RECEIVED
12.12.2019
TOOWOOMBA
REGIONAL COUNCIL

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION

DRAWING LIST

DRAWING NUMBER	REV	DESCRIPTION
d2018.12.09.00	P2	TITLE & INDEX SHEET
d2018.12.09.01	P2	SITE LAYOUT
d2018.12.09.01A	P2	SCHEMATIC DIAGRAM
d2018.12.09.02	P2	SPS PLAN
d2018.12.09.03	P2	SECTIONS SHEET 1 OF 2
d2018.12.09.04	P1	SECTIONS SHEET 2 OF 2
d2018.12.09.05	P2	STRUCTURE REINFORCEMENT DETAILS
d2018.12.09.06	P2	BACKFILL DETAILS
d2018.12.09.07	P2	BILLS OF MATERIALS
d2018.12.09.08	P2	FUTURE OVERFLOW HOLDING TANK PLAN
d2018.12.09.09	P2	FUTURE OVERFLOW HOLDING TANK ELEVATION & SECTION

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -

Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
TITLE & INDEX SHEET

R2

Drawing No.	Revision	File Location / Name
D2018.12.09.00	P2	AQT

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Please Note _

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -

Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL

DRAYTON WELLCAMP ROAD

SEWAGE PUMP STATION - Ø3200

SITE LAYOUT

Drawing No.	Revision	File Location / Name
D2018.12.09.01	P2	AQT

R2

Imran Saheer
RPEQ No. 19764
Date: 09/12/19

P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	NOT ISSUED			
REV	AMENDMENT	BY	APP	DATE

Please Note _
Any literary or artistic works contained in this document are copyright Aquatec Environmental Group Pty Ltd ACN 112 325 434 (Aquatec Fluid Systems). Any information in this document, except information also available in publically available sources, is confidential to Aquatec. Reproduction of this document or part of it, or disclosure of the information contained in it, is not permitted without the written consent of Aquatec.

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
SCHEMATIC DIAGRAM

R2

Drawing No.	Revision	File Location / Name
D2018.12.09.01A	P2	AQT

PUMP STATION PLAN
(COVERS & GRILLE REMOVED FOR CLARITY)
1:25 @ A1

NOTE:
1. ALL UNDERGROUND ELECTRICAL CONDUITS TO HAVE 200mm WIDE VINIDEX CABLE PROTECTIVE SHEETING (HARD COVERS) FITTED.
2. CUT-OUTS SHOULD BE PROVIDED IN THE LID GRATING FOR ACCESS TO THE CHAIN HOOKS.

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

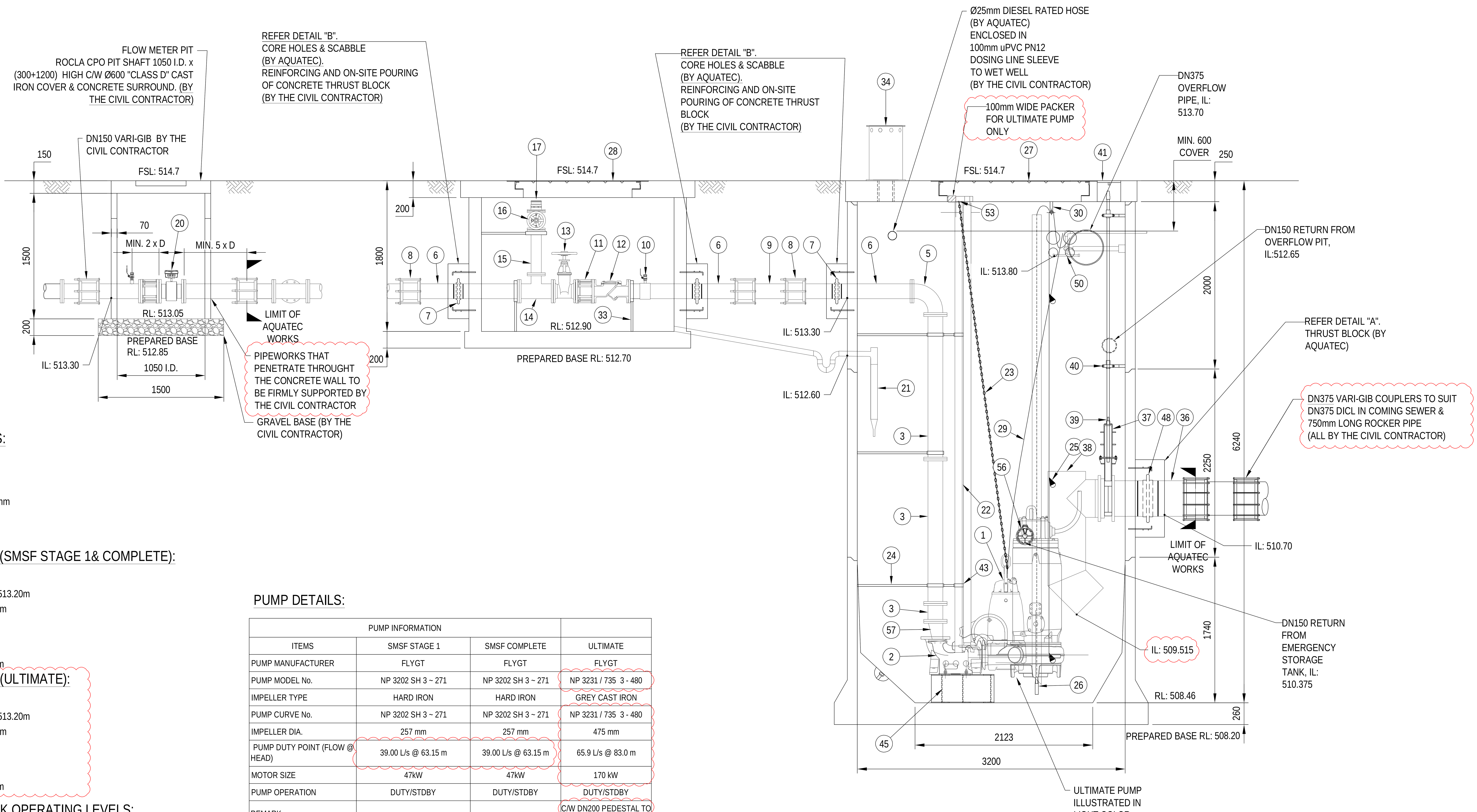
Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
SPS PLAN

Drawing No.	Revision	File Location / Name
D2018.12.09.02	P2	AQT

R2

Imran Saheer
RPEQ No. 19764
Date: 09/12/19



SECTION - A
(REFER PLAN VIEW FOR ORIENTATION)
1:25 @ A1

PUMPING STATION DETAILS:

Q100 FLOOD LEVEL RL: 514.36m
FINISHED SURFACE LEVEL RL: 514.70m
DISCHARGE PIPE IL (AT FMP): 513.30m
SEWER INLET PIPE DIAMETER: DN 375mm
SEWER INLET PIPE IL: 510.70m
WET WELL FLOOR RL: 508.46m

PUMP OPERATING LEVELS (SMSF STAGE 1& COMPLETE):

OVERFLOW LEVEL RL: 513.70m
HIGH HIGH LEVEL ALARM (FLOAT) RL: 513.20m
HIGH LEVEL ALARM (FLOAT) RL: 510.42m
DUTY START (PUMP 1) RL: 509.69m
STANDBY START (PUMP 2) RL: 509.84m
PUMP STOP RL: 509.14m
LOW LEVEL ALARM (FLOAT) RL: 508.99m

PUMP OPERATING LEVELS (ULTIMATE):

OVERFLOW LEVEL RL: 513.70m
HIGH HIGH LEVEL ALARM (FLOAT) RL: 513.20m
HIGH LEVEL ALARM (FLOAT) RL: 510.53m
DUTY START (PUMP 1) RL: 510.08m
STANDBY START (PUMP 2) RL: 510.23m
PUMP STOP RL: 509.16m
LOW LEVEL ALARM (FLOAT) RL: 509.01m

SCREENING CHAMBER TANK OPERATING LEVELS:

SCREENING CHAMBER OVERFLOW ALARM RL: 513.40m (FLOAT)
SCREENING CHAMBER NOT EMPTY ALARM RL: 512.90m (FLOAT)

PUMP DETAILS:

PUMP INFORMATION			
ITEMS	SMSF STAGE 1	SMSF COMPLETE	ULTIMATE
PUMP MANUFACTURER	FLYGT	FLYGT	FLYGT
PUMP MODEL No.	NP 3202 SH 3 ~ 271	NP 3202 SH 3 ~ 271	NP 3231 / 735 3 - 480
IMPELLER TYPE	HARD IRON	HARD IRON	GREY CAST IRON
PUMP CURVE No.	NP 3202 SH 3 ~ 271	NP 3202 SH 3 ~ 271	NP 3231 / 735 3 - 480
IMPELLER DIA.	257 mm	257 mm	475 mm
PUMP DUTY POINT (FLOW @ HEAD)	39.00 L/s @ 63.15 m	39.00 L/s @ 63.15 m	65.9 L/s @ 83.0 m
MOTOR SIZE	47kW	47kW	170 kW
PUMP OPERATION	DUTY/STDBY	DUTY/STDBY	DUTY/STDBY
REMARK			C/W DN200 PEDESTAL TO REPLACE ITEM 2

