



Protecting the Rosedale Water Treatment Plant from Flooding

Project Update & Opportunities for Input

DECEMBER 2021

In May 2021, we sent you information about our plans to protect the Rosssdale Water Treatment Plant in the event of a major flood. Since then, we have been talking to local and Indigenous community members to ensure the project designs meet the needs of those connected to the Rosssdale plant.

If this is the first time you have received information about this project we recently expanded our notification area to gather additional feedback.

In this newsletter, you'll find:

- **An overview of our flood protection project;**
- **EPCOR's role in flood protection;**
- **What we heard during conversations in phase one (January - October 2021) of our engagement;**
- **How that feedback was used to inform project details;**
- **Refined flood barrier design options for around the water treatment plant;**
- **How you can work with us to improve the project design; and**
- **Next steps for the project.**



As you read through this newsletter please consider taking our online survey!

<https://www.surveymonkey.com/r/JLDC72P>

THANK YOU TO EVERYONE WHO HAS PROVIDED FEEDBACK TO-DATE!

This is a collaborative effort and we appreciate your insight and input. The feedback you've provided to-date has helped us understand how the space around the Rosssdale Water Treatment Plant is used and valued by community members.

We used your input to refine our early project designs and develop the options included in this newsletter. We are looking forward to continuing these conversations over the coming months as we work together to further improve our designs and select options that reflect the needs of your community.

PROJECT BACKGROUND

In order to protect the Rosssdale plant in a situation where the North Saskatchewan River overtops its banks, our engineering studies have shown that permanent flood barriers are needed in key locations around the facility. Once constructed, these barriers will limit potential damage to critical equipment and drinking water reservoirs, and ensure that we can resume producing clean drinking water as quickly as possible after a flood. It is important to note that this project will not worsen flooding in surrounding neighbourhoods.

This work is being supported by more than \$21 million in grant funding through the Alberta Community Resilience Program and the Government of Canada's Disaster Mitigation & Adaptation Fund.

In addition to planning these flood barriers, we are also working to:

- Increase protection to critical assets or relocate them to higher ground; and
- Prevent river water from backing up into the water plant through drainage pipes that discharge to the river.

See epcor.com/floodprotection for more information about this portion of the work.

The Rosssdale Water Treatment Plant is located in the river floodplain where it brings untreated water out of the North Saskatchewan River, treats it, and pumps safe, clean drinking water to homes and businesses in Edmonton and surrounding communities. As this river valley location presents an increased chance of flooding, we have a long-term plan in place to protect nearly one-third of the population of Alberta's drinking water supply.



FLOODING IN THE CITY OF EDMONTON AND ROSSDALE NEIGHBOURHOOD


There are two types of flooding that may occur in Edmonton:

Flooding from heavy rainfall events within the city. This happens when there is a large amount of rain in a short period of time within the city boundary that overwhelms the sewer network resulting in surface ponding and potential sewer backups.


Flooding from melting snowpack in combination with heavy rainfall across the North Saskatchewan watershed.

When this happens, the river rises and may overtop its banks and move onto properties located along the banks of the river.


To manage flood impacts to residential and commercial customers in Edmonton, including the Rossdale neighbourhood, EPCOR has implemented:


 **Our Stormwater Integrated Resource Plan (SIRP)** is a 20-year, \$1.6-billion plan that includes five themes to **SLOW, MOVE, SECURE, PREDICT** and **RESPOND to flooding** in Edmonton neighbourhoods.


- SIRP is a strategy to address flooding risks from health and safety, environmental, social and financial perspectives.

 As part of SIRP SECURE, EPCOR provides a **free Flood Prevention Program** available to residents in the City of Edmonton.

- Our flood proofing advisors are available to help residents identify their individual property risks and options to mitigate those risks.
- Included in this program is a backwater valve subsidy for homes that meet the eligibility requirements.

 **SIRP SECURE** also includes the installation of outfall gates in the Rossdale neighbourhood to reduce the risk of river water backing up through pipes when the river level is high. These will be installed in the coming years and will be reviewed with the community as the designs are developed.

 EPCOR will also be expanding on the **SIRP SLOW** theme to address urban flooding risk in the Rossdale neighbourhood in the coming years through the addition of green infrastructure and storage components, such as rain gardens and tree cells, to manage intense rainfall events and reduce risk to property.

 In the event of a severe flood from **the river overtopping its banks**, the City of Edmonton and Alberta Environment and Parks would activate their Emergency Operations Centre (EOC). EPCOR water, drainage and power utilities are part of this EOC and work together to take action to protect citizens and critical infrastructure in Edmonton.



