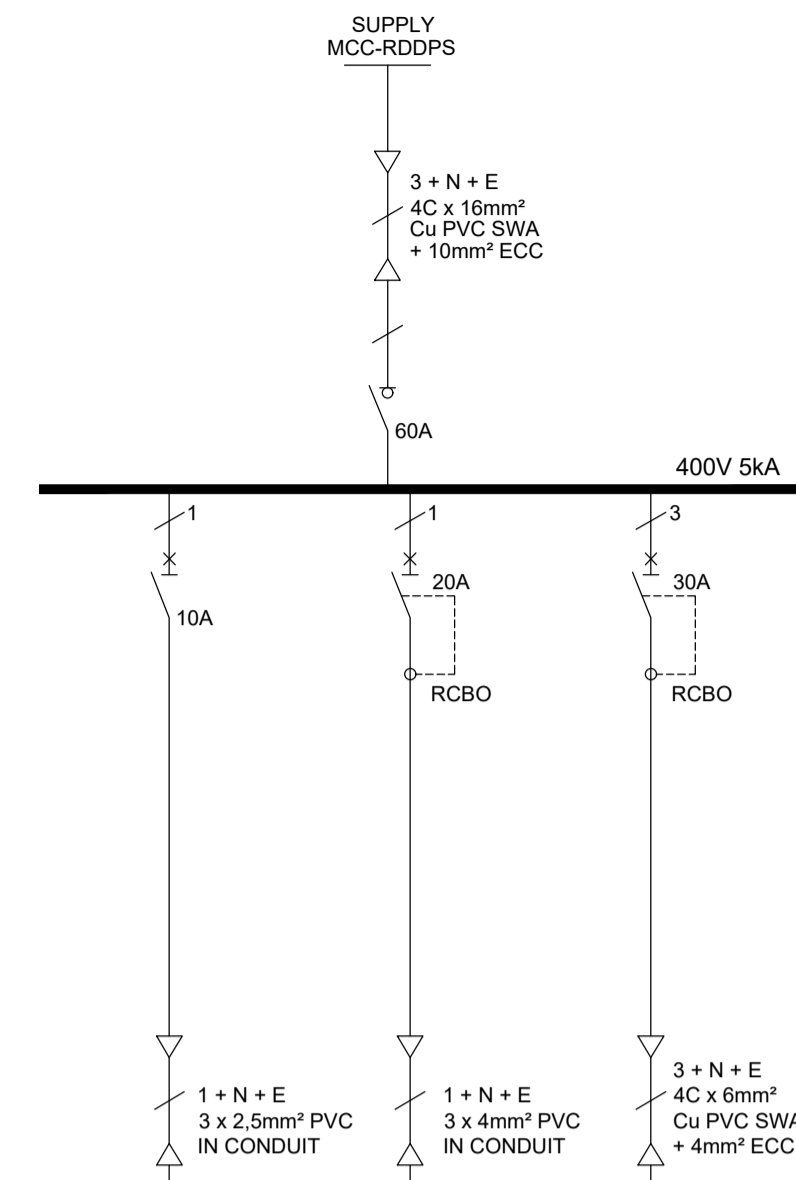
**CABLE LADDER TRAY LAYOUT**

SCALE FOR REDUCED PLAN		
DATE	SCALE	ORIGINAL SIZE
APR 2022	AS SHOWN	A1
DRAWING NUMBER		REV
P07551-E-GA-013		Z



**SECTION A**

CTPR-PH-DB-01



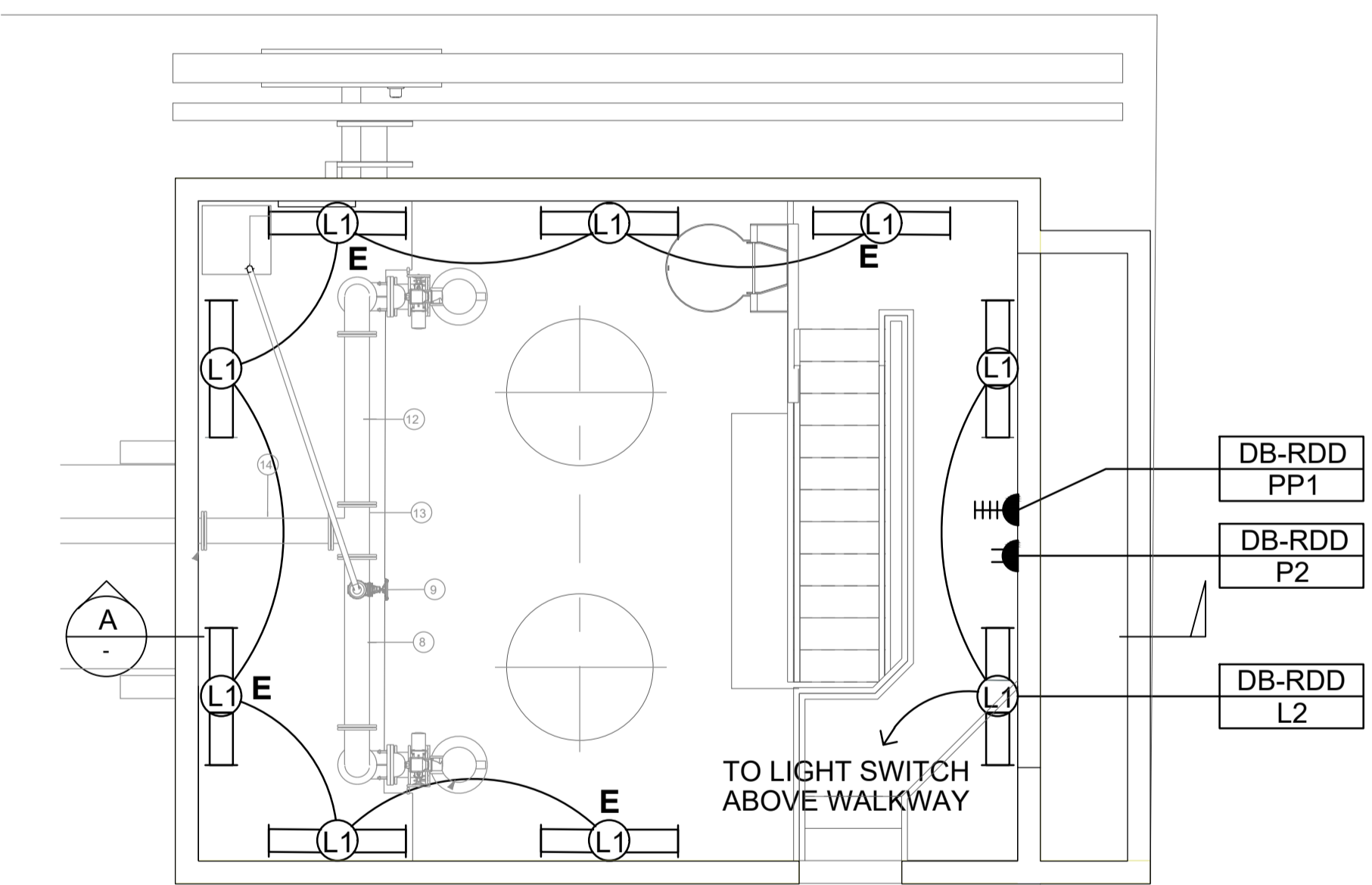
TAG No.	DB-RDD-L1 DB-RDD-L2	DB-RDD-P1 DB-RDD-P2	DB-RDD-PP1
DESCRIPTION	LIGHTING	1 PHASE SOCKET OUTLETS	3 PHASE SOCKET OUTLETS
RATING	2 x 1.5 kW	2 x 3 kW	13.5 kW

**LEGEND**

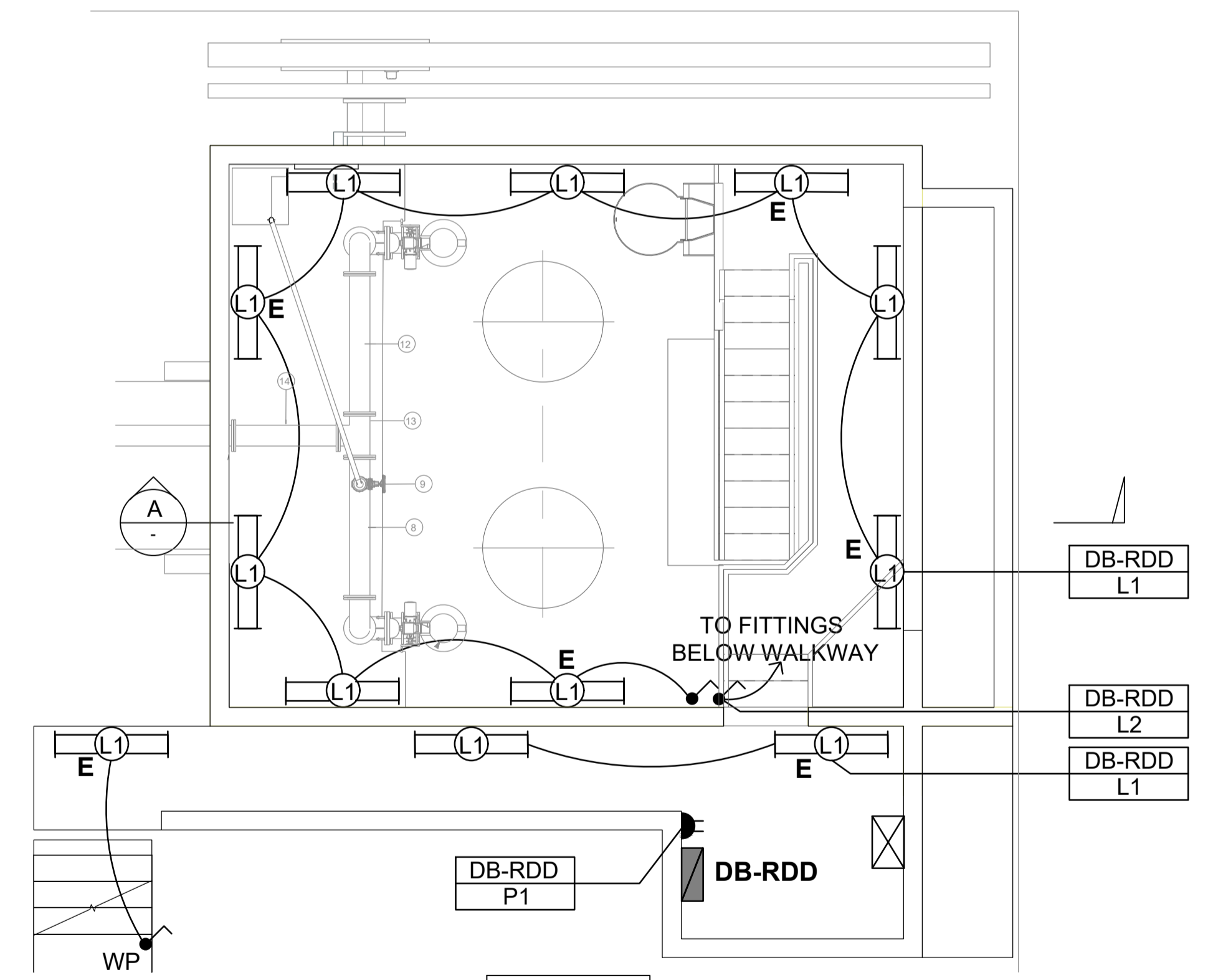
- (L1) TYPE L1 LIGHT FITTING  
30W LED VAPOUR PROOF LUMINAIRE  
SURFACE MOUNTED
- ⎓ LIGHT SWITCH - NUMBER OF LEVERS  
AS INDICATED (ONE WAY)
- ⎓ LIGHT SWITCH - NUMBER OF LEVERS  
AS INDICATED WHERE XX DENOTES  
NUMBER OF WAYS
- E DENOTES MAINTAINED EMERGENCY  
LIGHT FITTING
- DENOTES CIRCUITING
- - - DENOTES SAME CIRCUIT, SWITCHED  
DIFFERENTLY
- ⎓ DOUBLE NORMAL SSO MOUNTED  
@ 1200mm AFFL
- ⎓ THREE PHASE FIVE PIN SSO  
MOUNTED @ 1200mm AFFL
- ▭ ELECTRICAL DISTRIBUTION BOARD  
(SURFACE MOUNTED)
- ⊠ RIO & HMI PANEL

