WELCOME

PROJECT OVERVIEW

The Ottewell Flood Mitigation Project has been initiated to reduce the risk of flooding in the neighbourhood.

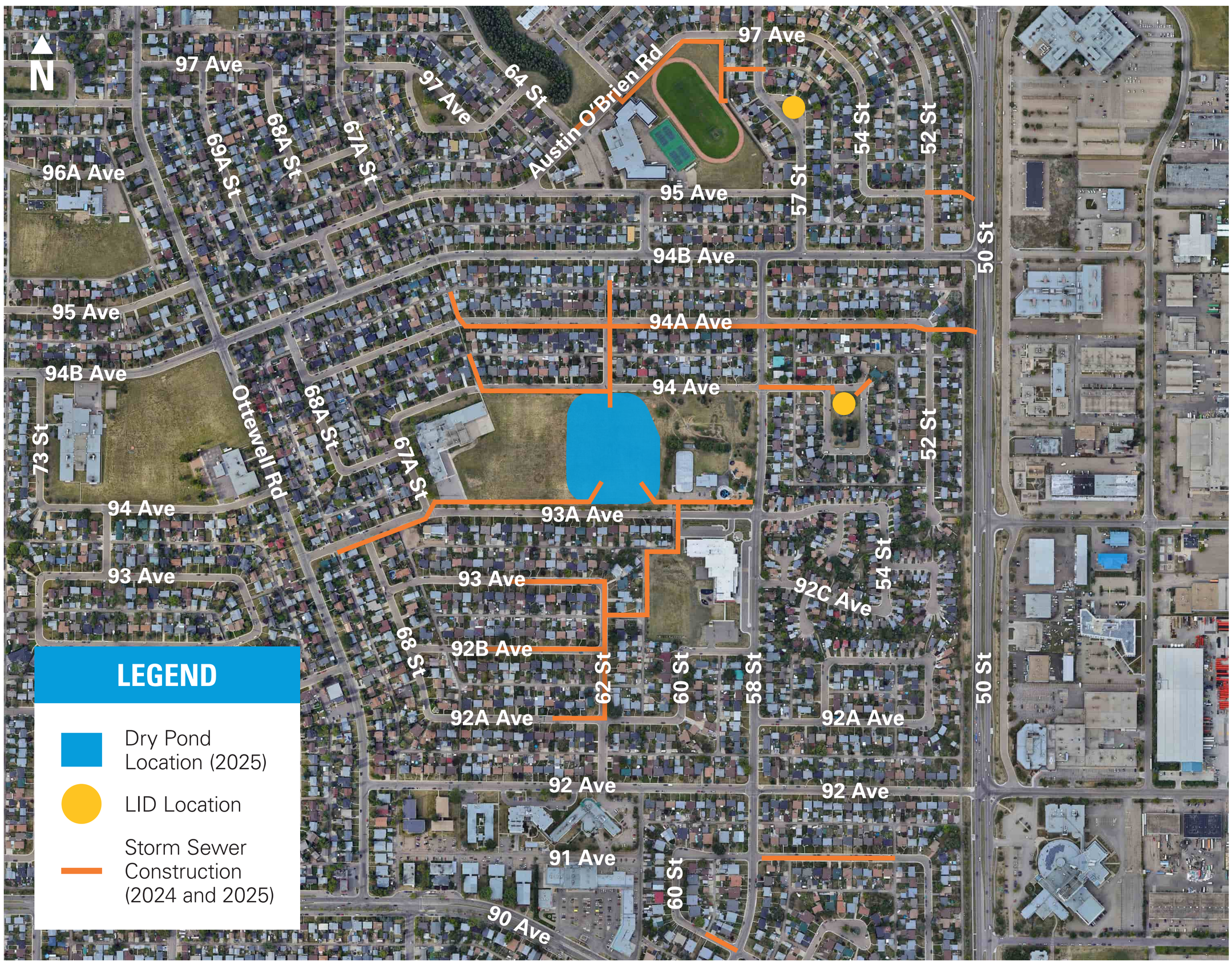
The Ottewell neighbourhood is primarily serviced with a mix of combined sanitary and storm lines, and some separate storm lines. There is no stormwater management facility in the neighbourhood, and the current overland (or surface drainage system) is not effective. There are several areas in this neighbourhood where water can pool during intense rainfall, which puts the Ottewell community at a higher risk of flooding.

To reduce flood risk, various stormwater infrastructure, including sewer separation, is being installed or upgraded within the neighbourhood. EPCOR will also construct a dry pond in the green space east of Braemar School. Low Impact Development (LID) will also be installed as part of the project.

This project has been broken down into two stages:

- Phase One – Sewer upgrades (2024 and 2025)
- Phase Two – Dry pond construction (2025)

This project is part of EPCOR's Stormwater Integrated Resource Plan (SIRP) which aims to reduce the risk of flooding in Edmonton neighbourhoods and is funded in part by the Government of Canada's Disaster Mitigation and Adaptation Fund (DMAF).



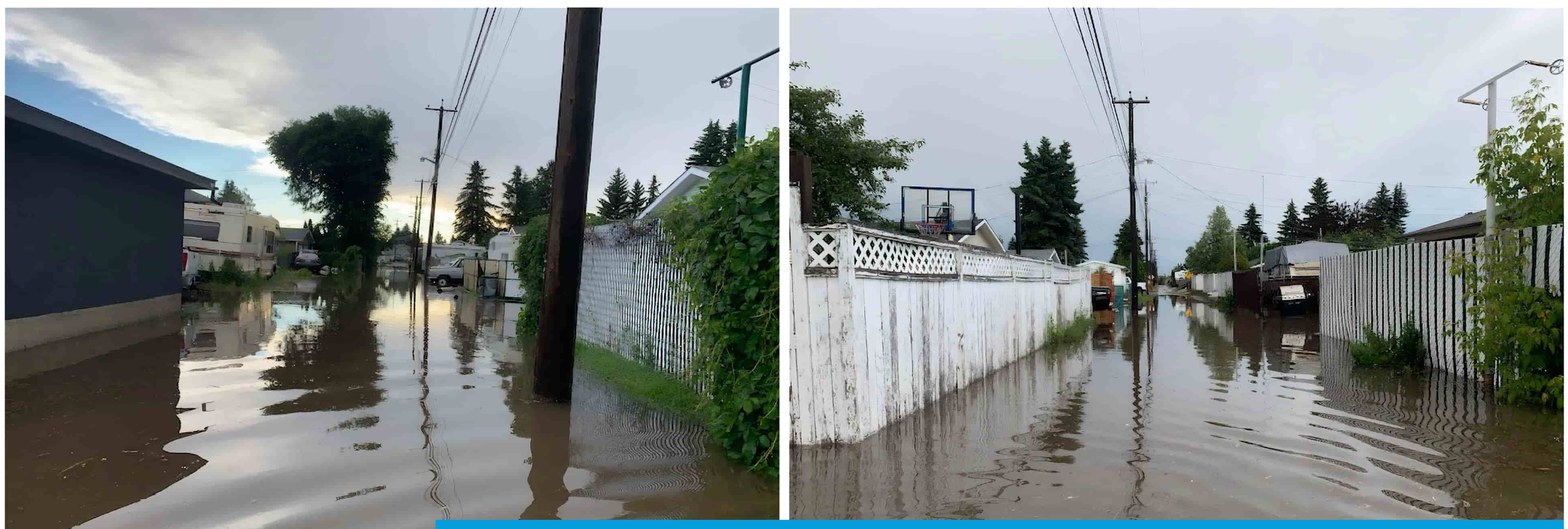
This project is funded in part by the Government of Canada.

