





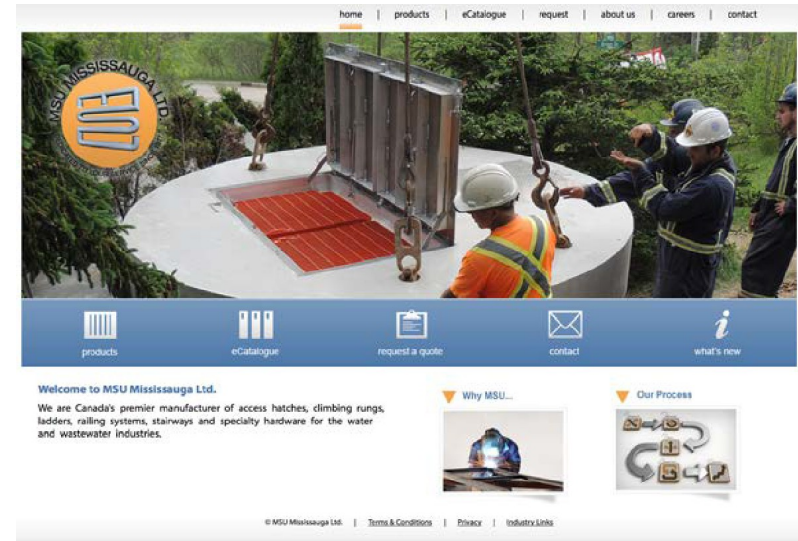
Introduction

Founded in 1977, MSU Mississauga LTD. is a Canadian owned and operated manufacturer of products for the water and wastewater industries.

Today, MSU stands on a solid foundation of innovative design, craftsmanship and sound business practices which over the years has built the company's reputation as one of North America's premier manufacturers of quality hardware for the water and wastewater industries.

Located in south western Mississauga, Ontario and employing 20 people, the MSU Mississauga operation is a 16,200 square foot (1488 square meters) facility housing a full range of metal fabrication equipment.

Our business systems are supported by Visual Manufacturing's ERP and by the Maximizer's CRM software; this enables us to manage all aspects of your project and our business at a level of detail unique to a company of MSU's size. All product and shop drawings are prepared in AutoCAD.





Quality Assurance and Welding

MSU runs an ISO compliant Quality Management System which tracks all aspects of product design and manufacture. Every product made is tracked by a detail manufacturing drawing and work order which details all processes and materials. Material Test Reports support all raw materials quality.

All MSU welds are comply with AWS and CSA standards. Welding to AWS and CSA Standards is a requirement in building codes, occupational health and safety legislations, structural design codes for aluminum and stainless steels and highway and roadway codes for traffic bearing structures.

AWS compliant and Canadian Welding Bureau (CWB) certified manufacturers whose procedures and welding personnel are certified to AWS and Canadian Standards Association (CSA) ensure public safety and avoid the potential liability to designers, specifiers, purchasers and end users in the event of weld and structural failure. MSU is third party audited semi-annually by the CWB.





Access Handles & Grab Bars

Access Handles and Grab Bars make access to and egress from your underground infrastructure safer.

MSU manufactures a range of access handles and grab bars to facilitate climbing to and from ladders and climbing rungs in maintenance holes, reservoirs, pumping stations, mines, underground chambers and vaults.

