

ZCL | XERXES[®]

Water and Wastewater

Fiberglass Storage Tanks



THE ZCL | XERXES ADVANTAGE

ZCL | Xerxes is an industry leader in the design and manufacture of fiberglass-reinforced plastic (FRP) tanks. Over the past 40 years, we have protected the environment with secure, watertight fuel storage solutions. Our proven track record – of more than 200,000 tanks shipped – gives customers peace of mind when they need corrosion-resistant liquid storage.

We also provide customers in the water and wastewater markets with durable, innovative and customizable storage tanks. Our expert sales, engineering and manufacturing teams provide customers with high-performance solutions to fit the requirements of their projects.



WATER AND WASTEWATER APPLICATIONS

- Onsite wastewater/septic
- Stormwater
- Rainwater harvesting
- Wastewater reuse
- Fire protection
- Potable water storage (NSF 61-listed)
- Grease interceptor
- Oil interceptor
- Solids-sand interceptor
- Oil-water separator
- Industrial wastewater
- Decontamination

THE FIBERGLASS ADVANTAGE

ZCL | Xerxes FRP storage tanks offer customers significant advantages over other tank options. Our water and wastewater tanks comply with the ANSI/AWWA D120 standard.

Depending on the application, they also comply with other industry standards. (See specific application sections for more details.)



DESIGN FLEXIBILITY

- Single-wall and double-wall models
- Single tank sizes up to 60,000 gallons [227,000 liters] for some applications
- Wide range of underground and select aboveground installations
- Single-tank and multiple-tank installations
- Horizontal and vertical models
- Accessories to fit wide range of applications

EASY TO SHIP, INSTALL AND MAINTAIN

- Lightweight – easy and cost-effective to ship
- Six strategically located manufacturing facilities across North America
- Large-capacity tank can ship on one truck bed
- Easy to install in remote locations
- Easy to install in tight footprints
- Smooth, rounded tank walls easy to clean – debris doesn't get trapped in corners

MATERIAL ADVANTAGES

- Corrosion-resistant to surrounding soil
- Corrosion-resistant to stored liquids
- Premium resin – no fillers
- No protective lining or coating needed
- Watertight design
- No ongoing maintenance or inspections required

STRUCTURAL STRENGTH

- Not limited by burial depth
- Not limited by water table
- Tanks designed to withstand H-20/HS-20 and H-25/HS-25 axle loads
- Integral, high-profile fiberglass ribs increase strength
- Vacuum testing available for certain applications

WASTEWATER TANKS

In both onsite and municipal wastewater systems, secure storage of corrosive wastewater is essential. Our corrosion-resistant tanks provide watertight storage with no need for added liners, which require ongoing inspection and maintenance. The smooth, rounded walls of our tanks are easy to clean and won't trap debris like tanks with corners.

Our tanks can be part of onsite septic systems. They can be manufactured to comply with the IAPMO/ANSI Z1000 standard.

COMPATIBLE WITH TREATMENT SYSTEMS

We work with treatment system packagers to ensure our tanks are designed and manufactured to meet multiple configurations:

- Primary/secondary treatment
- Aerobic treatment
- Fixed-film media
- Recirculation
- Dosing