PROJECT BACKGROUND

EPCOR worked with a design consultant to model the hydraulics of the neighbourhood in its current condition to identify the areas that are at risk of significant flooding in a severe rain event (the 1 in a 100 year storm). These results, in addition to the historical records of surface flooding and flood survey data, have determined that the existing combined sewer system, built in the early 1960s, is insufficient to meet the current drainage standards.

Due to the limited capacity of the existing combined sewer, large rainfall results in ponding on the surface and surface flooding, as well as significant sewer backup risks to the neighbourhood.

In order to address the lack of capacity within the drainage system, storm sewers will be installed throughout key areas of the neighbourhood. The upgrades will allow rainfall to be stored in the sewer system until there is room in the sewers to transport the water to the river.



Flooding in Ottewell neighbourhood in July, 2020 (alleyway at 63 Street and 94B Avenue)

Example of a dry pond, adjacent to Parkallen School from the Parkallen Flood Mitigation Project. Two soccer fields were installed in the dry pond.

This project is funded in part by the Government of Canada.

PARTNERS IN FLOOD RESILIENCE

EPCOR, and City of Edmonton collaborate on homeowner and community flood resilience programs

CITY OF EDMONTON

- Regulates land use and development activity including public lands
- Regulates ratepayer-funded utility programs
- In an emergency, leads locally and reports to provincial Emergency Operations Centre

EPCOR

- Protects the region's water supply and critical utility infrastructure
- Helps secure against stormwater and secondary flooding
- Provides programs to help homeowners secure their property
- Supports emergency response and recovery

HOME OWNER

- Conducts home flood proofing, including property grading and backwater valve installation and maintenance
- Obtains insurance (where available)

This project is funded in part by the Government of Canada.

WHAT'S HAPPENING

Construction of the dry pond is planned for 2025. Exact timing depends upon design outcomes, internal approvals, permitting, and contractor timelines, construction conditions. More information will be provided to residents as the project progresses.

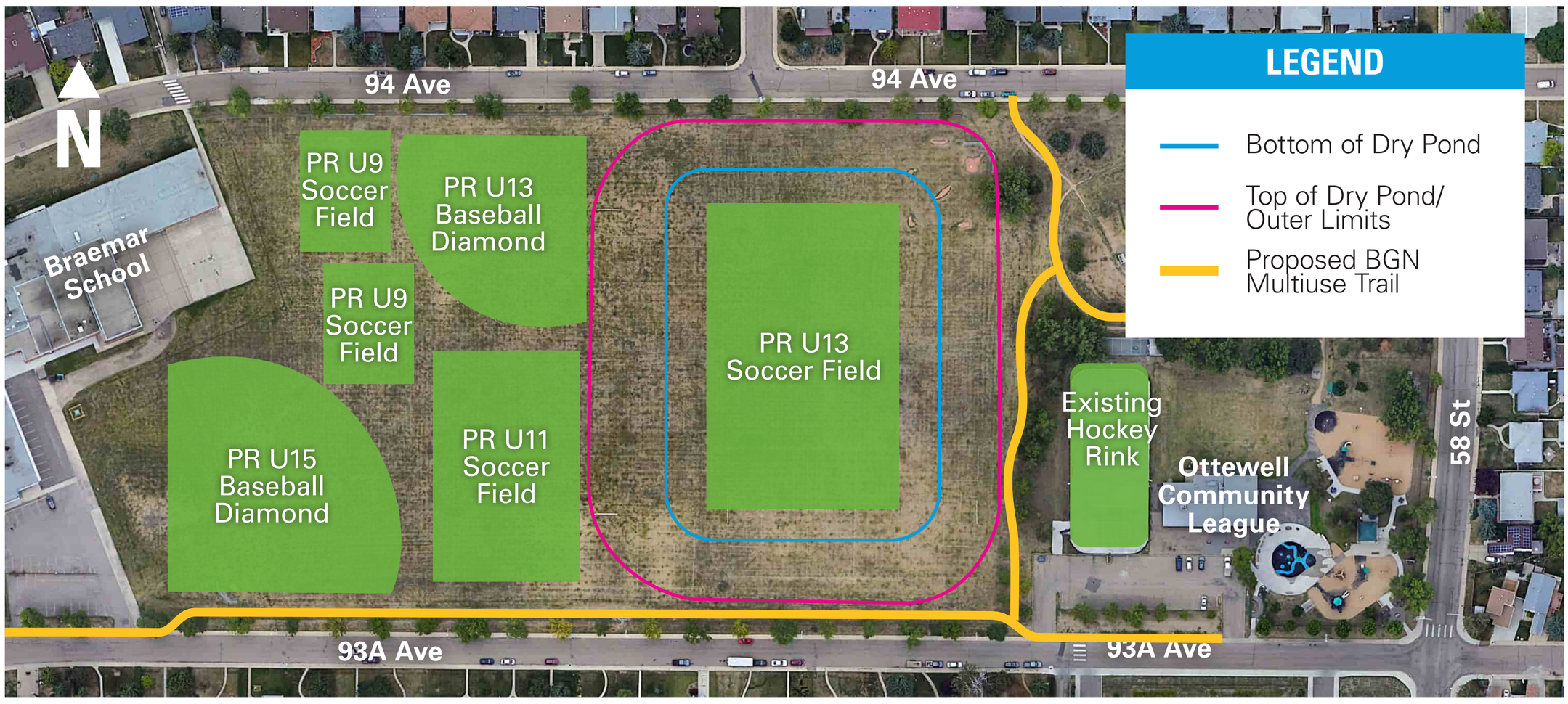
Dry ponds typically contain recreational amenities, such as soccer fields and baseball diamonds, which can be used when the pond is dry (the vast majority of the time).

Based on the current concept design, all existing amenities can be replaced within the dry pond area. Some amenities will be reoriented or relocated to another area within Ottewell Park.

It is EPCOR's responsibility to build the dry pond and maintain the underground drainage infrastructure. However, once the project is complete, the ownership and responsibility for maintenance of the dry pond surface, vegetation and recreation amenities will rest with the City of Edmonton.