**NOTES**

1. LEVEL ABOVE WALKWAY - LUMINAIRES MOUNTED  
AT 4700mm AFFL.
2. ENTRANCE PASSAGE - LUMINAIRES MOUNTED  
AT 2300mm AFFL.
3. LEVEL BELOW WALKWAY - LUMINAIRES MOUNTED  
AT 2300mm AFFL.



**NOTE 3**  
**LEVEL BELOW WALKWAY  
PLAN VIEW**



**NOTE 1 & 2**  
**LEVEL ABOVE WALKWAY  
PLAN VIEW**

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

**FOR CONSTRUCTION**

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**REVISION SCHEDULE**

No	DATE	DESCRIPTION	DRW	CHK
0	12/04/22	For Discussion	SCS	WMS
1	16/05/22	For Approval	SCS	WMS
2	06/06/22	Copyright updated	SCS	WMS
3	08/07/22	Issued for Construction	SCS	WMS
4	15/07/22	Copyright updated	SCS	WMS
5	02/09/22	New Pumphouse layout	SCS	WMS
6	14/09/22	Local DB SLD added	SCS	WMS

**CONSULTING ENGINEER**

W Snyman 20050166 14/09/2022

SIGNATURE PR No DATE

**CLIENT**

SIGNATURE NAME DATE

DESIGNED	DRAWN	CHECKED
WMS	SCS	WS

**CONSULTANT**

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**H&I**

Hav & Inglis  
Hillcrest Farm,  
Tygerberg Valley Rd,  
Durbanville, Cape Town  
7550

**CLIENT**

**TRANSNET**

TRANSNET

**PROJECT**

ROBINSON DRY DOCK  
DEWATERING SYSTEMS

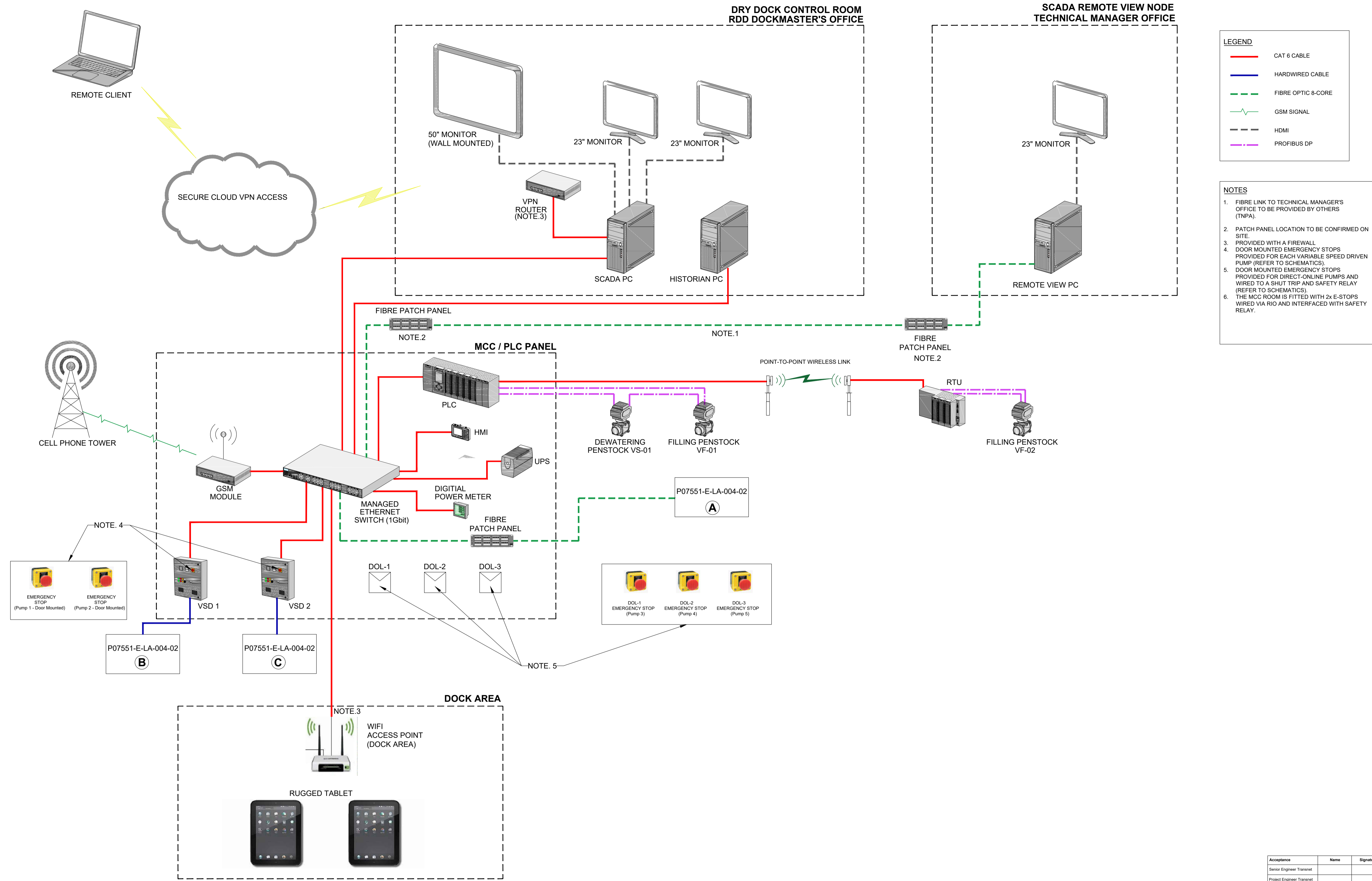
**DRAWING DESCRIPTION**

SMALL POWER AND  
LIGHTING LAYOUT

**SCALE FOR REDUCED PLAN**

DATE	SCALE	ORIGINAL SIZE
11/02/2022	1 : 50	A1

DRAWING NUMBER	REV
P07551-E-LA-002	6



**LEGEND**

- CAT 6 CABLE
- HARDWIRED CABLE
- - - FIBRE OPTIC 8-CORE
- ~ GSM SIGNAL
- - - HDMI
- - - PROFIBUS DP

- NOTES**
1. FIBRE LINK TO TECHNICAL MANAGER'S OFFICE TO BE PROVIDED BY OTHERS (TNPA).
  2. PATCH PANEL LOCATION TO BE CONFIRMED ON SITE.
  3. PROVIDED WITH A FIREWALL.
  4. DOOR MOUNTED EMERGENCY STOPS PROVIDED FOR EACH VARIABLE SPEED DRIVEN PUMP (REFER TO SCHEMATICS).
  5. DOOR MOUNTED EMERGENCY STOPS PROVIDED FOR DIRECT-ONLINE PUMPS AND WIRED TO A SHUT TRIP AND SAFETY RELAY (REFER TO SCHEMATICS).
  6. THE MCC ROOM IS FITTED WITH 2x E-STOPS WIRED VIA RIO AND INTERFACED WITH SAFETY RELAY.

**FOR CONSTRUCTION**

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All dimensions must be verified on site before the works commence. Refer any discrepancies to the Engineer.

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No	DATE	DESCRIPTION	DRW	CHK
0	17/02/22	Added Dock area and Technical Manager Office and associated equipment	SCS	WMS
1	20/04/22	Fibre link to Tech Manager's office indicated	SCS	WMS
2	11/05/22	Revised as indicated	SCS	WMS
3	16/05/22	For Approval	SCS	WMS
4	06/06/22	Copyright updated	SCS	WMS
5	08/07/22	Issued for Construction	SCS	WMS
6	15/07/22	Copyright updated, Filling Penstock amended	SCS	WMS
7	02/09/22	Split Sheet 1 and 2	SCS	WMS
8	25/10/22	Updated as Per Latest Technical Reviews & Discussions	WM	WMS

CONSULTING ENGINEER		
	W Snyman	20050166
SIGNATURE	PR No	DATE
CLIENT		
SIGNATURE	NAME	DATE
DESIGNED	DRAWN	CHECKED
WMS	WM	WS

**CONSULTANT**

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Hav & Inglis  
Hillcrest Farm,  
Tygerberg Valley Rd,  
Durbanville, Cape Town  
7550