STORMWATER

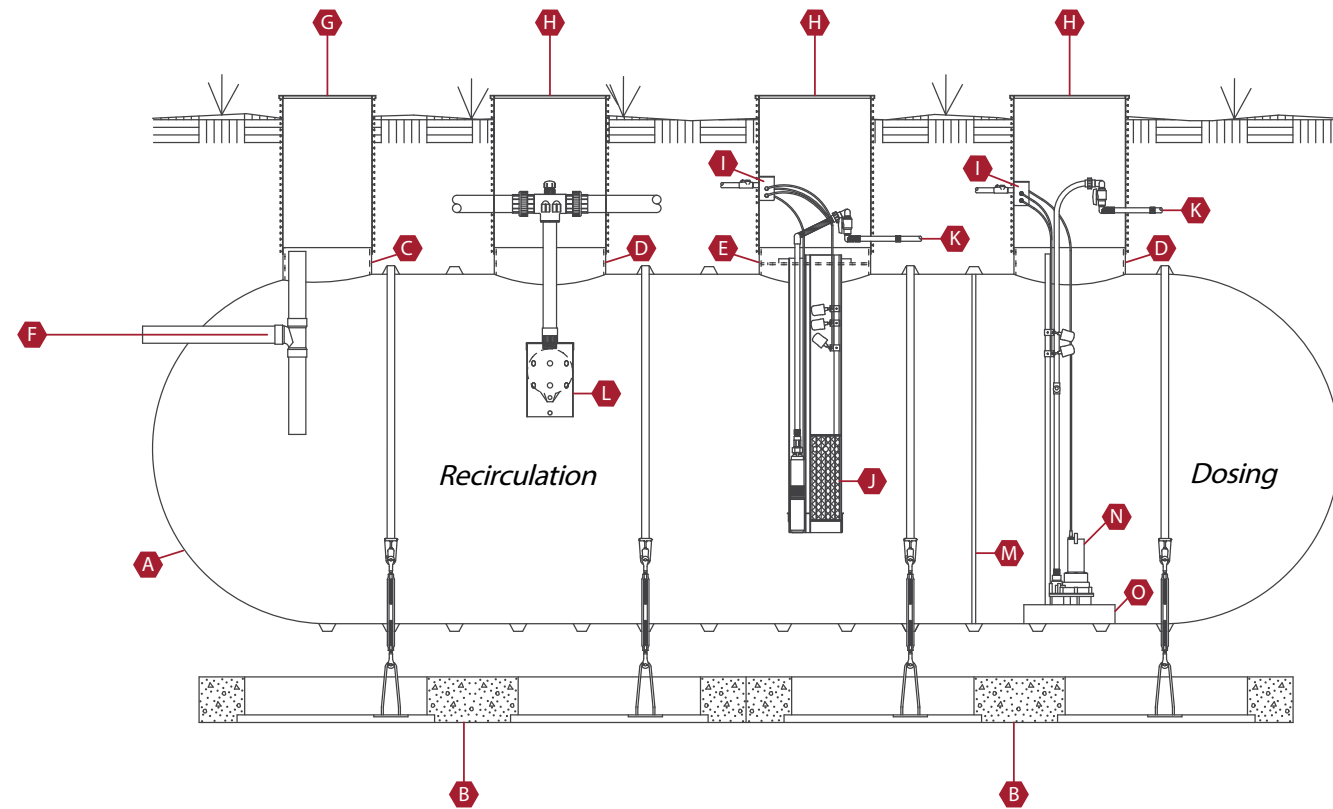
ZCL | Xerxes stormwater tanks can help engineers, developers and contractors handle stormwater with a variety of options. FRP underground tanks are a watertight, corrosion-resistant solution for controlling stormwater flows. Our stormwater tanks can be manufactured to comply with the IAPMO/ANSI Z1002 standard.

TYPICAL APPLICATIONS

- Stormwater retention
- Stormwater detention
- Combined sewer overflow (CSO) management
- Sanitary sewer overflow (SSO) management

DESIGN FLEXIBILITY OPTIONS

- Tank sizes up to 12' diameters
- Tank capacities up to 60,000 gallons [227,000 liters]
- Inlet pipes up to 48" diameters
- Inlet diffuser system for slowing high-velocity flows
- Baffles to separate solids and hydrocarbons
- Access-openings up to 60" diameters
- FRP inspection ladders
- Inspection ports: 4", 6" and 8" diameters
- Outlets or interconnection piping up to 48" diameters
- Outlet-control structure (OCS) for restricted discharge



CODE	DESCRIPTION		
A	ZCL Xerxes Single-Wall FRP Tank	F	4" SCH. 40 PVC Inlet Piping w/ Sanitary Tee
B	ZCL Xerxes Prefabricated Deadman System w/ Anchor Strap and Turnbuckle	G	24" Ribbed PVC Riser with FRP Lid
C	24" FRP Opening	H	30" Ribbed PVC Riser with FRP Lid
D	30" FRP Opening	I	PVC Splice Box with Cord Grips
E	30" FRP Opening with Internal Flange	J	Suspended Effluent Pump with Filter and Level Control Float Assembly
		K	Effluent Discharge
		L	Recirculation Splitter Valve
		M	Full Solid FRP Baffle Wall
		N	Base-Mounted Effluent Pump with Level Control Float Assembly
		O	24" x 24" FRP Pump Platform

RAINWATER HARVESTING

Rainwater collection helps reduce water consumption, and helps provide sustainable benefits for homes, businesses and communities. Collected water is often used for irrigation and landscaping. It can also be treated and then used in a building to flush toilets. This may require our NSF 61-listed tanks.