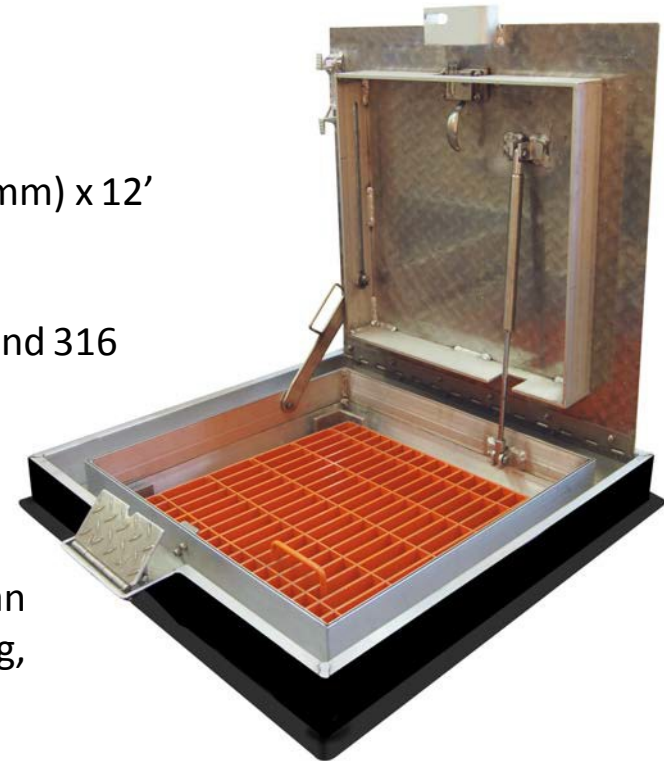
- Suitable for new construction and existing infrastructure
- Flexible installation
 - o on ladders and climbing rungs
 - o inside concrete structure
 - o surface mount to concrete structure
- Easy to use
- Ideally suited for permanent installation at frequently accessed areas
- Available in aluminum and stainless steel type 316
- Wedge anchors standard fastener, optional fasteners available
- Meets OSHA and Ministry of Labor guidelines
- Wide selection of standard designs and configurations



Access Hatches

For more than twenty five years, MSU has designed and manufactured access hatches to suit many different client requirements:

- Varied Installations** Cast in place, bolt down, bolt in
- Varied Sizes** from 12"(300mm) x 12" to 12' (3658mm) x 12' and beyond
- Varied Materials** Aluminum, stainless steel types 304 and 316
- Varied Layouts** Single, Double, Triple and Multi Door Configurations available.
- Varied Loadings** Varied Loadings from Light Pedestrian 150 psf to AASHTO H20 wheel loading, and heavy duty forklift loads.
- Varied Features** Fall through protection grating



Access Hatches

Varied Features Continued

Retractable posts and Chains, tamperproof hardware, customized signage, specialty gaskets, compression latches and more



Access Hatches

Access hatches provide openings to access equipment in underground structures or below/between floors in a building.

MSU access hatches are designed for permanent installation in maintenance holes, reservoirs, pumping stations, water and wastewater plants, storm water management facilities, underground chambers and vaults. Access hatches allow personnel access to underground infrastructure and equipment as well as providing above ground openings for inspection.

MSU's access hatch models include drainable and non-drainable, bolt down, gas-tight, and special application.

MSU access hatches are:

- Suitable for new construction and existing infrastructure
- Easy to install and use
- Available in aluminum and stainless steel types 304 and 316 (depending on model)
- Variety of installation types, cast in, bolt down, bolt in
- Variety of shapes and sizes, square and rectangular, circular and semi-circular (depending on model)
- Varied Loadings from Light Pedestrian 150 psf to AASHTO. H20 wheel loading, and heavy duty forklift load Sizes ranging from 12" x 12" to 12' x 12' and beyond. MSU will make any size to suit your specific requirements.
- Standard designs to suit many applications
- Specialty design and manufacture to suit your specific requirements
- Welded construction to AWS and CSA standards.



Climbing Rungs

Climbing rungs allow access to and egress from your underground infrastructure.

MSU climbing rungs are designed for permanent installation in maintenance holes, reservoirs, pumping stations, mines, underground chambers and vaults. Climbing rungs are an alternative to ladders and are most frequently found in factory installed in precast concrete maintenance hole and valve chamber products. Suitable for curved and flat wall structures.

- Suitable for new construction and existing infrastructure
- Flexible installation, cast in, drive in, bolt on
- Easy to install
- Designed for permanent installation
- Meet North American standards ASTM C478, Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD), and BNQ
- Slip Resistant
- Available in aluminum, polyethylene coated aluminum and stainless steel type 316
- Impervious to temperature change, impact and vibration
- Standard climbing rungs available in both 12" (304mm) and 16" (406mm) widths



Ladders

Ladders allow access to and egress from above ground and underground structures.