0 0.25 0.5 1.0 1.5 2.0 2.5
GRAPHIC SCALE 1:25MTS

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

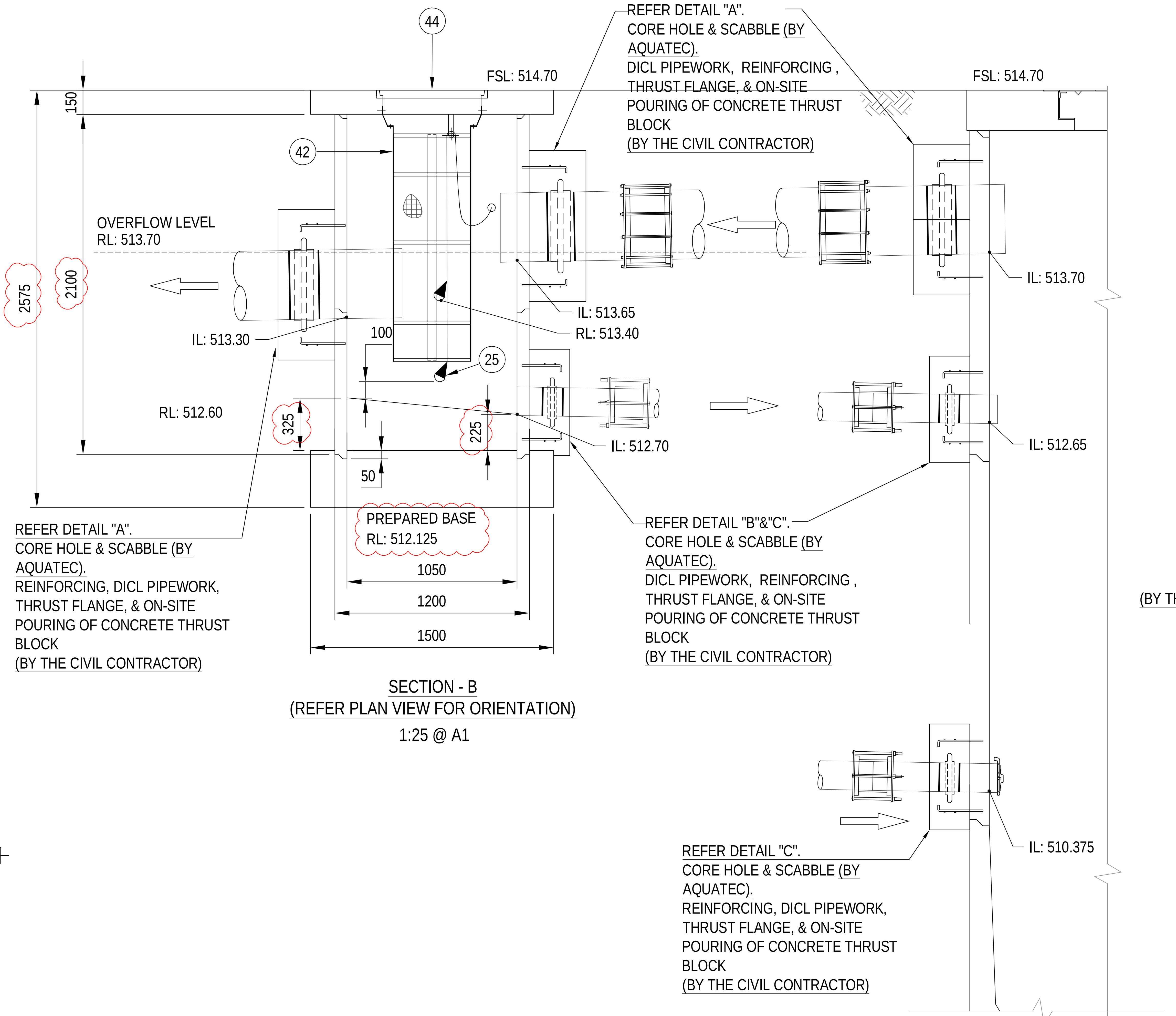
aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

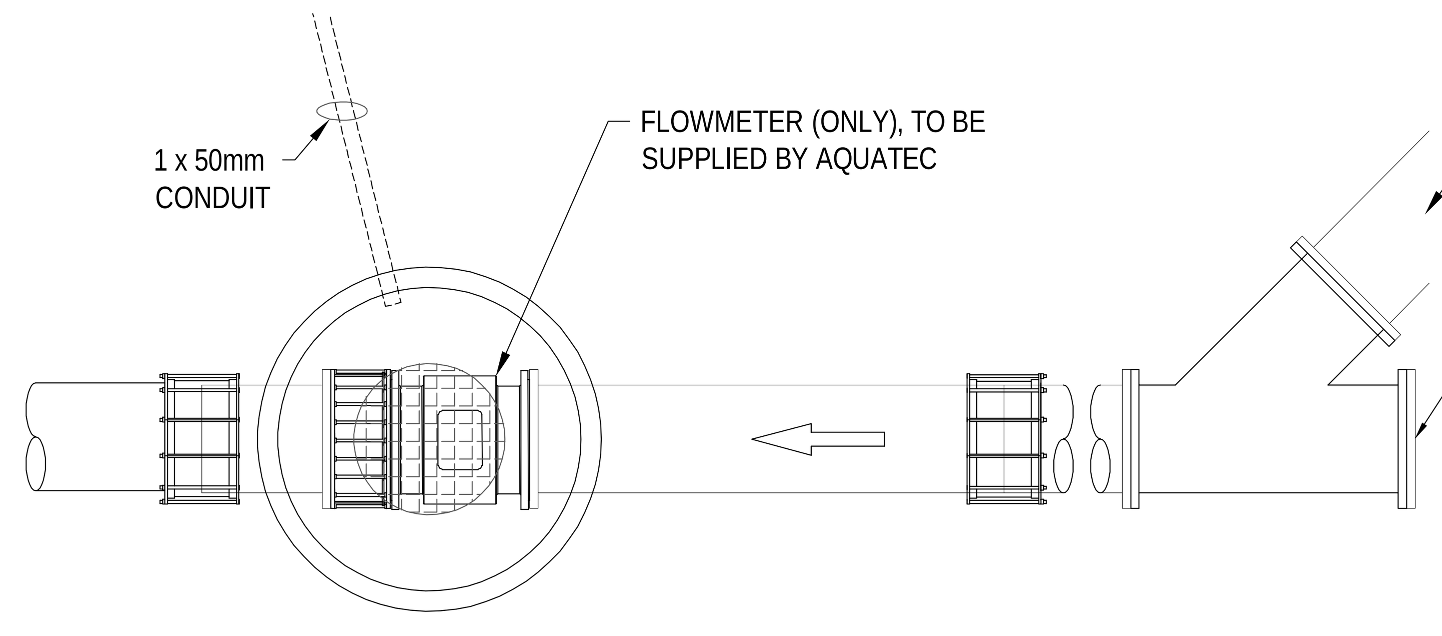
TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
SECTIONS SHEET 1 OF 2

Drawing No. D2018.12.09.03
Revision P2
File Location / Name AQT
R2

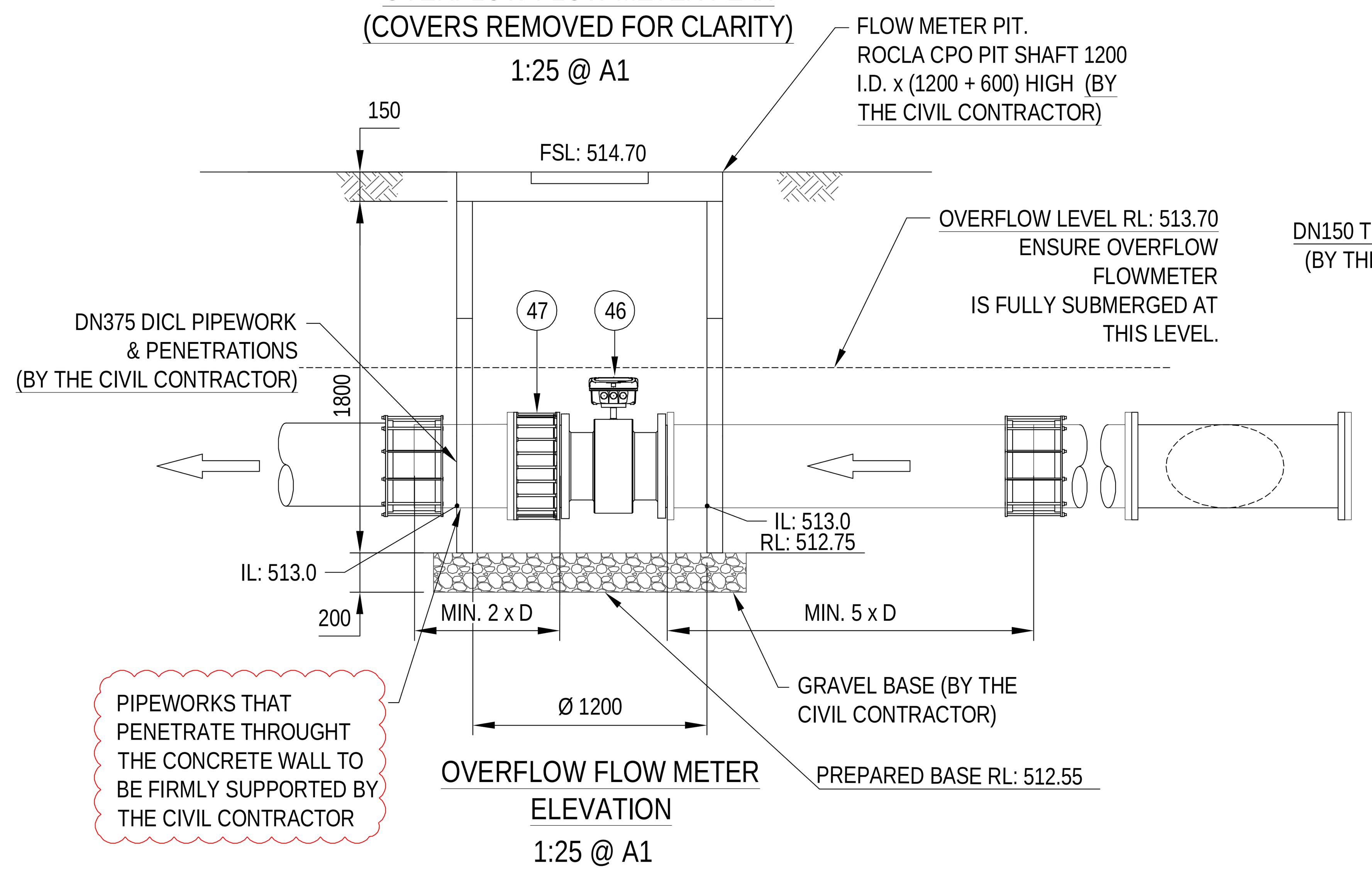
Imran Saheer
RPEQ No. 19764
Date: 09/12/19



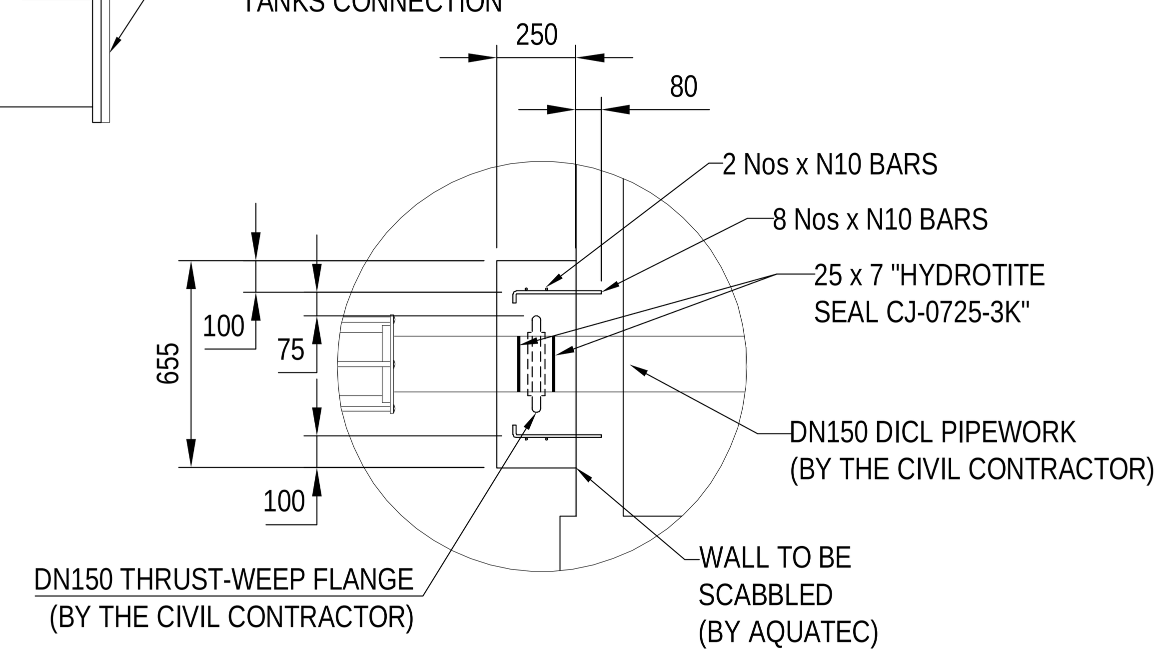
SECTION - B
(REFER PLAN VIEW FOR ORIENTATION)
1:25 @ A1