Our rainwater tanks can be manufactured to comply with the IAPMO/ANSI Z1002 standard.

WASTEWATER REUSE

Wastewater systems can collect all used water, greywater and wastewater from within a building. Our tanks store this used water that is then treated and reused for nonpotable water uses, such as toilet flushing and irrigation.

Our tanks are ideal for use with treatment system packages because they are corrosion-resistant, both inside and out.

Case Study: Rainwater Collection

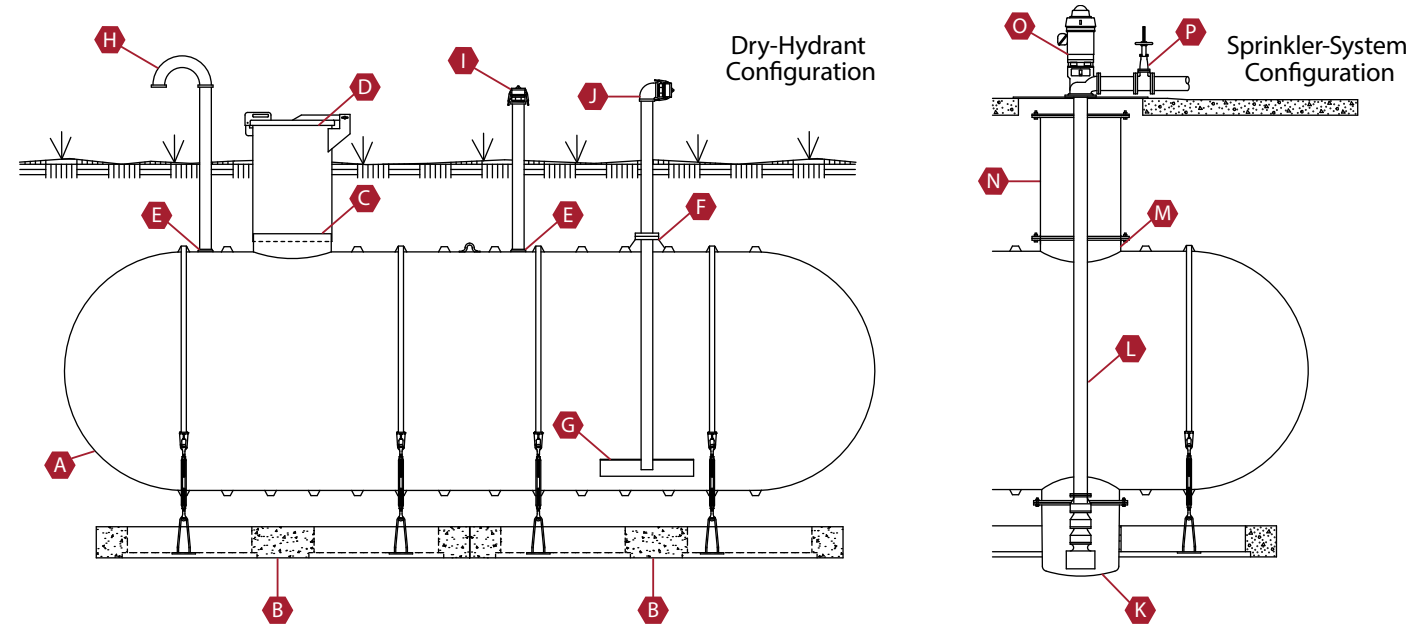
Four ZCL | Xerxes 20,000-gallon [75,000-liter] tanks collect water from a 60,000-square-foot glass rooftop of the Milwaukee County Greenhouses in Wisconsin. They are part of a system that filters, disinfects and redistributes water for year-round irrigation inside the greenhouses. This translates into the collection and use of up to one million gallons of rainwater each year.



FIRE PROTECTION TANKS

Our tanks can be used to store either primary or secondary water supplies for fire protection. Municipalities and developers often install fire protection water tanks when developments are far from municipal water supplies. The tanks are also an ideal solution for sites that don't have sufficient water volume or pressure for fire protection needs.

