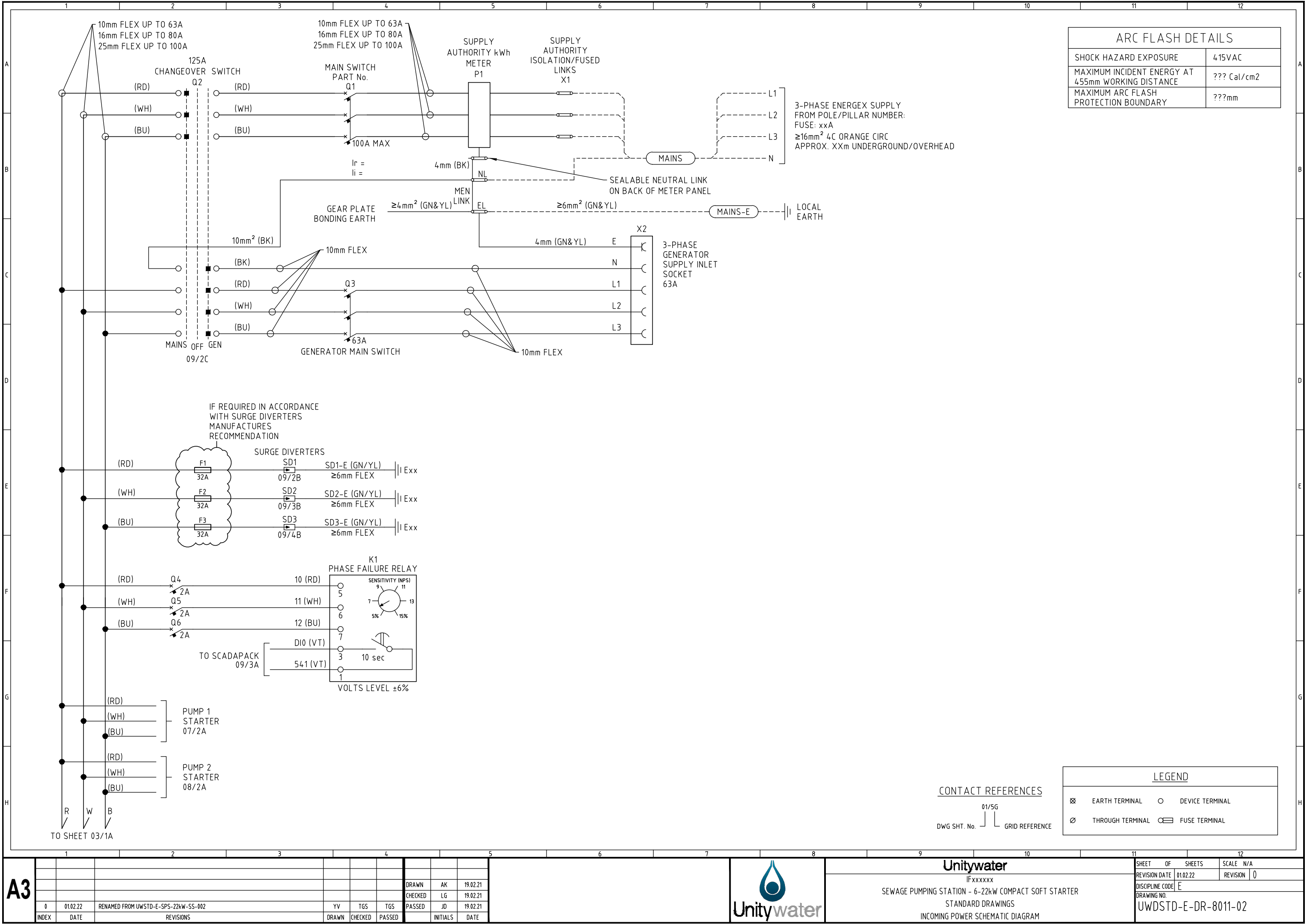


DRAWING LIST		
DRAWING NUMBER	DRAWING TITLE	REVISION
UWDSTD-E-DR-8011-01	TITLE AND INDEX SHEET	0
UWDSTD-E-DR-8011-02	INCOMING POWER SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-03	240VAC POWER SUPPLIES & DISTRIBUTION SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-04	24VDC POWER SUPPLIES SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-05	EMERGENCY PUMP STARTER & OVERFLOW CIRCUIT SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-06	COMMON CONTROL CIRCUIT SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-07	PUMP 1 POWER AND CONTROL SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-08	PUMP 2 POWER AND CONTROL SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-09	SCADAPACK DIGITAL INPUT SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-10	SCADAPACK DIGITAL I/O SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-11	SCADAPACK ANALOGUE INPUT (LOWER BOARD) SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-12	SCADAPACK ANALOGUE INPUT (UPPER BOARD) SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-13	SCADAPACK COMMUNICATIONS SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-14	PUMP STATION INSTRUMENTATION SCHEMATIC DIAGRAM	0
UWDSTD-E-DR-8011-15	EQUIPMENT SCHEDULE	0
UWDSTD-E-DR-8011-16	CABLE SCHEDULE	0
UWDSTD-E-DR-8011-17	TERMINAL LAYOUT	0
UWDSTD-E-DR-8011-30	ELECTRICAL SWITCHBOARD - GENERAL ARRANGEMENT Sht 1 of 2	0
UWDSTD-E-DR-8011-31	ELECTRICAL SWITCHBOARD - GENERAL ARRANGEMENT Sht 2 of 2	0
UWDSTD-E-DR-8011-50	SITE PLAN	0

[illegible]



ARC FLASH DETAILS	
SHOCK HAZARD EXPOSURE	415VAC
MAXIMUM INCIDENT ENERGY AT 455mm WORKING DISTANCE	??? Cal/cm2
MAXIMUM ARC FLASH PROTECTION BOUNDARY	???mm

LEGEND	
⊗ EARTH TERMINAL	○ DEVICE TERMINAL
⊘ THROUGH TERMINAL	⊞ FUSE TERMINAL

CONTACT REFERENCES



A3

0	01.02.22	RENAMED FROM UWSTD-E-SPS-22kW-SS-002	YV	TGS	TGS	PASSED	JD	19.02.21
INDEX	DATE	REVISIONS	DRAWN	CHECKED	PASSED	INITIALS	DATE	

DRAWN	AK	19.02.21
CHECKED	LG	19.02.21
PASSED	JD	19.02.21
INITIALS	DATE	

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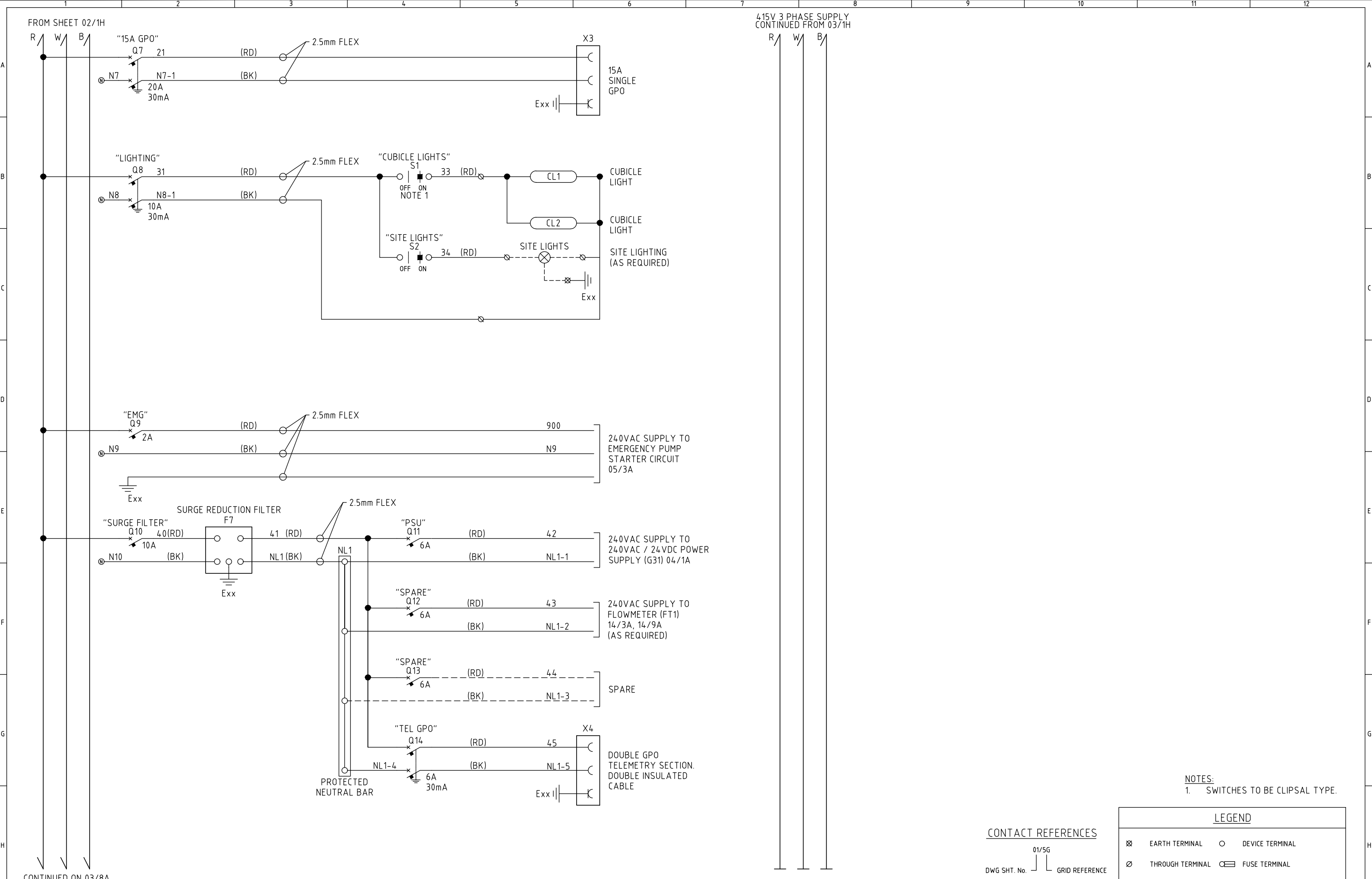
IFxxxxxx

