

# PROJECT BACKGROUND

## Mill Creek Trunk Rehabilitation

**NOVEMBER 2022**

### PROJECT OVERVIEW

The Mill Creek combined sewer trunks carry wastewater from a large part of south Edmonton towards the Gold Bar Wastewater Treatment Plant, and also convey rainwater and snowmelt from some of Edmonton's older south side neighborhoods. Segments of the combined sewer trunk have been observed to be in very poor condition.

Inspections have identified that the existing tunnel running through the Ritchie and Old Strathcona neighborhoods, as well as under the Mill Creek Ravine, requires replacement to ensure it continues to reliably meet the needs for south Edmonton.

The project consists of three stages of work, an overview of which is provided on the following pages. The project is expected to begin in January 2023 with completion in 2026.

During the first stage of the project, a new combined sanitary tunnel will be drilled underground along 97 Street using a tunnel boring machine (*January 2023 to Fall 2025*). This stage of the project will require significant closures to both the recreation field at Mill Creek School, as well as the greenspace in Tubby Bateman Park. Tunneling activities will also be occurring 24/7 during this time.

During Stage Two, once the tunnel is complete, crews will redirect the connecting sewer lines on 80 Avenue to the new tunnel (*Spring 2025 to Fall 2025*). A full road closure, on 80 Avenue between 97 Street and 96a Street, for open-trench construction is required for the duration of this work.

During Stage Three, the old sewer tunnel will then be decommissioned (*Summer 2025 to Spring 2026*).

*Please note that these timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.*

### JOIN US FOR A PUBLIC INFORMATION SESSION

EPCOR is hosting public information session to introduce the project to the community:

**Date:** November 24, 2022

**Time:** 7:00 PM to 9:00 PM

**Location:** Mill Creek School (9735 80 Ave NW, Edmonton, AB T6E 1S8)

# OVERALL PROJECT AREA



## PROJECT AREA AND NOTIFICATION

This project is broken down into three stages of work.

### Stage One

**January 2023 to Fall 2025**

- New tunnel construction along 97 Street and connection to the existing upstream combined trunk at 80 Avenue and at 88 Avenue;

### Stage Two

**Spring 2025 to Fall 2025**

- Redirecting combined sewer flows on 80 Avenue between 96 Street, to 97 Street toward the new tunnel; and

### Stage Three

**Summer 2025 to Spring 2026**

- Abandonment of the existing Combined Trunk from 97 Street to the Mill Creek Ravine.

Further notification will be provided before work begins and will include details of traffic impacts, timelines and schedule when possible.

*Please note, these timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.*



## MAP OF WORKSITE #1



### WORKSITE #1: 97 STREET AND 80 AVENUE

#### Stage One

January 2023 to Fall 2025

#### Tree Trimming, Removal and Replacement

To prepare for construction, trees and vegetation that conflict with the worksite will be tagged prior to removal/trimming. EPCOR has consulted with the City of Edmonton Urban Forestry department regarding the impacts to the trees and vegetation and removal/trimming will only be done where absolutely necessary. Trees will be removed at the following locations:

- Several trees along the fence line on the west side of 97 Street, between 79 Avenue and 80 Avenue next to Mill Creek School (located at Worksite #1)
- Several trees in the north east corner of Tubby Bateman Park on 97 Street (located at Worksite #2)

Once construction is complete, the City of Edmonton Urban Forestry department will determine the number of trees to be replaced and the replacement locations. All tree removals are in accordance with the Corporate Tree Management Policy (C456C) and the City of Edmonton Tree preservation guidelines.

#### Shaft Construction

During Stage One of the project, crews will

construct a 30 metre deep entry shaft for the tunnel boring machine (TBM). Once the shaft is complete, the TBM will be lowered into the shaft and will travel north along 97 Street until it reaches the retrieval shaft in Tubby Bateman Park. A large machine used to manage soil removal will also be on site.

The TBM used to tunnel underground operates under a pressure system to move forward. When stopped, the machine requires force to push it forward when tunneling resumes. A delayed stoppage could result in a situation where the TBM gets stuck and is unable to move forward.

**As such, 24 hours a day, 7 days a week (24/7) tunneling work is required to reduce this risk.**

Once the tunneling stage is complete, the entry shaft will be converted to an manhole, providing access into the tunnel for future maintenance.

As the construction laydown area and worksite will use a significant portion of the recreation field at Mill Creek School, the project team will be implementing no-haul times at certain hours of the workday. The site will also be fenced and will utilize site hoarding material to block visibility and deter activity around the site.

#### Stage Two

Spring 2025 to Fall 2025

The second stage of the project will begin once the tunneling has been completed.

Crews will perform open-trench work along 80 Avenue, between 96 Street and 97 Street, in

order to redirect the existing combined sewer flows toward the newly completed tunnel.

During the open-trench construction, a full road closure is required to accommodate excavation of the work area. The road will remain closed for the duration of the Stage Two work.