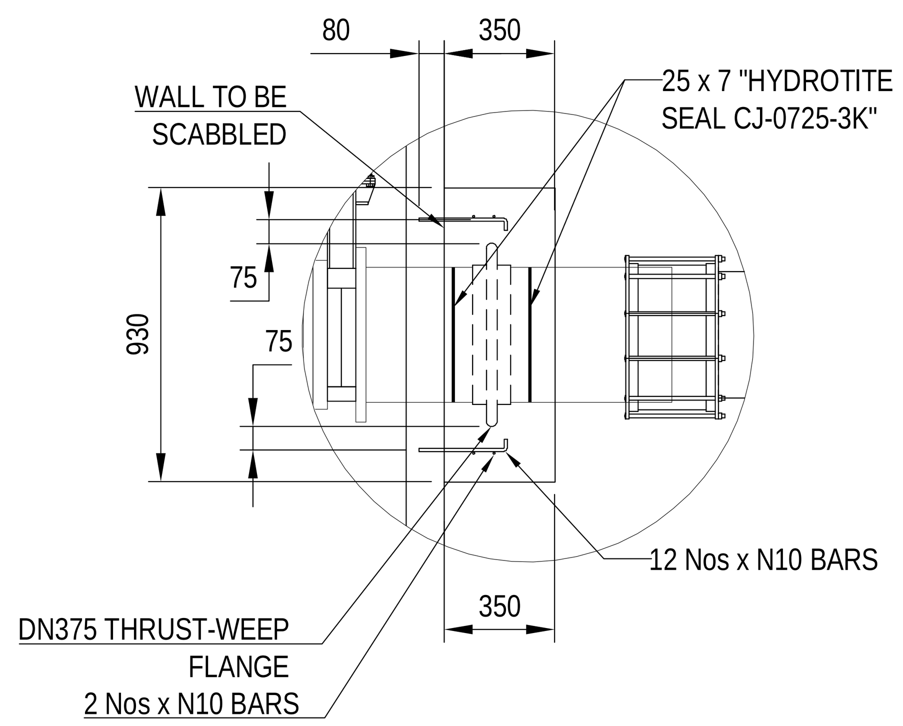
OVERFLOW FLOW METER PLAN
(COVERS REMOVED FOR CLARITY)
1:25 @ A1



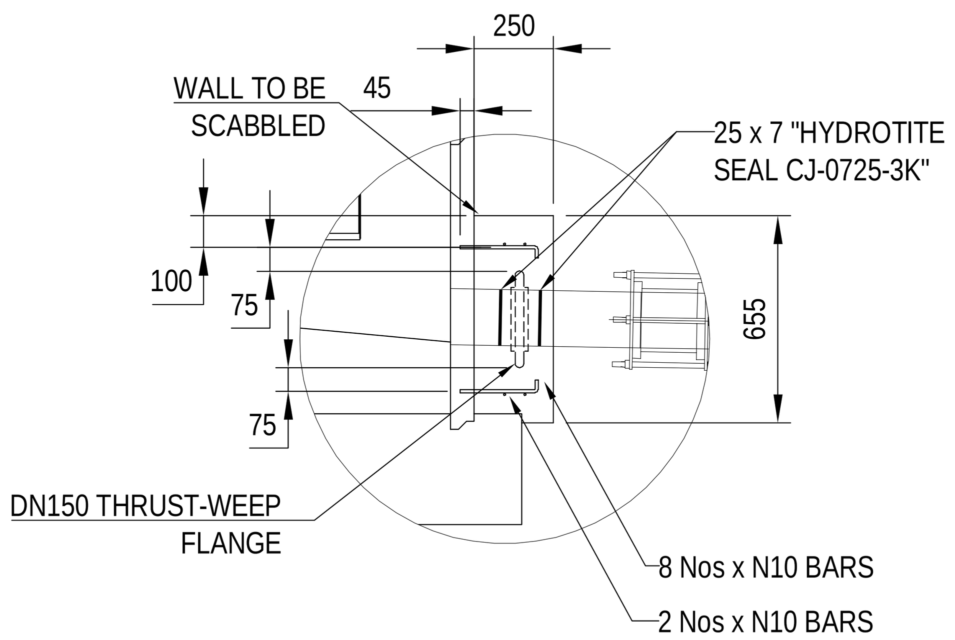
OVERFLOW FLOW METER
ELEVATION
1:25 @ A1



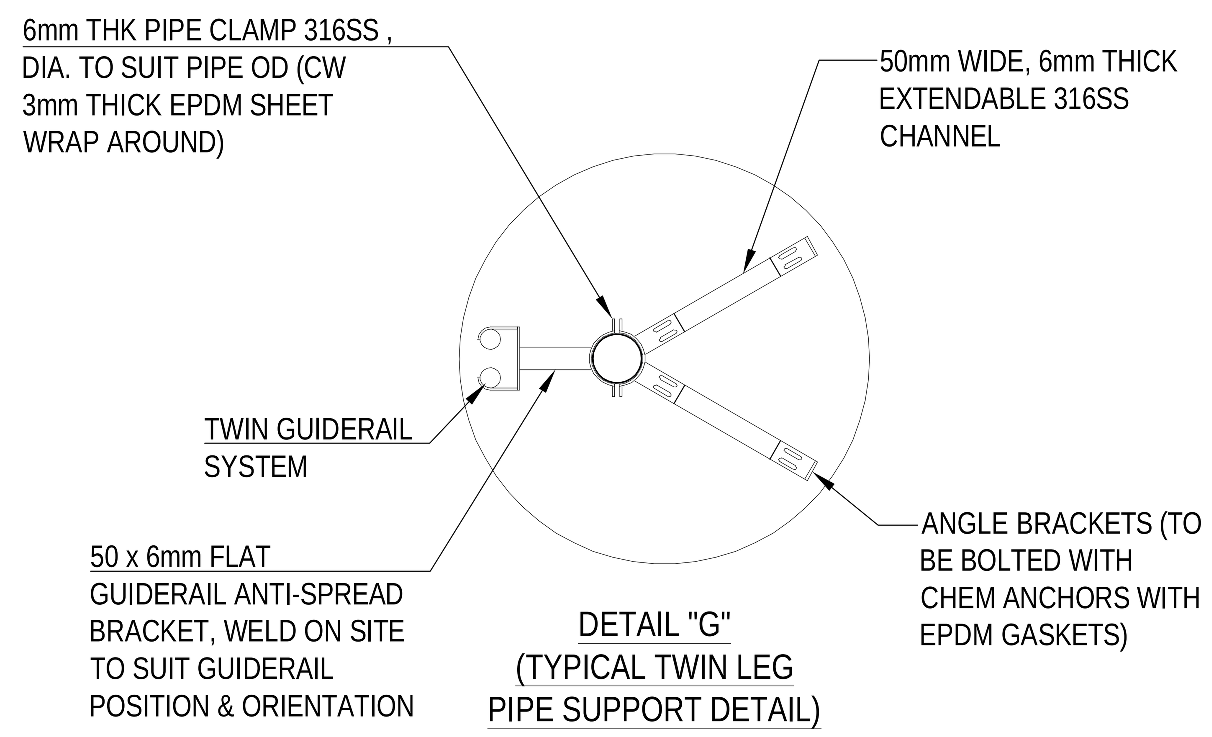
DETAIL "B"
TYPICAL DN150 DICL PENETRATION
1:20 @ A1



DETAIL "A"
(TYPICAL DN375 DICL PENETRATION)
1:20 @ A1



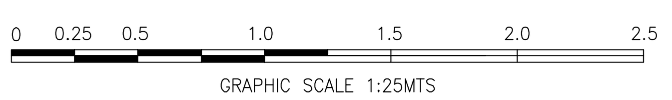
DETAIL "C"
(DN150 DICL SCREENING PIT DRAIN PENETRATION)
1:20 @ A1



DETAIL "G"
(TYPICAL TWIN LEG PIPE SUPPORT DETAIL)
1:15 @ A1

GENERAL NOTES:

1. PUMP STATION TO BE AQUATEC MODEL: PPM3/6240
2. CONCRETE TYPE - SULPHATE RESISTANT (USE CALCAROUS AGGREGATE FOR SEWAGE OR EFFLUENT
3. CONCRETE STRENGTH - S50 MPa
4. INTERNAL FINISH SMOOTH TO MEET AS1510 CLASS 2
5. WALL THICKNESS - 120mm WITH MIN.60mm INTERNAL COVER TO REINFORCEMENT
6. REINFORCEMENT TO COMPLY WITH AS 1302 & AS 1304
7. INTERNAL ROOF & WALLS OF WET WELL & WALLS OF VC, FMP AND SCREENING PIT TO BE COATED WITH MC EPOXY (3 COATS).
8. ALL HOLES TO BE PRE-CORED
9. ALL FLANGES TO BE DRILLED TO PN16 AS4087 UNO
10. RADIO AND ANTENNA TO BE SUPPLIED (FREE ISSUED) BY TOOWOOMBA REGIONAL COUNCIL WHEN LIGHT/ANTENNA MAST IS BEING INSTALLED
11. ELECTRICAL SWITCHBOARD DOORS TO HAVE MIN. 600mm CLEARANCE TO ANY SURROUNDING ABOVE GROUND STRUCTURE AS PER AS3000. .



