PIONEER
WATER TANKS

AUSTRALIAN MADE & OWNED
SINCE 1988

COMMERCIAL SPECIFICATION CATALOGUE

Discover the difference

PIONEER
WATER TANKS

Pioneer Water Tanks manufactures tanks from 6,000 litres to 2.66 million litres capacity with structural engineering suitable for rural/ domestic or commercial use using durable and 100% Australian Bluescope steel.

Any Pioneer Water Tank can be designed to suit earthquake zones, cyclonic regions, heavy industrial or highly specialised environments.

Our tanks feature the innovative and aesthetically pleasing 8-80 V-LOCK profile with protective capped bolt system and fully enclosed vertical bolt cover for optimal strength and structural integrity.

OUR COMMITMENT

Pricing
Committed to providing a competitive price and personalised service to match individual needs.

Experience
Dedicated staff with practical knowledge and years of experience.

Flexibility
We listen to your specific needs and recommend a suitable custom water storage solution.

Engineering
Through our qualified engineering personnel and independent consultant engineers, we provide high quality professional design and support services.

Installation
Thorough check methods are employed to ensure correct installation from beginning through to commissioning. Our procedures provide for ease of installation, less time on site, minimal infrastructure and construction personnel.

Associations
Pioneer Water Tanks is an associate member of several Australian and international associations involved in the design of water storage systems.

Quality & Service
Pioneer Water Tanks is committed to providing the best quality product and service from first contact to completed and tank and after sales service.

Aesthetics
Profiled wall design and wide range of colours to seamlessly integrate with the surrounding environment.

Advanced Production Technologies
Continual research and development and innovative production methods create uniform quality. A culture of continuous improvement forms a key pillar of Pioneer Water Tanks' business success.

GROSS CAPACITY CHART

Tank model	Tank diameter	Number of rings/Wall height							
		R1 1.15m	R2 2.18m	R3 3.23m	R4 4.27m	R5 5.31m	R6 6.35m	R7 7.39m	R8 8.43m
XL01	**2.67m**	6kL	12kL	18kL	24kL	30kL	36kL*	42kL*	47kL*
XL04	**3.34m**	10kL	19kL	28kL	38kL	47kL	56kL	65kL*	74kL*
XL05	**4.01m**	15kL	28kL	41kL	54kL	67kL	80kL	93kL	107kL*
XL08	**4.68m**	20kL	38kL	56kL	74kL	91kL	109kL	127kL	145kL*
XL10	**5.35m**	26kL	49kL	73kL	96kL	119 kL	143kL	166kL	189kL*
XL13	**6.02m**	33kL	62kL	92kL	122kL	151kL	181kL	210kL	240kL
XL15	**6.69m**	40kL	77kL	114kL	150kL	187kL	223kL	260kL	296kL
XL20	**7.35m**	49kL	93kL	137kL	182kL	226kL	270kL	314kL	358kL
XL23	**8.02m**	5kL	110kL	163kL	216kL	269kL	321kL	374kL	426kL
XL25	**8.69m**	68kL	130kL	192kL	254kL	315kL	377kL	439kL	500kL
XL30	**9.36m**	79kL	150kL	223kL	294kL	366kL	437kL	509kL	580kL
XL35	**10.03m**	91kL	173kL	255kL	338kL	420kL	502kL	584kL	666kL
XL40	**10.70m**	103kL	196kL	291kL	384kL	477kL	571kL	664kL	758kL
XL45	**11.36m**	117kL	222kL	328kL	434kL	539kL	645kL	750kL	855kL
XL50	**12.03m**	131kL	248kL	368kL	486kL	604kL	723kL	841kL	959kL
XL60	**12.70m**	146kL	277kL	410kL	542kL	673kL	805kL	937kL	1.10mL
XL65	**13.37m**	161kL	307kL	454kL	600kL	746kL	892kL	1.00mL	1.18mL
XL70	**14.04m**	178kL	338kL	501kL	662kL	823kL	984kL	1.14mL	1.30mL
XL80	**14.71m**	195kL	371kL	549kL	726kL	903kL	1.10mL	1.30mL	1.43mL
XL85	**15.37m**	213kL	406kL	601kL	794kL	987kL	1.18mL	1.37mL	1.57mL
XL90	**16.05m**	232kL	442kL	654kL	864kL	1.10mL	1.28mL	1.49mL	1.70mL
XL100	**16.71m**	252kL	479kL	710kL	938kL	1.17mL	1.39mL	1.62mL	1.85mL
XL110	**17.38m**	273kL	518kL	767kL	1.00mL	1.26mL	1.51mL	1.75mL	2.00mL
XL120	**18.05m**	294kL	559kL	828kL	1.10mL	1.36mL	1.63mL	1.89mL	2.16mL
XL130	**18.72m**	316kL	601kL	890kL	1.18mL	1.46mL	1.75mL	2.03mL	2.32mL
XL140	**19.39m**	339kL	645kL	955kL	1.26mL	1.57mL	1.88mL	2.18mL	2.49mL
XL150	**20.05m**	363kL	690kL	1.02mL	1.35mL	1.68mL	2.00mL	2.34mL	2.66mL

Note:
Allowance must be made for air gap and pipe work positioning to establish usable tank volume.

* Availability subject to site conditions.

Conversion units

1,000 litres = 1 cubic metre

3.785 litres = 1 US gallon

4.546 litres = 1 Imperial gallon

Legend

kL = kilolitres

mL = megalitres

COLOURS

Standard Tank Colour Range

SURFMIST®

CLASSIC CREAM™

PAPERBARK®

WALLABY™

BASALT™

WOODLAND GREY™

PALE EUCALYPT®

MONUMENT®

Colorbond® Non-Standard Colour Range

SHALE GREY™

WINDSPRAY®

DUNE®

EVENING HAZE™

DEEP OCEAN®

COTTAGE GREEN®

IRONSTONE®

MANOR RED®

NIGHT SKY®

TANK DATA SHEET

Wall structure

Bluescope ZINCALUME® steel, COLORBOND® steel or COLORBOND® Ultra steel panels complying with AS1397. Most severe earthquake loads to AS1170.4. 8-80 V-LOCK wall profile to AS4600.

Steel grade

G300 ZINCALUME® steel.

Protective coating

ZINCALUME® steel (zinc/aluminium/magnesium alloy) AM125 heavy-duty coating. Also available in COLORBOND® steel.

Bolting specification

M10 – M16 galvanised, flanged head, high tensile bolts.

Dome roof

- Bluescope ZINCALUME® steel, COLORBOND® steel or COLORBOND® Ultra steel.
- Custom orb profile.
- 0.42bmt thickness.
- High tensile G550.
- Hot dipped fully self supporting galvanised roof trusses.

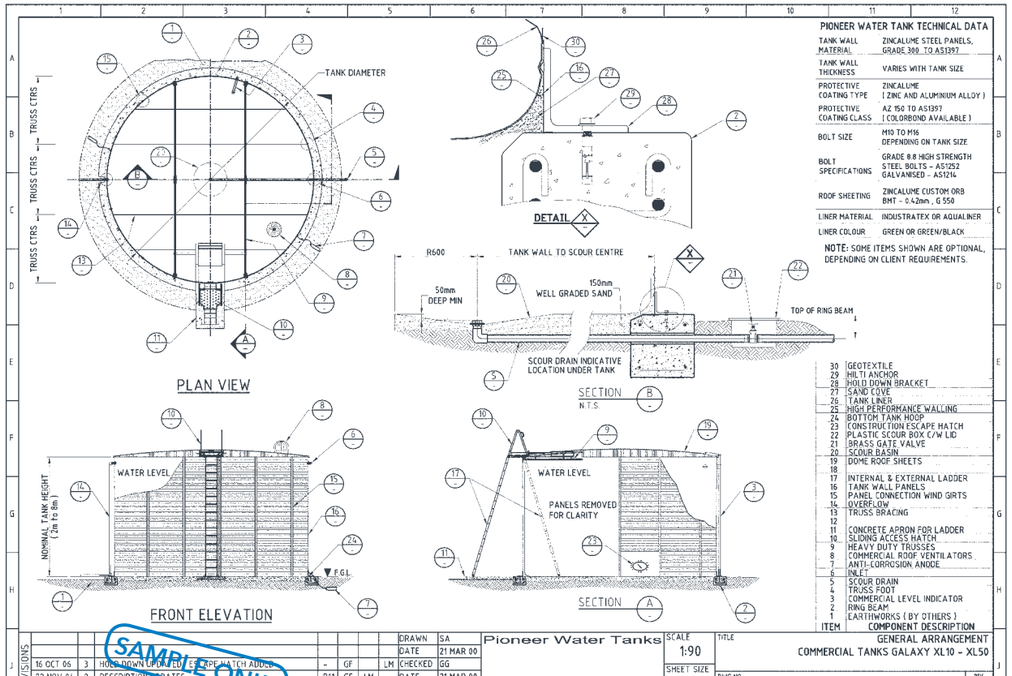
Nozzles

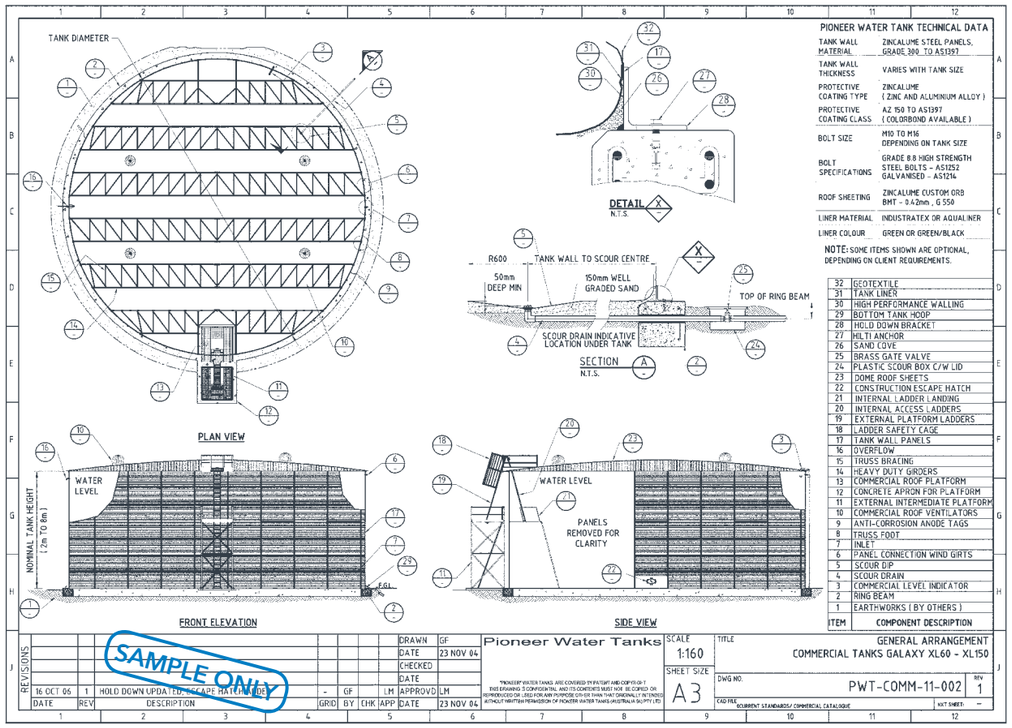
Nozzles are manufactured from either PE100 SDR17 HDPE or hot dipped galvanised steel (available on request).

Manufacturing and installation

This can be either client or tank specific or both. Each project will be confirmed in writing and comprise a full installation, manufacturing and installation schedule. Note that Pioneer Water Tanks requires certain information prior to commencing manufacturing. This will be advised to you at the time of proposal.