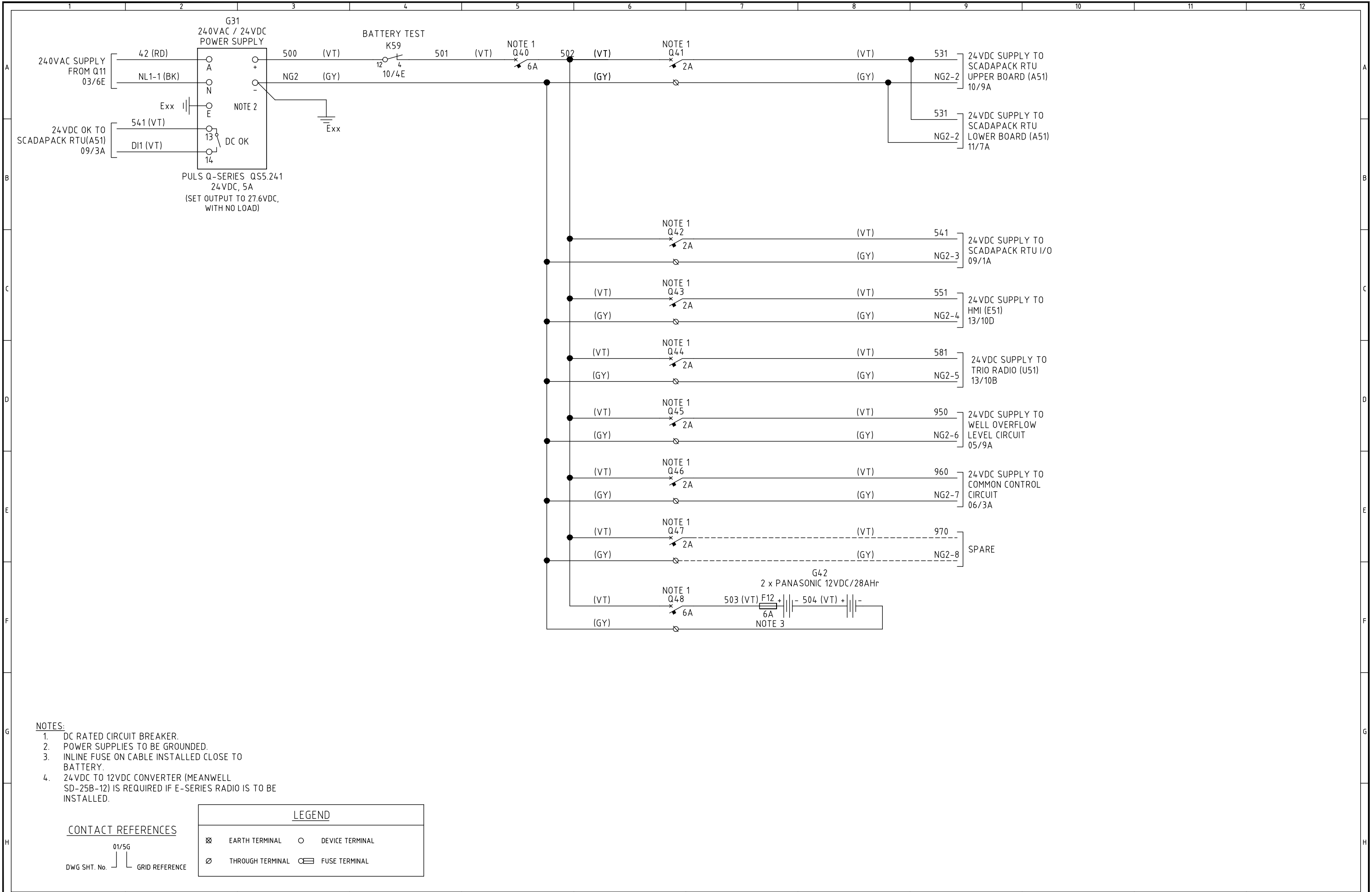
SEWAGE PUMPING STATION - 6-22kW COMPACT SOFT STARTER