CURRENT AMENITIES LAYOUT

AMENITIES LAYOUT AFTER CONSTRUCTION

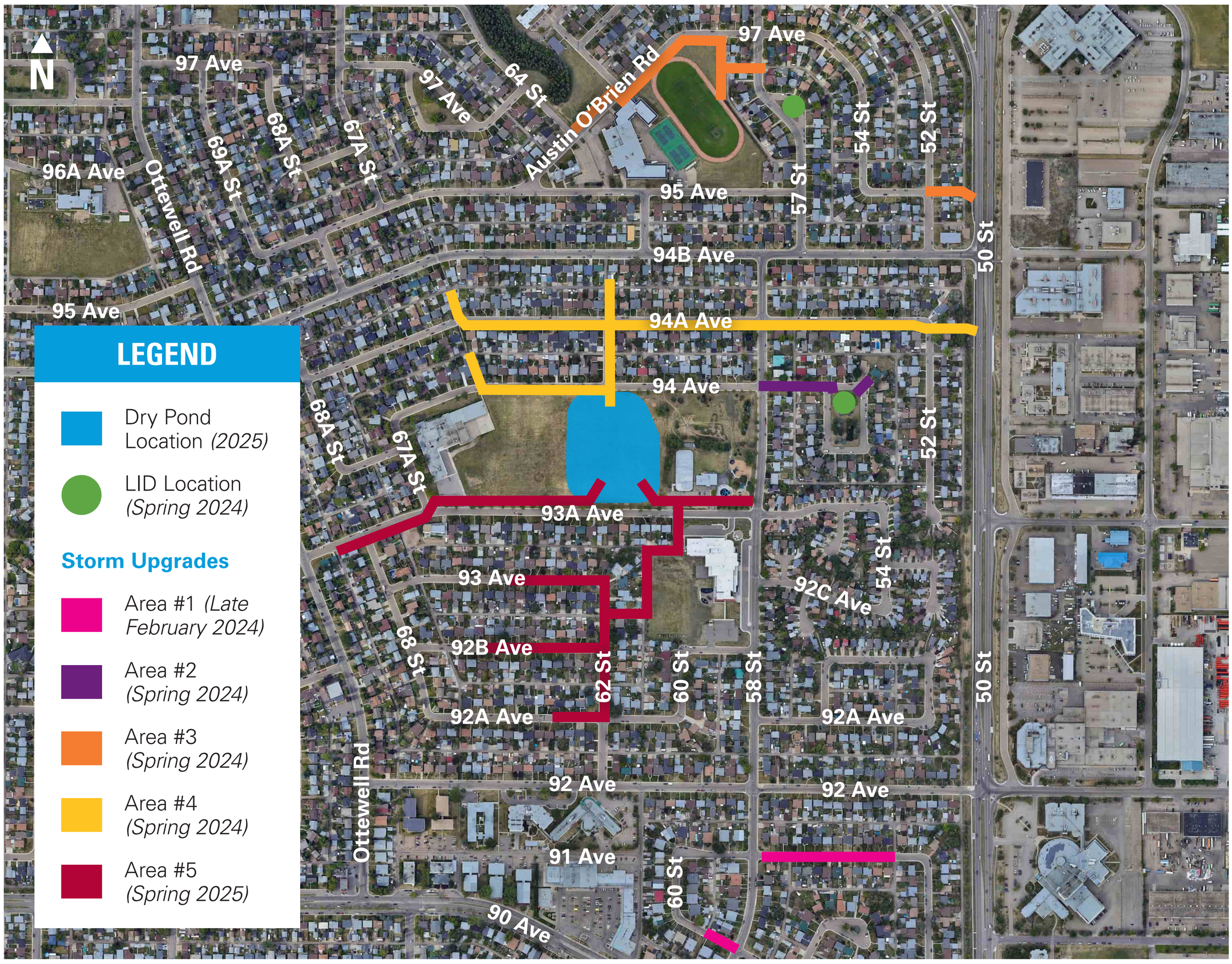


This project is funded in part by the Government of Canada.

SEWER UPGRADE WORK

In order to connect the future dry pond to the new storm drainage system, various storm infrastructure upgrades are required. Construction on the sewer upgrades are anticipated to begin in **2024** and be completed by the end of **2025**. Landscaping restoration will take place in spring 2026, as weather permits.

OVERALL PROJECT MAP



What are the Benefits of a Separated System?

- Combined sewers carry both the domestic wastewater from homes and the stormwater drainage from streets. Separating the storm flows from the combined system means there is less flow in the sewers during rainfall and therefore a reduced risk of basement flooding and sewer backups in homes.
- It also reduces downstream combined sewer overflow to the river where during intense rainfall, raw combined sewer flows can discharge directly to the river.
- Further, this reduces the amount of rainfall in combined sewers that ends up at the Gold Bar Waste Water Treatment Plant that receives unnecessary treatment.
- It also can reduce odour since the catch basins are disconnected from waste flows in addition to improving stormwater system performance by providing new pipes and catch basins designed to modern standards.
- Reduces the risk of untreated wastewater being released into the river.

This project is funded in part by the Government of Canada.

WHAT IS A DRY POND?

Dry ponds are stormwater management facilities, which are designed to temporarily hold stormwater when the drainage system cannot handle the water volumes due to severe storm events.

Severe storm events such as thunderstorms are challenging to predict because they can come with little warning. They can be very intense for a short period of time in a localized area causing flooding of roads, properties and sewer backup in basements.

During severe storm events, dry ponds act as storage facilities and help protect local homes and businesses. The water will then drain from the dry ponds into the downstream drainage system when there is capacity.

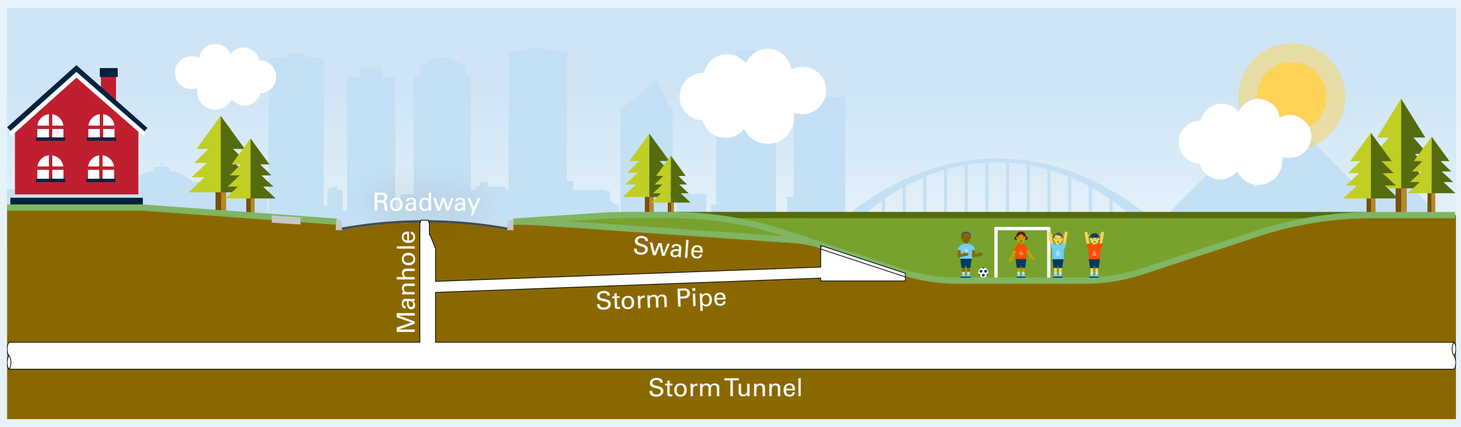
There are 79 dry ponds in the City of Edmonton. Many of these locations are used for recreation spaces such as soccer fields and baseball diamonds and several are located in schoolyards. Some examples of dry ponds can be seen in the following neighbourhoods:

- Parkallen
- Steinhauer
- Ermineskin
- Prince Rupert
- Lendrum

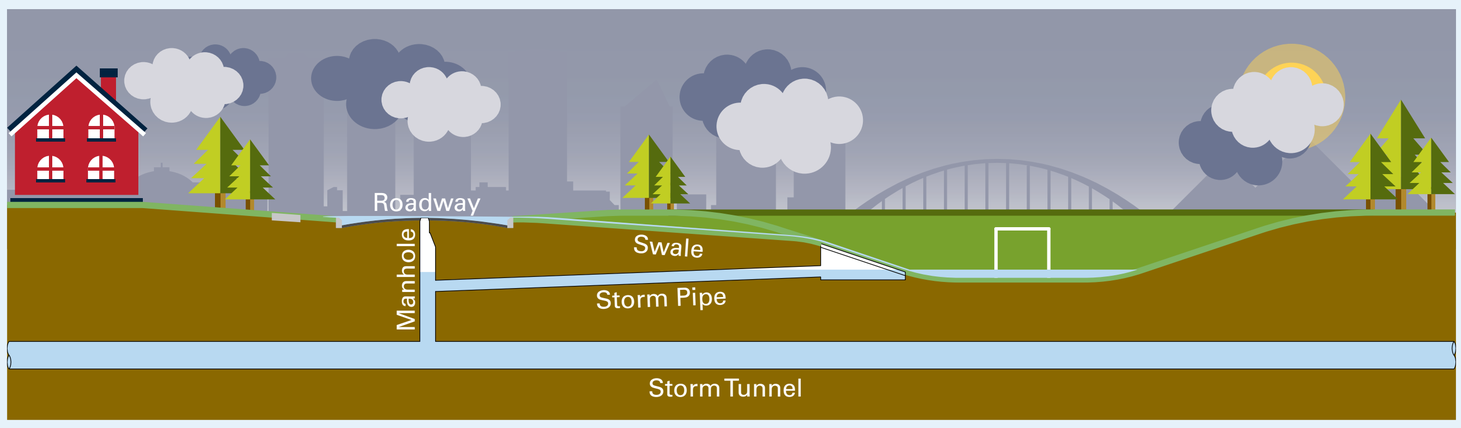
The first few millimetres of rainfall heavily dilutes any contaminants from the roadway or other surfaces and washes them through the underground stormwater system early in a storm.

HOW DO DRY PONDS WORK?