GENERAL ARRANGEMENT EXAMPLES (XL10 – XL150)





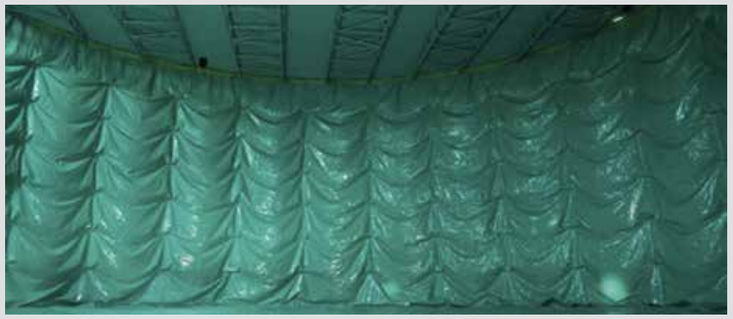
The 8-80 V-LOCK ADVANTAGE

Pioneer Water Tanks' unique 8-80 V-LOCK is the result of rigorous research and development.

The 8-80 V-LOCK profile is designed to minimise stress on the liner during tank level cycling.

Specifically engineered with a flat section at the bolted panel connections, the 8-80 V-LOCK vastly improves the structural integrity and overall aesthetic appeal of your finished tank.

UNIQUE SECURED LINER



Pioneer Water Tanks understands the importance of the longevity of your tank liner.

All Pioneer Water Tanks liners are uniquely secured to the tank wall at multiple points to provide optimal support for the liner. This support prevents the liner from pulling away from the tank wall and secures it in position.

The result: less stress on the liner and prolonged service life of your tank.

TANKLINERS

Aqualiner® and Industratex® have been exclusively developed and manufactured for Pioneer Water Tanks to provide to provide a water tight liquid storage membrane.

Strength, flex resistance, abrasion resistance, chemical resistance, water proofing and leak proofing have been considered in the design of Aqualiner® and Industratex®. Both liners can be custom manufactured for the relining of existing concrete, steel and other types of water tanks.

Primarily intended for potable water storage, your tank liner can be adapted for a variety of non-potable water grades including grey treated, bore, ground or well water.

Liner Terms and Definitions

Tensile strength:
Strength of material, measured by tensioning a 50mm wide sample in both directions - warp and weft. Result is the force measured in Newtons (N) at the point at which the material breaks.

Elongation:
During tensile test a stretch measurement is taken prior to material breaking.

Warp:
Threads stretched in a loom.

Weft:
Threads that cross the warp.

Wing tear:
Force (N) necessary to tear a sample of the material in the warp and weft weave direction. Warp test is measured by tearing in the weft direction and visa versa for the weft tear.

Tongue tear:
Similar test to wing tear, parallel cuts are made to the material the to create a "tongue". Force (N) is applied tearing the material. Warp is measured by tearing in the weft direction and visa versa for the weft tear.

Coating adhesion:
Force (N) needed to separate a 50mm wide sample lamination (coating) from the weave.

Flex cracking:
Measured by flexing material until it deteriorates (measured in cycles).

UV stabilisation:
Ability of material to withstand continuous exposure to UV light.

Flume (water proof) test:
A fabricated test sample (tube is increasingly pressurised with water until the material leaks. Measurement and inspections are conducted at regular intervals and recorded.

Abrasion resistance:
Ability of the material to withstand abrasive contact.

AQUALINER® DATA SHEET

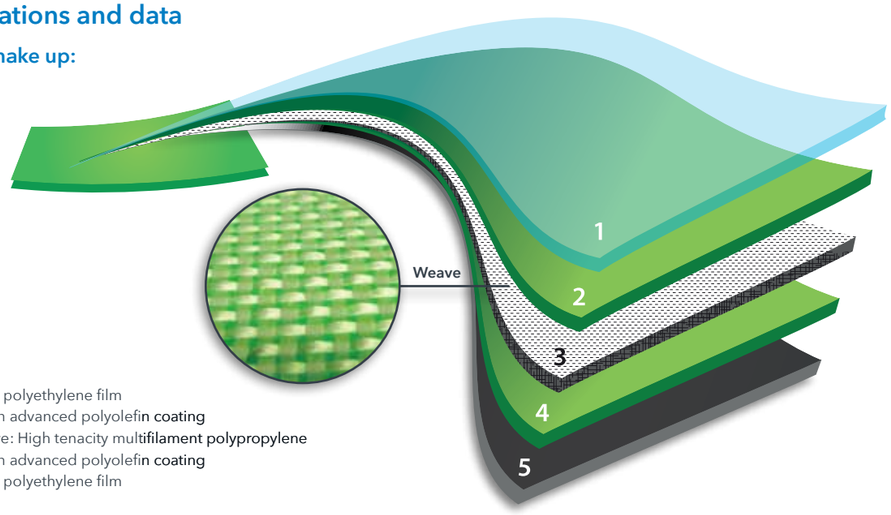
This data sheet sets out the criteria for evaluating the suitability of the Aqualiner® as a core component of the liner tank system.

Approvals

- Australian Standard: AS/NZS 4020 - Products for use in contact with drinking water.
  Tested by Australian Water Quality Centre report no: 4007/92.919.
- American Standard: NSF/ANSI Standard 61 - Drinking Water Approval. Certificate 3A240-01.
- British Standard: BS 6920 - Suitable for use in contact with potable water.
  Tested by Water Regulations Advisory Scheme, test report: MAT/LAB 356M, 607M & 608M.

Specifications and data

Material make up:



Layer 1 Clear polyethylene film
Layer 2 Green advanced polyolefin coating
Layer 3 Weave: High tenacity multifilament polypropylene
Layer 4 Green advanced polyolefin coating
Layer 5 Black polyethylene film

Tensile strength:
Newtons per 50mm
(AS2001.2.3)
Warp: 1901 N
Weft: 1353 N

Elongation at break:
(AS2001.2.3)
(AS4878.6 – method 1)
Warp: 24.8%
Weft: 18.8%

Wing tear:
Newtons per 50mm
(AS2001.2.10)
(AS 4878.7 – method A2)
Warp: 255 N
Weft: 135 N

Coating adhesion:
Newtons per 50mm
(AS4878.2 – preparation 2)
75-85 N

Flex cracking:
(AS4878.9 – method B),
97,000 cycles

Max/min temperature:
-30° C to +70° C

UV stabilisation:
Both faces have UV resistance and therefore may be exposed to the sun. However excessive exposure and temperature may dry and shrink the material.
It is Pioneer's recommendation that the Aqualiner® be covered.

Material thickness:
0.60mm

Unit mass/weight (AS4878.2):

405 grams per square metre.

Seam weld:
25mm weld with 25mm seal tape welded to both sides covering edges of fabric.

Flume test:
Water beads: 20 metres of water head pressure.
Burst: 20 metres of water head pressure.

Chemical resistance:
Aqualiner® is resistant to various chemicals. To be certain, we recommend a chemical analysis report be completed to confirm suitability.

pH: 5 - 10
Chlorine: 3 -5ppm

Note: Intense levels of chlorine such as shock treatment and tablets can have an adverse affect on the Aqualiner®. It is therefore recommended controlled dosing systems be used.

Special comments:
Aqualiner® can store a wide variety of non-aggressive and aggressive waters however you should also be considerate that the steel structure may not be so readily accepting.

INDUSTRATEX® DATA SHEET

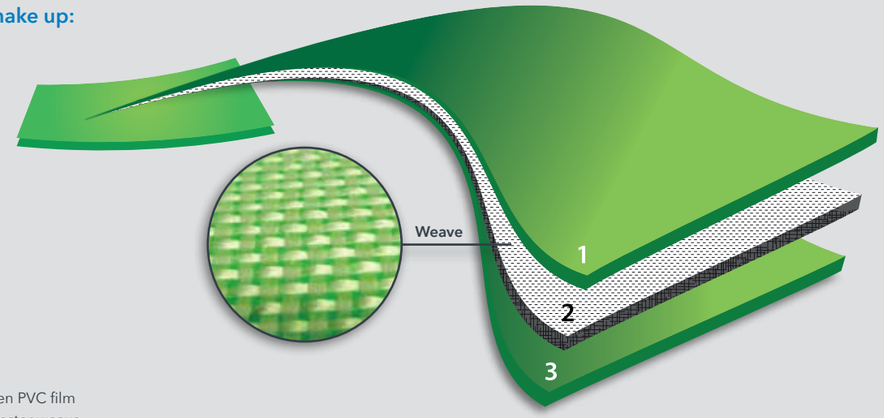
This data sheet sets out the criteria for evaluating the suitability of Industratex® as a core function of the liner tank system.

Approvals

- Australian Standard: AS/NZS 4020 - Products for use in contact with drinking water.
  Tested by Australian Water Quality Centre report no: 4007/92.453.
- American Standard: NSF/ANSI Standard 61 - Drinking Water Approval. Certificate 3A240-02.

Specifications and data

Material make up:



Layer 1 - Green PVC film
Layer 2 - Polyester weave
Layer 3 - Green PVC film

Tensile strength:
Newtons per 50mm
(AS2001.2.3)
Warp: 2600 N
Weft: 2400 N

Tongue tear:
Newtons per 50mm
(BS3424.5)
Warp: 550N
Weft: 450N

Coating adhesion:
Newtons per 50mm
(AS1441.1973)
90 N (min)

Flex cracking:
(AS 1441.6)

400,000 cycles

Max/min temperature:
-20° C to +50° C

Stabilisation:
Material is UV stabilised therefore may be exposed to the sun. Excessive exposure and temperatures may dry and shrink the material. It is Pioneer's recommendation that all Industratex® liners be covered.

Material thickness:
0.60mm

Unit mass/weight:
610 grams /m2

Seam weld:
25mm weld

Flume (water proof) test:
Water beads: 20 metres of water head pressure.

Burst: 25 metres of water head pressure.

Chemical resistance:
Industratex® is resistant to various chemicals, but to be certain if suitable for your application we recommend a chemical analysis report be forwarded to confirm.

pH: 5 - 10
Chlorine:
Maximum 50ppm

Note: intense levels of chlorine such as shock treatment and tablets can have an adverse affect on the Industratex®. It is therefore recommended that controlled dosing systems be used.

Recommended applications:
All water storage: potable, ground, bore well, water, river, spring water and seawater.

Special comments:
Industratex® can store a wide variety of non aggressive and aggressive waters however you should also be considerate that the steel structure may not be so readily accepting.

ROOF OPTIONS

Pioneer Water Tanks has invested extensive effort developing a roof structure that is not only easy to install but stronger and easily adaptable for most applications.

The innovative truss foot connection allows a flush strong bolted connection with the tank wall, resulting in direct load transfer from roof structure to tank wall and then to the ground.

All roof structures utilise the strength of square hollow sections (SHS), fully welded and post galvanised to build a strong, robust structure that will perform in all conditions.

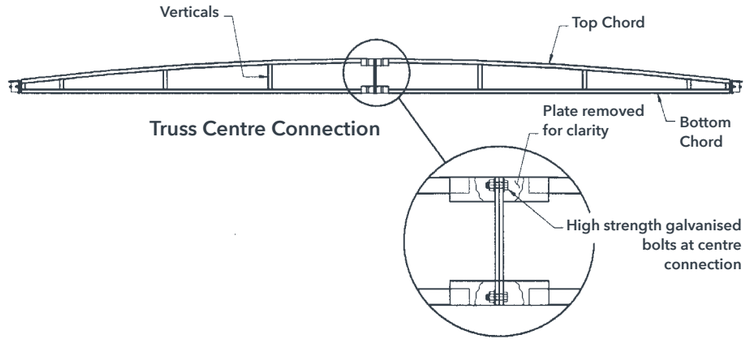
Additionally, all dome roof structures are carefully engineered to achieve load paths of uniform capacity to maximise cost efficiencies.