**CLIENT**

**TRANSNET**

TRANSNET

**PROJECT**

ROBINSON DRY DOCK  
DEWATERING SYSTEMS

**DRAWING DESCRIPTION**

PUMP HOUSE CONTROL  
ARCHITECTURE  
NETWORK DIAGRAM  
SHEET 1

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

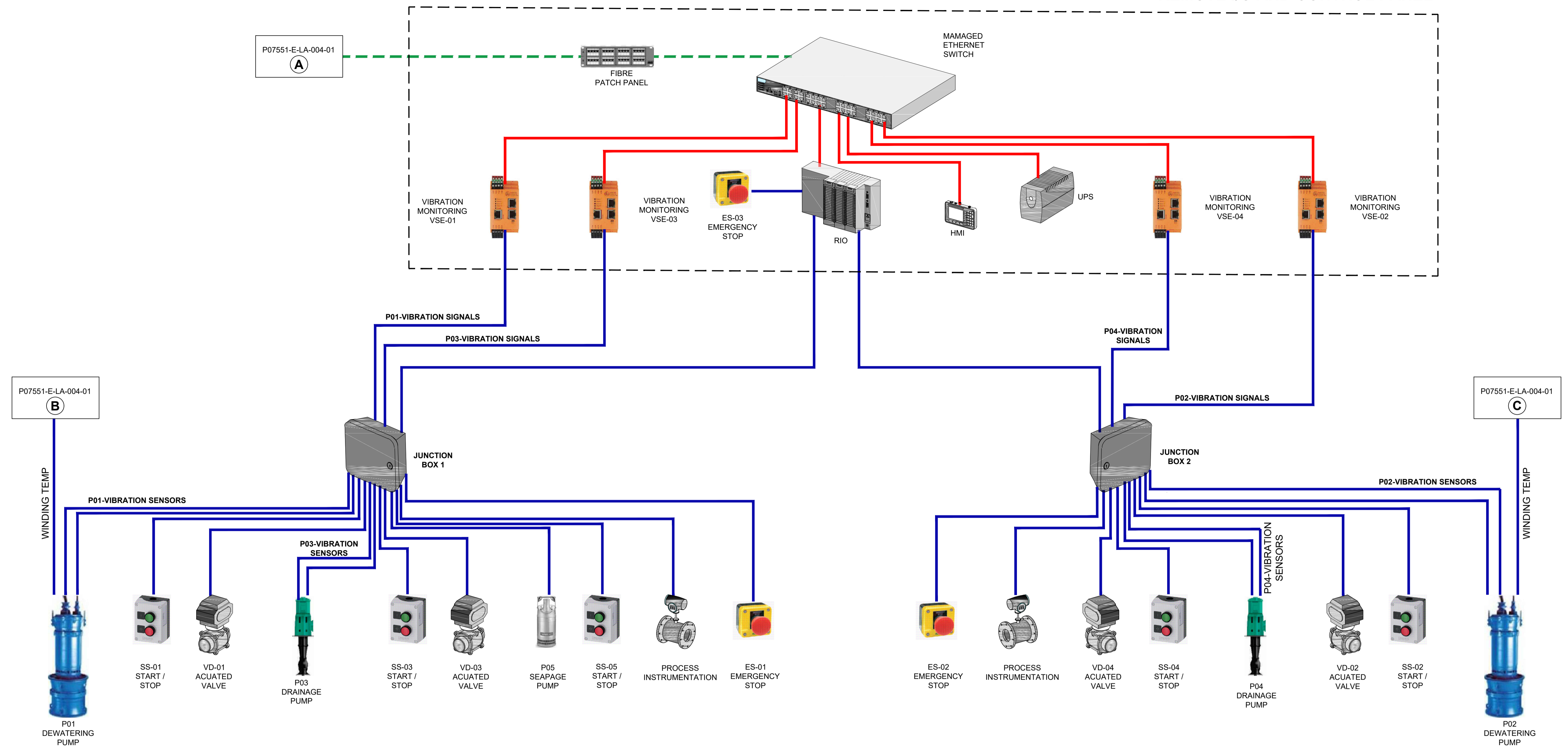
**SCALE FOR REDUCED PLAN**

0 5 10 20 30 40 50  
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
11/02/2022	NTS	A1

DRAWING NUMBER	REV
P07551-E-LA-004-01	8

REMOTE I/O AND CONTROL PANEL



**LEGEND**

- CAT 6 CABLE
- HARDWIRED CABLE
- - - FIBRE OPTIC 8-CORE
- ~ GSM SIGNAL
- - - HDMI
- - - PROFIBUS DP

**NOTES**

- THIS DRAWING TO BE READ IN CONJUNCTION WITH P07551-E-LA-004-01.
- AREA EMERGENCY STOPS PROVIDED AND ARE INTERFACED TO A SAFETY RELAY UNIT.

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

**FOR CONSTRUCTION**

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No	DATE	DESCRIPTION	DRW	CHK
0	17/02/22	Added Dock area and Technical Manager Office and associated equipment	SCS	WMS
1	20/04/22	Fibre link to Tech Manager's office indicated	SCS	WMS
2	11/05/22	Revised as indicated	SCS	WMS
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4	06/06/22	Copyright updated	SCS	WMS
5	08/07/22	Issued for Construction	SCS	WMS
6	15/07/22	Copyright updated, Filling Penstock amended	SCS	WMS
7	02/09/22	Split from drawing P07551-E-LA-004	SCS	WMS
8	25/10/2022	Updates as Per Latest Technical & Discussions	WM	WMS

CONSULTING ENGINEER		
	W Snyman	20050166
SIGNATURE	PR No	DATE
CLIENT		
SIGNATURE	NAME	DATE
DESIGNED	DRAWN	CHECKED
WMS	WM	WS

CONSULTANT

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Hav & Inglis  
Hillcrest Farm,  
Tygerberg Valley Rd,  
Durbanville, Cape Town  
7550

CLIENT

**TRANSNET**

TRANSNET

PROJECT

**ROBINSON DRY DOCK DEWATERING SYSTEMS**

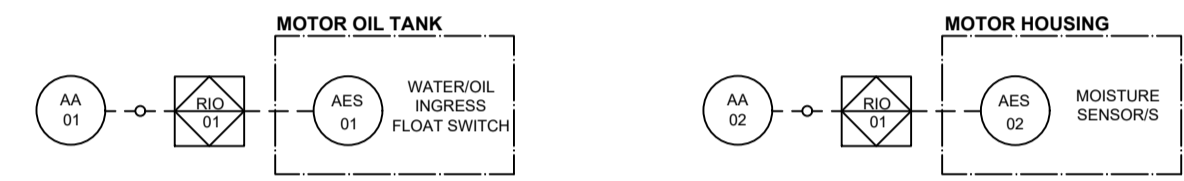
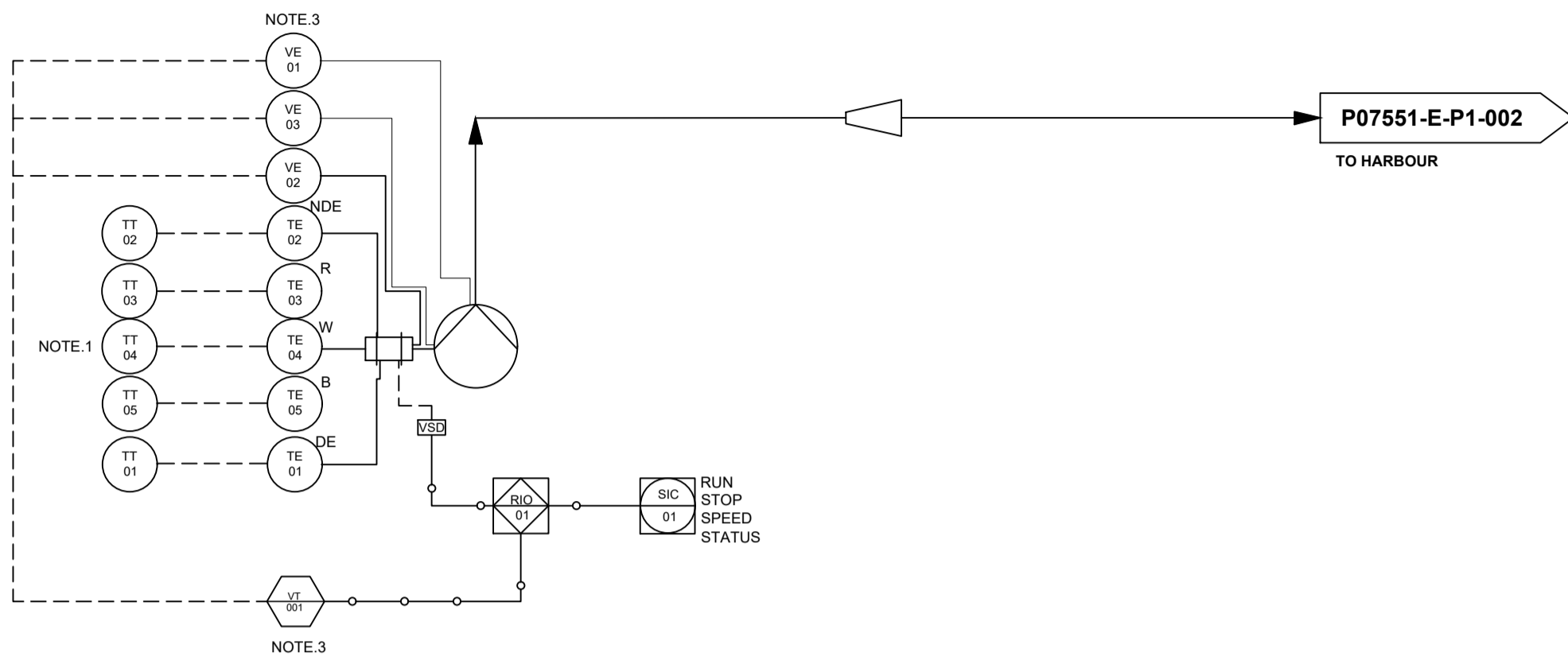
DRAWING DESCRIPTION