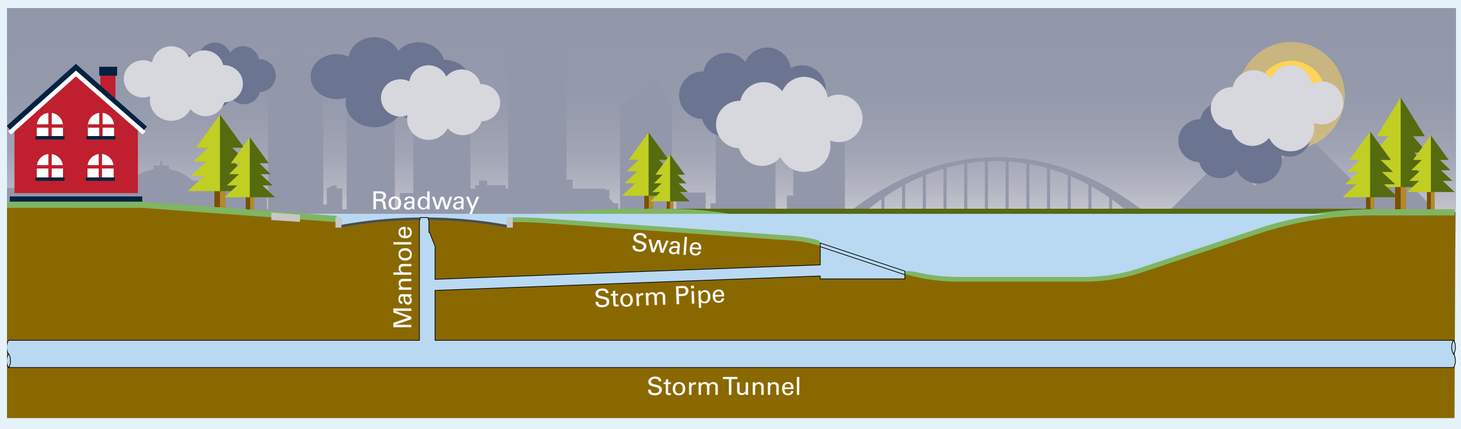
Empty Dry Pond



Rain Intensifies and Pond Starts to Fill

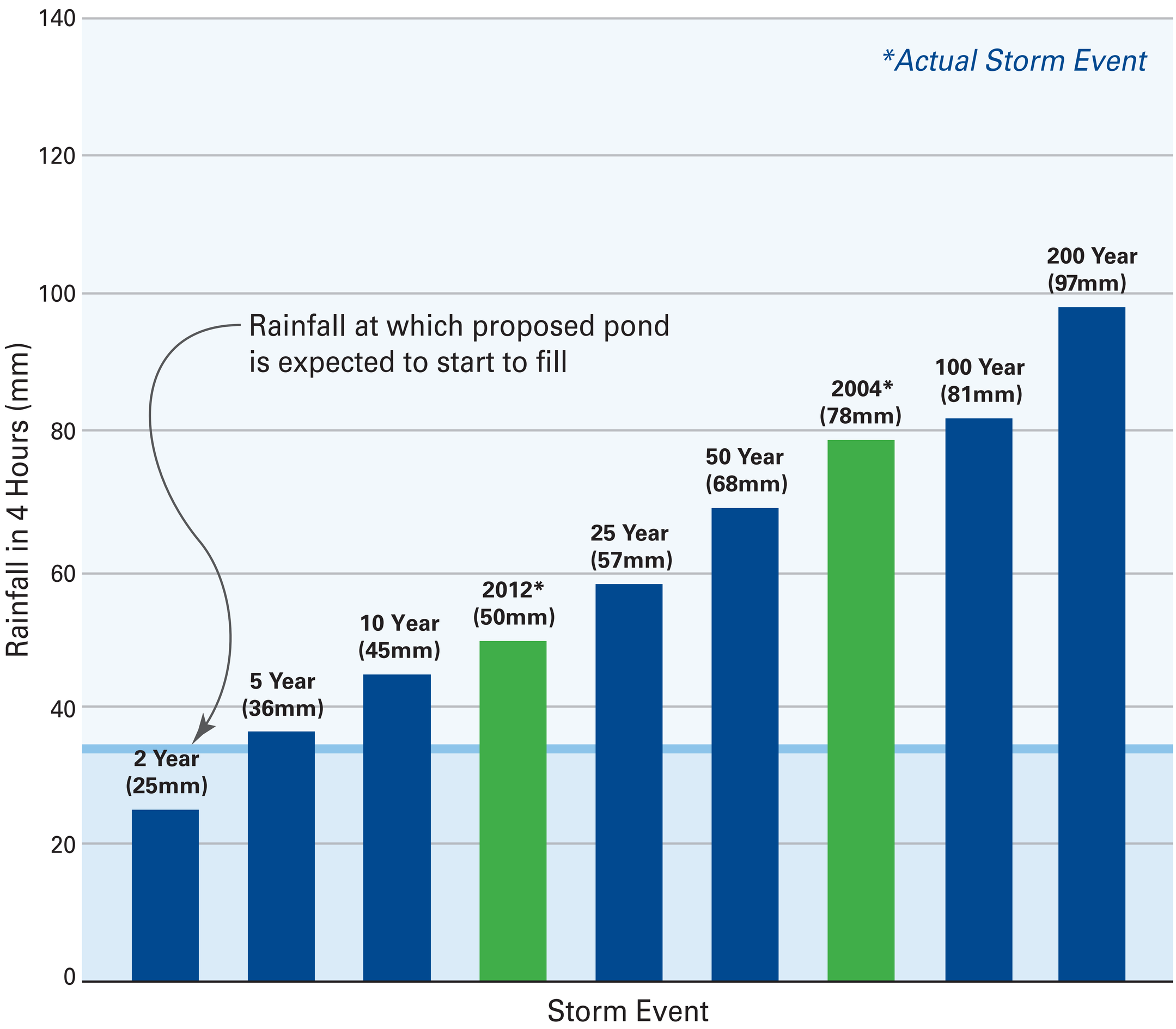


Storm Event Peaks and Pond Fills



This project is funded in part by the Government of Canada.

SEVERE RAINFALL (STORM EVENTS)



This project is funded in part by the Government of Canada.

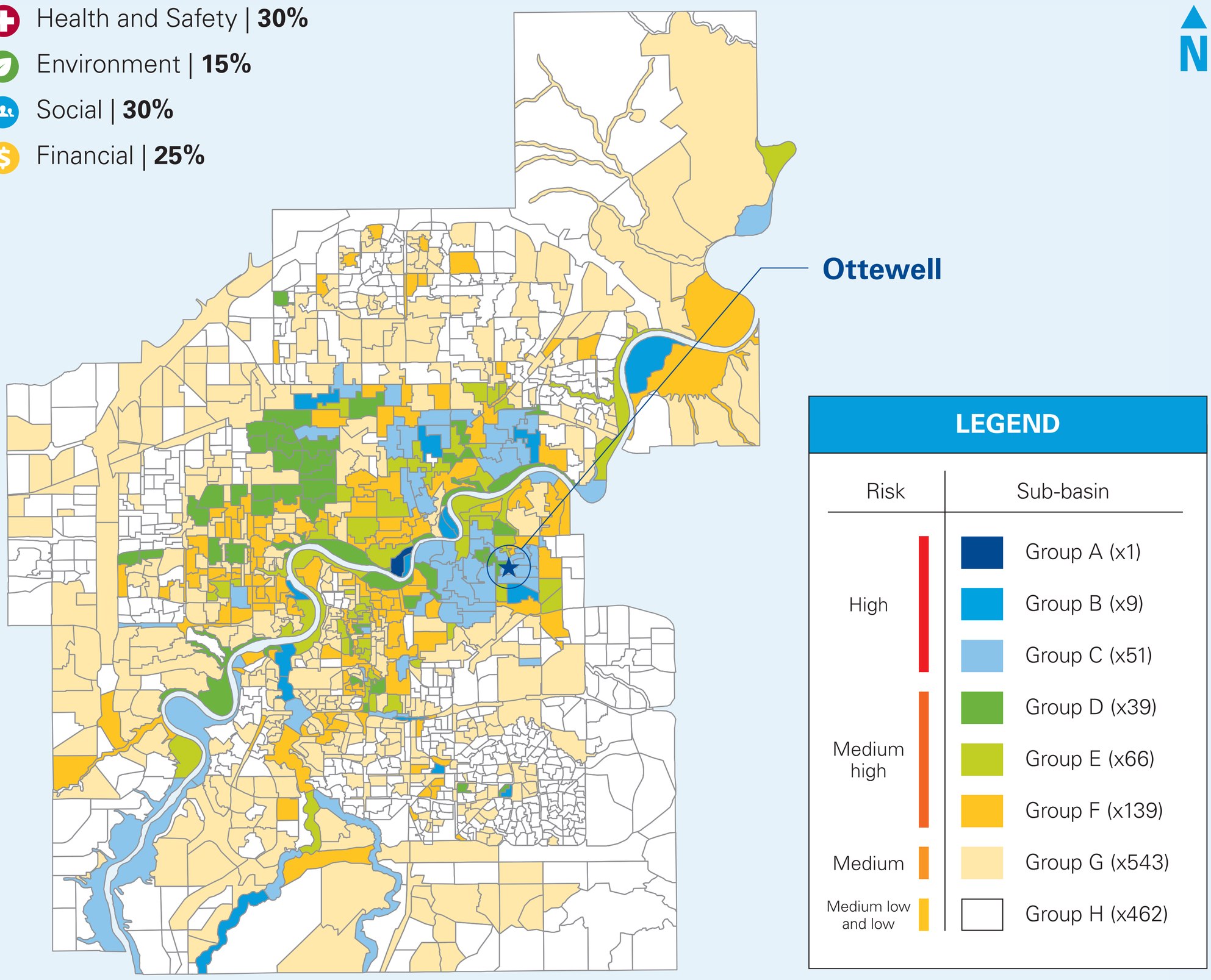
EPCOR'S STORMWATER INTEGRATED RESOURCE PLAN (SIRP)

A Risk-based Approach to Evaluating Community Flood Risks

20 – 30 year, $1.6 billion, City-wide Strategy to:

- SLOW stormwater entry into drainage by absorbing it and holding it in green infrastructure
- MOVE excess water away quickly and efficiently
- Help SECURE against sewer backups, overland and river flooding
- PREDICT and manage the movement of stormwater
- RESPOND through the fast rollout of flood barriers, traffic diversions and public communications

- Health and Safety | **30%**
- Environment | **15%**
- Social | **30%**
- Financial | **25%**