## MAP OF WORKSITE #2



## WORKSITE #2: 97 STREET AND 88 AVENUE (TUBBY BATEMAN PARK) Stage One

**Spring 2023 to Fall 2025**

To prepare for construction, trees and vegetation that conflict within the worksite area will be tagged prior to removal/trimming.

Before the drainage work for Stage One can begin in Tubby Bateman Park, EPCOR Water will be relocating an existing water main to accommodate the drainage construction. Once this work is completed, crews will begin constructing the retrieval shaft for the TBM.

The TBM used to tunnel underground operates under a pressure system to move forward. When stopped, the machine requires force to push it forward when tunneling resumes. A delayed stoppage could result in a situation where the TBM gets stuck and is unable to move forward.

**As such, 24 hours a day, 7 days a week (24/7) tunneling work is required to reduce this risk.**

The worksite for the construction of the retrieval shaft will encompass a large portion of the green space within Tubby Bateman Park. The playground

Permanent road restoration will be completed at the end of Stage Two.

*Please note, these timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.*

will remain open during construction, however a large portion of the park space will be closed to the public for the duration of the Stage One construction.

The pedestrian path from 97 Street to the playground will also be closed for the duration of the work. Alternative pedestrian access around the site will be provided.

We are working with the City of Edmonton to relocate or store any historic resources that are currently within the work area.

Upon completion of the tunnel, the TBM will be extracted. The shaft will then be converted to a



**TUNNEL BORING MACHINE**

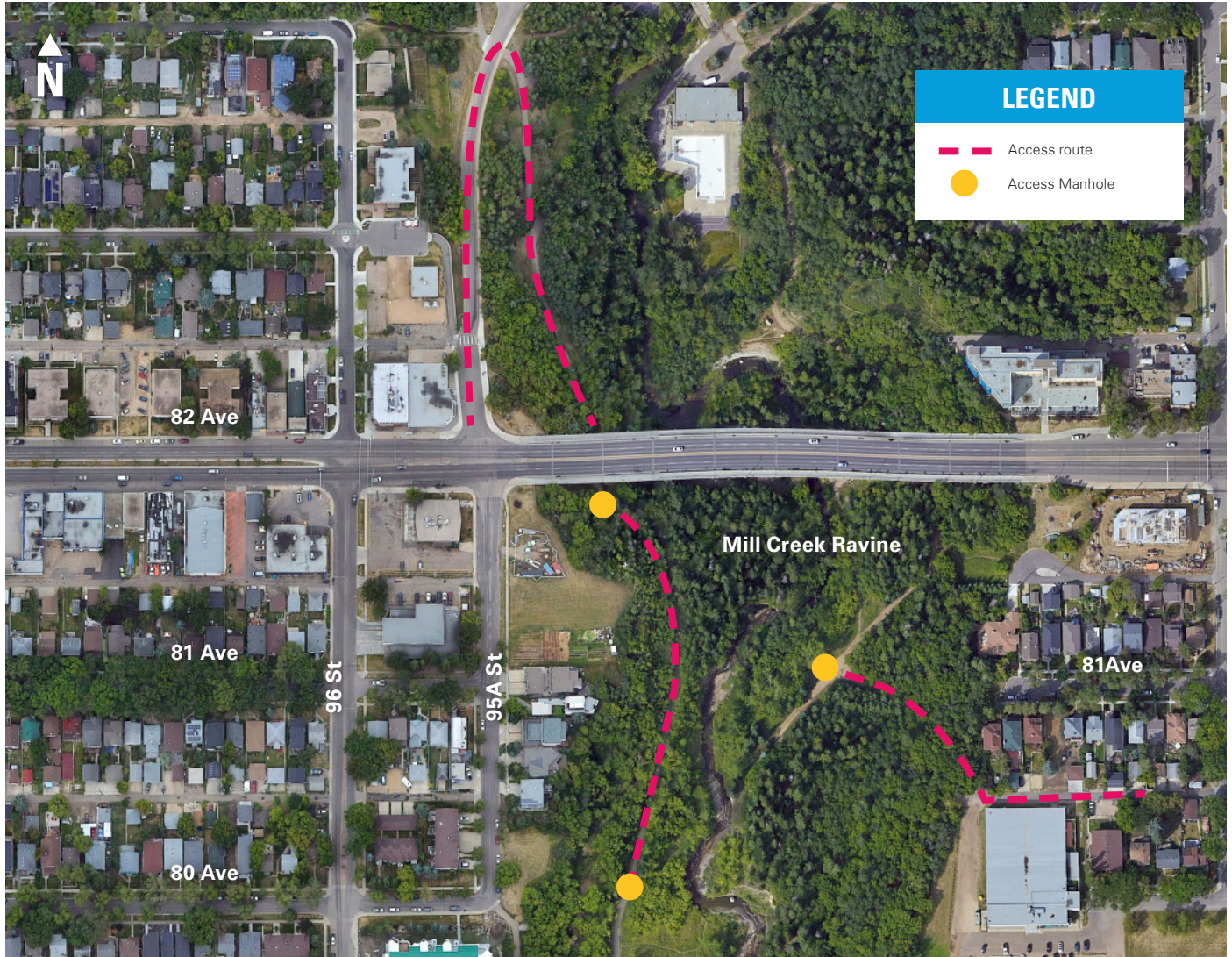


manhole, providing access to the new tunnel for future maintenance.

