

Municipal Case Study

City of Yorkton Upgrades Sanitary and Storm Sewer Lines

Weather challenges call for an increase in larger diameter PVC pipe solutions

IPEX CENTURION® BLUE BRUTE®

Product: Centurion® & Blue Brute®

Sizes and Uses of Pipe:

165m of Storm Sewer:
1,500mm (60") Centurion PVC DR51

732m of Sanitary Sewer:
1,050mm (42") Centurion PVC DR51

530m of Water Main:
300mm (12") Blue Brute PVC DR18

Contractor: Ungar Construction

Municipality: City of Yorkton,
Saskatchewan

- Improved Flow Performance
- Reduced Installation Costs
- Longer Life Span



THE CHALLENGE

The changing climate and extreme weather events are putting immense pressure on municipalities across North America; commercial districts and ageing infrastructure are paying the price.

Over the past decade, major flooding incidents, as well as population growth, have forced the City of Yorkton, Saskatchewan, to focus its attention on upgrading its storm and sanitary sewer systems.

Dracup Avenue in Yorkton's commercial district is the City's main conduit for both storm and sanitary sewer. After reviewing the impact of past flooding events and crumbling water systems, City planners decided the underground piping needed to be replaced.

When outdated storm and sanitary sewer lines fail, it can result in costly backups and floods. These failures can also cause exfiltration or leakage into the surrounding soil and water table, potentially resulting in soil displacement under roadways as well as sinkholes.

This multi-million dollar infrastructure project was the biggest of its kind at the time for Yorkton and involved replacing the storm sewer, sanitary sewer, and water main while upgrading the road surface.



All municipalities are facing the challenge of addressing ever-growing needs to replace ageing infrastructure. To address these challenges, the need for municipalities to carefully consider construction material performance and longevity has never been more important.

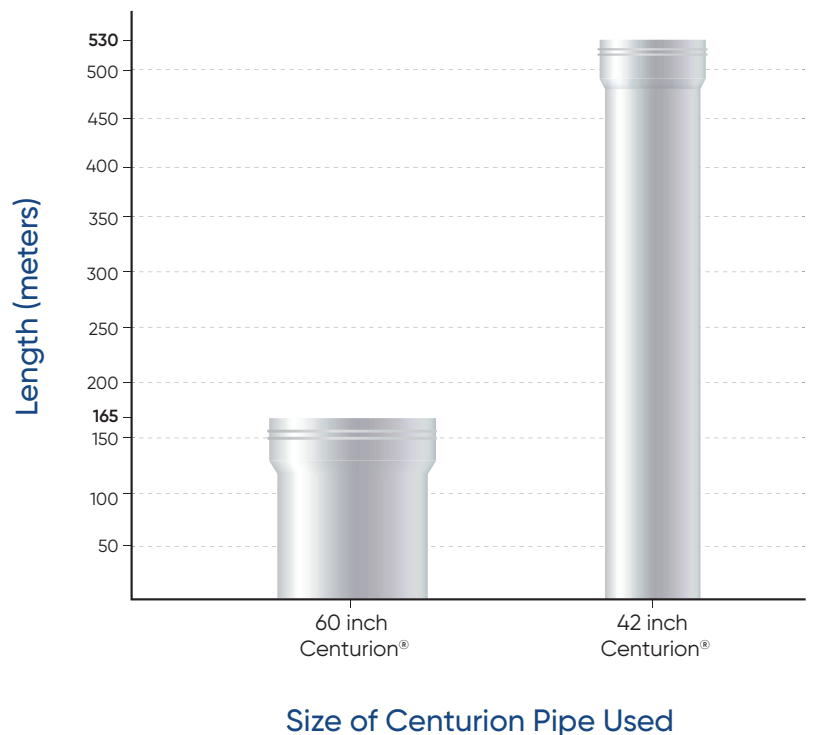
TRENT MANDZUK,
 Director of Public Works
 City of Yorkton

THE SOLUTION

For over 25 years, IPEX has been a trusted supplier for many of the City's infrastructure projects. When the time came to consider options for pipe replacement products for the Dracup Avenue project, the City ultimately chose IPEX's DR51 Centurion® PVC pipe.

IPEX Centurion DR51 is a strong choice for sewer lines with it being a pressure rated pipe capable of operating at 80psi. The 1500mm (60") Centurion is the largest pipe manufactured by IPEX and one of the largest pipes available in North America.

IPEX supplied 165 m of 1500 mm DR51 Centurion® PVC for the storm sewer, 732 m of 1050 mm DR 51 Centurion® PVC pipe for the sanitary sewer line, and 530 m of 300 mm DR18 Blue Brute® PVC pipe for the potable water line.





We liked installing the 1500 mm IPEX pipe for a number of reasons. It's relatively lightweight and easy to push together. At 6-meter lengths, as opposed to shorter lengths that one would see with concrete, we were also able to save time and reduce our labour costs. Plus, it's incredibly easy to grade, and because of PVC's leak-free joints, we knew we'd never have a problem passing our exfiltration tests.



SCOTT UNGAR,
Owner, Ungar Construction

IPEX Thermoplastic piping features a number of benefits, including:



IMPROVED FLOW PERFORMANCE

For the gravity storm and sewer pipe applications, City designers specified a Manning's N-factor of 0.009 in their flow calculations. This decision acknowledges PVC pipe's smoother interior surface, resulting in higher flow capacities for a given pipe size that concrete pipe can't match.



REDUCED INSTALLATION COSTS

PVC pipe is much lighter than concrete pipe, making it easier to handle. PVC pipe is supplied in 6.1-meter lengths vs 2.5-meter lengths for concrete pipe, significantly increasing production. PVC pipe can be field-cut to accommodate any in-situ changes; concrete pipe does not offer this flexibility.



LONGER LIFE SPAN

PVC pipe resists corrosive H₂S deterioration common in sanitary sewer applications that seriously affects concrete and other pipe materials.

THE RESULTS

The City hired Ungar Construction as their pipe installation contractor on this project. As this was the first time either the City or Ungar had used a 1500 mm diameter PVC pipe, IPEX provided ongoing high-level technical and on-site support to ensure the project ran smoothly. The project was finished on time and on budget, and the City deems it a complete success.

City engineers can also rest easy knowing they've installed quality IPEX thermoplastic piping that will last without concern for corrosion failure and leaks.