

Installation, Operation and Maintenance Manual

Volume 5 – As Built Drawings

879540-84-IOM-0001
REPLACEMENT OF AERATION BLOWERS AT GIBSON ISLAND SEWAGE
TREATMENT PLANT
C1314-011

879540-80-IOM-0001 - Installation, Operation and Maintenance Manual**Contract No C1314-011****Title Gibson Island Blowers Replacement
Installation, Operation and Maintenance Manual****Document Number 879540-80-IOM-0001****Document Control This Document is Uncontrolled When Printed**

Revision Details	Revision	Date	Reason
	A		Original document

	Name	Position	Date
Prepared by	B. Boswell	Lead EI&C Engineer	02/02/2015
Reviewed by	T. Flynn	Project Manager	
Authorised by	T. Flynn	Project Manager	

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Table of Contents – Volumes 1 to 5

VOLUME 1 FUNCTIONAL DESCRIPTIONS, OPERATION AND MAINTENANCE MANUALS

- 1.1 Control Systems Functional Descriptions
- 1.2 Operation and Maintenance Manuals
 - 1.2.1 AERZON – Turbo Blower
 - 1.2.2 iPower Solutions - Main Blower Switchboard - MBSB
 - 1.2.3 Control System – SCADA Operation

VOLUME 2 ELECTRICAL TEST REPORTS

- 2.1 Factory Acceptance Tests
 - 2.1.1 AERZON Blower FAT documents
 - 2.1.2 Lend Lease iPower Solutions Main Switchboard FAT Documents
 - 2.1.3 Control System FAT Documents
- 2.2 Site Acceptance Tests
 - 2.2.1 Site Installation Inspection and Test Plans
 - 2.2.2 Control System SAT Documents
 - 2.2.3 Blower Commissioning Report
- 2.3 Non-Conformance Reports (NCR)
 - 2.3.1 NCR Register
 - 2.3.2 Non Conformance Reports
- 2.4 Miscellaneous Certificates, Reports and Records
 - 2.4.1 Calibration Certificates
 - 2.4.2 Certificates and Test Reports
 - 2.4.3 Certificate of Compliance for Main Blower Switchboard – MBSB
 - 2.4.4 Certificate of Testing & Compliance for Electrical Installation
- 2.5 Other Records
 - 2.5.1 Service Report - Diffuser Pressure Flow Meter
 - 2.5.2 Service Report - Aeration Valves
 - 2.5.3 Certificate of Conformity - HMA Group

VOLUME 3 MANUFACTURER PRODUCT DATA SHEETS AND MANUALS

- 3.1 Main Blower Switchboard – MBSB
 - 3.1.1 Bill of Materials
 - 3.1.2 Castell
 - 3.1.3 IPD
 - 3.1.4 iPower Solutions
 - 3.1.5 Kraus & Naimer
 - 3.1.6 NHP
 - 3.1.7 Phoenix Contact
 - 3.1.8 Schneider
 - 3.1.9 Stemar
- 3.2 Main Blower Monitoring Board (PLC13) - MBMB
 - 3.2.1 GE
 - 3.2.2 Moxa
- 3.3 Blowers
 - 3.3.1 Aerzon
- 3.4 Field Instrumentation and Aeration Valves
 - 3.4.1 Emerson Rosemount
 - 3.4.2 Rotork
 - 3.4.3 HMA
- 3.5 Eaton

VOLUME 4 DESIGN DOCUMENTATION

- 4.1 Design Data Sheets
- 4.2 Design Reports and Calculations
 - 4.2.1 Design Report
 - 4.2.2 Power System Analysis Report
 - 4.2.3 Cable Calculations
- 4.3 Safety In Design Workshop
- 4.4 Hazop Workshop
- 4.5 Mechanical and Performance Test Records
 - 4.5.1 Moducell Type Test Records
- 4.6 Schedules
 - 4.6.1 Cable Schedule
 - 4.6.2 TEM114 – QUU Asset List

VOLUME 5 AS BUILT DRAWINGS

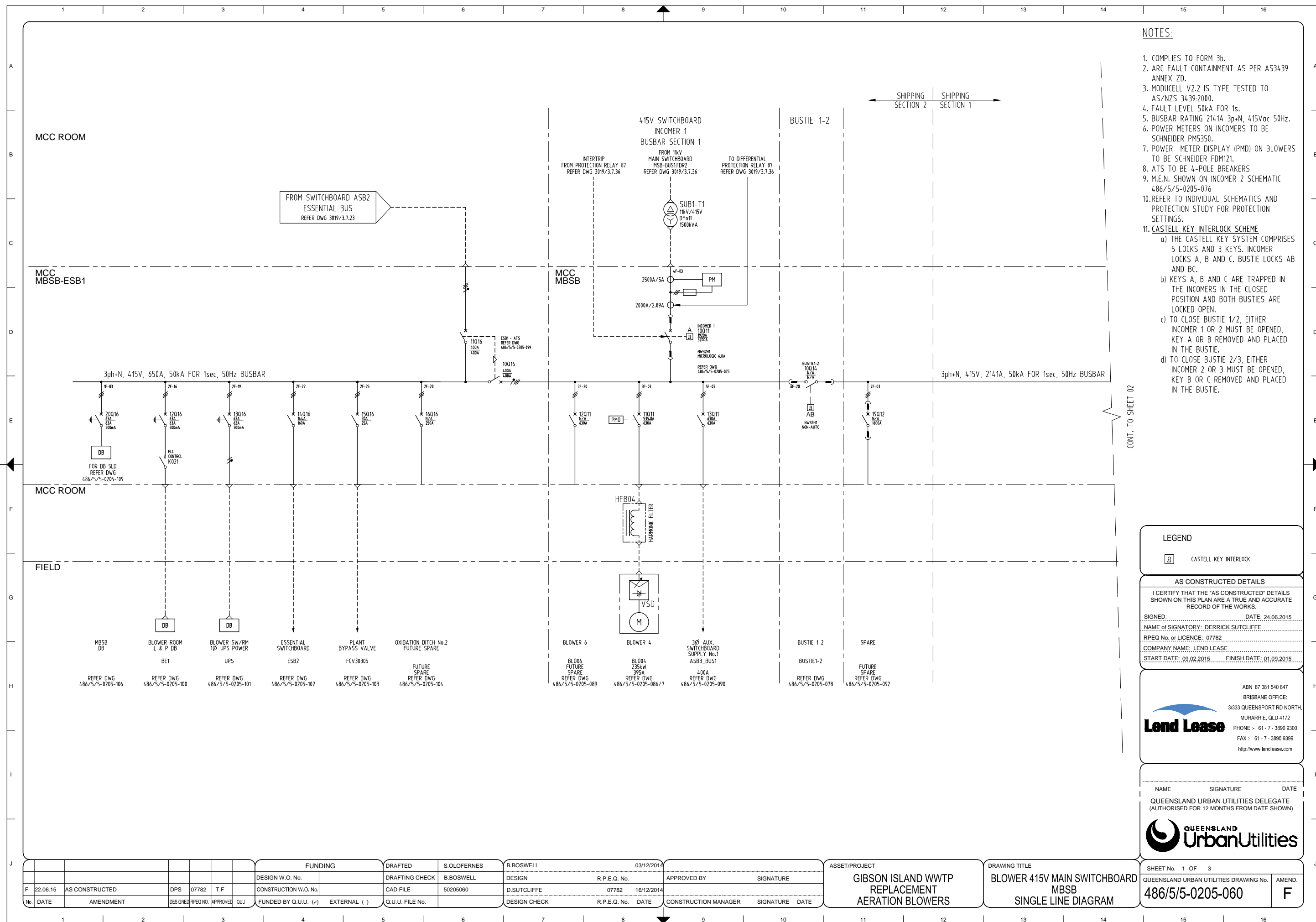
A Drawing Register will accompany each section for ease of locating particular drawings.

- 5.1 Electrical Drawings
- 5.2 Instrumentation Drawings
- 5.3 PLC Drawings
- 5.4 Network Drawings
- 5.5 Switchroom General Arrangement Drawings
- 5.6 Mechanical Drawings
- 5.7 P&ID Drawing

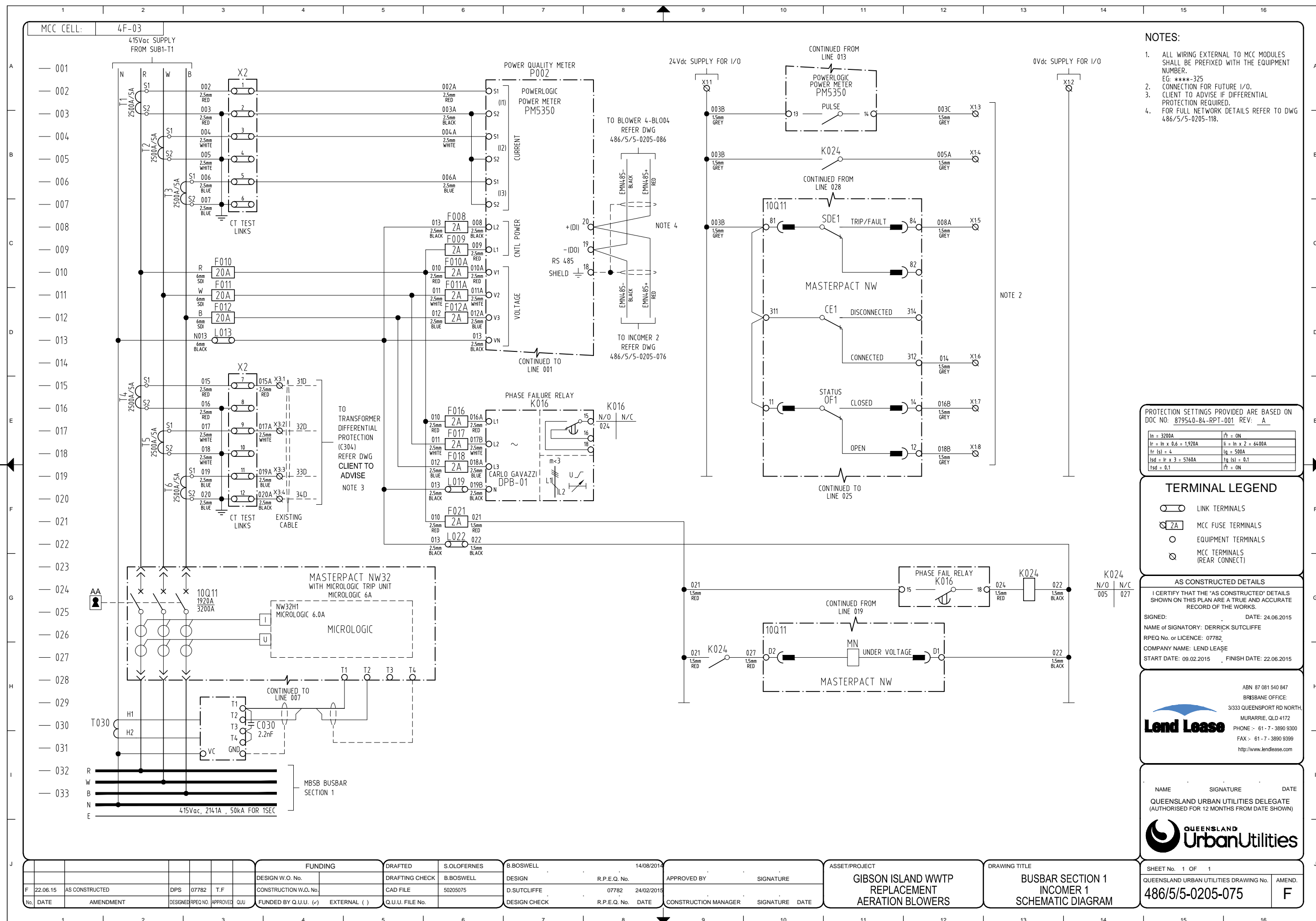
VOLUME 5 AS BUILT DRAWINGS

A Drawing Register will accompany each section for ease of locating particular drawings.

5.1 Electrical Drawings







NOTES:

- ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE EQUIPMENT NUMBER.
EG: ****-325
- CONNECTION FOR FUTURE I/O.
- CLIENT TO ADVISE IF DIFFERENTIAL PROTECTION REQUIRED.
- FOR FULL NETWORK DETAILS REFER TO DWG 486/5/5-0205-118.

In = 3200A	It = ON
Ir = In x 0.6 = 1920A	Ii = In x 2 = 6400A
Itr (s) = 4	Iq = 500A
Istd = Ir x 3 = 5760A	Iq (s) = 0.1
Istd = 0.1	It = ON

TERMINAL LEGEND

- LINK TERMINALS
- MCC FUSE TERMINALS
- EQUIPMENT TERMINALS
- MCC TERMINALS (REAR CONNECT)

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

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NAME OF SIGNATORY: DERRICK SUTCLIFFE

RPEQ No. or LICENCE: 07782

COMPANY NAME: LEND LEASE

START DATE: 09.02.2015 FINISH DATE: 22.06.2015

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SHEET No. 1 OF 1

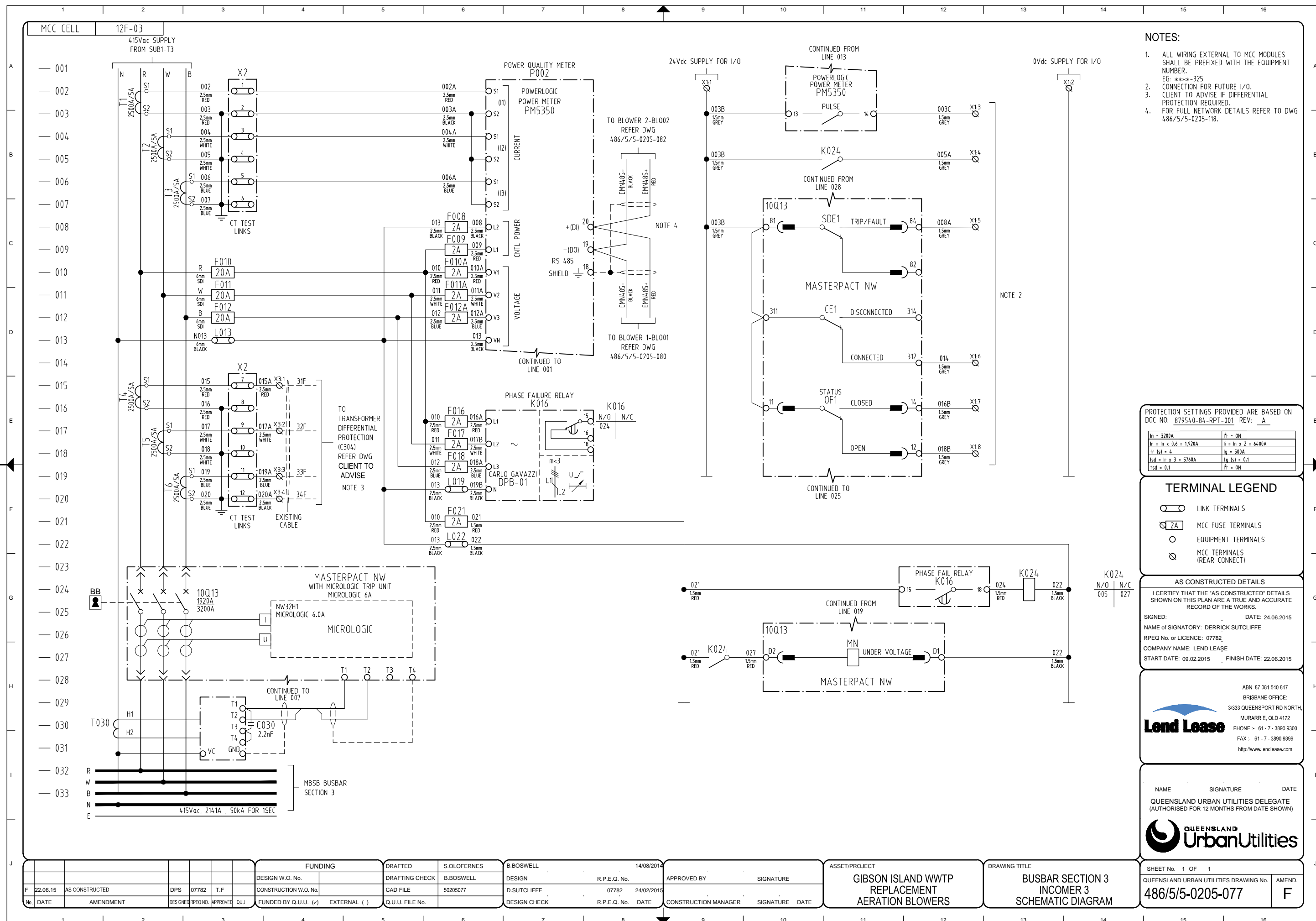
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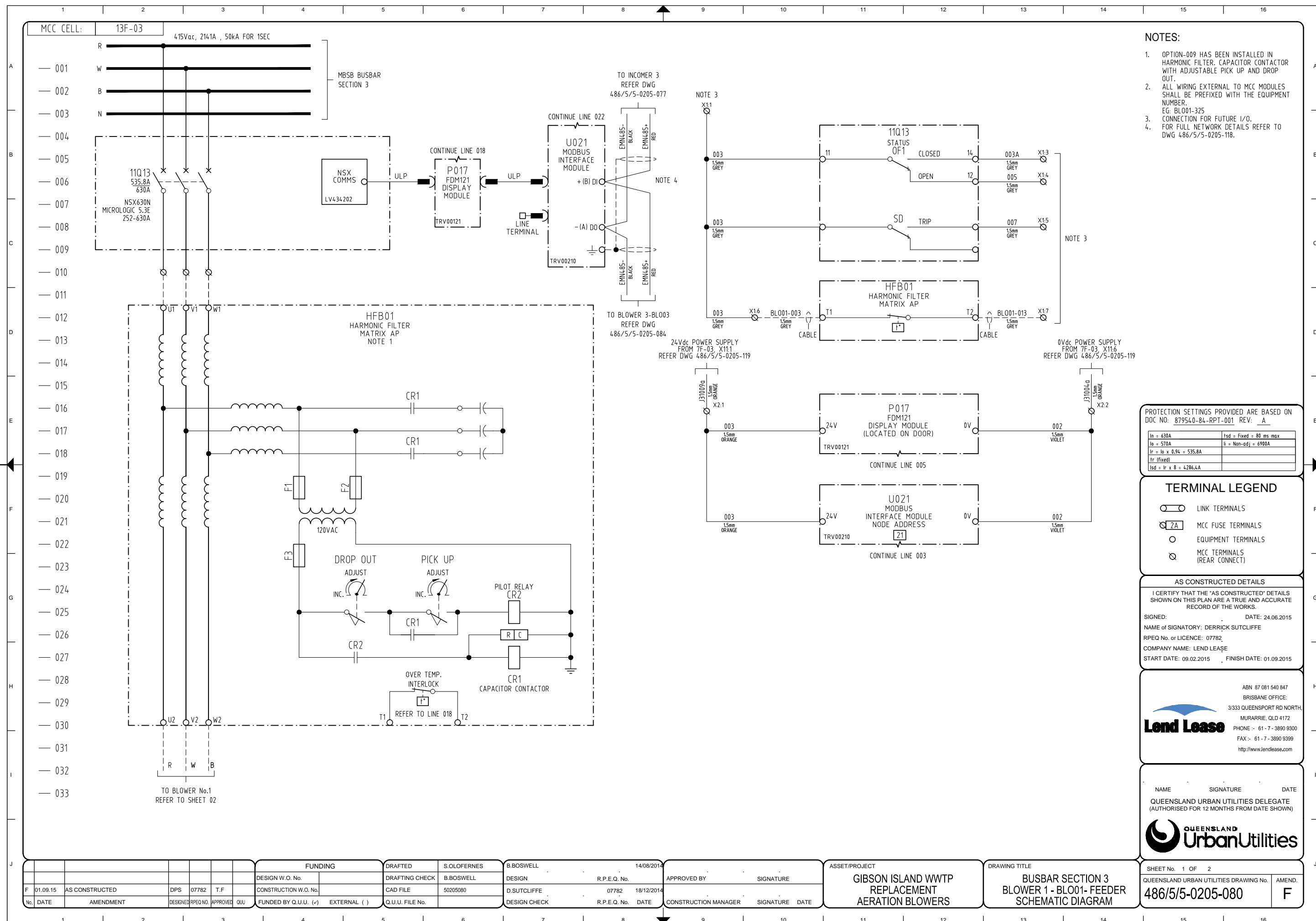
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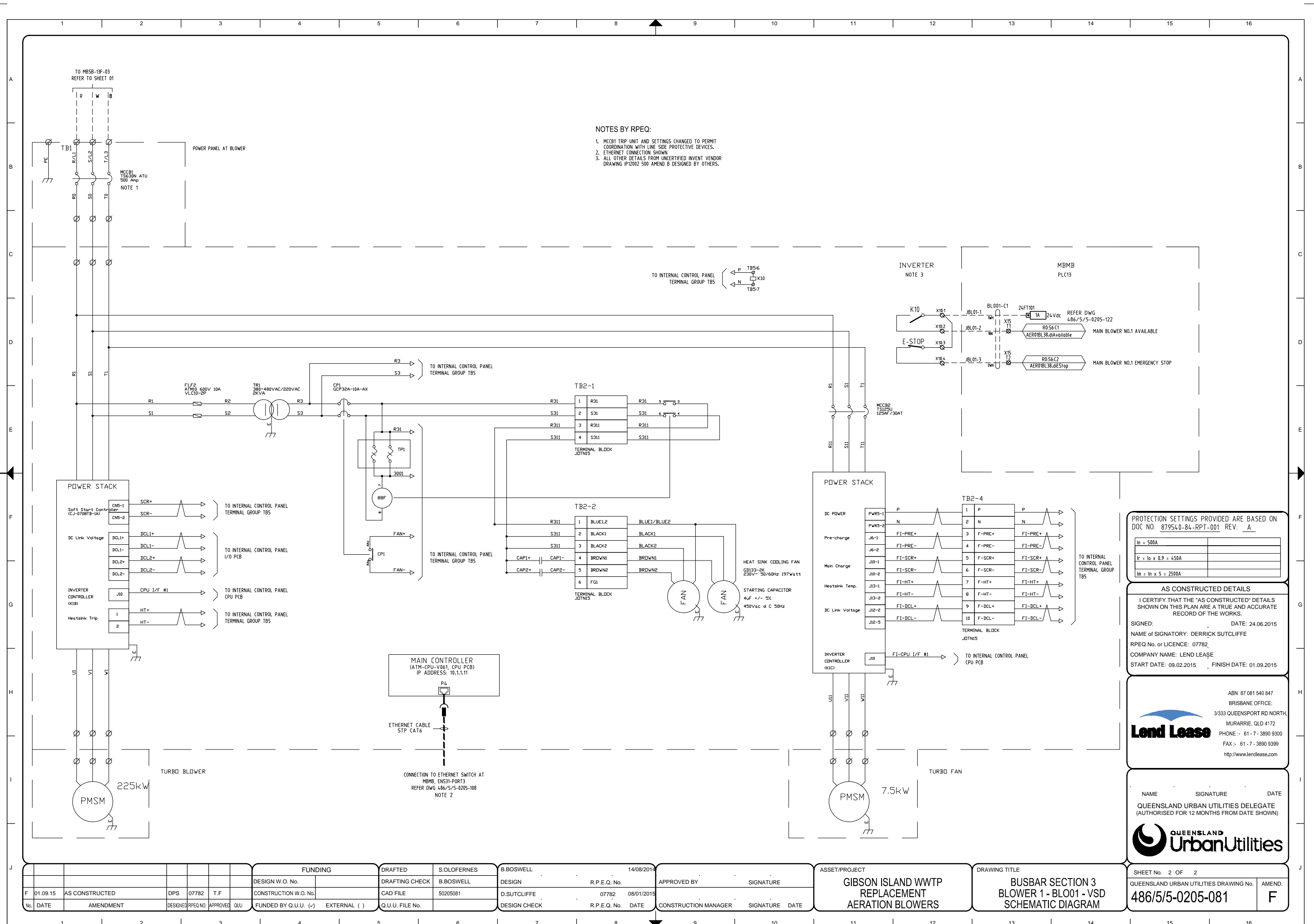
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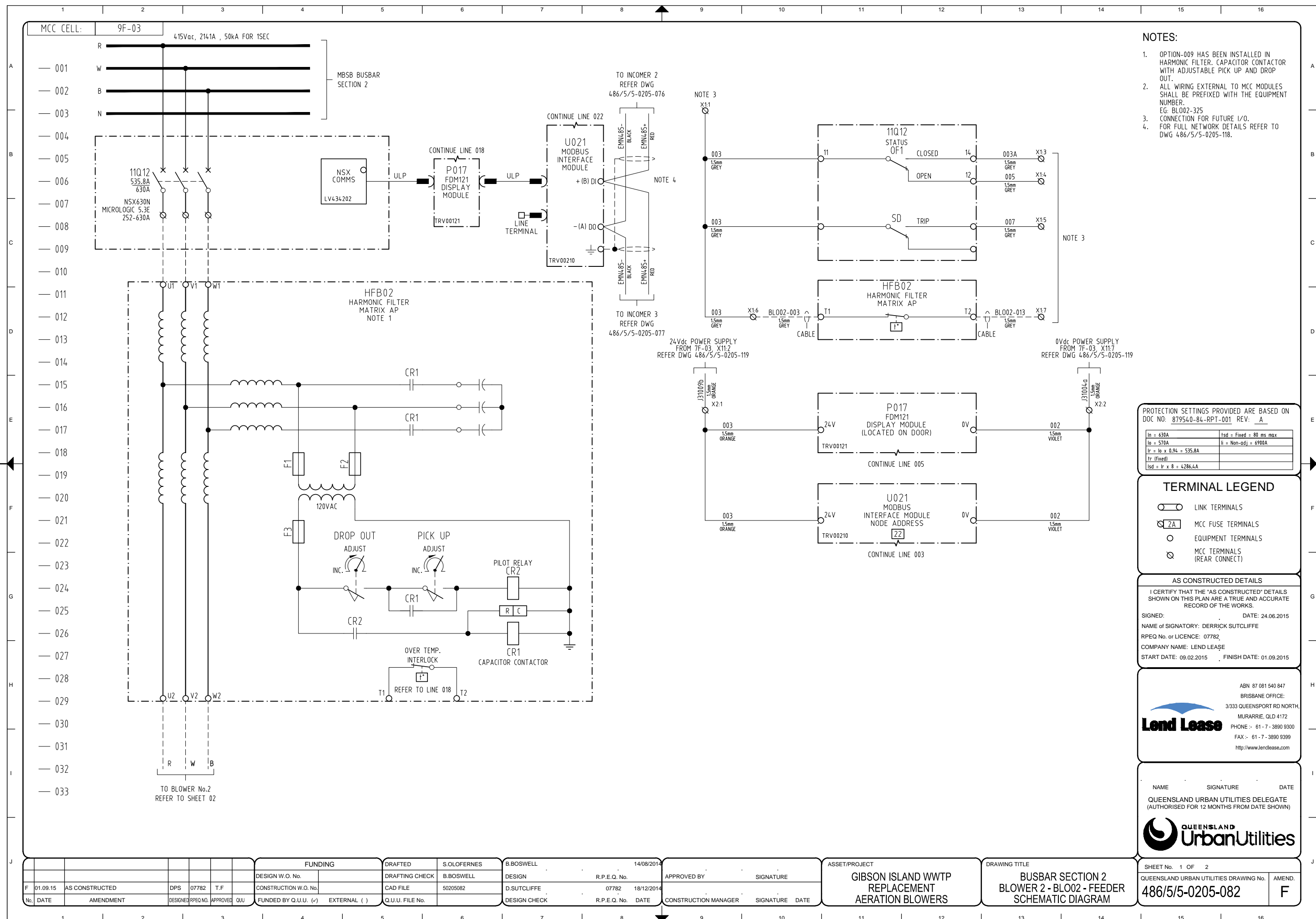
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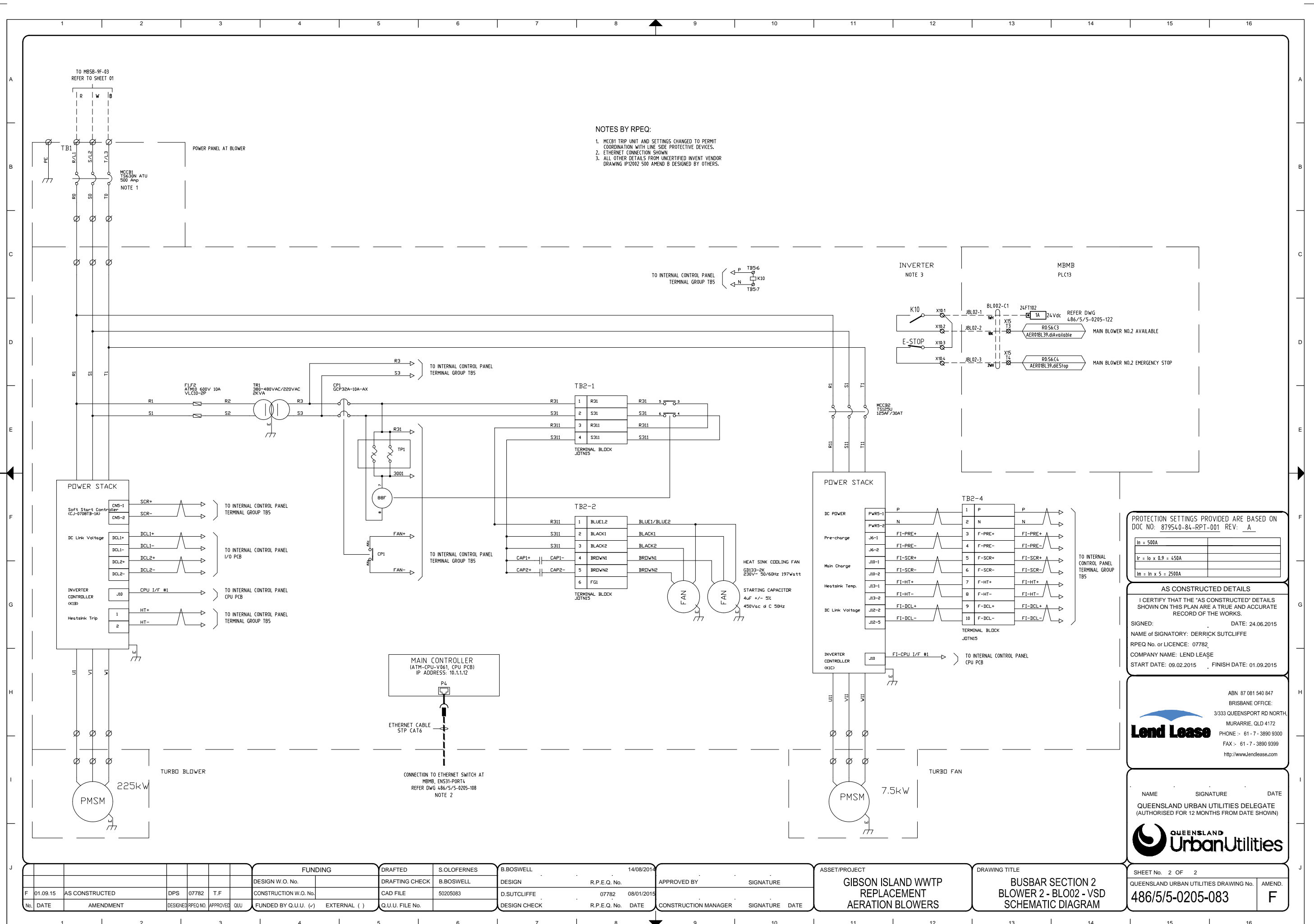