REV	AMENDMENT	BY	APP	DATE
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

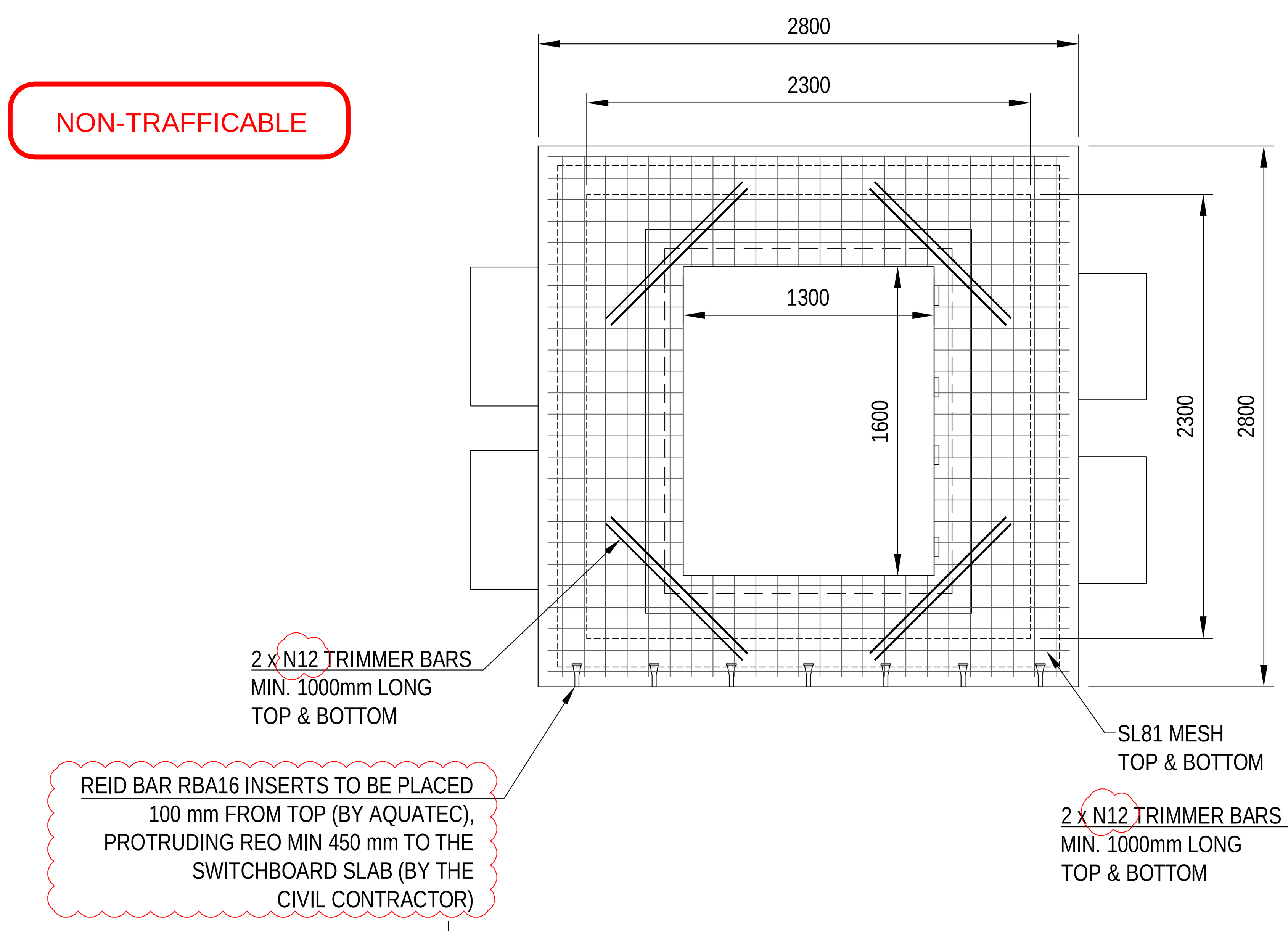
Designed - IMS
Drawn - SL
Checked - IMS
Approved -

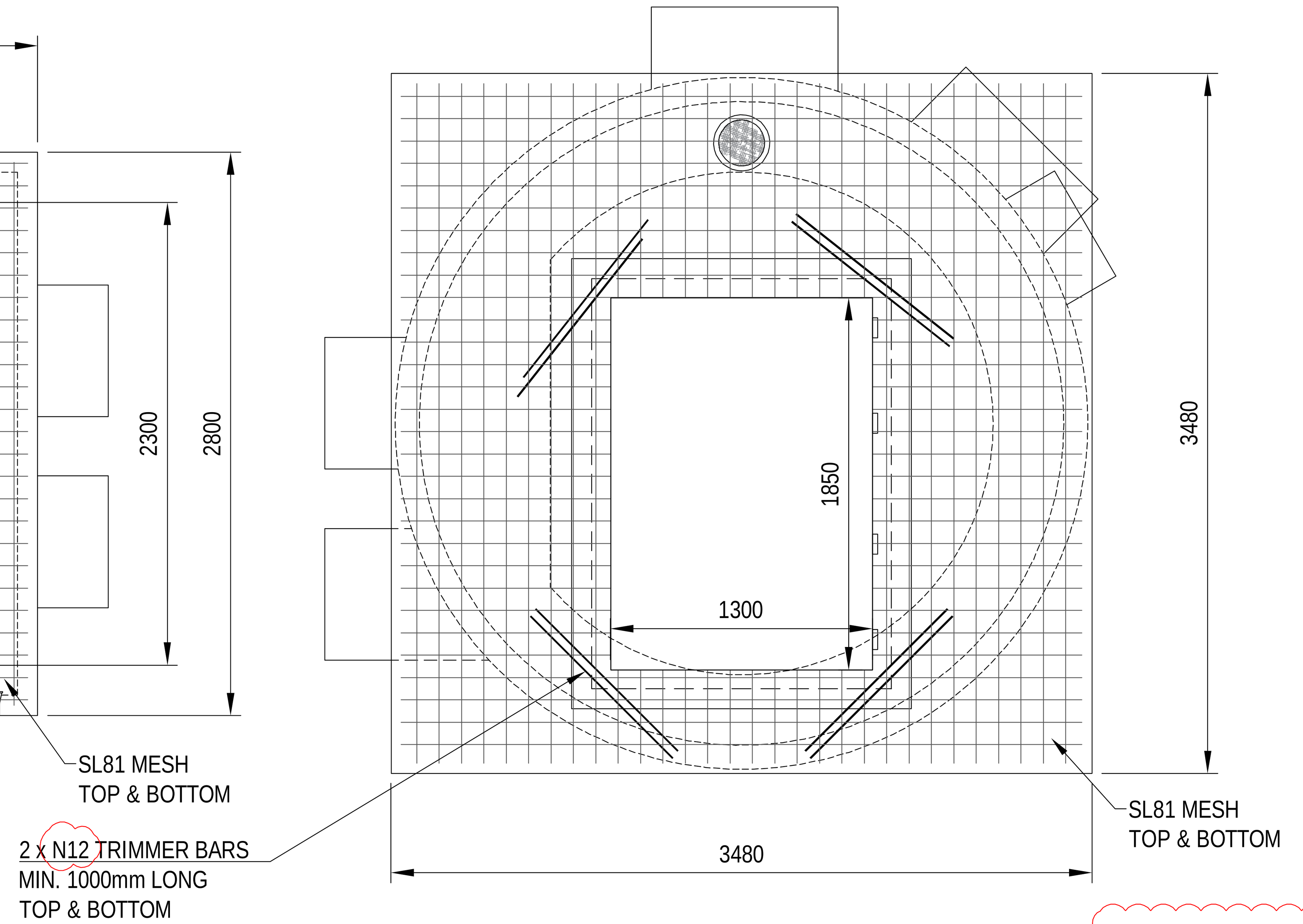
TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
SECTIONS SHEET 2 OF 2

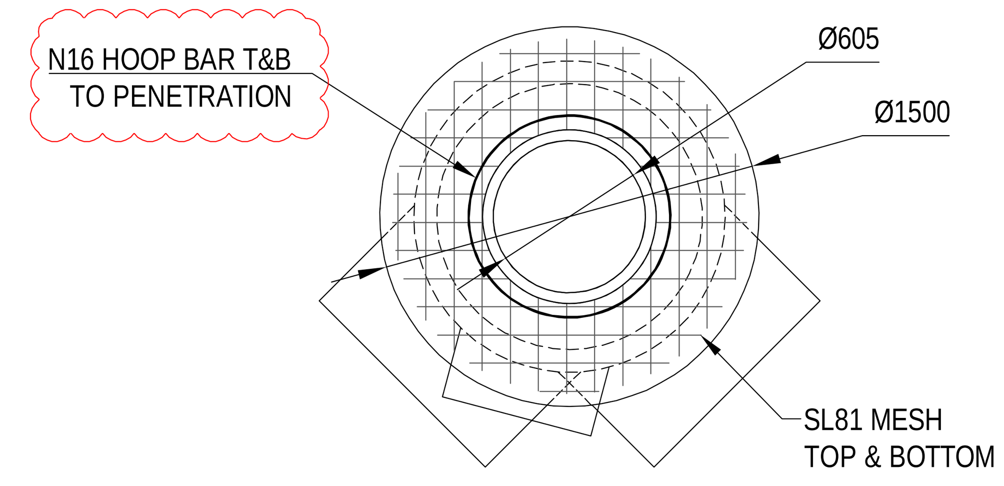
R2

Scale	Drawing No.	Revision	File Location / Name
AS SHOWN @ A1	D2018.12.09.04	P1	AQT