**PUMP HOUSE CONTROL ARCHITECTURE NETWORK DIAGRAM SHEET 2**

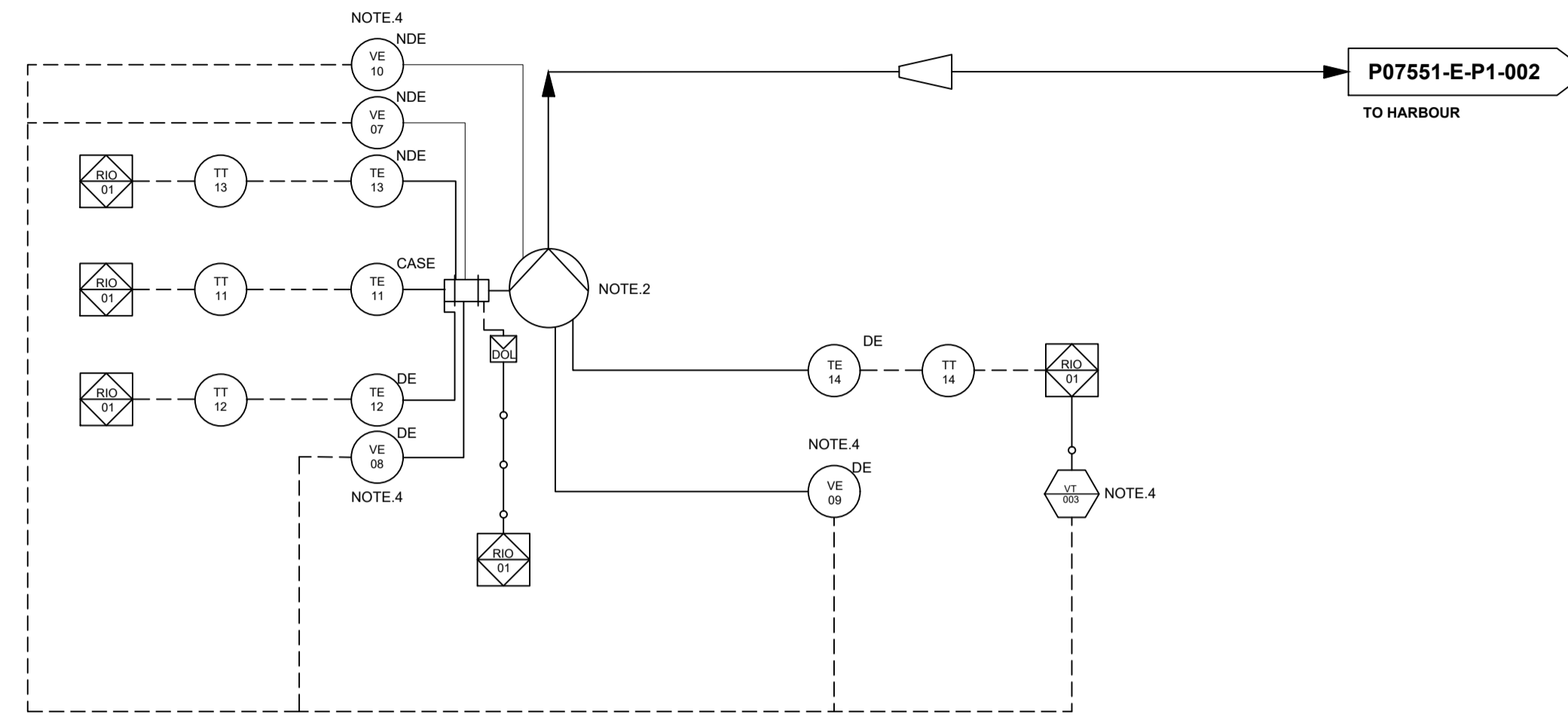
SCALE FOR REDUCED PLAN

DATE	SCALE	ORIGINAL SIZE
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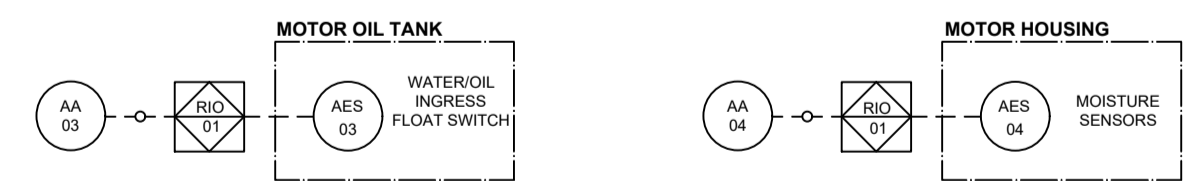
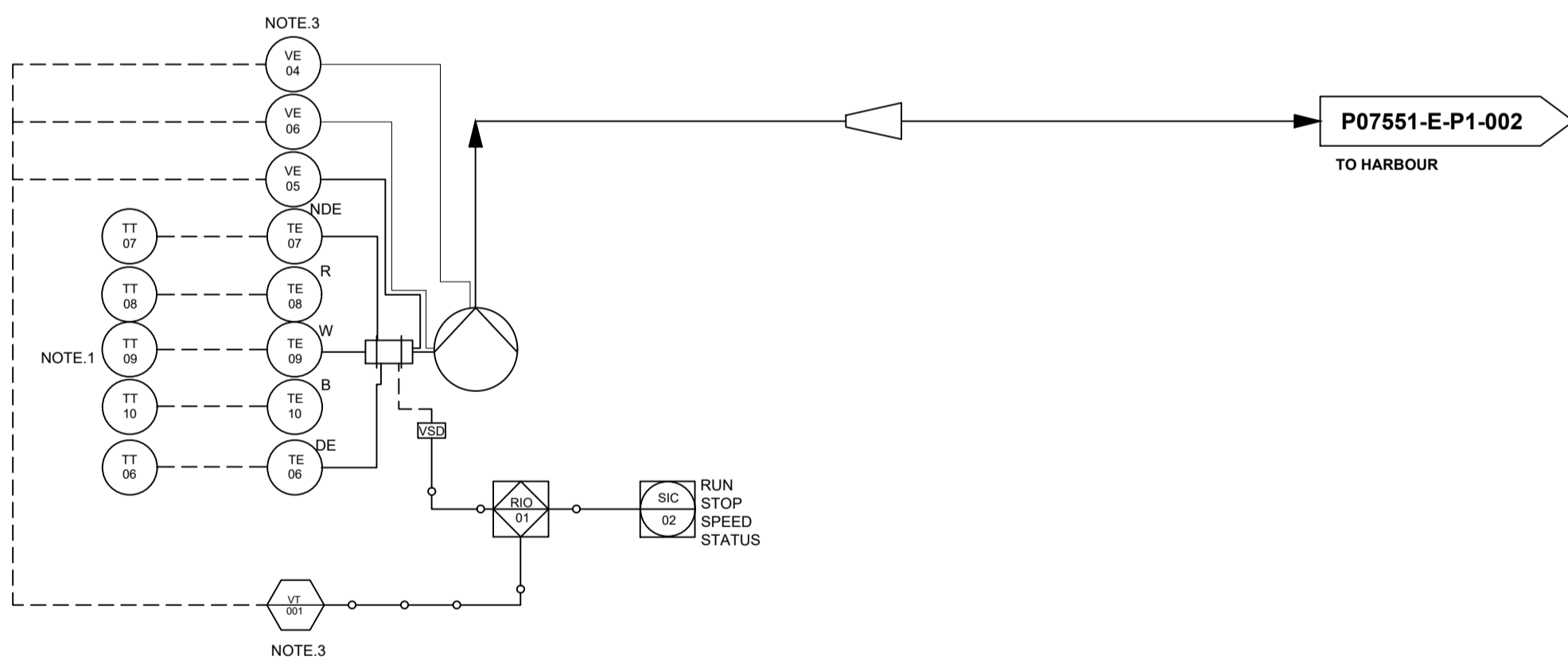
DRAWING NUMBER	REV
P07551-E-LA-004-02	8