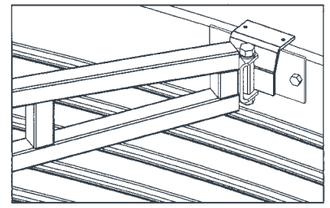
ROOF OPTIONS: INDUSTRY STANDARD

This is a robust engineered roof structure comprising SHS tube members fabricated into welded roof trusses with swivel truss feet to enable secure alignment with the tank wall.

The SHS trusses are high strength/high ductility and are engineered to provide direct load paths for all loads that are incident to the roof into the tank wall. The structure is typically galvanised to ensure excellent performance and long life. The roof structure is capable of handling construction and maintenance loads as required by AS1170.1.

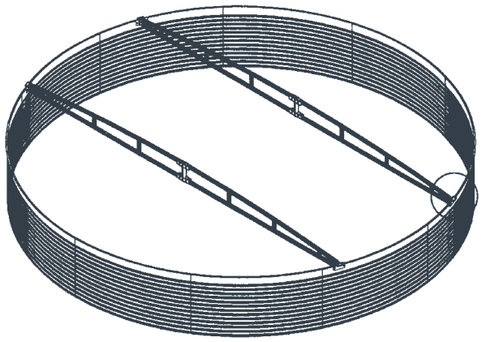
As with most light building-type structures, personnel need to restrict their footprints to the lines of the trusses. This roof is suitable for most applications where standard access hatches are required, and when not located in an exposed area subject to gales. These roofs are designed in accordance with the relevant clauses of AS1170.0, AS1170.1 and AS1170.2, and can withstand regional wind speeds of up to 43 metres per second, as specified in AS1170.2.





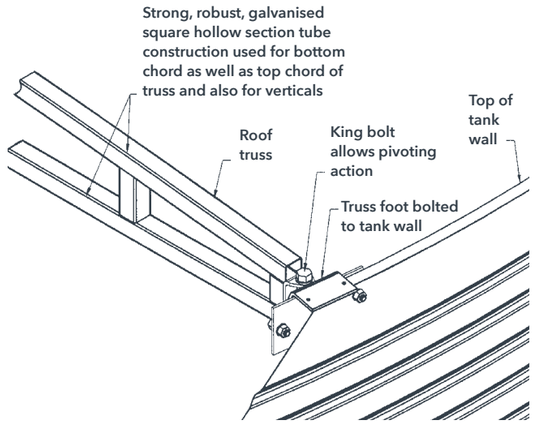
View of truss connection to tank wall from inside

Pivoting action of truss enables correct alignment with tank wall, no matter where the truss lands



Plan of Tank

Engineered roof structure design assures properly proportioned structural elements and load transfer from the roof to the ground.

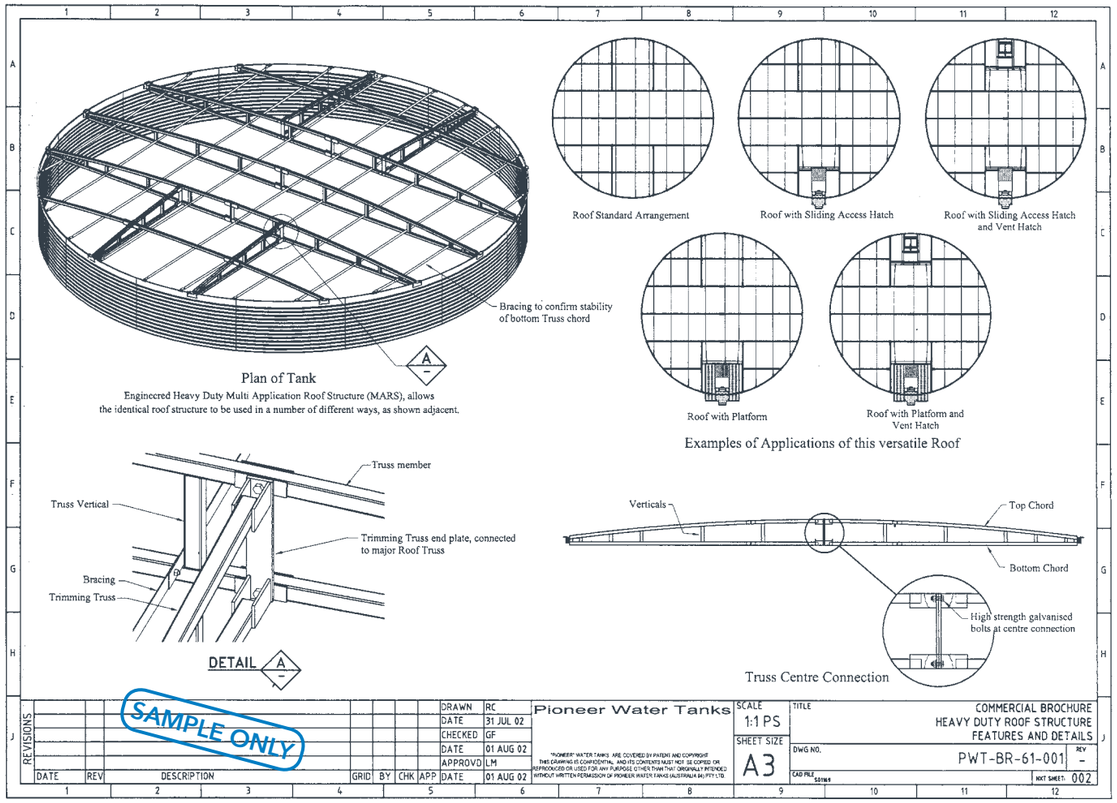


ROOF OPTIONS: HEAVY DUTY

The heavy duty roof is designed in accordance with the relevant clauses of AS1170.0, AS1170.1 and AS1170.2 to withstand minimum regional winds of up to 43 metres per second.

Embodying the features of the industry standard roof design , the heavy duty tank roof is capable of handling heavier loads arising from larger platforms such as the two metre by two metre roof platform and handrails.

The heavy duty roof has been structurally designed to enable mounting of ancillary features such as a vent hatch on one side of the roof diametrically opposite the access hatch.

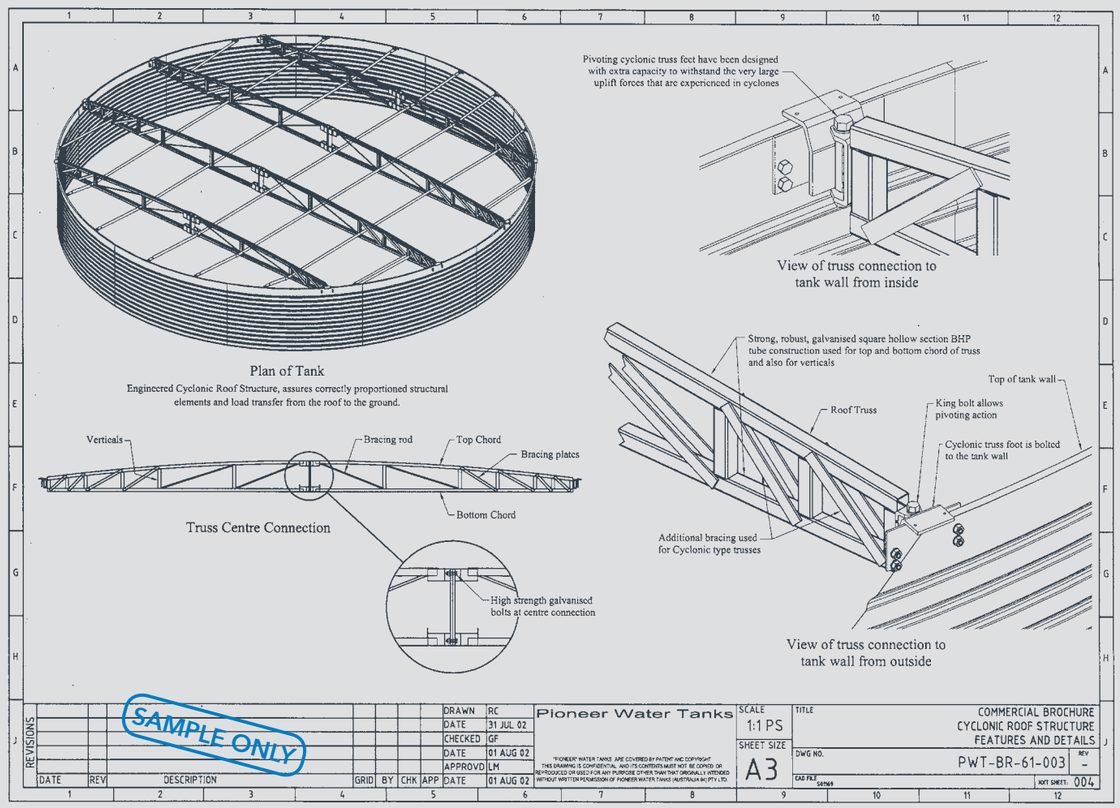


ROOF OPTIONS: CYCLONIC

Two cyclonic roof designs are available for Cyclonic Regions C and D in accordance with the relevant clauses of AS1170.0, AS1170.1 and AS1170.2.

Regional wind speeds in accordance with AS1170.2 for Region C and Region D cyclonic roofs are 65 metres per second and 82 metres per second respectively.

The cyclonic roofs embodies the features of the heavy duty roof design with roof trusses of greater depth and closer spacing to withstand the higher wind velocities expected in Cyclonic Regions C and D.

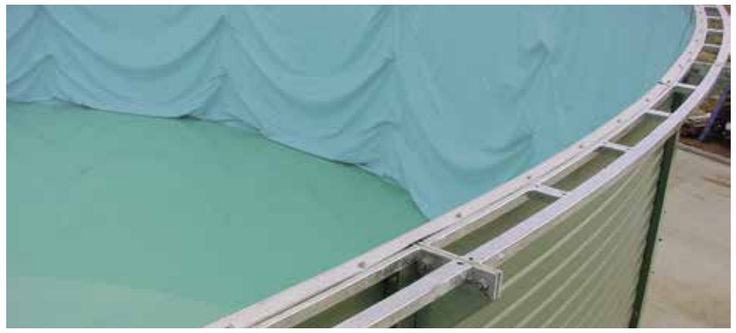


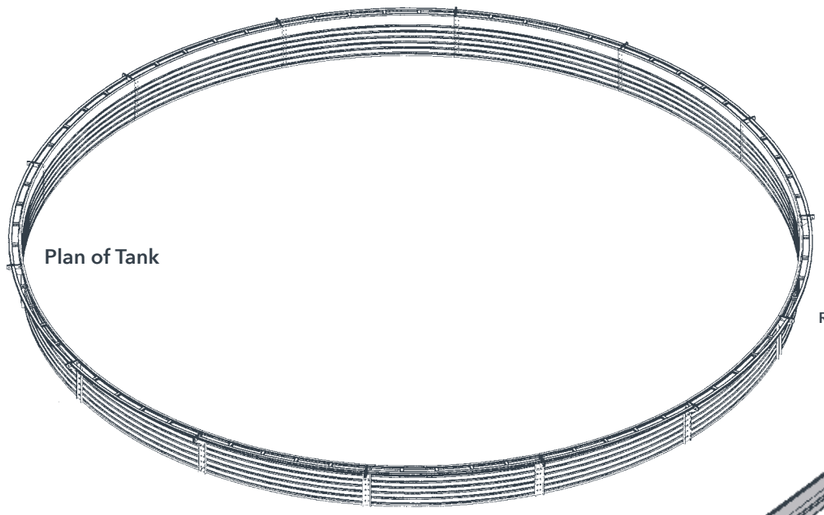
ROOF OPTIONS - OPEN TOP TANKS

Pioneer Water Tanks have developed a system for tanks without the need for a roof structure.

