

# WHAT CAN CAUSE SANITARY MAIN BREAKS

THE CITY OF CALGARY | WATER SERVICES



**Pipe age**  
(wear and tear, corrosion)



**Pipe material**  
(some older materials break down faster)



**Weather conditions**  
(Sudden and extreme changes in temperature)



**Installation process and unforeseen issues**



**Vibrations**  
(heavy traffic/construction/ground shifting moving)



**Soil type and ground conditions**  
(corrosion, ground water, etc)

## WHO WORKS ON THE SANITARY MAIN REPAIRS?



### Foreman

Responsible for crew and site safety, organizing the job and directing the crew to complete the repair.



### Pipeman

Responsible for assessing the break and executing the repair—from the bottom of the excavation, in any weather.



### Backhoe Operator

Responsible for excavating with precision around all utilities.



### Labourer

Responsible for assisting the pipeman's repair and acting as their eyes and ears at the ground level.



### Tandem driver/labourer

Responsible for removal of wet excavated soil and replacement with dry backfill soil and gravel, as well as assisting with many worksite tasks.



### Utilityman

Responsible for organizing emergency locates, assists with traffic setups and scouting for potential safety hazards or job-specific challenges the crew may face. This individual works alone, before the crew arrives and is often a senior technical expert.

## TYPES OF PIPE USED IN SANITARY REPAIRS

**Brick (tunnels)**  
Pre-1915

**Cast Iron**  
1910 – 1968

**Concrete**  
1911-1981

**Steel**  
with concrete coating  
1951 – 1980

**PVC**  
1976 – present

**HDPE**  
1980 – present