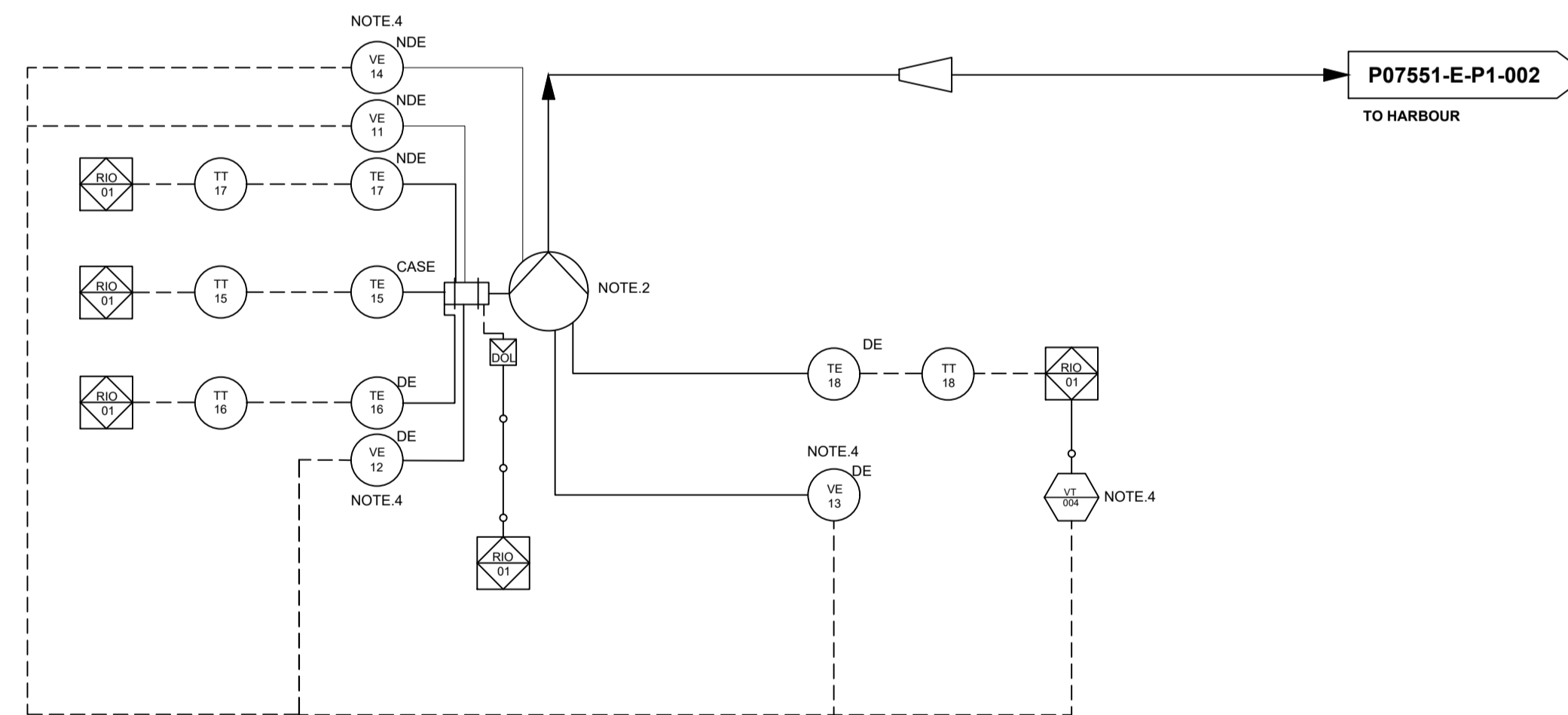
**MAIN DEWATERING PUMP 01**



**DRAINAGE PUMP 03**



**MAIN DEWATERING PUMP 02**



**DRAINAGE PUMP 04**

PROCESS LINES		INSTRUMENTATION BASED ON ISA 55.1				
=====	CULVERT	PROGRAMMABLE LOGIC CONTROL	COMPUTER FUNCTION	SHARED DISPLAY, SHARED CONTROL	DISCRETE INSTRUMENTS	
----->	PROCESS LINE					
-----	ELECTRICAL SIGNAL	XXX	XX	XX	XXXX	FIELD MOUNTED
~ ~ ~	UNGUIDED SIGNAL					
-----	GUIDED SIGNAL	XXX	XX	XX	XX	PRIMARY LOCATION NORMALLY ACCESSIBLE
---o---	SOFTWARE CONNECTION					
∇	VALVE	TAGGING STRUCTURE			LIST OF ISA ABB USED	
∇	NON RETURN VALVE	PIPELINES			AA ANALYSIS ALARM AES ANALYSIS ELEMENT STOP ES EMERGENCY STOP	
XXXX	CHEMICAL SEAL	NNN-AA PIPE SIZE - PIPE SPEC			FAL FLOW ALARM HIGH FS FLOW SWITCH LAHH LEVEL ALARM HIGH HIGH LIH LEVEL INDICATION HIGH LIT LEVEL INDICATION AND TRANSMITTER	
∇	BALL VALVE	DRAWING NO. DESTINATION OR SOURCE			LS LEVEL SWITCH LSH LEVEL SWITCH HIGH LSL LEVEL SWITCH LOW	
∇	PENSTOCK	TYPE-NN SIZE			PE PRESSURE ELEMENT PI PRESSURE INDICATION PIT PRESSURE INDICATION AND TRANSMITTER SIC SPEED (STATUS) INDICATION & CONTROL	
∇	CENTRIFUGAL PUMP	TYPE-NN			TE TEMPERATURE ELEMENT TT TEMPERATURE TRANSMIT TS TEMPERATURE SWITCH VE VIBRATION ELEMENT (SENSOR) VT VIBRATION ANALYZER & TRANSMITTER	
∇	ELECTRICAL ACTUATOR	TYPE-NN			XV CONTROL VALVE ZA POSITION ALARM ZIH POSITION INDICATION HIGH ZIL POSITION INDICATION LOW ZS POSITION SWITCH ZSH POSITION SWITCH HIGH ZSL POSITION SWITCH LOW ZT POSITION INDICATION	
∇	ELECTRICAL MOTOR	TYPE-NN				

**NOTES :**

- TEMPERATURE SENSORS ARE HARDWIRED TO MOTOR DRIVE AS A SAFETY DEVICE.
- EACH PUMP TO INCLUDE SUB EQUIPMENT OF A HEATER AND VENTILATION FAN (NOT INDICATED)
- EACH DEWATERING PUMP IS EQUIPPED WITH VIBRATION SENSORS (SUBMERSIBLE). A 4-20mA SIGNAL FROM EACH SENSOR IS WIRED TO THE ANALYZER AND TRANSMITTED TO PLC.
  - TOP RADIAL
  - MOTOR HORIZONTAL
  - PUMP HORIZONTAL
- EACH DRAINAGE PUMP IS EQUIPPED WITH VIBRATION SENSORS. A 4-20mA SIGNAL FROM EACH SENSOR IS WIRED TO THE ANALYZER AND TRANSMITTED TO PLC.
  - MOTOR DRIVE & NON-DRIVE ENDS
  - PUMP DRIVE & NON-DRIVE ENDS

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

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No	DATE	DESCRIPTION	DRW	CHK
1	16/05/22	For Approval	SCS	WMS
2	06/06/22	Copyright updated	SCS	WMS
3	08/07/22	Issued for Construction	SCS	WMS
4	15/07/22	Copyright updated	SCS	WMS
5	02/09/22	Add Pumps 01 to 04	SCS	WMS
6	06/09/22	Pump 01 and 02 updated	SCS	WMS
7	09/09/22	PLC tag number added.	SCS	WMS
8	25/10/22	Updated Vibration Monitoring	WM	WMS

CONSULTING ENGINEER		
W Snyman	20050166	25/10/22
SIGNATURE	PR No	DATE
CLIENT		
SIGNATURE	NAME	DATE
DESIGNED	DRAWN	CHECKED
WMS	WM	WS

**CONSULTANT**

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Hav & Inglis  
Hillcrest Farm,  
Tygerberg Valley Rd,  
Durbanville, Cape Town  
7550

**CLIENT**

**TRANSNET**

**TRANSNET**

**PROJECT**

**ROBINSON DRY DOCK DEWATERING SYSTEMS**

**DRAWING DESCRIPTION**

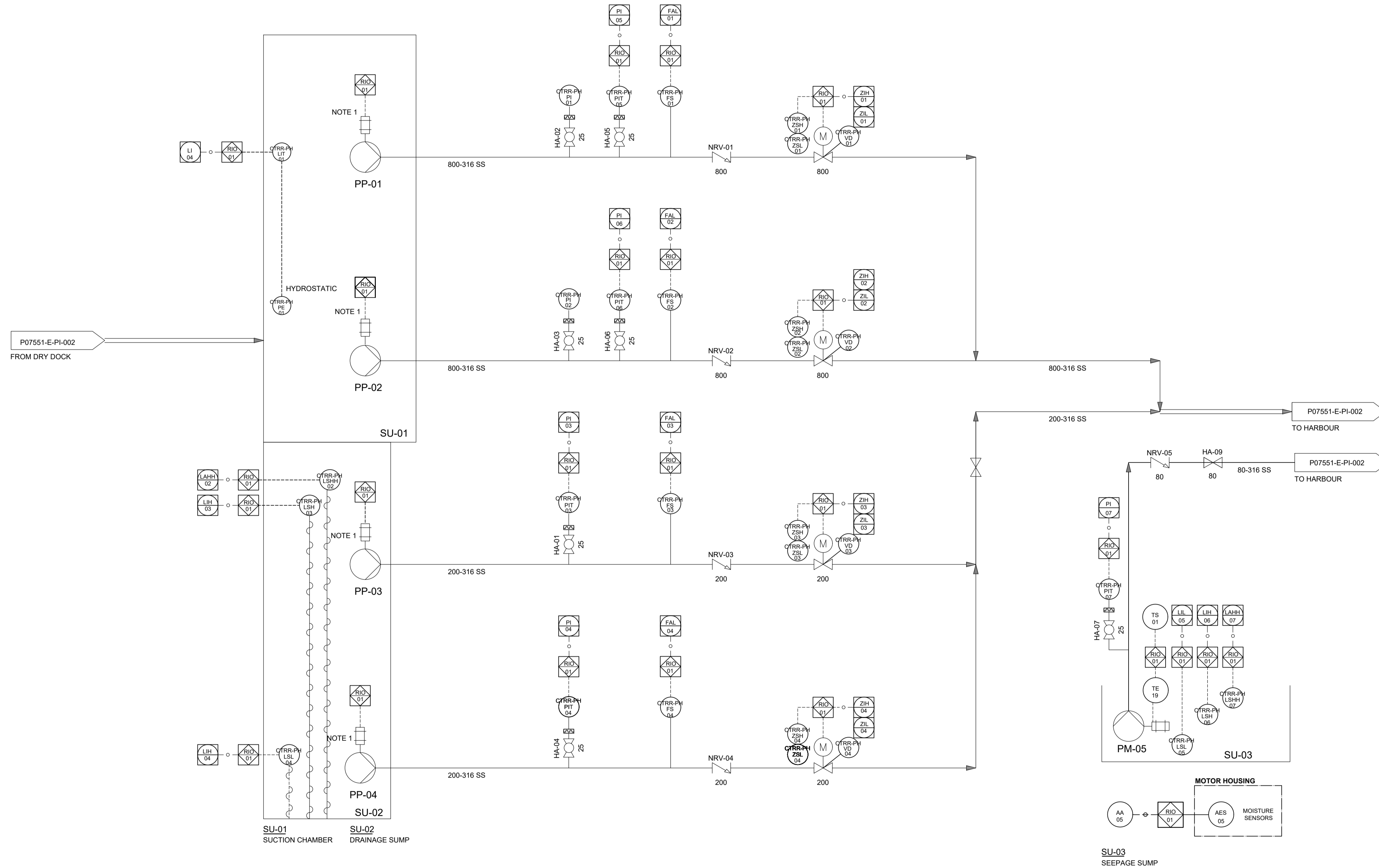
**PIPING AND INSTRUMENTATION DIAGRAM DEWATERING AND DRAINAGE PUMPSETS**

SCALE FOR REDUCED PLAN		
DATE	SCALE	ORIGINAL SIZE
11/02/2022	NTS	A1
DRAWING NUMBER		REV
P07551-E-PI-001		8



PP-01 MAIN DEWATERING PUMP 01 RATED POWER: 220 kW  
 PP-02 MAIN DEWATERING PUMP 02 RATED POWER: 220 kW  
 PP-03 DRAINAGE PUMP 03 RATED POWER: 15 kW  
 PP-04 DRAINAGE PUMP 04 RATED POWER: 15 kW  
 PM-05 SEEPAGE PUMP 05 RATED POWER: 2 kW

PROCESS LINES		INSTRUMENTATION BASED ON ISA 55.1				
	CULVERT	PROGRAMMABLE LOGIC CONTROL	COMPUTER FUNCTION	SHARED DISPLAY, SHARED CONTROL	DISCRETE INSTRUMENTS	
	PROCESS LINE					FIELD MOUNTED
	ELECTRICAL SIGNAL					FIELD MOUNTED
	UNGUIDED SIGNAL					FIELD MOUNTED
	GUIDED SIGNAL					FIELD MOUNTED
	SOFTWARE CONNECTION					FIELD MOUNTED
	VALVE	TAGGING STRUCTURE			LIST OF ISA ABB USED	
	NON RETURN VALVE	PIPELINES			AA ANALYSIS ALARM AES ANALYSIS ELEMENT STOP ES EMERGENCY STOP	
	CHEMICAL SEAL	PIPE SIZE - PIPE SPEC			FAL FLOW ALARM HIGH FS FLOW SWITCH	
	BALL VALVE	DRAWING NO. DESTINATION OR SOURCE			LAHH LEVEL ALARM HIGH HIGH LI LEVEL INDICATION HIGH LH LEVEL INDICATION HIGH LIT LEVEL INDICATION AND TRANSMITTER	
	PENSTOCK	TYPE-NN			LS LEVEL SWITCH LSH LEVEL SWITCH HIGH HIGH LSL LEVEL SWITCH LOW	
	CENTRIFUGAL PUMP	SIZE			PE PRESSURE ELEMENT PI PRESSURE INDICATION PIT PRESSURE INDICATION AND TRANSMITTER	
	ELECTRICAL ACTUATOR	EQUIPMENT CODE			SIC SPEED (STATUS) INDICATION & CONTROL	
	ELECTRICAL MOTOR	TYPE-NN			TE TEMPERATURE ELEMENT TT TEMPERATURE TRANSMITTER TS TEMPERATURE SWITCH VE VIBRATION ELEMENT (SENSOR) VT VIBRATION ANALYZER & TRANSMITTER	
					XV CONTROL VALVE ZA POSITION ALARM ZH POSITION INDICATION HIGH ZL POSITION INDICATION LOW ZS POSITION SWITCH ZSH POSITION SWITCH HIGH ZSL POSITION SWITCH LOW ZT POSITION INDICATION	