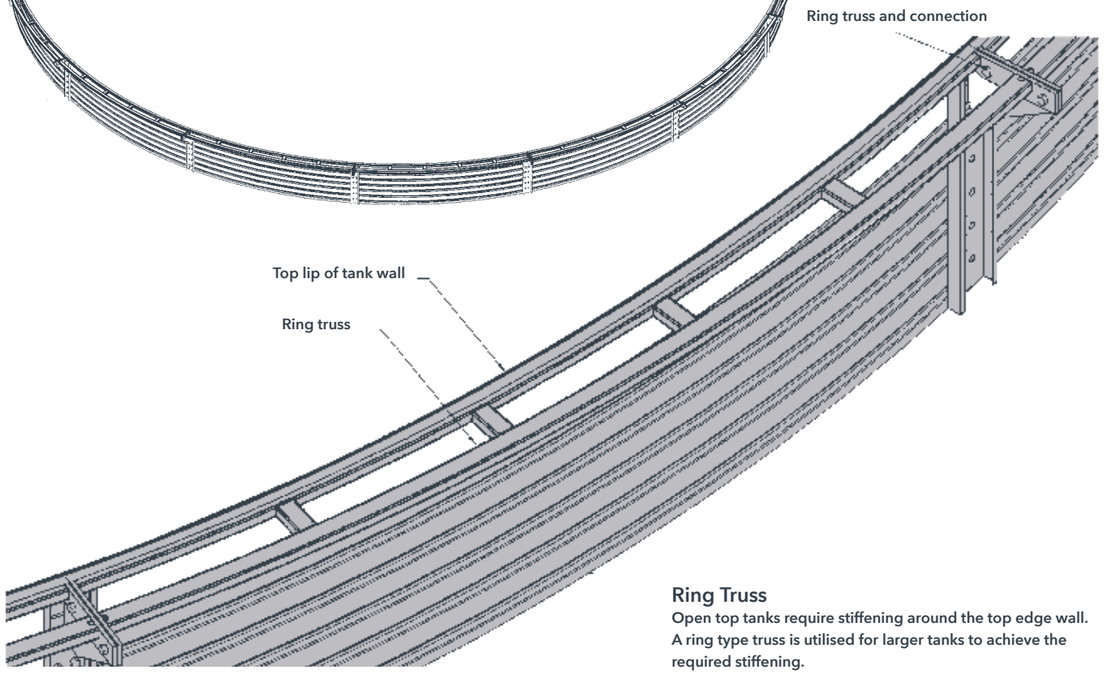
The open top tank ring truss gives superior strength and stiffness to the top edge of the tank body as shown in the images below.

This simple, but very effective solution works very well for tanks in the effluent treatment industry whereby special ring trusses must be designed to accommodate loads imposed from equipment such as floating aerators.





Plan of Tank



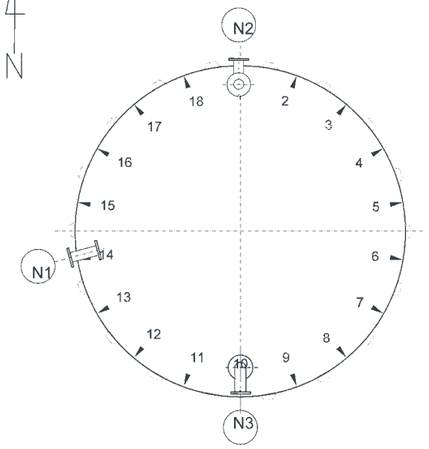
Ring Truss

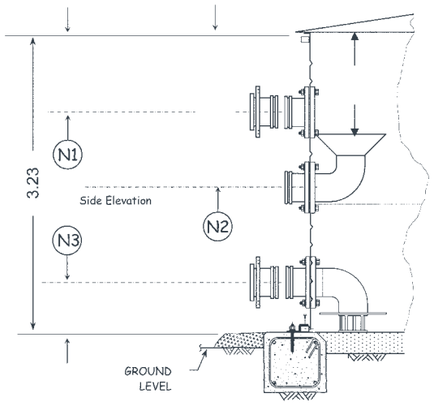
Open top tanks require stiffening around the top edge wall. A ring type truss is utilised for larger tanks to achieve the required stiffening.

NOZZLES AND FITTINGS ORIENTATION

CLIENT ORDER NO.	PIONEER JOB NO.	TANK SIZE: XL13/03	TANK Ø: 6.02	CUST:

EXAMPLE ONLY





NOZZLE SCHEDULE

NOZZLE	SIZE	Material	Type	DESCRIPTION	External flange
N1	350	HDPE		Inlet c/w Deflector	E
N2	350	HDPE		Overflow c/w Bellmouth	E
N3	350	HDPE		Outlet c/w Vortex Inhibitor	E
N4	100	PVC		Floor Scour Drain	
N5					
N6					
N7					
N8					
N9					

SAMPLE ONLY

NOZZLE SPECIFICATION DOCUMENT	Revised 12 May 2005	Pioneer Water Tanks
Client: Attn: Fax: Approval:	**Notes:** Preliminary Drawing, Please confirm nozzle & accessories positioning	

First Issued		ZINCALUME / COLORBOND®	Revision Date	
	Reference No.	COOOOO		
			Revision No.	

Nozzles

Pioneer Water Tanks has the flexibility to insert nozzles through the tank wall, roof or floor to suit most flange tables (BSP, D, E, DN, DIN or ANSI) with polyethylene or galvanised steel fitting also available.

Valves

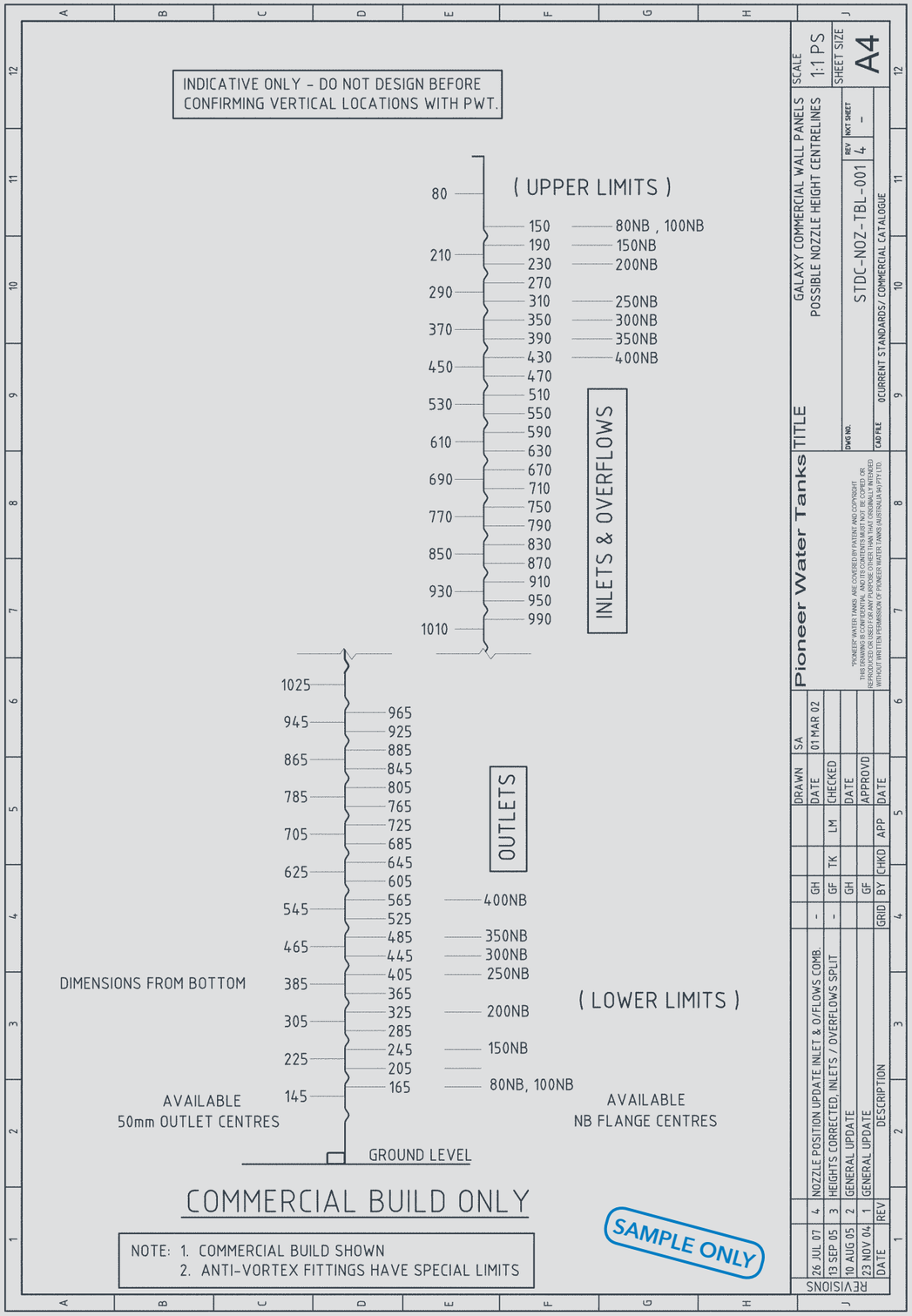
Pioneer Water Tanks stocks a selection of valves including ball valves, butterfly valves, float control valves, diaphragm valves, check valves and electronic level sensors.

Nozzle orientation

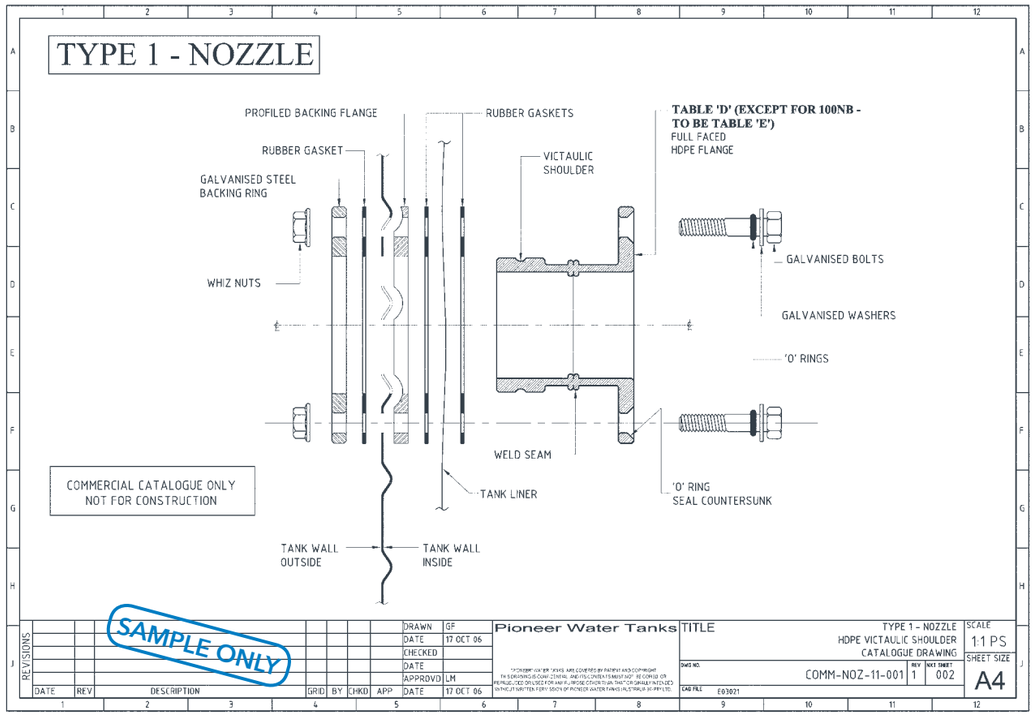
The position and size of tank nozzles will determine the effective (or usable) storage capacity of your tank. Clients must nominate the position of each nozzle, inlet, outlet, overflow and the line to match existing or new pipe work prior to manufacture commencing.

