

# Repairing Potable Water Pipes

---

2025 Water and Wastewater Workshop  
Presenters: Noah Brace & Steve Flemming



# Agenda

- Introduction
- The Problem: Crippling Water Infrastructure
- Water Main Break Study
- Sustainable Solutions
- The Fix: Repairing Potable Water Pipes
- Live Demo – Steve Flemming
- Questions





## Condensation

Water vapor in the air cools down and changes back into liquid, forming clouds.

Water storage in the atmosphere

Water storage in ice and snow

## Precipitation

Condensed water vapor that falls to the Earth's surface such as rain, snow, and hail.

## Evaporation

Water on the surface of rivers, lakes, and oceans heats up and becomes vapor, or steam, which goes into the air.

## Transpiration

Once absorbed water reaches the leaves of a plant, some evaporates into the air.

## Runoff

Water from rain or melted snow moves across the land, running into lakes and oceans.

## Infiltration

Water flows from the surface into the ground and becomes soil moisture or groundwater.

Freshwater storage

Groundwater discharge

Water storage in oceans

## Condensation

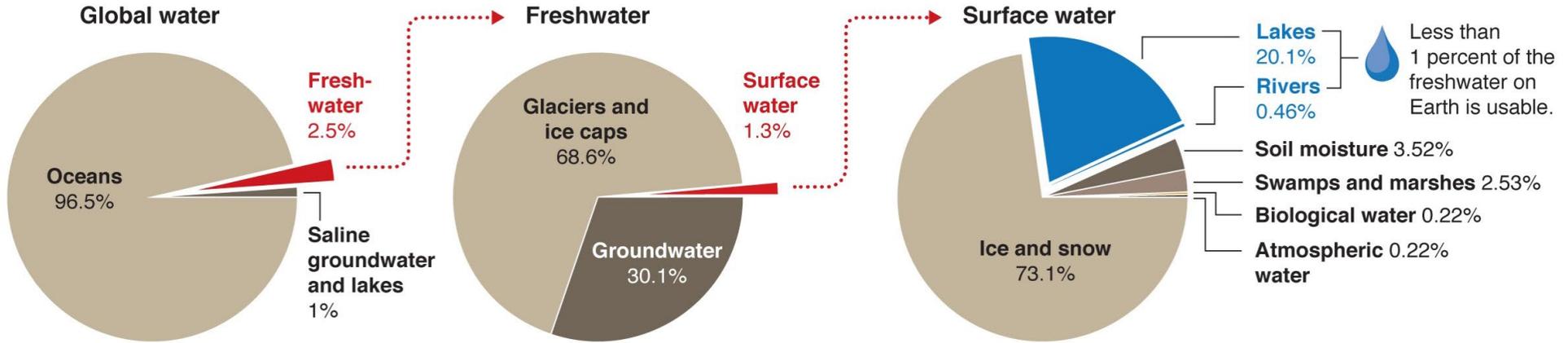
Water vapor in the air cools down and changes back into liquid, forming clouds.

Water storage in the atmosphere

Water storage in ice and snow

## Precipitation

Condensed water



## Infiltration

Water flows from the surface into the ground and becomes soil moisture or groundwater.

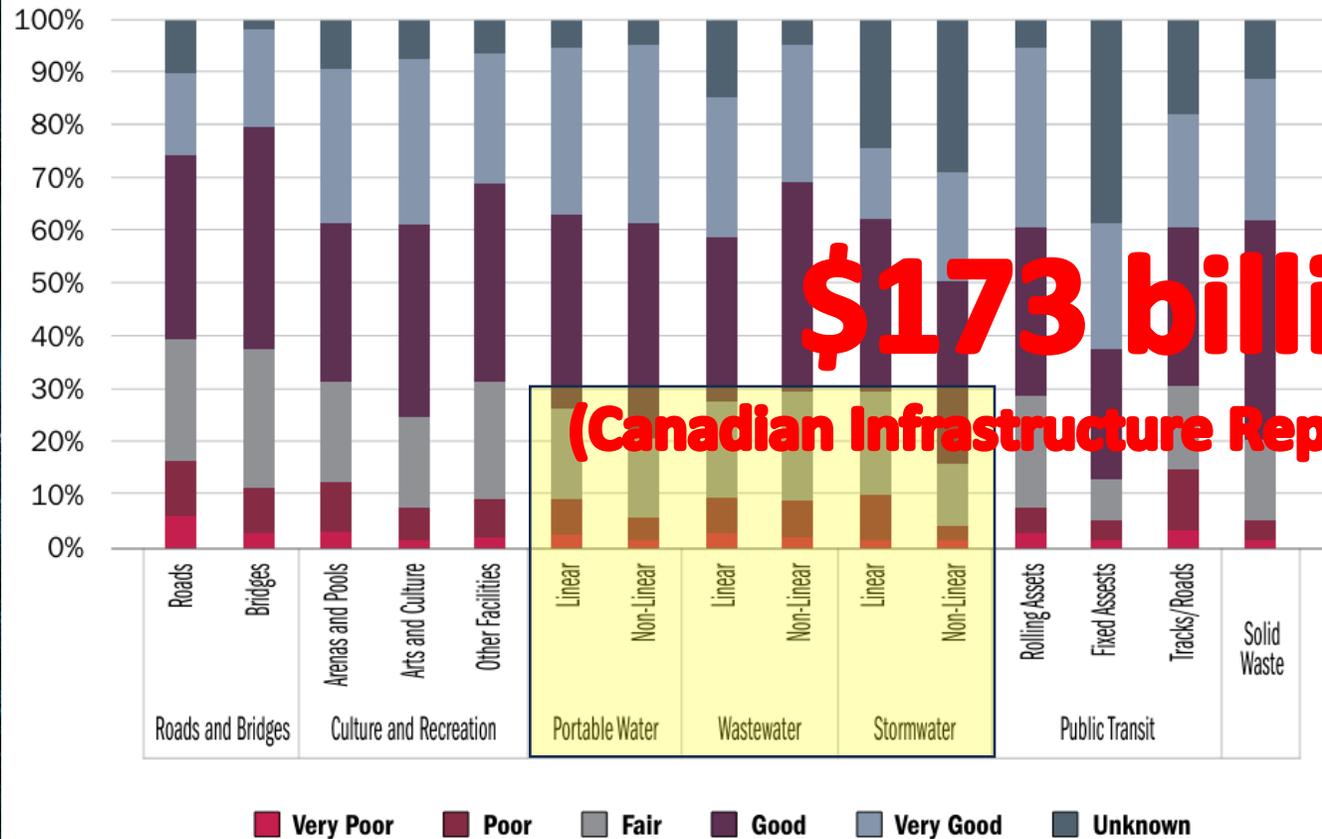
Freshwater storage

Groundwater discharge

Water storage in oceans

# The Problem

**Figure 1: Core Infrastructure Asset Condition Summary**



**\$173 billion**  
 (Canadian Infrastructure Report Card, 2016)



**CANADIAN  
 INFRASTRUCTURE  
 REPORT CARD 2019**

## ACKNOWLEDGEMENTS

The 2019 Canada Infrastructure Report Card is a collective effort produced by the following organizations: The Association of Consulting Engineering Companies Canada (ACEC), the Canadian Construction Association (CCA), the Canadian Parks and Recreation Association (CPRA), the Canadian Public Works Association (CPWA), the Canadian Society for Civil Engineering (CSCE), the Canadian Urban Transit Association (CUTA), the Canadian Network of Asset Managers (CNAM), and the Federation of Canadian Municipalities (FCM).