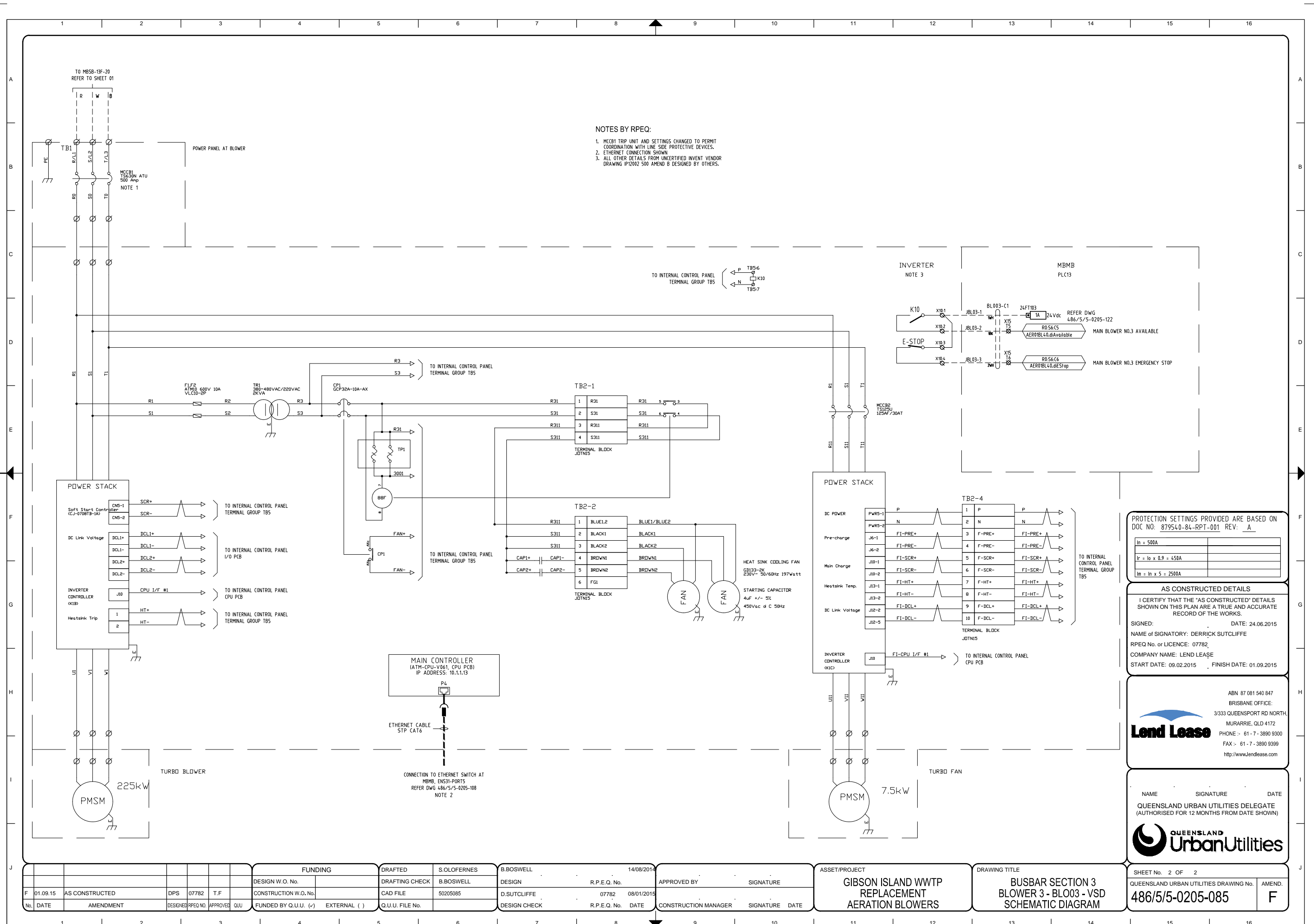


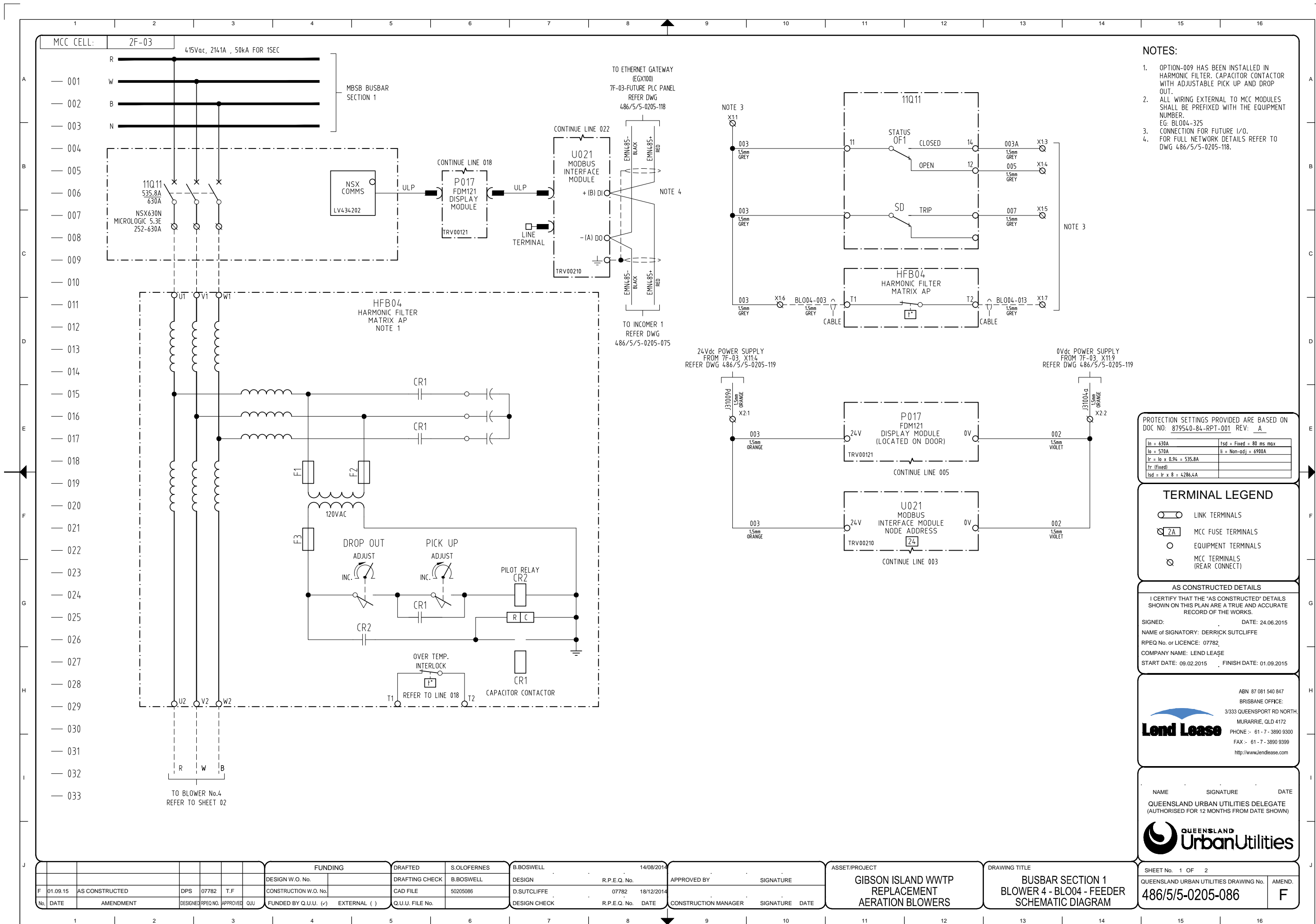


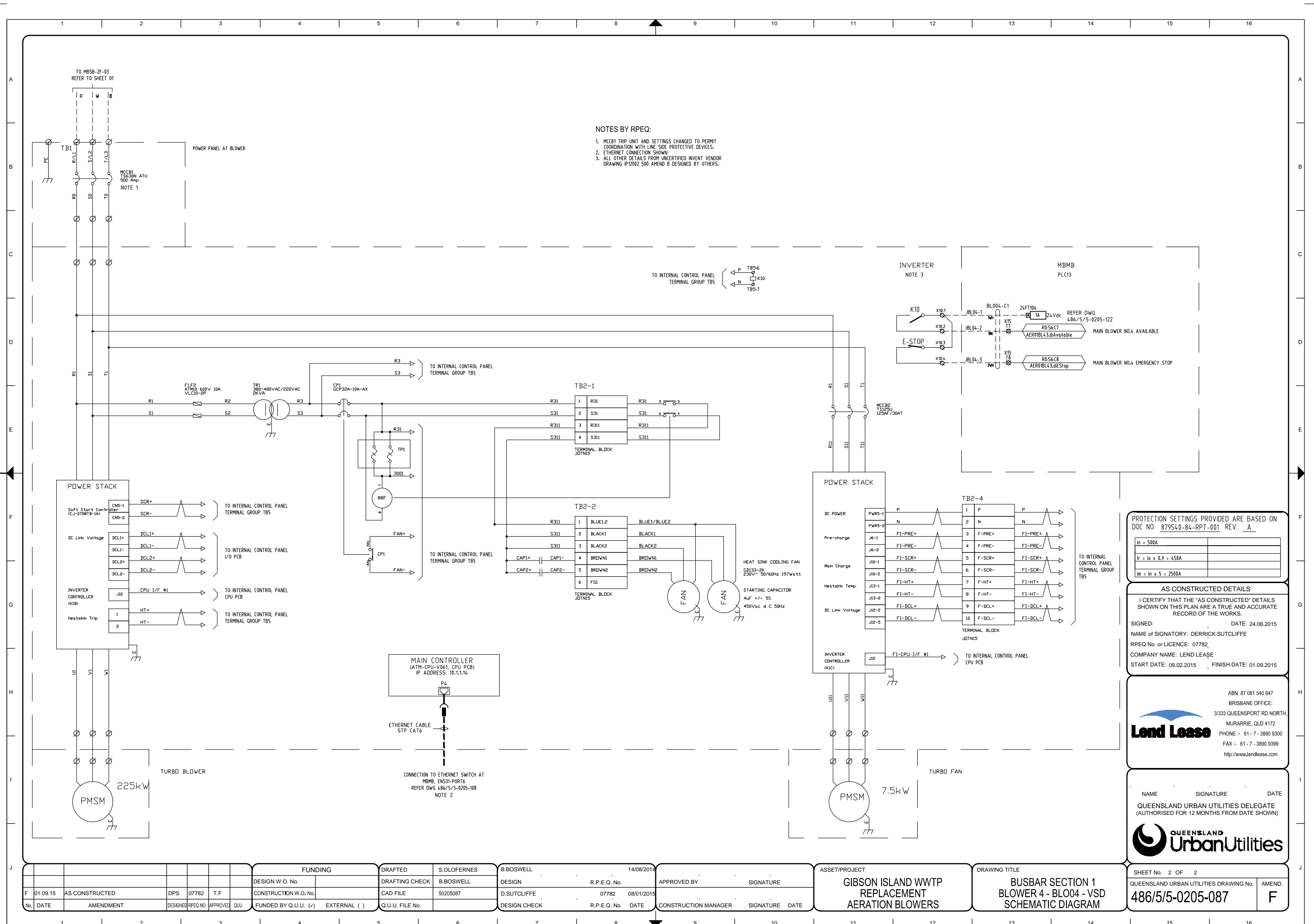


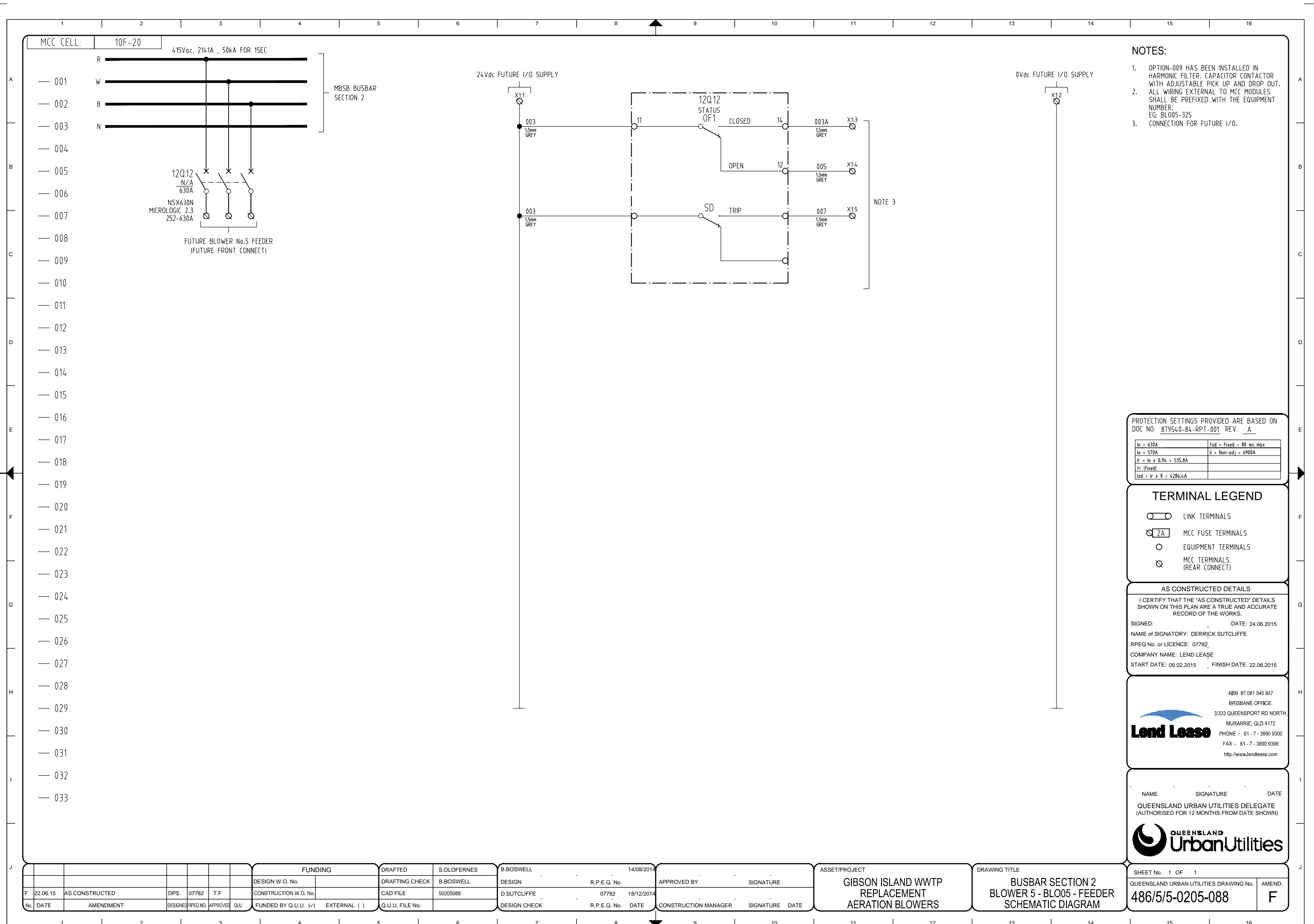


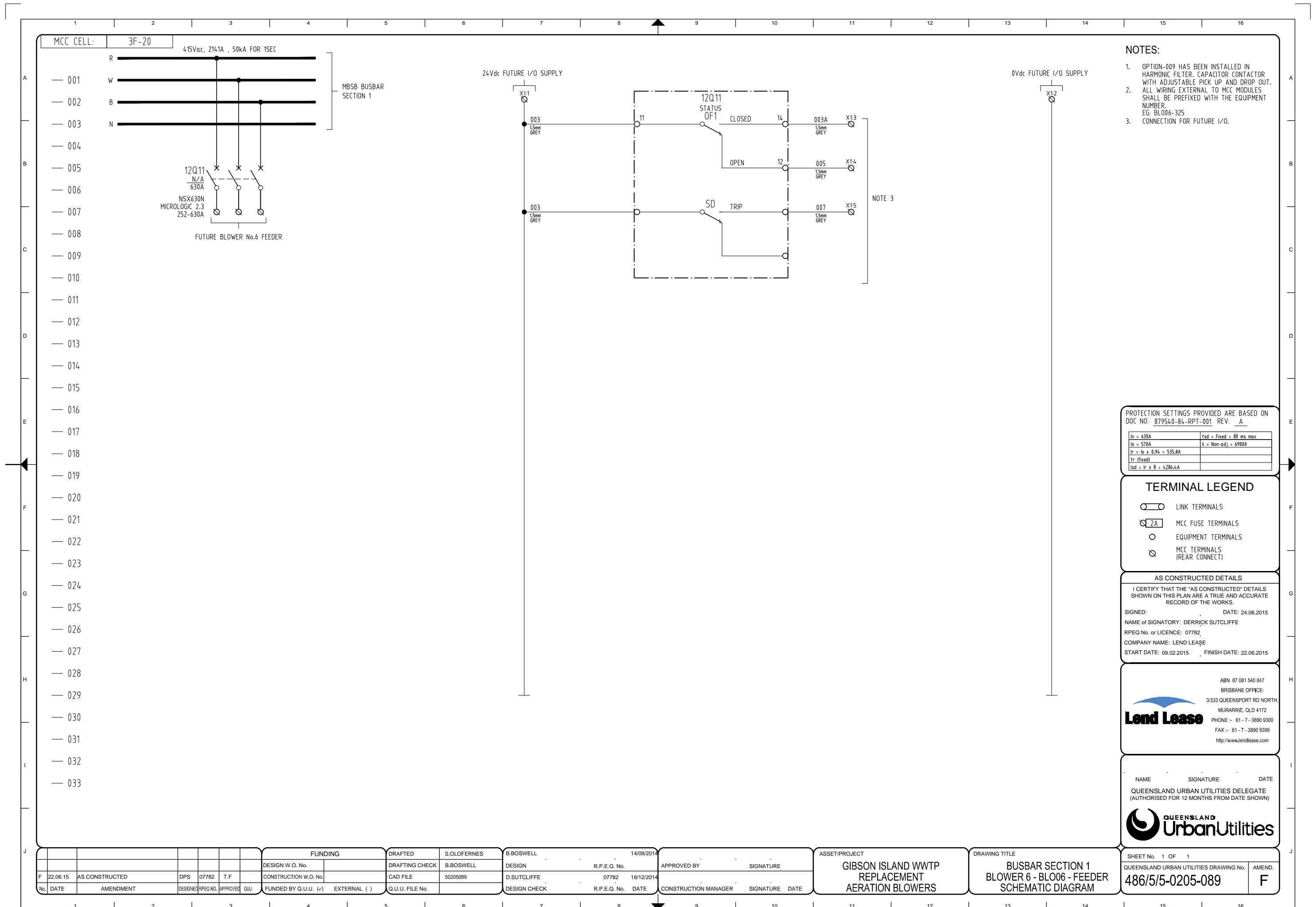


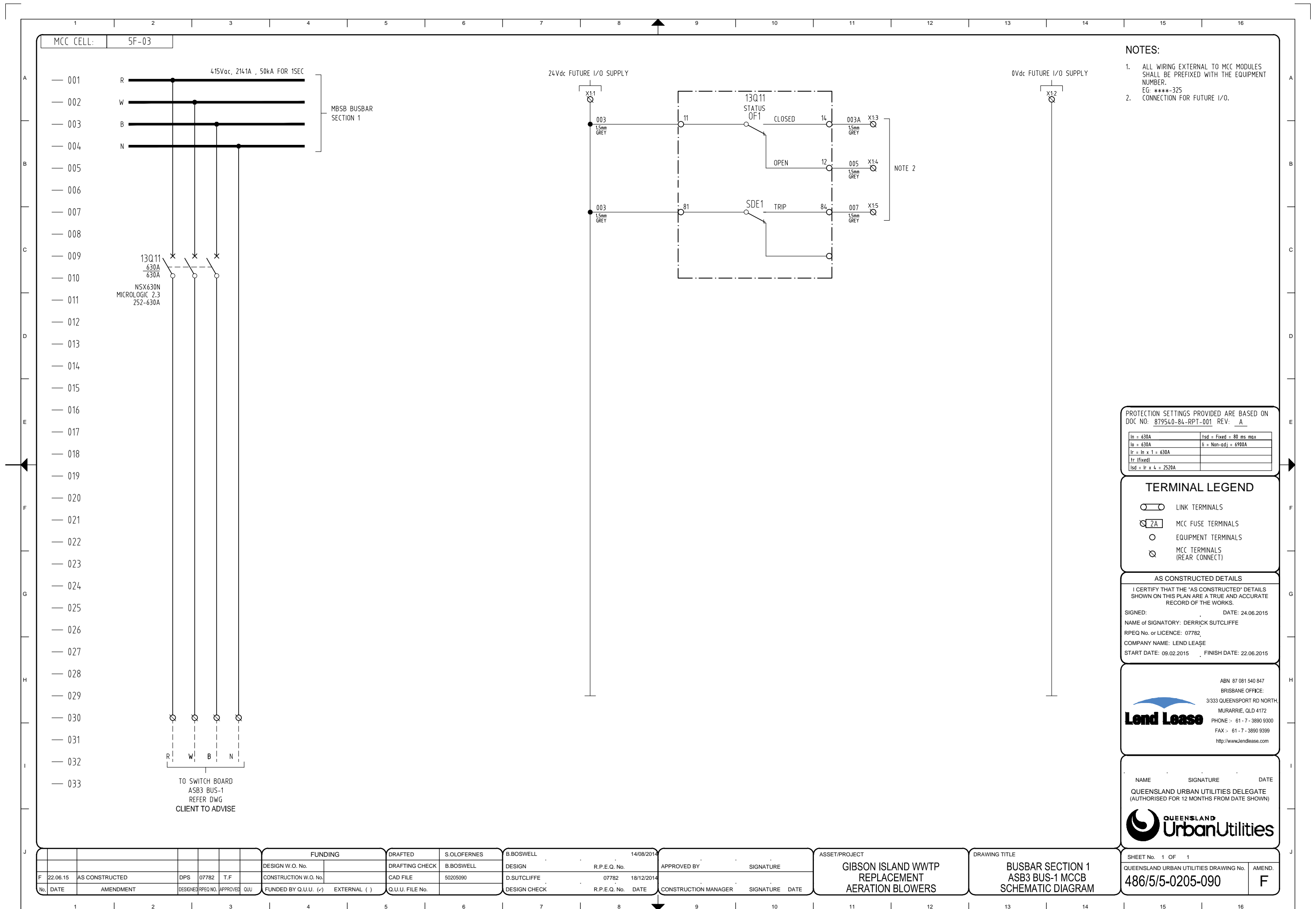


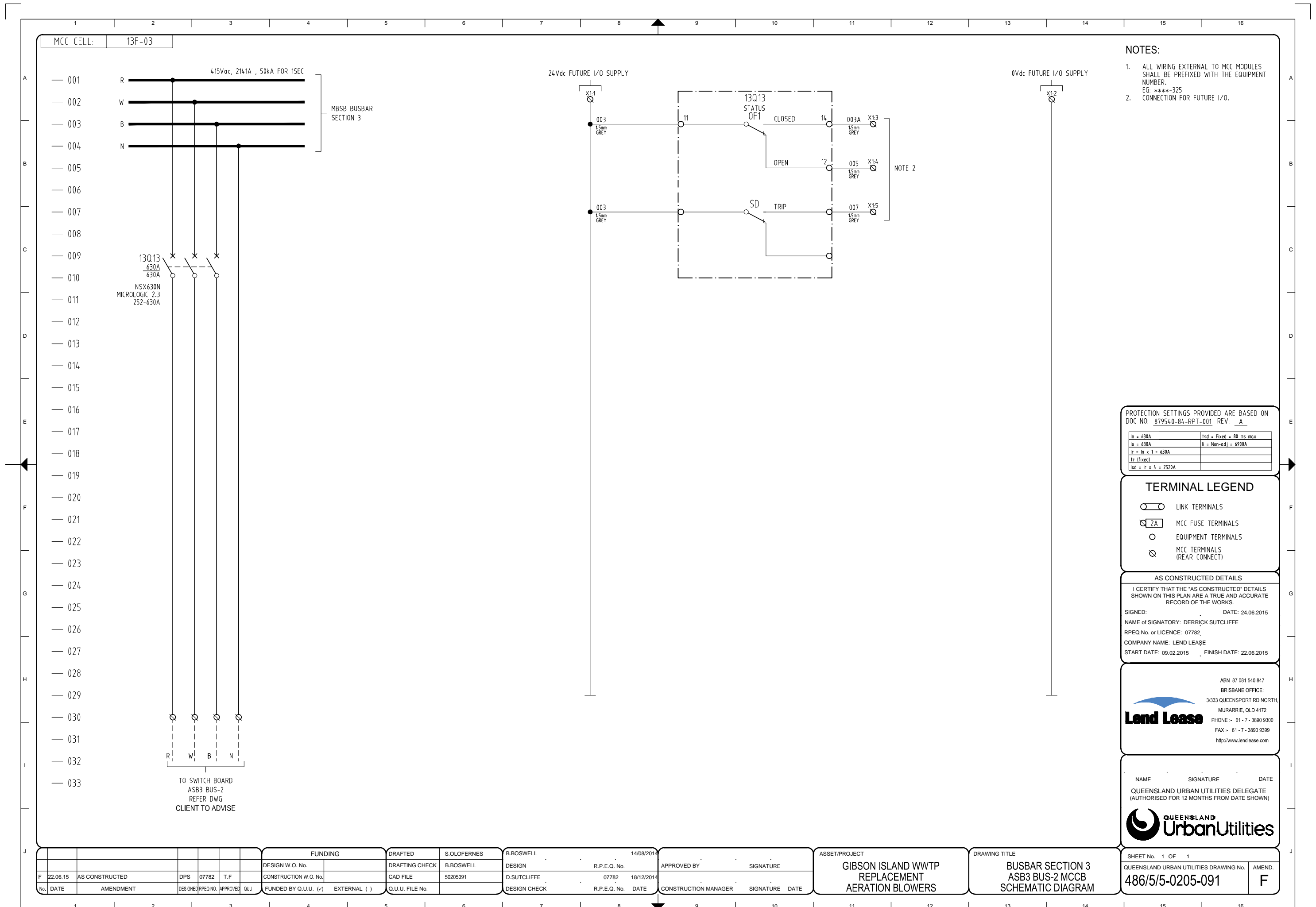


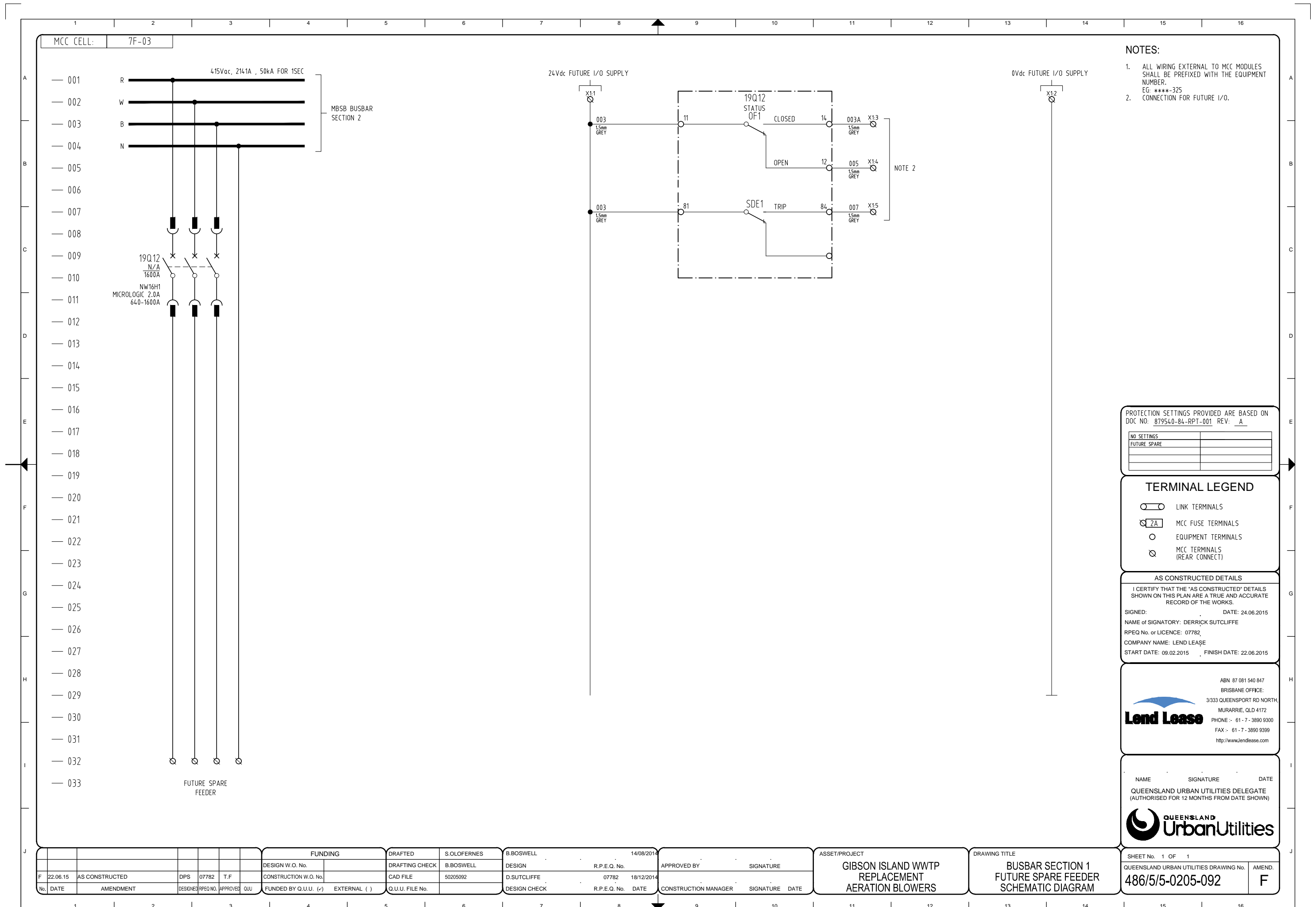


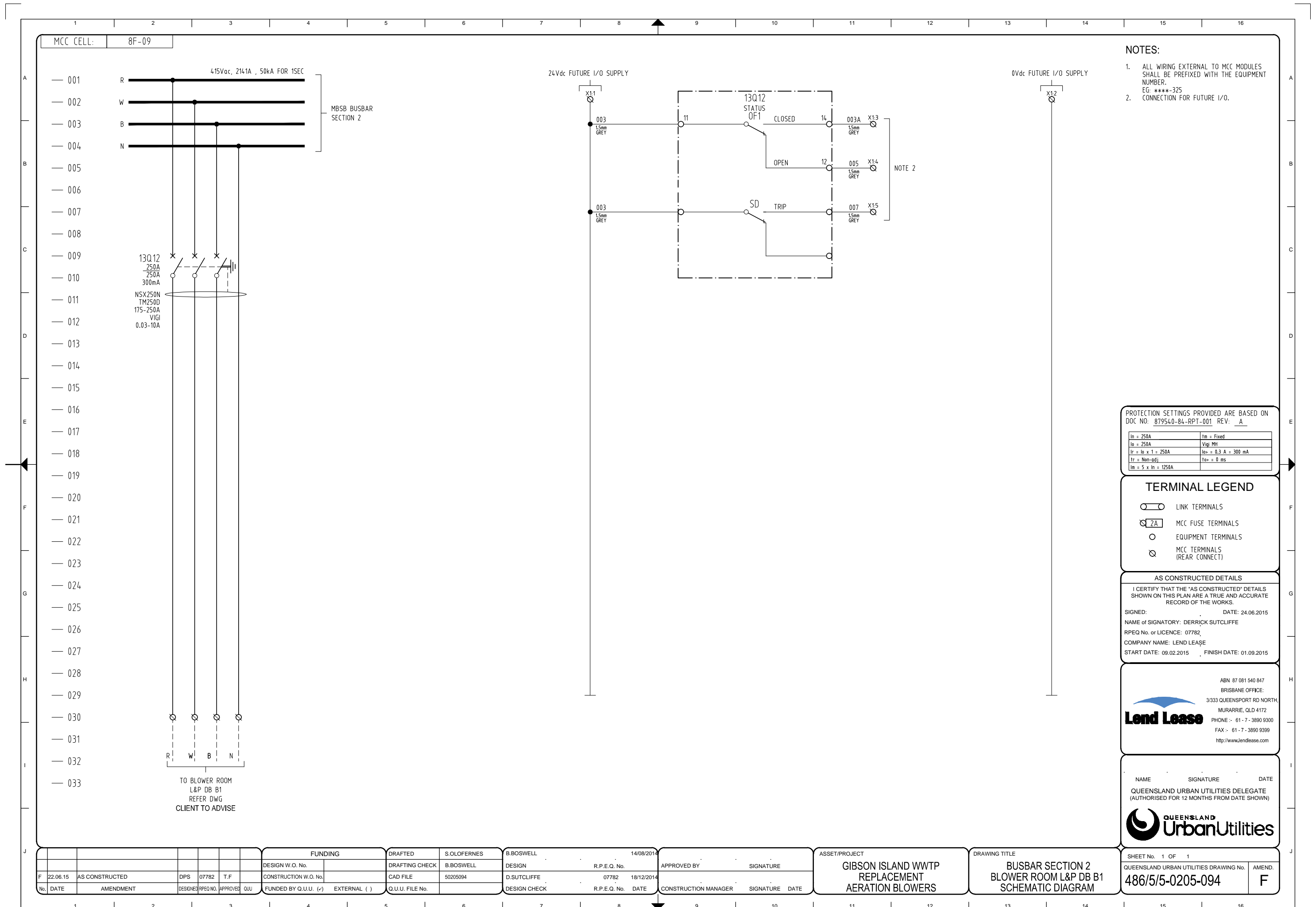


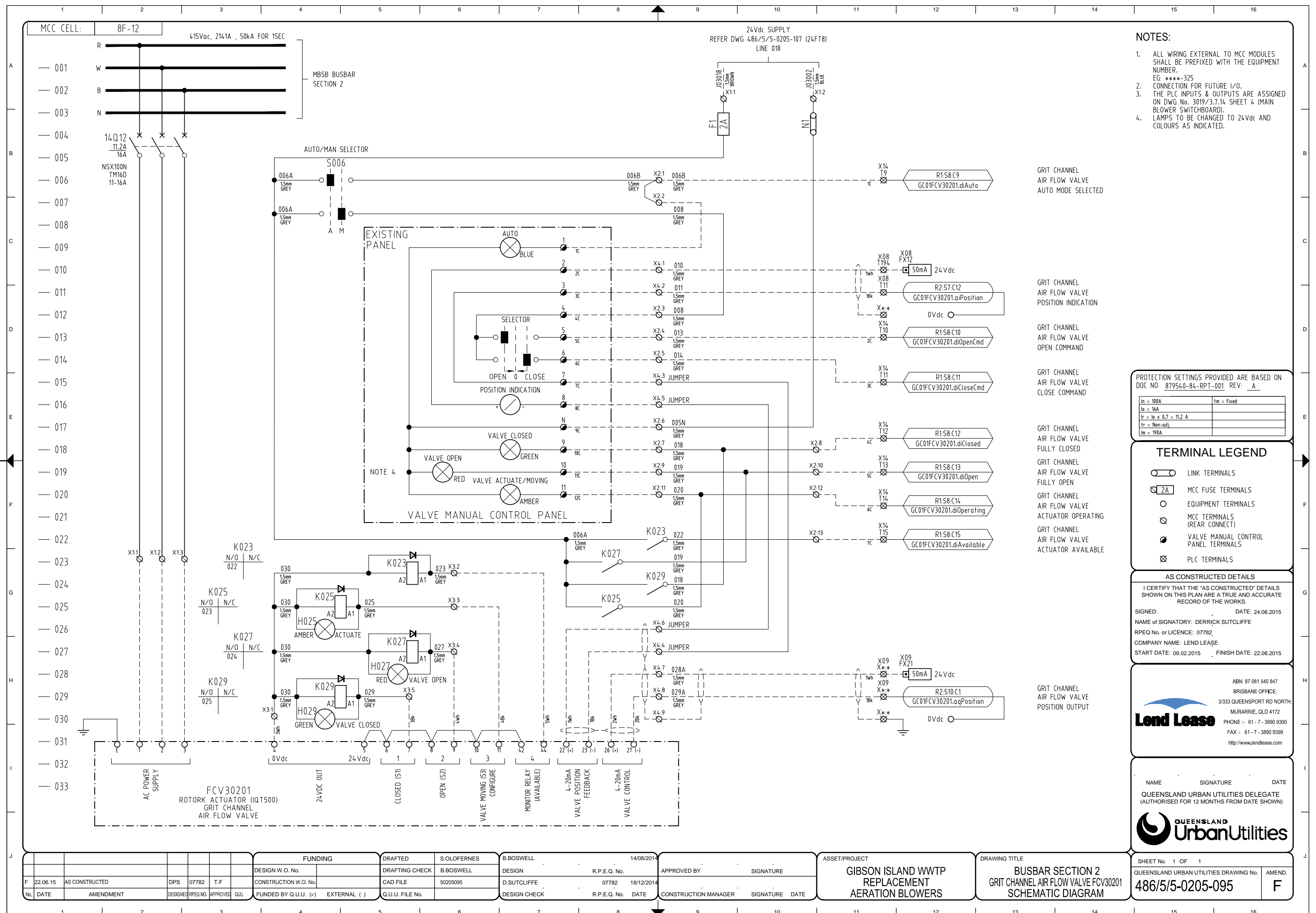


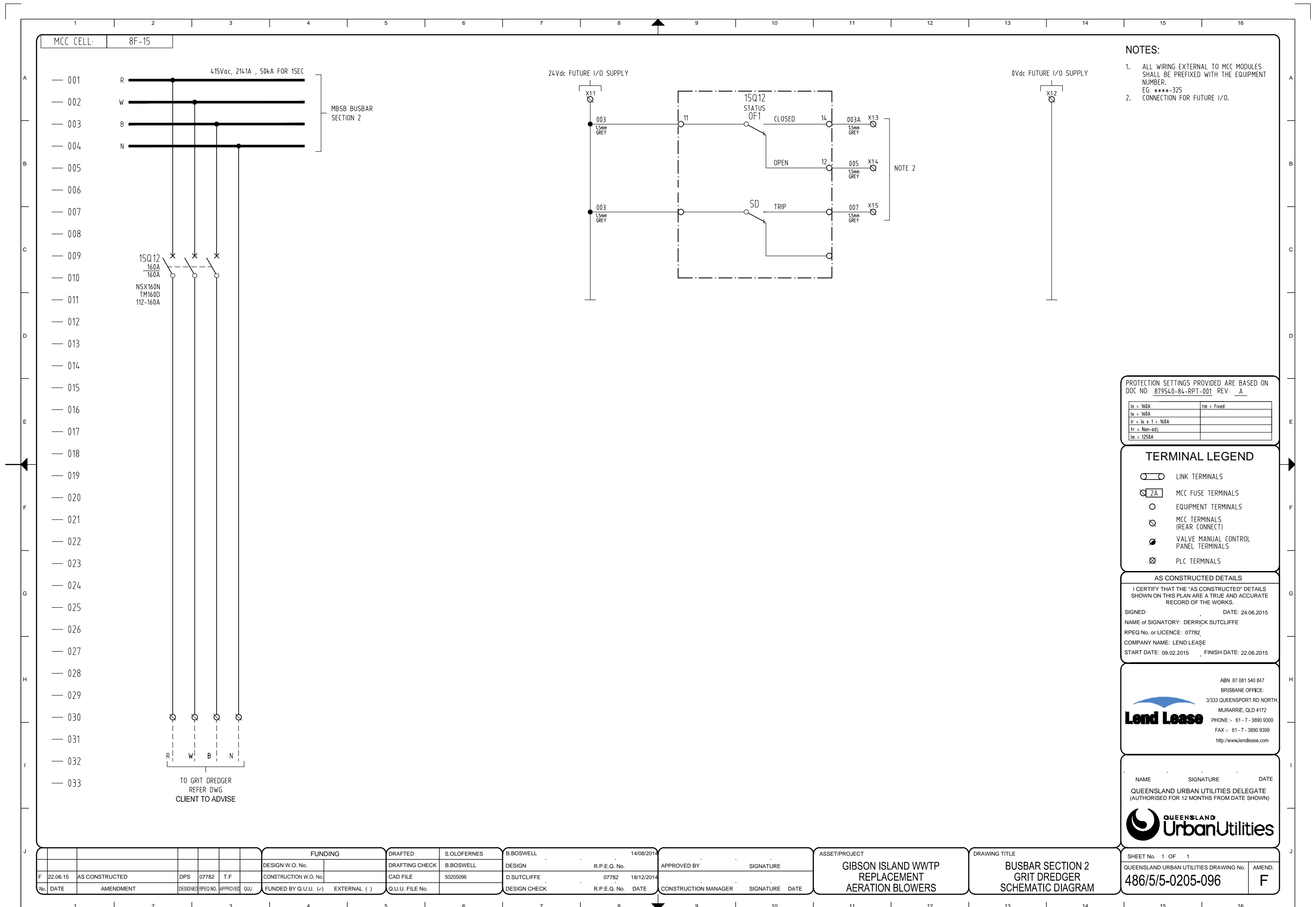


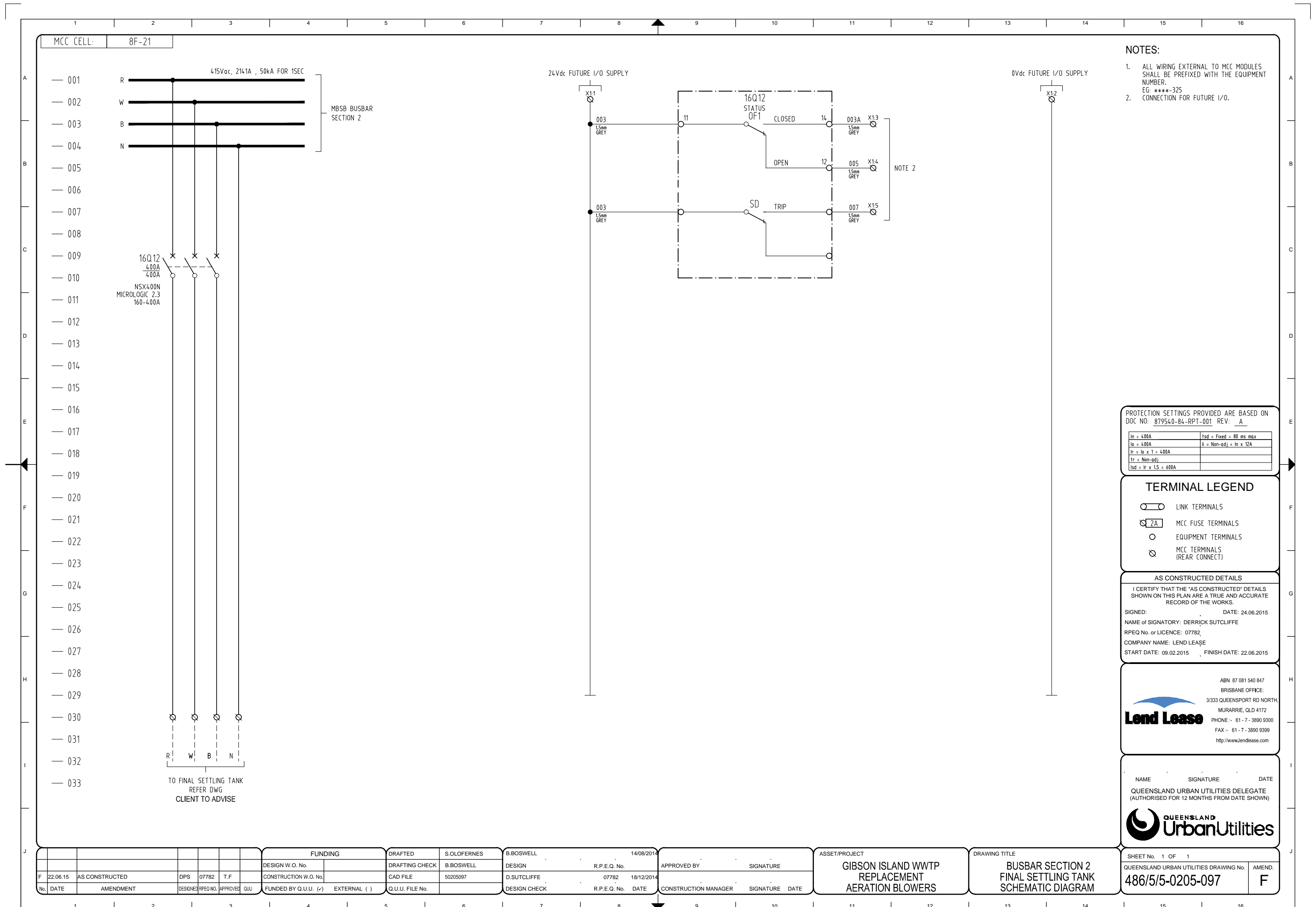


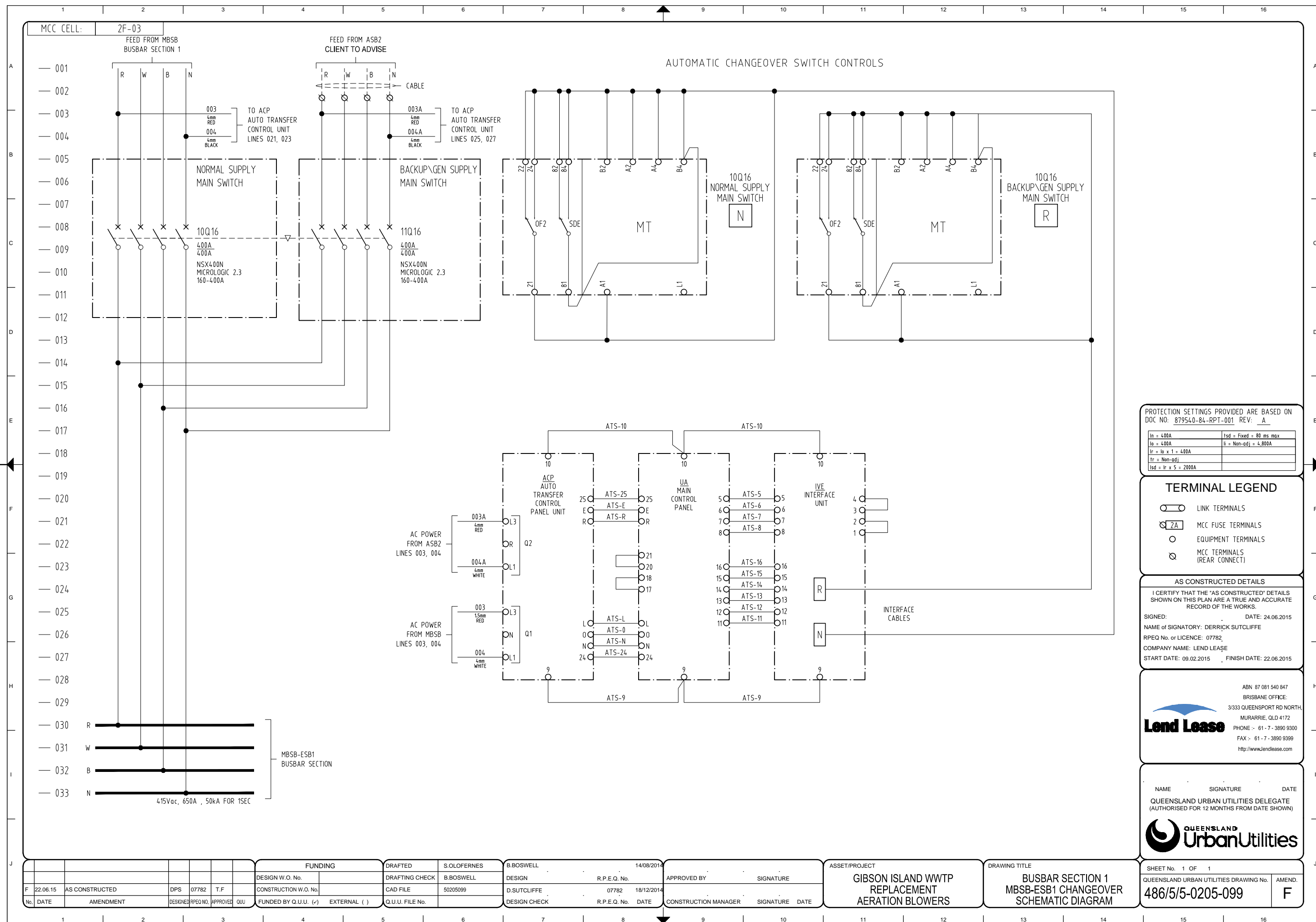


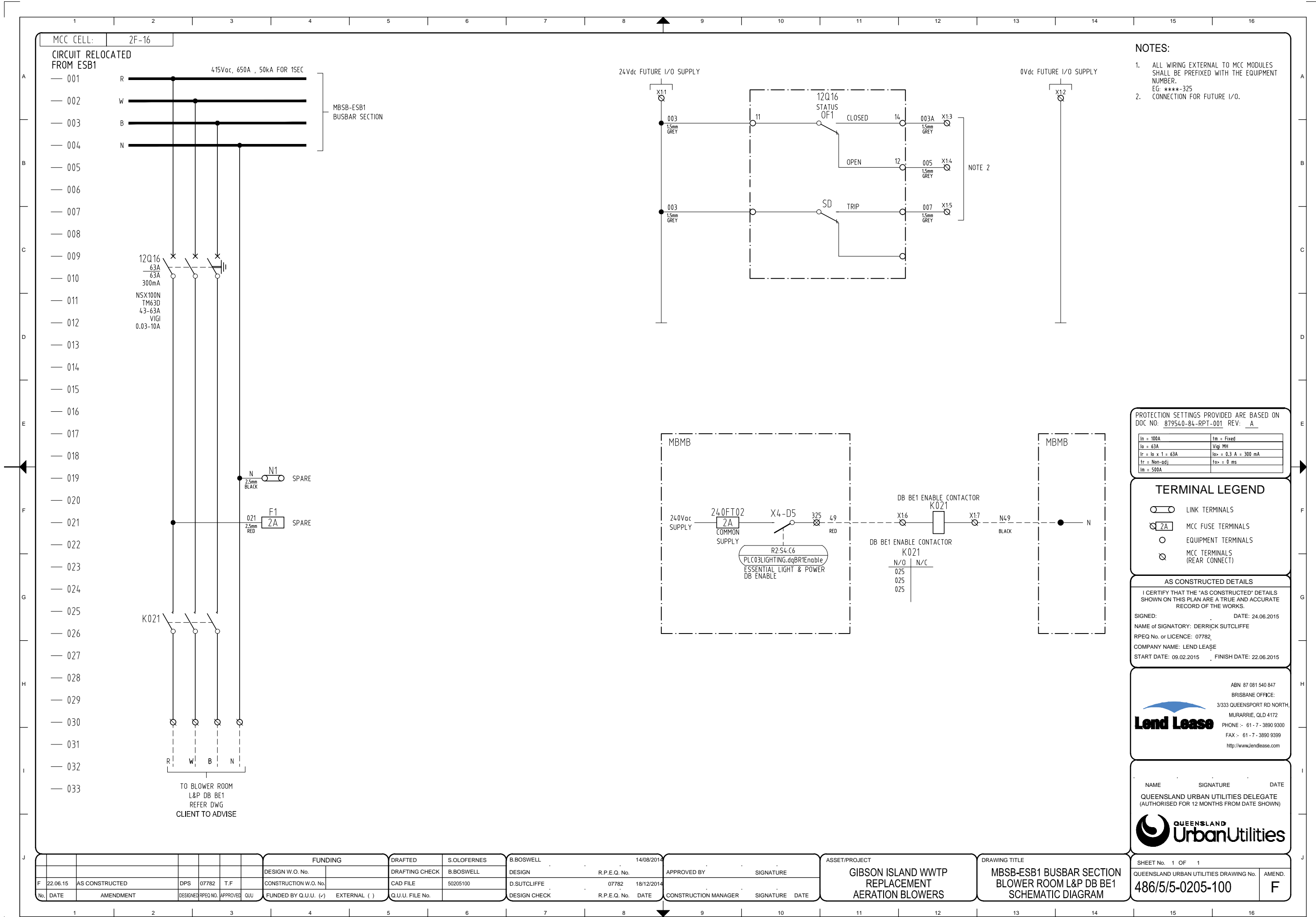


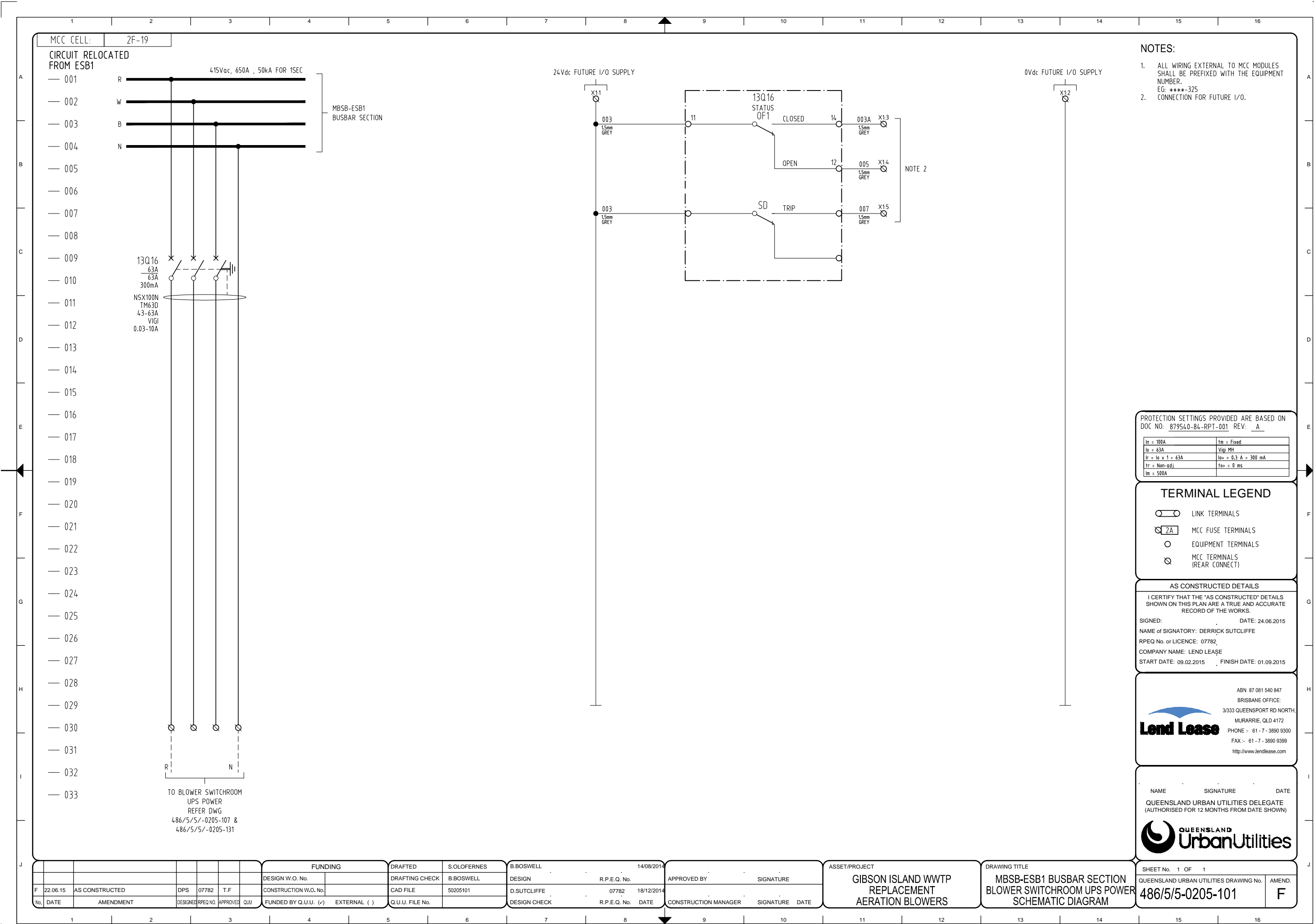


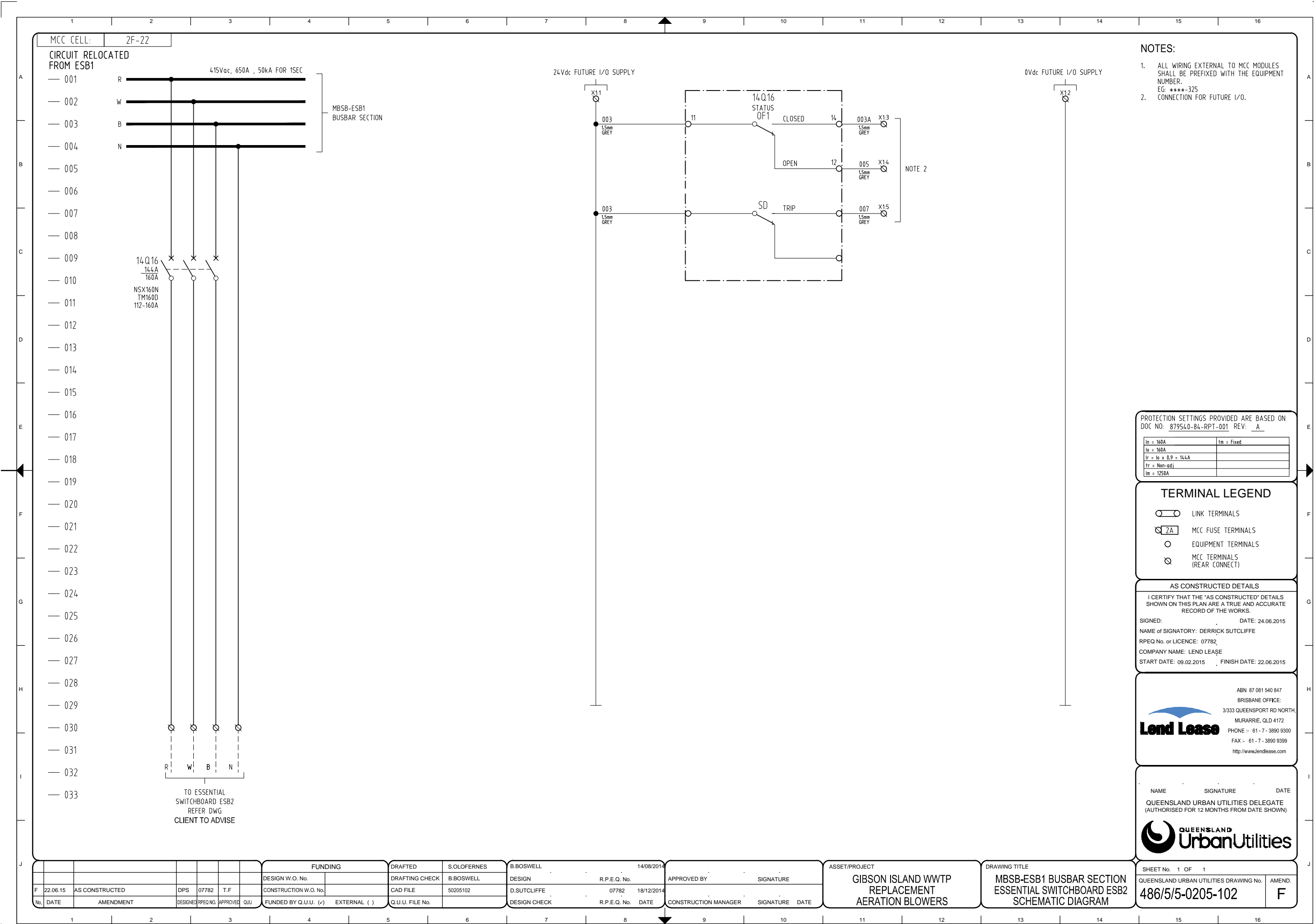


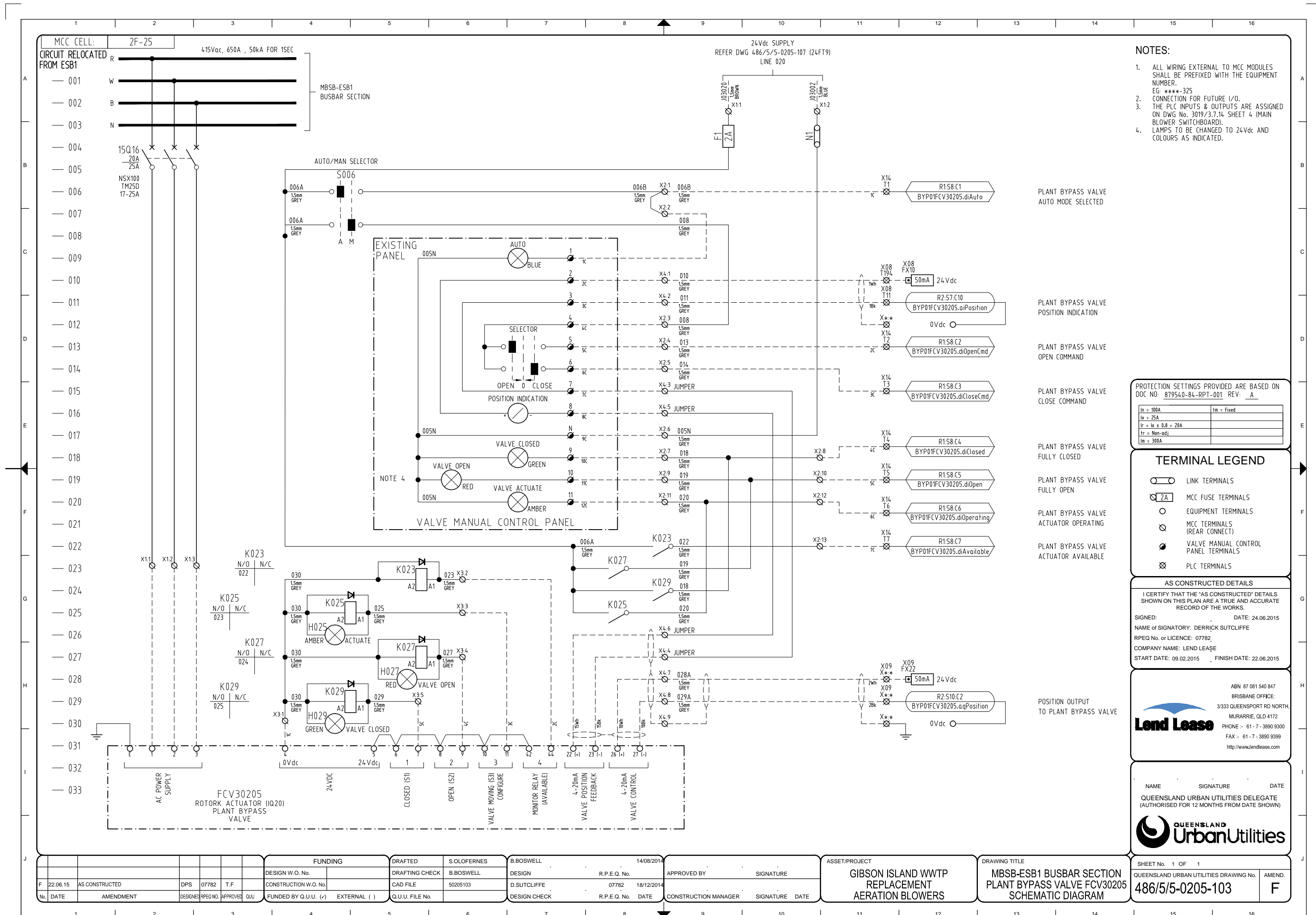


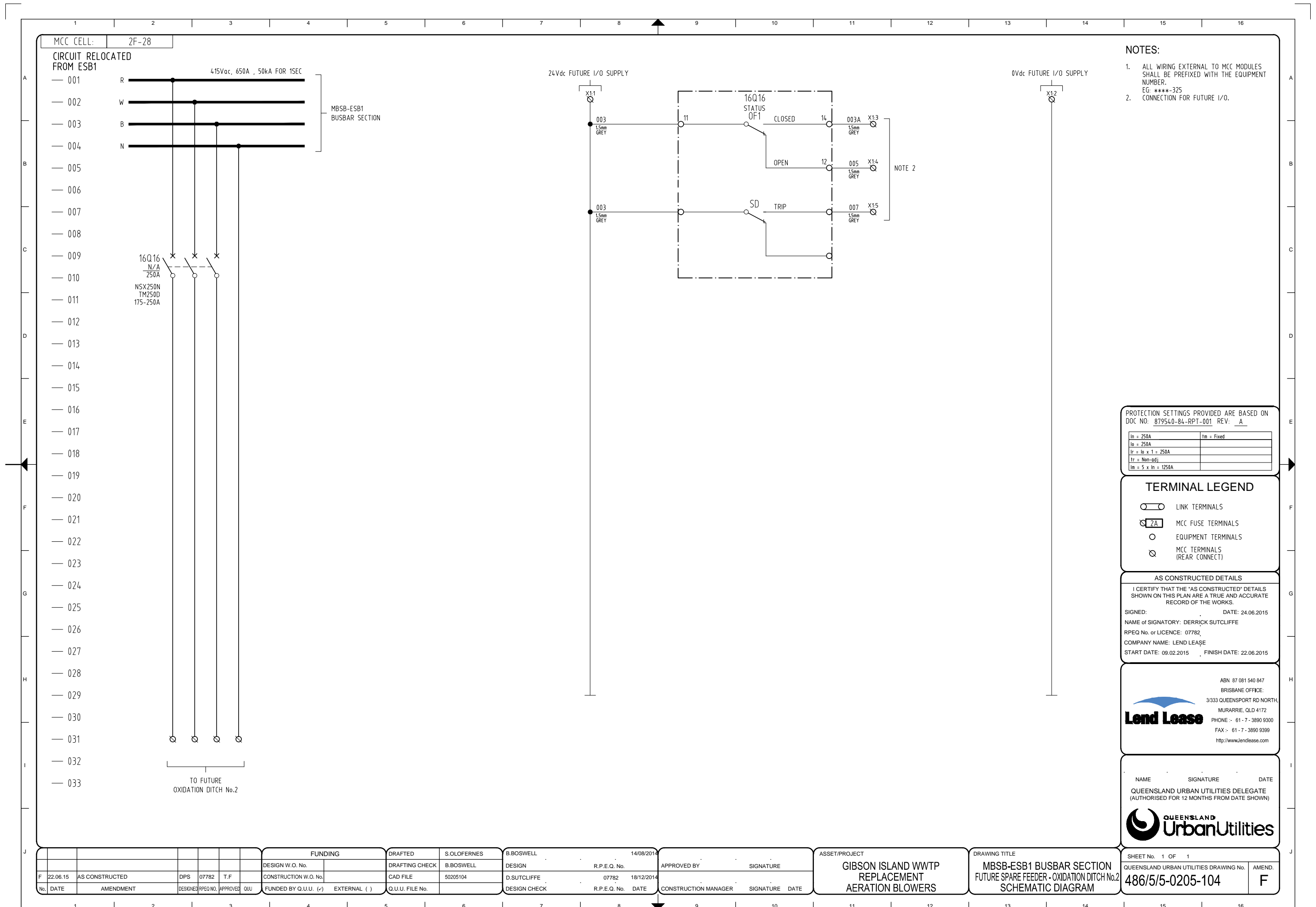


















$I_n = 100A$ $I_o = 63A$ $I_r = I_o \times 1 = 63A$ $I_{tr} = \text{Non-adj}$ $I_m = 500A$	$I_m = \text{Fixed}$ $V_{igi} = MH$ $I_o > 0.3 A = 300 mA$ $t_o = 0 ms$
--	--

TERMINAL LEGEND

- | | |
|---|---|
|  | LINK TERMINALS |
|  | MCC FUSE TERMINALS |
|  | EQUIPMENT TERMINALS |
|  | MCC TERMINALS
(REAR CONNECT) |
|  | VALVE MANUAL CONTROL