The tanks can provide water for a building's sprinkler system or give fire trucks quick, easy access to water for dry-hydrant connections. Our fire protection tanks comply with NFPA 20, 22 and 1142 standards. When used as dual-purpose water tanks that store potable water, they are available as NSF 61-listed (and labeled) tanks.



CODE	DESCRIPTION	E	4" NPT Service Fitting
A	ZCL I Xerxes Single-Wall FRP Tank	F	4" FRP Flanged and Gusseted Down Pipe
B	ZCL I Xerxes Prefabricated Deadman System with Anchor Strap and Turnbuckle Assembly	G	FRP Anti-vortex Plate
C	30" I.D. Access Opening w/Alignment Ring	H	4" Vent Pipe with Bird Screen
D	30" FRP Riser Pipe with Hinged and Lockable Top and Gel Coat	I	4" Fill with Cam Lock Connection
		J	4" Suction with Fire Department Connection
		K	30" FRP Flanged Bottom Sump

L	6" Vertical Pump Shaft Housing with Bowl Assembly and Strainer
M	30" Manway with Blank Cover
N	30" Manway Extension
O	Vertical Pump with Discharge Head and Mounting Plate
P	Discharge Valve and Piping

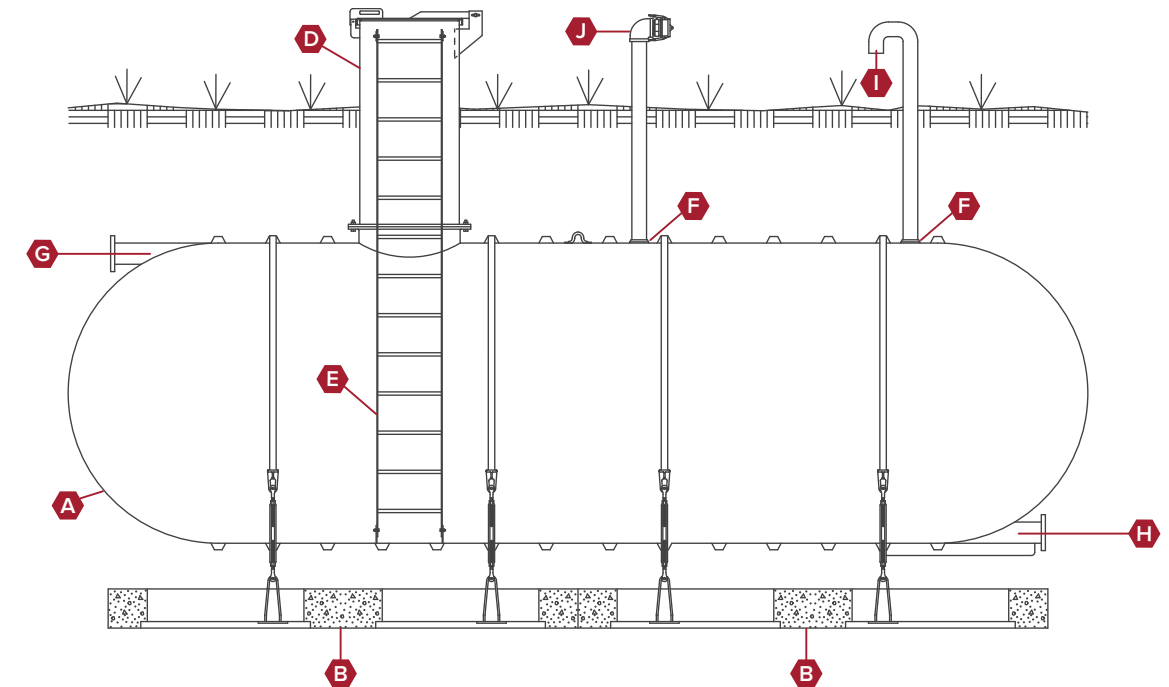
POTABLE WATER TANKS

ZCL I Xerxes NSF 61-listed potable water tanks are manufactured in our NSF-certified facilities. Our potable water tanks have a 30-year limited warranty.

Locations with remote water sources or low-performing wells require water storage tanks. Some customers store potable water and fire protection water in the same vessel.