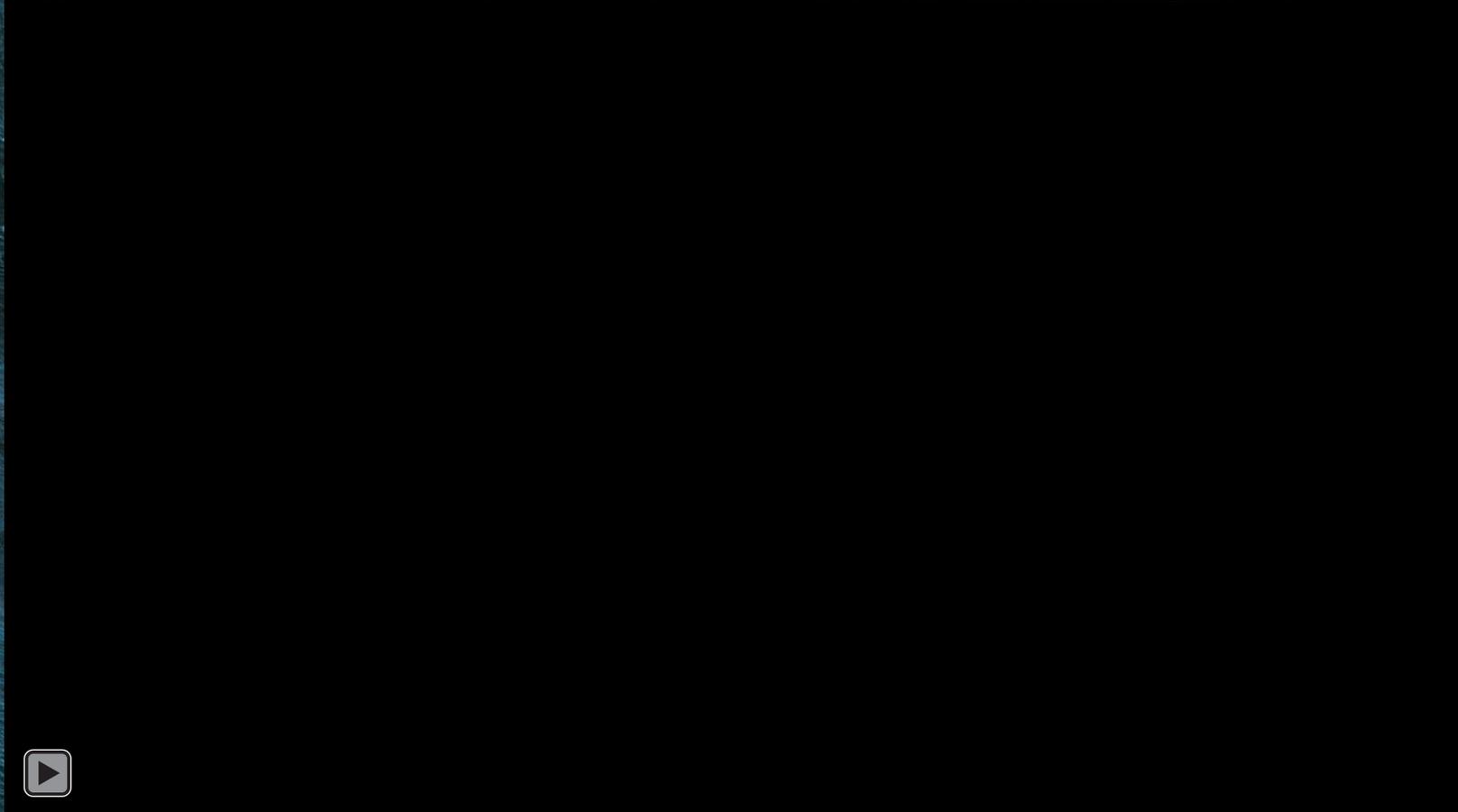
John Innes Engineering Inc. was responsible for preparing the technical report. Design and layout by [unreadable]



Geography	Canada ( <a href="#">map</a> )						
Financial value of assets	Estimated Replacement Value <sup>2</sup>						
Reference period	2022						
Overall physical condition of assets	All physical conditions	Very poor <sup>3</sup>	Poor <sup>4</sup>	Fair <sup>5</sup>	Good <sup>6</sup>	Very good <sup>7</sup>	Physical condition unknown
Public organizations	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>	All public organizations <sup>8</sup>
Core public infrastructure assets							
Road assets	1,162,431.3 <sup>B</sup>	59,272.1 <sup>B</sup>	143,705.3 <sup>C</sup>	243,241.1 <sup>B</sup>	477,041.4 <sup>B</sup>	139,496.5 <sup>B</sup>	75,700.7 <sup>B</sup>
Bridge and tunnel assets	794,895.8 <sup>B</sup>	3,680.0 <sup>C</sup>	24,423.1 <sup>B</sup>	60,950.7 <sup>B</sup>	147,610.9 <sup>B</sup>	37,890.8 <sup>B</sup>	20,331.3 <sup>A</sup>
Public transit assets	112,156.1 <sup>B</sup>	3,673.8 <sup>B</sup>	11,029.9 <sup>B</sup>	16,883.5 <sup>B</sup>	31,329.9 <sup>B</sup>	29,997.9 <sup>B</sup>	19,241.1 <sup>B</sup>
Active Transportation	62,602.5 <sup>B</sup>	1,467.5 <sup>B</sup>	2,994.1 <sup>B</sup>	7,868.4 <sup>B</sup>	14,877.3 <sup>B</sup>	8,952.9 <sup>B</sup>	26,442.4 <sup>C</sup>
Potable water assets	357,316.4 <sup>B</sup>	14,305.8 <sup>B</sup>	27,043.9 <sup>B</sup>	75,578.8 <sup>B</sup>	101,042.4 <sup>B</sup>	121,153.7 <sup>C</sup>	18,191.9 <sup>C</sup>
Wastewater assets	359,045.5 <sup>B</sup>	15,083.1 <sup>B</sup>	29,870.0 <sup>B</sup>	69,621.7 <sup>B</sup>	101,121.6 <sup>B</sup>	104,684.5 <sup>B</sup>	38,664.7 <sup>B</sup>
Stormwater assets	246,645.8 <sup>A</sup>	5,273.8 <sup>B</sup>	14,951.4 <sup>B</sup>	46,389.1 <sup>B</sup>	64,035.2 <sup>A</sup>	64,179.8 <sup>A</sup>	51,816.4 <sup>A</sup>
Solid waste assets	12,870.3 <sup>B</sup>	144.7 <sup>C</sup>	x	2,529.8 <sup>B</sup>	5,424.5 <sup>B</sup>	3,030.7 <sup>B</sup>	x
Culture, recreation and sports facilities	154,052.0 <sup>B</sup>	6,046.9 <sup>B</sup>	13,367.0 <sup>B</sup>	34,512.7 <sup>B</sup>	44,617.3 <sup>B</sup>	31,412.1 <sup>B</sup>	24,096.0 <sup>B</sup>

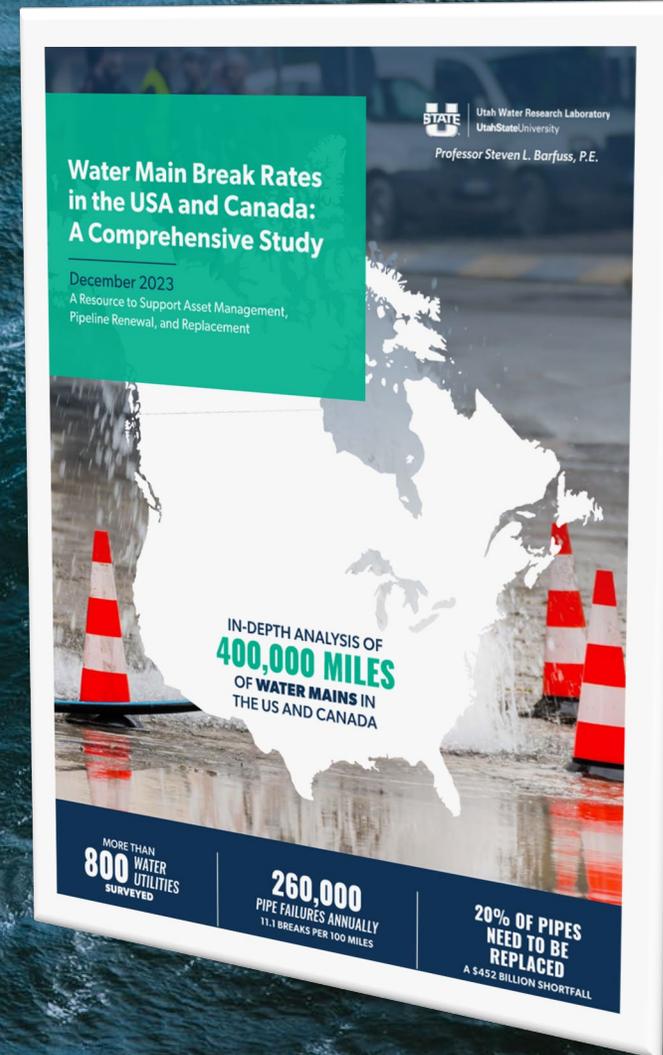
\$298 billion  
 (Canada's Core Infrastructure Survey, 2022)