PANEL TERMINALS |
|  | PLC TERMINALS |

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COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 22.06.2015

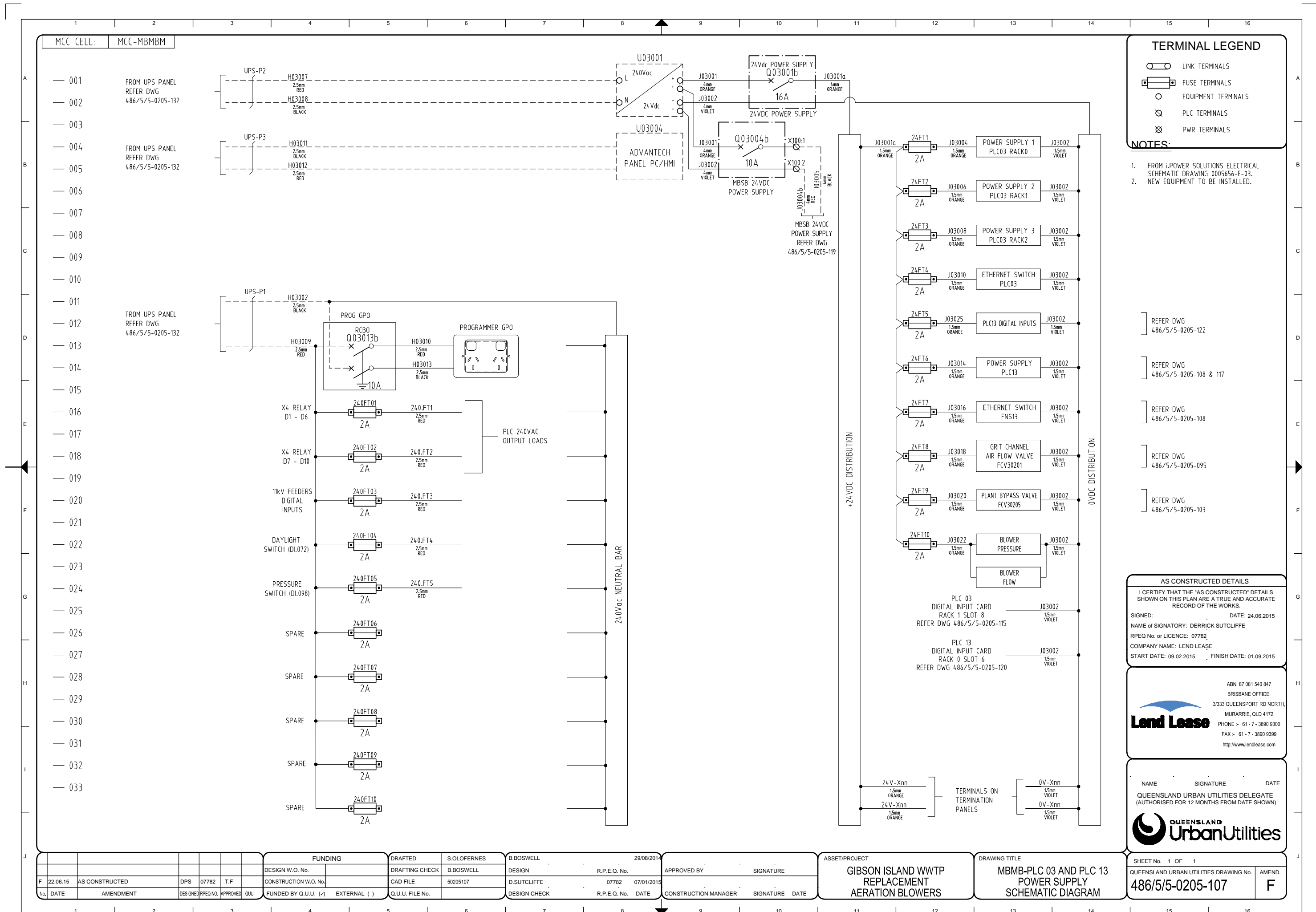
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MURARRIE, QLD 4172
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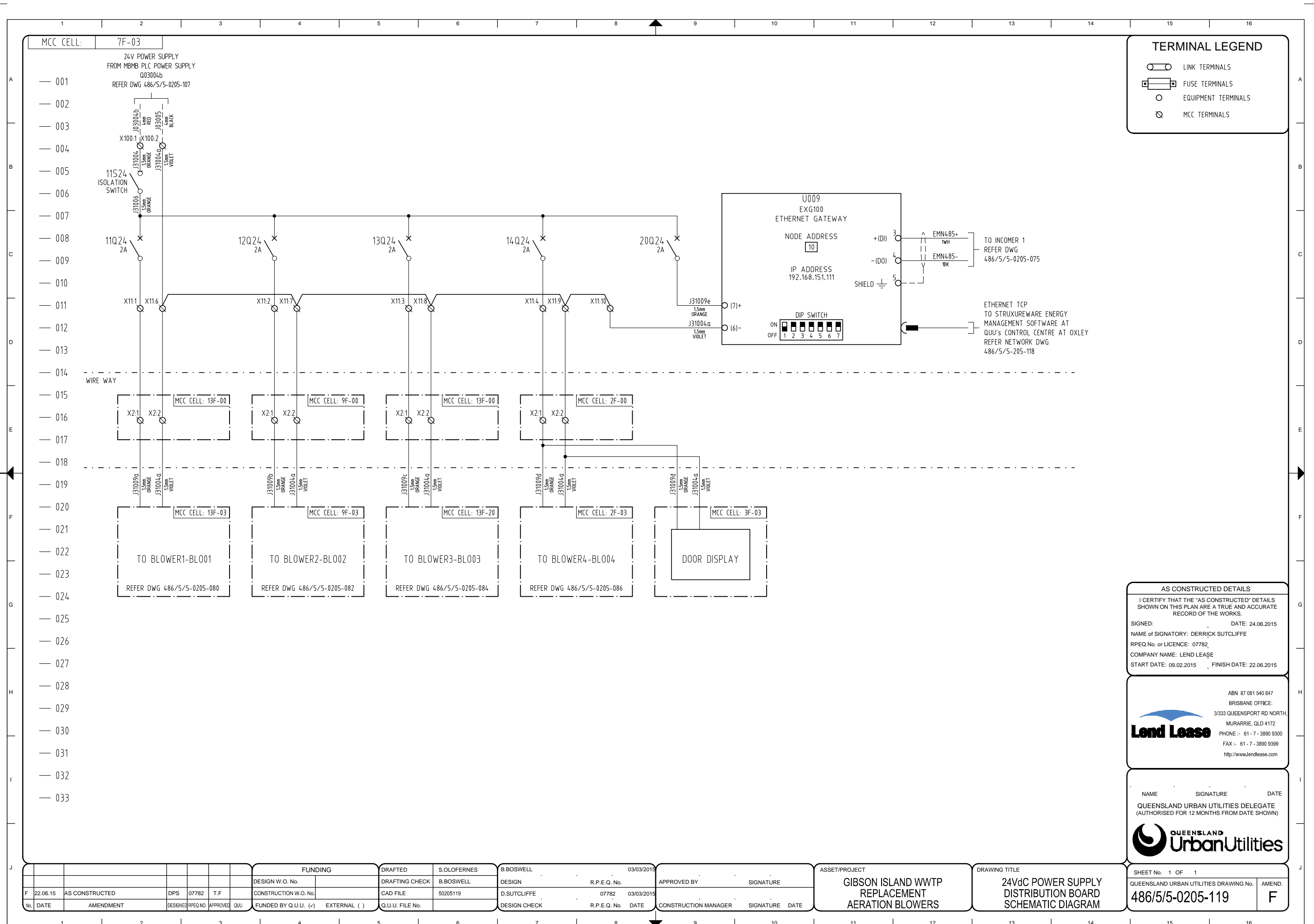
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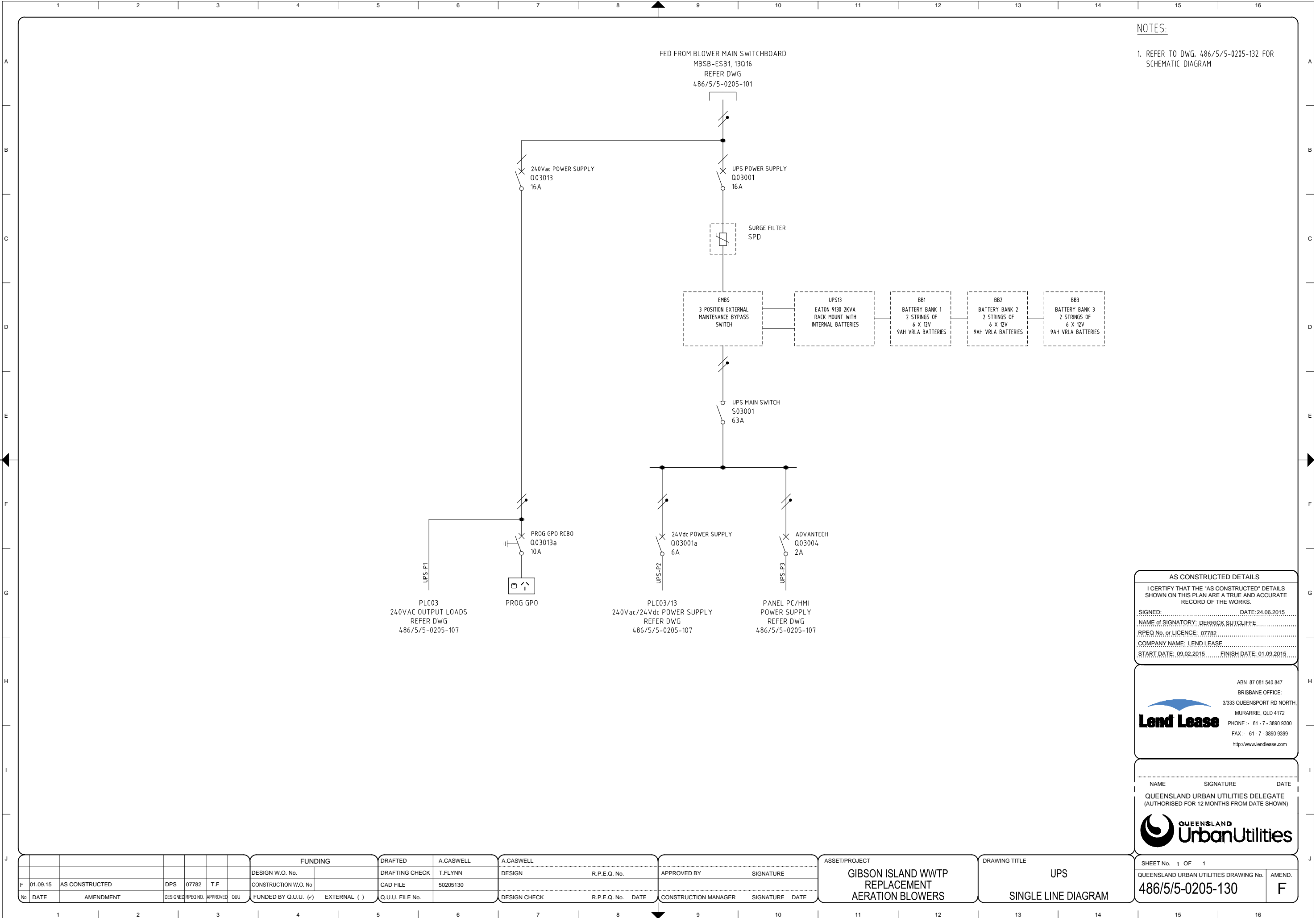


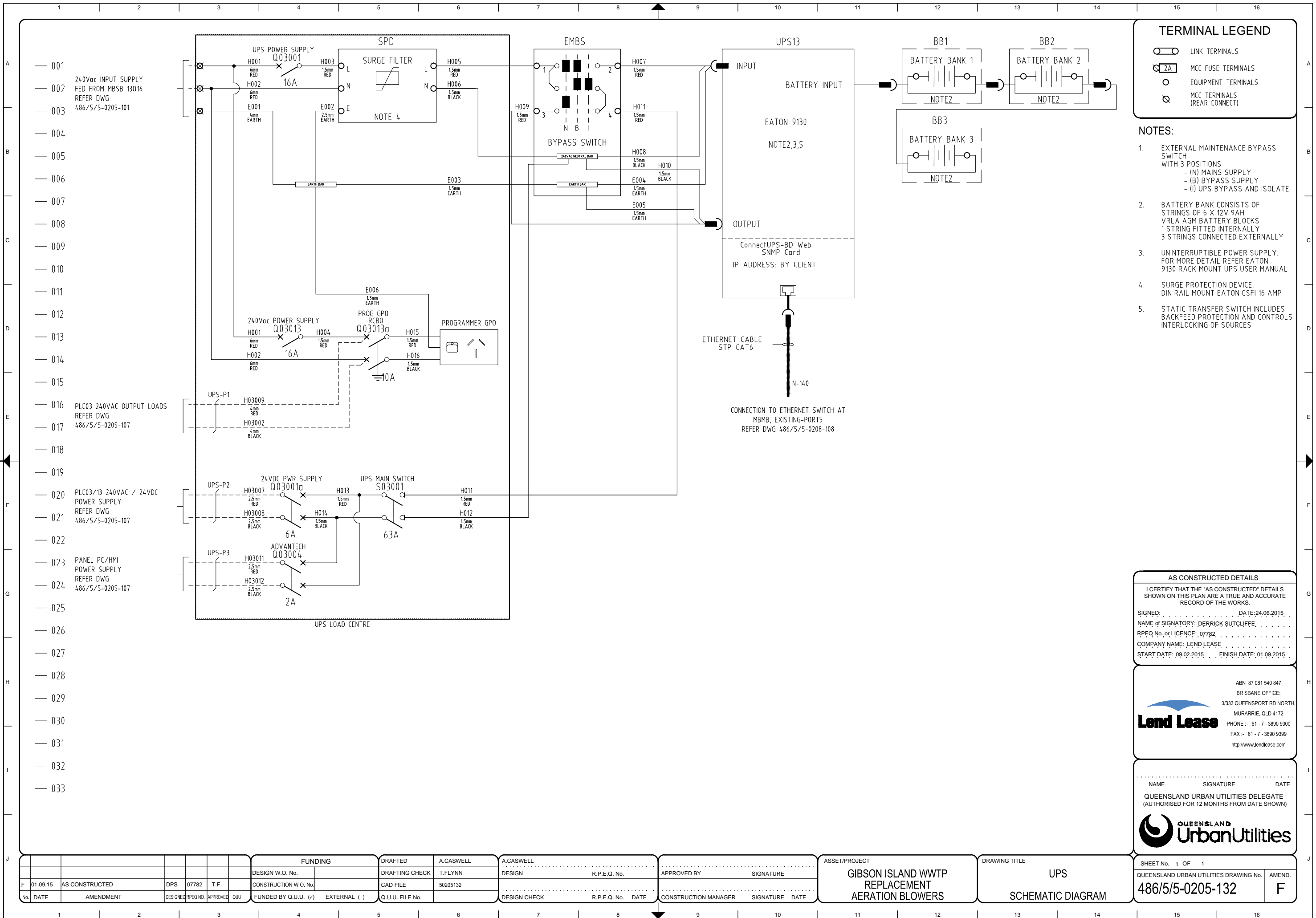
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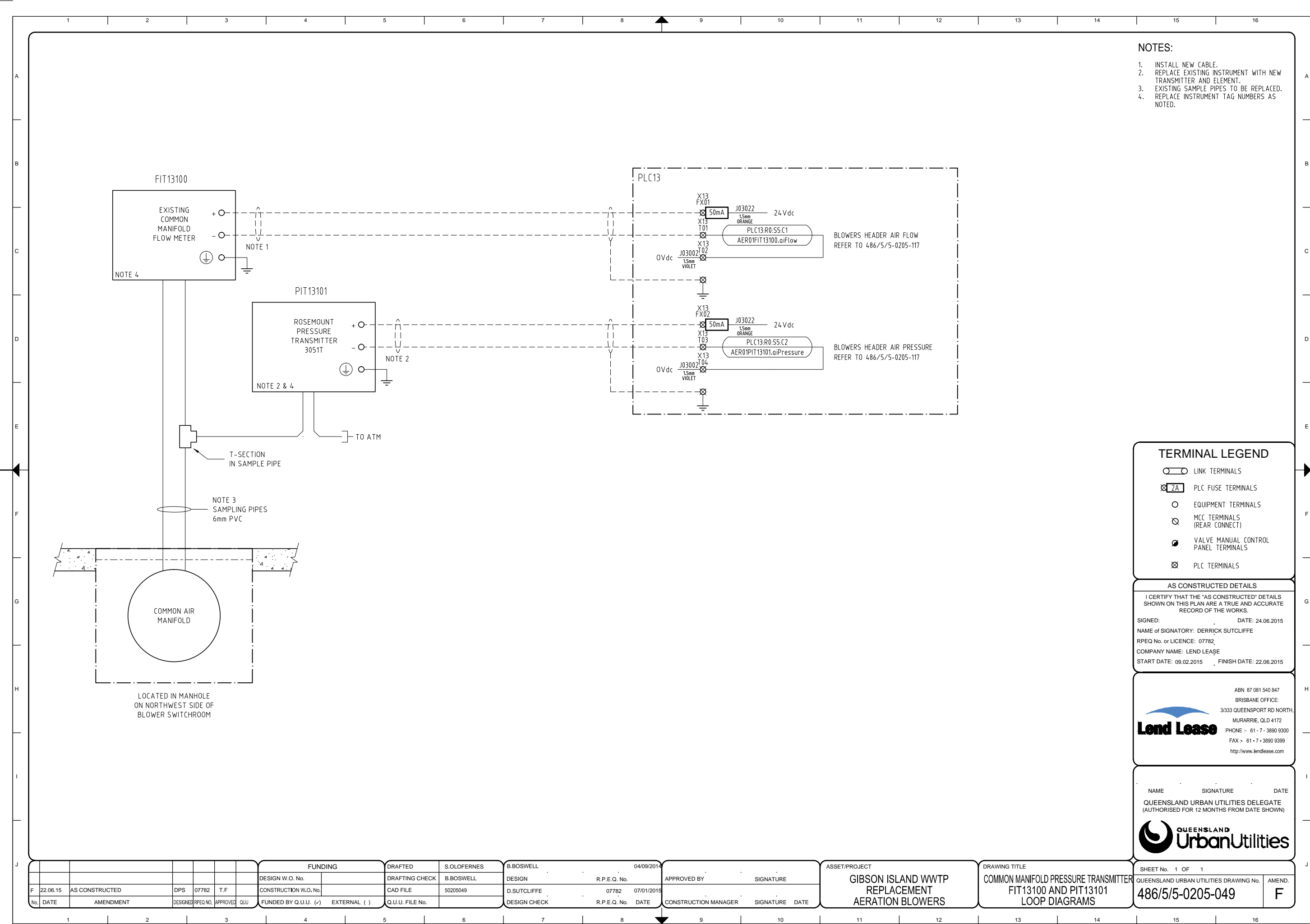


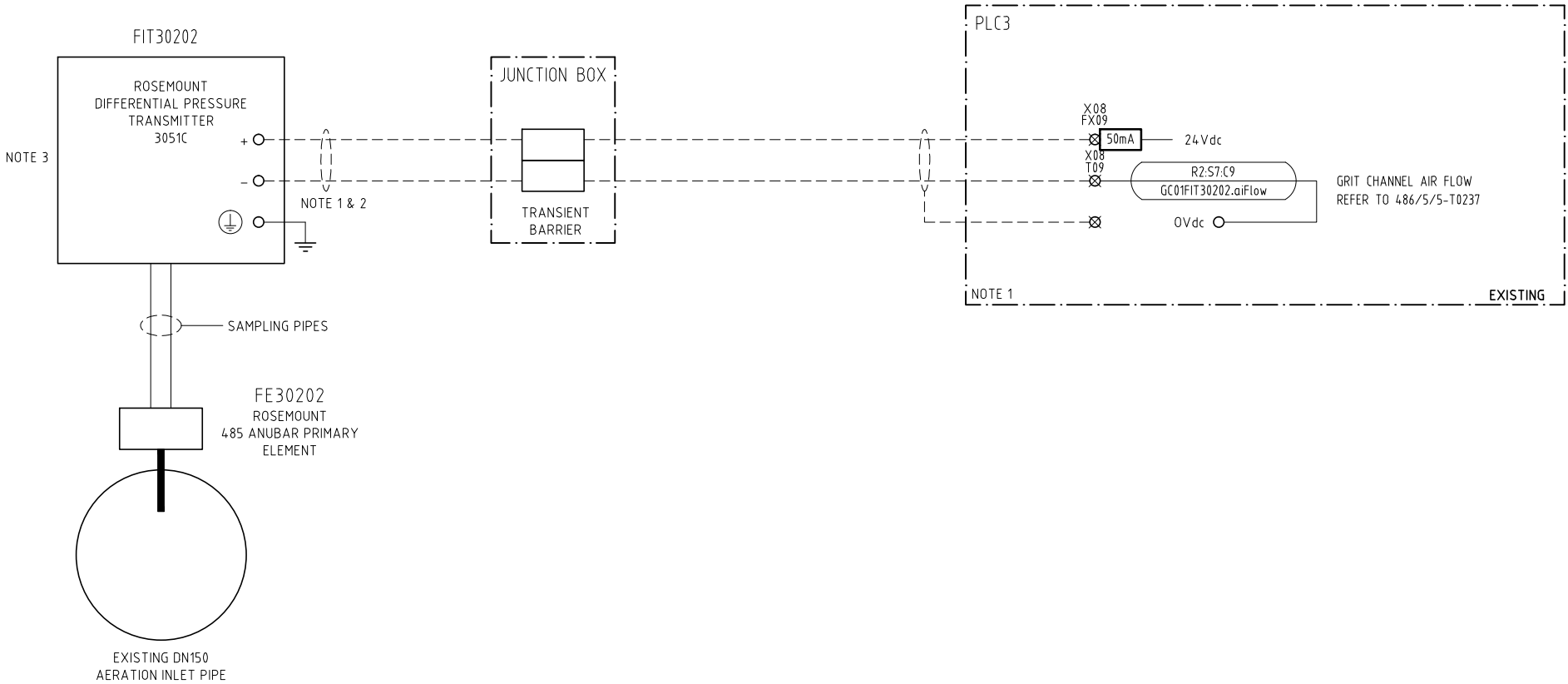






5.2 Instrumentation Drawings





- NOTES:
1. QUU TO PROVIDE EXISTING WIRING DIAGRAM TO CONFIRM CABLING BETWEEN INSTRUMENT AND PLC.
 2. EXISTING FIELD WIRING TO BE RE-USED.
 3. REPLACE EXISTING INSTRUMENT WITH NEW TRANSMITTER AND ELEMENT.
 4. REFER DWG 486/5/5-0205-019 FOR INSTRUMENT LOCATION.

TERMINAL LEGEND

- LINK TERMINALS
- ⊗ 2A PLC FUSE TERMINALS
- EQUIPMENT TERMINALS
- ⊗ MCC TERMINALS (REAR CONNECT)
- ⊗ VALVE MANUAL CONTROL PANEL TERMINALS
- ⊗ PLC TERMINALS