If you would like to book a free flood prevention check with one of our flood proofing advisors, please contact us at (780) 944-7777 or floodprevention@epcor.com.



EPCOR’s strategy to protect the water treatment plant from flooding is happening collaboratively with Edmonton-wide neighborhood and business flood mitigation efforts.

EPCOR is taking action to protect Edmonton water treatment plants from flooding, as these facilities provide clean drinking water for nearly one-third of the population of the province of Alberta.

The flood barriers proposed around the water treatment plant will protect this critical infrastructure, without increasing the impact of flooding within the Rossdale neighbourhood in the event of a major flood.

The planned flood mitigations at the water plants are just one aspect of SIRP Secure, and **EPCOR is working in collaboration with the neighborhood flood mitigation efforts listed previously, to protect communities as well as the water plants.** According to third-party research, the water treatment plant flood barriers themselves have no bearing on the impact of a major flood in the immediate flood zone, given the location of the plant, the direction of water flow and the size of area covered by any rising water. We are taking action now to ensure we can maintain our supply of clean drinking water in a large-scale flood emergency.

EPCOR has a number of flood mitigation programs in place for residents and commercial customers in Edmonton (listed on page 3).

ROSSDALE WATER TREATMENT PLANT INFRASTRUCTURE UNMITIGATED IMPACT DURING A POTENTIAL MAJOR FLOOD



Underground Water Reservoirs are located here. These reservoirs hold clean drinking water.

Inundation of water to the reservoirs could cause structural damage or contaminate the drinking water stored here.

Water pumps and electrical equipment are located here. These pumps bring water from the river into the treatment plant.

If this building is inundated with water there would be a sustained power failure to the treatment plant and we would not be able to produce clean drinking water.

MORE INFORMATION

You can find more information about flooding in Edmonton and how we are working to protect our community's drinking water supply during a major flood event on our project website at: epcor.com/floodprotection

WHAT WE'VE BEEN DOING

In early October, we wrapped up the first phase of community engagement for this project. We heard from participants through a variety of formats, including collaborative online workshops, surveys, emails, one-on-one conversations and social media.

During these conversations, we asked participants how they use and value the areas where permanent flood barriers are needed in Rosedale and how we can ensure the project design aligns with community priorities.

We held two online workshops to discuss the early design concepts in June 2021, followed by a series of online drop-in question and answer sessions throughout the summer. We also connected with individual community members through email, phone and social media. These conversations provided participants with opportunities to learn about why this work is needed and provide feedback about how they want to experience the flood barriers.

We respectfully acknowledge that this is Treaty 6 territory – the traditional lands of the Blackfoot, the Cree, the Dene, the Nakota Sioux, the Saulteaux, and later the Métis. Located on the banks of the North Saskatchewan River, the area where the Rosedale plant is situated has a long history of Indigenous use and significance. The site shares the area where the signing of the adhesion to Treaty 6 took place in 1877 and more than one iteration of Fort Edmonton once resided. With traditional Indigenous burial grounds and old Fort Edmonton cemetery also located in the area EPCOR works with local Indigenous Nations and communities on monitoring ground disturbance work nearby. The reasons this site was attractive to the people who built the Fort there were the same reasons that the First Peoples had used that area as a meeting and trading ground since time immemorial.

It is important to EPCOR that we seek out, hear and include the perspectives of Indigenous Nations and communities with an interest in these lands. In addition to the public engagement sessions, we held two online workshops with Indigenous community members who taught us about the historical and cultural importance of this area.

WHO WE'VE TALKED TO

Over the past seven months, we've talked to a number of community members about how they use the space around the Rosedale Water Treatment Plant – and what we should consider as we plan how the flood barriers will look and be experienced by those who live, work and recreate in the areas around the facility. We've heard from:

- Property owners
- Residents
- Indigenous Nations and communities
- Members of the public
- Community leagues
- Elected officials
- Government agencies
- EPCOR employees
- Other interested parties

We've also been coordinating our planning and design efforts with other projects underway in the area – including the potential Prairie Sky Gondola team and the City of Edmonton's Touch the Water, Ribbon of Green, and River Crossing project teams.

The input we've received to date has been used to inform our project design and will continue to be used as we move forward. Thank you again to everyone who participated in the engagement activities we've held since May.

- **8 Social media advertisements**
- **7 Meetings and workshops**
- **5 Online surveys**
- **2 Self-guided walking tours**

WHAT WE HEARD

To date, we have had many conversations about the project and have compiled and assessed all of the information we have received. This feedback has been used in combination with engineering studies and other information to determine options for the flood barriers that reflect community priorities while being mindful of costs.