# Watermain Breaks



# Water Main Break Rate Study

- Water Main Break Rates in the USA and Canada: A Comprehensive Study
- 802 survey respondents including 399,812 mi (643,435 km) water main
- Represents 17.1% of estimated total length and 30.1% of the total population (24.1% and 43.9% in Canada)



# Water Main Break Rate Study

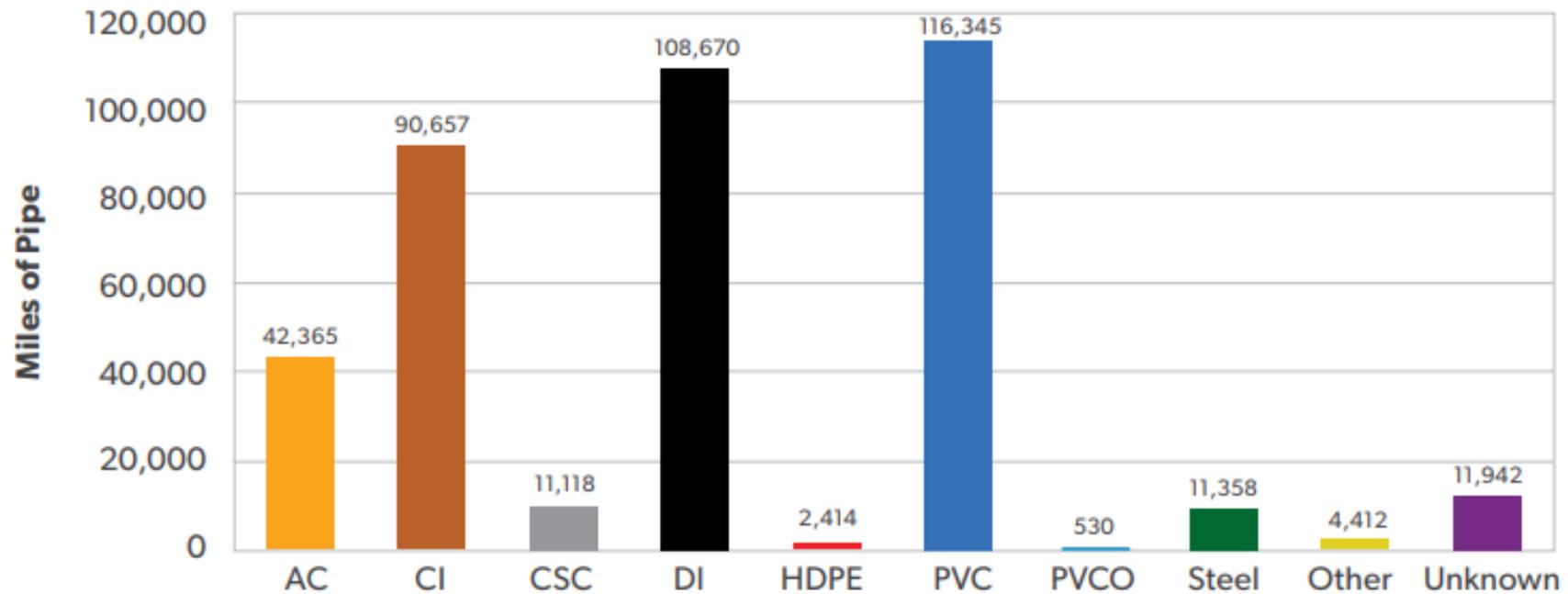
**TABLE 3: ESTIMATED COVERAGE OF THE BASIC SURVEY**

	<b>Population</b>	<b>Miles of Pipe</b>
US*	334,200,000	2,200,000
Canada*	39,500,000	133,000
<b>Total</b>	<b>373,700,000</b>	<b>2,333,000</b>
US Survey Response	95,252,498	367,758
Canada Survey Response	17,353,584	32,054
<b>Total Survey Response (with pipe data)</b>	<b>112,606,082</b>	<b>399,812</b>
Survey Coverage of US (%)	28.5%	16.7%
<b>Survey Coverage of Canada (%)</b>	<b>43.9%</b>	<b>24.1%</b>
<b>Total Survey Coverage (%)</b>	<b>30.1%</b>	<b>17.1%</b>

\*Population and miles of pipe numbers from EPA, US Census Bureau, and Statistics Canada

# Water Main Break Rate Study

FIGURE 12: MILES OF PIPE BY MATERIAL TYPE (BASIC SURVEY)