STANDARD DRAWINGS

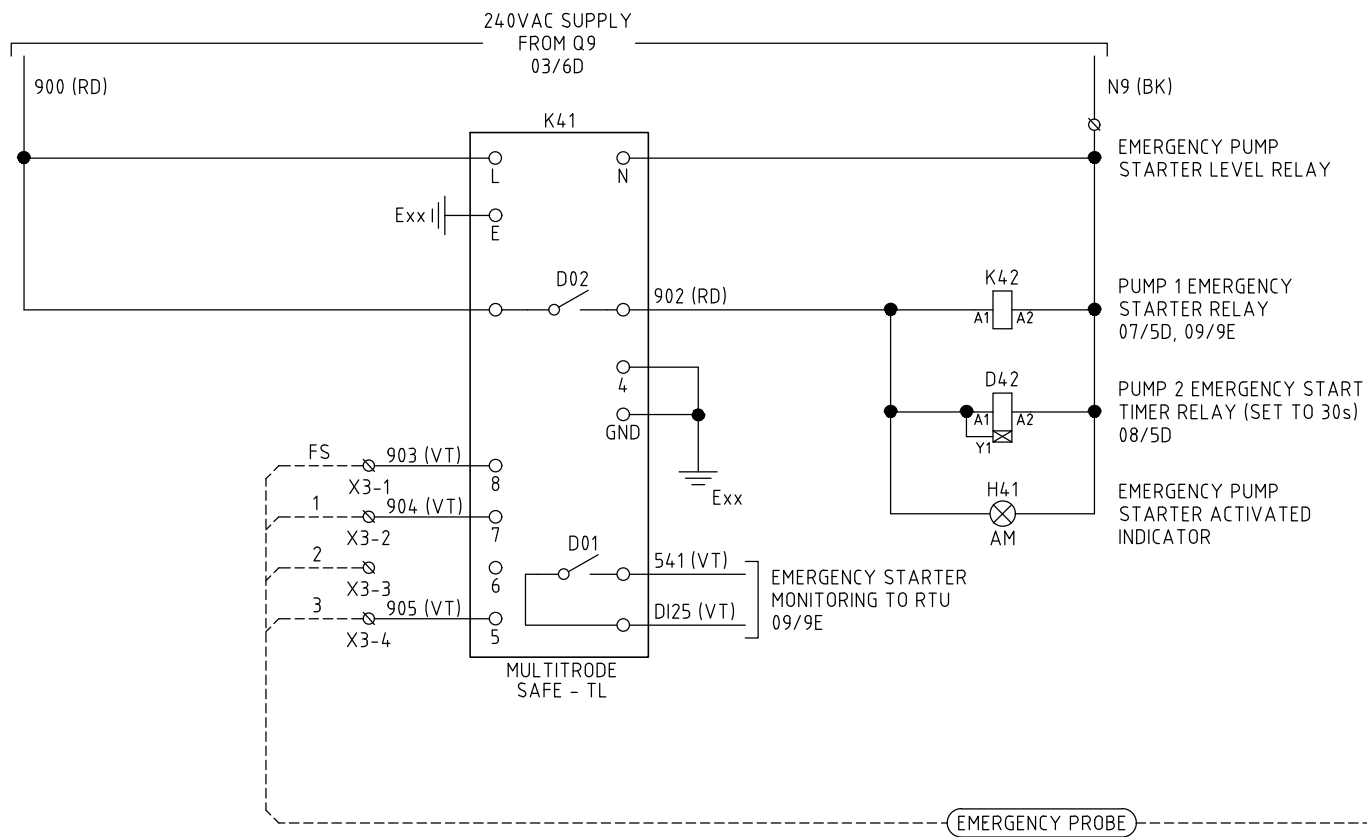
INCOMING POWER SCHEMATIC DIAGRAM

SHEET	OF	SHEETS	SCALE	N/A
REVISION DATE	01.02.22	REVISION	0	
DISCIPLINE CODE	E			
DRAWING NO.	UWSTD-E-DR-8011-02			

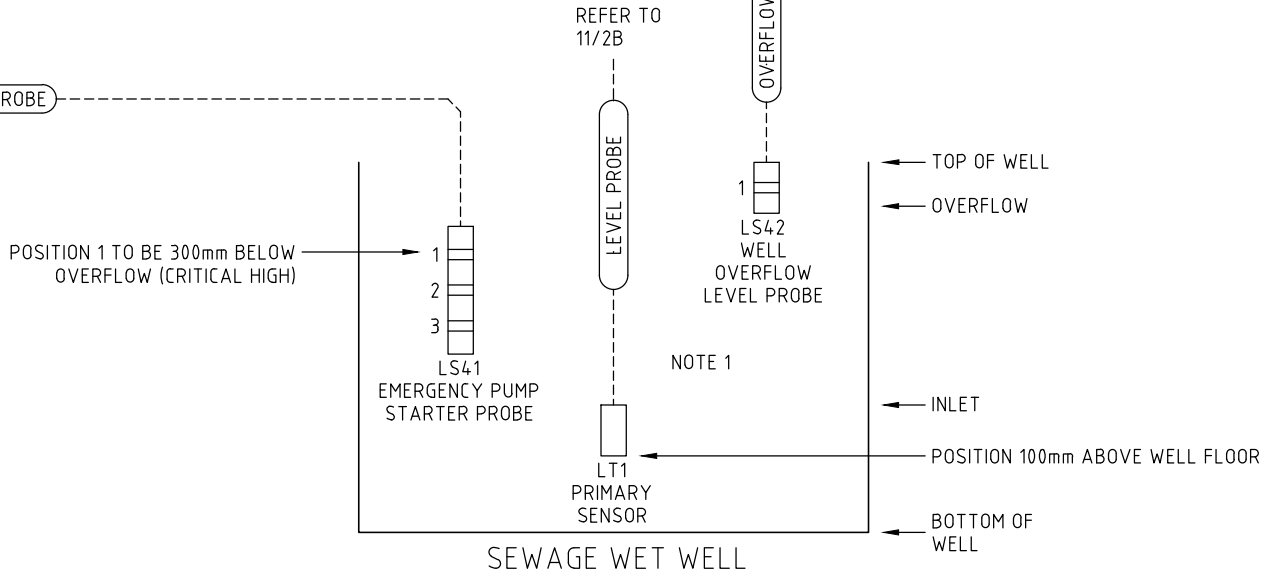
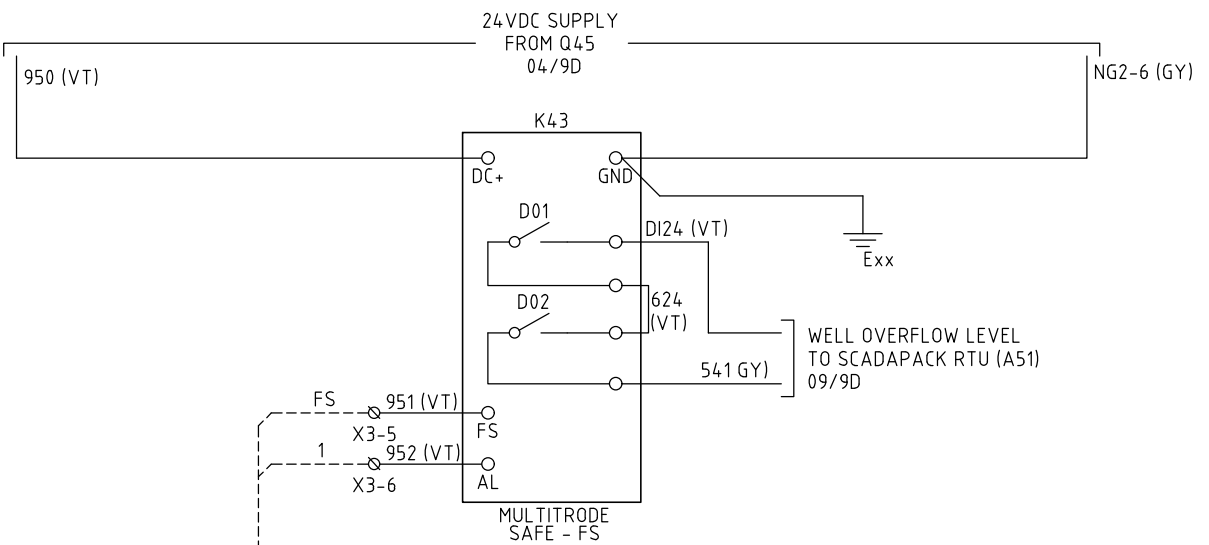




EMERGENCY PUMP STARTER CIRCUIT



WELL OVERFLOW LEVEL CIRCUIT



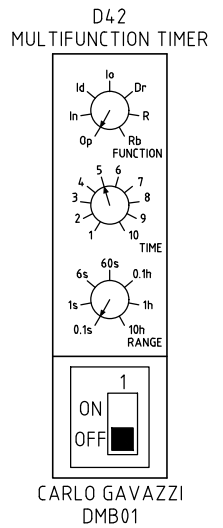
REFER TO SCADA PAGE FOR WELL LEVELS

SAFE-TL

ON OFF	DIP SWITCH	SETTING	MODE FUNCTION
1	1	OFF	EMPTY (DISCHARGE) MODE
2	2	OFF	HIGH LEVEL ALARM
3	3	ON	10 SECOND PUMP & ALARM ACTIVATION DELAY
4	4	ON	SEAL FAULT LED ONLY
5	5	OFF	THERMAL
6	6	ON	AUTO THERMAL RESET
7	7	OFF	PROBE SENSITIVITY - 20k OHM
8	8	ON	

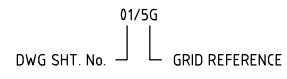
SAFE-FS

ON OFF	DIP SWITCH	SETTING	MODE FUNCTION
1	1	OFF	HIGH LEVEL ALARM
2	2	ON	10 SECOND LEVEL ALARM ACTIVATION DELAY
3	3	ON	10 SECOND LEVEL ALARM DEACTIVATION DELAY
4	4	OFF	N/C LEVEL ALARM
5	5	OFF	N/C FAILSAFE PROBE ALARM
6	6	N/A	NOT USED
7	7	OFF	PROBE SENSITIVITY - 20k OHM
8	8	ON	



NOTES
1. PROBE WITHIN WELL TO BE LABELED WITH NYLON LABELS ONLY.