MSU manufactures ladders and ladder systems which allow access to and egress from above ground structures such as buildings and chimneys and underground structures such as maintenance holes, vaults, chambers, and reservoirs.

- For new construction and existing infrastructure
- Easy to install and use
- Designed for permanent installation
- Available in aluminum and stainless steel types 304 and 316
- Wedge anchors standard fastener, optional fasteners available
- Meets OSHA, Ministry of Labor, and Building Codes,
- Wide selection of standard designs, configurations, rung types, fastening systems
- Custom designs to suit unique situations and applications
- Proprietary connection systems allow for ladders of virtually any length
- Engineering and designs to suit your specific project requirements
- Welded construction to AWS and CSA Standards



Railing Systems

Railing systems provide guarding, safety and protection in dangerous areas.

- MSU manufactures guard railings and hand railings for stairways, platforms and landings, parapets, rooftops in such diverse areas such as water treatment plants, wastewater treatment plants, air monitoring stations, pumping stations and underground vaults.
- For new construction and existing infrastructure
- Easy to install and use
- Designed for permanent and removable installations
- Available in aluminum and stainless steel types 304 and 316
- Wedge anchors standard fastener, optional fasteners available
- Meets OSHA, Ministry of Labor, and Building Codes,
- Custom designs to suit unique situations and applications
- Proprietary connection systems allow for ladders of virtually any length
- Engineering and designs to suit your specific project requirements
- Welded construction to AWS and CSA Standards



Safety Platforms

A safety platform is a level surface which supports personnel and equipment.

MSU safety platforms are designed for permanent installation in maintenance holes, reservoirs, pumping stations, mines, underground chambers and vaults. Safety platforms are frequently found in factory installed in precast concrete maintenance hole and valve chamber products. Suitable for new construction and existing infrastructure, Safety Platforms may be required in structures deeper than 15 feet (5.0M).

- Suitable for new construction and existing infrastructure
- Easy to install
- Designed for permanent installation
- Meet Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD), Ministry of Labor, Building Code, Occupational Health and Safety Act Guidelines
- Available in aluminum, stainless steel types 304 and 316
- Standard platforms for standard precast concrete maintenance holes, vaults and pumping stations
- Custom designs to suit a variety situations and applications
- MSU unique and flexible connection systems simplify installation
- Engineering and design to suit your specific project requirements
- Welded construction to AWS and CSA Standards



Stairways

A stairway is a construction designed to bridge a large vertical distance by dividing it into smaller vertical distances, called steps.

MSU manufactures stairways which allow access to and egress from above ground structures such as buildings and underground structures such as pumping chambers, shafts, vaults, chambers, and reservoirs

- Suitable for new construction and existing infrastructure
- Easy to install and use
- Available in aluminum and stainless steels 304 and 316
- Wedge anchors standard fastener, optional fasteners available
- Selection of standard designs and configurations
- Custom fabrication to suit your specific design
- Welded construction to AWS and CSA Standards

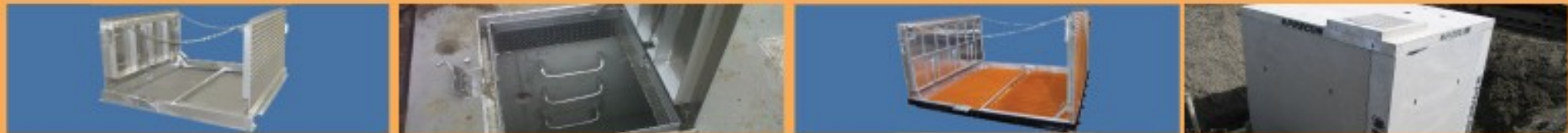


Trash Baskets & Bar Screens

Trash baskets and bar screens are mechanical filters which remove large solids from storm and wastewater and are typically the first or preliminary, level of filtration.

MSU manufactures trash baskets and bar screens to suit a variety of inlet sewer diameters and depths. MSU has standard designs and can also fabricate to your specific application.