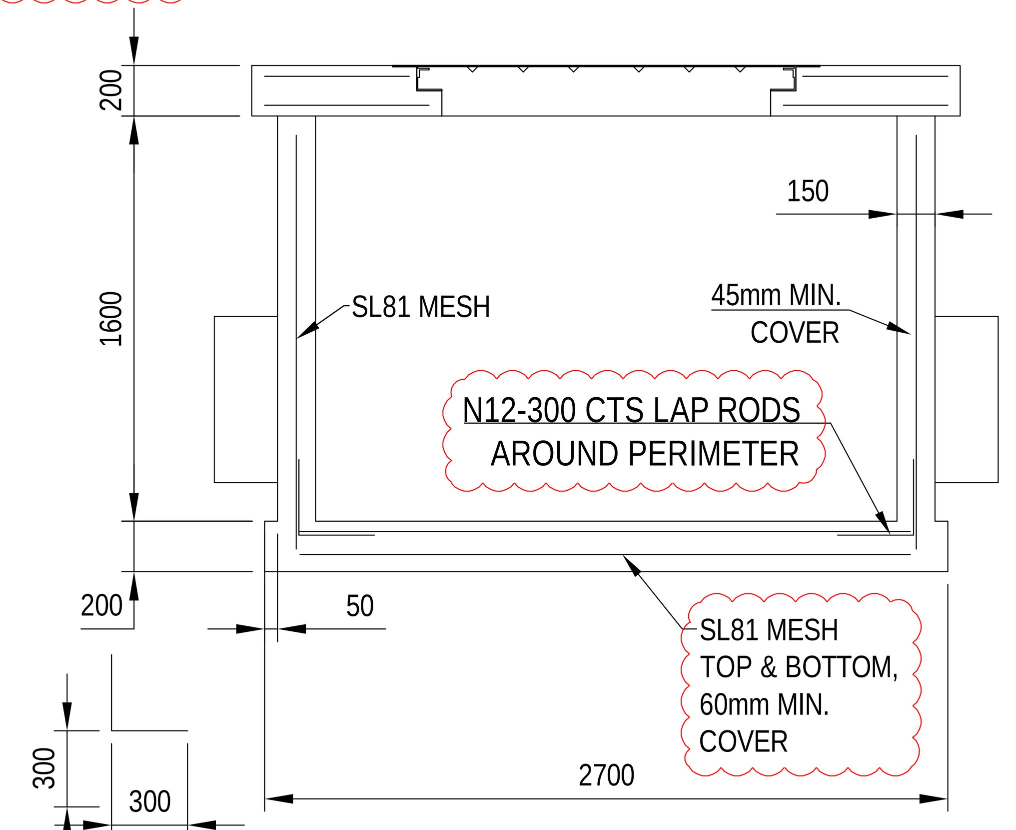
NON-TRAFFICABLE



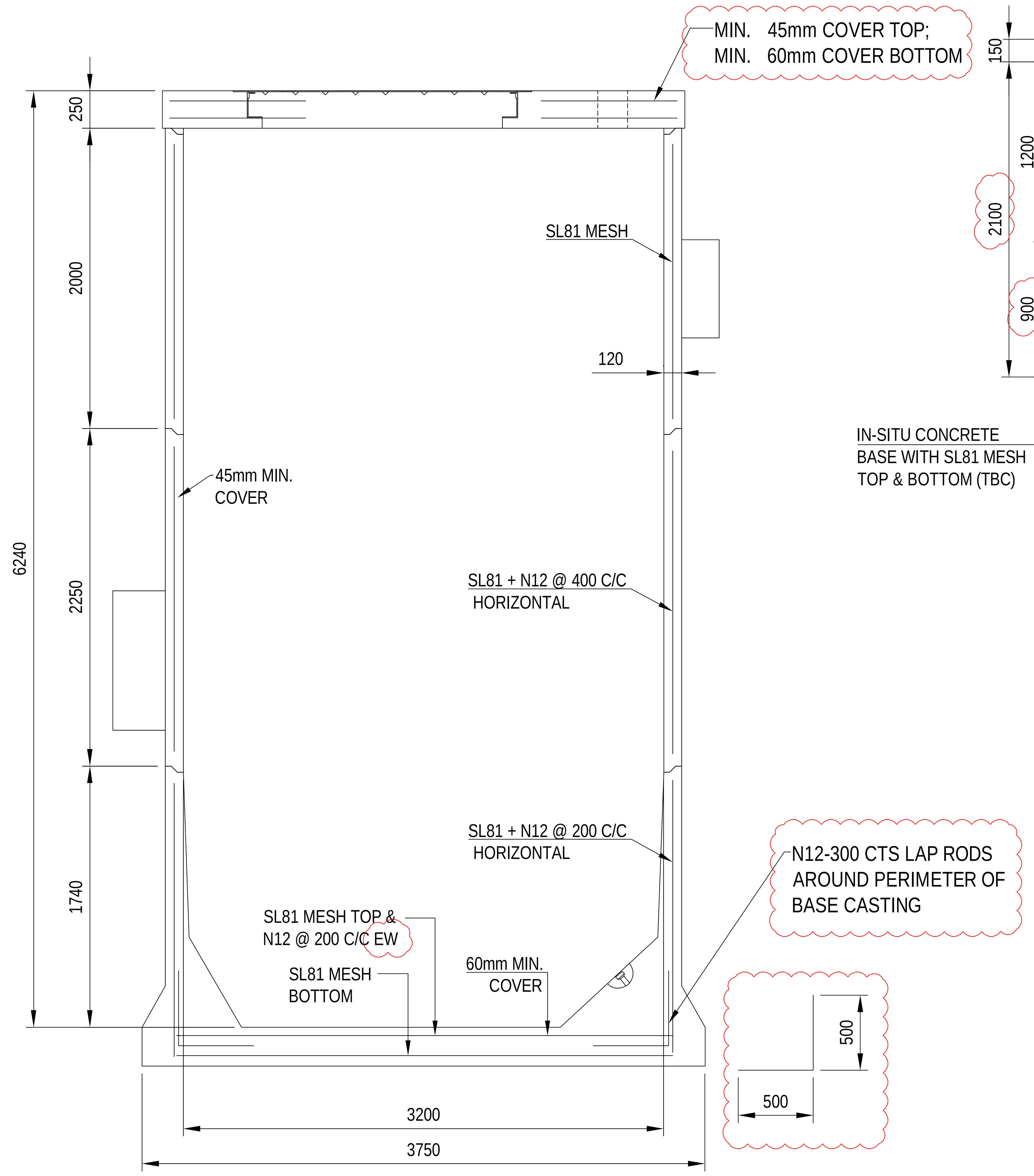




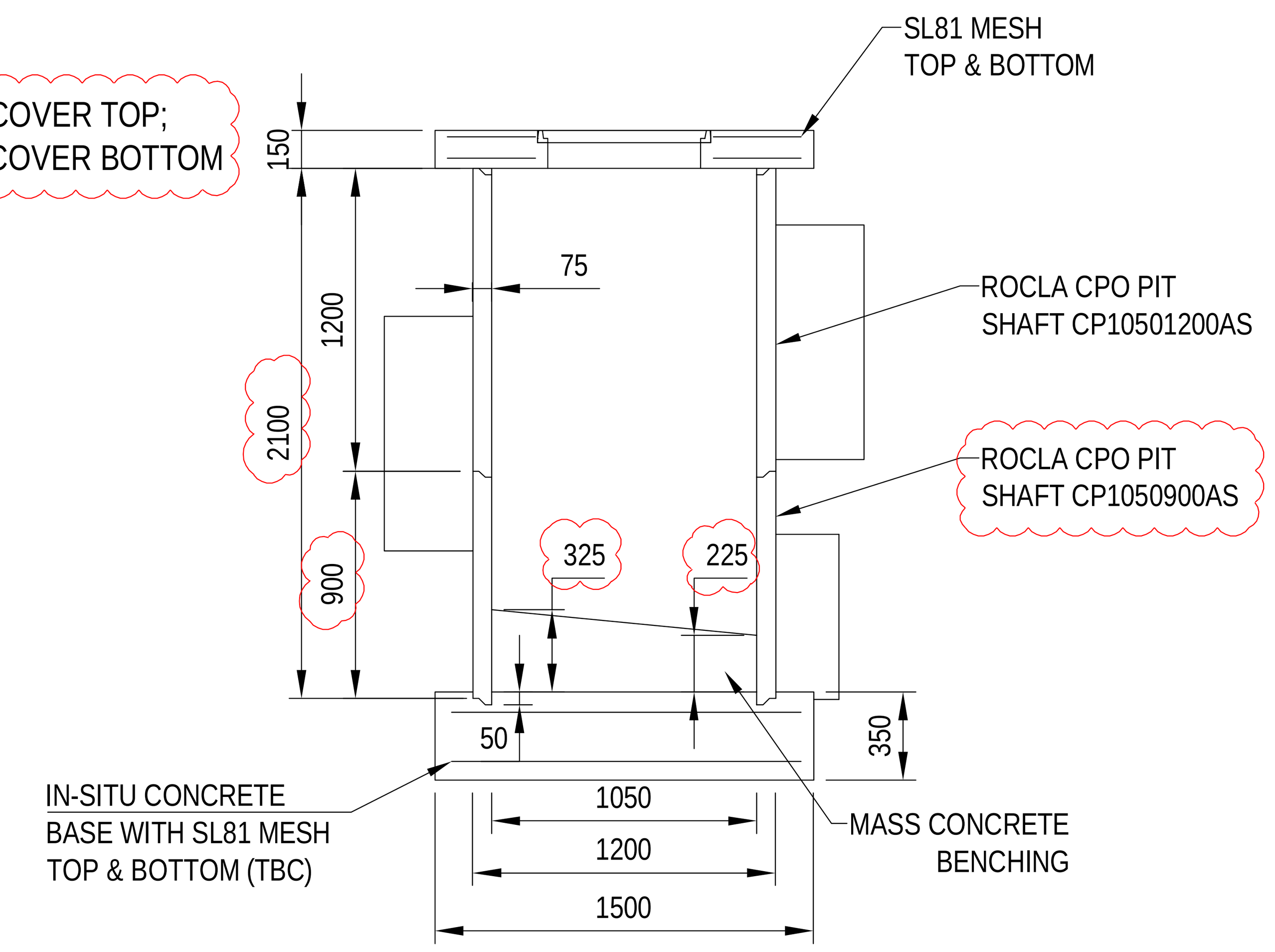
OVERFLOW SCREENING PIT
PLAN
1:25 @ A1



VALVE PIT SECTION
1:25 @ A1



WET WELL SECTION
1:25 @ A1



OVERFLOW SCREENING PIT
SECTION
1:25 @ A1

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Please Note _
Any literary or artistic works contained in this document are copyright Aquatec Environmental Group Pty Ltd ACN 112 325 434 (Aquatec Fluid Systems). Any information in this document, except information also available in publically available sources, is confidential to Aquatec. Reproduction of this document or part of it, or disclosure of the information contained in it, is not permitted without the written consent of Aquatec.

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

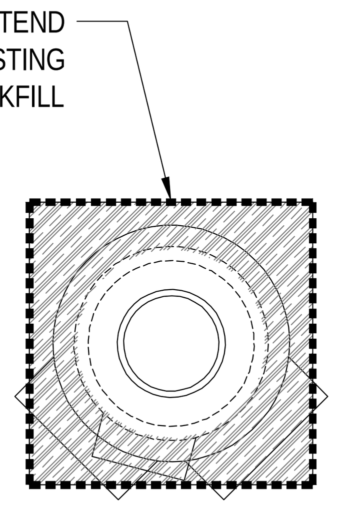
Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
STRUCTURE REINFORCEMENT DETAILS