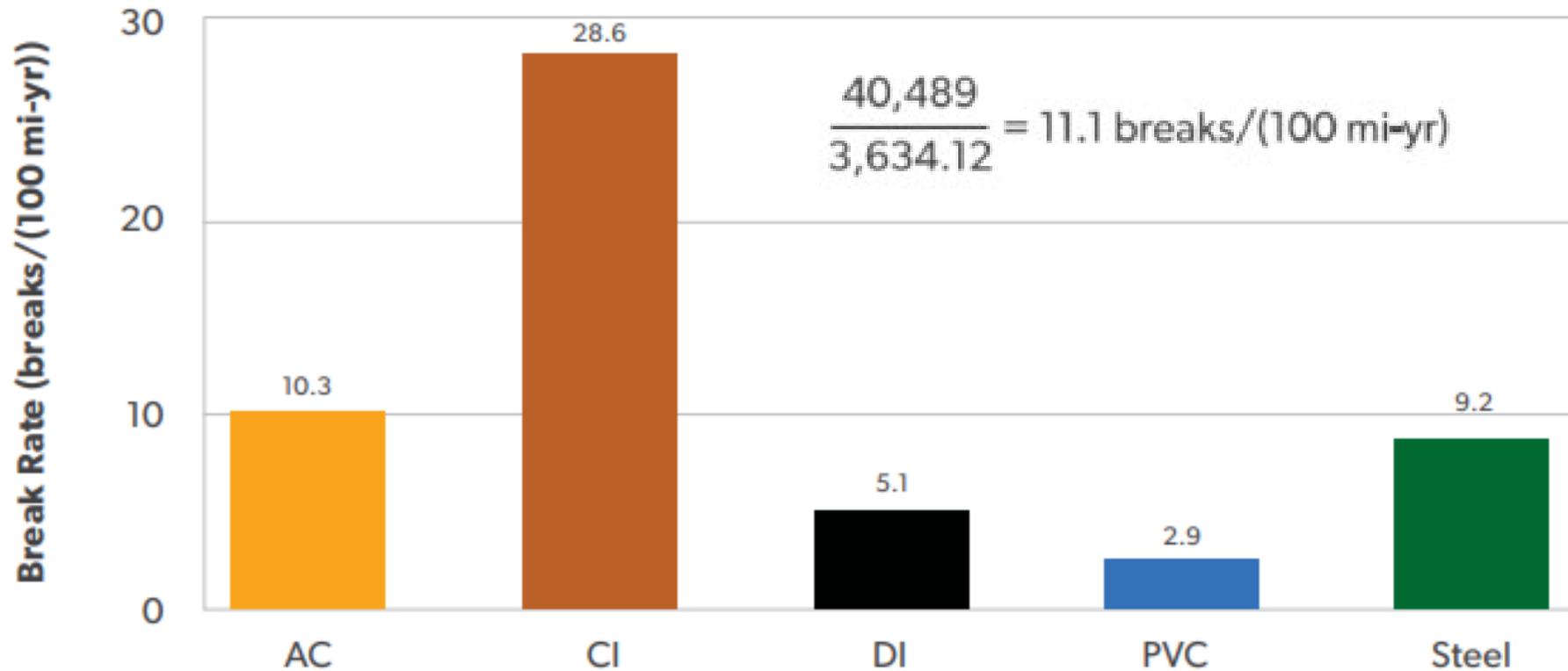




Geography	Newfoundland and Labrador ( <a href="#">map</a> )						
Reference period	2022						
Public organizations	All public organizations <sup>4</sup>	Federal government organizations	Provincial and territorial organizations	Local and regional organizations	All municipalities	All urban municipalities	All rural municipalities
Core public infrastructure assets	<b>&gt;7200 km water pipe</b>						
	Kilometres						
Total linear potable water assets	7,249 <sup>A</sup>	0 <sup>A</sup>	0 <sup>A</sup>	7,249 <sup>A</sup>	7,133 <sup>A</sup>	2,241 <sup>A</sup>	4,892 <sup>B</sup>
	Number						
Total non-linear wastewater facilities	1,494 <sup>A</sup>	1 <sup>A</sup>	0 <sup>A</sup>	1,493 <sup>A</sup>	1,491 <sup>A</sup>	304 <sup>A</sup>	1,187 <sup>B</sup>
	Kilometres						
Total linear wastewater assets	5,950 <sup>B</sup>	0 <sup>A</sup>	0 <sup>A</sup>	5,950 <sup>B</sup>	5,933 <sup>B</sup>	2,102 <sup>A</sup>	3,831 <sup>B</sup>
	Number						
Total non-linear stormwater facilities	265 <sup>C</sup>	0 <sup>A</sup>	0 <sup>A</sup>	265 <sup>C</sup>	265 <sup>C</sup>	105 <sup>A</sup>	160 <sup>D</sup>
	Kilometres						
Total linear stormwater assets	6,922 <sup>B</sup>	0 <sup>A</sup>	0 <sup>A</sup>	6,922 <sup>B</sup>	6,913 <sup>B</sup>	1,754 <sup>A</sup>	5,159 <sup>B</sup>

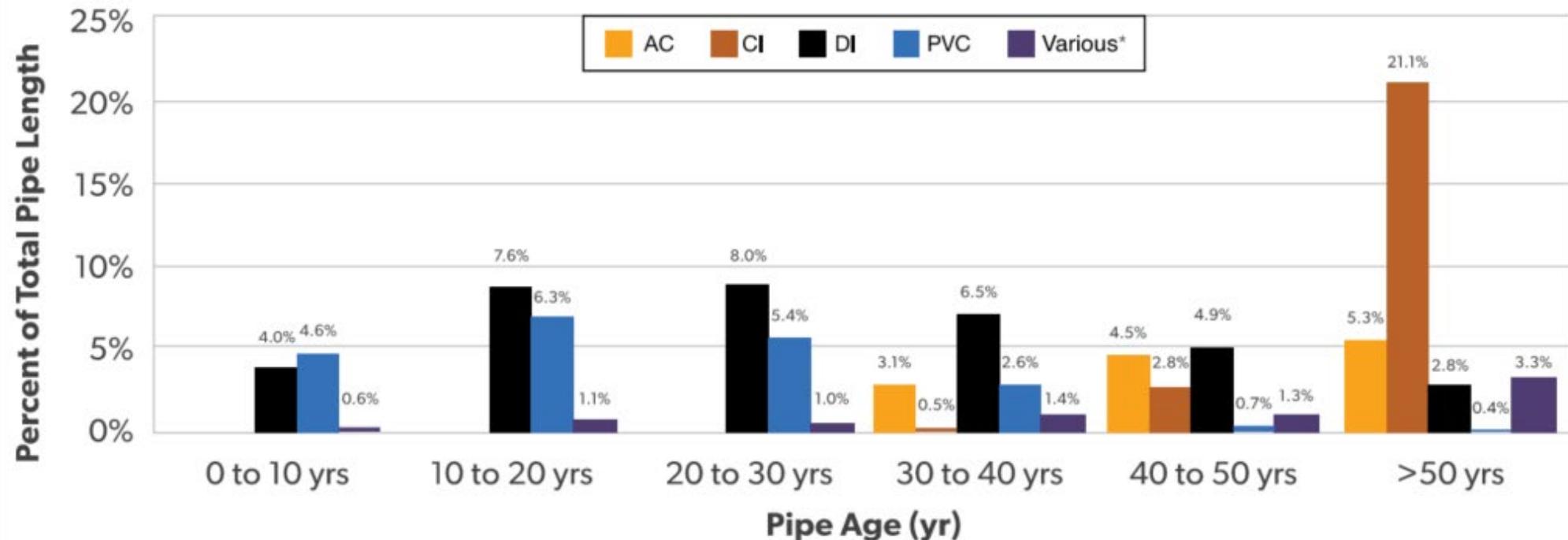
# Water Main Break Rate Study

FIGURE 28: BREAK RATES BY PIPE MATERIAL FOR A 12-MONTH PERIOD (BASIC SURVEY)



# Water Main Break Rate Study

FIGURE 22: PERCENTAGE OF TOTAL PIPE LENGTH BY AGE (DETAILED SURVEY)



\*The "Various" category combines all pipe materials that are at 3% and below of the total pipe length in the basic survey, which includes: CSC (2.8%), HDPE (0.6%), PVC0 (0.1%), Steel (2.8%), Other (1.1%), and Unknown (3.0%).

Adding up all values equals 100%.

# Relevance to NL

 Royal Newfoundland Constabulary  
August 31, 2024 · 🌐

There is currently a water main break in the Town of CBS that has all traffic being diverted away from the intersection of CBS Highway and Foxtrap Access Road.

#nltraffic



👍❤️ 101      122 shares

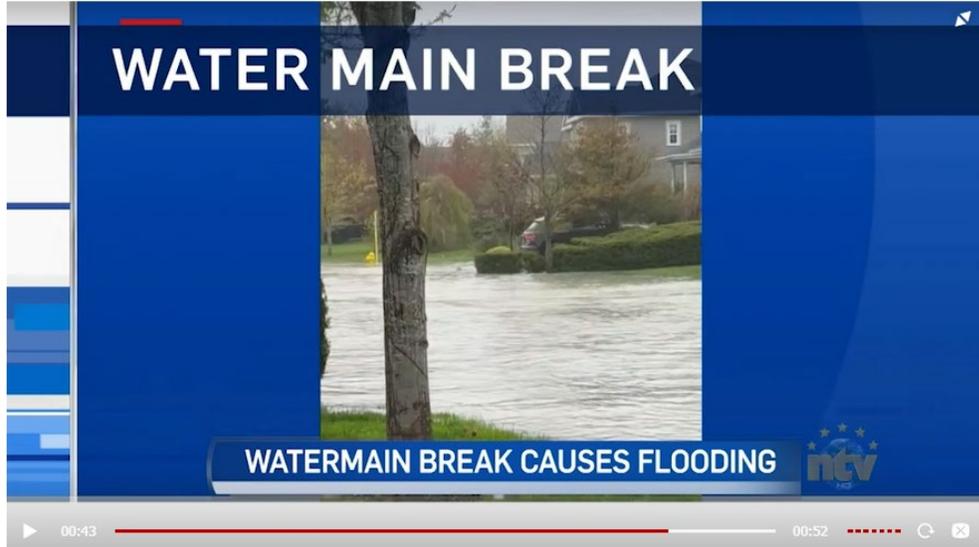
👍 Like      ➦ Share

NEWS

## Water main break floods homes in east end of St. John's

Posted: June 6, 2024 8:33 pm  
— By **Web Team**

SHARE



00:43 / 00:52

A 20-inch water main break flooded homes in the east end of St. John's on Thursday morning.

## Morning watermain break causes major flooding, damage in east end of St. John's

*'We've got about six feet of water in the basement' says Cheyne Drive resident*

Chris Ballard, PNI Atlantic  
Published Jun 06, 2024 · Last updated Jun 06, 2024 · 2 minute read



A water main break in the east end of the city of St. John's flooded a section of Cheyne Drive and caused extensive damage to several homes that filled with water. Even after water was shut off to the 20-inch main that broke, several backyards and basements still had water in them. Keith Gosse/The Telegram PHOTO BY KEITH GOSSE /Keith Gosse

# Relevance to NL

- The US and Canada experience about 260,000 water main breaks annually, which represent approximately \$2.6 billion per year in maintenance and repair costs.
- From the detailed survey, average water demand was 143 gallons (541L) per person, with a peak demand of 247 gallons per day per person.
- A total of 530 utilities provided estimates of water loss due to leakage. The average value was 11%, compared to 10% in 2018

541L/PERSON \* 11% = 59.5L/PERSON TO LEAKS  
\*545,000 PE >= **32,000,000** L a day in NFLD ALONE

# Market

- The US and Canada have about 260,000 swimming pools. The total market value is approximately \$2.6 billion.

