## 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)

# 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.

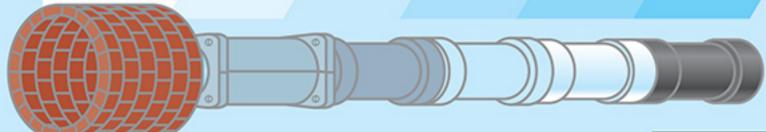
## Utilityman

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 PVC 1976 – present HDPE 1980 - present



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