CONTACT REFERENCES



LEGEND

⊗	EARTH TERMINAL	○	DEVICE TERMINAL
⊘	THROUGH TERMINAL	⊞	FUSE TERMINAL

A3

INDEX	DATE	REVISIONS	DRAWN	CHECKED	PASSED	INITIALS	DATE
0	01.02.22	RENAMED FROM UWSTD-E-SPS-22kW-SS-005	YV	TGS	TGS		

DRAWN	AK	19.02.21
CHECKED	LG	19.02.21
PASSED	JD	19.02.21



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IFxxxxxx
SEWAGE PUMPING STATION - 6-22kW COMPACT SOFT STARTER
STANDARD DRAWINGS
EMERGENCY PUMP STARTER & OVERFLOW CIRCUIT SCHEMATIC DIAGRAM

SHEET OF SHEETS	SCALE N/A
REVISION DATE 01.02.22	REVISION 0
DISCIPLINE CODE E	
DRAWING NO. UWDSTD-E-DR-8011-05	

1 2 3 4 5 6 7 8 9 10 11 12

A

B

C

D

E

F

G

H

COMMON CONTROL CIRCUITS

24VDC SUPPLY
FROM Q46
04/9E

960 (VT)

NG2-7 (GY)

961 (VT)

962 (VT)

963 (VT)

S31

MAN OFF AUTO

K53

10/4B

2C+E FLEX MULTICORE

WWS

WELL WASHER

WELL WASHER

WELL WASHER SOLENOID VALVE
(AS REQUIRED)

Q2

MAINS OFF GEN

02/2D

K32

A1 A2

GENERATOR PUMP
INTERLOCK - NOTE 1
09/9D, 07/6C, 08/6C

X3-7

X3-8

NOTES:

1. ENERGISED WHEN MAIN
SWITCH IS SWITCHED TO
GENERATOR POSITION

CONTACT REFERENCES

DWG SHT. No. 01/5G GRID REFERENCE

LEGEND

⊗	EARTH TERMINAL	○	DEVICE TERMINAL
⊘	THROUGH TERMINAL	⊞	FUSE TERMINAL

[illegible]

	CONTACT REFERENCES

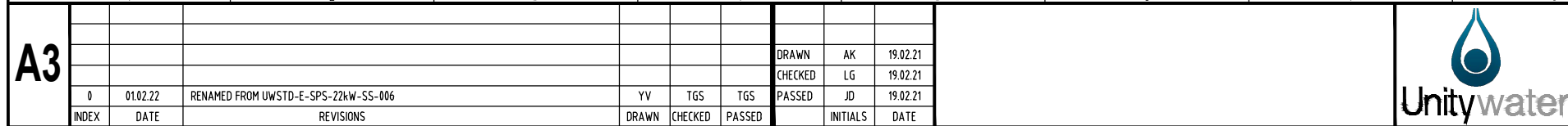


LEGEND

- | | | | |
|---|--|---|---|
| H | | <div>CONTACT REFERENCES</div> <div>01/5G</div> <div> <div>☒ EARTH TERMINAL</div> <div>☐ DEVICE TERMINAL</div> <div>☐ THROUGH TERMINAL</div> <div>☒ FUSE TERMINAL</div> </div> | H |
|---|--|---|---|

A3											
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	INDEX	DATE	REVISIONS			DRAWN	CHECKED	PASSED		INITIALS	DATE

A3											
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	INDEX	DATE	REVISIONS			DRAWN	CHECKED	PASSED		INITIALS	DATE

[illegible][illegible]

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						CHECKED	LG	19.02.21
	0	01.02.22	RENAMED FROM UWSTD-E-SPS-22kW-SS-006		YV	TGS	TGS	PASSED JD 19.02.21
	INDEX	DATE	REVISIONS			DRAWN	CHECKED	PASSED

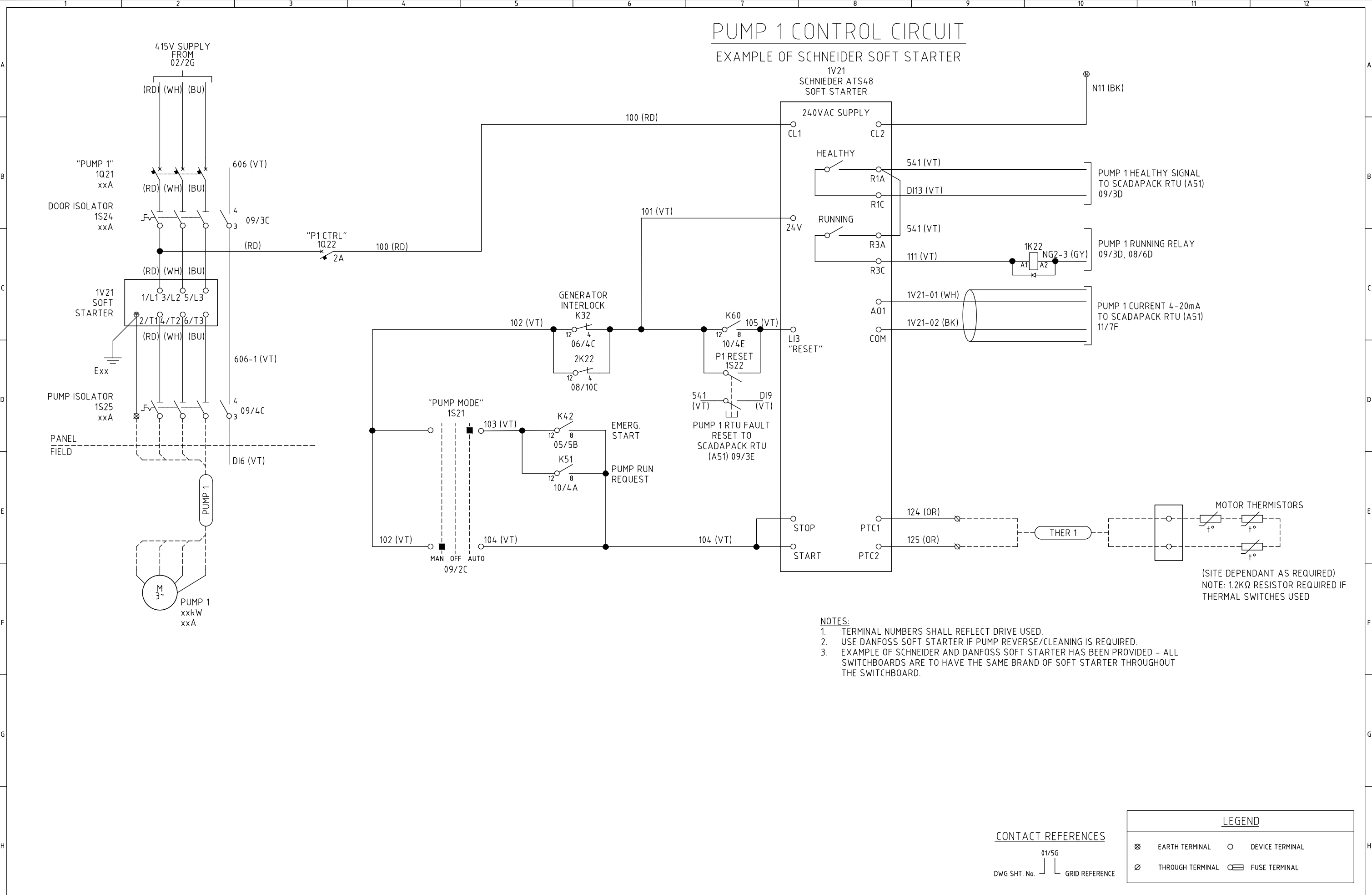


SEWAGE PUMPING STATION - 6-22kW COMPACT SOFT STARTER
STANDARD DRAWINGS
COMMON CONTROL CIRCUIT SCHEMATIC DIAGRAM

[illegible]

PUMP 1 CONTROL CIRCUIT

EXAMPLE OF SCHNEIDER SOFT STARTER



- NOTES:
1. TERMINAL NUMBERS SHALL REFLECT DRIVE USED.
 2. USE DANFOSS SOFT STARTER IF PUMP REVERSE/CLEANING IS REQUIRED.
 3. EXAMPLE OF SCHNEIDER AND DANFOSS SOFT STARTER HAS BEEN PROVIDED - ALL SWITCHBOARDS ARE TO HAVE THE SAME BRAND OF SOFT STARTER THROUGHOUT THE SWITCHBOARD.