NOTE  
 1. REFER TO DRAWING P07551-E-PI-001

VALVE SIGNALS  
 ZCO - VALVE OPEN COMMAND  
 ZCC - VALVE CLOSE COMMAND  
 ZSL - POSITION INDICATION LOW (STATUS)  
 ZSH - POSITION INDICATION HIGH (STATUS)  
 XS - TORQUE FAILURE FEEDBACK

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

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No	DATE	DESCRIPTION	DRW	CHK
1	25/04/22	Added valve to seepage system. Changed pipe dia. to 80mm for Drainage system. Updated pump power ratings.	SCS	WMS
07	09/09/22	For Approval	SCS	WMS
2	16/05/22	For Approval	SCS	WMS
3	06/06/22	Numbering and pipes dia updated	SCS	WMS
4	08/07/22	Issued for Construction	SCS	WMS
5	15/07/22	Copyright updated	SCS	WMS
6	02/09/22	Seepage Pumps monitoring added	SCS	WMS
7	09/09/22	PLC tag number added.	SCS	WMS
8	25/10/22	Updated as Per Client Comments	WM	WMS

CONSULTING ENGINEER		
W Snyman 20050166	25/10/2022	
SIGNATURE	PR No DATE	
CLIENT		
SIGNATURE	NAME DATE	
DESIGNED	DRAWN	CHECKED
WMS	WM	WS

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 Tel: +27 (0) 21 912 3000  
 www.ixengineers.co.za  
 Hav & Inglis Hillcrest Farm, Tygerberg Valley Rd, Durbanville, Cape Town 7550

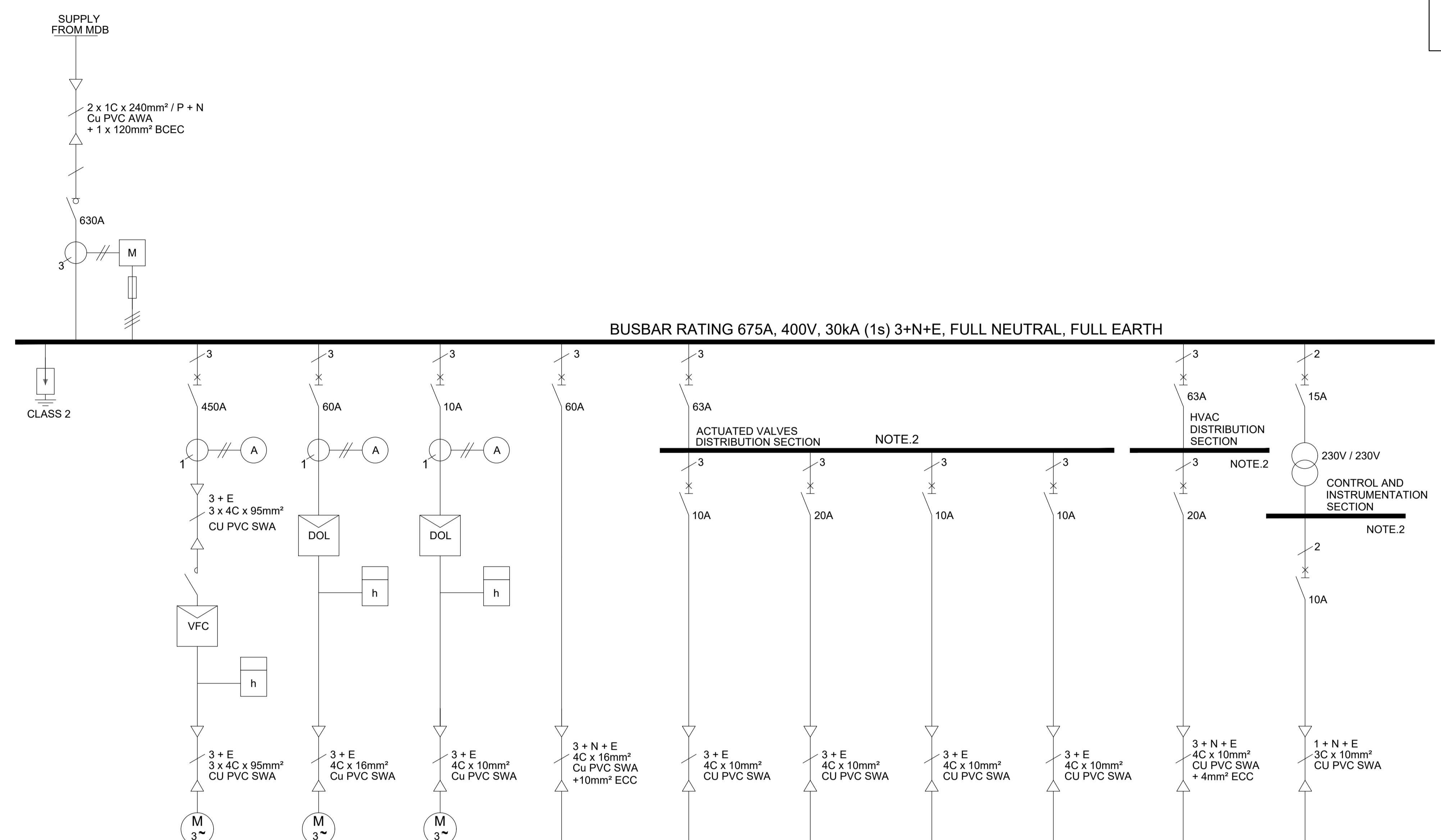
CLIENT  
**TRANSNET**

PROJECT  
**ROBINSON DRY DOCK DEWATERING SYSTEMS**

DRAWING DESCRIPTION  
**PIPING AND INSTRUMENTATION DIAGRAM DEWATERING & DRAINAGE PUMPS**

SCALE FOR REDUCED PLAN  
  
 DATE: 11/02/2022 SCALE: NTS ORIGINAL SIZE: A1  
 DRAWING NUMBER: P07551-E-PI-003 REV: 8

NOTES.  
 1. REFER TO DRAWING P07551-E-SH-001 FOR LEGEND.  
 2. CASCADE SYSTEM LABELLING TO BE APPLIED



TAG No.	INCOMER MCC-RDDPS	CTRR-PH-PP-01 CTRR-PH-PP-02	CTRR-PH-PP-03 CTRR-PH-PP-04	CTRR-PH-PP-05	CTRR-PH-DB-01	CTRR-DD-VF-01	CTRR-DD-VS-01	CTRR-DD-VD-01 CTRR-DD-VD-02	CTRR-DD-VD-03 CTRR-DD-VD-04	CTRR-PH-HVC-01 CTRR-PH-HVC-02	CTRR-PH-CI-01 CTRR-PH-CI-02
DESCRIPTION	INCOMER	MAIN DEWATERING PUMP 1 & 2	DRAINAGE PUMP 3 & 4	SEEPAGE PUMP 5	PUMP HOUSE LOCAL DISTRIBUTION BOARD	ELECTRICALLY ACTUATED VALVE	ELECTRICALLY ACTUATED VALVE	ELECTRICALLY ACTUATED VALVE	ELECTRICALLY ACTUATED VALVE	MCC ROOM HVAC	CONTROL AND INSTRUMENTATION
RATING	630A	2 x 220 kW	2 x 15 kW	1 x 2.2 kW	1 x 30 kW	1 x 1.4 kW	1 x 3.3 kW	2 x 1.6 kW	2 x 0.28 kW	1 x 7.5 kW	1.5kW

Acceptance	Name	Signature	Date
Senior Engineer Transnet			
Project Engineer Transnet			
Managing Contractor WSP			

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No	DATE	DESCRIPTION	DRW	CHK
0-2	01/04/22	Issued for Discussion	SCS	WMS
3-4	16/05/22	For Approval	SCS	WMS
5-6	08/07/22	Issued for Construction	SCS	WMS
7	15/07/22	Revise Drainage Pump 3 & 4 rating to 15kW	SCS	WMS
8	14/09/22	VF-02 Removed DB-01. Added VD-03 & VD-04 rating updated	SCS	WMS
9	15/09/22	Ammeter for circuit DB-01 removed	SCS	WMS

CONSULTING ENGINEER		
SIGNATURE	W Snyman 20050166	15/09/2022
PR No		DATE
CLIENT		
SIGNATURE	NAME	DATE
DESIGNED	DRAWN	CHECKED
WMS	SCS	WS

CONSULTANT

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 Tygerberg Valley Rd,  
 Durbanville, Cape Town  
 7550