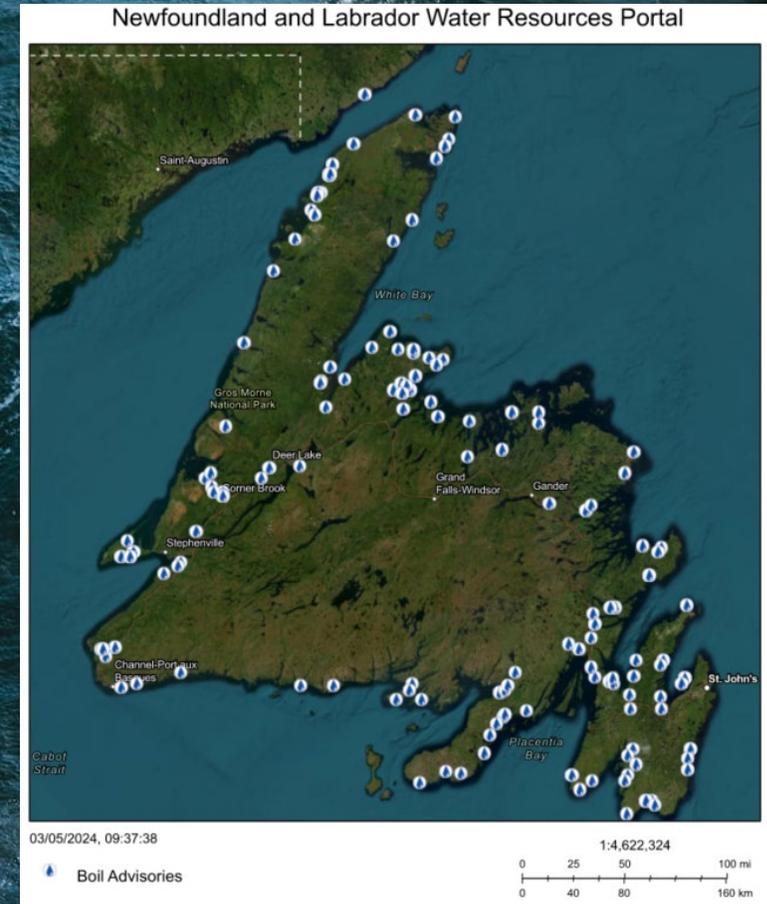
Swimming pools consume 1.5 gallons (54 L) of water per day per person.

A total of 550 utilities provide water services. The average value was 1%, compared to 10% in other sectors.

RSC  
E/  
y in NF

# Relevance to NL

- Pipe materials with low main breaks have **lower cost** of ownership and address both affordability and **sustainability** concerns associated with aging water infrastructure
- Pipe main failures can be a **health concern**: pipe failure can result in the introduction of waterborne parasites and inorganic elements to the tap



# Relevance to NL

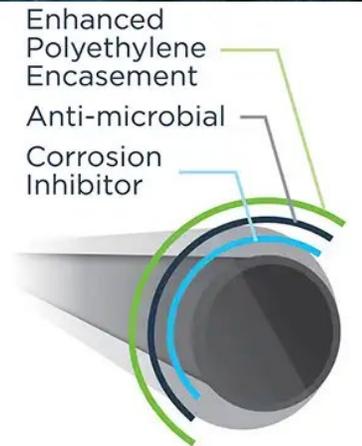
- **RISK:** High debris and dissolved substances, organics and metals (found in Newfoundland's source waters) create major challenges. Contaminated water distribution networks are the cause of nearly all boil water advisories.
- Chlorine has been used to disinfect since the early 1900s, preventing millions of deaths and making potable water widely available at a low cost.
- However, when disinfectants such as chlorine encounter naturally occurring organic matter they form compounds called disinfection byproducts (DBP) that have been linked to cancer.
- Recent water quality tests in Newfoundland and Labrador have found high levels of disinfection byproducts in the drinking water of well over 100 communities.

# Solutions for Aging Infrastructure

## Corrosion Protection

### vBio:

- Enhanced polyethylene encasement for DI pipe
- Features an inside surface that is infused with an anti-microbial to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion
- Economical



# Solutions for Aging Infrastructure

## iHydrant

- Remote pressure and temperature monitoring
- Operates on cellular modem
- Sensors installed in the lower calve of your hydrant
- Picks up micro fluctuations
- Capture data as often as 256x per second
- Available as complete unit or retrofit



# Solutions for Aging Infrastructure

- Leak detection
- Hydrant maintenance/flushing
- Valve exercising
- Sewer inspections
- Decentralized Wastewater Treatment – Resource Recovery



# Watermain Breaks

Water main pipes can break for a number of reasons, including:

- **Temperature** changes: As water in pipes expands and contracts with temperature changes, pipes can crack. For example, running hot water through cold pipes can cause them to crack.
- **Age**: Pipes can become brittle and more likely to crack over time.
- **Corrosion**: Steel and cast iron pipes can wear through over time due to corrosion.
- **Ground settling**: As soil around a water main settles, it can stress and break the pipes.
- **Excavation work**: Excavation machines can hit pipelines as they dig.
- **Blocked pipes**: A buildup of debris in a pipe can create a blockage that leads to excessive water pressure.
- **Frozen water**: Water inside a pipe can freeze and put pressure on the water main.
- **Erosion**: Soil around a water main can erode due to previous water issues or construction, making the area unstable.

# Watermain

## Water main pipes can fail for a number of reasons, including:

- **Temperature changes:** An example, running hot water through a pipe can cause it to expand and crack.
- **Age:** Pipes can become brittle over time.
- **Corrosion:** Steel and cast iron pipes can rust and weaken.
- **Ground settling:** As soil settles, it can pull on pipes and cause them to crack.
- **Excavation work:** Excavating around pipes can cause them to shift or break.
- **Blocked pipes:** A buildup of debris can block pipes and cause them to burst.
- **Frozen water:** Water inside pipes can freeze and expand, causing them to crack.
- **Erosion:** Soil around a watermain can erode, making the area unstable.



## including:

- **Temperature changes:** For example, running hot water through a pipe can cause it to expand and crack.
- **Age:** Pipes can become brittle over time.
- **Corrosion:** Steel and cast iron pipes can rust and weaken.
- **Ground settling:** As soil settles, it can pull on pipes and cause them to crack.
- **Excavation work:** Excavating around pipes can cause them to shift or break.
- **Blocked pipes:** A buildup of debris can block pipes and cause them to burst.
- **Frozen water:** Water inside pipes can freeze and expand, causing them to crack.
- **Erosion:** Soil around a watermain can erode, making the area unstable.

# Watermain Breaks

## The pipe breaks! Now what?

- **Identifying** the break: Locate the break and turn off any nearby water sources
- **Protecting** the area: Block off the road or sidewalk and arrange for traffic control
- **Marking utilities**: Have gas, electric, and other utilities marked so they can be avoided when digging
- **Excavating**: Dig down to the water main
- **Repairing the pipe**: Cut out the damaged section and replace it with a similar material
- **Flushing** the system: Open a hydrant to flush out air and debris, and test the water quality
- **Recovering** the area: Fill the hole and patch or permanently repair the road or sidewalk