TYPICAL APPLICATIONS

- Parks
- Schools and churches
- Campgrounds
- Private residences
- Subdivisions
- Hospitals (emergency storage)



CODE	DESCRIPTION
A	ZCL I Xerxes Single-Wall FRP Storage Tank
B	ZCL I Xerxes Prefabricated Deadman System with Anchor Strap and Turnbuckle Assembly
C	30" Manway with (Blank Cover For Tank Testing Only)

D	30" Manway Extension Access with Hinged and Lockable Top (UV Protected)
E	NSF-Approved FRP Ladder
F	4" NPT Service Fitting
G	6" NSF-Approved Tangential Nozzle

H	6" NSF-Approved Tangential Full Bottom Drain Nozzle
I	4" Vent Pipe with Gooseneck and Bug Screen
J	4" Auxiliary Fill with CAM Lock Connection

Case Study: Supplemental Water

As Stantec developed the design for a Toronto college's new aerospace center, they realized that the available fire protection water flow from the onsite system did not meet the city's requirement for water supply. Three ZCL I Xerxes 35,000-gallon [132,000-liter] tanks now provide the supplemental water. This installation took less than four hours from offloading to burying the tanks.



Case Study: Water for Remote Sites

When the US Forest Service needed to install potable water tanks in their campgrounds, they came to ZCL I Xerxes because they needed corrosion-resistant tanks with an NSF 61 label. They also needed lightweight tanks. Remote sites like these require tanks that are easy to offload in a parking lot or narrow road and then moved to the excavation with a small crane or excavator. We provided hinged, lockable lids for the risers, and gel coated them to blend into the forest environment.

INTERCEPTOR AND SEPARATOR TANKS



GREASE INTERCEPTORS

Food-service establishments install grease interceptors to collect fats, oils and grease (FOG) before wastewater enters the municipal or onsite wastewater systems.

Aging grease traps built out of steel or concrete inevitably fail over time because they are not corrosion-resistant. When they fail, local governments may have to pay substantial costs for sewer system cleanup. Facility owners may incur fines in addition to the cost of repairing or replacing their grease-trap system. Our fiberglass grease interceptor is a long-term, cost-effective solution that comes with a 30-year limited warranty.

ZCL | Xerxes fiberglass grease interceptors do not require ongoing maintenance aside from scheduled pump-outs. The tank's rounded shape allows for easy pump-out and cleaning.

In contrast to maintenance-free fiberglass, porous concrete is susceptible to deterioration caused by the bacteria that generates hydrogen sulfide and sulfuric acid.

Our grease interceptors comply with the IAPMO/ANSI Z1001 standard. They can be labeled to indicate compliance with the UPC® code.

TYPICAL APPLICATIONS

- Restaurants
- Grocery stores
- Food-processing plants
- Sports stadiums
- Airports
- Schools and universities
- Hospitals and clinics
- Assisted-living facilities
- Correctional institutions

Case Study: Mall Food Court

Most restaurants and food-processing facilities need a single grease interceptor, but larger projects can require more. We provided 20 grease interceptors to an upscale mall in Northern California. In this highly regulated, environmentally sensitive location, our corrosion-resistant tanks provide maximum environmental protection.



OIL INTERCEPTORS

Business owners install oil interceptors to prevent environmental pollution and avoid costly fines. Drains in parking garages, vehicle-maintenance facilities and manufacturing plants collect water runoff. Oil interceptors slow the water flow so oil can float to the surface and sediment can fall to the bottom of the tank.

SOLIDS-SAND INTERCEPTORS

These ZCL | Xerxes tanks allow for heavier solids, sand and grit to drop out of suspension prior to leaving the facility. Some facilities need a two-step separation process, which is met by installing our solids-sand interceptor in combination with either our oil interceptor or oil-water separator.

OIL-WATER SEPARATORS

Our oil-water separators remove free-floating oils and settleable sands from oil-water mixtures. A coalescer option is available to produce effluent quality acceptable to most regulatory requirements for water runoff. Our oil-water separators are available as labeled tanks indicating they are UL 2215-listed and ULC S656-listed models.