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RPEQ No. or LICENCE: 07782

COMPANY NAME: LEND LEASE

START DATE: 09.02.2015 FINISH DATE: 22.06.2015

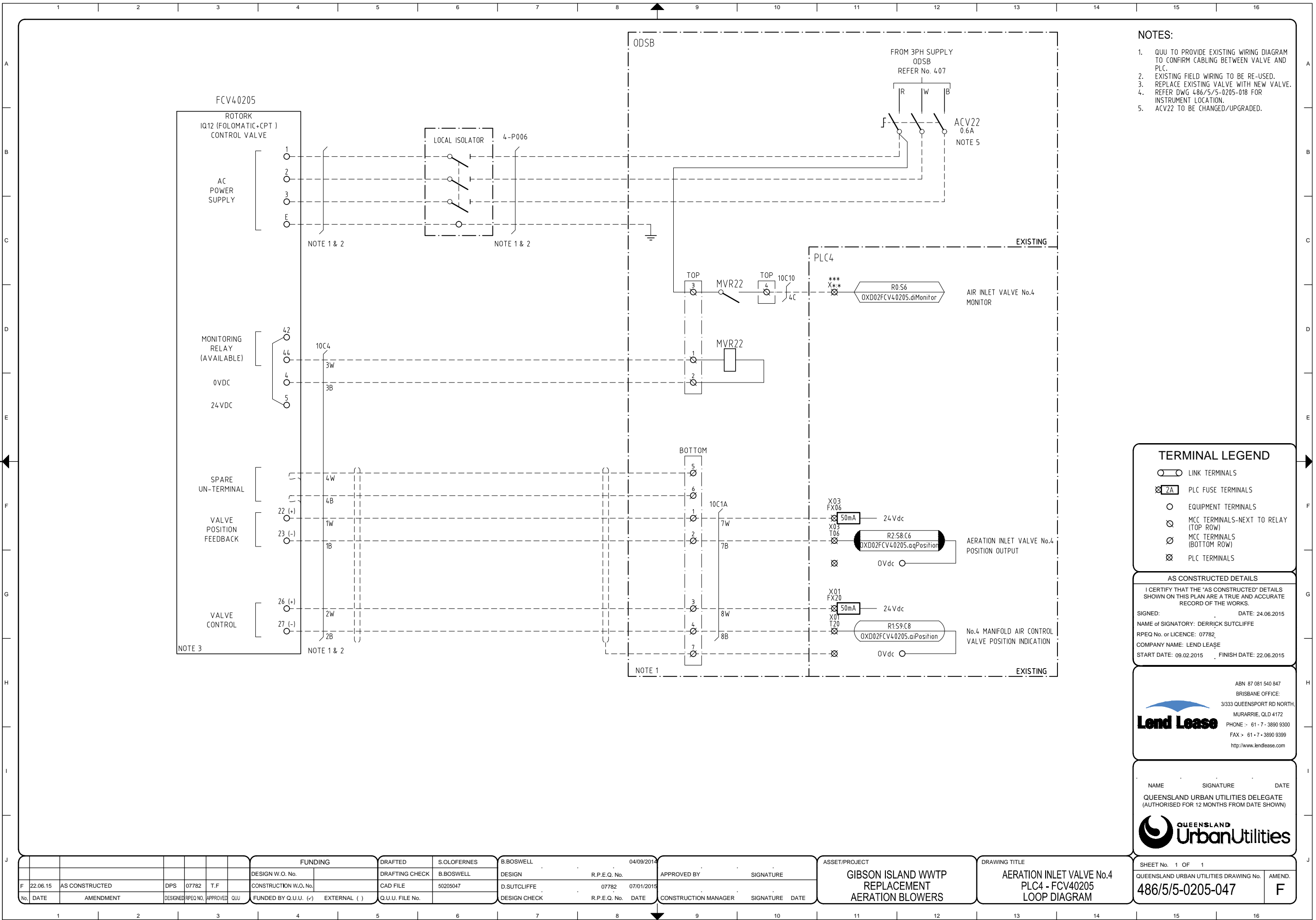
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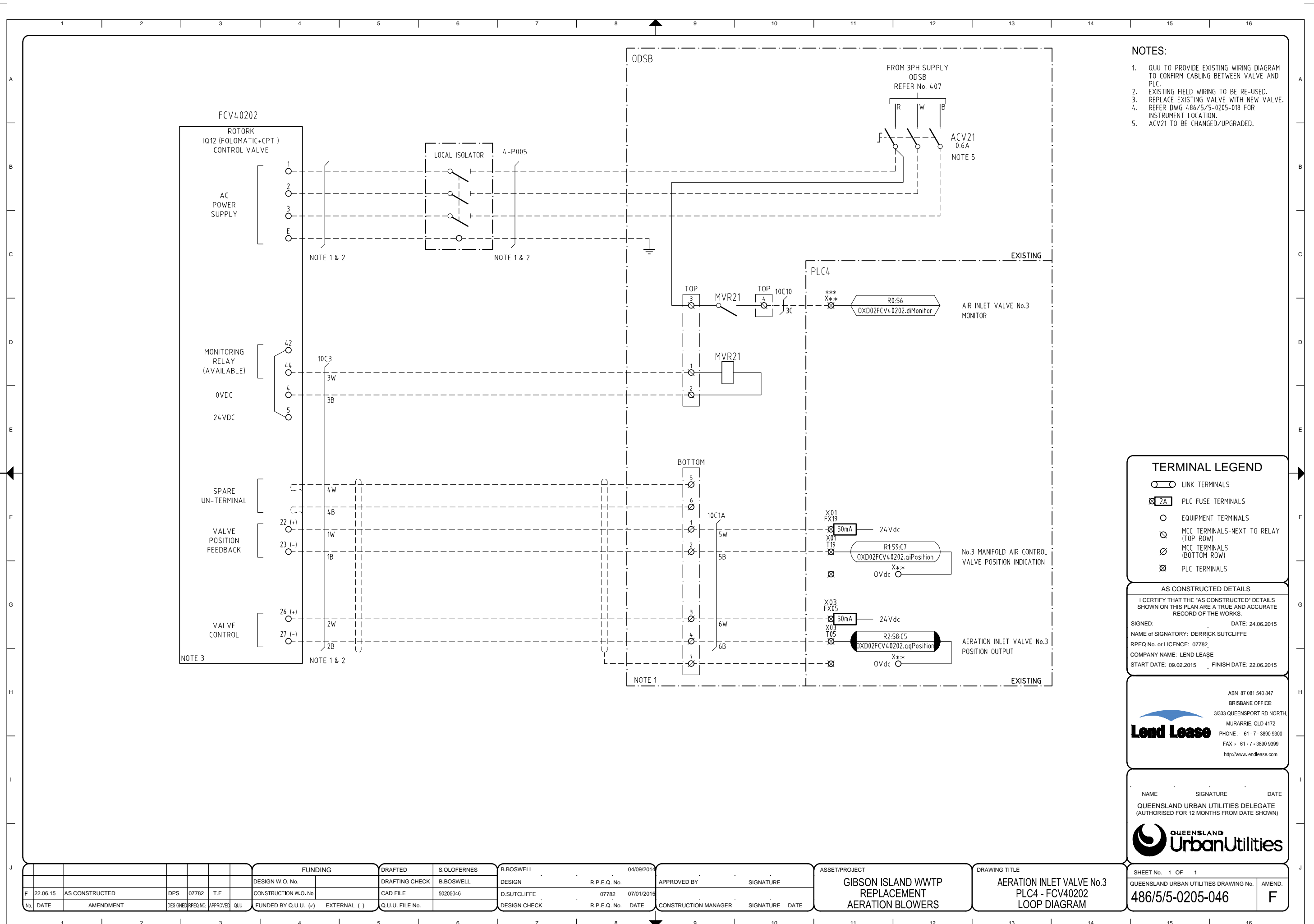
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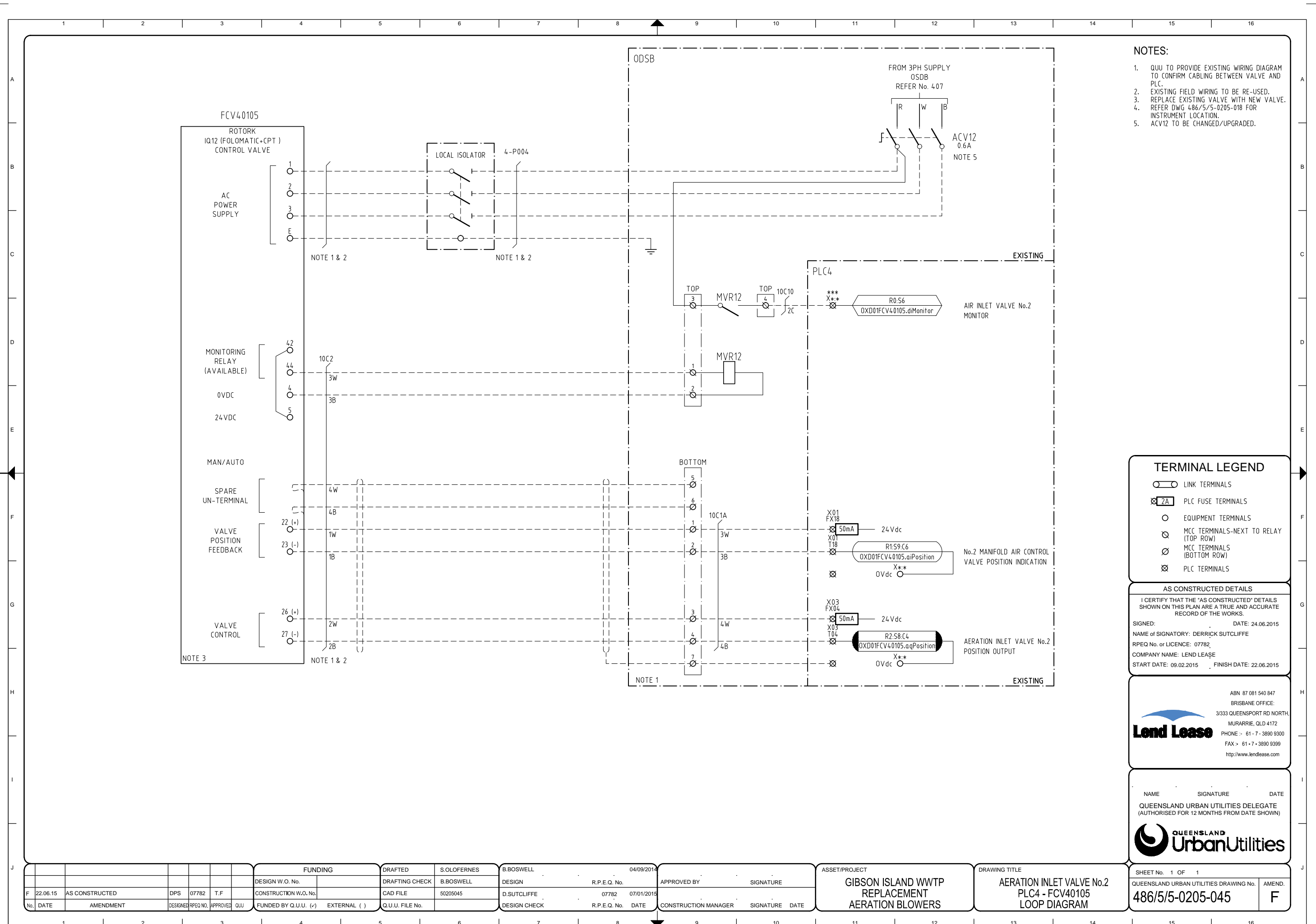
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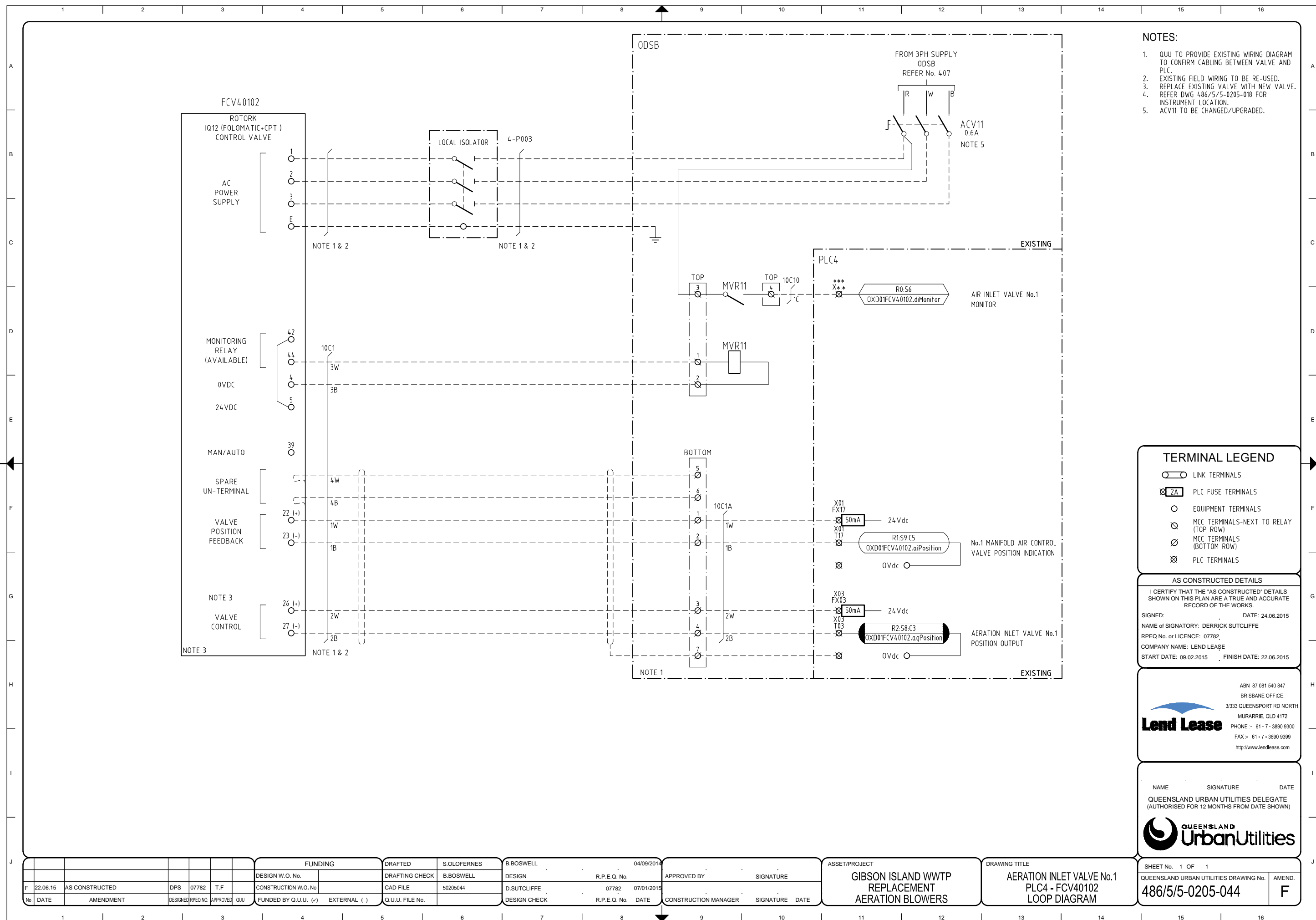


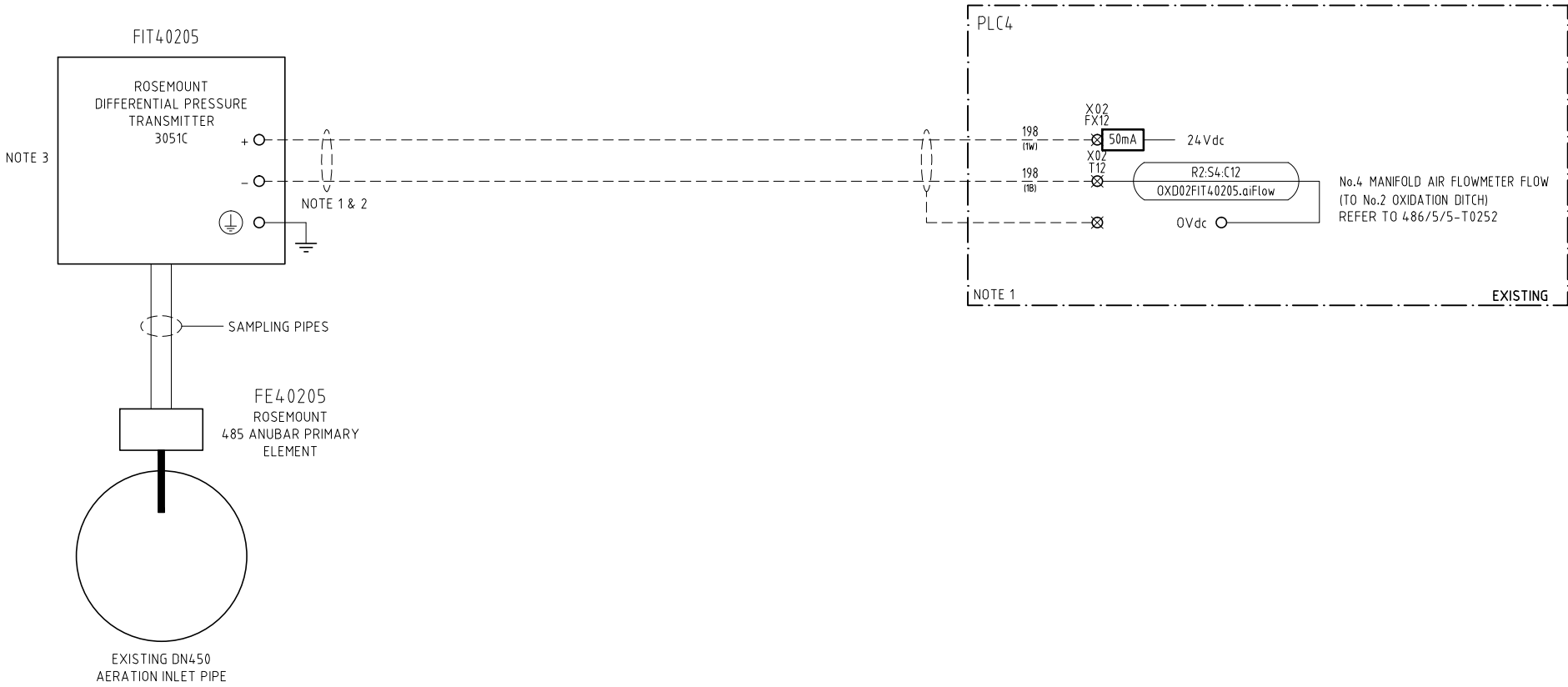
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FUNDED BY Q.U.U. (✓) EXTERNAL ()		Q.U.U. FILE No.		DESIGN CHECK	R.P.E.Q. No. DATE								











- NOTES:
1. QUU TO PROVIDE EXISTING WIRING DIAGRAM TO CONFIRM CABLING BETWEEN INSTRUMENT AND PLC.
 2. EXISTING FIELD WIRING TO BE RE-USED.
 3. REPLACE EXISTING INSTRUMENT WITH NEW TRANSMITTER AND ELEMENT.
 4. REFER DWG 486/5/5-0205-018 FOR INSTRUMENT LOCATION.

TERMINAL LEGEND

- LINK TERMINALS
- PLC FUSE TERMINALS
- EQUIPMENT TERMINALS
- MCC TERMINALS (REAR CONNECT)
- VALVE MANUAL CONTROL PANEL TERMINALS
- PLC TERMINALS

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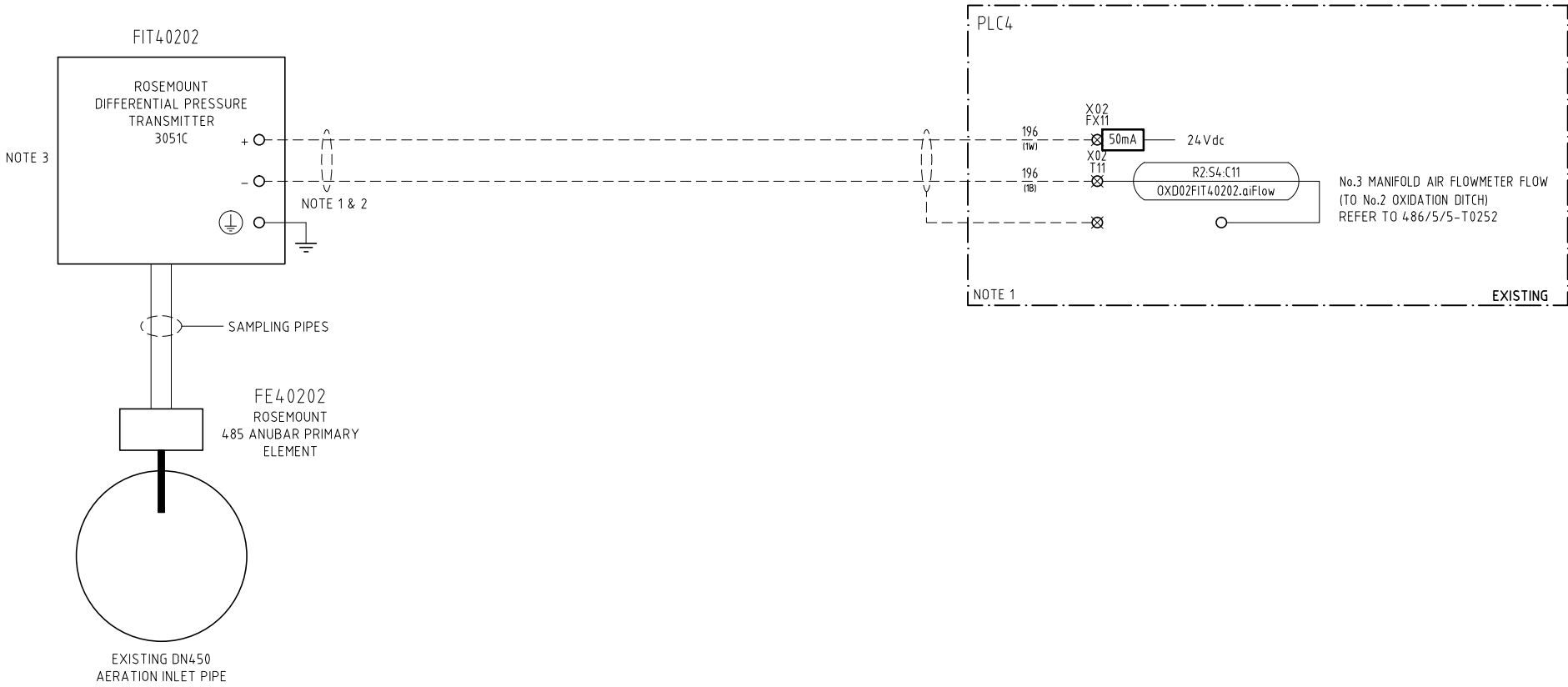


SHEET No. 1 OF 1

QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0205-043

AMEND. F

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- NOTES:
1. QUU TO PROVIDE EXISTING WIRING DIAGRAM TO CONFIRM CABLING BETWEEN INSTRUMENT AND PLC.
 2. EXISTING FIELD WIRING TO BE RE-USED.
 3. REPLACE EXISTING INSTRUMENT WITH NEW TRANSMITTER AND ELEMENT.
 4. REFER DWG 486/5/5-0205-018 FOR INSTRUMENT LOCATION.

TERMINAL LEGEND

- LINK TERMINALS
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3/333 QUEENSPORT RD NORTH,

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FAX :- 61 - 7 - 3890 9399

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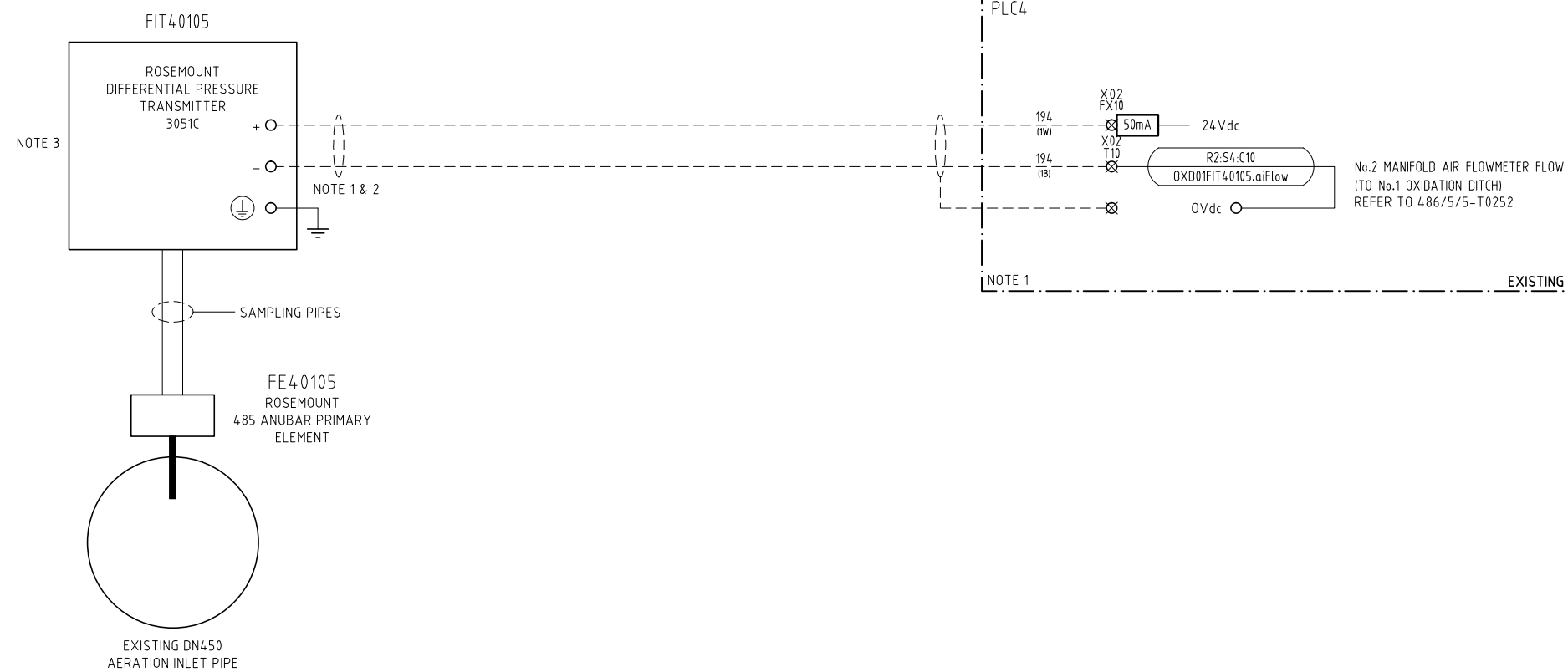
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NOTES:

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2. EXISTING FIELD WIRING TO BE RE-USED.
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TERMINAL LEGEND

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-  PLC FUSE TERMINALS
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(REAR CONNECT)
-  VALVE MANUAL CONTROL
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COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 22.06.2015

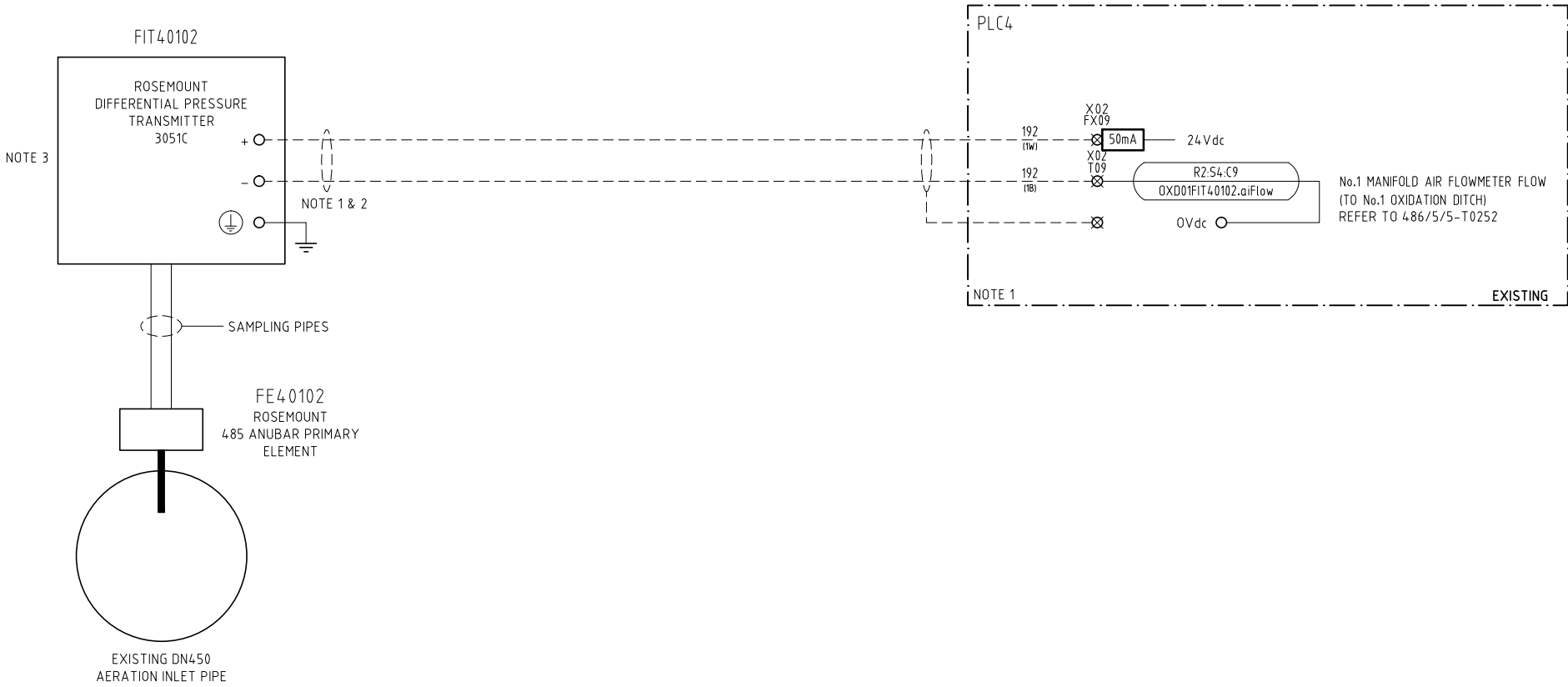
ABN 87 081 540 847
BRISBANE OFFICE:
3/333 QUEENSPORT RD NORTH,
MURARRIE, QLD 4172
PHONE ~ 61 - 7 - 3890 9300
FAX ~ 61 - 7 - 3890 9399
<http://www.lendlease.com>

NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



SHEET No. 1 OF 1	
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0205-041	AMEND. F

							FUNDING	DRAFTED	S.OLOFERNES	B.BOSWELL	04/09/2014	ASSET/PROJECT		DRAWING TITLE		SHEET No. 1 OF 1	
							DESIGN W.O. No.	DRAFTING CHECK	B.BOSWELL	DESIGN	R.P.E.Q. No.	APPROVED BY	SIGNATURE	GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS	No.2 MANIFOLD AIR FLOWMETER PLC4 - FIT40105 LOOP DIAGRAM	QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
F	22.06.15	AS CONSTRUCTED	DPS	07782	T.F		CONSTRUCTION W.O. No.	CAD FILE	50205041	D.SUTCLIFFE	07782	07/01/2015					
No.	DATE	AMENDMENT	DESIGNED	RPEQ NO.	APPROVED	QUU	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE		



NOTES:

1. QUU TO PROVIDE EXISTING WIRING DIAGRAM TO CONFIRM CABLING BETWEEN INSTRUMENT AND PLC.
2. EXISTING FIELD WIRING TO BE RE-USED.
3. REPLACE EXISTING INSTRUMENT WITH NEW TRANSMITTER AND ELEMENT.
4. REFER DWG 486/5/5-0205-018 FOR INSTRUMENT LOCATION.

TERMINAL LEGEND

- LINK TERMINALS
- ⊗ 2A PLC FUSE TERMINALS
- EQUIPMENT TERMINALS
- ⊗ MCC TERMINALS (REAR CONNECT)
- VALVE MANUAL CONTROL PANEL TERMINALS
- ⊗ PLC TERMINALS

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 24.06.2015

NAME of SIGNATORY: DERRICK SUTCLIFFE

RPEQ No. or LICENCE: 07782

COMPANY NAME: LEND LEASE

START DATE: 09.02.2015 FINISH DATE: 22.06.2015

ABN 87 081 540 847

BRISBANE OFFICE:

3/333 QUEENSPORT RD NORTH,

MURARRIE, QLD 4172

PHONE :- 61 - 7 - 3890 9300

FAX :- 61 - 7 - 3890 9399

http://www.lendlease.com

NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE

(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



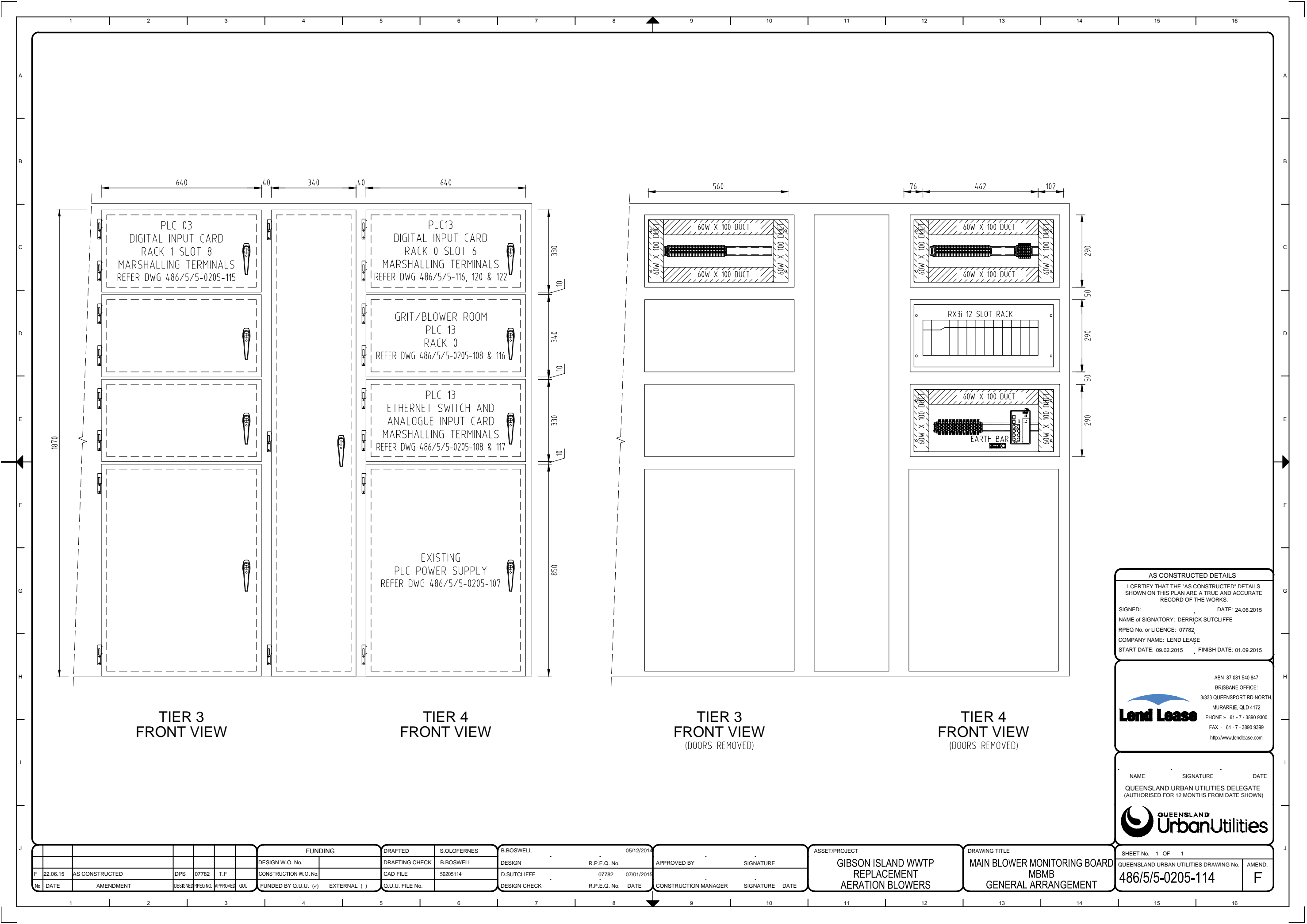
SHEET No. 1 OF 1

QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0205-040

AMEND. F

FUNDING		DRAFTED		S.OLOFERNES		B.BOSWELL		04/09/2014		ASSET/PROJECT		DRAWING TITLE		SHEET No. 1 OF 1	
DESIGN W.O. No.		DRAFTING CHECK		B.BOSWELL		DESIGN		R.P.E.Q. No.		APPROVED BY		GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS	No.1 MANIFOLD AIR FLOWMETER PLC4 - FIT40102 LOOP DIAGRAM	QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
CONSTRUCTION W.O. No.		CAD FILE		50205040		D.SUTCLIFFE		07782	07/01/2015	CONSTRUCTION MANAGER				486/5/5-0205-040	F
DESIGNED RPEQ NO.	APPROVED	QUU	FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	DESIGN CHECK		R.P.E.Q. No.	DATE						

5.3 PLC Drawings



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: . DATE: 24.06.2015

NAME OF SIGNATORY: DERRICK SUTCLIFFE

RPEQ No. or LICENCE: 07782

COMPANY NAME: LEND LEASE

START DATE: 09.02.2015 FINISH DATE: 01.09.2015

ABN 87 081 540 847

BRISBANE OFFICE:

3/333 QUEENSPORT RD NORTH,

MURARRIE, QLD 4172

PHONE - 61 - 7 - 3890 9300

FAX - 61 - 7 - 3890 9399

<http://www.lendlease.com>

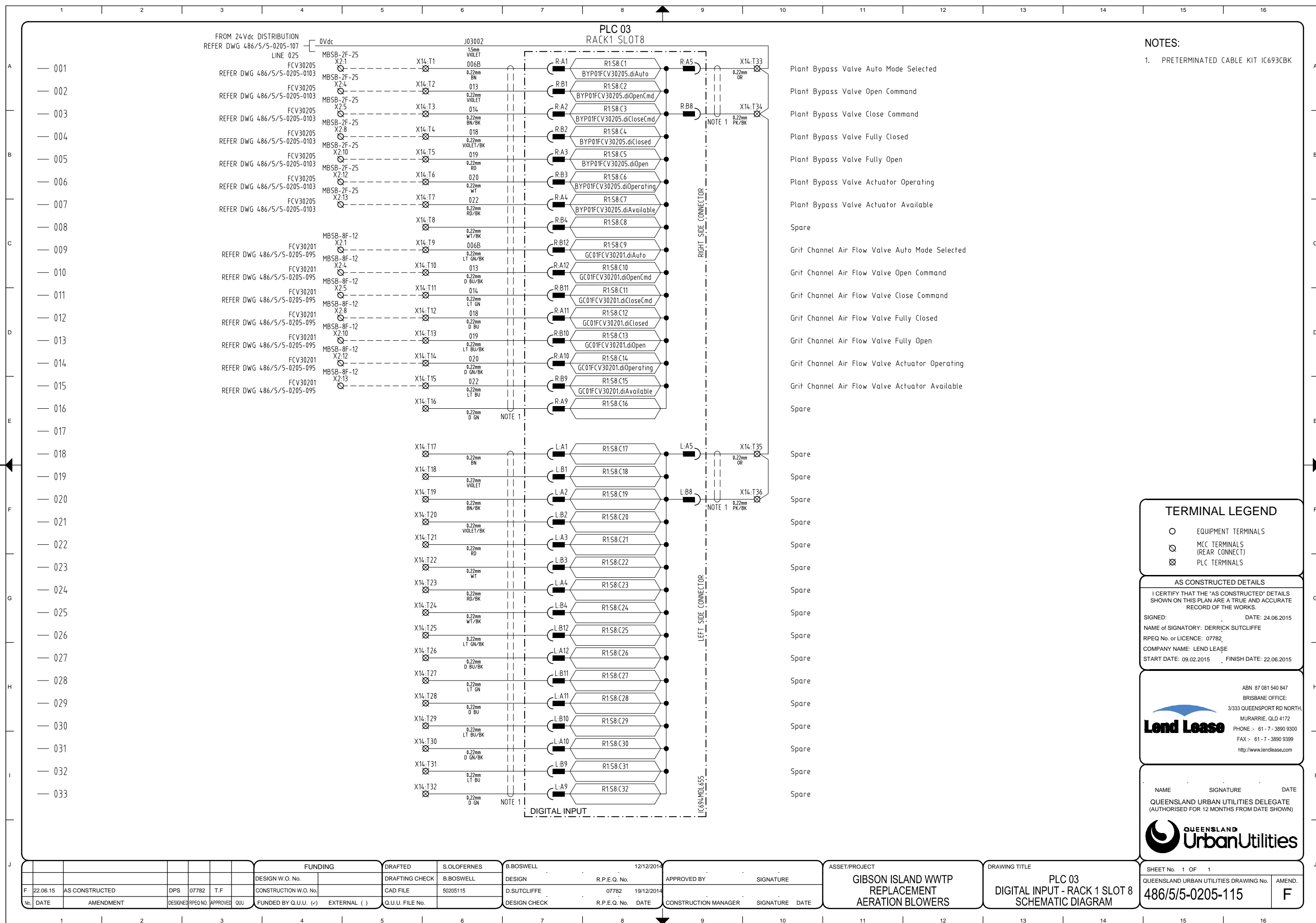
NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE

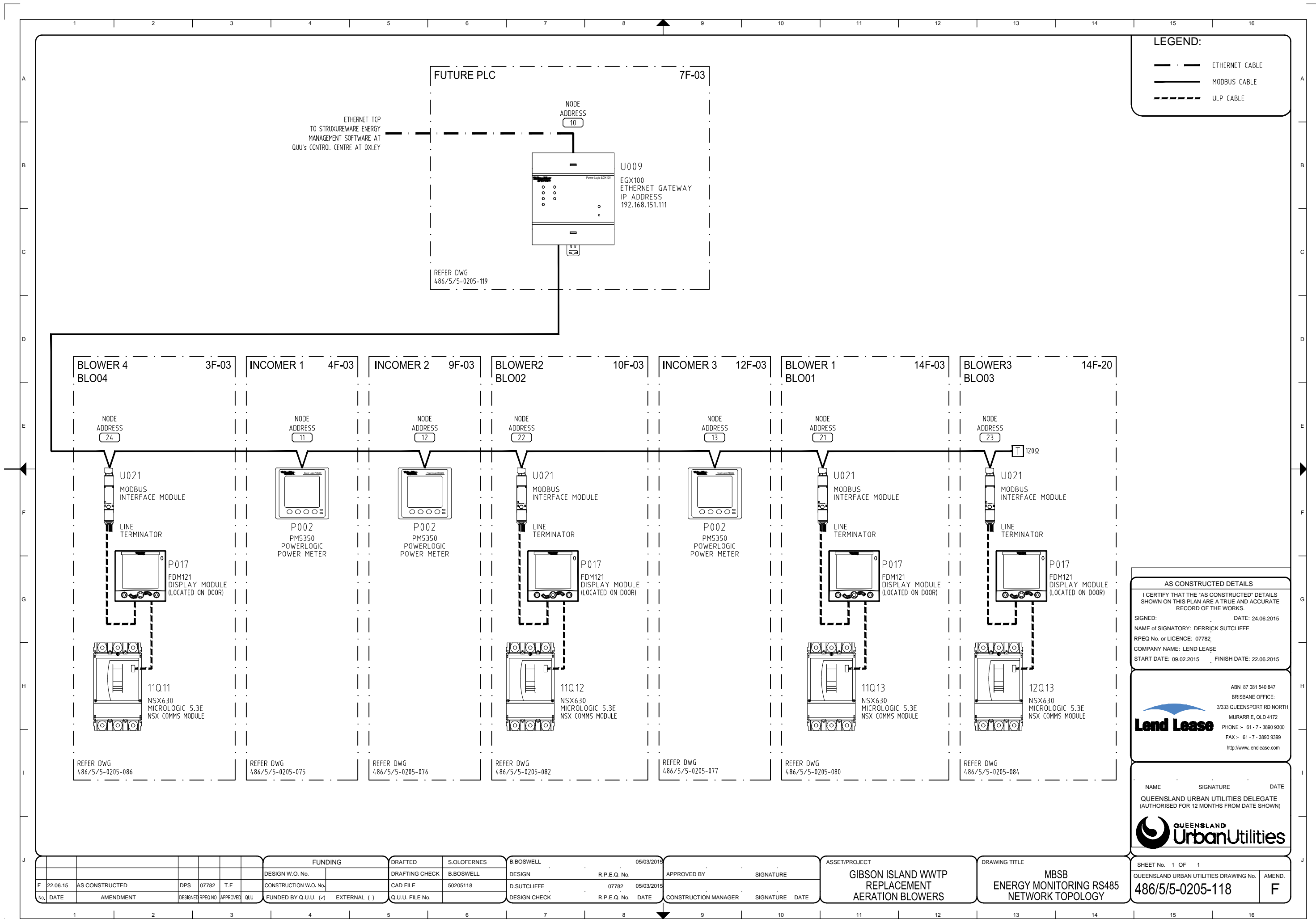
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



			FUNDING			DRAFTED	S.OLOFERNES	B.BOSWELL	05/12/2014	ASSET/PROJECT		DRAWING TITLE		SHEET No. 1 OF 1	
F	22.06.15	AS CONSTRUCTED	DPS	07782	T.F	DESIGN W.O. No.		DRAFTING CHECK	B.BOSWELL	GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS		MAIN BLOWER MONITORING BOARD MBMB GENERAL ARRANGEMENT		QUEENSLAND URBAN UTILITIES DRAWING No.	
	DATE	AMENDMENT	DESIGNED	RPEQ NO.	APPROVED	CONSTRUCTION W.O. No.		CAD FILE	50205114	APPROVED BY		SIGNATURE		486/5/5-0205-114	
No.	DATE	AMENDMENT	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY Q.U.U. (✓) EXTERNAL ()		Q.U.U. FILE No.		CONSTRUCTION MANAGER		SIGNATURE		AMEND.	
										DATE		DATE		F	



5.4 Network Drawings



PLC13 -RACK 0-RACK LAYOUT

SLOT No	DESCRIPTION	PART No.
0	24VDC POWER SUPPLY	IC695PSD140CA
1	RX3i CPE310 CPU	IC695CPE310CA
2	ETHERNET MODULE	IC695ETM001CA
3	ETHERNET MODULE	IC695ETM001CA
4	ANALOGUE INPUT MODULE	IC695ALG112CA
5	DIGITAL INPUT MODULE	IC694MDL655
6	FILLER MODULE	IC694ACC310
7	FILLER MODULE	IC694ACC310
8	FILLER MODULE	IC694ACC310
9	FILLER MODULE	IC694ACC310
10	FILLER MODULE	IC694ACC310
11	FILLER MODULE	IC694ACC310
12	FILLER MODULE	IC694ACC310

PLC13 ETHERNET SWITCH
PORT ASSIGNMENT

PORT 1 - PLC 13
PORT 2 - BLOWER 1
PORT 3 - BLOWER 2
PORT 4 - BLOWER 3
PORT 5 - BLOWER 4

NOTE:

1. REFER DWG 486/5/5-0205-107 FOR POWER SUPPLY CONNECTIONS.

MBMB PLC PANEL / CONTROL ROOM

GRIT/BLOWER BUILDING PLC 13 - RACK 0

	CPU	ETH	ETH	AI	DI	FILLER	FILLER	FILLER	FILLER	FILLER	FILLER
DC POWER SUPPLY	RX3i CPE310	IP ADDRESS: 192.168.151.068	IP ADDRESS: 10.1.1.1								

24Vdc POWER SUPPLY
REFER DWG
486/5/5-0205-107

N-139
CAT6 UTP

N-130
CAT6 UTP

EXISTING
FIBER
CONNECTIONS

ETHERNET SWITCH
MOXA
EDS-510A-1G2SFP
(EXISTING)
REFER EXISTING
DWG 0005656-N-01

ENS13
ETHERNET SWITCH
MOXA
EDS-510A-1G2SFP
(MODBUS TCP)

24Vdc POWER SUPPLY
REFER DWG
486/5/5-0205-107

MBSB POWER METERS
TO PLC TERMINAL PANEL SEC4

TO PLC3
TO PANEL PC/HMI

N-131
CAT6 STP

N-132
CAT6 STP

N-133
CAT6 STP

N-134
CAT6 STP

N-140
CAT6 STP

PIT13100-J1
2Pair DEKRON

FIT13101-J1
2Pair DEKRON

LEGEND:

----- ETHERNET CABLE

----- ANALOGUE CABLE



DATA CONNECTION POINT

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 24.06.2015
NAME of SIGNATORY: DERRICK SUTCLIFFE
RPEQ No. or LICENCE: 07782
COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 01.09.2015

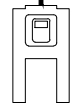
ABN 87 081 540 847
BRISBANE OFFICE:
3/333 QUEENSPORT RD NORTH,
MURARRIE, QLD 4172
PHONE :- 61 - 7 - 3890 9300
FAX :- 61 - 7 - 3890 9399
http://www.lendlease.com

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

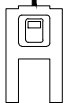
QUEENSLAND
UrbanUtilities

SHEET No. 1 OF 1
QUEENSLAND URBAN UTILITIES DRAWING No.
486/5/5-0205-108
AMEND.
F

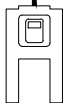
BLOWER ROOM



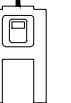
IP ADDRESS:
10.1.1.11
BLOWER No.1
BL001
REFER DWG
486/5/5-0205-081