CLIENT

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TRANSNET

PROJECT

**ROBINSON DRY DOCK  
 DEWATERING SYSTEMS**

DRAWING DESCRIPTION

**PROPOSED MCC-RDDPS  
 SINGLE LINE DIAGRAM**

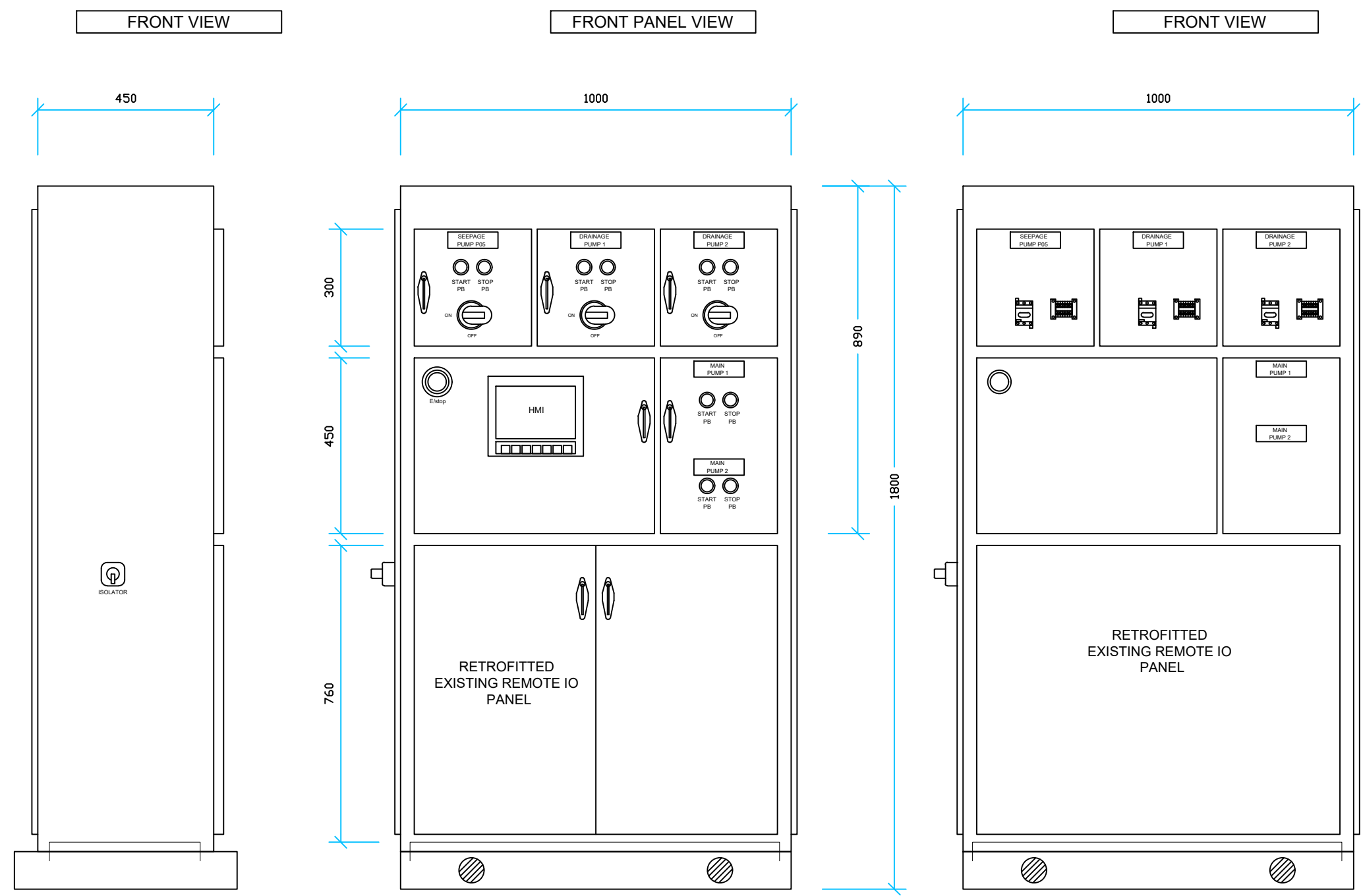
SCALE FOR REDUCED PLAN

DATE	SCALE	ORIGINAL SIZE
11/02/2022	NTS	A1
DRAWING NUMBER		REV
P07551-E-SH-005		9

COMMENTS

- PANEL MANUFACTURE TO ISSUE FINAL SHOP LAYOUT FOR APPROVAL BEFORE CONSTRUCTION
- ALL HINGES, HANDLES, BOLTS AND FIXINGS TO BE 316 STAINLESS STEEL
- PANEL MATERIAL 3CR12
- ALL PANELS ON SIDE AND REAR TO BE REMOVABLE BY USE OF A TOOL
- POWDER COATING ELECTRICAL ORANGE COVERED BY A LACQUER COATING
- LINK 25mm<sup>2</sup> INS. WIRE BETWEEN E/STUD & E/BAR. (E/STUD TO BE M12 BOLT)
- MAKE PROVISION FOR LIFTING LUGS
- KIOSK TO HAVE A LACQUER COATING AFTER POWDER COATING
- ALL RELEVANT SANS SPECIFICATIONS AS PER THE OHS ACT ARE TO BE COMPLIED WITH
- REAR CABLE ENTRY

Rev 0 - Changelog  
 - Initial design draft

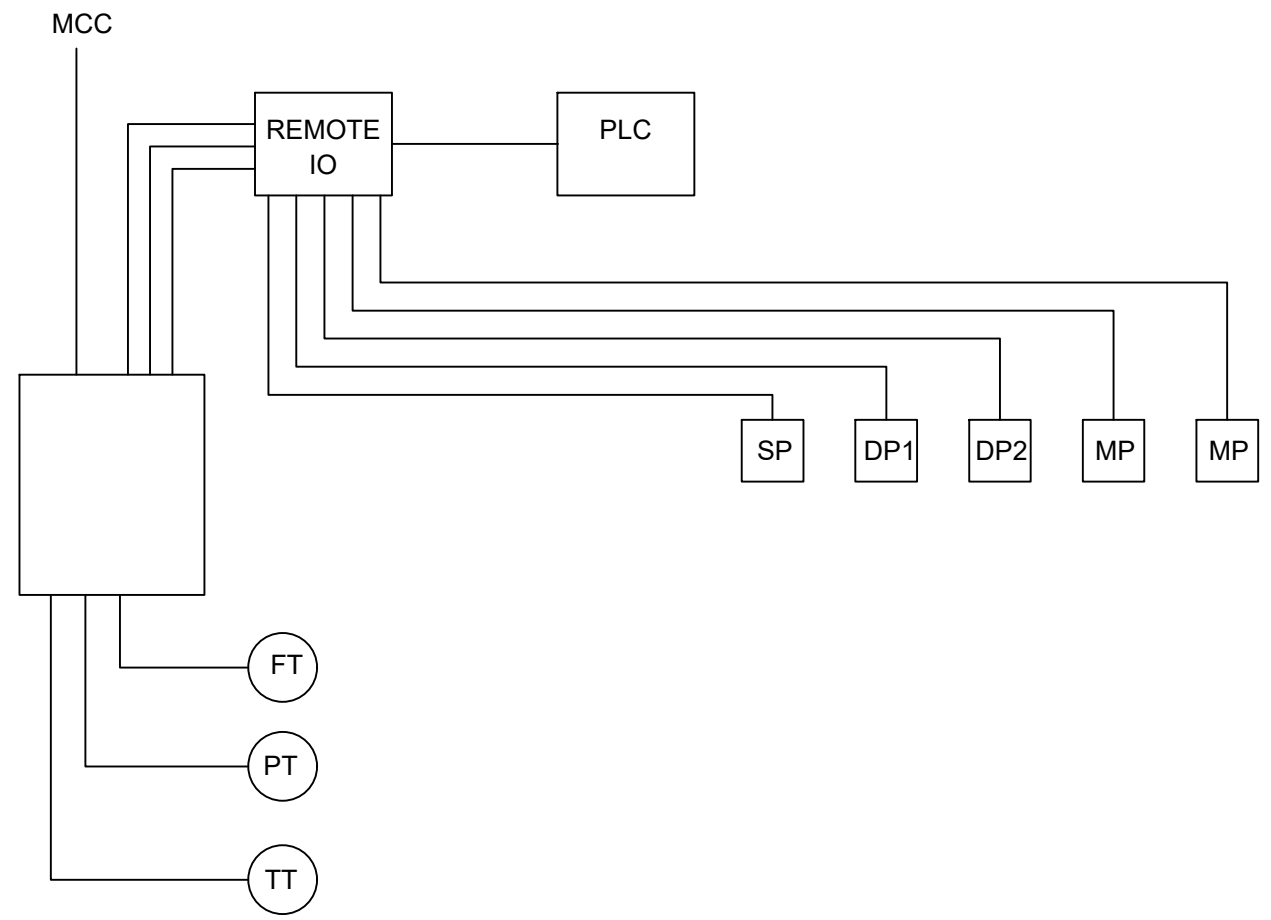


No.	REVISIONS	DATE	DRAWN	M Raven	CHECKED	
Rev0	CLIENT CONCEPT DESIGN DRAFT	19/11/2024	SCALE	NTS	PAGE SIZE	A3
			<b>No.</b>	KIOSK-TNPA-RDD-2025		
			DATE	05/03/2025	SHEET	1
				AMENDMENT	Rev0	

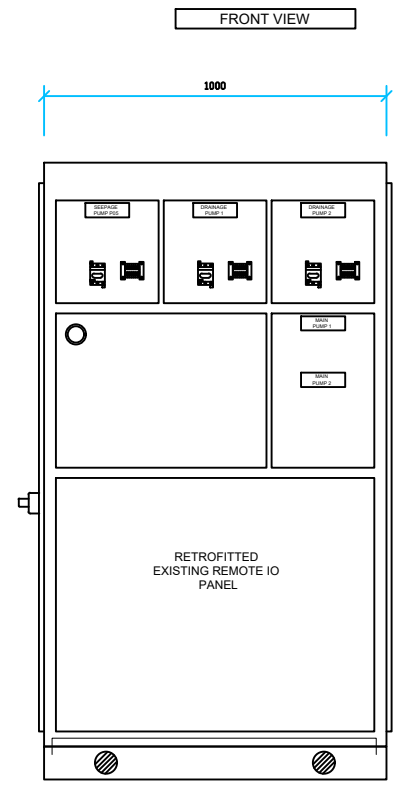
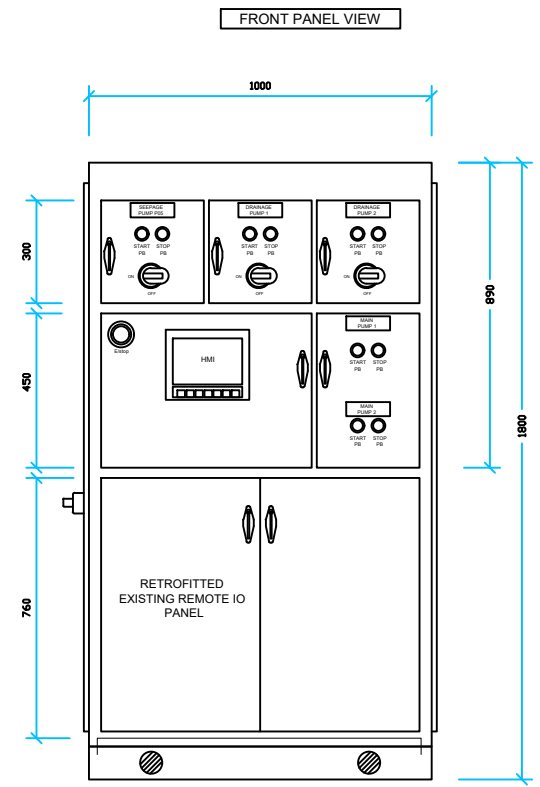
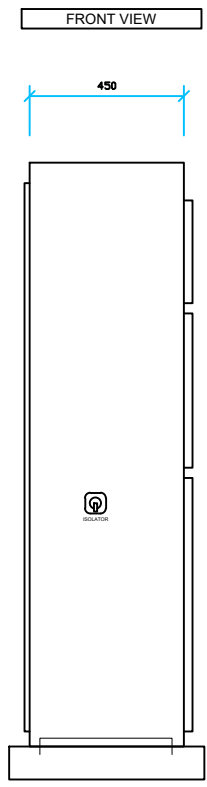
TNPA EL&P  
 1 DUNCAN ROAD  
 CAPE TOWN HARBOUR  
 TEL 021 449 2561  
 FAX 021 449 4173