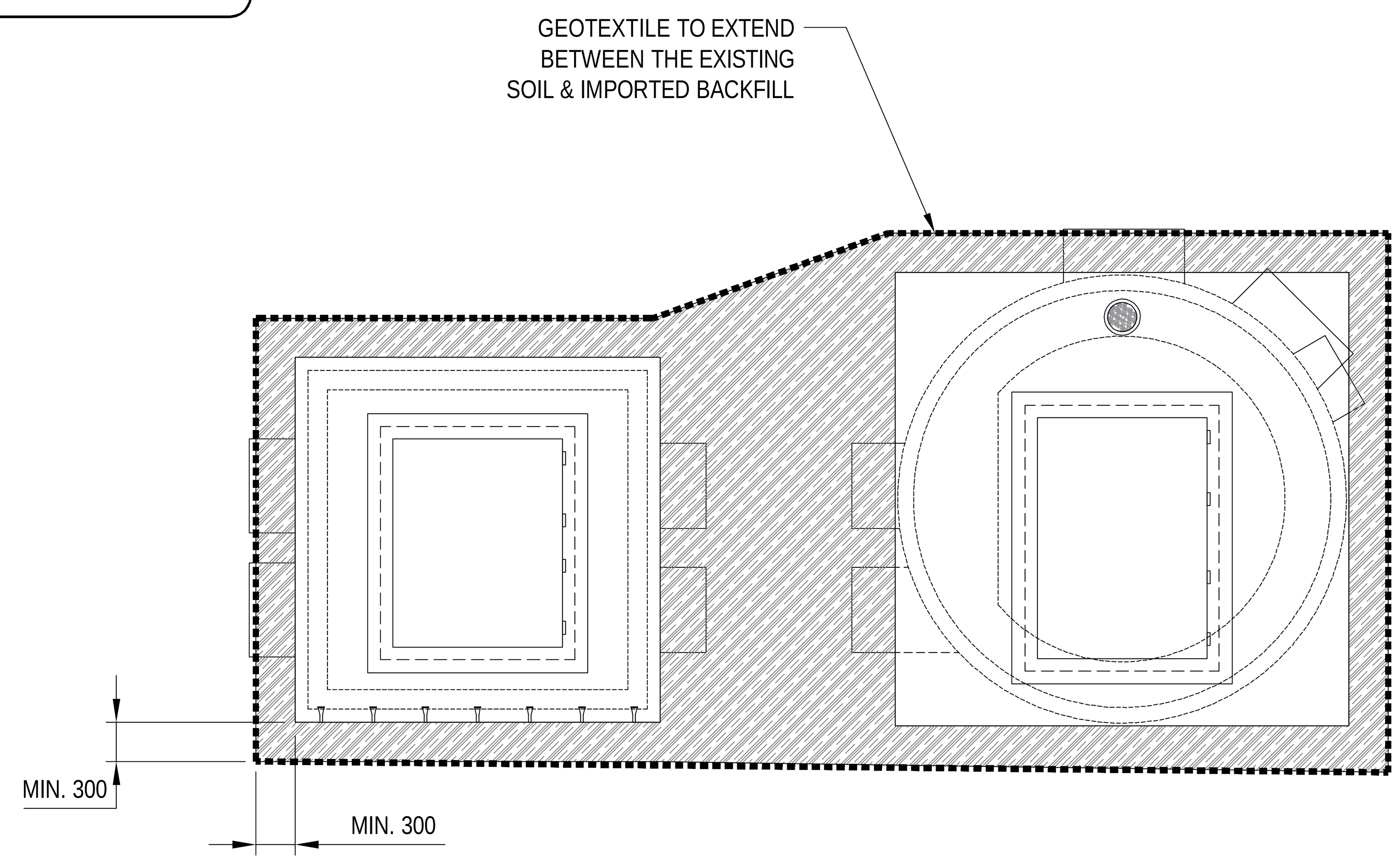
R2

Drawing No. D2018.12.09.05
Revision P2
File Location / Name AQT

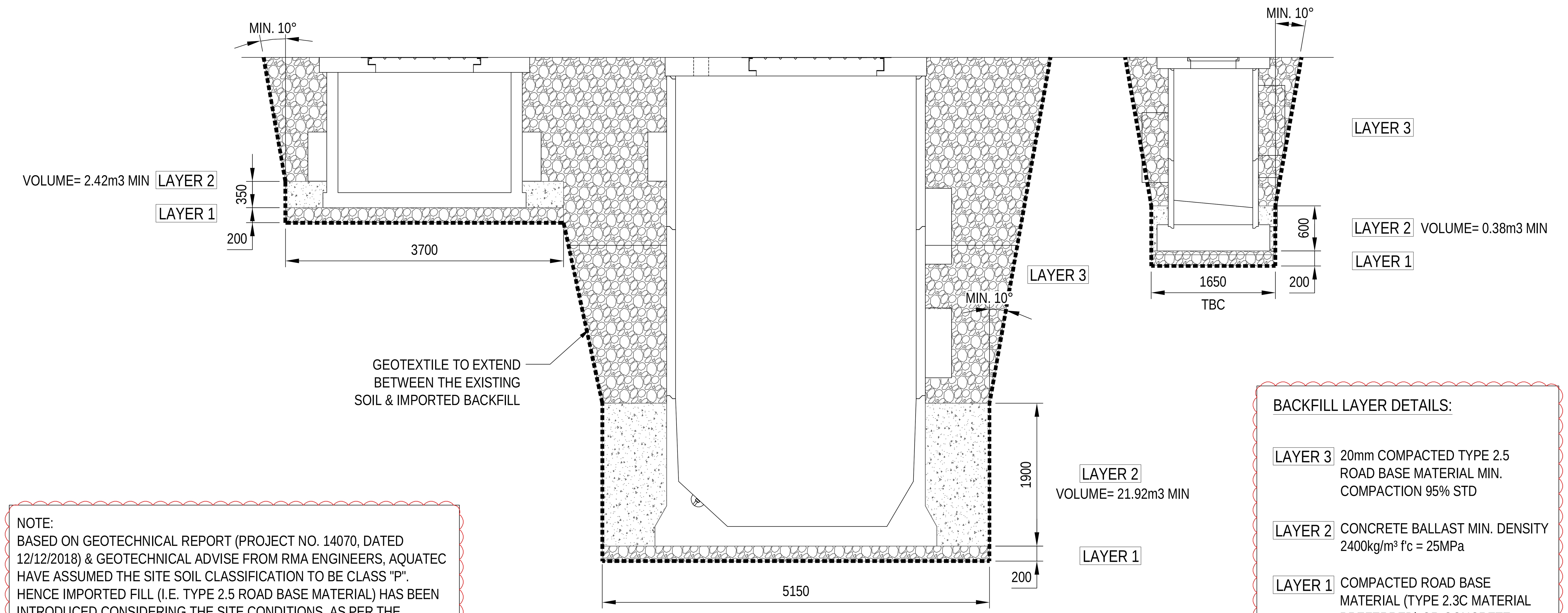
CAUTION:
HAND COMPACTION ONLY TO ALL IMPORTED BACKFILL WITHIN 1m RADIUS OF CONCRETE PRECAST UNITS.



OVERFLOW SCREENING PIT PLAN
1:40 @ A1



SPS & VALVE CHAMBER PLAN
1:40 @ A1



BACKFILL ELEVATION
1:40 @ A1

NOTE:
BASED ON GEOTECHNICAL REPORT (PROJECT NO. 14070, DATED 12/12/2018) & GEOTECHNICAL ADVISE FROM RMA ENGINEERS, AQUATEC HAVE ASSUMED THE SITE SOIL CLASSIFICATION TO BE CLASS "P". HENCE IMPORTED FILL (I.E. TYPE 2.5 ROAD BASE MATERIAL) HAS BEEN INTRODUCED CONSIDERING THE SITE CONDITIONS, AS PER THE GEOTEHCHNICAL ADVISE RECEIVED FROM RMA ENGINEERS.
RMA ENGINEERS FURTHER ADVISED, CARRYING OUT A FULL "REMOVE AND REPLACE" EARTHWORKS EXERCISE ON THE SITE WOULD MINIMIZE THE GROUND MOVEMENT.

BACKFILL LAYER DETAILS:

LAYER 3	20mm COMPACTED TYPE 2.5 ROAD BASE MATERIAL MIN. COMPACTION 95% STD
LAYER 2	CONCRETE BALLAST MIN. DENSITY 2400kg/m³ f'c = 25MPa
LAYER 1	COMPACTED ROAD BASE MATERIAL (TYPE 2.3C MATERIAL PREFERRED) OR CONCRETE SUB-BASE MIN ALLOWABLE SOIL BEARING CAPACITY TO BE 100kPa

CONSTRUCTION NOTES AND BACKFILLING REQUIREMENTS

Occupational Health and Safety: The contractor is responsible to be knowledgeable of and is bound by the OH&S Statutory requirements pertaining to work in deep trenches and shafts.

The Water Authority: The specifications of the Relevant Principle Water authority for the installation of pre-cast units and well construction are to be adhered to in addition to these construction recommendations.

Site Investigation: The following construction notes are based on normal site conditions and an assumption that the groundwater level is at finished surface level for worst case for the pump station buoyancy calculation.

* Refer RMA Engineer's Geotechnical Report (Project No: 14070, Dated: 12/12/2018)

LAYER 1
Foundation: Excavation depth is to be a minimum of 200mm below base of casting and may be deeper as required (or pouring additional blinding) to achieve a minimum foundation bearing capacity of 100kPa (Hold Point). Remove or stockpile spoil as required. Prepare a 200mm sub-base of approved size quarry product road base material not larger than 20mm (Type 2.3C material preferred), compacted to 98% standard compaction in accordance with AS1289. Use a vibrating flat plate or smooth drum roller to capacity in maximum lifts of 200mm. Alternatively, Grade N20 Mass Concrete may be cast as a sub base and compact a 50mm layer of sand bedding to achieve the finished prepared base level.

MATERIAL SPECIFICATION:
Quarry Product Specification: Sub-base material shall be approved compacted road base material not larger than 20mm (Type 2.3C material preferred) and backfill material shall be 20mm compacted Type 2.5C road base material in accordance with the following:

· Consulting Engineers Site Investigation
· WSAA Product Specification & AS/NZS 2566.2

Backfilling of Wetwell Segments:

* LAYER 2: Use Concrete Ballast (to resist buoyancy) as backfill for the initial 1.9m around the base segment.
* LAYER 3: Above LAYER 2, Use TYPE 2.5C ROAD BASE MATERIAL - tamped into place in 200mm lifts and compacted in the moisture range optimum ±2% to 95% standard compaction. Do not Sluice or flood the backfill into place.

Backfilling of Valve Chamber:
* LAYER 2: Use Concrete Ballast (to resist buoyancy) as backfill for the initial 0.35m around the base segment.
* LAYER 3: Above LAYER 2, Use TYPE 2.5C ROAD BASE MATERIAL - tamped into place in 200mm lifts and compacted in the moisture range optimum ±2% to 95% standard compaction. Do not Sluice or flood the backfill into place.

Backfilling of Overflow Screening Pit:
* LAYER 2: Use Concrete Ballast (to resist buoyancy) as backfill for the initial 0.6m around the base segment.
* LAYER 3: Above LAYER 2, Use TYPE 2.5C ROAD BASE MATERIAL - tamped into place in 200mm lifts and compacted in the moisture range optimum ±2% to 95% standard compaction. Do not Sluice or flood the backfill into place.

Cover Slab Installation:
* Prepare the Compacted Ground to the top of the uppermost well increment.
* Aquatec site representative along with Installation Contractor to check and Confirm this prior to lowering the Cover Slab into position.
* Overhang load must bear on backfilled ground when installing onto final ring segment.

Perimeter:
After Placing the cover slab, place compacted Backfill up to finished natural surface level around its perimeter.
Maintain good transition between original surfaces and the new.

Compaction: Compaction around pump station site is to be Hold Point. The Consultant shall be on site during compaction.

Site specific recommendations:
1. Contractors to ensure all imported fill should be a good quality, non-reactive / low plasticity (Liquid Limit of less than 45%, Plasticity Index of less than 15%) select fill material with a Soaked CBR>15%, not larger than 20mm. Quality testing to confirm imported fill quality should be carried out prior to delivery to site.
2. Contractors to liaise with RMA Engineers for testing requirements (i.e field Density testing frequency/extent) & inspection requirements (i.e. level of supervision)
3. Contractors to adhere to any earthwork, excavation, backfill, construction, site specific treatment requirements/recommendations stated in RMA Engineer's Geotechnical Report (i.e. drainage measures, de-watering measures, excavation support requirements, moisture control measures, tree re oval/plantation measures, root treatments, ASS management measures, erosion & sediment control measures).
4. Contractors to ensure bearing capacity > 100 kPa is available at foundations.
5. Contractors to remove any existing soil (i.e fill, topsoil, disturbed/weakened soils, organic/deleterious/perishable matter) from the pump station site, denoted in the RMA Engineer's Geotechnical Report as not recommended/suitable for structural fill.
6. Contractors to take necessary precautions/ treatments to prevent any structural damages to the pump station structures & pipework due to any adverse site soil conditions (i.e. fill, reactive/ soft/ collapsing/ dispersive/fissured soils, settlements, abnormal moisture conditions, trees/roots, ASS)