IP ADDRESS:
10.1.1.12
BLOWER No.2
BL002
REFER DWG
486/5/5-0205-083



IP ADDRESS:
10.1.1.13
BLOWER No.3
BL003
REFER DWG
486/5/5-0205-085



IP ADDRESS:
10.1.1.14
BLOWER No.4
BL004
REFER DWG
486/5/5-0205-087

BLOWER SWITCHROOM

UPS13

PLC03/13
UPS
REFER DWG
486/5/5-0205-132

PIT13100

BLOWER HEADER
AIR PRESSURE
REFER DWG
486/5/5-0205-049

FIT13101

BLOWER HEADER
AIR FLOW
REFER DWG
486/5/5-0205-049

FUNDING				DRAFTED		S.OLOFERNES		B.BOSWELL		14/08/2014		ASSET/PROJECT		DRAWING TITLE	
DESIGN W.O. No.				DRAFTING CHECK		B.BOSWELL		DESIGN		R.P.E.Q. No.		APPROVED BY		SIGNATURE	
CONSTRUCTION W.O. No.				CAD FILE		50205108		D.SUTCLIFFE		07782 07/01/2015		CONSTRUCTION MANAGER		SIGNATURE	
FUNDED BY Q.U.U. (✓) EXTERNAL ()				Q.U.U. FILE No.				DESIGN CHECK		R.P.E.Q. No.		DATE		DATE	
No.	DATE	AMENDMENT	DESIGNED RPEQ NO.	APPROVED	QU										
F	22.06.15	AS CONSTRUCTED	DPS	07782	T.F										

5.5 Switchroom General Arrangement Drawings

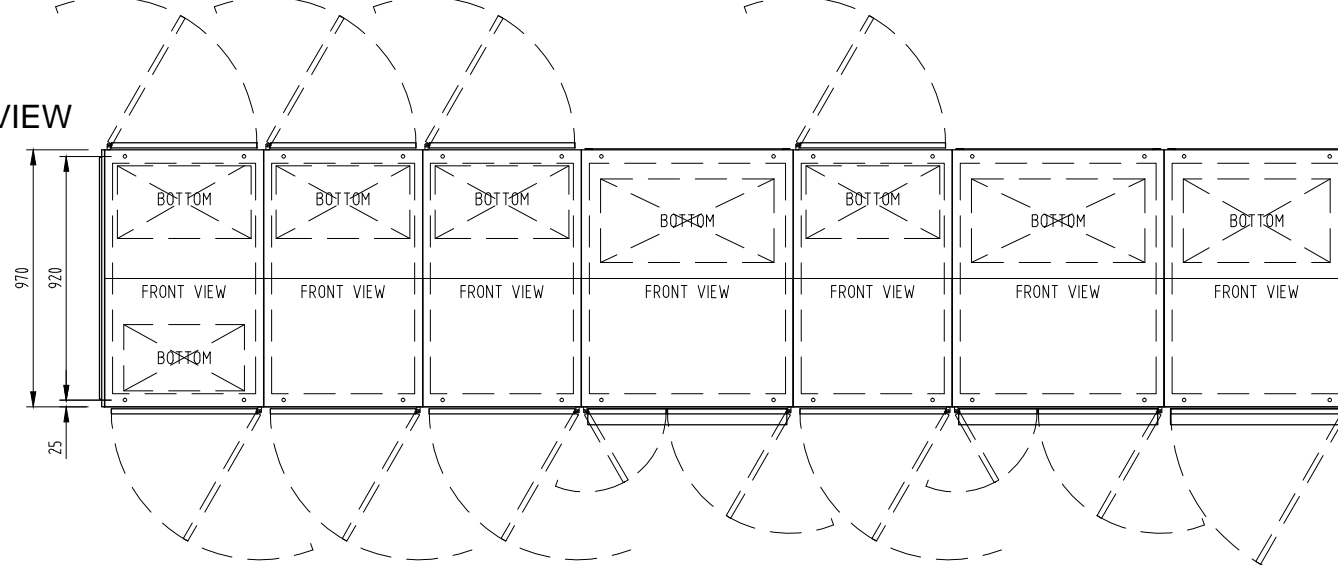
GENERAL NOTES			
1. UNIT TYPE:	MODUCCELL V2.2 SERIES TYPE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 3439.1.2002 PART 1 TYPE-TESTED & PARTIALLY TYPE-TESTED ASSEMBLIES		
2. MATERIAL:	2mm ZINC STEEL		
3. FINISH:	POWDERCOAT		
COLOUR:	CHARCOAL		
DOORS & PANELS	X15 ORANGE		
INTERIOR	WHITE		
4. SEGREGATION:	FORM 3b	FORM 4a	<input type="checkbox"/>
INCOMING	FORM 3b	FORM 4a	<input type="checkbox"/>
OUTGOING			
5. I.P. RATING:	IP54		
6. RATED VOLTAGE:	415V		
7. RATED CURRENT:	2141A		
8. KA RATING:	50kA FOR 1 sec		
9. BUS BAR TEMPS:	DE-RATED AT 35°C AMBIENT WITH 30°C RISE		
10. PHASE POSITIONS:	MAIN BUSBAR - TOP TO BOTTOM RED WHITE BLUE NEUTRAL DROPPERS - LEFT TO RIGHT RED WHITE BLUE NEUTRAL		
11. GLAND PLATE:	MATERIAL	SIZE	
	ALUMINIUM	6mm	<input checked="" type="checkbox"/>
	BRASS	4mm	<input type="checkbox"/>
12. CABLE ENTRY:	TOP	BOTTOM	<input checked="" type="checkbox"/>
13. INCOMING CABLE SIZE:	TBA		
14. INCOMING MCCB:	3P	4P	<input type="checkbox"/>
15. CONTROL WIRING:	SIZE	VOLTAGE	COLOUR
	1.5mm2	240Vac	GREY
16. TOTAL LENGTH:	4720mm		
17. APPROX WEIGHT:	3950 kg's		
18. LIFTING FACILITIES:	BOTTOM		
19. EXTENDABLE:	BOTH ENDS		
	LEFT HAND SIDE ONLY	RIGHT HAND SIDE ONLY	<input type="checkbox"/>
	NON EXTENDABLE		<input checked="" type="checkbox"/>
20. CABLE ZONE DOOR LOCKS TO BE STANDARD 1/4 TURN			
21. MODULE CABLE ENTRY/CTRL PLUGS:	CABLE ENTRY HOLES		
22. MAIN EARTH BAR LOCATION:	TOP	BOTTOM	<input type="checkbox"/>
23. MAIN NEUTRAL BAR LOCATION:	TOP	BOTTOM	<input type="checkbox"/>
24. GLAND PLATES AND DOOR EARTHED	YES	NO	<input checked="" type="checkbox"/>

ARC FAULT CONTAINMENT:	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1.2002.		
OUTGOING FUNCTIONAL UNITS TO HAVE ARC FAULT CONTAINED LOCKS:	YES	NO	<input type="checkbox"/>
ACB FEEDERS TO BE ARC FAULT CONTAINED:	YES	NO	<input type="checkbox"/>
FAULT FREE ZONES	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1.2002.		
INSULATED MAIN BUS:	YES	NO	<input checked="" type="checkbox"/>
INSULATED DROPPERS:	YES	NO	<input checked="" type="checkbox"/>
SPARE MODULE DUMMY PLUGS:	YES	NO	<input checked="" type="checkbox"/>

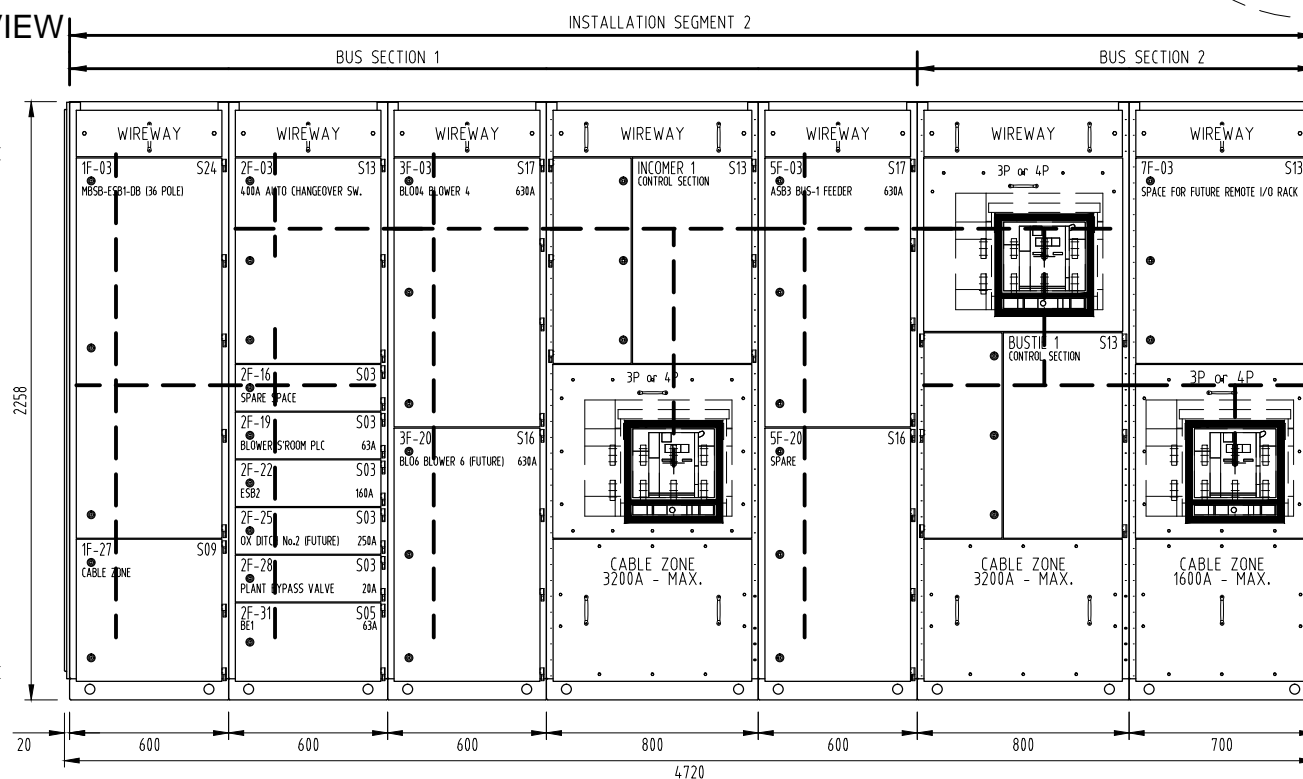
ADDITIONAL INFORMATION:			
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TIER ASSEMBLY No.: M5A-600-DF2-FB M5A-600-DF2-FB M5A-600-DF2-FB M5A-800-DA1-FM2 M5A-600-DF2-FB M5A-800-DA2-FM2 M5A-700-DA1-FM2

PLAN VIEW



FRONT VIEW

TRANSPORT SPLITS
WHERE APPLICABLE2000mm
CLEAR ZONE250mm
CLEAR ZONE

i.POWER PANEL REFERENCE	1F	2F	3F	4F	5F	6F	7F
MAIN BUSBAR LOCATION	CENTRE	TOP	TOP	TOP	TOP	TOP / CENTRE	CENTRE
MAIN BUSBAR No./Ph & SIZE	1x80x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu
MAIN NEUTRAL BAR SIZE	1x80x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu
MAIN EARTH BAR SIZE	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu
DROPPER BARS / Ph SIZE	1x50x6 Cu - 4P	1x80x6 Cu - 4P	1x80x6 Cu - 4P	N/A	1x80x6 Cu - 4P	N/A	N/A
ACB CABLESIDE BARS SIZE	N/A	N/A	N/A	3x120x10 Cu	N/A	N/A	1x120x10 Cu
ACB CODE	N/A	N/A	N/A	NW32 2500A	N/A	NW32 NON AUTO	Nw16 1600A
CABLE ZONE NEUTRAL RISER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CABLE ZONE EARTH RISER	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	N/A	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu
TIER MASS	550kg	550kg	550kg	650kg	550kg	550kg	550kg

CONTINUED ON THIS DRAWING, SHEET 02

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS
SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
RECORD OF THE WORKS.

SIGNED: DATE: 24.05.2015
 NAME OF SIGNATORY: DERRICK SUTCLIFFE
 RPEQ No. or LICENCE: 07782
 COMPANY NAME: LEND LEASE
 START DATE: 09.02.2015 FINISH DATE: 22.06.2015

ABN 87 081 540 847
 BRISBANE OFFICE:
 3/333 QUEENSPORT RD NORTH
 MURARRIE, QLD 4172
 PHONE: 61 - 7 - 3890 9300
 FAX: 61 - 7 - 3890 9399
<http://www.lendlease.com>

NAME SIGNATURE DATE
 QUEENSLAND URBAN UTILITIES DELEGATE
 (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

**QUEENSLAND
UrbanUtilities**

SHEET No. 1 OF 4
 QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0205-062
 AMEND. F

No.	DATE	AMENDMENT	SIGNED	RPEQ NO.	APPROVED	QU
F	22.06.15	AS MANUFACTURED	DPS	07782	T.F	

FUNDING		DRAFTED	K.NARRA
DESIGN W.O. No.		DRAFTING CHECK	A.HUDSON
CONSTRUCTION W.O. No.		CAD FILE	50205062.dwg
FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	

Original Signed By	R.P.E.Q. No.	DATE
DESIGN	07782	19/12/2014
DESIGN CHECK	R.P.E.Q. No.	DATE

APPROVED BY	SIGNATURE	DATE
CONSTRUCTION MANAGER		

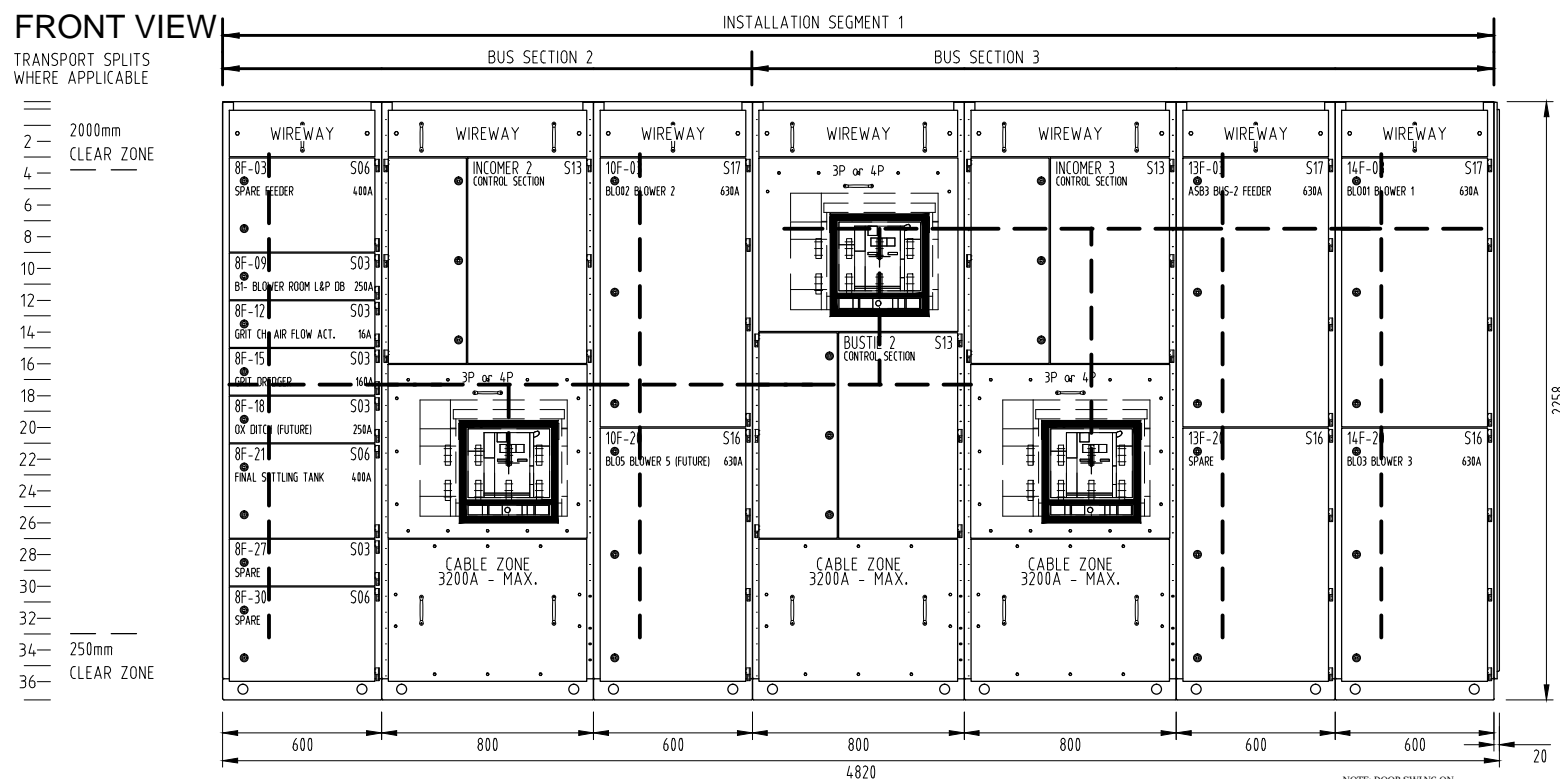
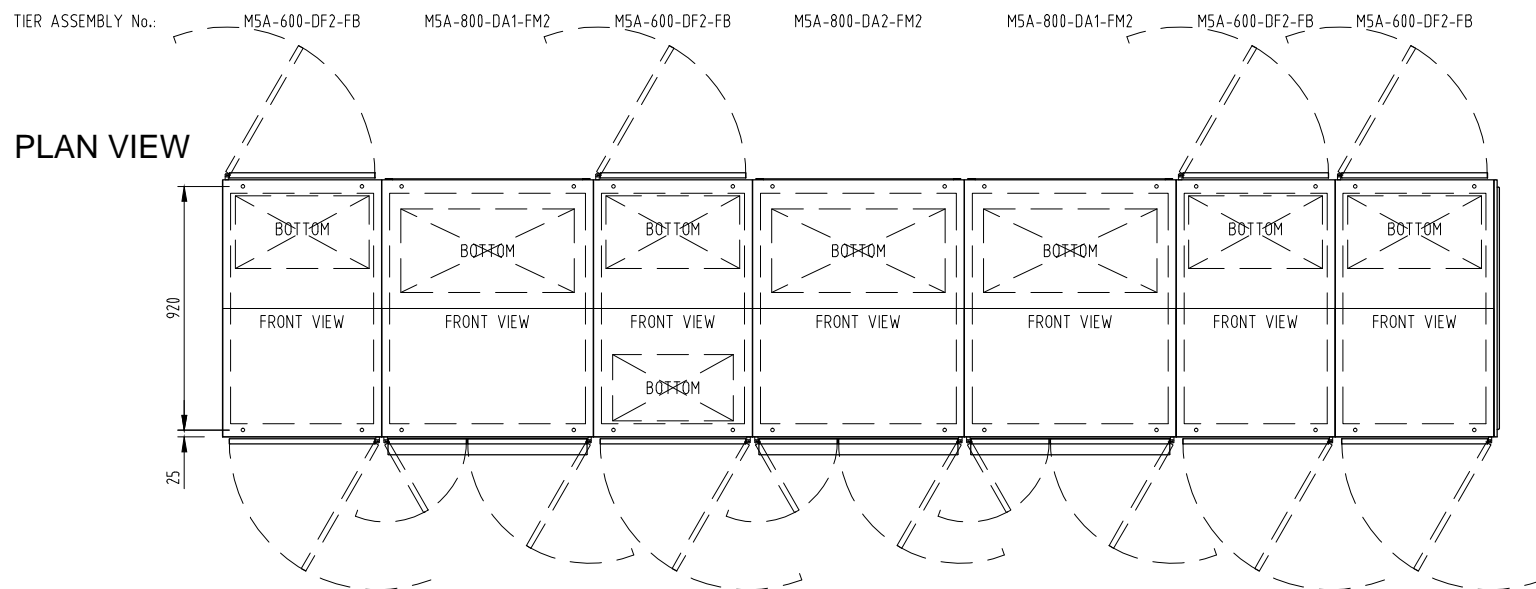
ASSET/PROJECT
GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS

DRAWING TITLE
BLOWER 415V MAIN SWITCHBOARD MBSS GENERAL ARRANGEMENT

GENERAL NOTES			
1. UNIT TYPE:	MODUCCELL V2.2 SERIES TYPE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 3439.1:2002 PART 1 TYPE-TESTED & PARTIALLY TYPE-TESTED ASSEMBLIES		
2. MATERIAL:	2mm ZINC STEEL		
3. FINISH:	POWDERCOAT		
COLOUR:	CHARCOAL		
4. SEGREGATION:	DOORS & PANELS	INTERIOR	WHITE
5. I.P. RATING:	FRAME	FORM 3b	FORM 4a
6. RATED VOLTAGE:	INCOMING	FORM 3b	FORM 4a
7. RATED CURRENT:	OUTGOING	IP54	2141A
8. KA RATING:		50kA FOR 1 sec	
9. BUS BAR TEMPS:		DE-RATED AT 35°C AMBIENT WITH 30°C RISE	
10. PHASE POSITIONS:		MAIN BUSBAR - TOP TO BOTTOM	
		RED WHITE BLUE NEUTRAL	
		DROPPERS - LEFT TO RIGHT	
		RED WHITE BLUE NEUTRAL	
11. GLAND PLATE:	MATERIAL	ALUMINIUM	BRASS
	SIZE	6mm	4mm
12. CABLE ENTRY:		TOP	BOTTOM
13. INCOMING CABLE SIZE:		TBA	
14. INCOMING MCCB:		3P	4P
15. CONTROL WIRING:	SIZE	1.5mm ²	
	VOLTAGE	240Vac	
	COLOUR	GREY	
16. TOTAL LENGTH:		4820mm	
17. APPROX WEIGHT:		4050kg	
18. LIFTING FACILITIES:		BOTTOM	
19. EXTENDABLE:		BOTH ENDS	
		LEFT HAND SIDE ONLY	
		RIGHT HAND SIDE ONLY	
		NON EXTENDABLE	
20. CABLE ZONE DOOR LOCKS TO BE STANDARD 1/4 TURN			
21. MODULE CABLE ENTRY/CTRL PLUGS:		CABLE ENTRY HOLES	
22. MAIN EARTH BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
23. MAIN NEUTRAL BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
24. GLAND PLATES AND DOOR EARTHED	YES	<input checked="" type="checkbox"/>	NO

ARC FAULT CONTAINMENT:	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
OUTGOING FUNCTIONAL UNITS TO HAVE ARC FAULT CONTAINED LOCKS:	YES	<input checked="" type="checkbox"/>	NO
ACB FEEDERS TO BE ARC FAULT CONTAINED:	YES	<input checked="" type="checkbox"/>	NO
FAULT FREE ZONES	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
INSULATED MAIN BUS:	YES	<input type="checkbox"/>	NO
INSULATED DROPPERS:	YES	<input type="checkbox"/>	NO
SPARE MODULE DUMMY PLUGS:	YES	<input type="checkbox"/>	NO

ADDITIONAL INFORMATION:



CONTINUED FROM THIS DRAWING, SHEET 01

I.POWER PANEL REFERENCE	8F	9F	10F	11F	12F	13F	14F
MAIN BUSBAR LOCATION	CENTRE	CENTRE	CENTRE	TOP / CENTRE	TOP	TOP	TOP
MAIN BUSBAR No./Ph & SIZE	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu
MAIN NEUTRAL BAR SIZE	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu	3x120x10 Cu
MAIN EARTH BAR SIZE	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu	1x32x6 Cu
DROPPER BARS / Ph SIZE	1x80x6 Cu - 4P	N/A	1x80x6 Cu - 4P	N/A	N/A	1x80x6 Cu - 4P	1x80x6 Cu - 4P
ACB CABLESIDE BARS SIZE	N/A	3x120x10 Cu	N/A	N/A	3x120x10 Cu	N/A	N/A
ACB CODE	N/A	NW32 2500A	N/A	NW32 NON AUTO	NW32 2500A	N/A	N/A
CABLE ZONE NEUTRAL RISER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CABLE ZONE EARTH RISER	1x32x6 Cu	N/A	1x32x6 Cu	1x32x6 Cu	N/A	1x32x6 Cu	1x32x6 Cu
TIER MASS	550kg	650kg	550kg	550kg	650kg	550kg	550kg

NOTE: DOOR SWING ON
TIER 14F TO BE LIMITED TO 105 DEGREES
TO ALLOW FOR SUFFICIENT CLEARANCE
AROUND SWITCHBOARD.

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS
SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
RECORD OF THE WORKS.

SIGNED: DATE: 24.06.2015
NAME OF SIGNATORY: DERRICK SUTCLIFFE
RPEQ No. or LICENCE: 07782
COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 22.06.2015

ABN 87 081 540 847
BRISBANE OFFICE:
3/333 QUEENSPORT RD NORTH,
MURARRIE, QLD 4172
Lend Lease
PHONE: 61 - 7 - 3890 9300
FAX: 61 - 7 - 3890 9399
http://www.lendlease.com

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

**QUEENSLAND
UrbanUtilities**

SHEET No. 2 OF 4
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0205-063 F

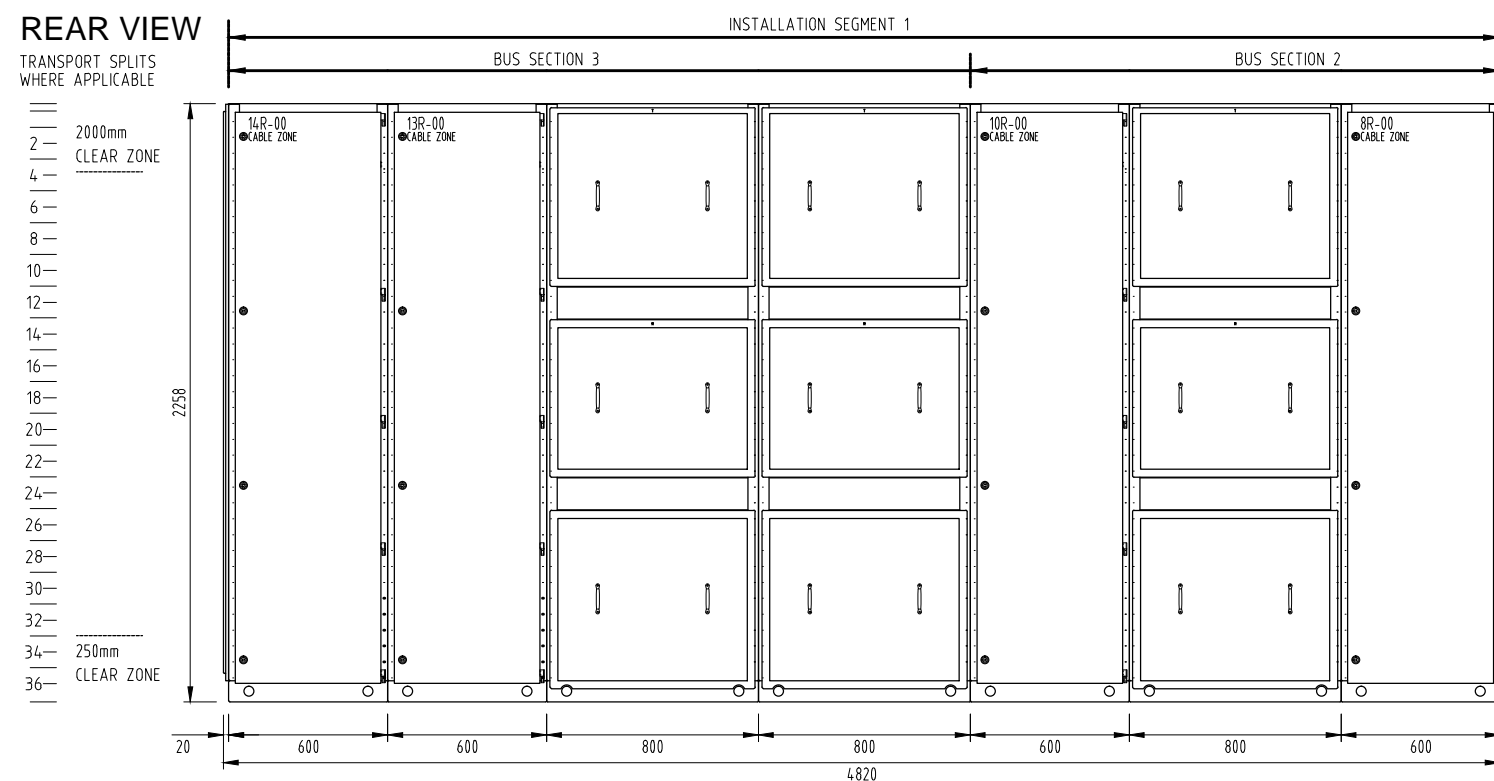
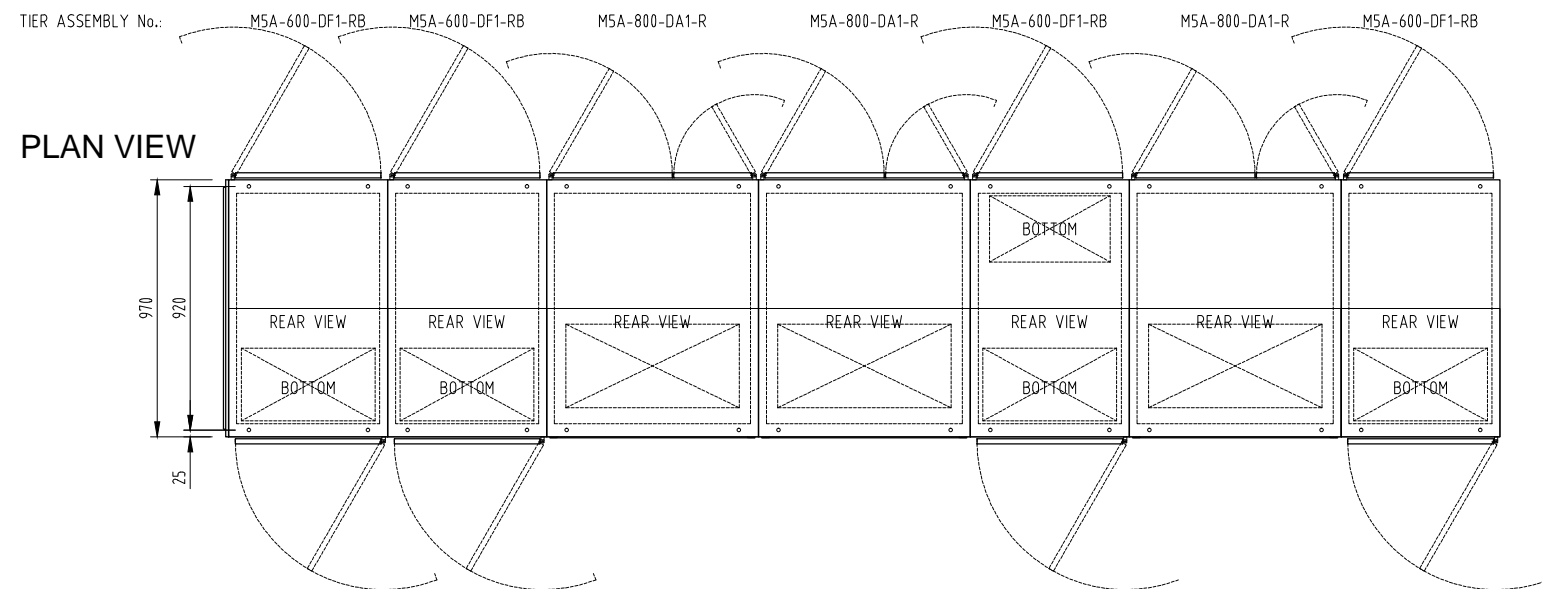
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DESIGN W.O. No.					DRAFTING CHECK		A.HUDSON		DESIGN	R.P.E.Q. No. DATE	APPROVED BY	SIGNATURE DATE	GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS	BLOWER 415V MAIN SWITCHBOARD MBSB GENERAL ARRANGEMENT
CONSTRUCTION W.O. No.					CAD FILE		50205063.dwg		D. SUTCLIFFE	07782 09/12/2014	CONSTRUCTION MANAGER	SIGNATURE DATE		
FUNDED BY Q.U.U. (✓) EXTERNAL ()					Q.U.U. FILE No.				DESIGN CHECK	R.P.E.Q. No. DATE				

GENERAL NOTES			
1. UNIT TYPE:	MODUCELL V2.2 SERIES TYPE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AS/NZS 3439.1:2002 PART 1 TYPE-TESTED & PARTIALLY TYPE-TESTED ASSEMBLIES		
2. MATERIAL:	2mm ZINC STEEL		
3. FINISH:	POWDERCOAT		
COLOUR:	FRAME	CHARCOAL	
	DOORS & PANELS	X15 ORANGE	
	INTERIOR	WHITE	
4. SEGREGATION:	INCOMING	FORM 3b	FORM 4a
	OUTGOING	FORM 3b	FORM 4a
5. I.P. RATING:	IP54		
6. RATED VOLTAGE:	415V		
7. RATED CURRENT:	2141A		
8. KA RATING:	50kA FOR 1 sec		
9. BUS BAR TEMPS:	DE-RATED AT 35°C AMBIENT WITH 30°C RISE		
10. PHASE POSITIONS:	MAIN BUSBAR - TOP TO BOTTOM RED WHITE BLUE NEUTRAL DROPPERS - LEFT TO RIGHT RED WHITE BLUE NEUTRAL		
11. GLAND PLATE:	MATERIAL	ALUMINIUM	BRASS
	SIZE	6mm	4mm
12. CABLE ENTRY:		TOP	BOTTOM
13. INCOMING CABLE SIZE:	TBA		
14. INCOMING MCCB:		3P	4P
15. CONTROL WIRING:	SIZE	1.5mm2	
	VOLTAGE	240Vac	
	COLOUR	GREY	
16. TOTAL LENGTH:	4820mm		
17. APPROX WEIGHT:	4050kg		
18. LIFTING FACILITIES:	BOTTOM		
19. EXTENDABLE:	BOTH ENDS		
	LEFT HAND SIDE ONLY		
	RIGHT HAND SIDE ONLY		
	NON EXTENDABLE		
20. CABLE ZONE DOOR LOCKS TO BE STANDARD 1/4 TURN			
21. MODULE CABLE ENTRY/CTRL PLUGS:	CABLE ENTRY HOLES		
22. MAIN EARTH BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
23. MAIN NEUTRAL BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
24. GLAND PLATES AND DOOR EARTHED	YES	<input checked="" type="checkbox"/>	NO

ARC FAULT CONTAINMENT:	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
OUTGOING FUNCTIONAL UNITS TO HAVE ARC FAULT CONTAINED LOCKS:	YES	<input checked="" type="checkbox"/>	NO
ACB FEEDERS TO BE ARC FAULT CONTAINED:	YES	<input checked="" type="checkbox"/>	NO

FAULT FREE ZONES	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
INSULATED MAIN BUS:	YES	<input type="checkbox"/>	NO
INSULATED DROPPERS:	YES	<input type="checkbox"/>	NO
SPARE MODULE DUMMY PLUGS:	YES	<input type="checkbox"/>	NO

ADDITIONAL INFORMATION:			
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i.POWER PANEL REFERENCE	14R	13R	12R	11R	10R	9R	8R
MAIN BUSBAR LOCATION	REFER FRONT VIEW	REFER FRONT VIEW			REFER FRONT VIEW		REFER FRONT VIEW
MAIN BUSBAR No./Ph & SIZE							
MAIN NEUTRAL BAR SIZE							
MAIN EARTH BAR SIZE	1x32x6 Cu	1x32x6 Cu			1x32x6 Cu		1x32x6 Cu
DROPPER BARS / Ph SIZE	N/A	N/A			N/A		N/A
ACB CABLESIDE BARS SIZE	N/A	N/A			N/A		N/A
ACB CODE							
CABLE ZONE NEUTRAL RISER	N/A	N/A			N/A		N/A
CABLE ZONE EARTH RISER	1x32x6 Cu	1x32x6 Cu			1x32x6 Cu		1x32x6 Cu
TIER MASS	REFER FRONT VIEW	REFER FRONT VIEW			REFER FRONT VIEW		REFER FRONT VIEW

CONTINUED ON THIS DRAWING, SHEET 04

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 24.06.2015
NAME of SIGNATORY: DERRICK SUTCLIFFE
RPEQ No. or LICENCE: 07782
COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 22.06.2015

ABN 87 081 540 847
BRISBANE OFFICE:
3/333 QUEENSPORT RD NORTH,
MURARRIE, QLD 4172
PHONE :- 61 - 7 - 3890 9300
FAX :- 61 - 7 - 3890 9399
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QUEENSLAND UrbanUtilities

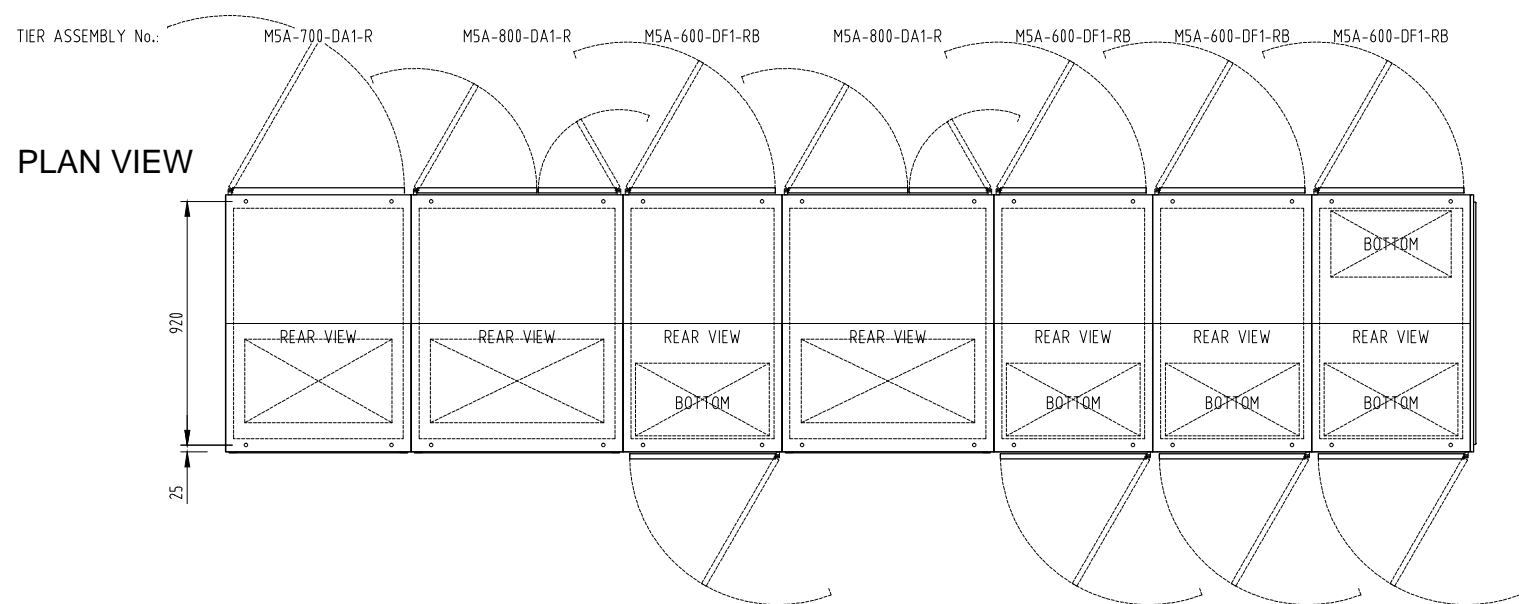
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DESIGN W.O. No.		DRAFTING CHECK	A.HUDSON	DESIGN	R.P.E.Q. No.	DATE	APPROVED BY	SIGNATURE	DATE	GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS	BLOWER 415V MAIN SWITCHBOARD MBSB GENERAL ARRANGEMENT			
CONSTRUCTION W.O. No.		CAD FILE	50205064.dwg	D. SUTCLIFFE	07782	09/12/2014	CONSTRUCTION MANAGER	SIGNATURE	DATE					
FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.		DESIGN CHECK	R.P.E.Q. No.	DATE								

GENERAL NOTES			
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3. FINISH:	POWDERCOAT		
COLOUR:	FRAME	CHARCOAL	
	DOORS & PANELS	X15 ORANGE	
	INTERIOR	WHITE	
4. SEGREGATION:	INCOMING	FORM 3b	FORM 4a
	OUTGOING	FORM 3b	FORM 4a
5. I.P. RATING:	IP54		
6. RATED VOLTAGE:	415V		
7. RATED CURRENT:	2141A		
8. KA RATING:	50kA FOR 1 sec		
9. BUS BAR TEMPS:	DE-RATED AT 35°C AMBIENT WITH 30°C RISE		
10. PHASE POSITIONS:	MAIN BUSBAR - TOP TO BOTTOM RED WHITE BLUE NEUTRAL DROPPERS - LEFT TO RIGHT RED WHITE BLUE NEUTRAL		
11. GLAND PLATE:	MATERIAL	ALUMINIUM	BRASS
	SIZE	6mm	4mm
12. CABLE ENTRY:		TOP	BOTTOM
13. INCOMING CABLE SIZE:	TBA		
14. INCOMING MCCB:		3P	4P
15. CONTROL WIRING:	SIZE	1.5mm2	
	VOLTAGE	240Vac	
	COLOUR	GREY	
16. TOTAL LENGTH:	4720mm		
17. APPROX WEIGHT:	3950kg		
18. LIFTING FACILITIES:	BOTTOM		
19. EXTENDABLE:	BOTH ENDS		
	LEFT HAND SIDE ONLY		
	RIGHT HAND SIDE ONLY		
	NON EXTENDABLE		
20. CABLE ZONE DOOR LOCKS TO BE STANDARD 1/4 TURN			
21. MODULE CABLE ENTRY/CTRL PLUGS:	CABLE ENTRY HOLES		
22. MAIN EARTH BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
23. MAIN NEUTRAL BAR LOCATION:	TOP	<input type="checkbox"/>	BOTTOM
24. GLAND PLATES AND DOOR EARTHED	YES	<input checked="" type="checkbox"/>	NO

ARC FAULT CONTAINMENT:	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
OUTGOING FUNCTIONAL UNITS TO HAVE ARC FAULT CONTAINED LOCKS:	YES	<input checked="" type="checkbox"/>	NO
ACB FEEDERS TO BE ARC FAULT CONTAINED:	YES	<input checked="" type="checkbox"/>	NO

FAULT FREE ZONES	IN ACCORDANCE WITH ANNEX ZC & ZD OF AS3439.1:2002.		
INSULATED MAIN BUS:	YES	<input type="checkbox"/>	NO
INSULATED DROPPERS:	YES	<input type="checkbox"/>	NO
SPARE MODULE DUMMY PLUGS:	YES	<input type="checkbox"/>	NO