CONTACT REFERENCES

DWG SHT. No. 01/5G
GRID REFERENCE

LEGEND

- ⊗ EARTH TERMINAL ○ DEVICE TERMINAL
⊘ THROUGH TERMINAL ⊞ FUSE TERMINAL

A3

INDEX	DATE	REVISIONS	DRAWN	CHECKED	PASSED	INITIALS	DATE
0	01.02.22	RENAMED FROM UWSTD-E-SPS-22kW-SS-007	YV	TGS	TGS	PASSED	JD



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IFxxxxxx
SEWAGE PUMPING STATION - 6-22kW COMPACT SOFT STARTER
STANDARD DRAWINGS
PUMP 1 POWER AND CONTROL SCHEMATIC DIAGRAM

SHEET	OF	SHEETS	SCALE	N/A
REVISION DATE	01.02.22	REVISION	0	
DISCIPLINE CODE	E			
DRAWING NO.	UWSTD-E-DR-8011-07			

EXAMPLE OF DANFOSS SOFT STARTER



NOTES:

- ## CONTACT REFERENCES

LEGEND

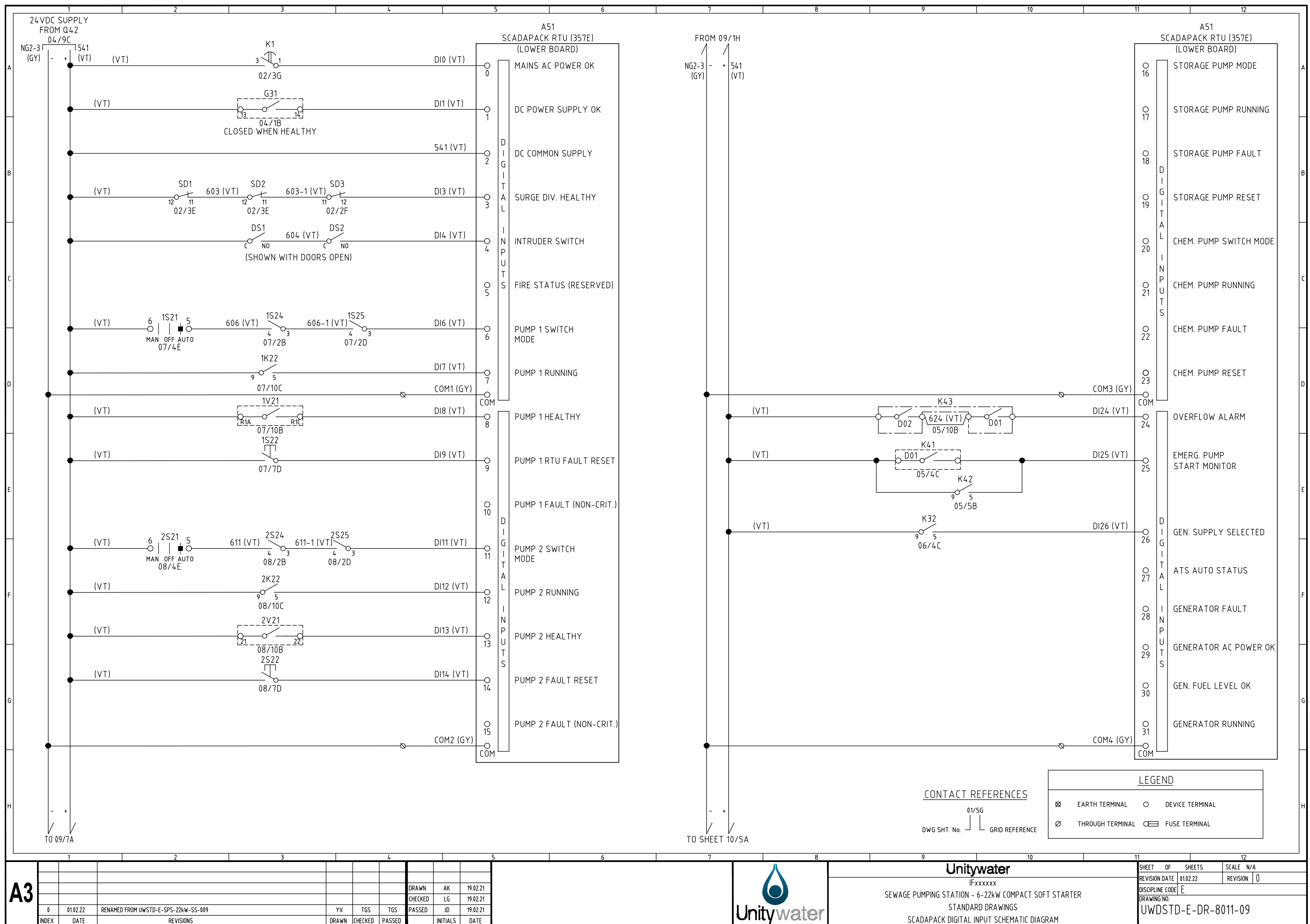
A3

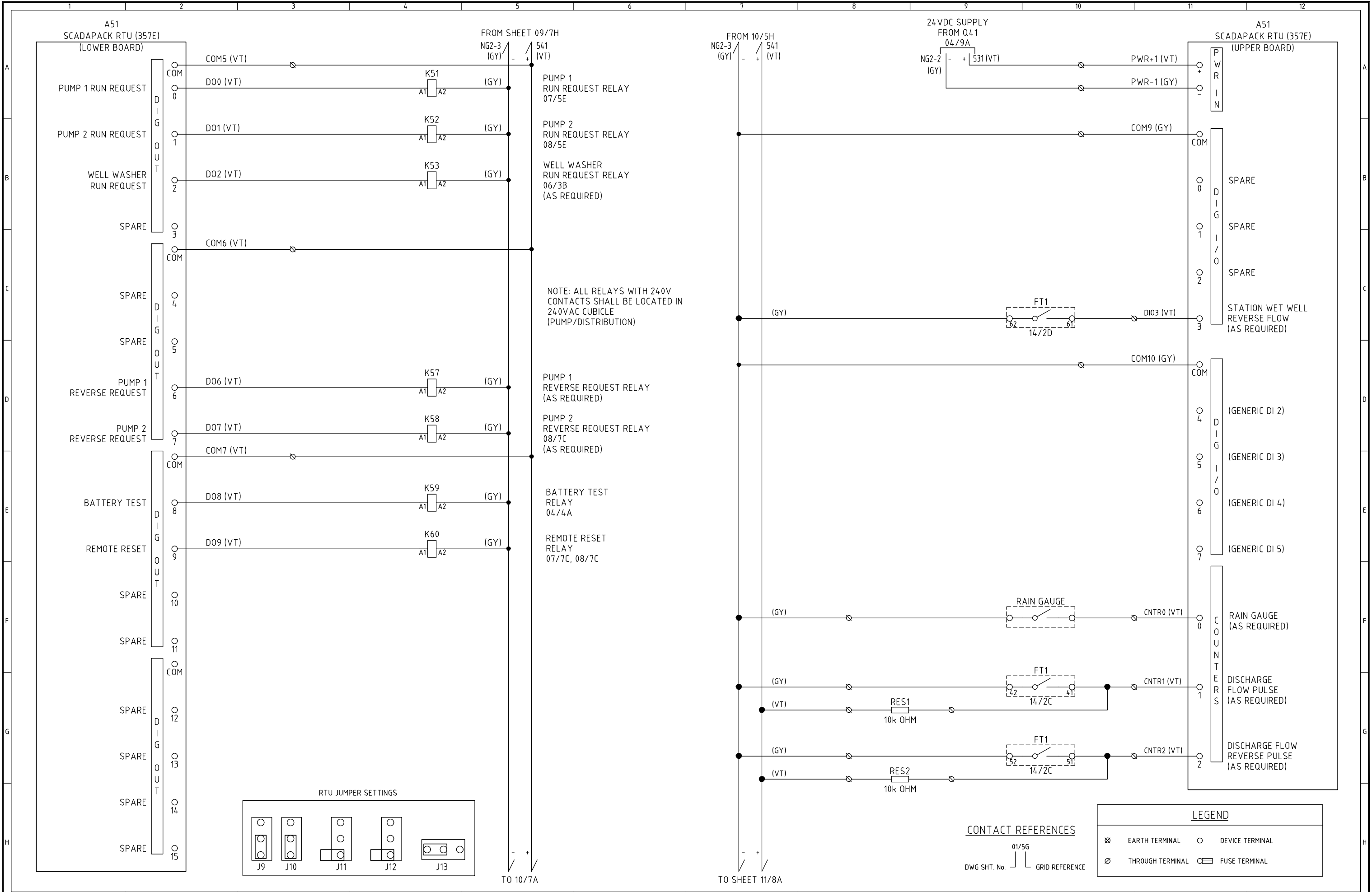


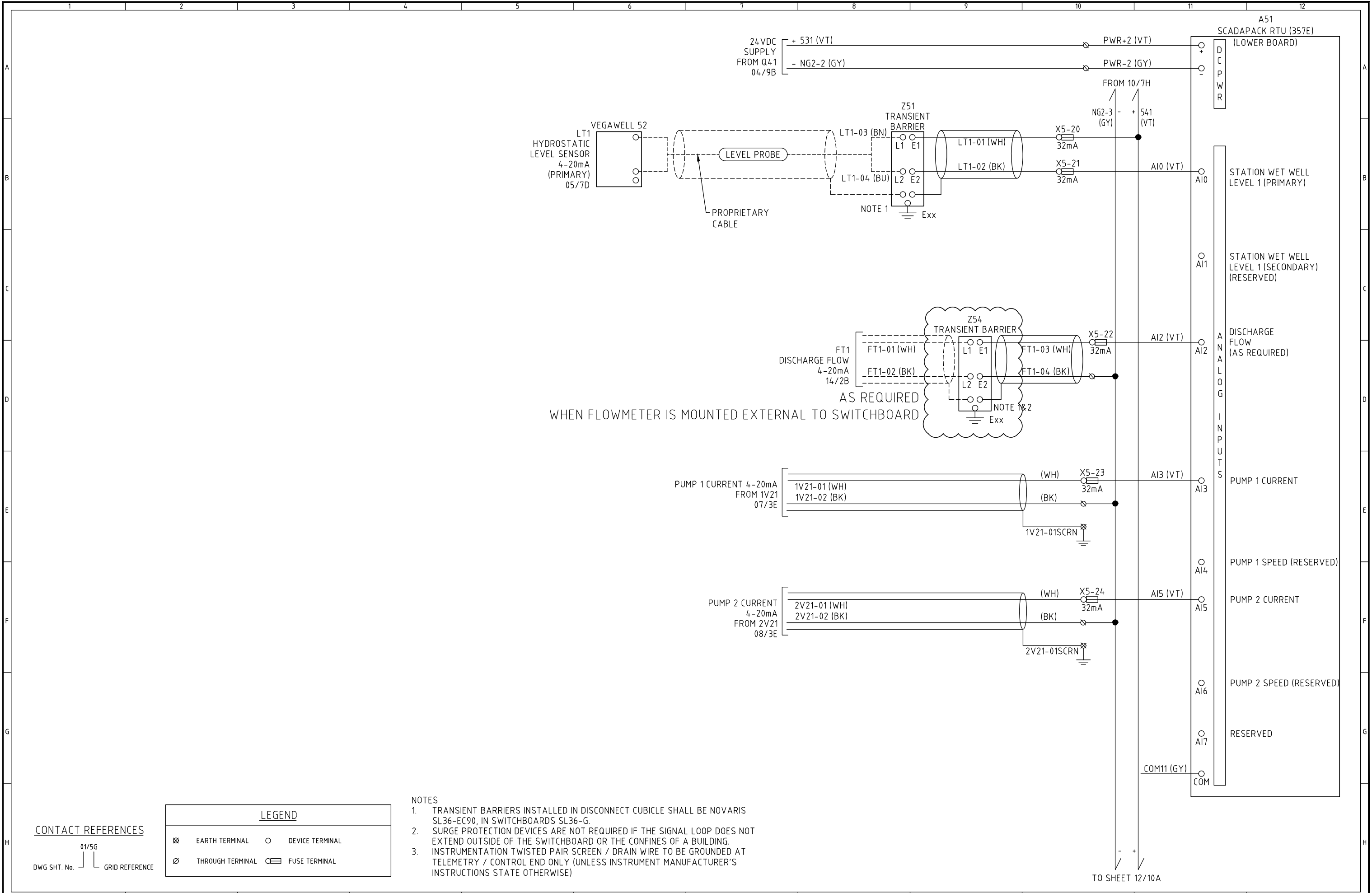
Unitywater

IFxxxxxx