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
BACKFILL DETAILS

Drawing No.	Revision	File Location / Name
D2018.12.09.06	P2	AQT

R2

Imran Saheer
RPEQ No. 19764
Date: 09/12/19

BILL OF MATERIALS

MATERIALS SCHEDULE				
ITEM NUMBER	DESCRIPTION	QUANTITY	MATERIAL	REMARKS
1	SUBMERSIBLE PUMP	2	CAST IRON	REFER PUMP DETAILS
2	DN100 DISCONNECTION BEND FOR INTERIM PUMPS	2	CAST IRON	FLANGE DRILLED TO AS4087 PN16
3	DN150 FL-FL RISER	6	DICL	LENGTHS. TO SUIT
4	DN150 FL-FL PIPEWORK	1	DICL	LENGTHS. TO SUIT
5	DN150 FL-FL 90° LR ELBOW	3	DICL	
6	DN150 FL-SP PIPEWORK	9	DICL	LENGTHS. TO SUIT
7	DN150 THRUST-WEEP FLANGE	6	CAST IROIN	
8	DN150 VARIGIB COUPLING	6	DUCTILE IRON	
9	DN150 SP-SP PIPEWORK	2	DICL	
10	DN25 F-F BALL VALVE C/W 316SS DN150 - DN25 TAPPING SADDLE, 1" BSP HEX NIPPLE	2	316SS SCH10	
11	DN150 THRUST TYPE DISMANTLING JOINT	2	DUCTILE IRON	HELDEN AWM18
12	DN150 FLEX CHECK VALVE (FUSION COATED)	2	DUCTILE IRON	AVFI RSFC
13	DN150 GATE VALVE CW HANDWHEEL (FUSION COATED, RESILIENT SEATED, CLOCKWISE CLOSE)	2	DUCTILE IRON	AVFI RSGV-AS
14	DN150 x 100 REDUCING TEE (FLANGED)	1	DICL	
15	DN100 FL-FL PIPEWORK	1	DICL	
16	DN100 GATE VALVE CW HANDWHEEL (FUSION COATED, RESILIENT SEATED, CLOCKWISE CLOSE)	1	DUCTILE IRON	AVFI RSGV-AS
17	DN100 CAMLOCK (MALE) C/W DUST CAP	1	316SS	
18	NOT USED			
19	DN150 FLANGED TEE	1	DICL	
20	DN150 FLOW METER	1	DUCTILE IRON	ABB WATERMASTER
21	DN50 DRAIN LINE C/W TRAP & DUCKBILL VALVE	1	PVC PN6 /RUBBER	TO SUIT TOOWOOMBA R.C. REQUIREMENTS
22	3" GUIDERAILS	4	316 SS	
23	LIFTING CHAINS	2	316 SS	LOAD RATED
24	PIPE BRACKETS	TO SUIT	316 SS	MAX.1500 mm CENTERS FOR RISER PIPE
25	FLOAT SWITCH	5	EPDM RUBBER	NOLTA (FOR HHLA, HLA, LLA, SCREENING CHAMBER ALARM & NOT EMPTY ALARM)
26	LEVEL TRANSDUCER C/W DN100 PVC STILLING TUBE	1	316SS	VEGAWELL 52
27	SINGLE PART FOUR SIDED VOID PROTECTION HINGED ACCESS COVER CLASS A - McBERNS TYPE LFVP, PROVIDE 250x400mm CUTOUT IN SAFETY GRATES FOR ACCESS TO CHAIN/FLOAT BRACKET	1	ALUMINIUM	CLEAR OPENING 1950 x 1600
28	TWO PART HINGED ACCESS COVER CLASS A - McBERNS TYPE LFM (NO GRATES)	1	ALUMINIUM	CLEAR OPENING 1600 x 1300
29	PUMP CABLE	2		
30	FLOAT / CHAIN HOOKS	TO SUIT	316 SS	
31	ELECTRICAL CONDUITS Ø100 x 2, Ø50 x 15, Ø32 x 1, CW 200mm WIDE VINIDEX CABLE COVERS	18	HD PVC	BY THE CIVIL CONTRACTOR
32	SWITCHBOARD (TO SPEC)	1	ALUMINIUM (3mm MARINE GRADE)	POWDERCOATED RIVERGUM GREEN
33	PIPE BRACKETS	8	316SS	
34	ODOUR CONTROL UNIT - McBERNS GM375	1	MS POWDERCOATED	POWDERCOATED RIVERGUM GREEN
35	TILT TYPE MAST 6m HIGH C/W 1.5m LONG x DN50 4.5mm W.T. MS EXTENSION PIPE & 80W L.E.D. FLOODLIGHT, (FLOODLIGHT HEIGHT TBC ON-SITE BY TRC DURING INSTALLATION), ANTENNA BY OTHERS (HEIGHT TBC BY TRC BASED ON TRC RADIO SURVEY)	1	MS GALVANISED	INGAL
36	DN375 INLET FL-SP PIPEWORK	1	DICL	LENGTHS. TO SUIT
37	DN375 KNIFE-GATE VALVE (LUGGED, RESILIENT SEATED & CLOCKWISE CLOSE)	1	316SS	HMA VALCO, HEAVY DUTY GENERAL PURPOSE
38	DN450 PE100 DROP PIPE (OPEN AT TOP) CW DN450 PE STUB / 15" MAXI FLANGE	1	PE100 PN8	
39	EXTENSION SPINDLE	1	316SS	
40	SPINDLE SUPPORT BRACKET	2	316SS	
41	INSPECTION OPENING 150 SERIES	1	CAST IRON	
42	SCREENING CAGE/BASKET	1	316SS	
43	GUIDERAIL ANTI-SPREAD BRACKETS	4	316SS	REFER DETAIL "G"
44	Ø600 CLASS-B LID	1	CAST IRON	EJ CLASS-B SOLID TOP
45	PUMP BASE 340mm HIGH C/W DRILLED HOLES TO SUIT BOTH INTERIM & ULTIMATE PUMP PEDESTAL	2	316 SS	
46	DN375 FLOWMETER	1	DUCTILE IRON	ABB WATERMASTER
47	DN375 DISMANTLING JOINT	1	CAST IRON	HELDEN AWM18, BY THE CIVIL CONTRACTOR
48	DN375 THRUST-WEEP FLANGE	1	CAST IRON	
49	FLOAT BAR	2	316 SS	
50	WET WELL WASHER, BRACKETS & FLEXIBLE PIPEWORK	1	316SS	McBERNS. HINGE OPERATION FROM SURFACE.
51	EARTH STAKE PIT - 120 L x 120 W x 76mm H	1	ALUMINIUM	ERICO Part No. DULERB1
52	NOT USED			
53	PUMP CHAIN HOOKS	2	316 SS	
54	SINGLE PART FOUR SIDED VOID PROTECTION HINGED ACCESS COVER CLASS A - McBERNS TYPE LFVP, CLEAR OPENING 600mm x 600mm	4	ALUMINIUM	ONLY 1 TO HAVE 250x400mm CUTOUT IN SAFETY GRATES FOR ACCESS TO FLOAT BRACKET,
55	DN375 FLAP VALVE, RING MOUNT TYPE TO SUIT DN375 PVC PN12 SPIGOT	1	FRP	HUME FLOODGATES 100-900
56	DN150 FLAP VALVE, RING MOUNT TYPE TO SUIT DN150 DICL PIPE SPIGOT	1	FRP	HUME FLOODGATES 100-900
57	DN150 x 100 ECCENTRIC REDUCER	2	DICL	

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

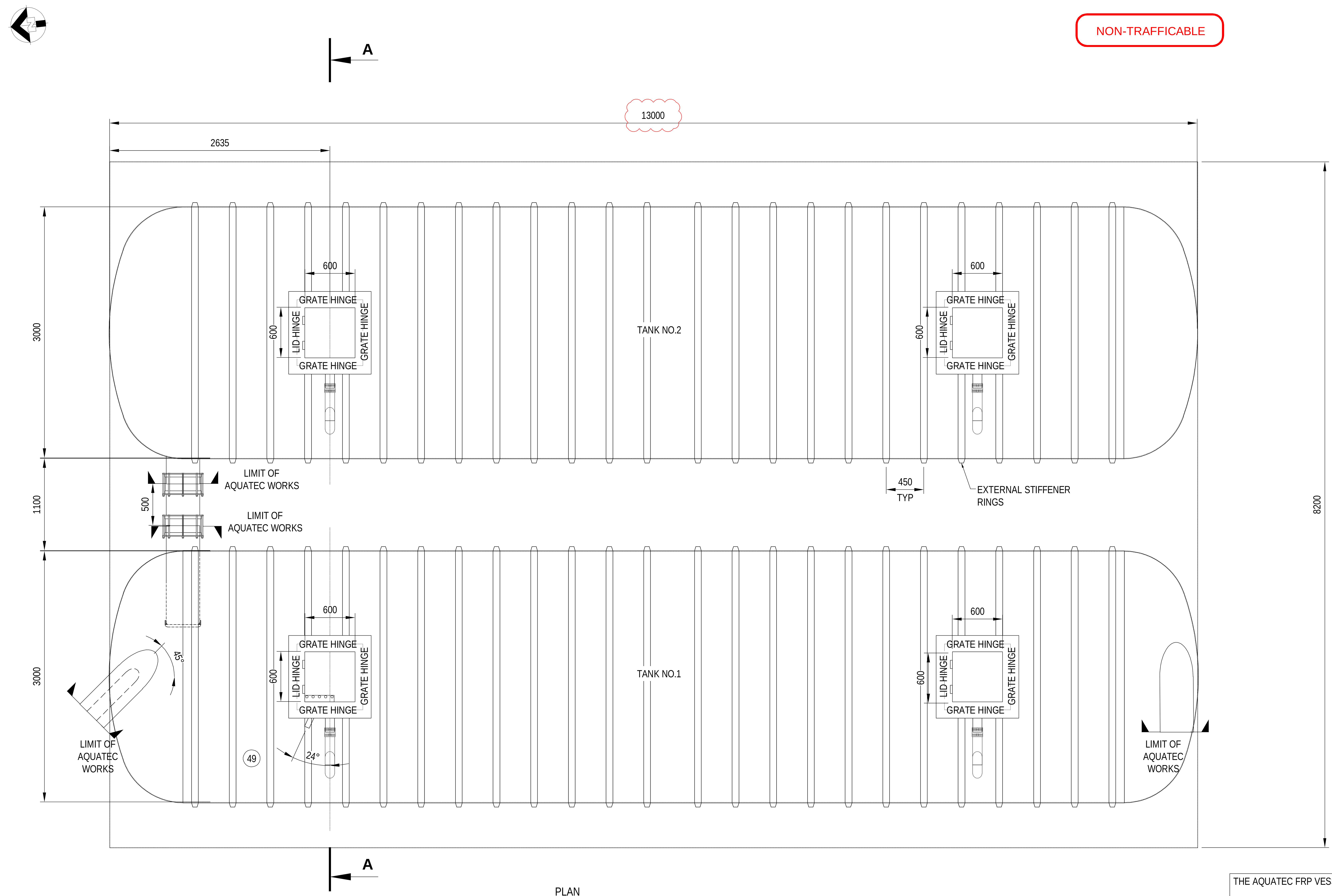
aquatec

Designed - IMS
Drawn - SL
Checked - IMS
Approved -
Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
BILLS OF MATERIALS

R2

Drawing No.	Revision	File Location / Name
D2018.12.09.07	P2	AQT



PLAN
1:25 @ A1

NON-TRAFFICABLE

TANK SPECIFICATION	
DESIGN SPECIFICATION	
TOTAL VOLUME	82.5kL EA (165kL TOTAL)
TANK WEIGHT	3400KG APPROX. EA
DESIGN TEMPERATURE	45°C
CONTENTS	SEWAGE
CORROSION ALLOWANCE	3mm CORROSION BARRIER
SPECIFIC GRAVITY	1.0t/m³
HYDROSTATIC TESTING	FILLED WITH WATER TO OVERFLOW (BY OTHERS)
MATERIAL SPECIFICATION	
SHELL	GRP
ENDS	GRP
MANHOLE	GRP
SURFACE FINISHES	
INTERNAL COATING	CHEMICAL RESISTANT RESIN
EXTERNAL COATING	ISOPHTHALIC FLOWCOAT
COLOUR	MIST GREEN

NOTE:
1. TANK LAMINATES DESIGNED TO AS2566 AND BS4994.
2. TANK SHALL BE EXTRA HEAVY DUTY (EHD) DUE TO HIGH REACTIVE SOIL.
3. BALLAST SLAB DESIGN TO GROUND WATER LEVEL AS SHOWN.