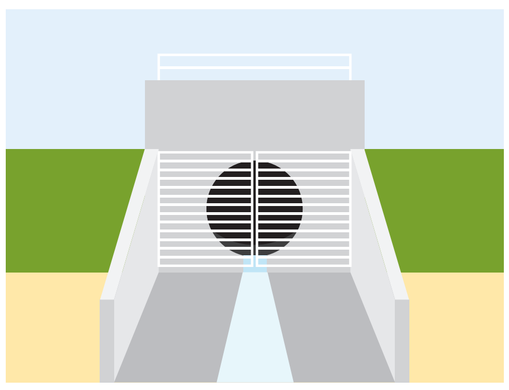


Map last updated October 2018

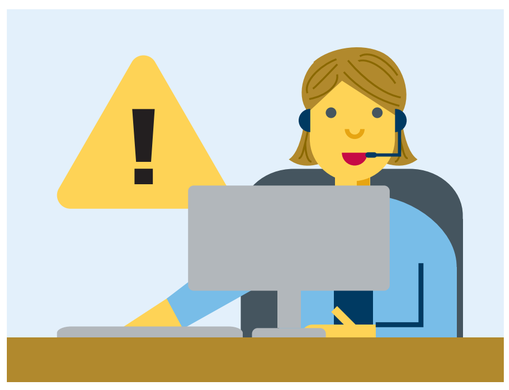
This project is funded in part by the Government of Canada.

SIRP FLOOD MITIGATION OPTIONS

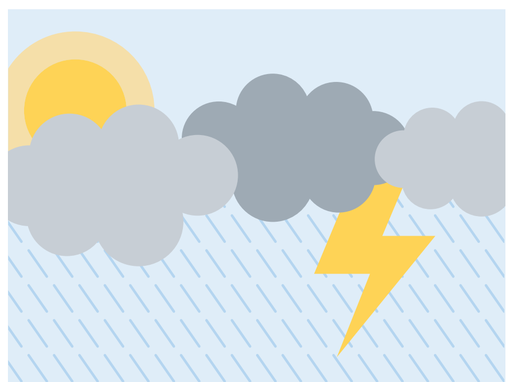
Trunks and sewer separation



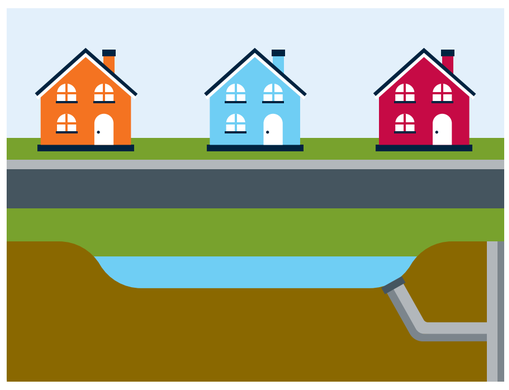
Outfalls and control gates



Emergency response



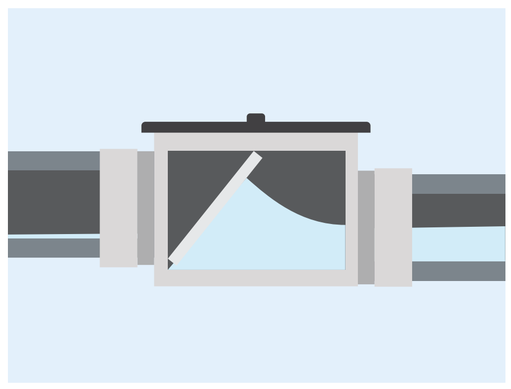
Weather forecasting



Dry ponds

Maintenance programs

Low-impact developments

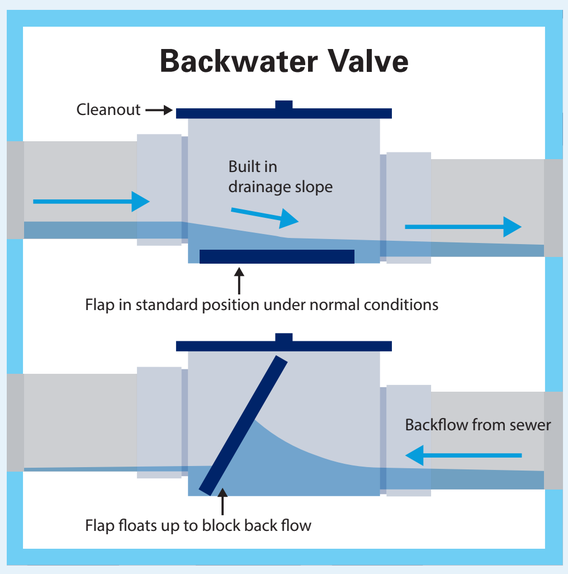


Homeowner responsibilities

HOMEOWNER FLOOD PROTECTION PROGRAM (EPCOR-FUNDED)

Epcor Offers a Free Home Inspection and Report

- Includes an inspection of both the interior and exterior of a home
- Takes approximately 1.5 hours to complete
- Most beneficial from April to October (external inspections)
- Residents will receive a report with recommendations on how they can improve the flood protection of their home



EPCOR also Offers:

Backwater Valve Subsidy — up to $800 for interior or exterior backwater valve installation for eligible residents

EPCOR is working on additional flood prevention options over the next several years. We're looking forward to sharing more information as these projects develop.

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

Contact us at **floodprevention@epcor.com** or visit **epcor.com/floodprevention** to learn more.

This project is funded in part by the Government of Canada.

PROJECT STAGES

STAGE 1 – Preliminary Design Phase

- Collect and review data
- Model storm and sanitary sewer system
- Topographic survey
- Decide on the concept(s) to move forward into design
- Develop preliminary design drawings
- Geotechnical investigation

CURRENT STAGE

STAGE 2 – Detailed Design

- Create detailed drawings
- Finalize contractor for construction
- Refine design
- Expose underground utilities confirm depth and alignment
- Landscape design

STAGE 3 – Construction

- Mobilize contractor
- Construct the pond
- Restore and landscape
- Maintain for warranty period

STAGE 4 – Operation

- Fully functional pond in operation

This project is funded in part by the Government of Canada.

LOW IMPACT DEVELOPMENT (LID)

Low Impact Development (LID) will be incorporated as part of the Ottewell Flood Mitigation Project.

What is Low Impact Development?

Low impact development (LID) is green infrastructure with landscaped features that help to reduce and slow flows in the storm system. It is designed to manage stormwater close to its source and prevent it from entering the system directly during heavy rainfall. These facilities will reduce the volume and speed of stormwater entering the system by retaining some of the rainfall, allowing it to enter the ground and be filtered by soil so the stormwater is not all going directly into the underground system and overwhelming it.

How LID Works

The objectives of LID facilities are to minimize the extent, depth and duration of overland flooding where possible.

Once the water enters the catch basins it will flow through a perforated underground pipe network to distribute the water throughout the facility. Water will flow through the openings in the pipes and infiltrate into the newly planted engineered soil and plants. Any excess water will flow through a layer of rock into different perforated pipes that are connected to the existing underground storm system. All future maintenance of the LID facilities will be completed by EPCOR.