# Repairing Watermain Breaks

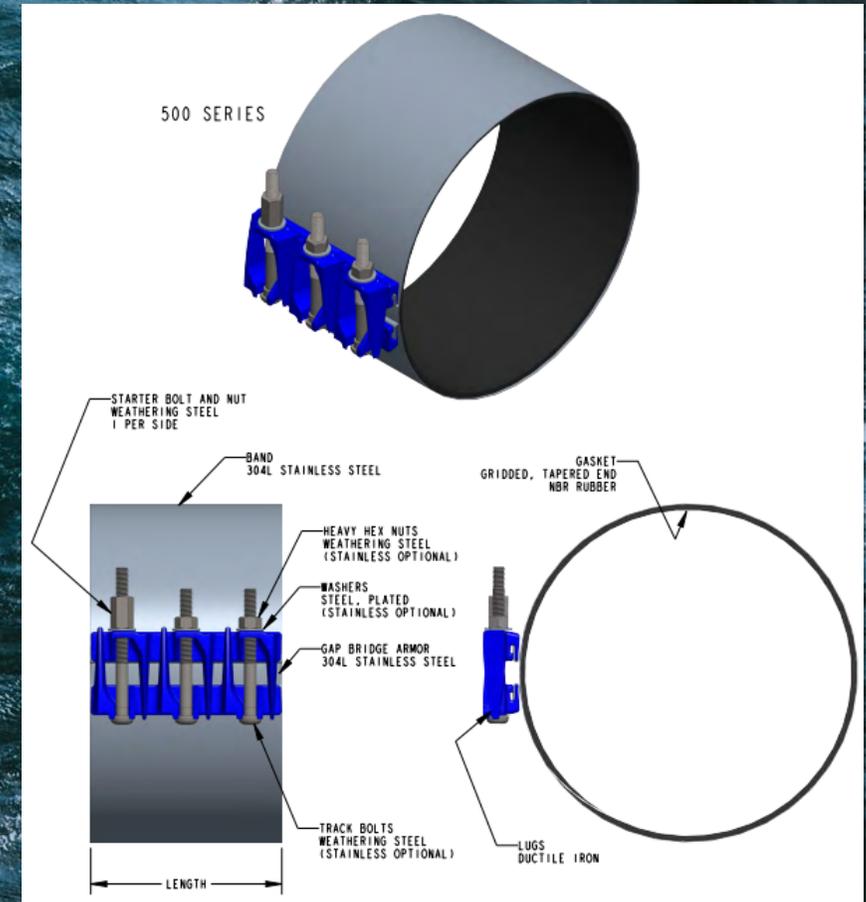
1. Repair Clamps & ARPOL
2. Ductile Iron Sleeves / PVC Repair Coupling
3. Cast Couplings
4. Top-Bolt Couplings
5. Wide-Range Fully-Restrained
6. Other / Electrofusion



# 1. Repair Clamps

## Hymax Lug Clamp – 500 Series

- Efficient gasket load per square inch, allowing effective sealing to within 1" of either clamp edge
- Standard lengths from 6" to 30"
- Drop-in style lugs are self-aligning
- Extra long "starter" bolt and nut on each lug eases installation
- Specially compounded rubber gasket has a gridded pattern for positive sealing. Tapered ends make installation quick and easy
- Maximum working pressure: 300 PSI for 500 Series 2"-8" and 200 PSI 10" & 12"



# 1. Repair Clamps

## Installation Instructions

1. Clean the main as thoroughly as conditions will permit making sure all burrs and debris are removed.
2. Slip bolt head out of lug and fit clamp on pipe, centering the clamp over the damaged area
3. Slip bolt heads back in bar/lug
4. Rotate Clamp in direction indicated by arrow on clamp band until gasket overlap is smoothed out
5. Torque - Tighten evenly, alternating between nuts

2" – 3-1/2" pipe size - 40 ft. lbs.

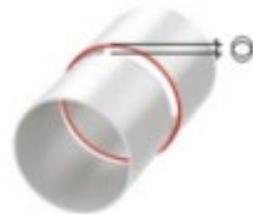
4" & larger" pipe size - 70 ft. lbs

**NOTICE:** Band type clamps are NOT to be used to bring pipe ends into alignment and are not intended to take pipe line stresses.

# ARPOL COUPLING



$\alpha$  Maximum angular deflection



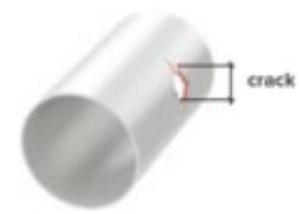
$\ominus$  Maximum misalignment



$\Delta \emptyset$  Maximum diameter difference



E Maximum gap width

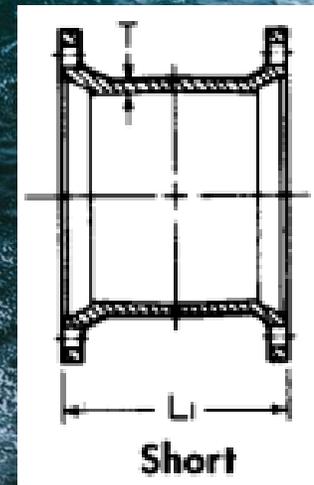


Crack Maximum crack width

## 2. Ductile Iron Sleeves + Restraints

### MJ Short Sleeves (C153 Compact MJ Fitting)

- Ductile Iron per ASTM A536,
- PRESSURE: 350 PSI rating for 2" - 24" sizes, 250 PSI rating for 30" - 48" sizes and 150 PSI rating for 54" - 64" sizes
- DEFLECTION: 2"- 4"=8° | 6"=7° | 8"-12"=5° | 14"-16"=3 ½° | 18"-24"=3° | 30"-64"=2°
- CEMENT LINING: In accordance with ANSI/AWWA C104/A21.4
- COATING: Asphaltic seal coat inside and out
- GASKETS: SBR
- T-BOLTS/NUTS: Low alloy steel in accordance with ANSI/AWWA C111/A21.11



## 2. Ductile Iron Sleeves + Restraining Glands

### Installation Instructions (Restraining Gland)

1. Ensure the beveled pipe end to be joined and mechanical joint socket are clean and free of debris.
2. Slide TUF Grip onto the beveled end of the pipe to be restrained. **The TUF Grip compression lip extension must be toward the beveled end of the pipe being restrained.**
3. Evenly lubricate the beveled pipe end, exterior pipe wall and inside surface of the gasket
4. **Place the MJ gasket over the plain beveled end of the pipe with the narrow edge of the tapered gasket toward the pipe end. \*NOTE: Use MJ transition gasket with IPS diameter pipe.**
5. Fully insert the beveled pipe end into the MJ socket pipe landing. Keeping the pipe straight in the MJ socket, slide/push the MJ gasket firmly and evenly into the MJ socket recess. Joint must be kept straight during assembly.
6. Push the TUF Grip compression lip extension evenly against the thick side of the MJ gasket and insert all T-head bolts with nuts and hand-tighten the nuts on the T-head bolts, making sure the restraint body is centered on the pipe and within the MJ socket. **If joint deflection is needed, deflect the pipe only after hand tightening of all nuts is completed.** Joint deflection is 3° max for 3", 5° max for 4"–12", 2° max for 14"–16", 1.5° max for 18"–36".

## 2. Ductile Iron Sleeves + Restraining Glands

### Installation Instructions (Restraining Gland)

7. Using a wrench, tighten the T-head bolts and nuts a few turns at a time in an alternating or star pattern.
8. Maintain equal spacing or distance between the TUF Grip bolt flange and the MJ socket bolt flange as the MJ gasket is compressed. Repeat the process in an alternating pattern for all T-head bolts and nuts.
9. The T-head bolt and nut torque requirement is 75–90 ft-lb for 4"–24" **DO NOT OVER TORQUE T-HEAD BOLTS and NUTS WHEN ASSEMBLING PVC and PVCO PIPE!**
10. Hand-tighten the torque limiting nuts attached to the TUF Grip wedge assemblies in a clockwise direction with an alternating or star pattern until all gripping wedges are in contact with the pipe wall. With a wrench continue to tighten each torque nut half turn in an alternating or star pattern around the restraint until all torque limiting nuts twist off. **NEVER turn a torque limiting nut more than half turn without turning the remaining torque nuts an equal amount!**
11. When all torque limiting nuts twist off, the mechanical joint and restraint assembly are complete

# 3. Cast Couplings

## Robar 1506 Cast Coupling

- Non-restrained connection between two pipes of the same nominal size but with same or different ODs
- Cast Ductile Iron, epoxy coated with stainless steel fasteners
- Can get 1506R, reducing also
- Working pressures: 2" - 12" 300 PSI  
14" through 24" – 150 PSI



# 3. Cast Couplings

## Installation Instructions

1. Clean the pipe ends to ensure that all dirt and irregularities have been removed.
2. Disassemble the coupling and slide the appropriate end rings over the appropriate pipe.
3. Lubricate the coupling gaskets and the pipe.
4. Slide the appropriate gasket over the pipe. **The tapered end must face the pipe ends.**
5. Slide the center ring over the pipe, and position the center ring over the pipe gap.
6. Push the gaskets and end rings into position against the center rings. Be sure to maintain an equal spacing between the two pipe sections.
7. Slide the bolts into place and tighten nuts using a torque wrench. **Torque each bolt alternating between bolts in a star pattern to 80 ft. lbs.**

# 4. Top-Bolt Couplings

## **HYMAX® 2 WIDE-RANGE COUPLING**

- Connects two pipes of the same or different OD pipes and materials, up to 1.3" range
- Patented flip gasket can be easily flipped in or out to accommodate different pipe OD's
- Advanced no-tear gasket technology for maximum installation efficiency
- Only 2 top-facing bolts = faster, easier, safer installation
- Dynamic deflection of 4° per side – reducing future pipe damage
- Suitable for most types of pipes – ductile iron, cast iron, steel, copper, PE, PVC, AC.