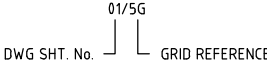
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REVISION DATE		01.02.22	REVISION	0
DISCIPLINE CODE		E		
DRAWING NO.				
UWDSTD-E-DR-8011-08				





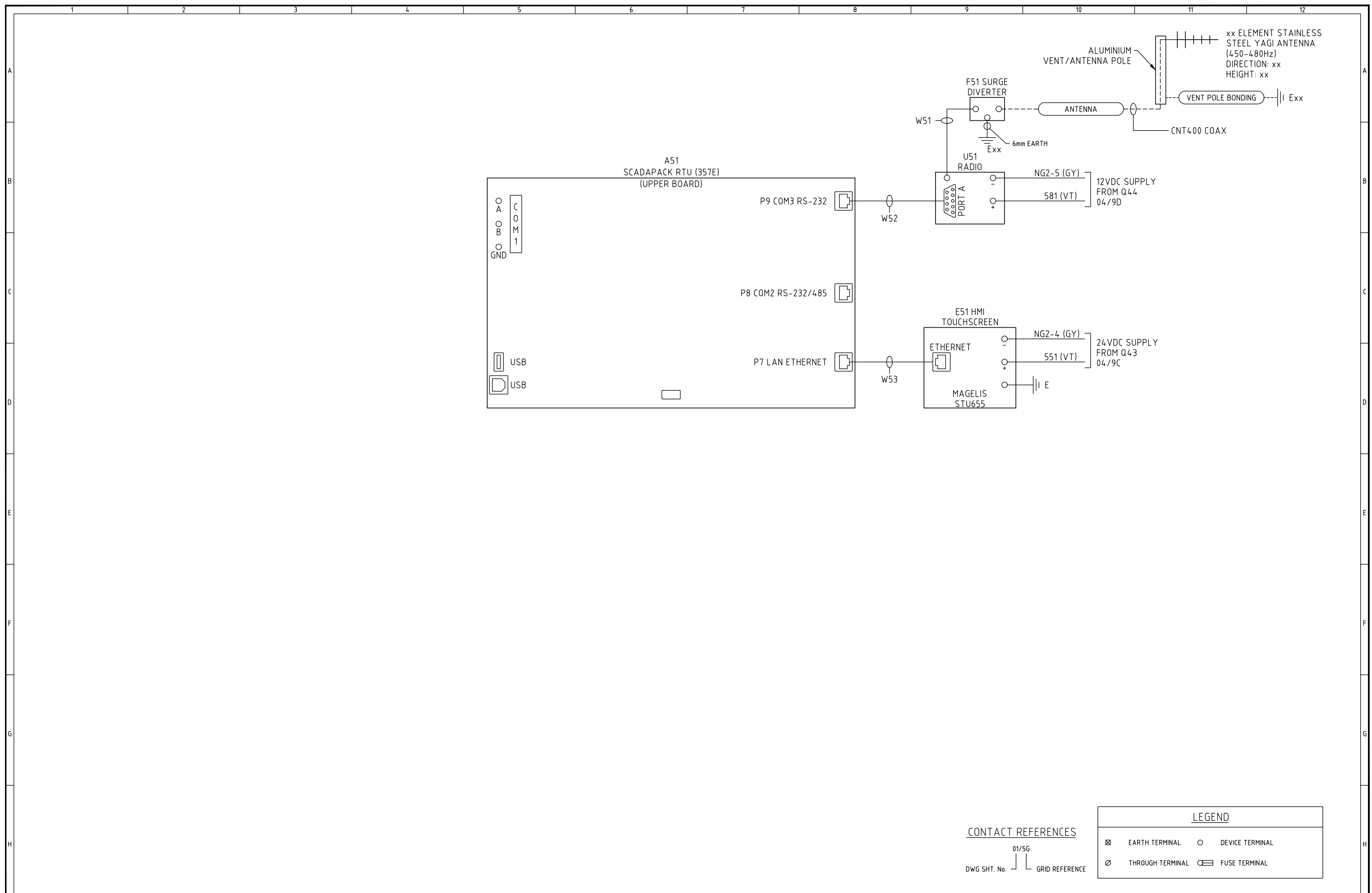


CONTACT REFERENCES



LEGEND		
⊗	EARTH TERMINAL	○
⊘	THROUGH TERMINAL	⊞
	DEVICE TERMINAL	FUSE TERMINAL

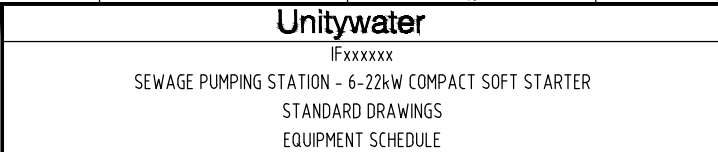
- NOTES
- TRANSIENT BARRIERS INSTALLED IN DISCONNECT CUBICLE SHALL BE NOVARISSL36-EC90, IN SWITCHBOARDS SL36-G.
 - SURGE PROTECTION DEVICES ARE NOT REQUIRED IF THE SIGNAL LOOP DOES NOT EXTEND OUTSIDE OF THE SWITCHBOARD OR THE CONFINES OF A BUILDING.
 - INSTRUMENTATION TWISTED PAIR SCREEN / DRAIN WIRE TO BE GROUNDED AT TELEMETRY / CONTROL END ONLY (UNLESS INSTRUMENT MANUFACTURER'S INSTRUCTIONS STATE OTHERWISE)