A variety of topics, concerns and questions were brought up during our conversations about the project. The majority of participants told us that they are attracted to the river valley for various recreational uses including biking, walking, running, and enjoying the natural state of the area.

During our first phase of engagement, we heard from participants that there are a number of considerations that we should include when designing how these necessary flood barriers will look and be experienced by those using the areas around the two water treatment plants.

Participants mentioned that the natural state of the area is important, and the loss of vegetation should be mitigated. EPCOR also prioritizes this and will work to keep the area around the barriers natural and reduce the impacts to existing plants and trees.

Other general design consideration categories that we heard include the following, which we discuss in greater detail in the following pages.

- 1. Education and history:** add interactive features or educational signage that could inform people on the site history, Indigenous connections to the area or what the water treatment plant does.
- 2. Art:** adorn the area with local or Indigenous art, murals or sculptures. The public art could be interactive in nature or highlight the community's character.
- 3. Community space:** enhance the area near the flood barriers by creating flexible or welcoming spaces. These spaces could also enhance recreational use of the area.

We know that installing permanent flood barriers around both water treatment plants will have impacts on many different people. We are committed to working with the community to ensure that the flood barriers align with local priorities.

During our second phase of engagement we will continue these discussions with community members in order to hear if there is anything else we should consider in our design process or add to this list.

As we move forward, we will continue to involve you in the process, and respond to your questions or concerns.

WHAT WE DID

We compiled and assessed all of the perspectives, suggestions and comments received over the past seven months. We combined this information with the technical requirements of protecting the Rossdale Water Treatment Plant to refine our early design concepts and develop a number of viable options for the Rossdale site. We have included more information about these options on the following pages.

YOUR COMMITMENT TO YOU

Your questions, feedback and input are important to us. We want to work with you to choose designs that meet the needs of your community while being mindful of costs.

This public engagement process is being done to the **REFINE** level in our public engagement framework, which means that **we are seeking your input to help us improve the quality of the project design.** We will ensure that your feedback is directly reflected in the project design and share how your input influenced the final design.

Interested in learning more about how we engage with our neighbours in Rossdale? Check out www.epcor.com/sharedoutcomes.

HOW WE MAKE DECISIONS

EPCOR makes project decisions by considering a number of factors, including technical requirements, costs to water ratepayers and community input. Your input will be used alongside technical requirements for the project to select designs that are aligned with community values, are suitable for the Rossdale site, and are mindful of costs to water ratepayers.



Maintaining the natural state of the area around the water treatment plants is important to EPCOR and community members