# 4. Top-Bolt Couplings

## Installation Instructions

1. Clean and descale the pipe. Make sure the pipe is not out of round and is free of scratches, dents, flats and defects.
2. Measure the Pipes OD twice. **Make sure that the coupling size range will fit.**
3. Mark each pipe end for min. and max. pipe insertion distance.
4. Flip the gasket open if a larger OD is required.
5. Position the coupling for installation. If possible, place couplings on replacement pipe and lower into ditch. Slide couplings outward so they cover marks from step 3. **Make sure pipes aren't touching to allow for continuous dynamic deflection.**
6. Tighten bolts to the right torque shown on the product label. When finished, check again.
7. Recharge the line and check for leaks. If any leaks present, reduce the pressure in the line and increase bolt torque up to 50%. Verify no leaks along the seal.

# 5. Wide-Range / Fully-Restrained Couplings

## **GF MULTI/JOINT (3007)**

- Quick and simple to connect without the need for special tools.
- Meets the specifications of a wide variety of materials or outside diameters.
- Connections or repairs are carried out with a restraint pull-out resistance system, which eliminates the need for thrust blocks.
- Wide range, 16 deg of deflection



## 1506: 0.24" range

6	5.65		5.95	6T
	5.85		6.15	F3A
	6.15		6.45	F3B
	6.50	6.63	6.70	D3
	6.86	6.90	7.10	A1
	7.15		7.35	E5

Type of Pipe	PIPE OD	End Code	Coupling Working Range
<b>6"</b>			
Steel/HDPE IPS PVC	6.63	6"D3	6.50-6.70
Ductile Iron C900/C905	6.90	6"A1	6.86-7.10
Cast Iron	7.10	6"A1	6.86-7.10
A/C ME	6.91	6"A1	6.86-7.10
A/C class 100	7.05-7.48	6"A1 6"E5	6.86-7.10 7.15-7.35
A/C class 150	7.10-7.43	6"E5	7.15-7.35
A/C class 200	7.23-7.60	6"E5	7.15-7.35
SDR35	6.28	6"F3B	6.15-6.45
Woodstave	8.25	8"F3A	7.90-8.25

## Hymax: 1.26" range

860-XX-0163-16	6	6.42 - 7.68
----------------	---	-------------

# Water Breaks

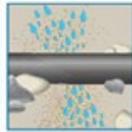
Facts to consider before a repair



What are the causes?



Climate influence



Ground movements



Corrosion



Water hammer

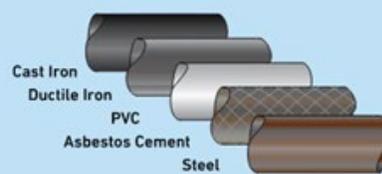


Pipe age

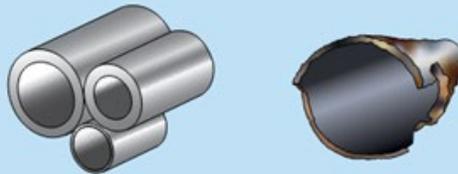


Excavation damage

Different pipe material, size and condition will limit repair options



Cast Iron  
Ductile Iron  
PVC  
Asbestos Cement  
Steel



Different outside diameters

Rough or damaged pipe ends

Finally, a restraint system that can tackle ALL repairs: MULTI/JOINT® 3000 Plus

Your Benefits:



Transition from old to new pipe materials



Smaller trench sizes



Durable & corrosion resistant



Faster installation



50 year maintenance free

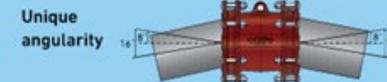


Proven restraint solution for over 30 years

Suitable for all materials



Asbestos Cement  
PE / HDPE  
PVC / PVCO  
Steel / Stainless Steel  
Gray Cast Iron  
Ductile Cast Iron



Unique angularity



One size fits and grips ALL

Learn more and register for free online webinars

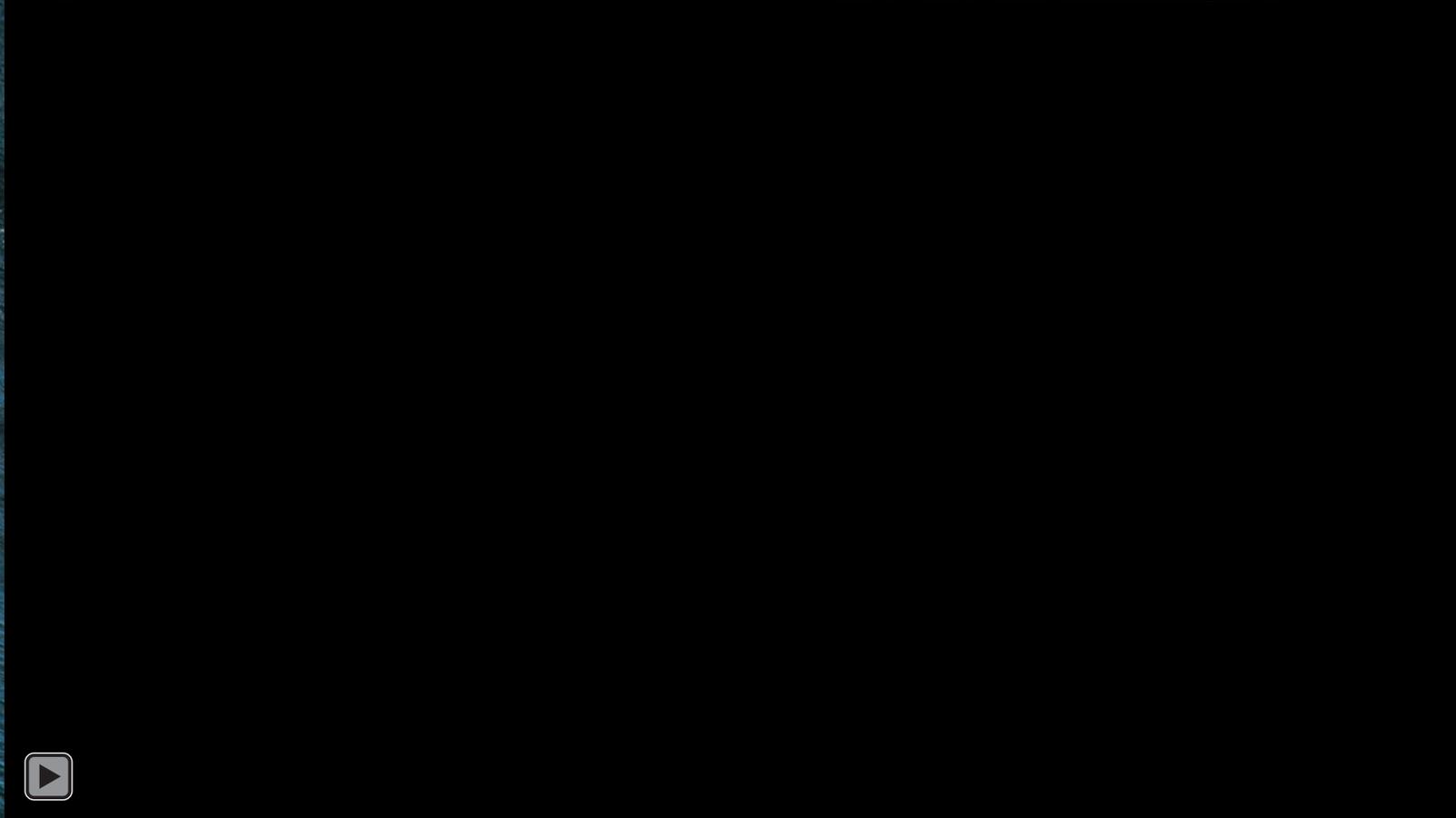


# Couplings

## GF MJ: 1.50" range

100	4	4.094 - 5.196
125	5	5.196 - 6.102
150	6	6.062 - 7.559
200	8	7.559 - 9.133
225	9	9.050 - 10.551
250	10	10.500 - 12.204
300	12	12.401 - 14.015

# 5. Wide-Range / Fully-Restrained Couplings



Thanks for listening!  
[nbrace@emcoltd.com](mailto:nbrace@emcoltd.com)  
709-689-2783

QUESTIONS?