ADDITIONAL INFORMATION:	
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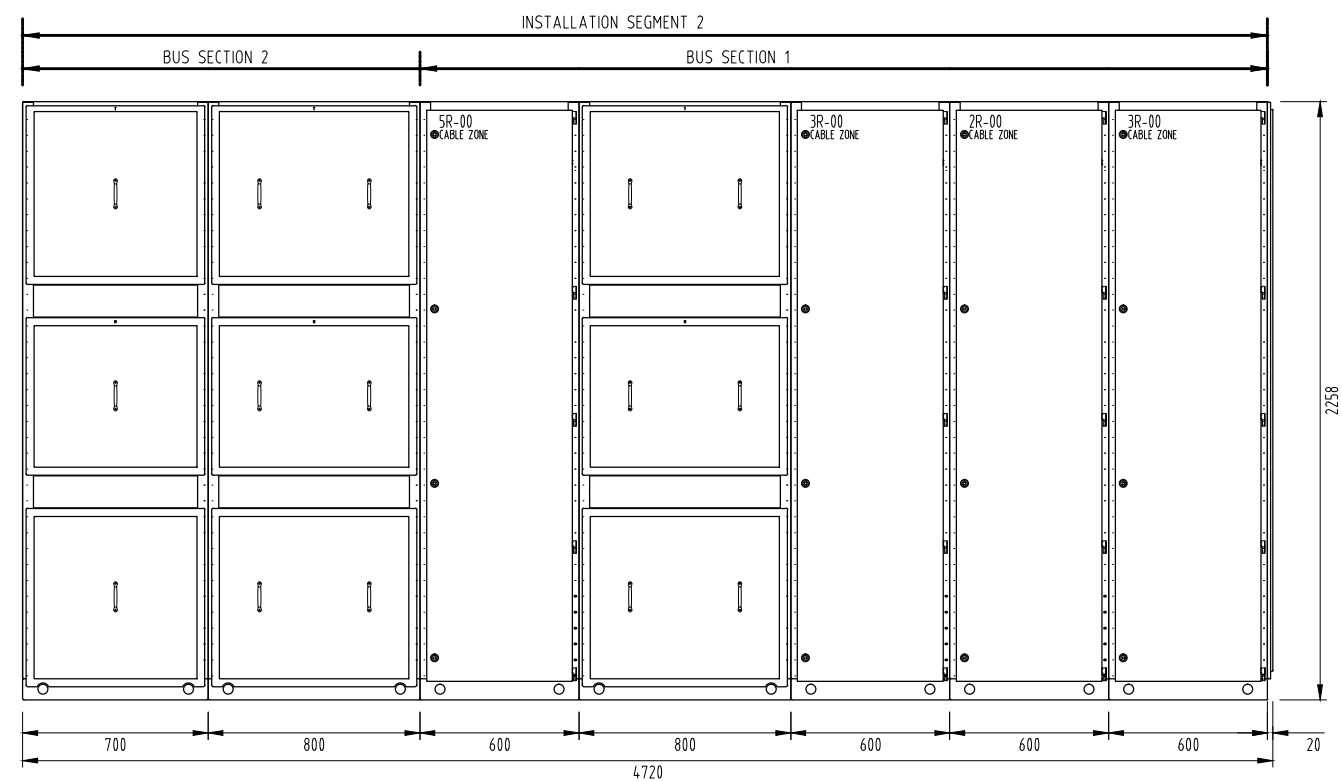


REAR VIEW

TRANSPORT SPLITS WHERE APPLICABLE

2000mm CLEAR ZONE

250mm CLEAR ZONE



POWER PANEL REFERENCE	7R	6R	5R	4R	3R	2R	1R
MAIN BUSBAR LOCATION							
MAIN BUSBAR No./Ph & SIZE			REFER FRONT VIEW		REFER FRONT VIEW	REFER FRONT VIEW	REFER FRONT VIEW
MAIN NEUTRAL BAR SIZE							
MAIN EARTH BAR SIZE			1x32x6 Cu		1x32x6 Cu	1x32x6 Cu	1x32x6 Cu
DROPPER BARS / Ph SIZE			N/A		N/A	N/A	N/A
ACB CABLESIDE BARS SIZE			N/A		N/A	N/A	N/A
ACB CODE			N/A		N/A	N/A	N/A
CABLE ZONE NEUTRAL RISER			1x32x6 Cu		1x32x6 Cu	1x32x6 Cu	1x32x6 Cu
CABLE ZONE EARTH RISER			REFER FRONT VIEW		REFER FRONT VIEW	REFER FRONT VIEW	REFER FRONT VIEW
TIER MASS							

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 24.06.2015
NAME of SIGNATORY: DERRICK SUTCLIFFE
RPEQ No. or LICENCE: 07782
COMPANY NAME: LEND LEASE
START DATE: 09.02.2015 FINISH DATE: 22.06.2015

ABN 87 081 540 847
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QUEENSLAND UrbanUtilities

SHEET No. 4 OF 4
QUEENSLAND URBAN UTILITIES DRAWING No. 486/5/5-0205-065
AMEND. F

No.	DATE	AMENDMENT	SIGNED	RPEQ NO.	APPROVED	QU
F	22.06.15	AS CONSTRUCTED	DPS	07782	T.F	

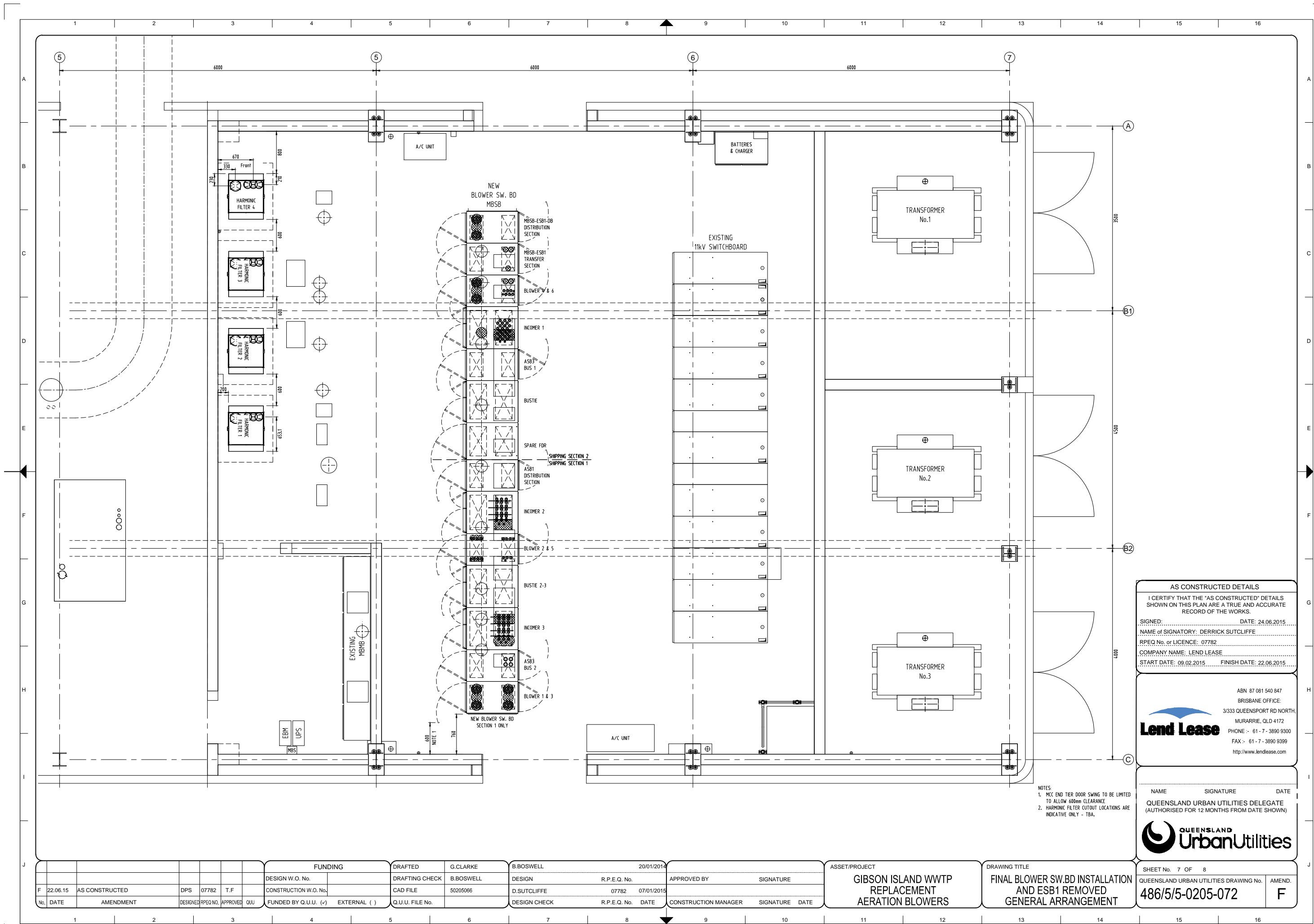
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DESIGN W.O. No.		DRAFTING CHECK	A.HUDSON
CONSTRUCTION W.O. No.		CAD FILE	50205065.dwg
FUNDED BY Q.U.U. (✓)	EXTERNAL ()	Q.U.U. FILE No.	

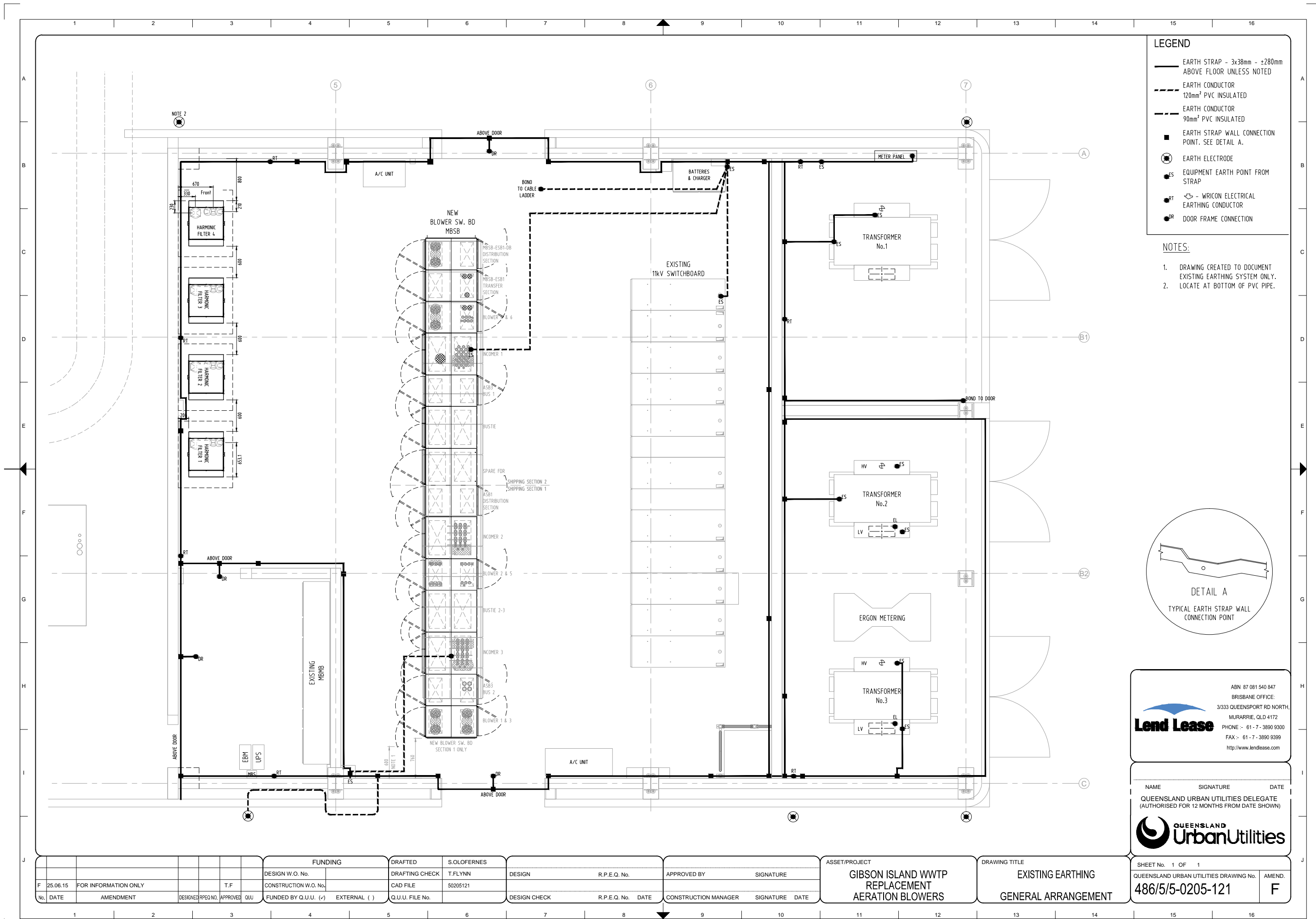
Original Signed By		
DESIGN	R.P.E.Q. No.	DATE
D. SUTCLIFFE	07782	19/12/2014
DESIGN CHECK	R.P.E.Q. No.	DATE

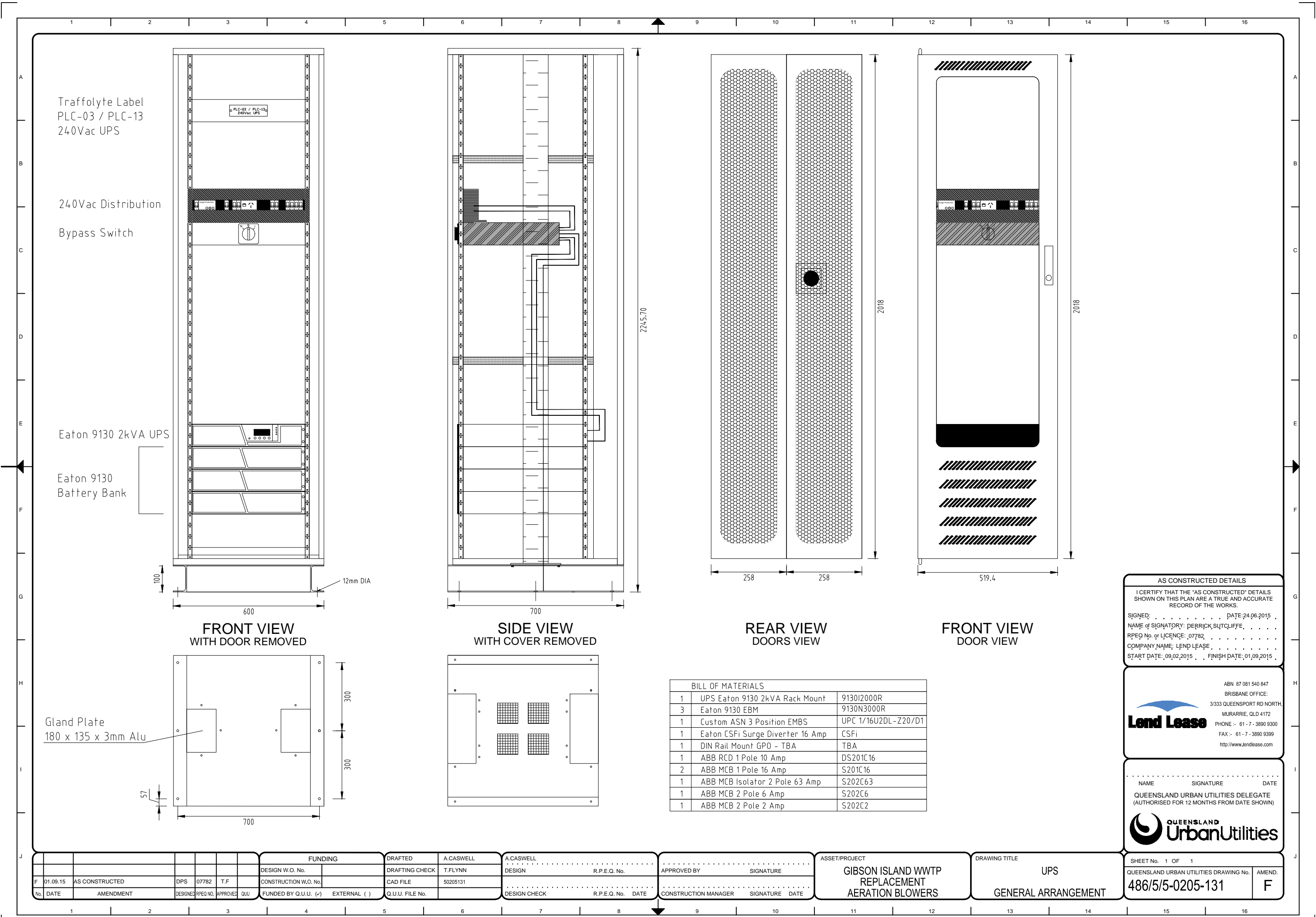
APPROVED BY	SIGNATURE	DATE
CONSTRUCTION MANAGER	SIGNATURE	DATE

ASSET/PROJECT	
GIBSON ISLAND WWTP REPLACEMENT AERATION BLOWERS	

DRAWING TITLE	
BLOWER 415V MAIN SWITCHBOARD MBSB GENERAL ARRANGEMENT	







5.6 Mechanical Drawings

GIBSON ISLAND WWTP BLOWER UPGRADE MECHANICAL DRAWINGS



LOCALITY PLAN
1:5000

AS CONSTRUCTED

0 50 100 200 300
Full Size 1:5000 ; Half Reduction 1:10000
SCALE (m)

DRAWING SCHEDULE

DRAWING No	TITLE/DESCRIPTION
486/5/5-0205-001	LOCALITY PLAN AND DRAWING SCHEDULE
486/5/5-0205-002	CONSTRUCTION NOTES
486/5/5-0205-003	BLOWERS & PIPEWORK GENERAL ARRANGEMENT
486/5/5-0205-004	SECTIONS AND DETAILS SHEET 1
486/5/5-0205-005	SECTIONS AND DETAILS SHEET 2
486/5/5-0205-006	SECTIONS AND DETAILS SHEET 3
486/5/5-0205-007	SECTIONS AND DETAILS SHEET 4
486/5/5-0205-008	SECTIONS AND DETAILS SHEET 5
486/5/5-0205-009	SECTIONS AND DETAILS SHEET 6
486/5/5-0205-010	SECTIONS AND DETAILS SHEET 7
486/5/5-0205-011	SECTIONS AND DETAILS SHEET 8
486/5/5-0205-012	BLOWERS & PIPEWORK PIPE SUPPORT DETAILS
486/5/5-0205-013	BLOWERS & PIPEWORK EXISTING FLOORPLAN
486/5/5-0205-014	INVENT/AERZEN BLOWER MODEL AT300-0.8/1.0T G.A.
486/5/5-0205-015	DISCHARGE SILENCER G.A. 400 NB KA
486/5/5-0205-016	ACCESSORY DETAILS NONRETURN VALVE AND FLEXIBLE CONNECTION
486/5/5-0205-017	MODEL AT300-0.8T 4.5G STANDARD FILTER P&I DIAGRAM
486/5/5-0205-018	BIOREACTORS AERATION INLET PIPEWORK MODIFICATIONS
486/5/5-0205-019	GRIT CHANNEL AERATION INLET PIPEWORK MODIFICATIONS

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED:  DATE: 28/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



SHEET No. OF
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0205-001 A

							FUNDING		DRAFTED	B. SHUTE	D.DAKIN	20.10.14				
							DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN	R.P.E.Q. No.	APPROVED BY		SIGNATURE	
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAD FILE	50205001.DWG	A. THIRIS	3325	20.10.14			
No	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE

GENERAL

- G1. These structural drawings shall be read in conjunction with all other project drawings and specifications and with such other written instructions as may be issued during the course of the contract. Any discrepancy shall be referred to the Lend Lease Project Manager before proceeding with the work.
- G2. All materials and workmanship shall be in accordance with the relevant current Standards Australia Codes and with the Building Code of Australia.
- G3. All dimensions shown on these structural drawings shall be verified by the Contractor on site prior to fabrication. These structural drawings shall not be scaled for dimensions.
- G4. Unless noted otherwise all levels are in metres and all dimensions are in millimetres.
- G5. The structural components detailed on these structural drawings have been designed in accordance with the relevant Standards Australia Code and the Building Code of Australia for the following loadings.
- | Floor Usage | Live Load (kPa) | Superimposed Dead Load (kPa) |
|-----------------|-----------------|------------------------------|
| Blower Building | 5.0 kPa | Nil |
- G6. The method of construction and the maintenance of safety during construction is the responsibility of the Contractor. If any structural element presents difficulty in respect of constructability or safety, the matter shall be referred to the Lend Lease Project Manager for resolution before proceeding with the work.
- G7. During construction the structure shall be maintained in a stable condition and no part shall be overloaded. Temporary bracing shall be provided by the Contractor in order to keep the building works stable at all times.
- G8. No penetrations, chases or temporary fixtures are permitted without prior approval of the Lend Lease Project Manager. Cored holes may be left for pipes penetrating concrete walls, the cored holes shall be minimum size necessary to accommodate the pipes and weep flanges.
- G9. All products to be as shown on drawings, unless approved otherwise in writing by the Superintendent.
- G10. All Australian Standards referred to in these notes are to be the latest revisions of the standard or the standard that supersedes the standard.
- G11. All conduits are to be sealed post installation (by others) by filling with wax then concrete fibre sealed.

CONCRETE

- C1. All workmanship and materials shall be in accordance with the current edition of AS3600 and AS3735 including amendments, except where varied by the contract documents.
- C2. Readymix concrete supply shall comply with AS1379.
- C3. Concrete Quality
Concrete for liquid retaining structures shall be sulphate resistant in accordance with AS3735.
- | Element | Strength Grade (MPa) | Slump (mm) | Max. Agg. Size (mm) | Max. Water/Cement Ratio | Shrinkage at 56 days |
|---|----------------------|------------|---------------------|-------------------------|----------------------|
| All liquid retaining structures | S40 | 80 | 20 | 0.5 | 600x10 ⁻⁶ |
| Building slabs, footings, structural concrete in non-water retaining structures, pits and bunds | N32 | 80 | 20 | 0.5 | - |
| Footpaths and blinding concrete | N20 | - | 20 | 0.5 | - |
- C4. Project control testing shall be carried out in accordance with AS1379, Section 6.5.

STRUCTURAL STEEL

- S1. All workmanship and material shall be in accordance with AS4100 except where varied by the contract documents. Fabrication shall be carried out in accordance with Section 14 of AS4100. Erection shall be carried out in accordance with Section 15 of AS4100.
- S2. Unless noted otherwise in the project specifications, all steel shall be of the following grade in accordance with the following Australian Standards
- | Type of Steel | Grade |
|--|-----------|
| Universal beams and columns, parallel flange channels, large angles to AS/NZS 3679.1 | 300 |
| Welded sections to AS/NZS 3679.2 | 300 |
| Hot rolled plates, floor plates and slabs to AS/NZS 3678 | 250 |
| Hollow sections to AS 1163 | C350 |
| Cold formed purlins and girts to AS1397 | G450/Z350 |
- S3. Workshop fabrication drawings shall be submitted to the Lend Lease Project Manager for review at least 7 days prior to commencement of fabrication. Fabrication shall not commence without the approval of the workshop drawings.
- S4. The fabrication and erection of the structural steelwork shall be supervised by a qualified person experienced in such supervision, in order to ensure that all requirements of the design are met.
- S5. All members shall be supplied in single lengths. Splices shall only be permitted in locations shown on the structural drawings.
- S6. All steelwork shall be securely temporarily braced by the erector as necessary to stabilise the structure during erection.
- S7. Bolting
Bolting Categories are identified on the structural drawings in the following manner.
- | Bolt Category | Comments |
|---------------|--|
| 4.6/S | commercial bolts of grade 4.6 to AS 1111
snug tightened |
| 8.8/S | high strength structural bolts of grade 8.8 to AS1252
snug tightened |
| 8.8/TB | high strength structural bolts of grade 8.8 to AS1252
fully tensioned to AS4100 as a bearing type joint |
| 8.8/TF | high strength structural bolts of grade 8.8 to AS1252
fully tensioned to AS4100 as a friction type joint with faying surfaces left uncoated |
- S8. Unless noted otherwise all bolts shall be M16 category 8.8/S. No connection shall have less than 2 bolts. All bolts and washers shall be galvanised. All holes shall be 2mm larger than the bolt diameter unless noted otherwise.
- S9. Welding
All welding shall be carried out in accordance with AS1554.1.
Electrodes shall be to either AS1553, AS1858, AS2203 or AS2717, as appropriate.
Unless noted otherwise, all fillet welds shall be 6mm continuous category SP using E48XX electrodes or equivalent. All butt welds shall be complete penetration butt welds category SP to AS1554.1.
The extent of non-destructive weld examination shall be as noted below.
Radiographic or ultrasonic examination shall be to AS1554.1, AS2177.1 and AS2207 as appropriate.

Type of weld and category	Examination method	Extent (% of total length of weld type)
Fillet welds, GP + SP	Visual inspection	100
Butt welds, GP	Visual inspection	100
Butt welds, SP	Visual inspection	100
	Radiographic or ultrasonic inspection	10

- S10. Corrosion Protection
Structural steelwork not encased in concrete shall be hot dipped galvanised.
- S11. All galvanising of structural steelwork shall be to AS4680. The continuous average zinc coating mass shall be 600g/m² (550g/m² minimum).
Provide seal plates to the ends of all hollow sections, with 'breather' holes if members are to be hot dip galvanised.
- S12. Site welding and drilling of hot dip galvanised components is not permitted. Where this is not practical the Superintendent's approval shall be obtained and affected areas shall be treated and painted with 2 coats of approved painting system with equivalent protection as hot dip galvanising.

STAINLESS STEELWORK

- ST1 All stainless steel shall be Grade Alloy 316.
- ST2 Welding of stainless steel shall conform to AS/NZS 1554.6.
- ST3 All bolts to be Alloy 316 Grade 70.

EQUIPMENT SPECIFICATIONS

E1. Blower Details

No of Units	- 4
Model No.	- AT300-08T
Supplier	- Invent/Aerzen
Discharge Pressure	- 75 kPa (max)

E2. Pipework Details

Material	- 316 Stainless Steel Spiral Welded
Supplier	- Roladuct Brisbane
Size	- 406 O.D. x 3.4 W.T. Spiral Welded
Weight	- 41.72 kg/m
Bursting Pressure	- 8.63 MPa
Safe Working Pressure	- 1.44 MPa

Size	- 219 O.D. x 3.0 W.T. Spiral Welded
Weight	- 16.88 kg/m
Bursting Pressure	- 11.99 MPa
Safe Working Pressure	- 2.00 MPa

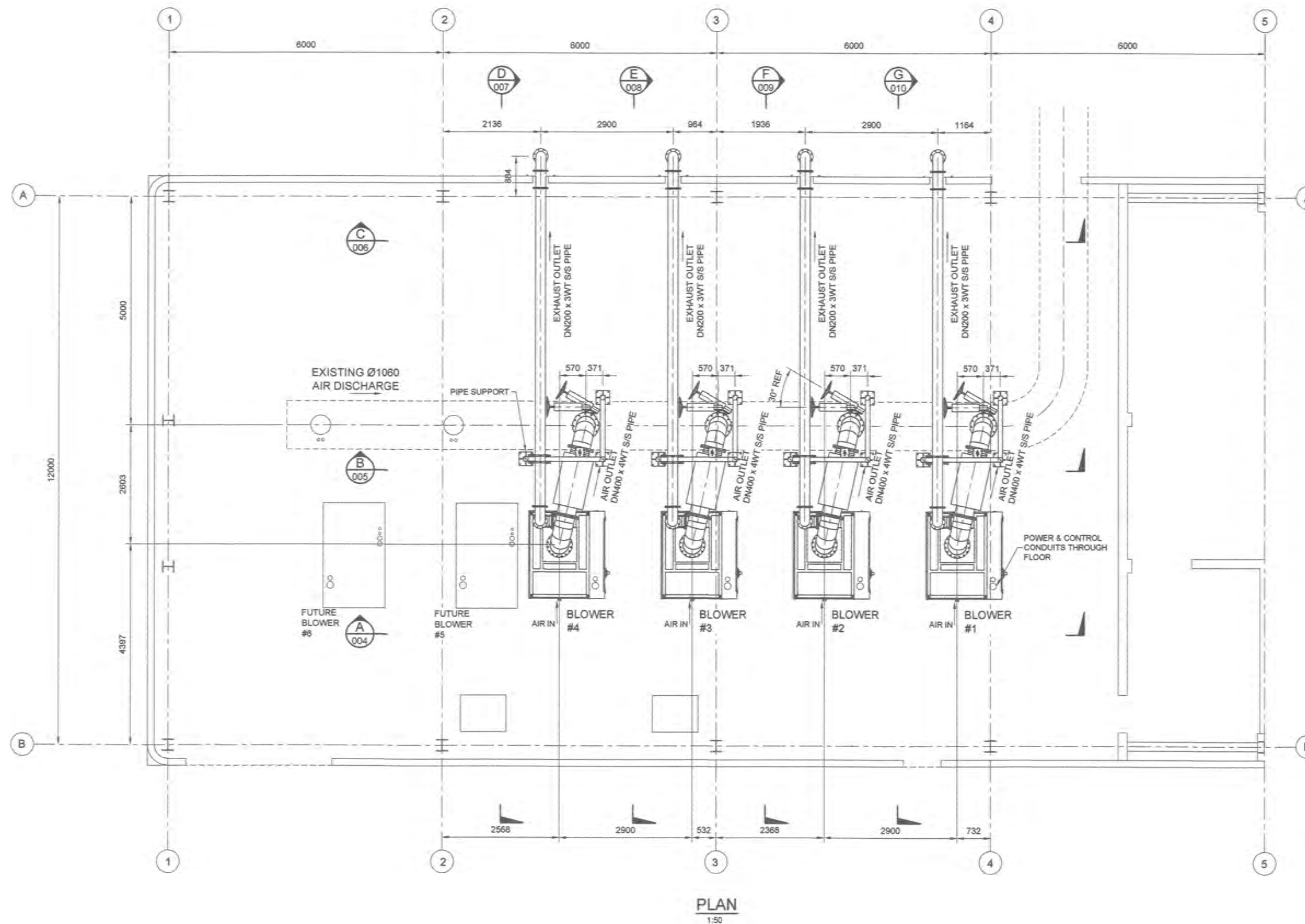
Thermal Expansion	- 21 deg / 0mm
	- 51 deg / 10.7mm per 30m
	- 65 deg / 15.5mm per 30m
	- 107 deg / 30.7mm per 30m

E3. Coupling Details

Type	- Mild steel flanges (loose backing type) U.N.O
Table	- "D"
Finish	- Hot dip galvanised
Supplier	- Roladuct
Pressure rating	- 0.70 MPa (-50°C - 232°C)

AS CONSTRUCTED

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AS CONSTRUCTED

0 0.5 1 2 3
Full Size 1:50 ; Half Reduction 1:100
SCALE (m)

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *[Signature]* DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



Re-Pump
Australia Pty Ltd

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

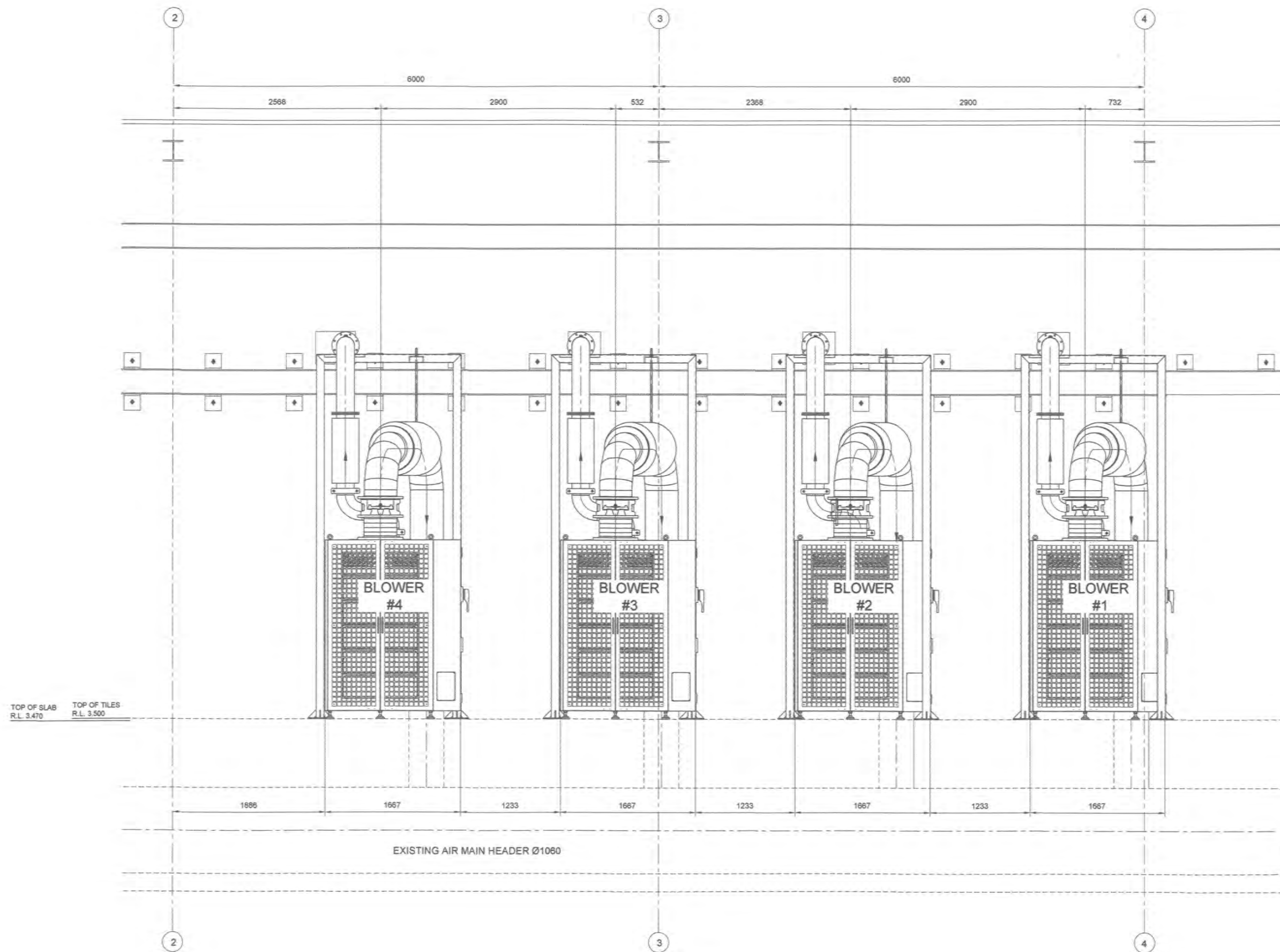


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-003 A

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDING	DRAFTED	B. SHUTE	D. DAKIN	20.10.14	ASSET/PROJECT	DRAWING TITLE	SHEET No.	OF
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	DESIGN W.O. No.	DRAFTING CHECK	D. DAKIN	DESIGN	R.P.E.Q. No.	GIBSON ISLAND WWTP BLOWER UPGRADE	BLOWERS & PIPEWORK GENERAL ARRANGEMENT		
							CONSTRUCTION W.O. No.	CAD FILE	50205003.DWG	A. THIRIS	3325				
							FUNDED BY B.C.C. (✓) EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.				



AS CONSTRUCTED

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP		SECTIONS AND DETAILS		QUEENSLAND URBAN UTILITIES DRAWING No.	
CONSTRUCTION W.O. No.				CAD FILE		50205004.DWG		A. THIRIS		3325		BLOWER UPGRADE		SHEET 1		486/5/5-0205-004	
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No. DATE		CONSTRUCTION MANAGER		SIGNATURE DATE		AMEND.	
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ NO.	APPROVED											A

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

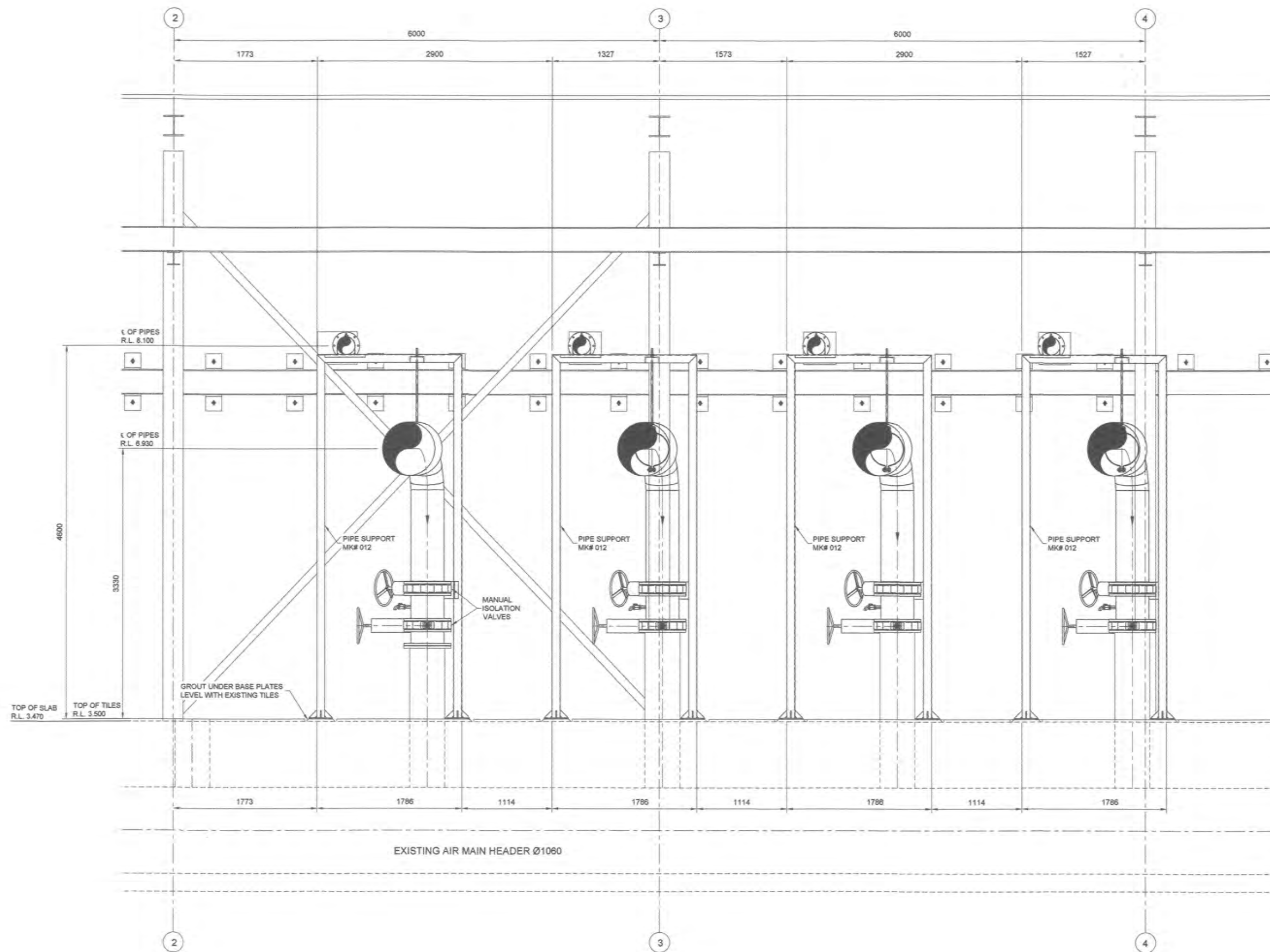
COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



**AS CONSTRUCTED**

0 0.25 0.5 1.0 1.5
Full Size 1:25 ; Half Reduction 1:50
SCALE (m)

SECTION B
1:25

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *[Signature]* DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

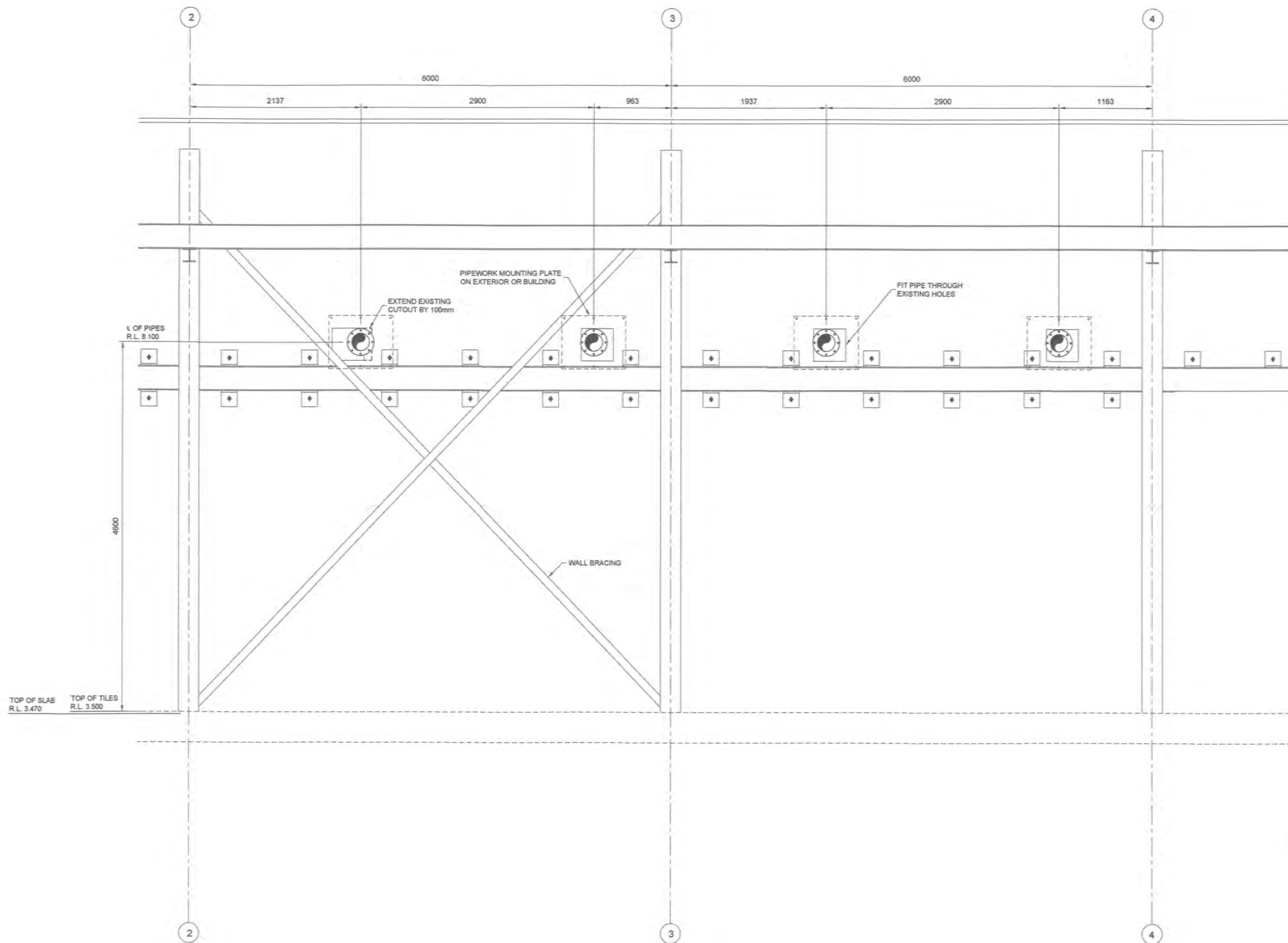


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-005 A

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDING	DRAFTED	B. SHUTE	D.DAKIN	20.10.14	ASSET/PROJECT	DRAWING TITLE	SHEET No.	OF
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.	DRAFTING CHECK	D.DAKIN	DESIGN	R.P.E.Q. No.	GIBSON ISLAND WWTP BLOWER UPGRADE	SECTIONS AND DETAILS SHEET 2		
								CAD FILE	50205005.DWG	A. THIRIS	3325				
								B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.				