TYPICAL APPLICATIONS

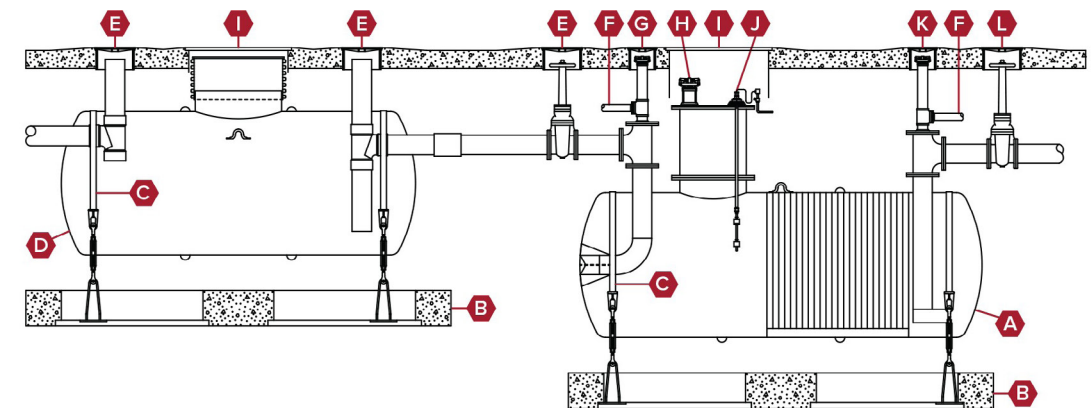
- Auto dealerships
- Car washes
- Vehicle maintenance facilities
- Parking decks
- State, provincial and municipal transportation facilities

TYPICAL APPLICATIONS

- Car-wash bays
- Hospitals
- Schools and universities
- Grocery and convenience stores
- State, provincial and municipal transportation facilities
- Food-processing plants

TYPICAL APPLICATIONS

- Parking lots
- Equipment washdown stations
- Vehicle repair garages
- Bulk fuel plants
- Truck stops



CODE	DESCRIPTION
A	Xerxes Single-Wall Fiberglass Storage Tank
B	Prefabricated Concrete Deadman System
C	Anchor Strap with Turnbuckle Assembly
D	Xerxes Single-Wall Solids Interceptor

E	12" Round Manhole (Influent Shut Off)*
F	Vent to Aboveground*
G	8" Round Manhole (Influent Sampling)*
H	Pump-Out Cap & Adapter*

I	36" Round Manhole*
J	Level Probe*
K	8" Round Manhole (Effluent Sampling)*
L	12" Round Manhole (Effluent Shut Off)*

* Supplied by others

INDUSTRIAL WASTEWATER TANKS

Our corrosion-resistant fiberglass tanks are ideal for factory washdown, emergency spills and landfill leachate runoff. The tanks securely collect benign or hazardous materials before they are treated or removed from the site. We offer single-wall tanks and double-wall tanks with interstitial monitoring for added protection.

We also manufacture tanks to collect chemically contaminated fire-protection water and aqueous film-forming foam (AFFF) runoff.



TYPICAL APPLICATIONS

- Food- and beverage-processing facilities
- Aircraft hangar AFFF collection
- Shower decontamination
- Landfills
- Chemical-fire contaminated-water collection

DECONTAMINATION TANKS

Medical centers, laboratories and manufacturing facilities remove chemical and biological contaminants from personnel, clothing, equipment, floors and other surfaces. Our corrosion-resistant decontamination tanks securely store the decontamination washdown.

TYPICAL APPLICATIONS

- Industrial manufacturing facilities
- Hospitals
- Laboratories
- Medical facilities

ACCESSORIES

We offer a wide selection of accessories and fittings to support a variety of project and site requirements. Our sales and engineering teams help customers find the right solution for their projects.

COMMON ACCESSORIES

- Access openings/manways
- Access risers/extensions
- Baffles, weirs and partition walls
- Pump platforms
- Anti-vortex plates
- FRP or PVC pipe penetrations
- FRP or PVC flanged fittings
- NPT threaded fittings
- Engineered anchoring systems
- Other accessories available