- Suitable for new construction and existing infrastructure
- Easy to install and use
- Available in aluminum and stainless steel types 304 and 316
- Wedge anchors standard fastener, optional fasteners available
- Selection of standard designs and configurations
- Custom fabrication to suit your specific design
- Welded construction to AWS and CSA Standards



Watermain & Water Management Hardware

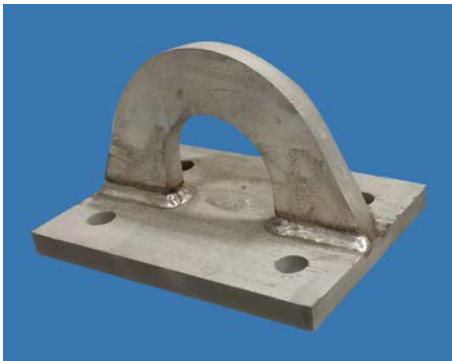
Watermain and water management hardware aids in the day to day functioning of your valuable water and wastewater infrastructure.

MSU manufactures a range of hardware items for storm and sanitary sewer applications.

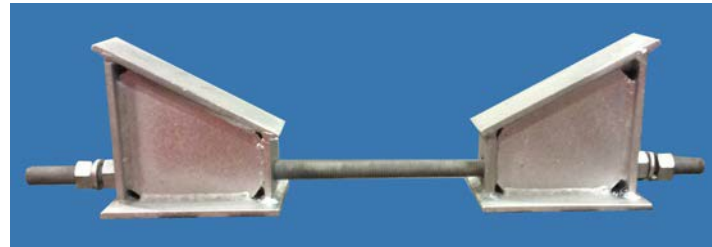
- Suitable for new construction and existing infrastructure
- Standard products compliant with a wide range of local and regional standards.
- Hardware solutions for storm and sanitary systems
- Available in aluminum, stainless steel types 304 and 316 and galvanized steel
- Wedge anchors standard fastener, optional fasteners available
- Wide selection of standard designs, configurations, and fastening systems
- Welded construction to AWS and CSA Standards

We offer a variety of products from:

Lifting Hooks



To: Valve Supports



Adjustable Pipe Supports and More





Clients and Projects

MSU has supplied a wide range of clients and projects across North America. Here are some of the clients and projects MSU has worked on over the years

Alberta Environment
Ayr Water Pollution Control Plant
Buttcon
Capital Regional District – Victoria, BC
Cecchetto and Sons
City of Edmonton
City of Kelowna
City of North Battleford Groundwater Plant
City of Ottawa
City of Prince Albert
City of Sudbury
City of Surrey
City of Toronto
City of Windsor
Con Cast Pipe

Con-Drain
Corix Control Solutions
Corix Water Products
Corix Water Systems
County of Brant
Garrison Petawawa
District of Muskoka
Greater Vancouver Regional District
Greater Vancouver Sewerage District
Hanlan Feedermain, Peel Rgion
Hydro One Networks
Lafarge Construction Materials, Calgary
Langley Concrete and Tile
Lombard Concrete Products
Louis Bray Construction
M-CON Products

Metrolinx
Ontario Power Generation
Precon Precast Products
Region of Durham
Region of Halton
Region of Kitchener Waterloo
Region of Peel
RM Belanger Construction
Sansom Equipment
South East Collector Sewer, York Region
St. Regis STP Akwesasne 1st Nation
Toronto Transit Commission
University of Guelph
University of Toronto
V. Gibbons Contracting





Client Specific Product Development

Over the years, MSU has worked with many clients and end users to develop access hatch products specifically suited to resolve access issues. In 2010, MSU developed a fall through protection hatch with retractable railing posts and chains for the Niagara Region.

To assist Halton Region's Waste Management Facility with it's methane gas capture program, in 2007, MSU designed a completely air-tight gasketed cover which is used to access leachate collection structures.