AS CONSTRUCTED

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Full Size 1:25, Half Reduction 1:50
SCALE (m)

SECTION C
1:25

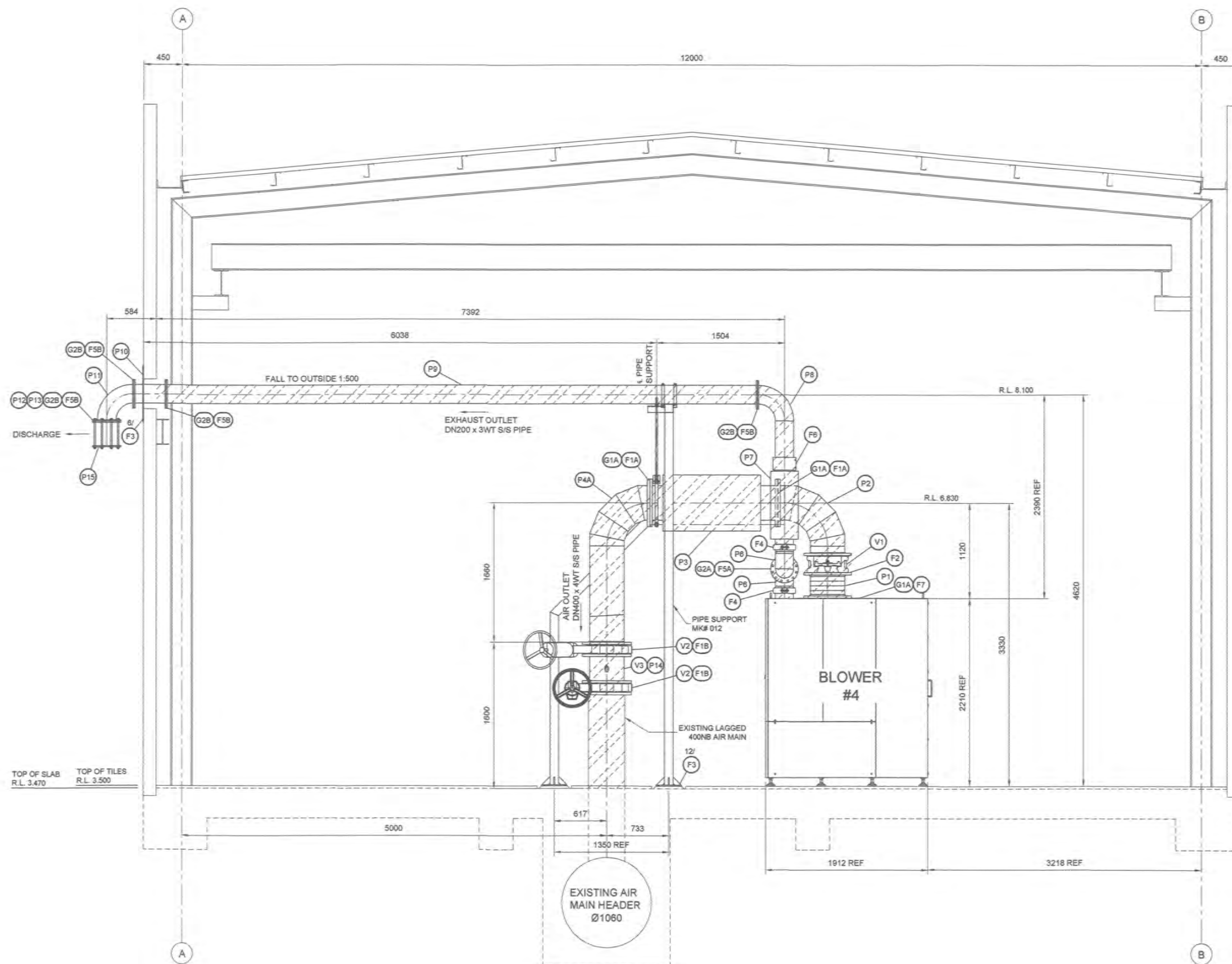
AS CONSTRUCTED DETAILS	
I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.	
SIGNED:	DATE: 20/5/15
NAME OF SIGNATORY: A. THIRIS	
RPEQ No. or LICENCE: 3325	
COMPANY NAME: ALTRA 9	
START DATE: 20.10.14	FINISH DATE: 25.05.15



NAME	SIGNATURE	DATE
QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)		



FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP BLOWER UPGRADE		SECTIONS AND DETAILS SHEET 3		486/5/5-0205-006	
CONSTRUCTION W.O. No.				CAD FILE		50205006.DWG		A. THIRIS		3325							
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.						AMEND.	
																A	



LEGEND

ALL PIPEWORK INSIDE BUILDING TO
BE LAGGED AS PER AS4426-1997

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS
SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
RECORD OF THE WORKS.

SIGNED: *[Signature]* DATE: 20/5/15

NAME OF SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

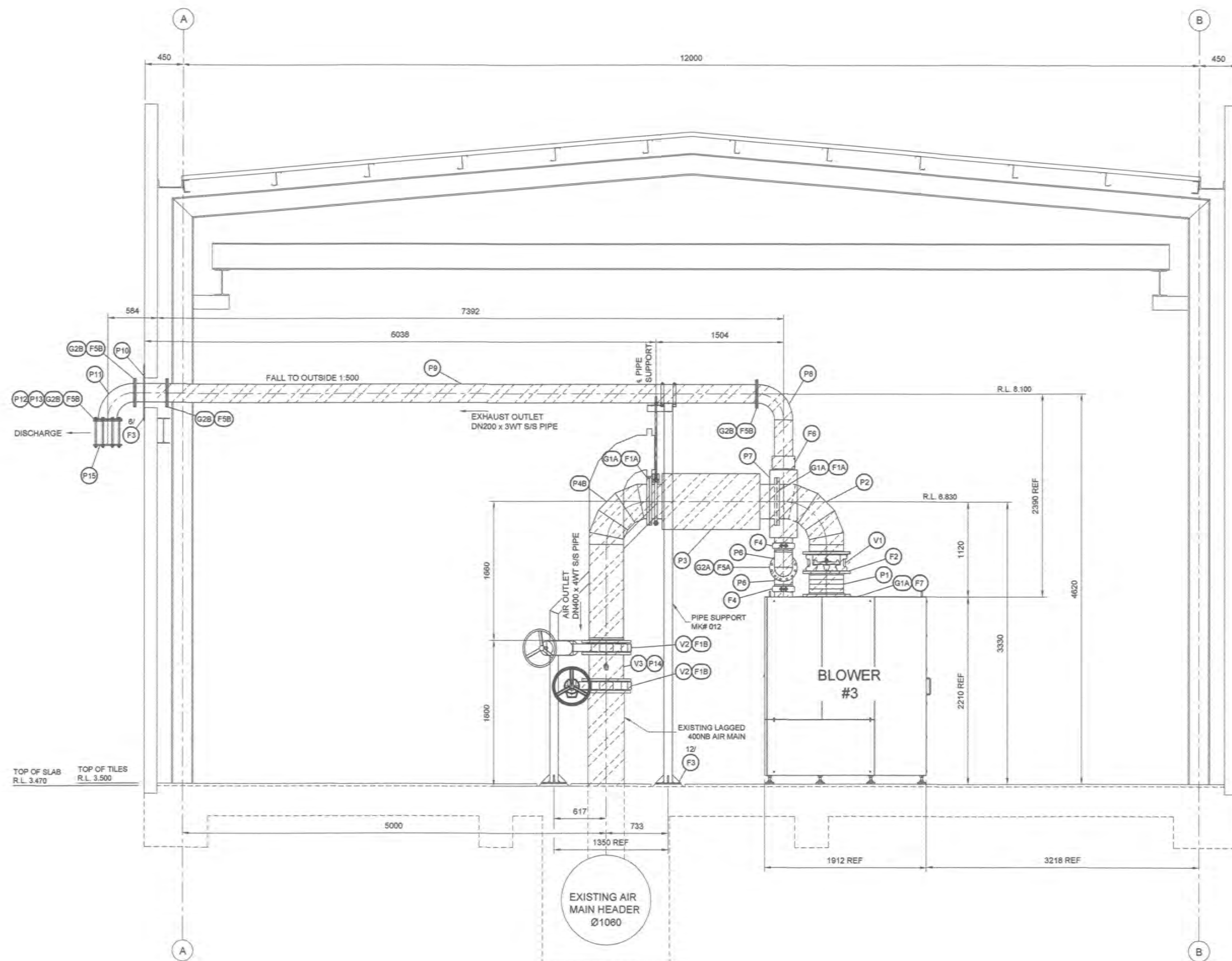
486/5/5-0205-007 A

AS CONSTRUCTED

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Full Size 1:25 - Half Reduction 1:50
SCALE (m)

SECTION D
1:25
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FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP		SECTIONS AND DETAILS		486/5/5-0205-007	
CONSTRUCTION W.O. No.				CAD FILE		50205007.DWG		A. THIRIS		3325		BLOWER UPGRADE		SHEET 4		AMEND.	
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.							
										DATE							



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 20/5/15

NAME OF SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

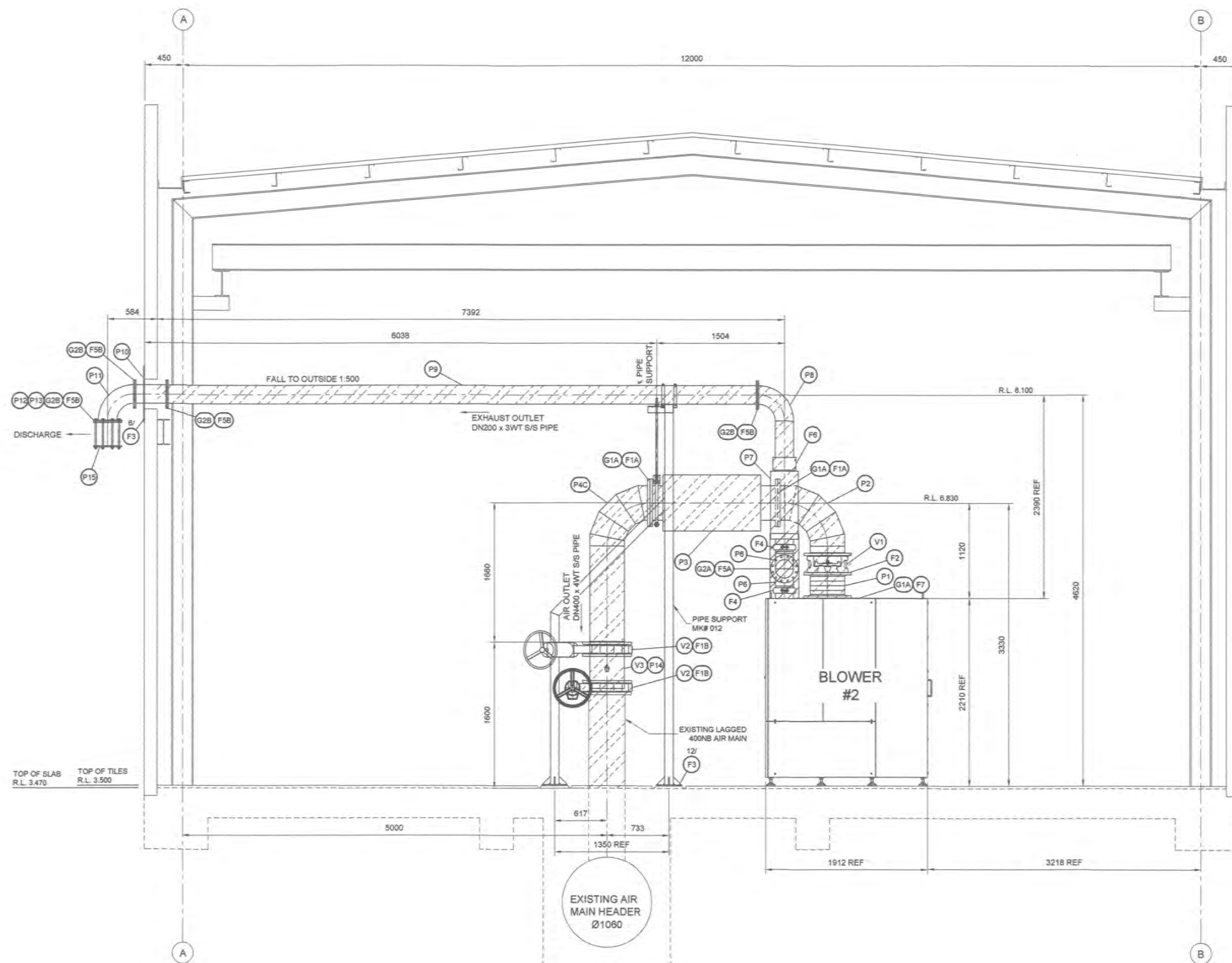


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-008 A

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP BLOWER UPGRADE		SECTIONS AND DETAILS SHEET 5		486/5/5-0205-008	
CONSTRUCTION W.O. No.				CAD FILE		50205008.DWG		A. THIRIS		3325							
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.							
										DATE							



LEGEND

ALL PIPEWORK INSIDE BUILDING TO BE LAGGED AS PER AS4426-1997

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: *[Signature]* DATE: 29/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

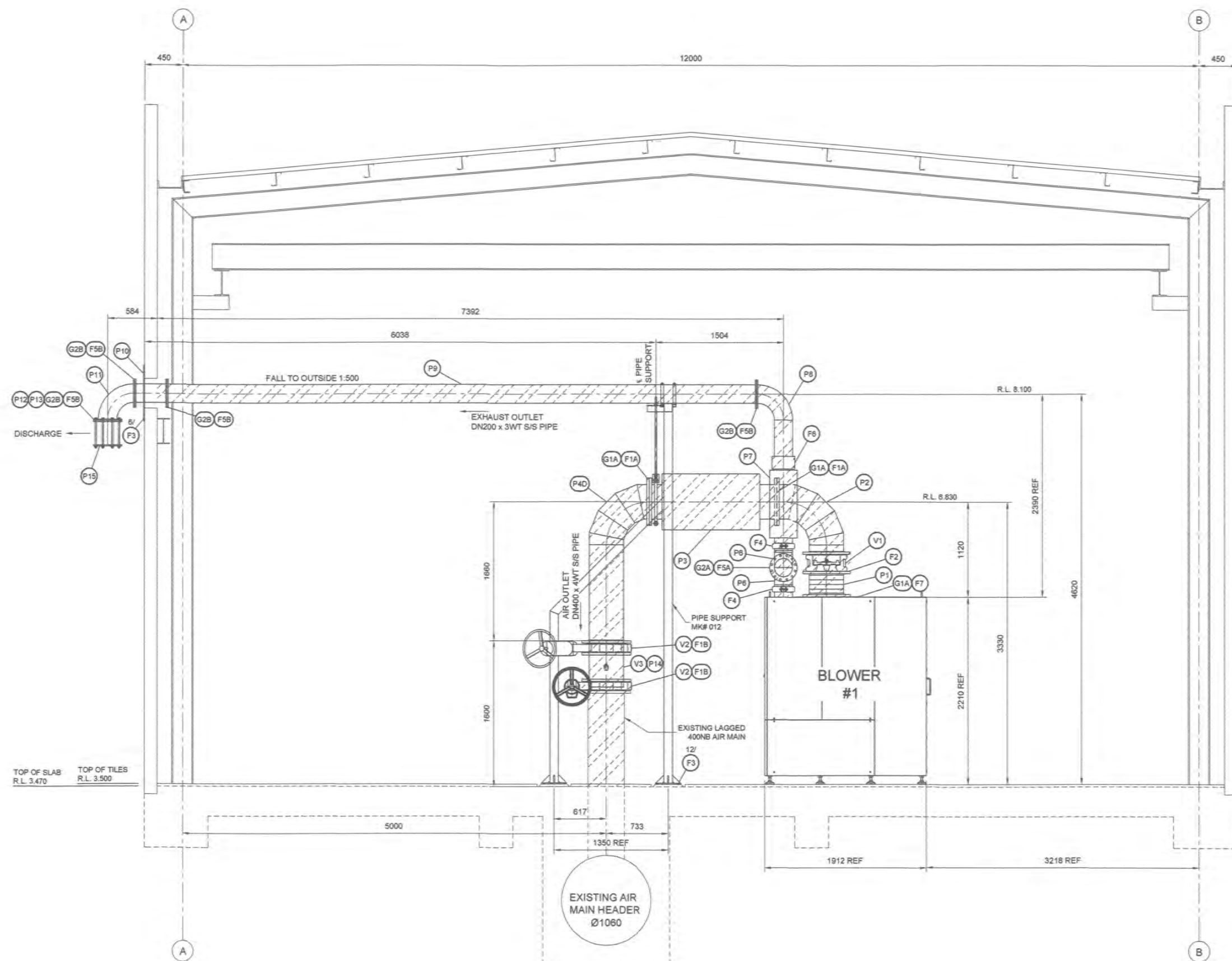


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-009 A

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP		SECTIONS AND DETAILS		486/5/5-0205-009	
CONSTRUCTION W.O. No.				CAD FILE		50205009.DWG		A. THIRIS		3325		BLOWER UPGRADE		SHEET 6		A	
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.							



AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

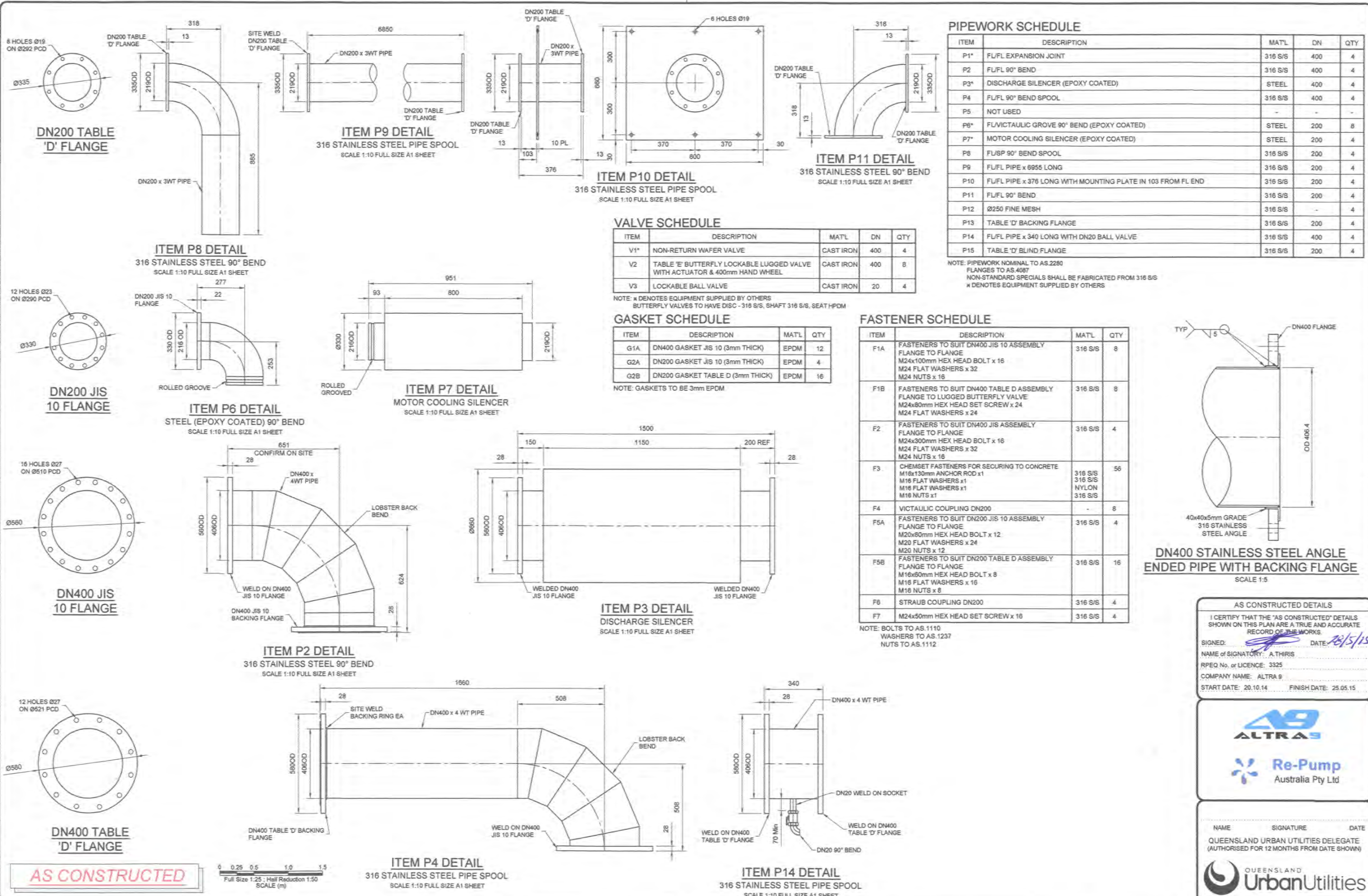


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-010 A

No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDING	DRAFTED	B. SHUTE	D. DAKIN	20.10.14	ASSET/PROJECT	DRAWING TITLE	SHEET No.	OF
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	DESIGN W.O. No.	DRAFTING CHECK	D. DAKIN	DESIGN	R.P.E.Q. No.	GIBSON ISLAND WWTP BLOWER UPGRADE	SECTIONS AND DETAILS SHEET 7		
							CONSTRUCTION W.O. No.	CAD FILE	50205010.DWG	A. THIRIS	3325 20.10.14				
							FUNDED BY B.C.C. (✓) EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No. DATE				



ITEM	DESCRIPTION	MAT'L	DN	QTY
P1*	FL/FL EXPANSION JOINT	316 S/S	400	4
P2	FL/FL 90° BEND	316 S/S	400	4
P3*	DISCHARGE SILENCER (EPOXY COATED)	STEEL	400	4
P4	FL/FL 90° BEND SPOOL	316 S/S	400	4
P5	NOT USED	-	-	-
P6*	FL/VICTAULIC GROVE 90° BEND (EPOXY COATED)	STEEL	200	8
P7*	MOTOR COOLING SILENCER (EPOXY COATED)	STEEL	200	4
P8	FL/SP 90° BEND SPOOL	316 S/S	200	4
P9	FL/FL PIPE x 6955 LONG	316 S/S	200	4
P10	FL/FL PIPE x 376 LONG WITH MOUNTING PLATE IN 103 FROM FL END	316 S/S	200	4
P11	FL/FL 90° BEND	316 S/S	200	4
P12	Ø250 FINE MESH	316 S/S	-	4
P13	TABLE 'D' BACKING FLANGE	316 S/S	200	4
P14	FL/FL PIPE x 340 LONG WITH DN20 BALL VALVE	316 S/S	400	4
P15	TABLE 'D' BLIND FLANGE	316 S/S	200	4

ITEM	DESCRIPTION	MATL	DN	QTY
V1*	NON-RETURN WAFFER VALVE	CAST IRON	400	4
V2	TABLE 'E' BUTTERFLY LOCKABLE LUGGED VALVE WITH ACTUATOR & 400mm HAND WHEEL	CAST IRON	400	8
V3	LOCKABLE BALL VALVE	CAST IRON	20	4

ITEM	DESCRIPTION	MATL	QTY
G1A	DN400 GASKET JIS 10 (3mm THICK)	EPDM	12
G2A	DN200 GASKET JIS 10 (3mm THICK)	EPDM	4
G2B	DN200 GASKET TABLE D (3mm THICK)	EPDM	16

FASTENER SCHEDULE				
ITEM	DESCRIPTION	MAT'L	QTY	
F1A	FASTENERS TO SUIT DN400 JIS 10 ASSEMBLY FLANGE TO FLANGE M24x100mm HEX HEAD BOLT x 16 M24 FLAT WASHERS x 32 M24 NUTS x 16	316 S/S	8	
F1B	FASTENERS TO SUIT DN400 TABLE D ASSEMBLY FLANGE TO LUGGED BUTTERFLY VALVE M24x80mm HEX HEAD SET SCREW x 24 M24 FLAT WASHERS x 24	316 S/S	8	
F2	FASTENERS TO SUIT DN400 JIS ASSEMBLY FLANGE TO FLANGE M24x300mm HEX HEAD BOLT x 16 M24 FLAT WASHERS x 32 M24 NUTS x 16	316 S/S	4	
F3	CHEMSET FASTENERS FOR SECURING TO CONCRETE M18x130mm ANCHOR ROD x1 M16 FLAT WASHERS x1 M16 FLAT WASHERS x1 M16 NUTS x1	316 S/S 316 S/S NYLON 316 S/S	56	
F4	VICTAULIC COUPLING DN200	-	8	
F5A	FASTENERS TO SUIT DN200 JIS 10 ASSEMBLY FLANGE TO FLANGE M20x80mm HEX HEAD BOLT x 12 M20 FLAT WASHERS x 24 M20 NUTS x 12	316 S/S	4	
F5B	FASTENERS TO SUIT DN200 TABLE D ASSEMBLY FLANGE TO FLANGE M16x80mm HEX HEAD BOLT x 8 M16 FLAT WASHERS x 16 M16 NUTS x 8	316 S/S	16	
F6	STRAUB COUPLING DN200	316 S/S	4	
F7	M24x50mm HEX HEAD SET SCREW x 16	316 S/S	4	

							FUNDING		DRAFTED	B. SHUTE	D.DAKIN		20.10.14		ASSET/PROJECT GIBSON ISLAND WWTP BLOWER UPGRADE		DRAWING TITLE SECTIONS AND DETAILS SHEET 8		SHEET No. OF			
							DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN		R.P.E.Q. No.						APPROVED BY	SIGNATURE	QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAD FILE	50205011.DWG	A. THIRIS		3325						20.10.14	CONSTRUCTION MANAGER	SIGNATURE	DATE
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	R.P.E.Q. No.	APPROVED	FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK		R.P.E.Q. No.		DATE							

MATERIAL SCHEDULE

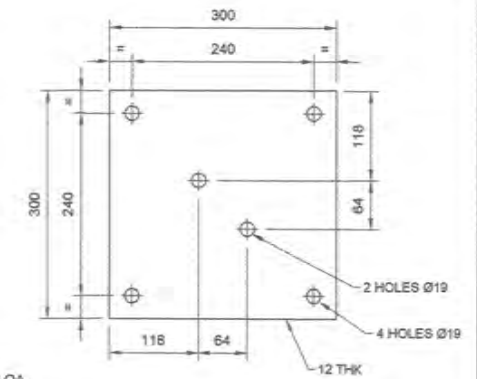
ITEM	QTY	DESCRIPTION	LENGTH	MAT'L	GRADE	REF. / REMARKS
1	8	100 x 3 SHS	4478	STEEL	C350	
2	4	100 x 3 SHS	2029	STEEL	C350	
3	4	100 x 3 SHS	1908	STEEL	C350	
4	4	100 x 3 SHS	1786	STEEL	C350	
5	12	300 x 12 THK PL	300	STEEL	250	REFER DETAIL
6	48	90 x 12 THK PL	90	STEEL	250	REFER DETAIL
7	4	180 x 75 x 11 x 6 PFC	200	STEEL	C350	REFER DETAIL
8	8	41mm UNISTRUT CHANNEL	500	STEEL	BLACK	#P1000
9	8	216mm TWO PIECE CLAMP	-	STEEL	-	#P2070-84 GALVANISED
10	4	M20 THREADED ROAD	1000	S/S	316	
11	4	EYE NUT	-	STEEL	BLACK	#UN35-24M20 GALVANISED
12	4	406mm TWO PIECE PIPE CLAMP	-	STEEL	-	#UN31-406 GALVANISED

FASTENER SCHEDULE

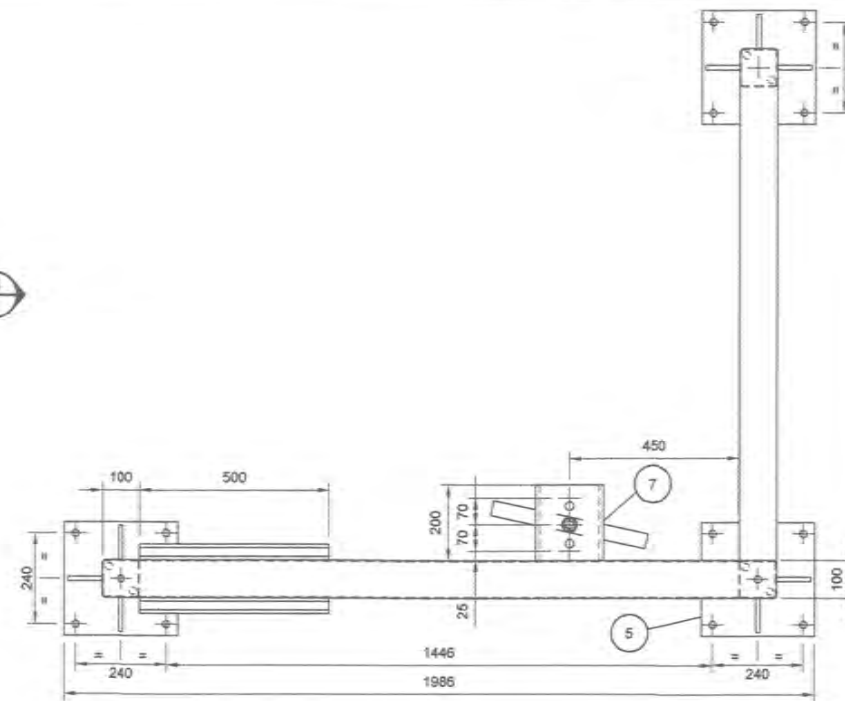
ITEM	DESCRIPTION	MAT'L	QTY
F1	M8x50mm HEX HEAD BOLT x1 M8 FLAT WASHERS x2 M8 FLAT WASHERS x2 M8 NUTS x1	316 S/S 316 S/S NYLON 316 S/S	4
F2	M24x90mm HEX HEAD BOLT x1 M24 FLAT WASHERS x2 M24 FLAT WASHERS x2 M24 NUTS x1	316 S/S 316 S/S NYLON 316 S/S	8
F3	M20 NUTS x2	316 S/S	4

NOTES:

- PIPE SUPPORT PARTS FROM UNISTRUT OR APPROVED EQUIVALENT
- PIPE SUPPORTS HOT DIP GALVANISED AFTER ASSEMBLY

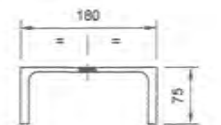


DETAIL ITEM 5

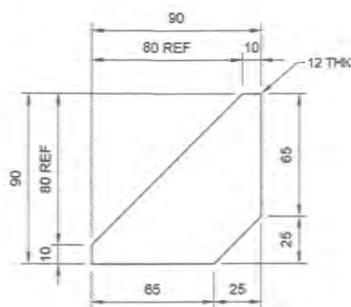
12 REQ'D
1:5

PLAN

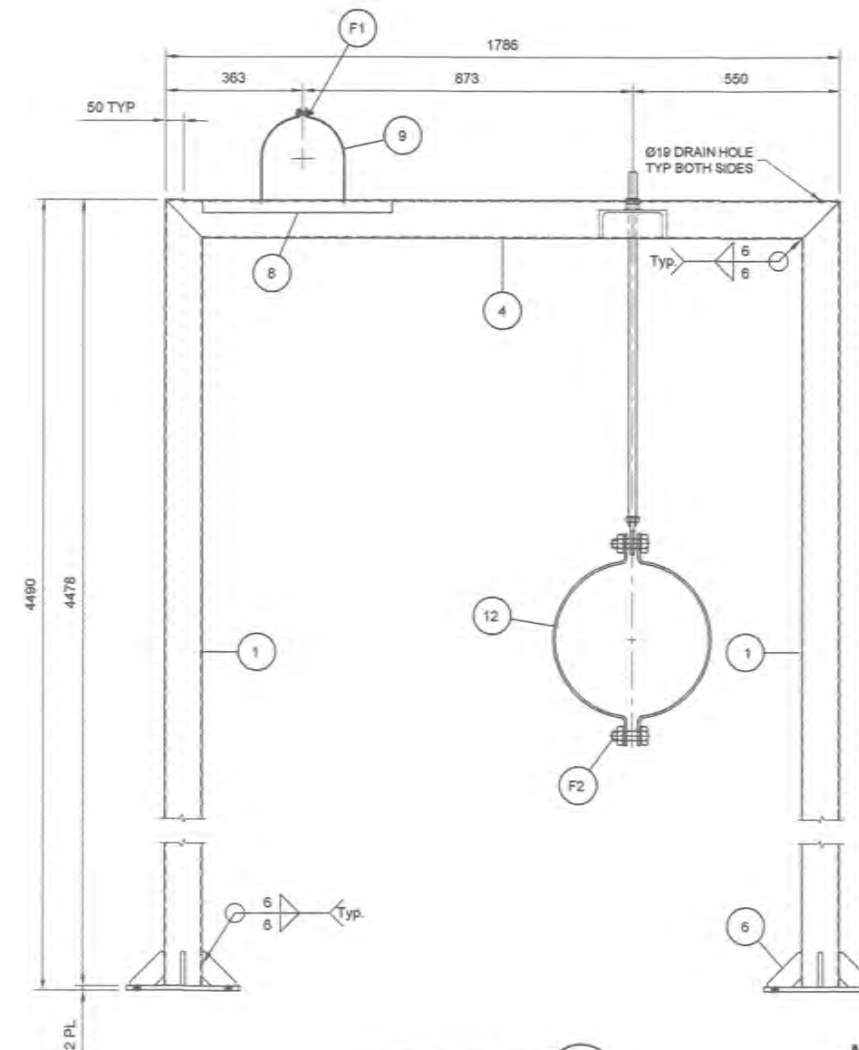
1:10



DETAIL ITEM 7

4 REQ'D
1:5

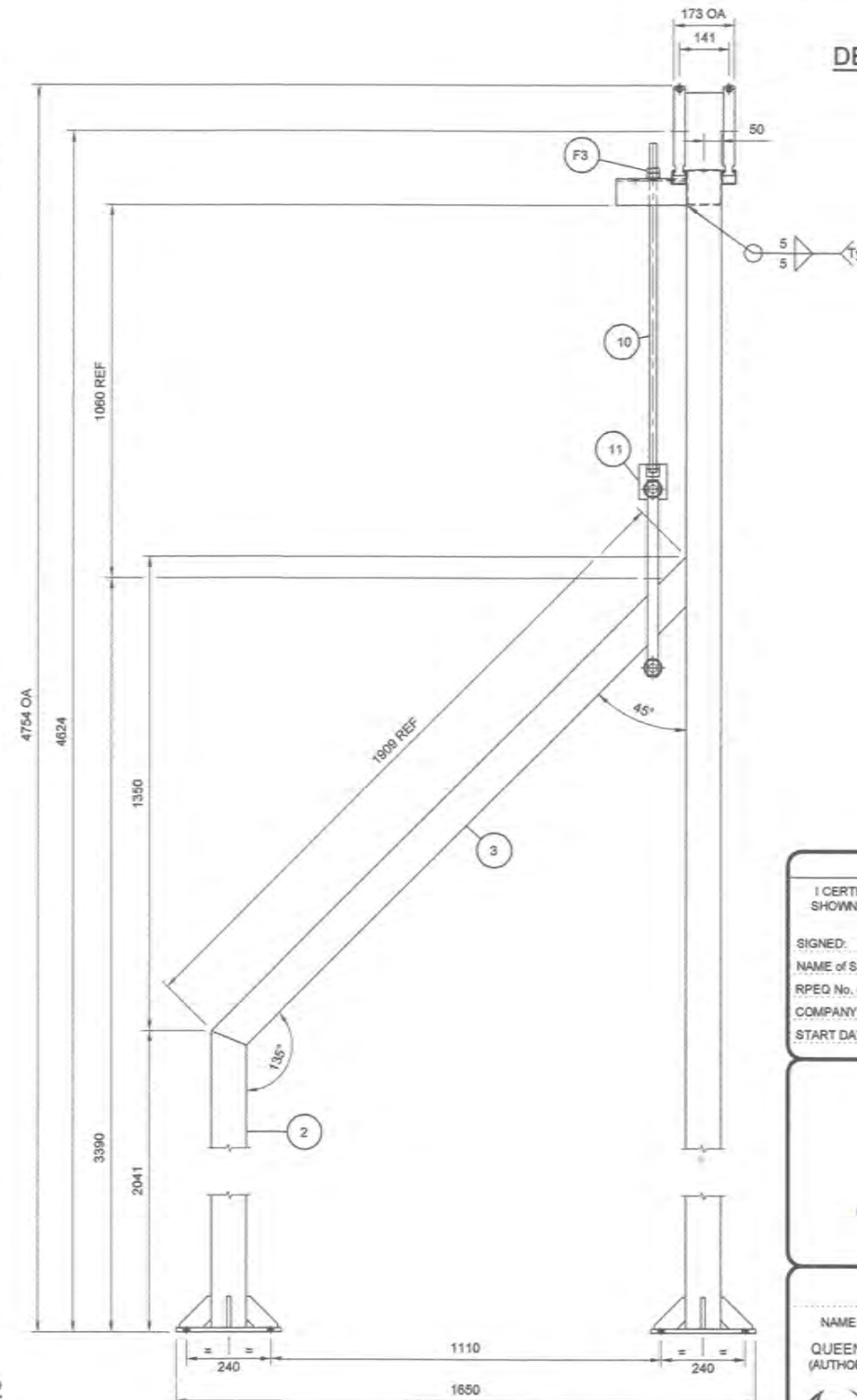
DETAIL ITEM 6

48 REQ'D
1:2

ELEVATION A

1:10

MK# 012

QTY: 4
1:10

ELEVATION B

1:10

AS CONSTRUCTED

0 0.1 0.2 0.4 0.6
Full Size 1:10; Half Reduction 1:20
SCALE (m)0 0.05 0.1 0.2 0.3
Full Size 1:5; Half Reduction 1:10
SCALE (m)

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D. DAKIN		DESIGN		R.P.E.Q. No.		GIBSON ISLAND WWTP		BLOWERS & PIPEWORK		QUEENSLAND URBAN UTILITIES DRAWING No.	
CONSTRUCTION W.O. No.				CAD FILE		50205012.DWG		A. THIRIS		3325		BLOWER UPGRADE		PIPE SUPPORT		486/5/5-0205-012	
FUNDED BY B.C.C. (✓) EXTERNAL ()				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.				DETAILS		AMEND.	
																A	

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE "AS CONSTRUCTED" DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15

NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

TOP OF SLAB
R.L. 3.470

TOP OF TILES
R.L. 3.500


FLOOR TILES REMOVED WITH
GROUT UNDER BASE PLATES

EXISTING PLINTHS REMOVED
AND FILLED WITH STRUCTURAL
SELF LEVELING GROUT TO TOP
OF SURROUNDING FLOOR TILES

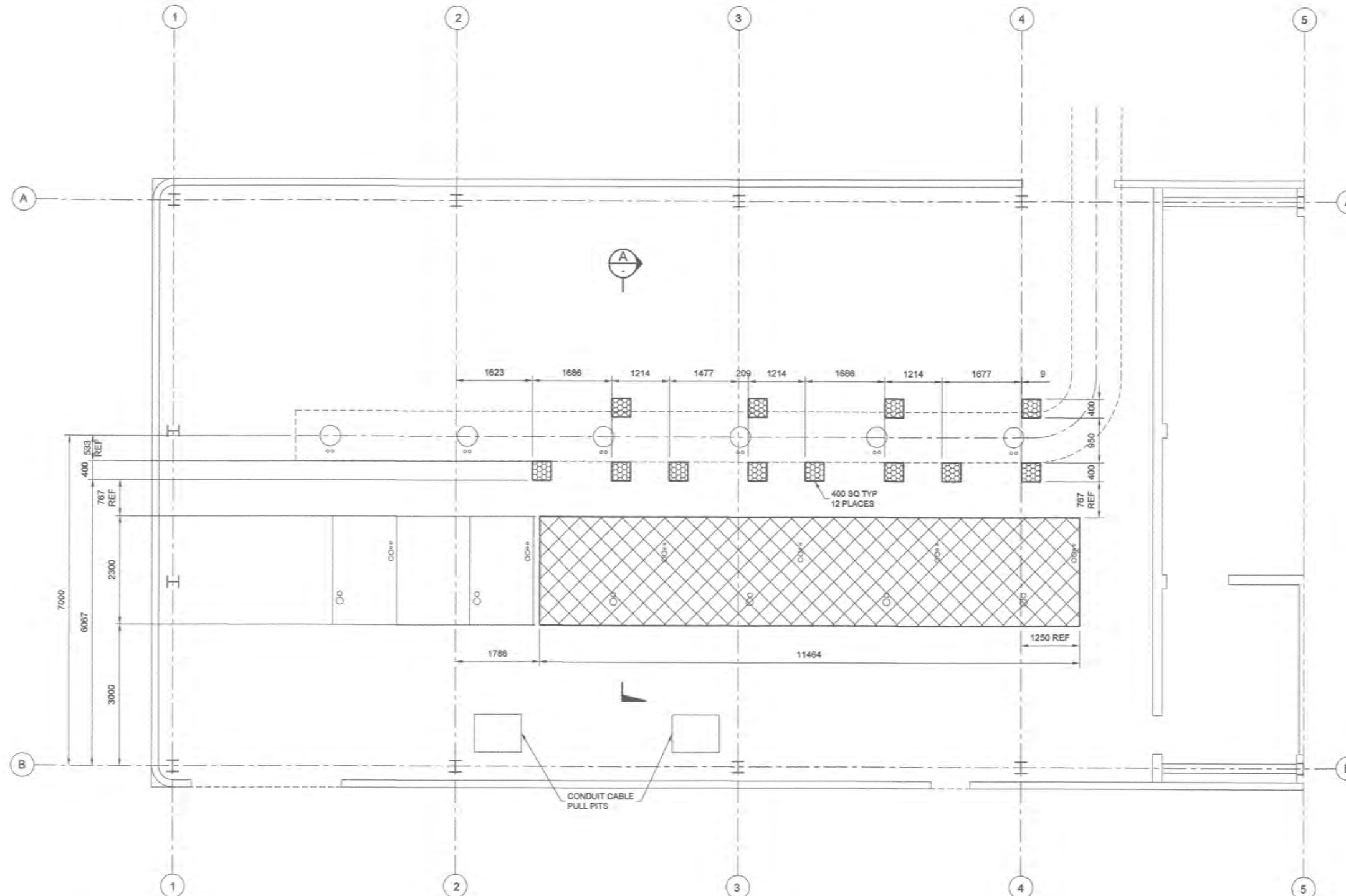
EXISTING CONDUITS
PROTRUDING 50mm MINIMUM

SECTION A
1:20

LEGEND

 AREA TO REMOVE EXISTING PLINTHS & FLOOR
TILES AND FILLED WITH STRUCTURAL SELF
LEVELING GROUT TO TOP OF SURROUNDING
FLOOR TILES (ELECTRICAL CONDUITS TO BE
LEFT PROTRUDING)

 REMOVE FLOOR TILES



AS CONSTRUCTED

0 0.5 1 2 3
Full Size 1:50 ; Half Reduction 1:100
SCALE (m)

PLAN
1:50

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS
SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
RECORD OF THE WORKS.