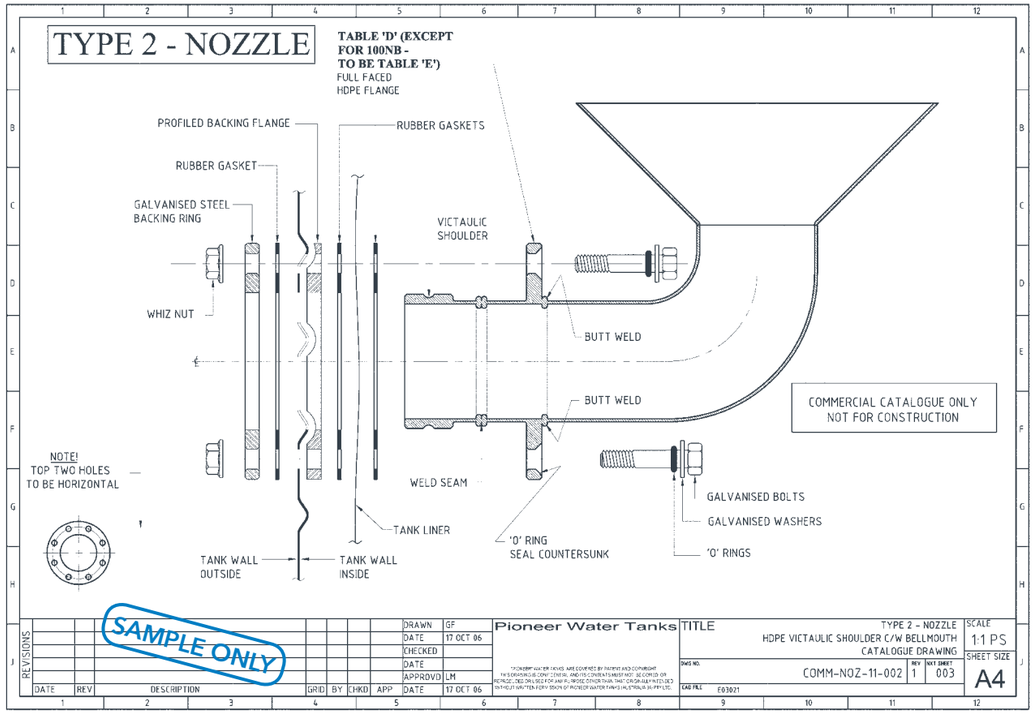
The following nozzle orientation drawings are examples of plans that must be approved by the client prior to construction of your tank.

NOZZLE AND FITTINGS DRAWING SAMPLE

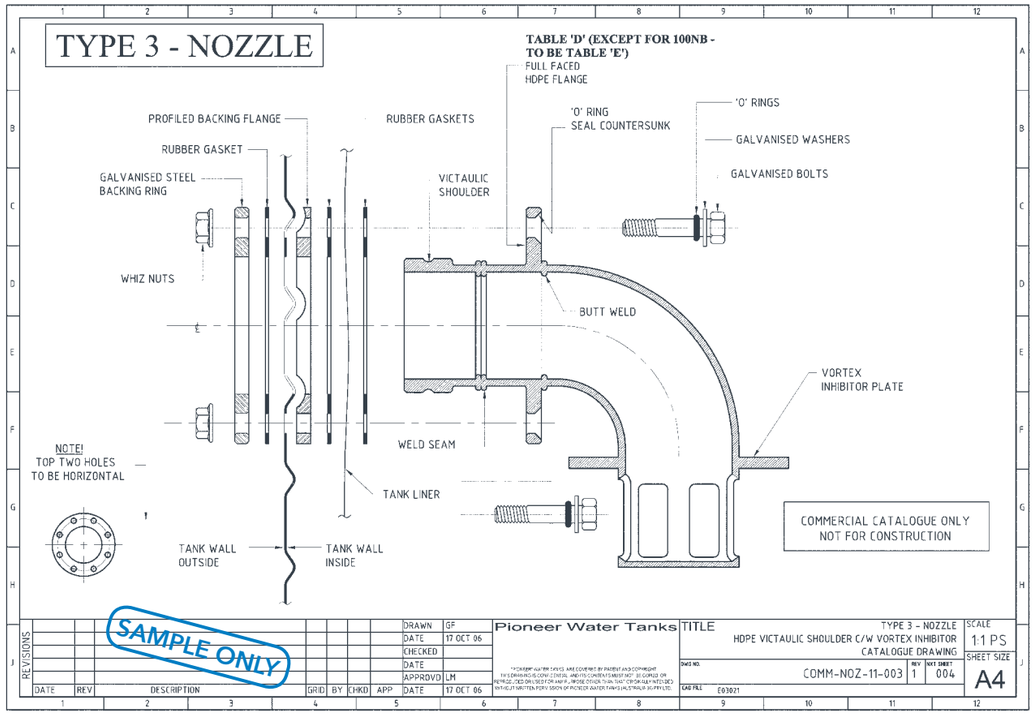


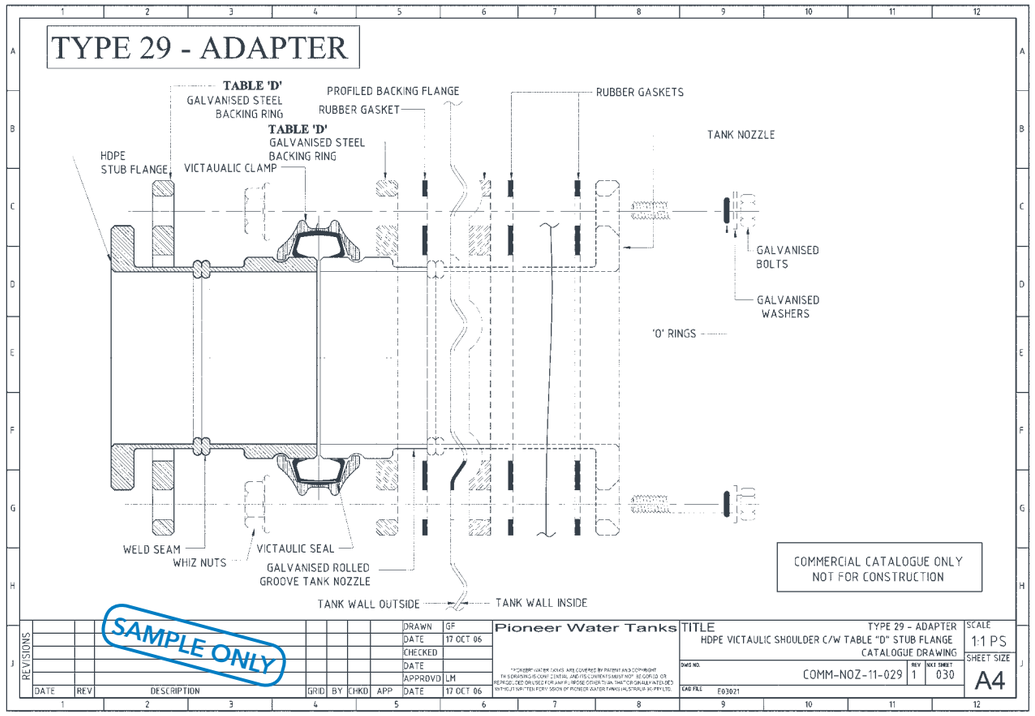
NOZZLE AND FITTINGS DRAWING SAMPLE





NOZZLE AND FITTINGS DRAWING SAMPLE





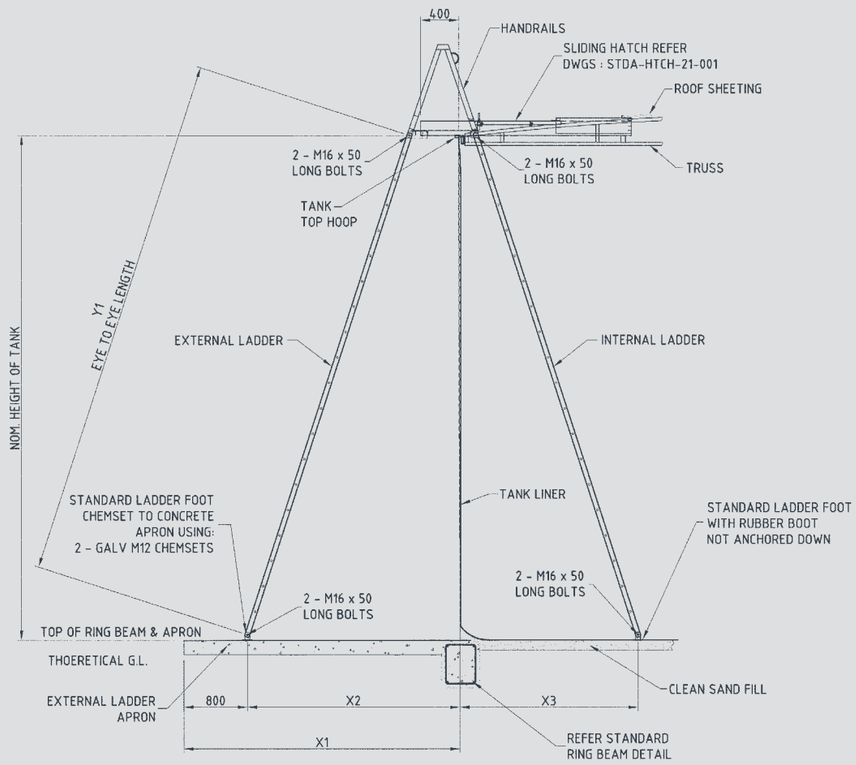
LADDERS AND ACCESS HATCHES

Pioneer Water Tanks ladders and platforms are specifically designed to suit a range of access requirements.

A range of internal and external ladders have been developed to comply with relevant sections of the Australian Standards or customer requirements.

All ladders are hot dipped galvanised or produced in stainless steel, fibreglass, aluminium or powder coated steel.

All commercial style ladders accommodate external and internal platforms, requirements for cages and heights of up to eight metres. These ladders are designed to connect with either the Pioneer Water Tanks roof platform or commercial sliding access hatch.