[illegible]



DWG SHT. No. 01/5G GRID REFERENCE

LEGEND			
	EARTH TERMINAL		DEVICE TERMINAL
	THROUGH TERMINAL		FUSE TERMINAL

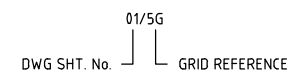
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SHEET	OF	SHEETS	SCALE	N/A
REVISION DATE	01.02.22		REVISION	0
DISCIPLINE CODE	E			
DRAWING NO.				
UWDSTD-E-DR-8011-15				

	1	2	3	4	5	6	7	8	9	10	11	12	
A	<u>CABLE SCHEDULE</u>												A

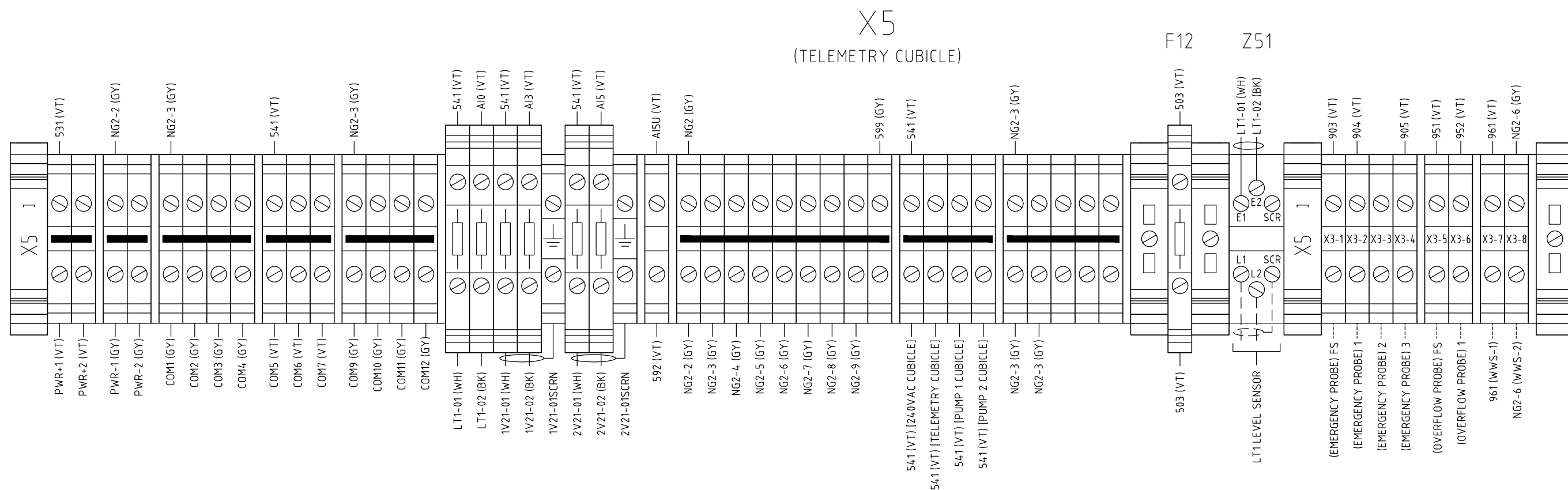
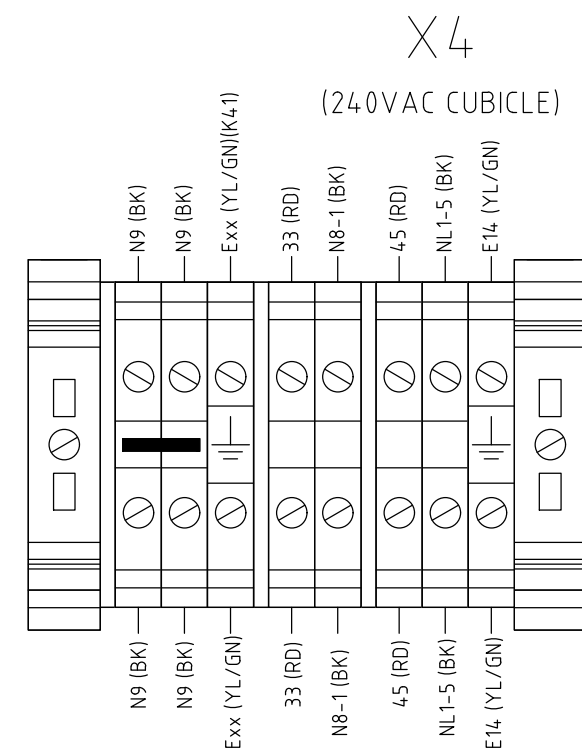
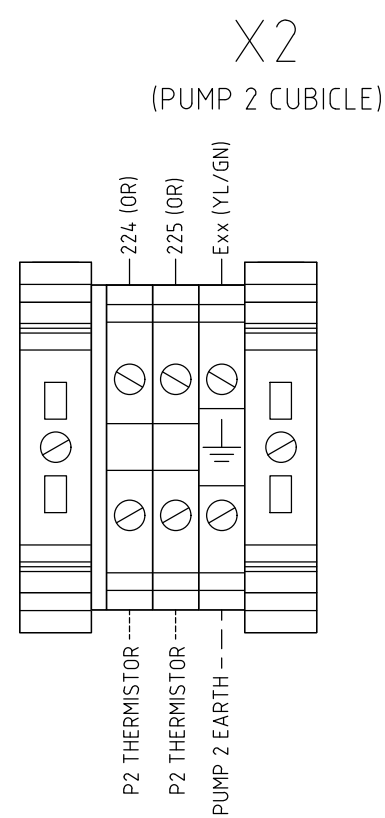
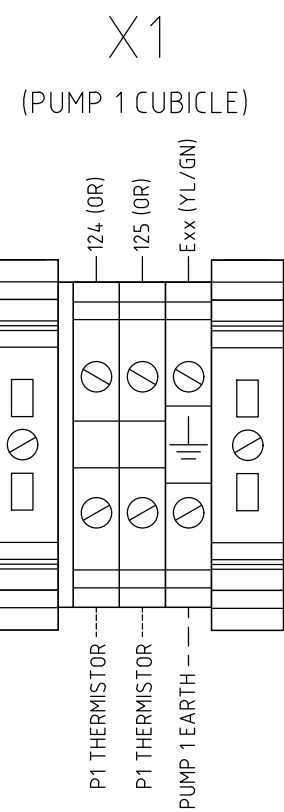
	STATUS	FROM	FROM EQUIPMENT TAG	TO	TO EQUIPMENT TAG	CABLE SIZE	SHEATH/INSULA TION/ COLOUR/SHAPE	CORES	TYPE	VOLTAGE	Designation	Label	Distance (Approx)	Supplied By:	Installed By:	Notes
B		Pole/Pillar		MSB	X1	≥16mm	Orange circ	4c+e	Power	415VAC	Mains	Mains				
		Earth Pit		MSB	Main Earth Bar	≥6mm	Earth	1c	Earth		Mains - Earth	Mains - E				
C		Wet Well	LS41	MSB	K41				Instrumentation		Emergency Pump Starter Probe	Emergency Probe				This is the probe cable
		Wet Well	LT1	MSB	Z51				Instrumentation		Primary Level Sensor	Level Probe				This is the sensor cable
		Wet Well	LS42	MSB	K43				Instrumentation		Overflow Probe	Overflow Probe				This is the probe cable
C		MSB	1S25	Wet Well	Pump 1				Power	415VAC	Pump 1 Motor Cable	Pump 1				
		MSB	1V21	Wet Well	Pump 1				Instrumentation		Pump 1 Thermistor	Ther 1				
		MSB	2S25	Wet Well	Pump 2				Power	415VAC	Pump 2 Motor Cable	Pump 2				
									Instrumentation		Pump 2 Thermistor	Ther 2				
D		MSB	F51	Antenna			CNT400		Antenna Coax		Antenna Coax	Antenna				
		MSB	Earth bar	Vent Pole		6mm	Earth	1c	Earth		Vent Pole Bonding	Vent Pole Bonding				
		MSB		Well Washer	WWS	1.5mm	Orange circ	2c	24vdc Power		Well Washer	Well Washer				As required
		MSB	S1	Site Lights		2.5mm	Orange circ	2c+e	Power	240VAC	Site Lights	Site Lights				As required