SIGNED:  DATE: 20/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

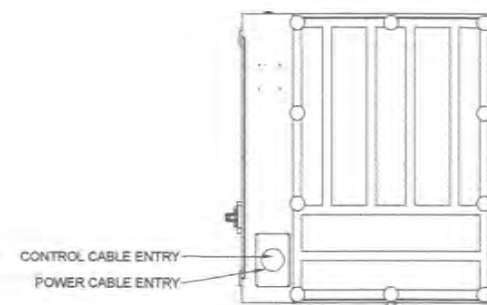
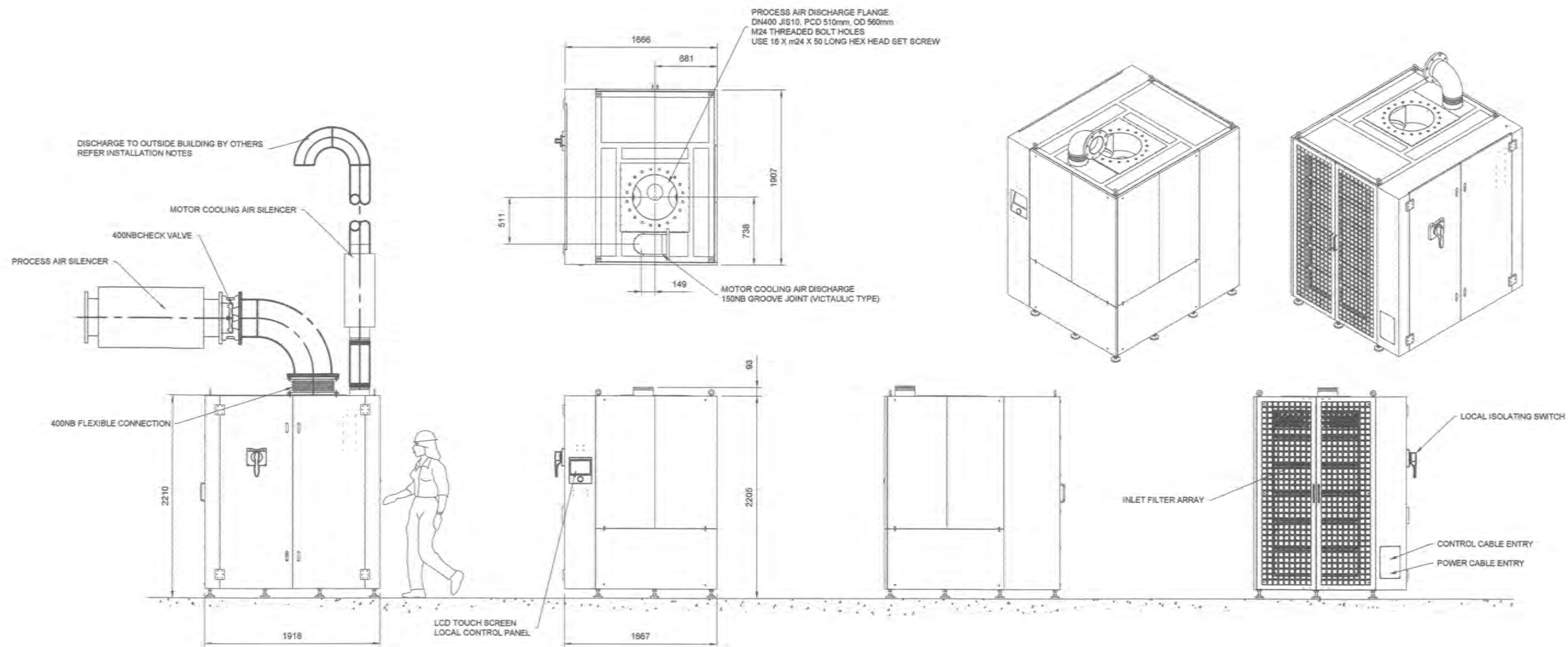


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-013 A

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.		DRAFTING CHECK	D. DAKIN	DESIGN	R.P.E.Q. No.	APPROVED BY	SIGNATURE	DESIGN	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE	GIBSON ISLAND WWTP BLOWER UPGRADE	BLOWERS & PIPEWORK GENERAL ARRANGEMENT EXISTING FLOORPLAN	QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
CONSTRUCTION W.O. No.		CAD FILE	50205013.DWG	A. THIRIS	3325			A. THIRIS	3325	20.10.14							
FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.												



OPTIONAL UNDERNEATH CABLE ENTRY

SCOPE OF SUPPLY

1. BLOWER UNIT C/W CONTROL SYSTEM, VARIABLE FREQUENCY DRIVE
2. OUTLET FLEXIBLE CONNECTION 400NB
3. DISCHARGE SILENCER 400NB
4. NON RETURN VALVE 400NB
5. MOTOR COOLING SILENCER 200NB
6. ALL INTERCONNECTING PIPE/DUCT BY OTHERS
7. ALL BOLTING AND GASKETS BY OTHERS

CONNECTION SCHEDULE

1. PROCESS AIR DISCHARGE: FLANGED 400NB JIS10 (USE M24 X 50L HEX HEAD SET SCREW)
2. BOV/MOTOR COOLING AIR DISCHARGE: 200NB VICTAULIC GROOVE
3. DISCHARGE SILENCER: FLANGED 400NB JIS10
4. NON RETURN VALVE: WAFER STYLE 400NB
5. FLEXIBLE COUPLING: FLANGED 400NB JIS10
6. BOV/MOTOR COOLING SILENCER: FLANGED 200NB Pipe End
7. POWER: 120mm DIAMETER OPENING 2mm STEEL PLATE
8. CONTROL: 60mm DIAMETER OPENING 2mm STEEL PLATE

BLOWER DATA TB300-0.8T

1. MAXIMUM PRESSURE CAPABILITY = 75kPa/95kPa
2. NOMINAL MOTOR SHAFT POWER 235kW
3. NOMINAL FLOW CAPABILITY = 10,000Nm³/Hr
3. FULL LOAD CURRENT TO INVERTER = 395AMPS (400V 50Hz)
4. WEIGHT = 1050kg
5. OPERATING SOUND PRESSURE LEVEL = 80dBA (LAGGED FLEXIBLE JOINT)

INSTALLATION NOTES

1. COOLING AIR OUTLET TO HAVE CHECK VALVE OR FLAP IF BLOWER ROOM HAS BUILDING FILTERS
2. ALL MOTOR COOLING AIR PIPING TO "FALL" AWAY FOR THE BLOWER TO OUTSIDE
3. STRAIGHT PIPING LENGTH AFTER PROCESS AIR CHECK VALVE TO BE 3 X DIA
4. ALLOW BOLT REMOVAL LENGTH FOR CHECK VALVE ON PIPING
5. ALL PIPING BETWEEN BLOWER AND DISCHARGE SILENCERS TO BE SCH 40, OR LAGGED TO PREVENT NOISE BREAKOUT
6. BLOWER FLANGES AND CONNECTIONS TO HAVE ZERO LOADINGS FROM PIPE WORK
7. DO NOT PLACE BLOWERS ON PLINTHS
8. ELECTRICAL CONNECTION GLAND PLATES TO BE SEALED (BY OTHERS) AFTER INSTALLATION
9. REFER BLOWER MANUAL FOR FURTHER INSTALLATION NOTES

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 28/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

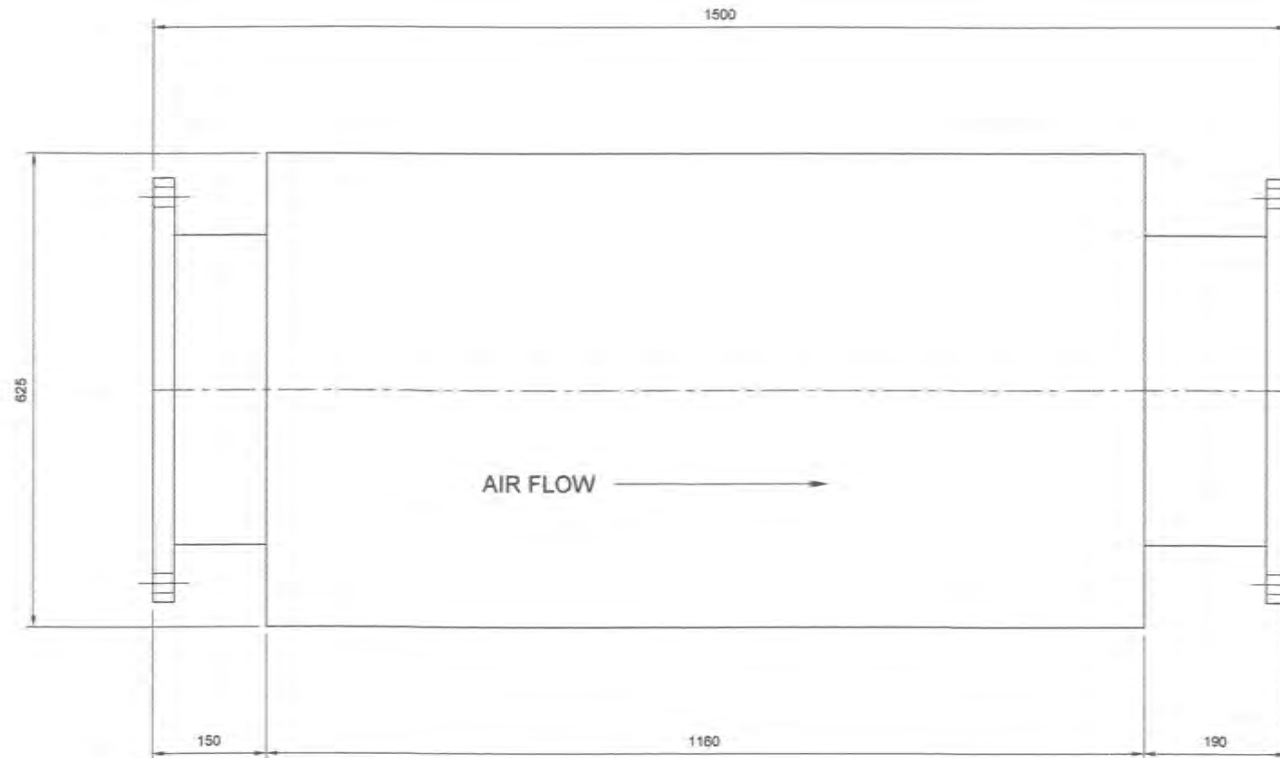


AS CONSTRUCTED

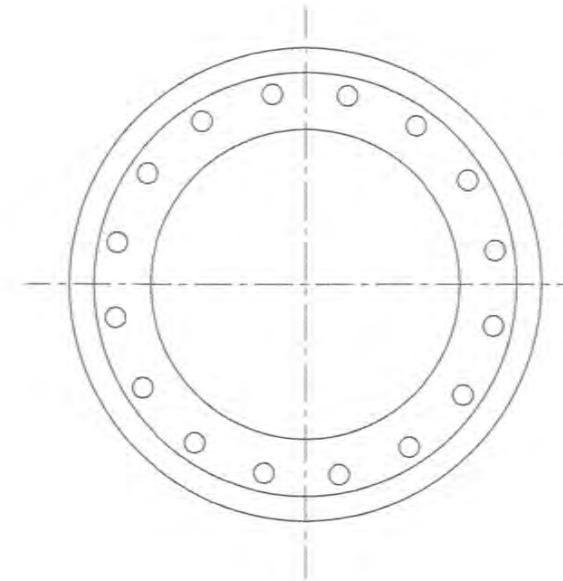
						FUNDING		DRAFTED	B. SHUTE	D.DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF			
						DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN		R.P.E.Q. No.		APPROVED BY		SIGNATURE		QUEENSLAND URBAN UTILITIES DRAWING No.			
A	25.05.15	AS CONSTRUCTED		B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAD FILE	50205014.DWG		A. THIRIS		3325		20.10.14		AMEND.		
No.	DATE	AMENDMENT		DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK		R.P.E.Q. No.		DATE		CONSTRUCTION MANAGER			
																		486/5/5-0205-014			
																		A			
										GIBSON ISLAND WWTP		BLOWER UPGRADE				INVENT/AERZEN BLOWER		MODEL AT300-0.8/1.0T		GENERAL ARRANGEMENT	

APPROXIMATE NOISE ABSORPTION VALUES:

OCT. BAND [Hz]	63	125	250	500	1000	2000	4000	8000
INSERTION LOSS [dBA]	3	5	7	12	25	19	14	11



P3 - 400NB DISCHARGE SILENCER



FLANGE DETAIL
OD = 560
PCD = 510
16 HOLES Ø27
USE M24 BOLTING

TECHNICAL DATA

CONNECTIONS: 400NB, JISKA10
MAX OPERATING FLOW: 13,000 Nm³/hr
MAX OPERATING PRESSURE: 120 kPa
MAX OPERATING TEMPERATURE: 200°C
MATERIAL: EPOXY COATED MILD STEEL
INSULATION THICKNESS: 100mm
USE LENGTH: 1500mm
WEIGHT: ~190kg

NOTE:

1. GASKETS AND BOLTING NOT INCLUDED.
2. FLANGES ARE PLATE SLIP-ON TYPE.
3. SILENCER IS NOT A PRESSURE VESSEL.

AS CONSTRUCTED

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED:  DATE: 23/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)



SHEET No. OF

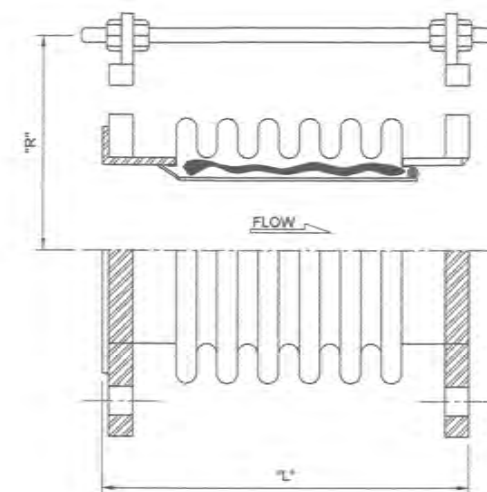
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-015 A

FUNDING				DRAFTED		B. SHUTE		D. DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.		DRAFTING CHECK	D. DAKIN	DESIGN	R.P.E.Q. No.	APPROVED BY	SIGNATURE	GIBSON ISLAND WWTP		DISCHARGE SILENCER		GENERAL ARRANGEMENT		400 NB KA			
CONSTRUCTION W.O. No.		CAD FILE	50205015.DWG	A. THIRIS	3325	20.10.14		BLOWER UPGRADE									
FUNDED BY B.C.C. (✓) EXTERNAL ()		B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE								

DIMENSIONS

	L	R	kg
150NB	200	140	18
200NB	200	190	21
250NB	200	220	26
300NB	200	245	38
400NB	200	290	45



MATERIALS OF CONSTRUCTION

FLANGES	CARBON STEEL, ASTM A283
BELLOWS	STAINLESS STEEL AISI 304
SLEEVE	STAINLESS STEEL AISI 304
END PIPE	STAINLESS STEEL AISI 304
GUIDE BOLT	STAINLESS STEEL AISI 304
LAP JOINT	STAINLESS STEEL AISI 304
M12 GUIDE	ZINC PLATED CARBON STEEL

TECHNICAL DATA

MAX OPERATING PRESSURE: 200 kPa
 HYDRO TEST PRESSURE: 400 kPa
 MAX OPERATING TEMPERATURE: 250°C
 DESIGN STANDARD: API 594
 FLANGE STANDARD: JIS/KS 10
 M12 GUIDES SETS TO BE REMOVED AFTER
 INSTALLATION

150NB FLANGE
DETAIL

THICKNESS = 22mm
 OD = 280mm
 PCD = 240mm
 8 HOLES Ø22
 USE M20 BOLTING

200NB FLANGE
DETAIL

THICKNESS = 22mm
 OD = 330mm
 PCD = 290mm
 12 HOLES Ø22
 USE M20 BOLTING

250NB FLANGE
DETAIL

THICKNESS = 24mm
 OD = 400mm
 PCD = 355mm
 12 HOLES Ø25
 USE M22 BOLTING

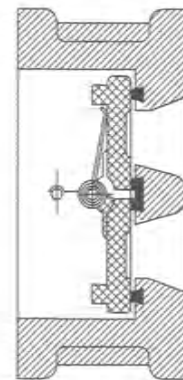
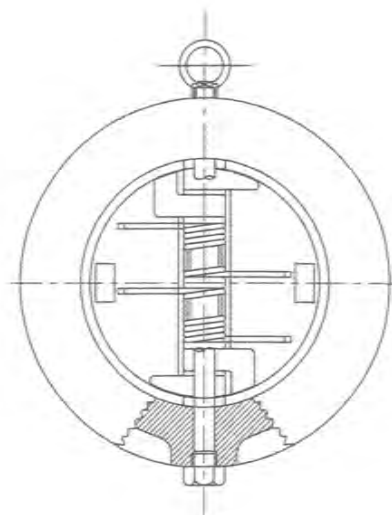
300NB FLANGE
DETAIL

THICKNESS = 24mm
 OD = 445mm
 PCD = 400mm
 12 HOLES Ø25
 USE M22 BOLTING

400NB FLANGE
DETAIL

THICKNESS = 28mm
 OD = 560mm
 PCD = 510mm
 16 HOLES Ø26
 USE M24 BOLTING

P1 - FLEXIBLE CONNECTOR



MATERIALS OF CONSTRUCTION

BODY:	GRAY CAST IRON, ASTM A106
DISC:	CAST AUSTENITIC STEEL, ASTM A351
SEALS:	VITON
HINGE PIN:	STAINLESS STEEL AISI 304
STOP PIN:	STAINLESS STEEL AISI 304
SPRING:	STAINLESS STEEL AISI 304

TECHNICAL DATA

MAX OPERATING PRESSURE: 600 kPa
 HYDRO TEST PRESSURE: 1500 kPa
 MAX OPERATING TEMPERATURE: 200°C
 DESIGN STANDARD: API 594
 FLANGE STANDARD: JIS/KS 10

DIMENSIONS

	L	D	kg
150NB	98	217	26
200NB	127	267	30
250NB	146	330	35
300NB	181	375	51
400NB	191	483	82

V1 - NON RETURN VALVE

AS CONSTRUCTED

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS
 SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE
 RECORD OF THE WORKS.

SIGNED: DATE: 25/5/15

NAME of SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15



NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
 (AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)

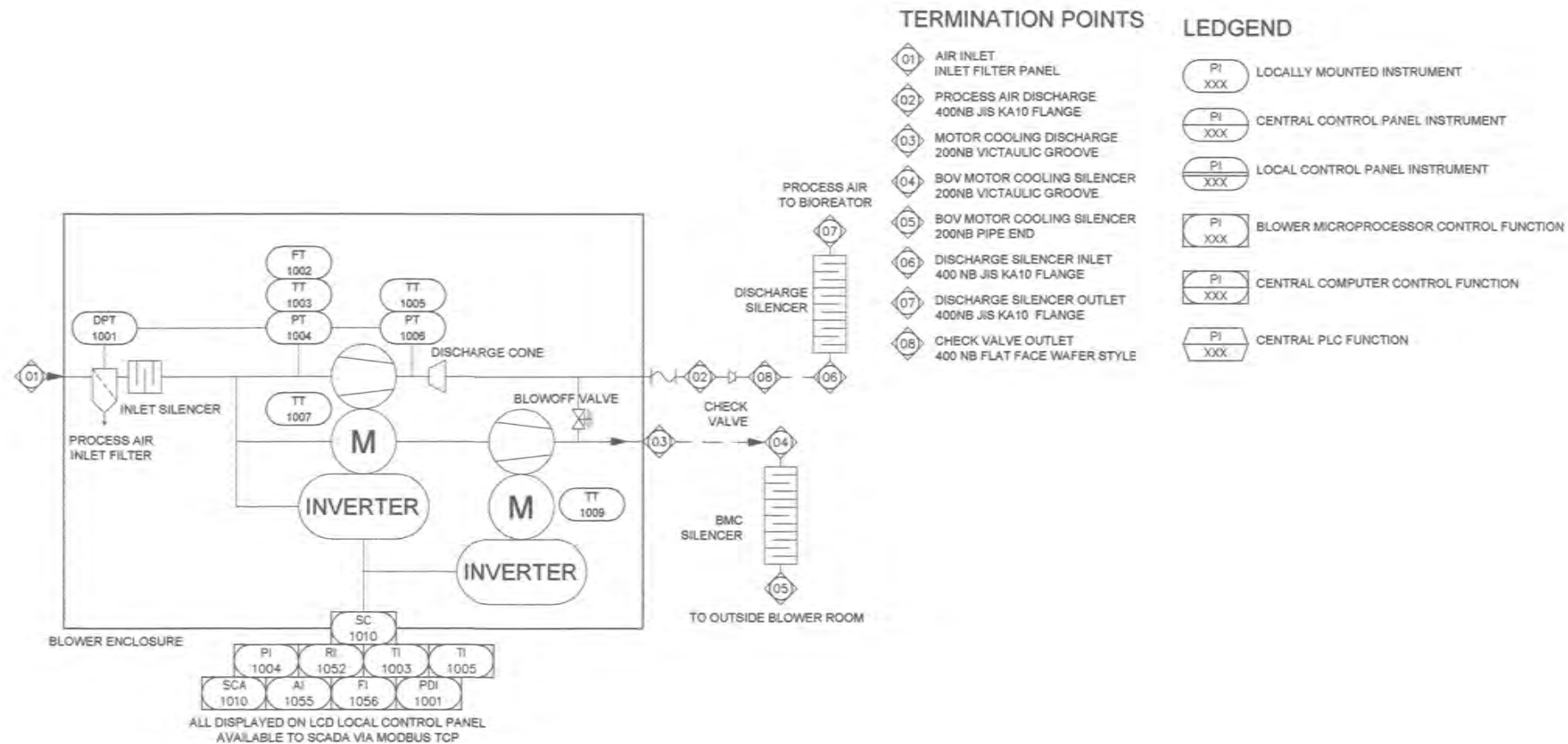


SHEET No. OF

QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.

486/5/5-0205-016 A

						FUNDING		DRAFTED	B. SHUTE	D.DAKIN			20.10.14	ASSET/PROJECT		DRAWING TITLE		SHEET No. OF						
						DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN		R.P.E.Q. No.	APPROVED BY	SIGNATURE	GIBSON ISLAND WWTP BLOWER UPGRADE		ACCESSORY DETAILS NON RETURN VALVE AND FLEXIBLE CONNECTION		QUEENSLAND URBAN UTILITIES DRAWING No. AMEND. 486/5/5-0205-016 A					
A	25.05.15	AS CONSTRUCTED		B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAD FILE	50205016.DWG	A. THIRIS	3325	20.10.14										
No.	DATE	AMENDMENT		DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY B.C.C. (✓) EXTERNAL ()		B.C.C. FILE No.		DESIGN CHECK		R.P.E.Q. No.							DATE	CONSTRUCTION MANAGER		SIGNATURE



**INVERT AERZEN AERATION BLOWER
AT300-0.8T (235kW)**

FIRST CHARACTER

P = PRESSURE
T = TEMPERATURE
F = FLOW
V = VIBRATION
A = CURRENT/POWER
Z = LIMIT
R = SPEED/FREQUENCY
L = LEVEL
S = SYSTEM

SECOND CHARACTER

I = INDICATOR
T = TRANSMITTER
S = SWITCH
C = CONTROL
E = ELEMENT
O = ORIFICE
D = DIFFERENTIAL

SUBSEQUENT CHARACTERS

H = HIGH ALARM
HH = HIGH TRIP
L = LOW ALARM
LL = LOW TRIP
A = ALARM GENERAL
C = CONTROL
I = INDICATOR

AS CONSTRUCTED

						FUNDING		DRAFTED	B. SHUTE	D.DAKIN				20.10.14	ASSET/PROJECT		DRAWING TITLE		SHEET No. OF		
						DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN		R.P.E.Q. No.		APPROVED BY	SIGNATURE	GIBSON ISLAND WWTP BLOWER UPGRADE		MODEL AT300-0.8T 4.5G STANDARD FILTER P&I DIAGRAM		QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
A	25.05.15	AS CONSTRUCTED		B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAD FILE	50205017.DWG	A. THIRIS	3325	20.10.14					486/5/5-0205-017	A	
No.	DATE	AMENDMENT		DRAFTED	DESIGNED	RPEQ NO.	APPROVED	FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER	SIGNATURE	DATE				

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 20/10/15

NAME OF SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

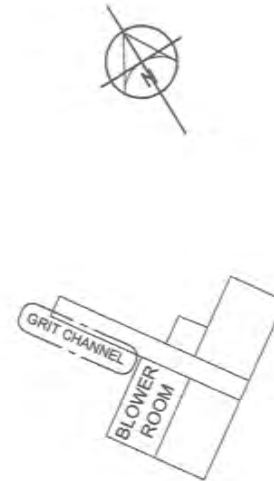
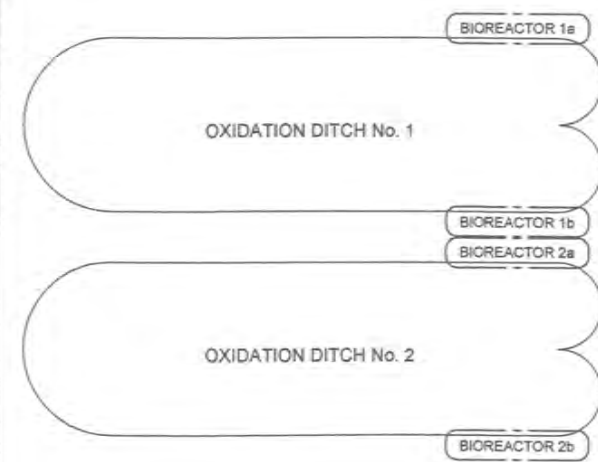
START DATE: 20.10.14 FINISH DATE: 25.05.15



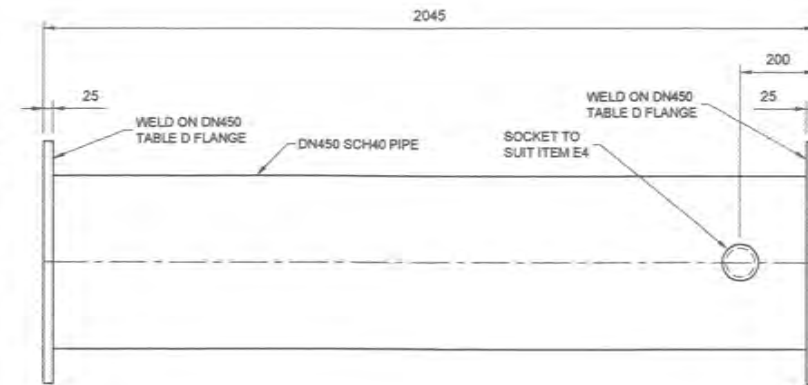
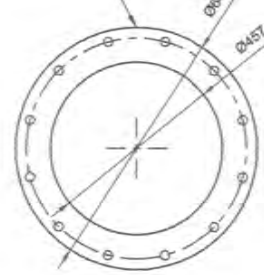
NAME SIGNATURE DATE

QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)





DN450 FLANGE (TABLE D)
12x26mm \varnothing HOLES ON
584mm \varnothing PCD



PIPEWORK SCHEDULE

ITEM	DESCRIPTION	MATL	DN	QTY
P1	FL/FL SPOOL (REFER DETAIL)	H.D.G.S	450	4
P2	UNIFLANGE TABLE 'D'	H.D.G.S	450	4

NOTE: PIPEWORK NOMINAL TO AS 2280

FLANGES TO AS 4087

NON-STANDARD SPECIALS SHALL BE FABRICATED FROM 316 S/S

x DENOTES EQUIPMENT SUPPLIED BY OTHERS

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MAKE	DN	QTY
E1	CAM CENTRIC PLUG VALVE	VALMATIC	450	4
E2	IWMOW52IRS QUARTER TURN GEARBOX	VALMATIC	450	4
E3	IQ3 ACTUATOR WITH TOP HANDWHEEL	VALMATIC	450	4
E4	485 ANUBAR ELEMENT	ROSEMONT	450	4
E5	3051C COPLANAR PRESSURE TRANSMITTER	ROSEMONT	-	4

FASTENER SCHEDULE

ITEM	DESCRIPTION	MATL	QTY
F1	FASTENERS TO SUIT DN450 ASSEMBLY FLANGE TO PLUG VALVE M24x55mm HEX HEAD SET SCREW x 12 M24 FLAT WASHERS x 24	8.8 GALV	8
F2	FASTENERS TO SUIT DN450 ASSEMBLY FLANGE TO FLANGE M24x90mm HEX HEAD BOLT x 12 M24 FLAT WASHERS x 24 M24 NUTS x 12	8.8 GALV	4

NOTE: BOLTS TO AS 1110

WASHERS TO AS 1237

NUTS TO AS 1112

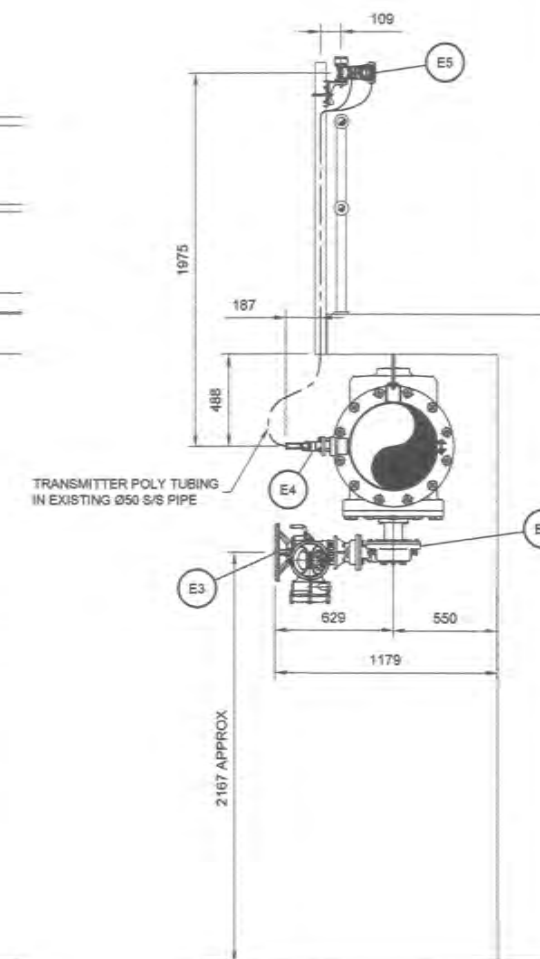
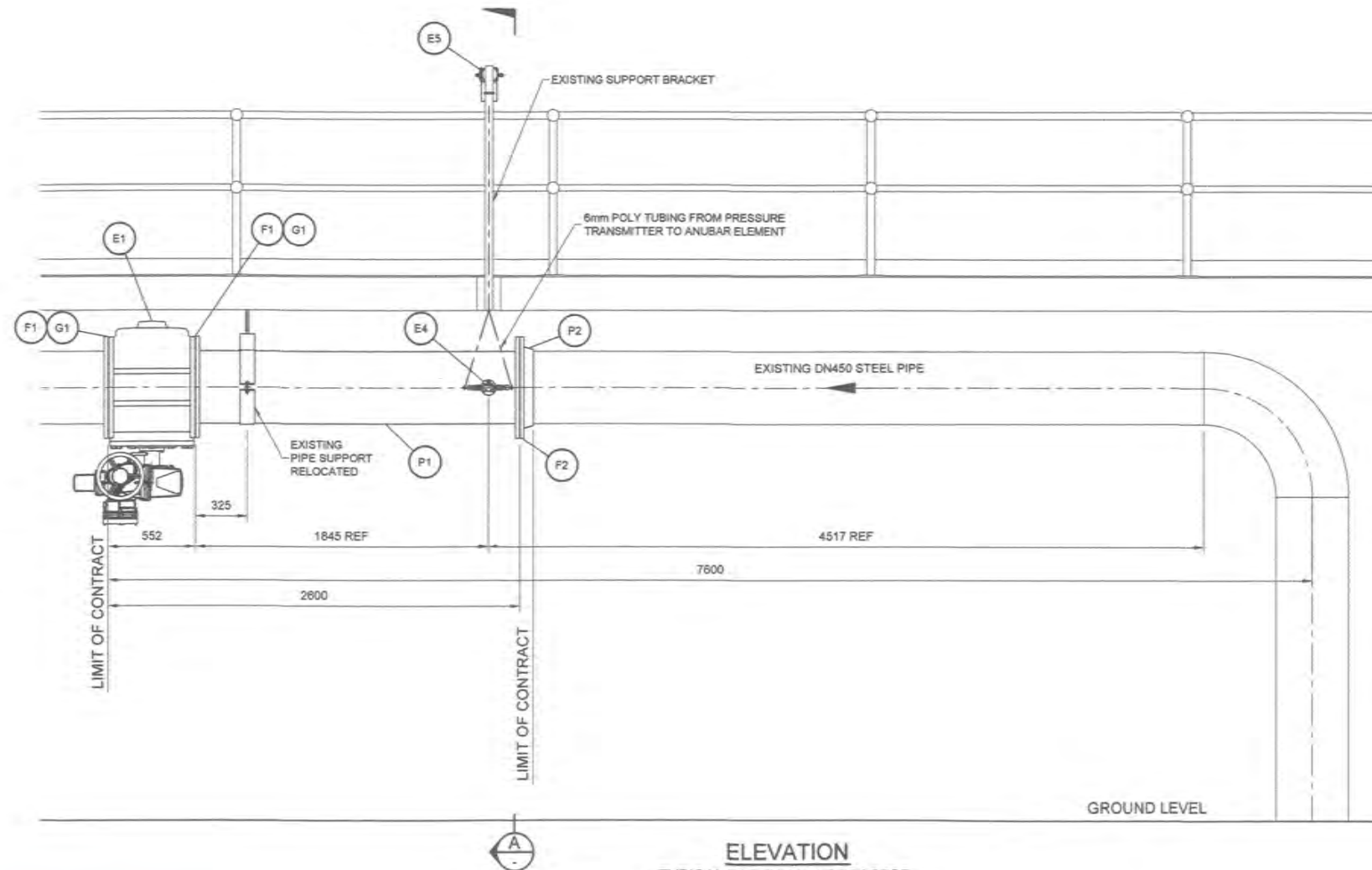
GASKET SCHEDULE

ITEM	DESCRIPTION	MATL	QTY
G1	DN450 GASKET TABLE D(3mm THICK)	EPDM	8

NOTE: GASKETS TO BE 3mm EPDM

TAG SCHEDULE

AREA	METER TAG No.	VALVE TAG No.
BIOREACTOR 1a	FIT40102	FCV40102
BIOREACTOR 1b	FIT40105	FCV40105
BIOREACTOR 2a	FIT40202	FCV40202
BIOREACTOR 2b	FIT40205	FCV40205

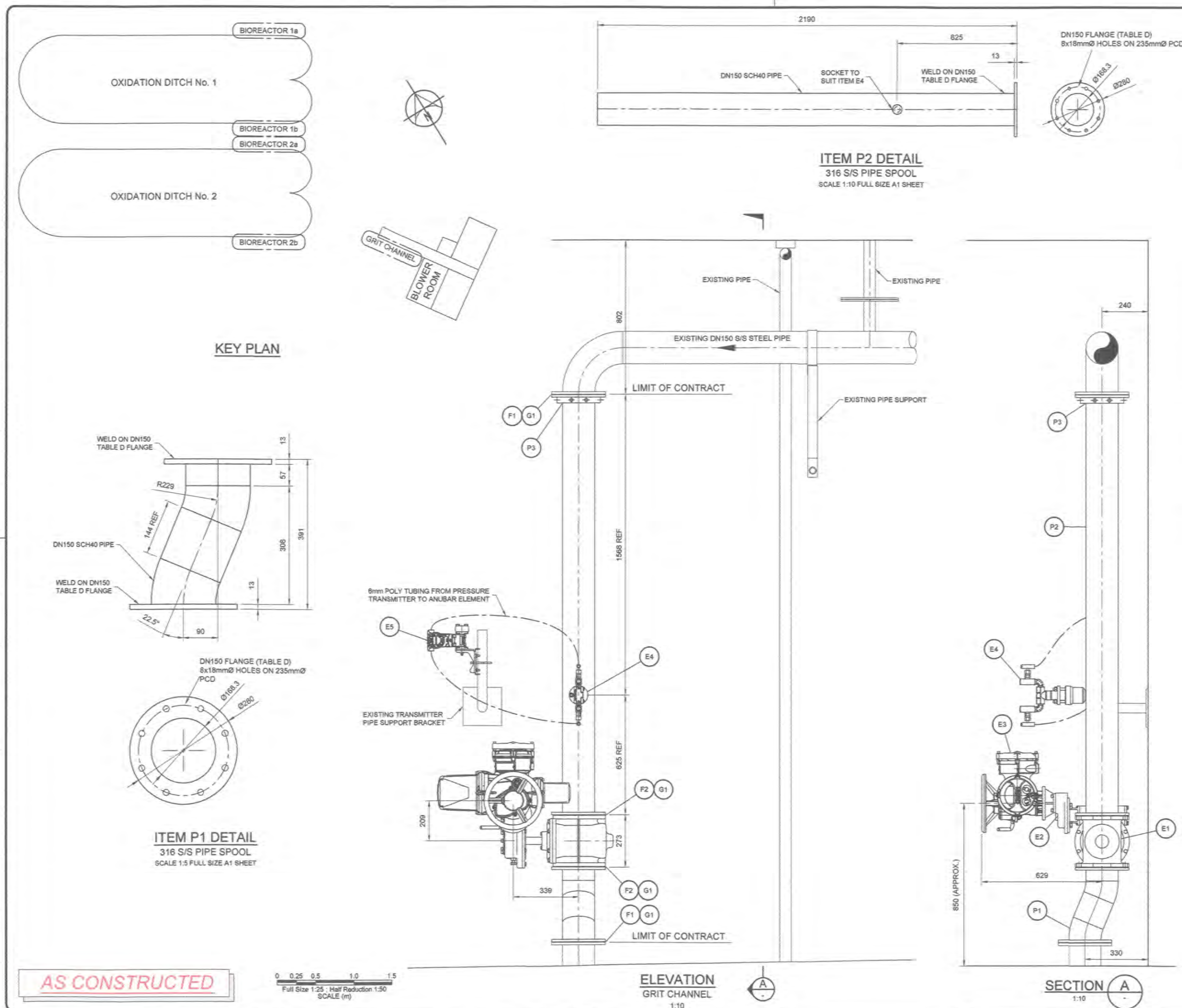


AS CONSTRUCTED

0 0.2 0.4 0.8 1.2
Full Size 1:20; Half Reduction 1:40
SCALE (m)

0 0.1 0.2 0.4 0.8
Full Size 1:10; Half Reduction 1:20
SCALE (m)

FUNDING				DRAFTED		B. SHUTE		D.DAKIN		20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF	
DESIGN W.O. No.				DRAFTING CHECK		D.DAKIN		DESIGN		R.P.E.Q. No.		APPROVED BY		SIGNATURE		QUEENSLAND URBAN UTILITIES DRAWING No.	AMEND.
CONSTRUCTION W.O. No.				CAD FILE		50205018.DWG		A. THIRIS		3325	20.10.14	CONSTRUCTION MANAGER		SIGNATURE		DATE	
FUNDED BY B.C.C. (✓)				B.C.C. FILE No.				DESIGN CHECK		R.P.E.Q. No.						486/5/5-0205-018	A



PIPEWORK SCHEDULE

ITEM	DESCRIPTION	MATL	DN	QTY
P1	FL/FL SPOOL (REFER DETAIL)	316 S/S	150	1
P2	FL/SP SPOOL (REFER DETAIL)	316 S/S	150	1
P3	UNI-FLANGE	-	150	1

NOTE: PIPEWORK NOMINAL TO AS 2280

FLANGES TO AS 4087

NON-STANDARD SPECIALS SHALL BE FABRICATED FROM 316 S/S

* DENOTES EQUIPMENT SUPPLIED BY OTHERS

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MAKE	DN	QTY
E1	CAM CENTRIC PLUG VALVE	VALMATIC	150	1
E2	IWMOW52IRS QUARTER TURN GEARBOX	VALMATIC	150	1
E3	IQ3 ACTUATOR WITH TOP HANDWHEEL	VALMATIC	150	1
E4	485 ANUBAR ELEMENT	ROSEMONT	150	1
E5	3051C COPLANAR PRESSURE TRANSMITTER	ROSEMONT	-	1

FASTENER SCHEDULE

ITEM	DESCRIPTION	MATL	QTY
F1	FASTENERS TO SUIT DN150 ASSEMBLY FLANGE TO FLANGE M16x40mm HEX HEAD BOLT x 8 M16 FLAT WASHERS x 16 M16 NUTS x 8	8.8 GALV	2
F2	FASTENERS TO SUIT DN150 ASSEMBLY FLANGE TO PLUG VALVE M16x30mm HEX HEAD SET SCREW x 8 M16 FLAT WASHERS x 8	8.8 GALV	2

NOTE: BOLTS TO AS 1110

WASHERS TO AS 1237

NUTS TO AS 1112

GASKET SCHEDULE

ITEM	DESCRIPTION	MATL	QTY
G1	DN150 GASKET TABLE D(3mm THICK)	EPDM	4

NOTE: GASKETS TO BE 3mm EPDM

TAG SCHEDULE

AREA	METER TAG No.	VALVE TAG No.
GRIT CHANNEL	PIT30202	FCV30201

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: DATE: 28/5/15

NAME OF SIGNATORY: A. THIRIS

RPEQ No. or LICENCE: 3325

COMPANY NAME: ALTRA 9

START DATE: 20.10.14 FINISH DATE: 25.05.15

NAME SIGNATURE DATE
QUEENSLAND URBAN UTILITIES DELEGATE
(AUTHORISED FOR 12 MONTHS FROM DATE SHOWN)SHEET No. OF
QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.
486/5/5-0205-019 A

AS CONSTRUCTED

0 0.25 0.5 1.0 1.5
Full Size 1:25, Half Reduction 1:50
SCALE (m)

							FUNDING		DRAFTED	B. SHUTE	D.DAKIN	20.10.14		ASSET/PROJECT		DRAWING TITLE		SHEET No. OF		
							DESIGN W.O. No.		DRAFTING CHECK	D.DAKIN	DESIGN	R.P.E.Q. No.	APPROVED BY	SIGNATURE	GIBSON ISLAND WWTP BLOWER UPGRADE	GRIT CHANNEL AERATION INLET PIPEWORK MODIFICATIONS	QUEENSLAND URBAN UTILITIES DRAWING No. AMEND.			
A	25.05.15	AS CONSTRUCTED	B.S.	D.D.	3325	A.T.	CONSTRUCTION W.O. No.		CAO FILE	50205019.DWG	A. THIRIS	3325	20.10.14							
No.	DATE	AMENDMENT	DRAFTED	DESIGNED	RPEQ No.	APPROVED	FUNDED BY B.C.C. (✓)	EXTERNAL ()	B.C.C. FILE No.		DESIGN CHECK	R.P.E.Q. No.	DATE	CONSTRUCTION MANAGER			SIGNATURE	DATE		
																		486/5/5-0205-019	A	

5.7 P&ID Drawing