Imran Saheer
RPEQ No. 19764
Date: 09/12/19

THE AQUATEC FRP VESSELS ARE DESIGNED TO MEET THE FOLLOWING REQUIREMENTS:

1. AS 2634:1983 CHEMICAL PLANT EQUIPMENT MADE FROM GLASS-FIBRE REINFORCED PLASTICS (GRP) BASED ON THERMOSETTING RESINS;
2. BS 4994:1987 SPECIFICATION FOR DESIGN AND CONSTRUCTION OF VESSELS AND TANKS IN REINFORCED PLASTIC AND
3. AS 2566.1:1998 BURIED FLEXIBLE PIPELINES, Part 1: STRUCTURAL DESIGN
4. TANK LAMINATES DESIGNED TO AS2566 AND BS4994

0 0.25 0.5 1.0 1.5 2.0 2.5
GRAPHIC SCALE 1:25MTS

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

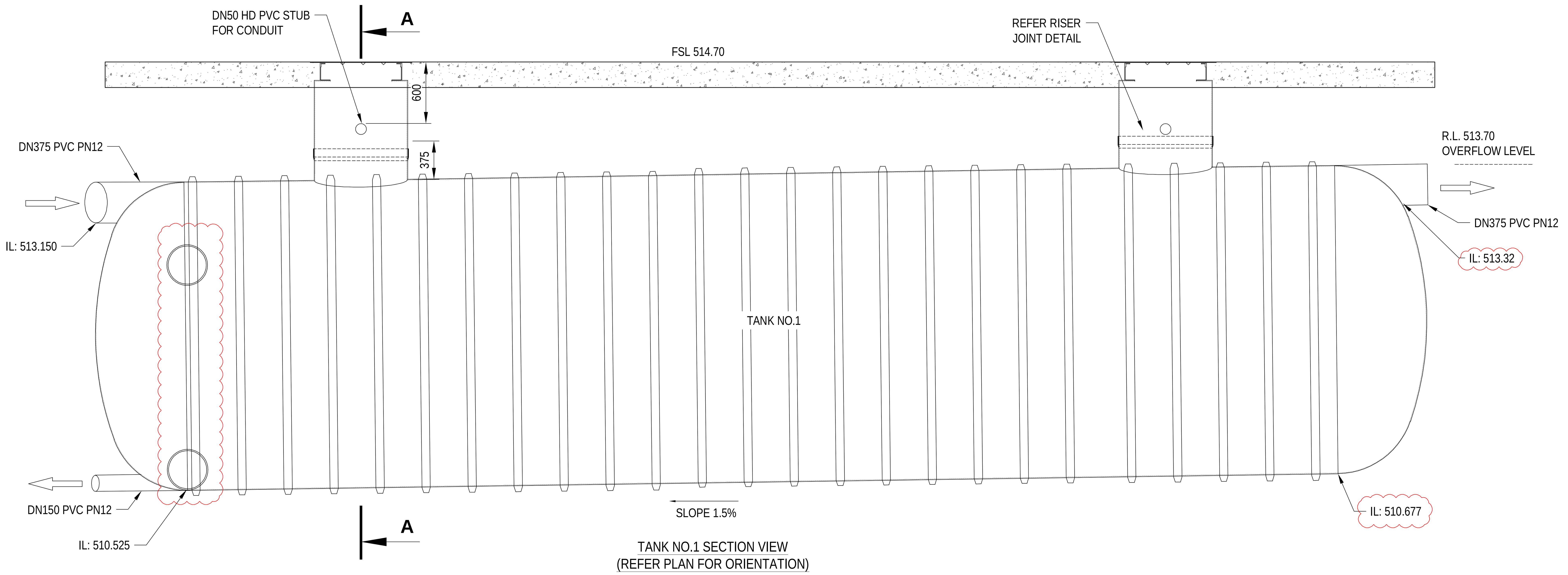
Designed - IMS
Drawn - SL
Checked - IMS
Approved -

Scale - AS SHOWN @ A1

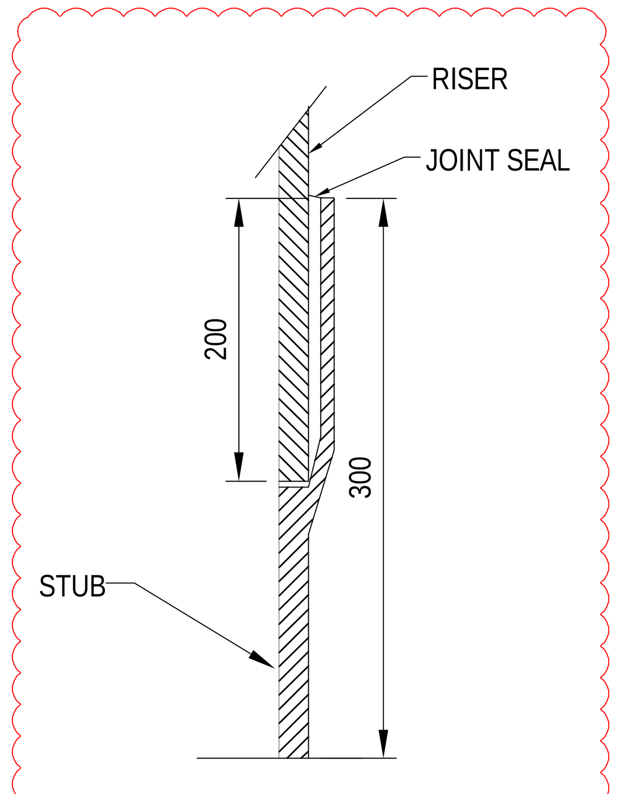
TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
FUTURE OVERFLOW HOLDING TANK PLAN

Drawing No.	Revision	File Location / Name
D2018.12.09.08	P2	AQT

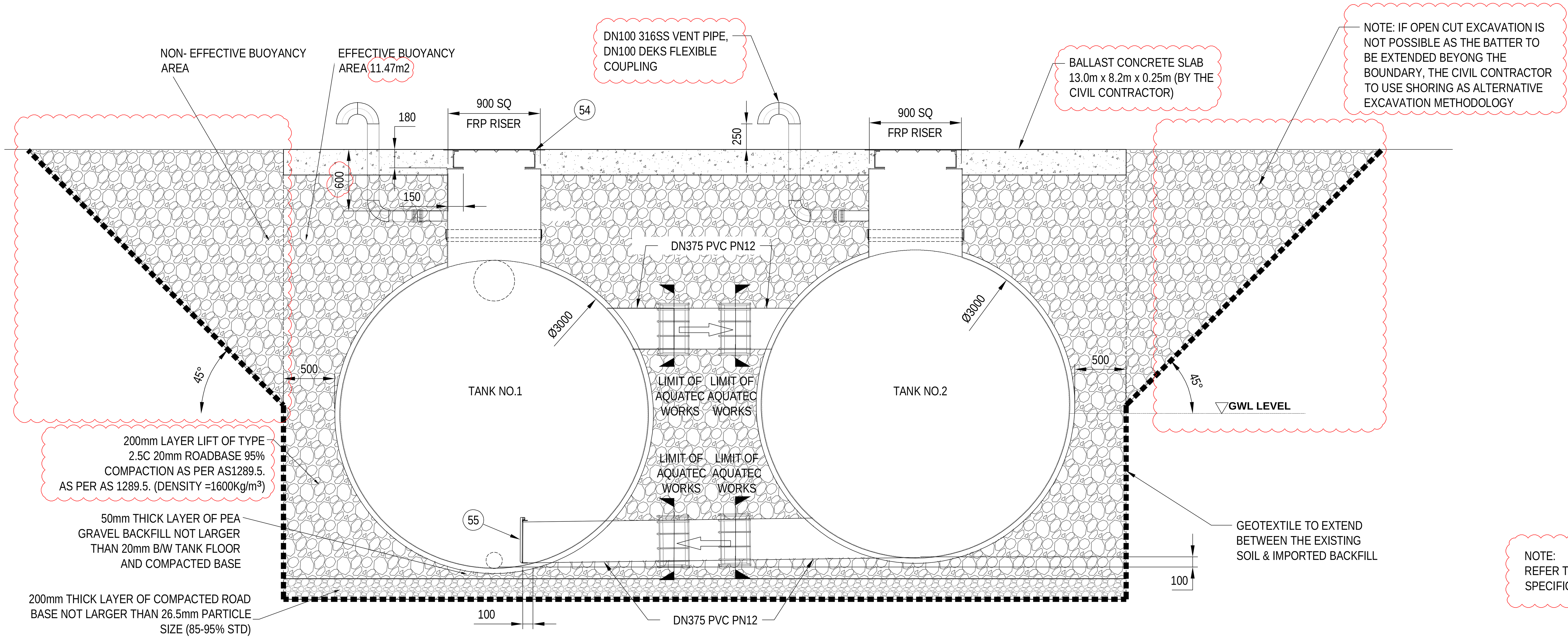
R2



TANK NO.1 SECTION VIEW
(REFER PLAN FOR ORIENTATION)
1:25 @ A1



RISER JOINT DETAIL
1:10 @ A1



SECTION - A
1:25 @ A1

NOTE:
REFER TO D2018.12.09.06 FOR SITE
SPECIFIC RECOMMENDATIONS

Imran Saheer
RPEQ No. 19764
Date: 09/12/19

REV	AMENDMENT	BY	APP	DATE
P2	ISSUE FOR CLIENT REVIEW	SL		02/12/19
P1	ISSUE FOR CLIENT REVIEW	SL		11/02/19
P0	ISSUE FOR CLIENT REVIEW	SL		14/12/18

Aquatec Fluid Systems PTY LTD / ABN - 94 114 944 026
2 Provincial Crescent, Shepparton VIC 3630
T 1300 088 555 / E info@aquatecenviro.com.au

ISSUED FOR REVIEW

aquatec

D2018.12.09.09

Designed - IMS
Drawn - SL
Checked - IMS
Approved -

Scale - AS SHOWN @ A1

TOOWOOMBA REGIONAL COUNCIL
DRAYTON WELLCAMP ROAD
SEWAGE PUMP STATION - Ø3200
FUTURE OVERFLOW HOLDING TANK ELEVATION & SECTION

R2

Drawing No.	Revision	File Location / Name
D2018.12.09.09	P2	AQT