CONTACT REFERENCES



LEGEND

 EARTH TERMINAL	 DEVICE TERMINAL
 THROUGH TERMINAL	 FUSE TERMINAL

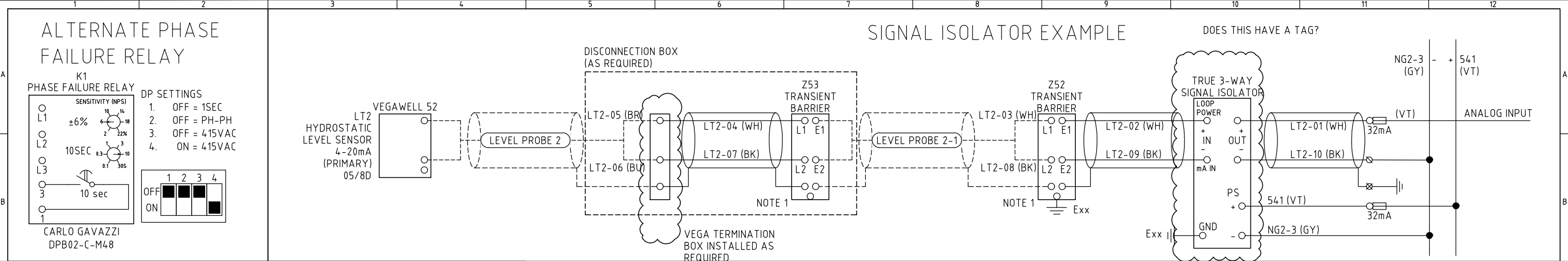
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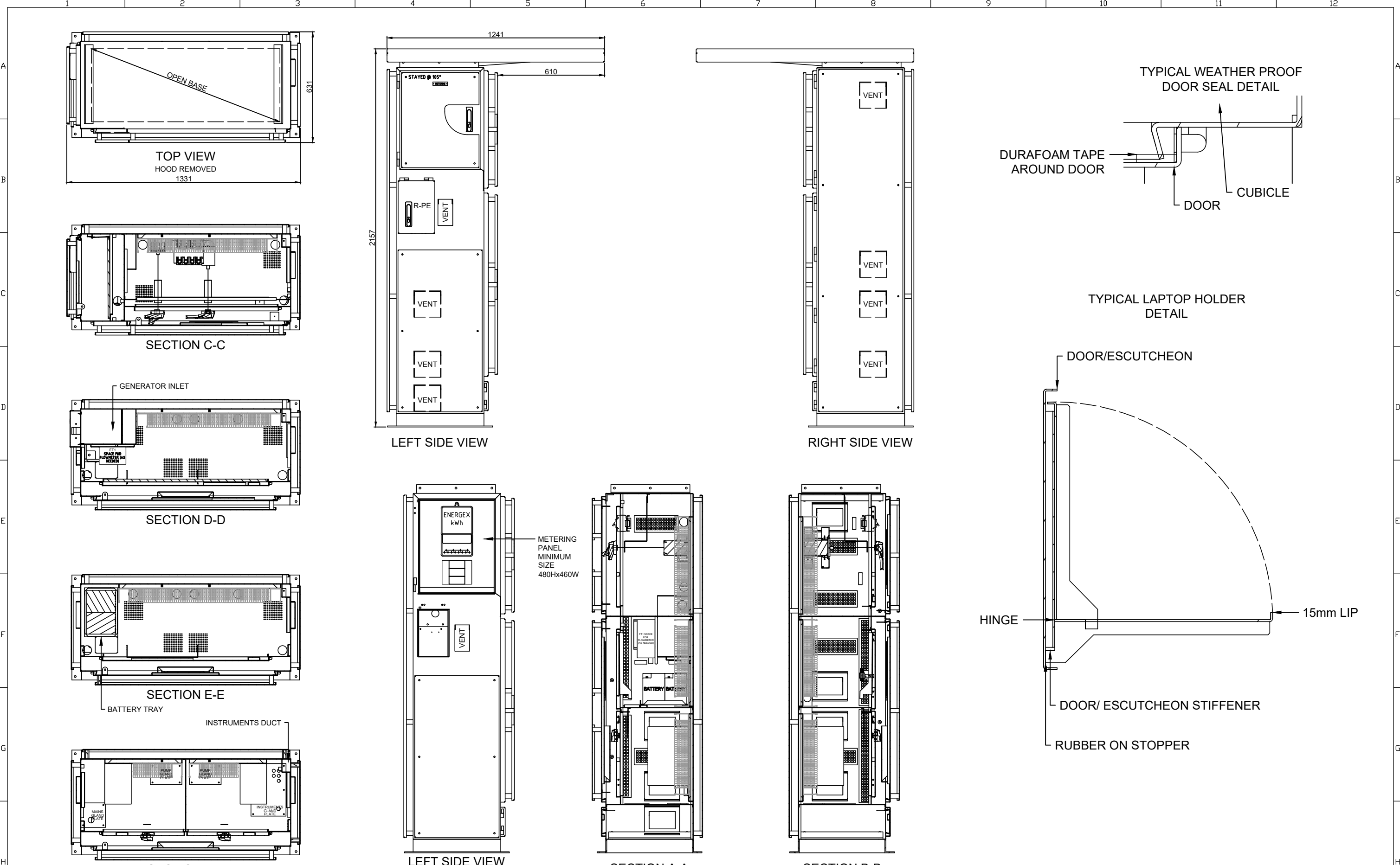
Unitywater

IFxxxxxx

SEWAGE PUMPING STATION - 6-22kW COMPACT SOFT STARTER
STANDARD DRAWINGS
TERMINAL LAYOUT

SHEET OF		SHEETS		SCALE N/A	
REVISION DATE		01.02.22		REVISION 0	
DISCIPLINE CODE		E			
DRAWING NO.					
UWDSTD-E-DR-8011-17					





- NOTES
1. DEPENDING ON SITE REQUIREMENTS SWITCHBOARD MAY BE MIRRORED TO SUIT
 2. DRAWING LAYOUT IS INDICATIVE ONLY. FINAL DESIGN TO BE APPROVED BY UNITYWATER

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1. LOCATE ALL EXISTING SERVICES IN THE AREA PRIOR TO COMMENCEMENT OF WORKS, INCLUDING EXECUTING A DIAL BEFORE YOU DIG.
2. ALL WORKS TO COMPLY TO UNITYWATER SPECIFICATION, AS/NZS3000 (ELEC WIRING RULES) AND OTHER RELEVANT CODES & SPECIFICATIONS.
3. DISUSED SITE ASSETS ARE TO BE REMOVED AND THE SITE MADE GOOD AT THE END OF CONSTRUCTION.
4. WHERE A CHANGE OF DIRECTION IS REQUIRED FOR ELECTRICAL CONDUITS, LARGE SWEEP BENDS ARE TO BE USED.
5. RECONNECT ALL EXISTING CIRCUITS AND INSTRUMENTS



THE LOCATION OF SERVICES ON THIS DWG HAVE NOT BEEN PROVEN AND ARE INDICATIVE ONLY. TAKE MEASURES TO LOCATE SERVICES PRIOR TO COMMENCEMENT OF WORKS.

[illegible]