US TANK DATA CHART

	Nominal tank capacities (gallons)	Single-wall and double-wall tank lengths (inches)	Single-wall tank weights (pounds)	Double-wall tank weights (pounds)
4-foot-diameter tanks	600	6'-11 1/8" SW 7'-3 1/2" DW	600	900
	1,000	11'-3 3/8" SW 11'-7 1/2" DW	900	1,400
	1,500	16'-0" SW 16'-3 3/8" DW	1,400	2,100
6-foot-diameter tanks	1,500	10'-7 1/4"	1,000	1,700
	2,000	13'-5 3/4"	1,300	—
	2,500	13'-5 3/4"	—	2,200
	3,000	16'-4 1/4"	1,600	2,600
	4,000	21'-11 1/8" SW 20'-8" DW	2,200	3,600
	5,000	26'-5"	2,600	4,300
8-foot-diameter tanks	3,000	12'-3"	1,400	2,100
	4,000	15'-1/2"	1,800	2,700
	5,000	17'-8 1/2"	2,200	3,200
	6,000	20'-6 1/2"	2,600	3,700
	7,000	23'-1"	3,000	4,300
	8,000	26'-1/2"	3,400	4,800
	9,000	28'-9"	3,800	5,400
	10,000	31'-6 1/2"	4,200	5,900
	11,000	34'-4"	4,700	6,400
	12,000	37'-1/2"	5,100	7,000
	13,000	41'-2"	5,600	7,600
	14,000	43'-11 1/2"	6,000	8,200
	15,000	46'-9"	6,600	9,100
10-foot-diameter tanks	10,000	21'-5 1/4"	4,500	4,900
	11,000	22'-9 3/4"	4,800	5,200
	12,000	24'-1/4"	5,100	5,600
	13,000	25'-6 3/4"	5,500	5,900
	14,000	26'-11 1/4"	5,800	6,300
	15,000	29'-5 3/4"	6,600	7,000
	20,000	37'-8 3/4"	8,600	9,000
	22,000	42'-3/4"	9,700	10,500
	25,000	47'-6 3/4"	11,100	11,800
	30,000	55'-9 3/4"	13,200	14,000
	35,000	64'-3/4"	15,400	16,500
40,000	73'-8 1/4"	17,900	19,000	
12-foot-diameter tanks	20,000	29'-4"	9,200	14,000
	25,000	35'-7"	10,800	16,600
	30,000	43'-1"	13,100	19,900
	35,000	49'-4"	14,700	22,500
	40,000	54'-4"	16,100	24,600
	48,000	65'-7"	19,300	29,500
	50,000	68'-1"	20,000	30,500