Benefits of LID

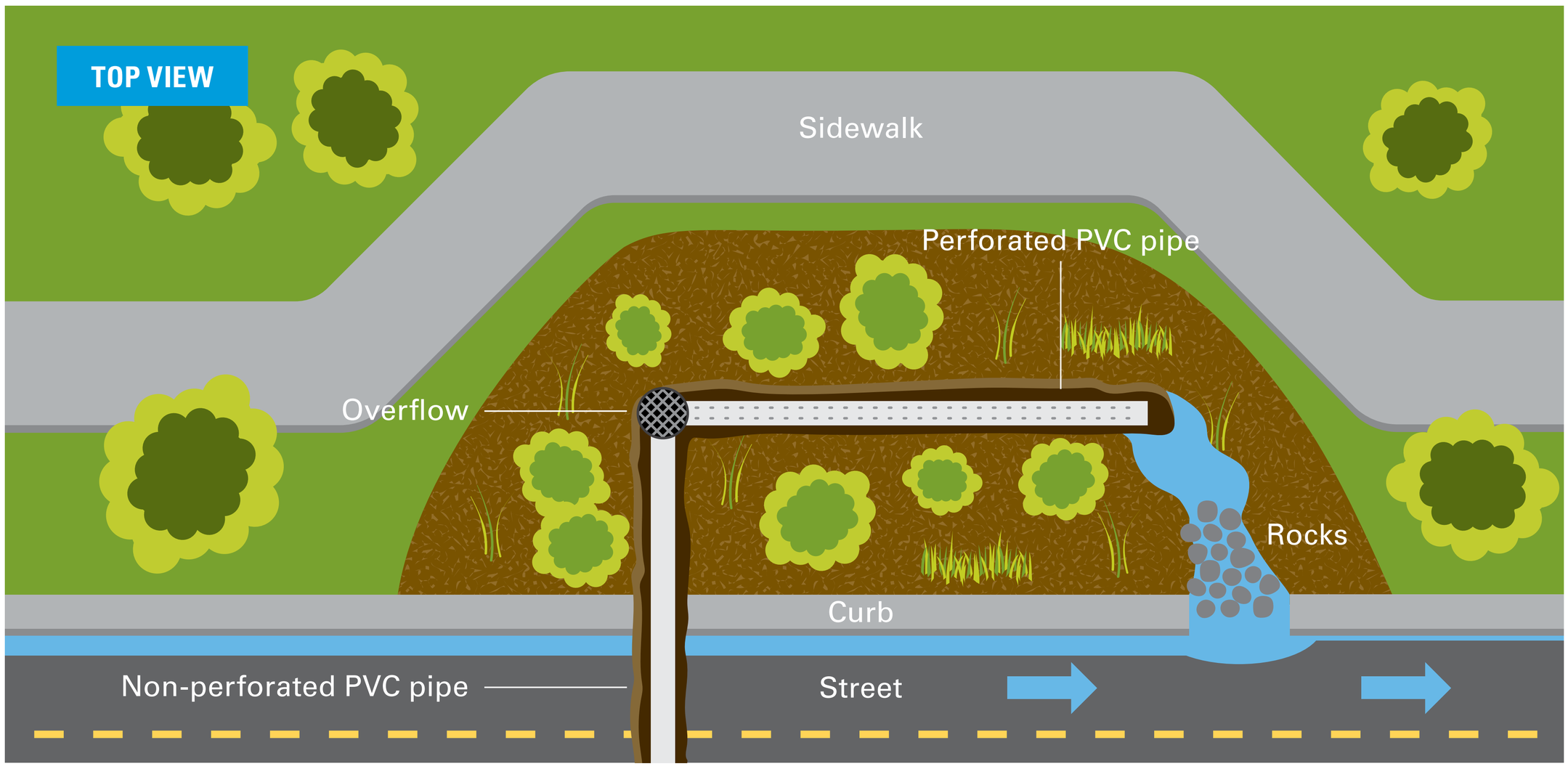
The benefits to LID infrastructure are:

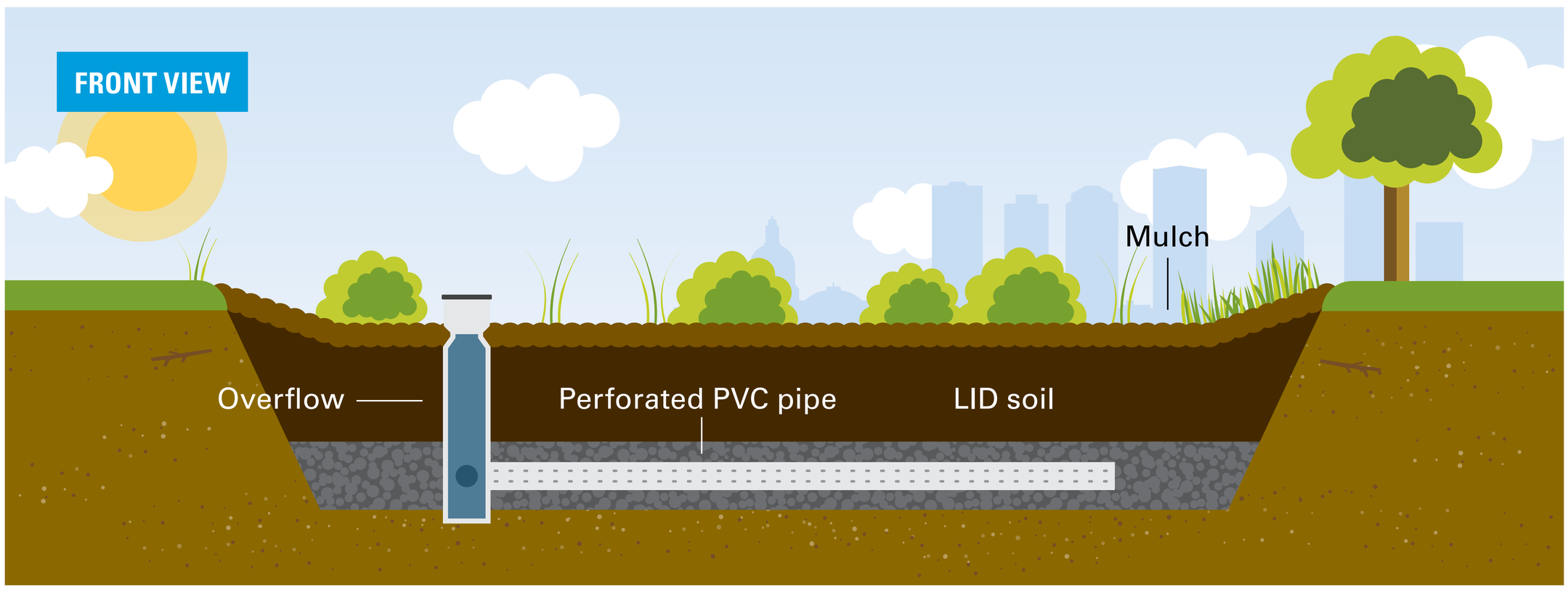
- To help reduce local flooding. In smaller rain events the amount of rain can be entirely absorbed by the plants and soil in the LID facility. In bigger storms, the LID facility slows the speed of the water entering the underground pipes which can help reduce the extent, depth and duration of overland flooding in our neighbourhoods.
- The soils and plants filter many pollutants and stop them from entering the underground pipes and ultimately to creeks and rivers improving water quality.
- The plants in an LID facility reduce the impact of heat reflecting from paved surfaces.