PORT OF CAPE TOWN

TNPA ELECTRICAL  
 RDD PUMP MOTOR  
 SUPPLY BOX



- COMMENTS
- ALL DIMENSION ARE IN MM UNLESS OTHERWISE STATED
  - PANEL MANUFACTURE TO ISSUE FINAL SHOP LAYOUT FOR APPROVAL BEFORE CONSTRUCTION
  - ALL HINGES, HANDLES, BOLTS AND FIXINGS TO BE 316 STAINLESS STEEL
  - PANEL MATERIAL 3CR12
  - ALL PANELS ON SIDE AND REAR TO BE REMOVABLE BY USE OF A TOOL
  - POWDER COATING ELECTRICAL ORANGE COVERED BY A LACQUER COATING
  - LINK 25mm<sup>2</sup> INS. WIRE BETWEEN E/STUD & E/BAR. (E/STUD TO BE M12 BOLT)
  - MAKE PROVISION FOR LIFTING LUGS
  - KIOSK TO HAVE A LACQUER COATING AFTER POWDER COATING
  - ALL RELEVANT SANS SPECIFICATIONS AS PER THE OHS ACT ARE TO BE COMPLIED WITH
- Rev 0 - Changelog  
 WITH REVISIONS TO THE PANELS



No.	REVISIONS	DATE	DRAWN	M Raven	CHECKED	
Rev0	CLIENT CONCEPT DESIGN DRAFT	19/11/2024	SCALE	NTS	PAGE SIZE	A3
			No. KIOSK-TNPA-RDD-2025			
			DATE	03/03/2025	SHEET	1
			AMENDMENT		Rev0	

**TNPA EL&P**

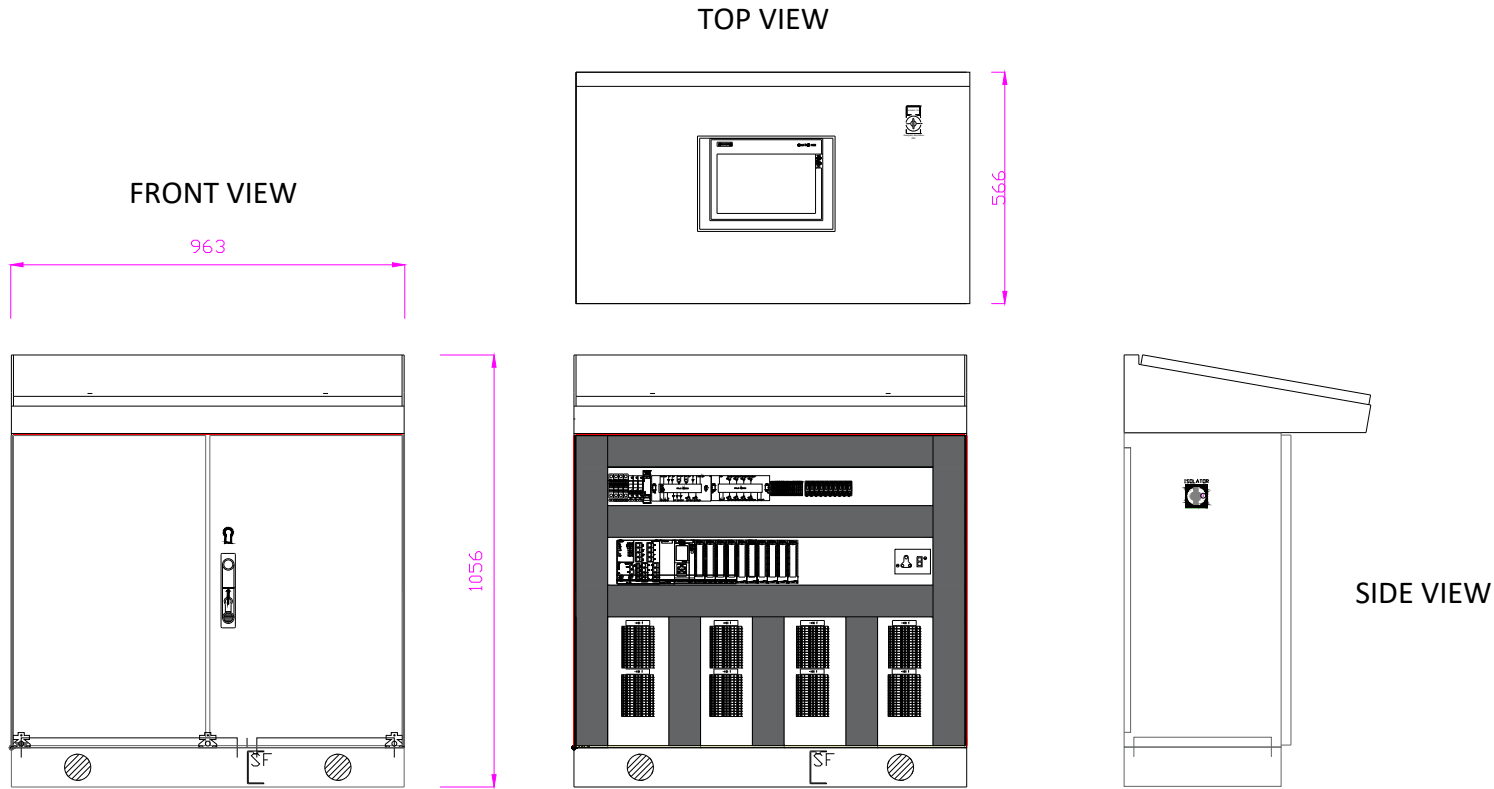
1 DUNCAN ROAD  
 CAPE TOWN HARBOUR  
 TEL: 021 449 2561  
 FAX: 021 449 4173

**TRANSNET**

PORT OF CAPE TOWN

TNPA ELECTRICAL  
 RDD PUMP MOTORS  
 SUPPLY BOX

NOTE : MATERIAL - 3CR12  
COLOUR - ELECTRIC ORANGE



CHECKED BY: <i>[Signature]</i>	ENGINEER: <i>[Signature]</i>
STATUS: ACCEPTED	DATE: 20/09/2022
DATE: 20/09/2022	PROJECT: 220627514/07
DESIGNED: <i>[Signature]</i>	BY: 31 Alan Dhan, Llanwrsthal, T510
ACCEPTANCE AND APPROVAL AND	DATE: 01 Oct 2022, 09:00 AM
REMARKS: TRANSMISSION	DATE: 27/09/2022 10:22

REV	DATE	CAD OP	DESCRIPTION	P.M.	APPROVE	DATE
A	22.09.22	BG	GA DRAWING RIO MCC			

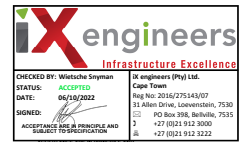


Sheet Size: A3	SCALE: -	PROJECT: ROBINSON DRY DOCK	
Dimensions shown in mm (U.O.N.)		TITLE:	
General Tolerance as follows: Concrete work +/- 12.0mm Assemblies +/- 3.0mm Structural Parts +/- 3.0mm Machined Parts +/- 0.2mm		MCC RIO GENERAL ARRANGEMENT DRAWING	
CLIENT/REF DRAWING NO.:	QUOTE NO.:	DRW NO.:	SHEET 1 OF 1
	E001		

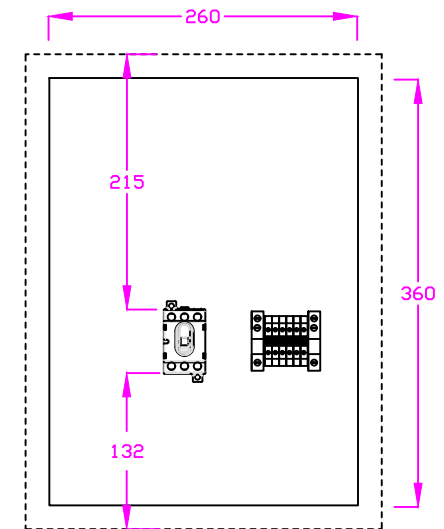
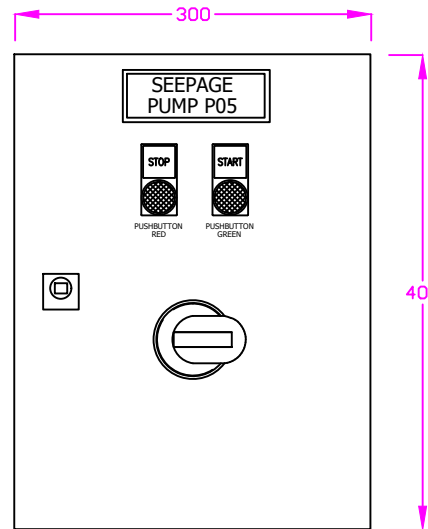
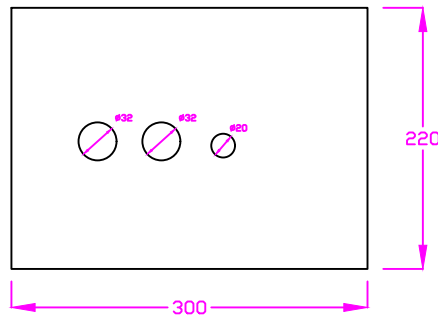
R102 EAST COAST RESORT RD  
MEISIES HALT  
EAST LONDON  
5200

Tel: 043 731 2001

NOTE : MATERIAL - 3CR12  
 COLOUR - ELECTRIC ORANGE  
 RATING - IP65  
 INCOMING - BOTTOM  
 OUT GOING - BOTTOM



Incoming cables  
 - Cable 1 - 10mm x 4C  
 Outgoing cables  
 - Cable 1 - 10mm x 4C  
 - Cable 2 - 2.5mm x 7C



R102 EAST COAST RESORT RD MEISIES HALT EAST LONDON 5200  Tel: 043 731 2001	REV	DATE	CAD OP	DESCRIPTION:	P.M.	APPROVE	DATE
	A	05.10.22	BG	GA DRAWING			



Sheet Size: A3 SCALE: -  
 Dimensions shown in mm (U.O.N.)  
 General Tolerance as follows:  
 Concrete work +/- 12.0mm  
 Assemblies +/- 3.0mm  
 Structural Parts +/- 3.0mm  
 Machined Parts +/- 0.2mm

PROJECT: <b>ROBINSON DRY DOCK</b>	
TITLE: <b>SEEPAGE PUMP 05 FIELD ENCLOSURE</b>	
QUOTE NO. : DRW NO.: E001	SHEET 1 OF 1