MSU MISSISSAUGA LTD.
 PHONE: (905) 885-5140
 FAX: (905) 823-4947
 TAYLOR: (905) 268-5336

#	QTY.	MATERIAL	DESCRIPTION
1	1	ALUM. 6061-T6	76 X 10 WELDED CHANNEL EXTENSION WELDED AND WELDED CONNECTION
2	2	ALUM. 6061-T6	152 X 54 X 7mm CHANNEL TO BE WELDED TO REV 1 & 3
3	2	ALUM. 6061-T6	152 X 152 X 8mm CHANNEL TO BE WELDED TO REV 2 & REV 1
4	6	ALUM. 6061-T6	6.35mm THICK PLATE
5	24	ALUM. 6061-T6	6.35 X 44mm F.B. STIFFENERS
6	4	STAINLESS STEEL 304	90 DEG. HINGED OPEN ARM C/W DIMENSIONED HOOK FOR OPENING
7	4	ALUM. 6061-T6	76 X 51 X 8mm ANGLE LVL TO BE WELDED TO REV. A
8	4	ALUM. 6061-T6	2-38 X 38 X 6MM LOCK BARS WELDED TO FRAME AND LVL
9	16	ALUM. 6061-T6	4" HEAVY DUTY HINGED HINGE
10	8	STAINLESS STEEL 304	1/2" X 1-1/4" HEX BOLT C/W NUT PLAT AND LOCK WASHER
11	2	ALUM. 6061-T6	9.52 X 133mm BRACKET
12	4	ALUM. 6061-T6	HINGED OPEN ARM BRACKET
13	AS	STAINLESS STEEL 304	1/4" X 1-1/4" HEX BOLT C/W NUT PLAT AND LOCK WASHER
14	AS	STAINLESS STEEL 304	1/4" X 1/2" HEX BOLT C/W NUT PLAT AND LOCK WASHER
15	24	STAINLESS STEEL 304	FRACASITION GASKET GROUND WELDED TO REV #1
16	AS	EPDM GASKET	HYDROGEN SULPHIDE RESISTANT
17	17	STAINLESS STEEL 304	COMPRESSION LATCHES SEATED WITH HYDROGEN SULPHIDE RESISTANT EPDM
18	1	ALUM. 6061-T6	6.35 X 215mm F.B. SKIRT ROLLED

HALTON WASTE MANAGEMENT SITE
 CELL #0 WEST FOR MIE 130-14 → MIE 85
GRAHAM BROS. CONSTRUCTION LTD.
 ASSOCIATED ENGINEERING LTD.
 DRAWING NO: 7

ALUMINUM 96"(2438mm) DIA ACCESS COVER
 DATE: 08/23/07
 NTS: GASC488

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
R.W. CUMMING
 Jan 8, 2009
 PROVINCE OF ONTARIO

NOTE: 1) ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE 2 COATS OF BLENDED PRIMER.
 2) WELDING SHALL CONFORM TO CSA W47.2 W/1987 CSA W59.2-01991.
 3) WELDED SURFACES REMAIN AS WELDED.
 4) HATCH HAS BEEN DESIGNED TO WITHSTAND A LIVE LOAD OF 2000LB/SQFT.
 5) HATCH IS SEALED FOR GROUND.
 6) HATCH IS CAST IN PLACE.