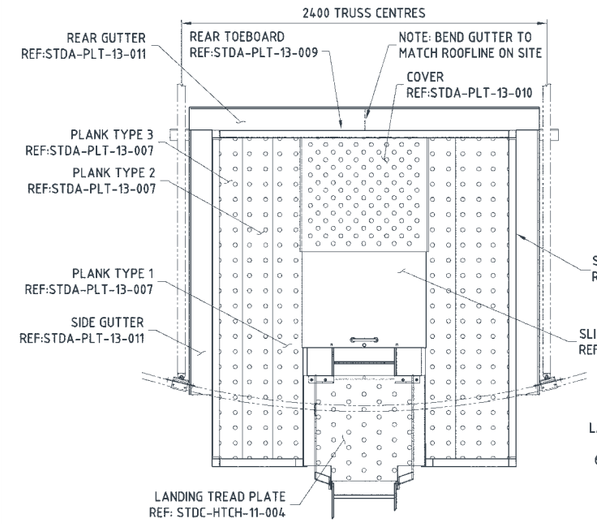
TANK RING HEIGHT	X1	X2	X3	Y1
2 RING	1981	1181	848	2240
3 RING	2060	1260	926	3262
4 RING	2503	1703	1367	4382
5 RING	2937	2137	1800	5502

NOTE:
1. DIMENSIONS GIVEN GEOMETRICALLY CORRECT THOUGH SITE CONDITIONS MAY CAUSE VARIATIONS.
2. CONRETE APRON FROM TANK WALL TO LADDER FOOT(X2) TO BE TRUE & LEVEL WITHIN ±5mm
3. ALL DIMENSIONS IN MILLIMETRES

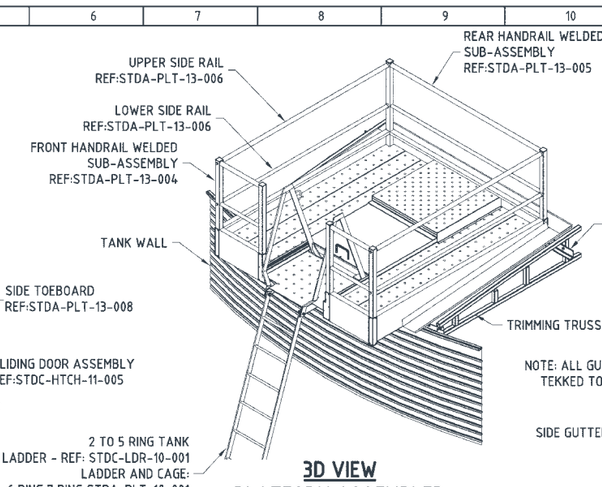
REVISIONS										
								DRAWN	SA
	16 MAY	4	LADDER RUNGS REPLACED WITH REINFORCEMENT BARS	–	OK	TK	GF	DATE	17 MAY 00
	29 SEP 04	3	SLAB REMOVED	F7	GF			CHECKED	GG
	17 JUL 02	2	GENERAL REVISION TO CURRENT DETAILS	–	RC	GF	LM	DATE	18 MAY 00
	29 MAY 00	1	LADDER FOOT ANCHOR UPDATE	E3	GG	–	LM	APPROVD	LM
	DATE	REV	DESCRIPTION	GRID	BY	CHK	APP	DATE	18 MAY 00

Pioneer Water Tanks

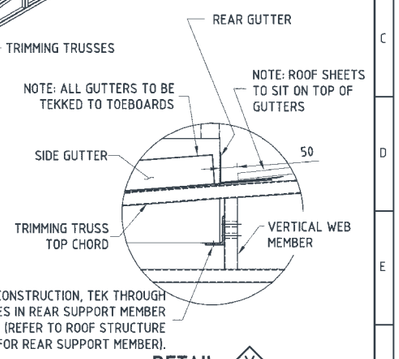
SCALE 1:1 PS
SHEET SIZE A3
TITLE: PWT STANDARD LADDER LADDER SETOUT G.A.
DWG NO. STDC-LDR-10-002
REV 4
CAD FILE E2000-088
NXT SHEET: –



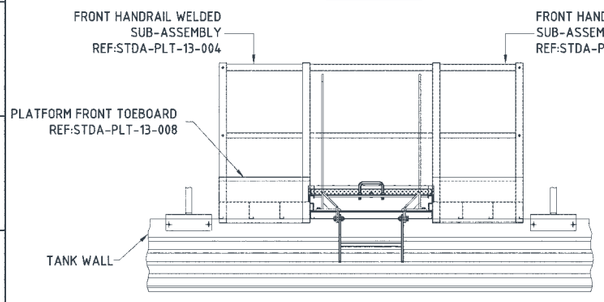
PLAN VIEW



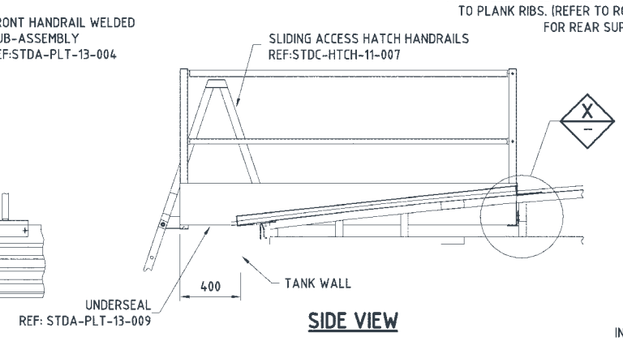
3D VIEW
PLATFORM ASSEMBLED



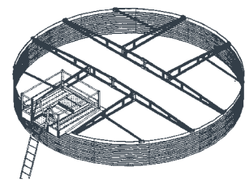
DETAIL X
N.T.S.



FRONT ELEVATION



SIDE VIEW

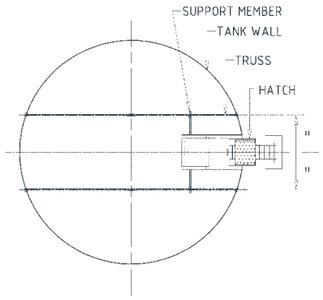


TANK PLAN
INDICATIVE LOCATION FOR ROOF PLATFORM (N.T.S.)

REVISIONS										
								DRAWN	SA
								DATE	26MAR01
								CHECKED	GF
								DATE	04MAY01
	16JUL01	1	HANDRAILS MODIFIED	–	GF	–	LM	APPROVD	LM
	DATE	REV	DESCRIPTION	GRID	BY	CHK	APP	DATE	04MAY01

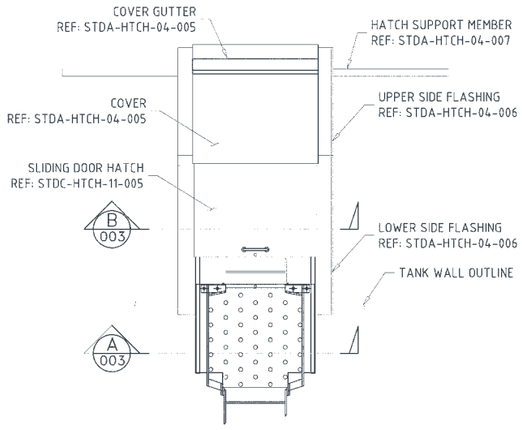
Pioneer Water Tanks

SCALE 1:1 PS
SHEET SIZE A3
TITLE: ROOF PLATFORM GENERAL ARRANGEMENT
DWG NO. STDA-PLT-13-001
REV 1
CAD FILE E2000-073
NXT SHEET: 2

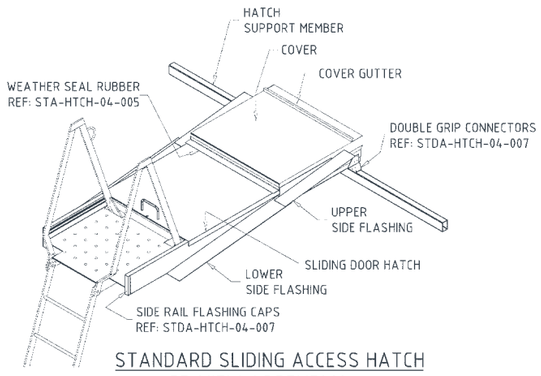


PLAN OF TANK WITH
EVEN NUMBER OF TRUSSES

XL13-X20 & XL35-XL50

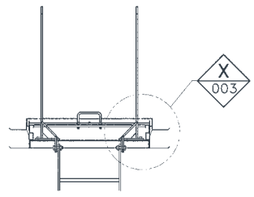


PLAN VIEW

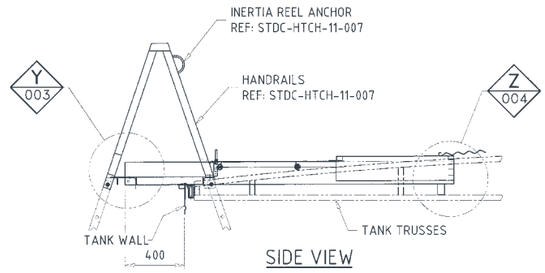


STANDARD SLIDING ACCESS HATCH
3D VIEW ASSEMBLY

N.T.S.



FRONT ELEVATION



SIDE VIEW

REVISIONS	DATE	REV	DESCRIPTION	GRID	BY	CHK	APP	DATE
	24 SEP 03	5	TITLE MODIFIED TO SPECIFY XL13-XL150 ONLY	J12	RC	GF	LM	DRAWN SA
	15 NOV 01	4	TITLE L3 CHANGED TO INDUSTRY STANDARD & CYCLONIC	J11	GF	RC	LM	DATE 08 FEB 01
		3	HANDRAILS MODIFIED	D9	GF	SW	LM	CHECKED GF
						F		DATE 16 FEB 01
	14 APR 05	6	RE-ARRANGEMENT		TK	GF	LM	APPROVD LM
								DATE 16 FEB 01

SAMPLE ONLY

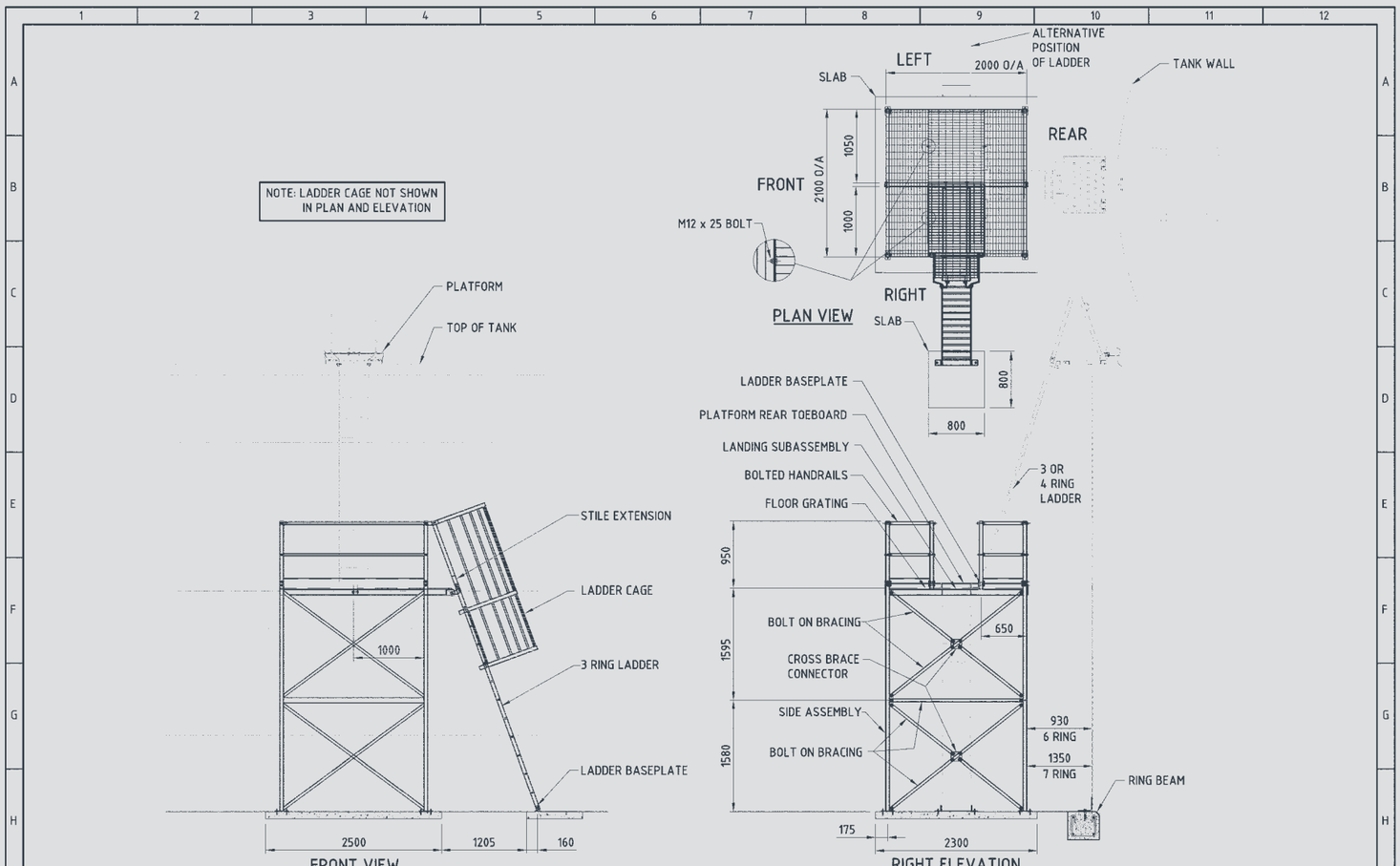
Pioneer Water Tanks

SCALE 1:1 PS
SHEET SIZE A3

TITLE SLIDING ACCESS HATCH
GENERAL ARRANGEMENT FOR XL13 -XL20,XL35-XL50.
INDUSTRY STANDARD AND CYCLONIC ROOFS

DWG NO. STDA-HTCH-04-002 REV 6

CAD FILE 05TANDARDS\HATCH - SLIDING ACCESS\ASSEMBLY NXT SHEET: 003



REVISIONS	DATE	REV	DESCRIPTION	GRID	BY	CHK	APP	DATE
								DRAWN JE
								DATE 17 JULY 07
								CHECKED
								DATE
								APPROVD
	DATE	REV	DESCRIPTION	GRID	BY	CHK	APP	DATE