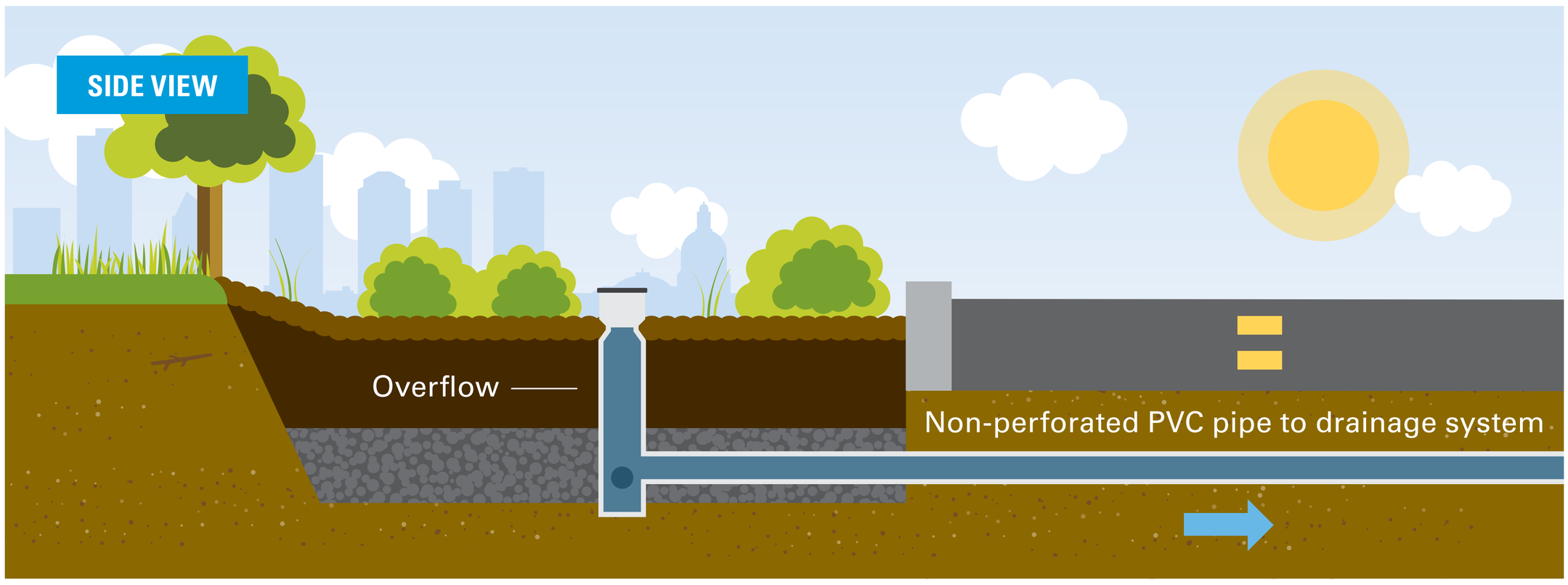
Example of LID infrastructure in Rideau Park

This project is funded in part by the Government of Canada.

LOW IMPACT DEVELOPMENT (LID)







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COMMUNITY IMPACTS

EPCOR has met with both the Edmonton and Catholic School Boards and has provided project information and updates to impacted residents of Ottewell.

Before construction begins, further notification will be provided to impacted residents before work begins and will include details of traffic impacts, timelines and schedule where possible.

EPCOR will work with residents to understand individual impacts related to this work, such as garbage pick-up, accessibility issues and other needs and will work to determine mitigations on a case-by-case basis.

A large part of the sewer upgrade work will be completed using open-trench construction. 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 to install the new drainage infrastructure.

Open-trench construction requires a large area to accommodate trenching; therefore, we usually need to close roads and sidewalks.

Due to the amount of material and equipment required, there is often a laydown area needed on the site, which may cause a large portion of a road and/or sidewalk to be closed, or disrupt a greenspace area that is normally be used for recreation.

To reduce the impacts to the community, EPCOR will be coordinating the construction for the flood mitigation project with the City of Edmonton's Neighbourhood Renewal construction. The City's construction is currently underway to rehabilitate residential roads, replace street lights, sidewalks, curbs and gutters and add missing sidewalk links where possible.

Example of open cut construction used during sewer construction

This project is funded in part by the Government of Canada.

WHAT CAN I EXPECT DURING CONSTRUCTION?

Safety

- Safety is our first priority for our site workers and community members. All work areas will be fenced off and secured, and flagging personnel will be used where necessary.

Construction Noise

- Work will create typical noise associated with construction.
- We will take steps to decrease noise and meet City noise standards.

Traffic

- Heavy trucks and equipment will be moving through residential streets.
- Traffic impacts, such as road closures or detours, may be required to accommodate worksites.
- Vehicles related to the construction may be parked on the road near the construction sites. No parking signs may also be placed in certain areas.

Hours of Work

- Typical hours of work will be 7:00 a.m. to 7:00 p.m. Monday – Saturday. If required, these hours may be adjusted or extended, and construction may occur on Sundays from 9:00 a.m. to 5:00 p.m.
- Haul times will be restricted during pick-up and drop-off times at worksites near Braemar School and St. Brendan School.

Visual Impacts

- You can expect to see activity that is typical to construction, including company/contractor vehicles and equipment.
- The contractor may use a combination of excavators, loaders, skid steers, cranes, and tandem trucks, as well as other equipment.

Green Space Closure

- The worksite for the dry pond at Braemar School will use a significant portion of the sports field and will be closed to the public during construction.
- A portion of the green space may be used as a laydown area to accommodate the sewer separation work taking place in advance of the dry pond construction.

Utility Relocations

- Some existing utilities may need to be moved prior to construction beginning. Additional information will be provided to affected residences.

Tree Trimming, Removal and Replacement

- Some trees and vegetation may require trimming or removal prior to work beginning.
- EPCOR is working with the City of Edmonton Urban Forestry department and removal/trimming will only be done where absolutely necessary.
- Once construction is complete, the City of Edmonton Urban Forestry department will determine the number of trees to be replaced and the replacement locations.

This project is funded in part by the Government of Canada.

THANK YOU

We are committed to keeping you up to date as this project progresses so you are aware of the possible impacts from the work. Should you have any additional questions about this project, please contact us.

EPCOR Water Services

Phone: (780) 412-4200

E-mail: EPCORprojects@epcor.com