# EMCO Corporation

Awareness Presentation for our partnership  
with Canoe Procurement Group of Canada

Contents:

- Introduction/Background (2-3)
- Benefits (4)
- Pricing structure overview (5)
- Billing operating procedures and FAQs (6-7)



# INTRODUCTION

- Q4 1992 - **EMCO Supply** authorized as an approved supplier for Alberta Association of Municipal Districts & Counties (AAMDC)
- Q1 2018 - AAMDC rebrands as **Rural Municipalities of Alberta (RMA)**
- Q2 2021 - RMA TRADE announces launch of a unified identity for the partnered associations across Canada, minted the **Canoe Procurement Group of Canada**
- Q4 2020 - RMA releases a **REQUEST FOR PROPOSALS (RFP)** for Waterworks Equipment with Related Accessories and Services
- Q1 2021 - **EMCO Corporation** successfully awarded this program (stewarded by teammates within the Western Waterworks Region). Program available for all EMCO subsidiaries, including...



Rural Municipalities of Alberta  
**REQUEST FOR PROPOSALS**  
FOR

**Waterworks Equipment**  
*with Related Accessories and Services*

<b>Request For Proposal No:</b>	<b>RMA-2020-006</b>
<b>Issue Date:</b>	<b>November 26, 2020</b>
<b>Deadline For Questions:</b>	<b>January 4, 2021 at 3:00 p.m. MT</b>
<b>Proposal Submission Deadline:</b>	<b>January 13, 2021 at 3:00 p.m. MT</b>

*This RFP is issued by Rural Municipalities of Alberta on behalf of itself and its current and future members and represented associations (including Saskatchewan Association of Rural Municipalities, Association of Manitoba Municipalities, LAS/Association of Municipalities Ontario, Nova Scotia Federation of Municipalities, Federation of Prince Edward Island Municipalities, Municipalities Newfoundland Labrador, Union of the Municipalities of New Brunswick, Northwest Territories Association of Communities and their current and future members) – which include local governmental organizations located in all provinces and territories in Canada.*

*This RFP also include British Columbia, Yukon Territory and Nunavut and all public sector and not for profit agencies across Canada.*



February 25, 2021

EMCO Corporation  
2124 Oxford Street East  
London, ON N5V 0B7

Dear Keegan Lemieux,

**RE: RMA-2020-006 | CONTRACT AWARD NOTICE**

RMA Trade wishes to thank you for your submission to the Rural Municipalities of Alberta Waterworks Equipment with Related Accessories and Services request for proposal (RMA-2020-006). After careful consideration, the RMA proposal evaluation committee has selected EMCO Corporation as one of the successfully awarded vendors for this program.

In the coming days, RMA Trade will be providing you with a draft Program Administration and Support Agreement according to your proposal.

RMA once again wishes to thank you for your ongoing patience and commitment and is excited to partner with EMCO Corporation for continued success in serving our Members.

Signed,

Nigel Gamester, BComm

Vendor Administration Manager



# BACKGROUND

- The Canoe Procurement Group of Canada represents a collaboration of municipal associations across the country. In operation since 1936, the purchasing group was created by its membership specifically to support public and non-profit organizations through mutually-beneficial, trade-compliant relationships with suppliers.
- Canoe is wholly owned and operated by its membership through a not-for-profit municipal association. Membership is available to the MASH (municipalities, academic institutions, school boards, and hospitals), not-for-profit, and public sectors.
- Canoe works with CivicInfo BC, the Rural Municipalities of Alberta (RMA), the Saskatchewan Association of Rural Municipalities (SARM), the Association of Manitoba Municipalities (AMM), the Association of Municipalities of Ontario (AMO) via its Local Authority Services (LAS) arm, the Union of Municipalities of New Brunswick (UMNB), the Federation of Prince Edward Island Municipalities (FPEIM), the Nova Scotia Federation of Municipalities (NSFM), **Municipalities Newfoundland and Labrador (MNL)**, and the Northwest Territories Association of Communities (NWTAC). The group also operates in Nunavut.

Source: Canoe Procurement of Canada [MEMBER PROCUREMENT GUIDE](#)

Kim Thiessen  
Client Relations Manager  
2502151818  
kim@canoeprocurement.ca

CIVICINFOBC RMA RURAL MUNICIPALITIES OF ALBERTA SARM Saskatchewan Association of Rural Municipalities ASSOCIATION OF MANITOBA MUNICIPALITIES

LAS AMO Business Services UMNB UNION OF MUNICIPALITIES OF NEW BRUNSWICK FPEIM FEDERATION OF PRINCE EDWARD ISLAND MUNICIPALITIES

Municipalities of Newfoundland and Labrador NSFM NOVA SCOTIA FEDERATION OF MUNICIPALITIES nwtac NWT Association of Communities

# BENEFITS

- Trade agreements\* generally require public sector purchasers to conduct open, competitive procurement processes.
- This requirement arises if the estimated value of the goods or services to be purchased exceeds certain value thresholds.

\* National: CFTA, CETA - Regional: AATP, OQTCA, NWPTA

## EMCO Benefits

- More business generated from being one of only two distributors selected
- All billing and payments processed through one entity (Canoe)
- Develop relationships with members and skip tendering process

## Member Benefits

- Significant time and money savings from reduced procurement process costs
- Access to greater resources and expertise
- Potentially better pricing, leveraging combined buying power

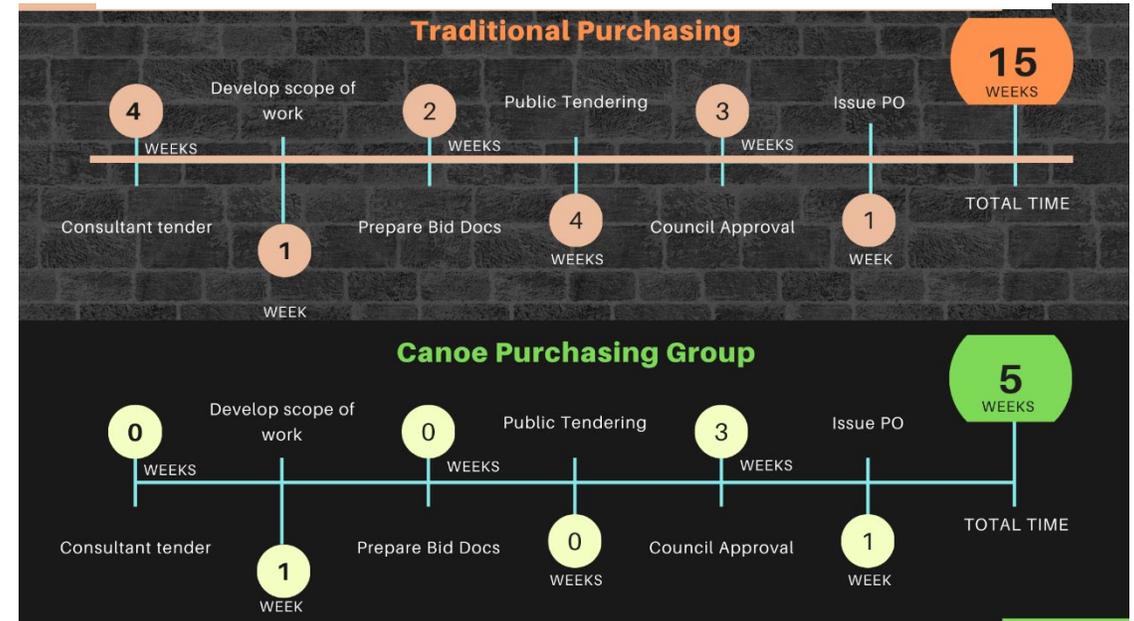
Compliant



Cooperative



Credible



Source: Canoe Procurement Group of Canada [MEMBER PROCUREMENT GUIDE](#) and [CIMCO](#)