Worksite #2 will be demobilized once Stage One of the project is complete. The park green space will be restored to its pre-construction condition.

*Please note, these timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.*

## MAP OF WORKSITES IN MILL CREEK RAVINE



## WORKSITE #3: MILL CREEK RAVINE

### Stage Three

**Summer 2025 to Spring 2026**

During Stage Three of the project, crews will decommission the existing trunk line by filling it with a concrete-like material. Several access manholes will be used to complete this work.

Crews will access the manhole sites via existing trails in the ravine, which will remain open to pedestrians. There may be intermittent trail

closures while crews are moving equipment and materials to the worksites. A proposed access route for equipment is shown in the map above.

Several manholes that connect to the old trunk line will also be decommissioned and filled with a concrete-like material.

*Please note, these timelines are estimates and are pending approvals, material procurement/availability, construction conditions and weather.*





**SLURRY SEPARATION MACHINE USED TO MANAGE SOIL**

## PROJECT IMPACTS

Further notification will be provided before work begins and include details of traffic impacts, timelines and schedules when possible.

### Traffic

- Depending on the work location, residents and businesses can expect to see activity that is typical to construction, including company/contractor vehicles and equipment.
- Road/lane and sidewalk closures are anticipated. Signage will indicate closures and detours along with parking restrictions.
- Construction vehicles and tandem dump trucks used for hauling will access work areas through local roadways.

### Noise

- Work will create typical noise associated with construction.
- Work outside the noise bylaw hours may occur during 24/7 active tunneling. More information will be distributed if construction is scheduled outside regular hours outlined in the noise bylaw.
- We will take measures to ensure compliance with the City of Edmonton's Community Standards Bylaw for Noise Control.

### Laydown Areas

- Several laydown areas for material storage are required for this project. Material will be transported to and from these areas for the duration of the construction activities.

## WORK ACTIVITIES

You may see some of the following work activities in your area.

### Open-Trench Construction/Excavation

Open-trench construction is a method in which the surface area is excavated to install new infrastructure. A significant portion of the work for this project will include this type of construction, including the installation of new drainage infrastructure and water main relocation.

Open-trench construction requires a large area to accommodate trenching; therefore, impacts usually include road and/or sidewalk closures. Due to the amount of material and equipment required, there is often a laydown area that needs to be incorporated onto the site, which may cause a large portion of a road and/or sidewalk to be closed, or disrupt a greenspace area which may normally be used for public recreation.

### Micro-Tunneling

Micro-tunneling is a method used to construct new drainage tunnels. First, a large shaft (about 7 meters by 16 meters in size) is built, which will facilitate lowering of a micro-tunnel boring machine (TBM) into the ground. The TBM then grinds through soil and rocks/boulders underground along the alignment of the new tunnel. Pipe is then pushed behind the micro-tunneling machine to create the new tunnel.

The tunneling process occurs underground, however, two shafts are required at the surface along the alignment of the tunnel. These shafts are placed at engineered start and end points. Due to the size of the shaft locations, impacts usually include road/sidewalk closures.

The TBM used to tunnel underground operates under a pressure system to move forward. When stopped, the machine requires force to push it forward when tunneling resumes. A delayed stoppage could result in a situation where the TBM gets stuck and is unable to move forward.

***As such, 24 hours a day, 7 days a week (24/7) tunneling work is required to reduce this risk.***



### Grouting

To complete the abandonment of the old combined trunk line, crews will fill the pipe with grout using the existing access manholes. Once completed, the manholes that connect to the old trunk line will be decommissioned and filled with a concrete-like material.

### Material Hauling

Large tandem trucks will be used to haul materials to and from worksites. As construction work takes place in close proximity to Mill Creek School, the project team will be implementing no-haul times at certain hours of the workday.



## CONCERNED ABOUT HOME FLOODING?

### BOOK A FREE FLOOD PREVENTION INSPECTION

Drainage systems in many Edmonton neighbourhoods are being improved to reduce the risk of flooding. Maintaining good drainage on your residential property is an important part of the flood prevention equation.

EPCOR can help you minimize the risk of flooding on your property from a heavy rain fall event. Book a free inspection with one of our flood prevention advisors to help identify individual property risks and recommendations to mitigate those risks. A subsidy for a backwater valve, which helps to protect your home from a sewer line back up, is also available.



#### Book online!

Book a free flood prevention inspection with one of our advisors online.

Contact us at [floodprevention@epcor.com](mailto:floodprevention@epcor.com) or visit [epcor.com/floodprevention](http://epcor.com/floodprevention) to learn more

### MORE INFORMATION

**EPCOR Drainage Services**

**Phone:** (780) 509-8080

**E-mail:** [EPCORdrainage@epcor.com](mailto:EPCORdrainage@epcor.com)