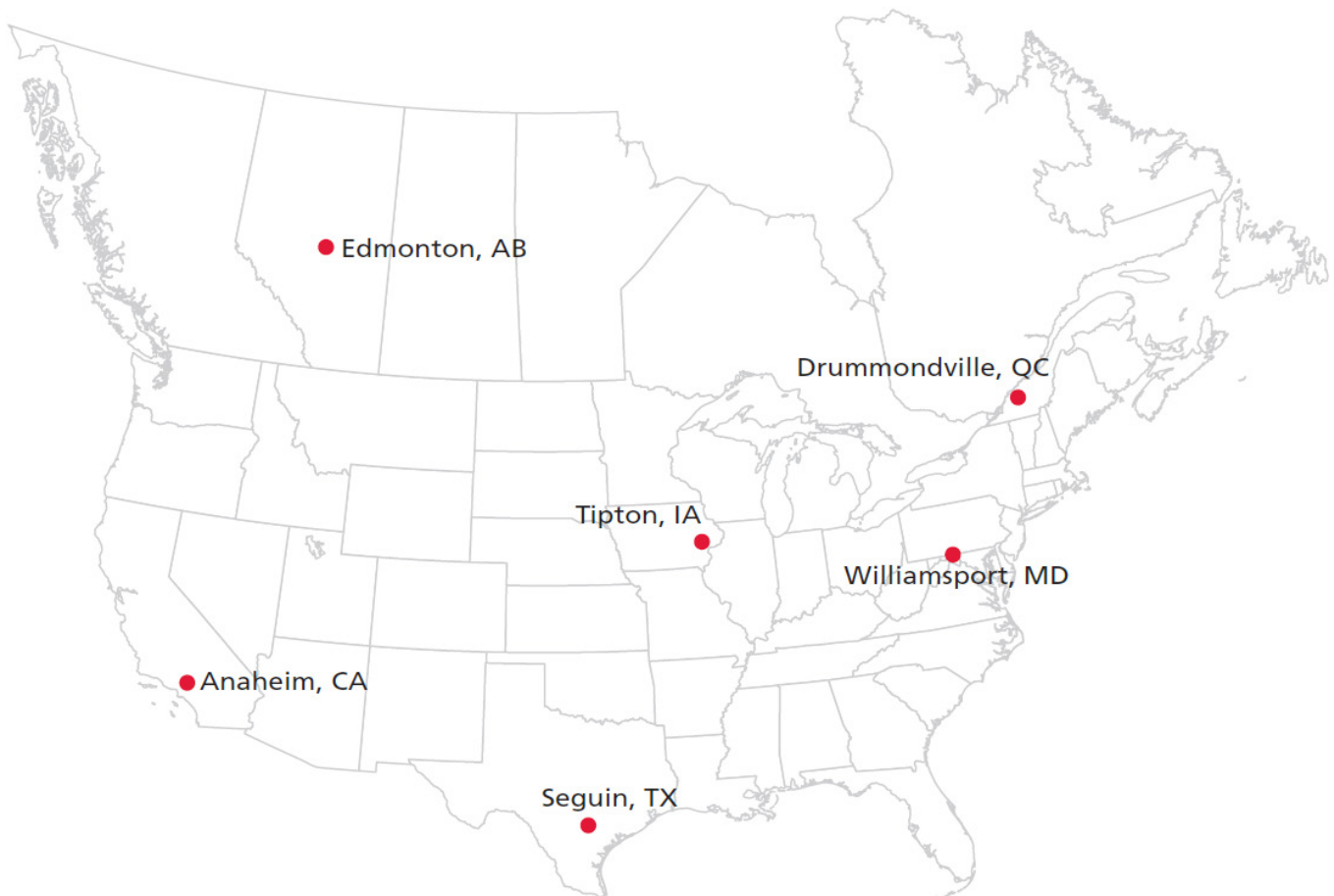
CANADIAN TANK DATA CHART

	Nominal tank capacities (liters)	Single-wall tank lengths (millimeters)	Double-wall tank lengths (millimeters)	Single-wall tank weights (kilograms)	Double-wall tank weights (kilograms)
4-foot-diameter tanks	2,500	2,295	2,303	300	400
	3,900	3,387	3,395	400	500
	5,000	4,368	4,380	500	600
6-foot-diameter tanks	10,000	4,520	4,520	500	900
	15,000	6,528	6,604	800	1,300
	20,000	8,426	8,465	1,000	1,700
	25,000	10,287	10,420	1,300	2,200
8-foot-diameter tanks	15,000	3,981	3,994	600	900
	20,000	5,086	5,137	900	1,200
	25,000	6,064	6,090	1,100	1,400
	30,000	7,214	7,264	1,300	1,700
	35,000	8,141	8,185	1,500	2,000
	40,000	9,341	9,392	1,800	2,300
	45,000	10,363	10,363	1,900	2,500
	50,000	11,259	11,328	2,100	2,700
	60,000	13,500	13,500	2,600	3,400
	65,000	14,522	14,522	2,900	3,700
	10-foot-diameter tanks	50,000	7,449	7,449	2,600
55,000		8,280	8,280	2,900	3,200
60,000		8,827	8,827	3,100	3,300
65,000		9,576	9,576	3,400	3,600
70,000		10,395	10,395	3,600	3,900
75,000		10,903	10,903	3,800	4,100
80,000		11,582	11,582	4,000	4,400
85,000		12,268	12,268	4,200	4,700
90,000		13,068	13,068	4,500	5,000
100,000		14,345	14,345	5,000	5,400
110,000		15,723	15,723	5,400	5,900
115,000		16,097	16,097	5,500	6,100
135,000		18,745	18,745	6,400	7,100
150,000		21,406	21,406	7,300	8,100
12-foot-diameter tanks	80,000	8,941	8,941	4,200	6,400
	95,000	10,846	10,846	4,900	7,600
	120,000	13,132	13,132	6,000	9,100
	135,000	15,037	15,037	6,700	10,300
	150,000	16,561	16,561	7,400	11,200
	185,000	19,990	19,990	8,800	13,400
	190,000	20,752	20,752	9,100	13,900

MULTIPLE FACILITIES FOR TIMELY MANUFACTURING AND DELIVERY

With six ZCL | Xerxes manufacturing facilities in North America, no matter where customers need fiberglass tanks and accessories shipped, a manufacturing facility is not far away. No other tank producer offers this kind of manufacturing capability in North America.

In April 2019, ZCL | Xerxes became a product line of storage tanks within the Composite Production Systems division of Shawcor Ltd. Shawcor continues to grow significantly, expanding both its service offerings and geographical scope. The Shawcor network is engineered to handle your most challenging projects and most demanding specifications – wherever you are in the world.



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