SAMPLE ONLY

Pioneer Water Tanks

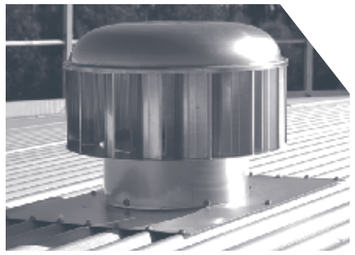
SCALE 1:1 PS
SHEET SIZE A3

TITLE G2 EXTERNAL INTERMEDIATE PLATFORM (R6 & R7)
SIDE ENTRY-BOTTOM LADDER WITH CAGE
GENERAL ARRANGEMENT

DWG NO. STDA-PLT-68-001 REV -

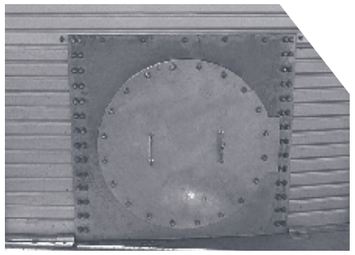
CAD FILE E2000-087 NXT SHEET: –

ACCESSORIES



Ventilation
Airflow is very important when personnel have to enter the tank for routine maintenance checks or remove airborne pollutants and excess condensation from your tank. Procedures for working in confined spaces are recommended.

Scour box
Protects the scour valve from accidental damage or tampering.

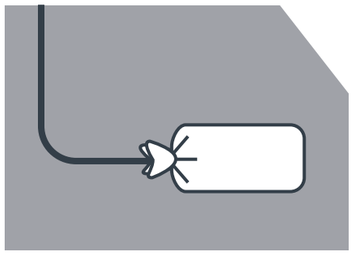


Side wall access hatch
The side wall access hatch allows access to the inside of the tank from ground level in case of an emergency.

Pipe brackets
Pipe brackets are used to stabilise external piping. It is the client's responsibility to ensure ground pipework is appropriately supported.

Fascia
The roof fascia conceals the trimmed edge of the roof sheeting and is ribbed in the same pattern as the wall panels to improve the overall aesthetics of your tank.

Level indicators
Level indicators can be externally mounted to rural or commercial tanks up to eight metres in height to display the level of the water within the tank.



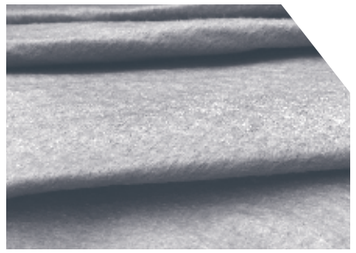
Anode
Anode: Magnesium alloy

Cable: PVC insulated and sheathed 6mm ø cross sectional area

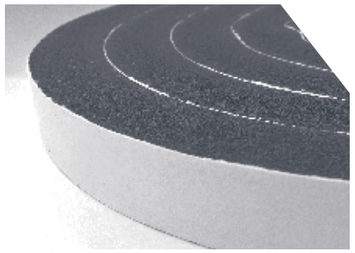
Bag material: calico

Back fill mixture:
A premixed backfill surrounds the magnesium block. The ingredients are mixed in the following proportions as required by Australian Standards (AS 2239):

Bentonite 50%
Gypsum 45%
Sodium Sulphate 5%

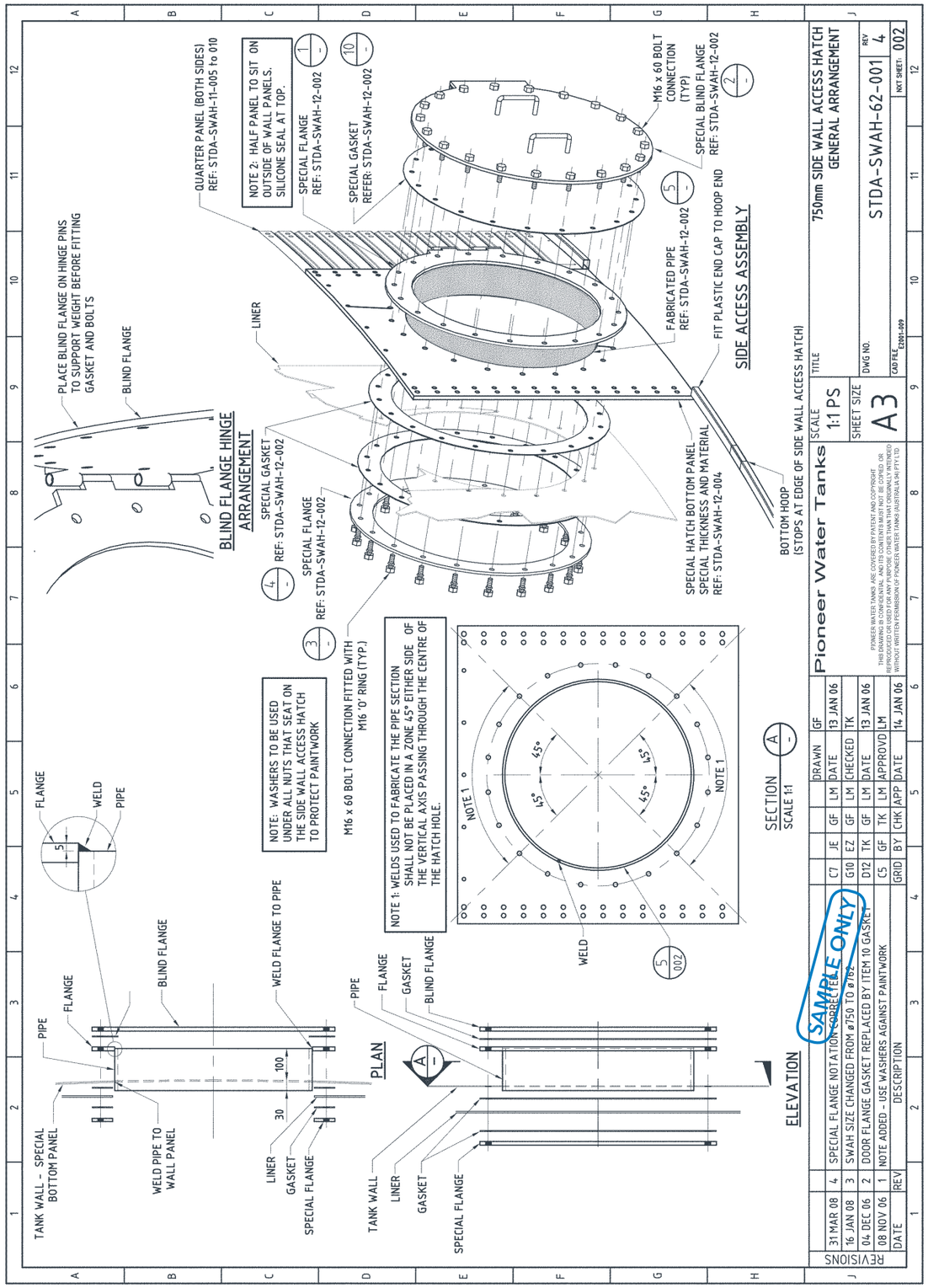


Geotextile
A 100% polyester non-woven material with high breaking strength. We recommend geotextile when clean sand is difficult to source and protection is required against sharp objects such as stones or rocks that may damage or puncture the liner base.



Dust seals
Protects your stored water from dust, insects and frogs by installing dust seal between the corrugated roof and the top edge of the tank.

SIDE WALL ACCESS HATCH DRAWING SAMPLE



SITE AND FOOTING PREPARATION

TANK SITE REQUIREMENTS:

- For commercial size tanks, Pioneer Water Tanks requires a concrete ring beam foundation. Some exclusions apply. Please consult Pioneer Water Tanks for more details.
- It is necessary to construct a level area three to four metres larger than the diameter of the ring beam. The sand inside the ring beam should be a depth of 100 millimetres and compacted. At least one metre clear area is required all around the tank for construction.
- Site preparation must be completed prior to the arrival of installers.
- For sloping sites, adequate retaining and drainage must be installed prior to completion of the tank construction. Professional engineering advice should be sought on the retaining and drainage requirements.
- Pioneer Water Tanks guidelines have to be met to prevent re-charges for cost of additional remedial works that may be required. In the event our crew needs to stand down due to delays or incomplete site preparations, additional costs will be incurred by the client.
- Tanks must be commissioned upon completion of construction as per Pioneer Water Tanks commissioning procedures. If your tank has not been commissioned, Pioneer Water Tanks must be consulted prior to the filling of the tank.