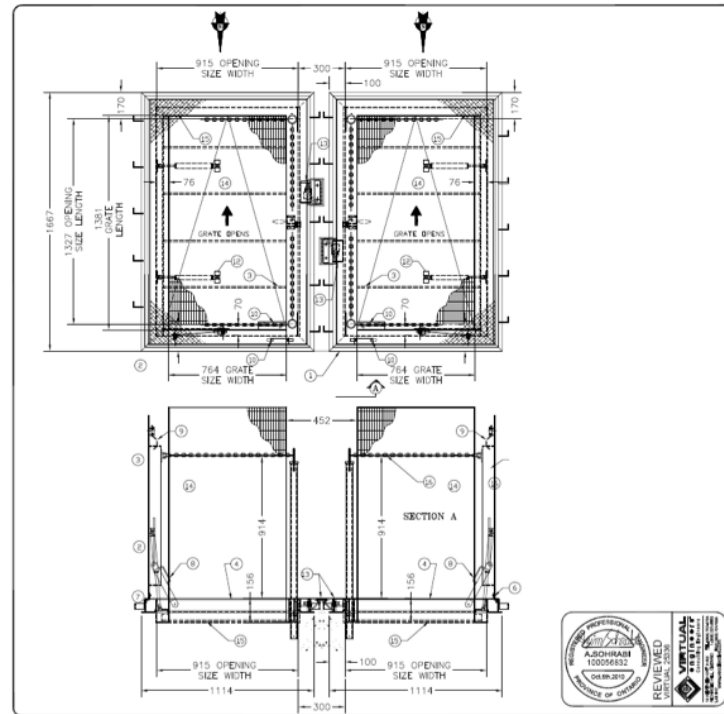


Client Specific Product Development

In 2013 MSU designed and manufactured ultra-high capacity access hatches for the TTC's Willowbrook Maintenance Facility. These hatches are specially designed to carry very heavy fork truck loads which are in use at a rail car maintenance facility in the City of Toronto.

Summary

Today MSU Mississauga stands on a foundation of innovative design, craftsmanship and sound business practices which over the years has built a loyal client, specifier and end user following. The company's dedication to quality management, code compliance and customer service gives clients the assurance and peace of mind they require.



MSU MISSISSAUGA LTD.			
PHONE: (905) 823-4340			
FAX: (905) 823-4947			
WATTS: (800) 268-5336			
#	QTY.	MATERIAL	DESCRIPTION
1	4	ALUMINUM 6061-T6	FRAME EXTENDED 87030-1 WELD TO FEM #1
2	1	ALUMINUM 6061-T6	1/4" TIE-BOLTS
3	7	ALUMINUM 6061-T6	1/4" X 3' PLAT BAR REINFORCING
4	1	BLACK COORD KEYSTONE	REINFORCING KEYS
5	NA	ALUMINUM 6061-T6	2"x1"x1/8" DRIP CHANNEL
6	3	STAINLESS STEEL 316	FORMED SLIT INCH C/W 2"x4" BAR/SHOULDER FASTENERS
7	NA	ALUMINUM 6061-T6	CONTOUR-ROUNDER
8	1	STAINLESS STEEL 316	90 DEG. WELD OPEN WIRE C/W 1/4" ROD FORMED BRIDGE
9	1	STAINLESS STEEL 316	SEAM LOCK C/W ALUM. REMOVABLE SEALS, KEYS AND SPRING TOOL
10	1	ALUMINUM 6061-T6	1-ALUM. LIFT HANDLE FOR 2-PLATE OFF HANDLE FOR GRATES
11	NA	ALUMINUM 6061-T6	1 1/2" NOM. FINE HALF-COILING C/W 1/2" AND ALUMINUM BLOCK
12	2	STAINLESS STEEL 316	GAS SPRING ASSIST CHAINED C/W ALUM. MOUNTING BRACKETS
13	1	ALUMINUM 6061-T6	FLUSH/RECESSED LOCK
14	1	ALUMINUM 6061-T6	ROUNDER BAR GRATING FRAMED CHANNEL
15	2	ALUMINUM 6061-T6	PROXIMITY GRATE ANGLE WELDED TO FEM #1
16	2	ALUMINUM 6061-T6	DETACHABLE JOIST POSTS & CHAINS WELD TO FEM #1

NOTE: 1) ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL RECEIVE COATS OF BITUMINOUS PAINT.
2) WELDING SHALL CONFORM TO CSA W47.2-82008, CSA W59.2-82008
3) REINFORCED TO WITHSTAND A LIVE LOAD OF 300 LBS/SQ.FT. (14.18KPa)

ROSEMOUNT NORTH SEWAGE PUMPING STATION PROJECT
BASELINE CONSTRUCTORS INC.
R.V. ANDERSON ASSOCIATES LTD.
2 081633

ALUMINUM ACCESS HATCH
MSU TYPE-M60PC C/W POSTS & CHAINS
REV. 1 08/27/15
1:00 01.00 01.00 01.00
0.00 0.00 0.00 0.00