SITE REQUIREMENTS – RING BEAM FOOTINGS

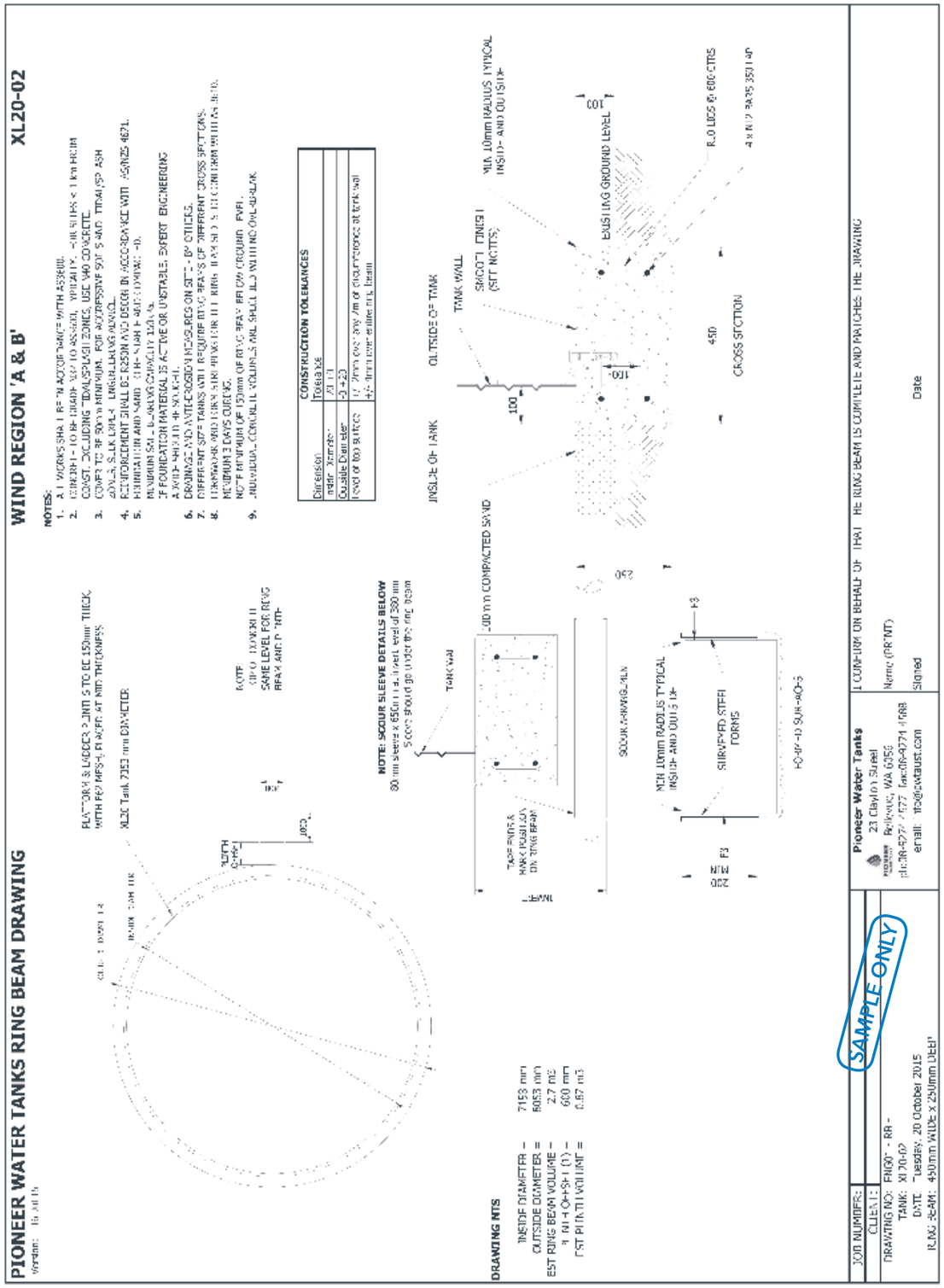
Tank Model	Diameter (m)	Ring Beam Cross Section : Breadth x depth (mm)						
		R2	R3	R4	R5	R6	R7	R8
XL01	2.674	450 x 250	450 x 250	450 x 400	600 x 400	650 x 500	N/A	N/A
XL04	3.342	450 x 250	450 x 250	450 x 300	450 x 400	500 x 500	600 x 600	N/A
XL05	4.011	450 x 250	450 x 250	450 x 300	450 x 400	600 x 400	600 x 600	N/A
XL08	4.679	450 x 250	450 x 250	450 x 300	450 x 400	500 x 400	500 x 500	650 x 500
XL10	5.348	450 x 250	450 x 250	450 x 250	500 x 300	450 x 400	600 x 400	550 x 500
XL13	6.016	450 x 250	450 x 250	450 x 250	450 x 300	450 x 400	550 x 400	500 x 500
XL15	6.685	450 x 250	450 x 250	450 x 250	450 x 300	450 x 400	500 x 400	500 x 500
XL20	7.353	450 x 250	450 x 250	450 x 250	450 x 300	500 x 300	450 x 400	550 x 400
XL23	8.021	450 x 250	450 x 250	450 x 250	450 x 300	450 x 300	450 x 400	500 x 400
XL25	8.690	450 x 250	450 x 250	450 x 250	450 x 300	450 x 300	450 x 400	450 x 400
XL30	9.358	450 x 250	450 x 250	450 x 300	450 x 300	450 x 300	450 x 400	450 x 400
XL35	10.027	450 x 250	450 x 250	450 x 300	450 x 300	450 x 300	450 x 300	450 x 400
XL40	10.695	450 x 250	450 x 250	450 x 300	450 x 300	450 x 300	450 x 300	450 x 400
XL45	11.364	450 x 250	450 x 250	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300
XL50	12.032	450 x 250	450 x 250	450 x 300	450 x 300	450 x 300	500 x 300	450 x 300
XL60	12.701	450 x 300	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	450 x 300
XL65	13.369	450 x 300	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300
XL70	14.037	450 x 300	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300
XL80	14.706	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300
XL85	15.374	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300
XL90	16.043	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300
XL100	16.711	450 x 300	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300
XL110	17.380	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300	500 x 300
XL120	18.048	450 x 300	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300	500 x 300
XL130	18.717	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300	500 x 300	500 x 300
XL140	19.385	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300	500 x 300	500 x 300
XL150	20.054	450 x 300	450 x 300	500 x 300	500 x 300	500 x 300	500 x 300	500 x 300

IMPORTANT NOTE: Ring beams can only be built from approved drawings issued by Pioneer Water Tanks.

RING BEAM FOUNDATION NOTES:

- Ring beam sizes shown are suitable for areas that do not experience cyclonic/ seismic conditions. Special designs are required for cyclonic and seismic areas.
- It is very important for the client to ensure that foundation conditions are adequate. These are:
  - safe bearing capacity shall equal or exceed 150kPa.
  - the founding material shall be stable: landfill or active clay may be unsuitable.
- Most sands and gravels that have been compacted to a reasonable level will be adequate provided there is stable soil beneath.
- Should there be any doubt about the stability or strength of the foundation, site-specific professional engineering advice shall be sought by the client.
- If the tank is likely to experience large settlements (eg: softer clay type sites) consideration shall be given to articulated connections for pipework.
- In areas with corrosive soil conditions, special protective measures shall be used (eg: grade N40 concrete and all steel reinforcement galvanised).
- For tanks taller than two rings, Pioneer Water Tanks utilise a jacking system to construct the tank, elevating it one ring at a time. For tanks larger than 900,000 litres, an additional support bracket is anchored to the vertical face of the ring beam. To ensure this system can be properly employed, it is essential that ring beam specifications are strictly adhered to and that no adjacent concrete is poured prior to jacking. Any unauthorised alterations may inhibit construction and could adversely affect installation of your tank.

RING BEAM FOOTING DRAWING SAMPLE



PROJECT AND SITE SERVICES

Pioneer Water Tanks can offer a comprehensive range of project and site services for your water storage project.

Documentation

Sales documentation, contract administration, product specifications and pricing enabling your water storage project to proceed with confidence.

Project management

Providing comprehensive management and coordination of all aspects of your project for a safe, timely, cost effective delivery and installation.

Engineering and drafting

Custom designs, detailed drawings and professionally engineered storage solutions.

Construction

An experienced, efficient and professional installation team highly trained in safe methods of work and disciplined to operate within the strictest client site requirements.

Civil works

Provision of civil services including tank foundations (such as concrete ring beams).

Structural works

Including design, fabrication and erection of tank stands, platforms and ladders.

Plumbing

Supply and installation of pipe-work and fittings associated with your water storage project. Includes provision of automation such as level control and telemetry on water storage tanks.

Commissioning and maintenance

A comprehensive after-sales service, including full on-site commissioning of your storage tank(s) and the provision of ongoing preventive maintenance services, site inspections and reports.

Internal inspection using Remote Operated Vehicles (ROV) eliminate the need for down time and service interruptions.

Pioneer Water Tanks can provide swift response to rectify damage caused by external unplanned factors or accidents. In the unlikely event of a warranty or performance issue our professional staff will be on-site to provide quick assessment and corrective services.

OUR REFERENCES

Pioneer Water Tanks' commercial and technical sales team has many years of experience and an intricate knowledge of specialised industrial and commercial project requirements both in Australia and around the world.

Installing in excess of 4,000 water tanks each year Australia wide and in over 30 countries, our fast installation time frame and flat packaging for easy transportation are just two of the reasons why our clients have chosen to invest in our tanks.

Following is a partial list of our past projects.

MINING AND EXPLORATION

- **Bounty Mine Forrestania, WA.**
  250kL process tank and 100kL potable water tank.
- **Pannawonica Mine Site, WA.**
  720kL cyclone rated heavy-duty tank.
- **Gold mine site, Kalgoorlie, WA.**
  500kL process plant tank.
- **Cannington silver and lead mine, North QLD.**
  1.0mL x2 storage/processing tanks.
- **Gold mine, Bendigo, VIC.**
  250kL process water tank.
- **Nickel mine, QLD.**
  363kL chemical treated tank.
- **Cullen Valley Mine, NSW.**
  219kL raw water storage tank.
- **Boddington Gold Mine,WA.**
  434kL process water storage tank.
- **Iron ore mine, Yandi, WA.**
  384kL x4 water storage tanks.
- **Ore Body 23, Newman WA.**
  1.0mL water storage tank.
- **Paraburdoo Iron Ore Mine Site, WA.**
  1.14mL x2 process water storage tanks.
- **Paraburdoo Iron Ore Mine Site, WA.**
  2.6mL process water storage tank.
- **Collie Power Station, WA.**
  2.18mL process water storage tanks.
- **LNG plant, WA.**
  27 x 1.0mL fire process water storage tanks.

COMMERCIAL AND INDUSTRIAL

- **WA State Government, York, WA.**
  328kL potable storage tank.
- **WA State Government, Lancelin, WA.**
  294kL x2 potable storage tanks.
- **WA State Government, Dalyellup, WA.**
  1.3mL potable storage tank.
- **WA State Government, Greenhead, WA.**
  200kL potable storage tank.
- **WA State Government, Sovereign Hill, WA.**
  150kL potable storage tank.
- **Electricity generation, Tasmania.**
  1.0mL potable storage tank.
- **Winery, Mt Barker, WA.**
  400kL x2 bio-reactor storage tanks.
- **Poultry site, Tamworth, NSW.**
  1.5mL x2 processing tanks.
- **Community water project, Warburton, WA.**
  500kL potable storage tank.
- **Dairy products processing site, Cobden, VIC.**
  250kL x2 effluent storage tanks.
- **Victorian State Government (VIC).**
  1.27mL reuse water scheme tank.

FIRE CONTROL

- **Fire Safe Systems, Kewdale, WA.**
  143kL x4 fire water storage tanks.
- **Coal mine, Douglas Park, NSW.**
  330kL underground water services tank.
- **Food warehouse, Canning Vale, WA.**
  300kL x3 fire water storage tanks.
- **Meat processing site, Wagga Wagga, NSW.**
  250kL x2 fire water storage tanks.
- **Building company, NSW.**
  323kL potable water storage tank.
- **College site, Stanwell Tops, NSW.**
  244kL fire water storage tank.
- **National electricity retailer, Midland, WA.**
  75kL fire service water storage tank.
- **Fire solutions provider, Welshpool, WA.**
  500kL fire service water storage.

OVERSEAS EXPORT MARKETS

- **Middle East:**
  United Arab Emirates, Saudi Arabia, Oman, Qatar, Egypt, Kuwait.
- **South Pacific:**
  Cook Islands, Fiji, Tahiti, PNG, Norfolk Island, New Zealand, New Caledonia.
- **South East Asia:**
  Malaysia, Brunei, Singapore, Thailand, Timor, Indonesia.
- **Africa:**
  South Africa, Congo, Zambia, Nigeria, Ghana, Botswana, Namibia, Algeria, Kenya.
- **South America:**
  Chile, Argentina, Peru, Uruguay, Costa Rica.
- **West Indies:**
  Haiti, Santo Domingo.
- **North America:**
  Texas/California.

April 2019

PIONEER
WATER TANKS

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