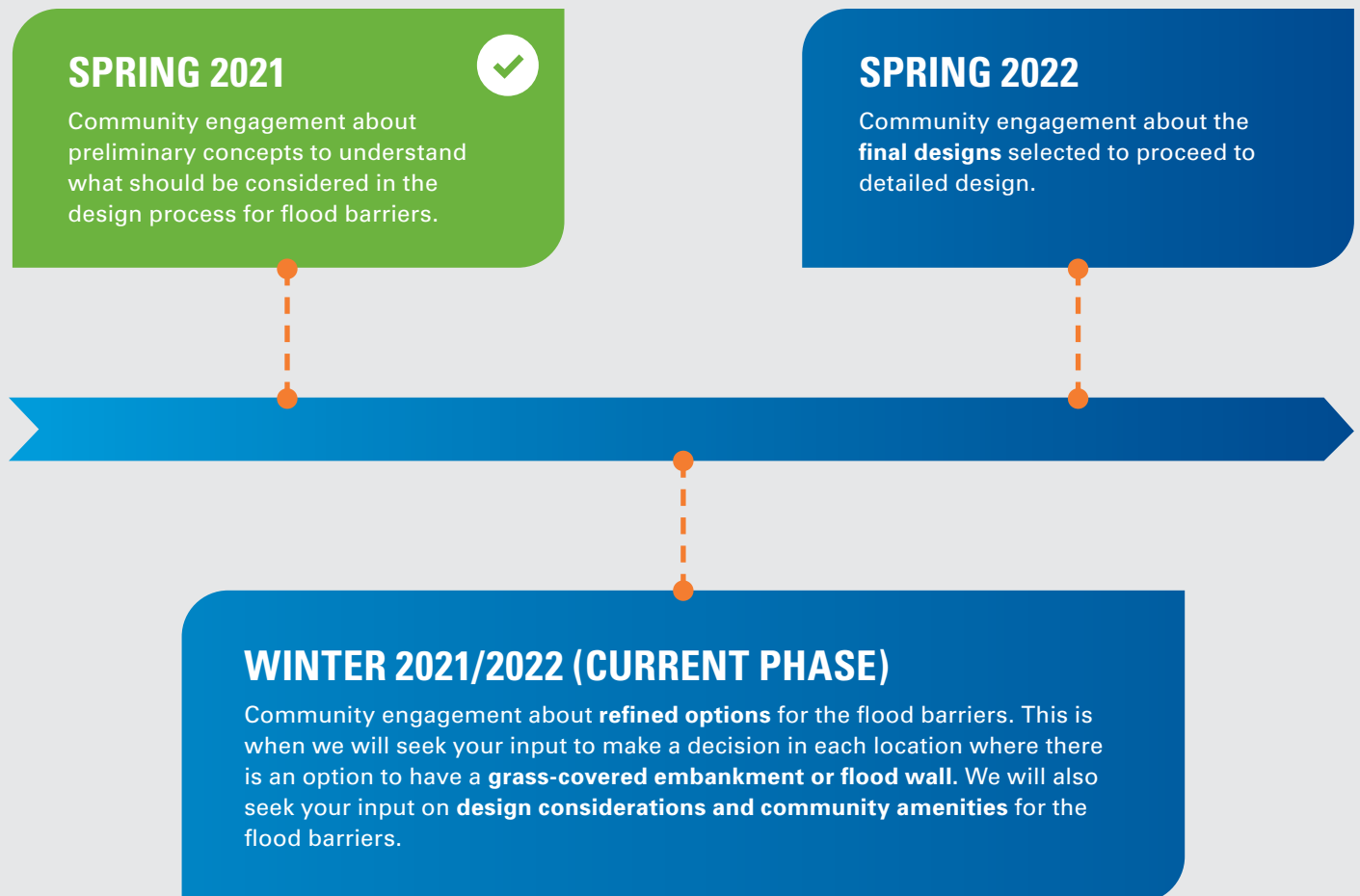
Participants in our first phase of community engagement mentioned that the natural state of the area is important, and the loss of vegetation should be mitigated.

As one of the primary land use owners within the Ribbon of Green, EPCOR's watershed management team is committed to stewarding a healthy and ecologically robust river valley. EPCOR has selected a 1 kilometre squared natural area adjacent to the water treatment plant and is working with the City of Edmonton to manage this area and achieve the objectives listed below. Edmontonians can be assured that in this area that EPCOR operates there will no net loss of ecological function and natural river valley area.

EPCOR is committed to collaboratively achieving the following objectives:

- No net loss of vegetative cover;
- Net gains of naturalized area, closed canopy forest, and connectivity; and,
- Long-term reduction of stormwater runoff to the North Saskatchewan River through green infrastructure projects.

PLANNING TIMELINE



Did you know? We're also working to protect the E.L. Smith Water Treatment Plant from flooding. Together, these two water plants provide clean, safe drinking water to almost a third of Alberta's population. For more about what we are planning at E.L. Smith, visit epcor.com/floodprotection.








There are five key locations around the Rosedale Water Treatment Plant that need permanent flood barriers, shown on the map.

In the next few pages you will see renderings and cross-sections for each key flood barrier location. There are unique details to consider at each location. *Please note that we are still in the planning process and these details will change based on your input and as our plans progress.*

Two different types of flood barriers can be used at Rosedale to meet the requirements of planning for a major flood: **grass-covered embankments** or **flood walls**. In certain locations there is an option for what type of barrier is used. The legend beside the map shows which type of flood barrier is an option for each location.



LEGEND

-  At blue locations, trade-offs need to be considered and there are options for what type of barrier is used: grass-covered embankments, flood walls or both. We want to hear your perspectives on these options.
 -  At yellow locations, to meet technical requirements, reduce the impacts to vegetation and/or minimize the cost to rate payers, the type of barrier has already been selected. We want to hear your perspectives on design considerations in these areas.
- | | |
|--|--|
|  Flood wall |  Option for partial flood wall and grass-covered embankment |
|  Grass-covered embankment | |



Grass-covered embankments topped with security fencing.

When thinking about a grass-covered embankment there are several important things to consider generally:

- The embankments are natural looking;
- They take up a wider amount of space due to the slopes, creating less space for community amenities; and
- They have specific landscaping requirements that can only accommodate naturalized grasses or sod so the area can be mowed. Roots from large vegetation can form small holes in grass-covered embankments and encourage burrowing animals.



Flood walls topped with security fencing.

When thinking about a flood wall there are several important things to consider generally:

- They take up a smaller amount of space; and
- They can incorporate more of the community amenities.

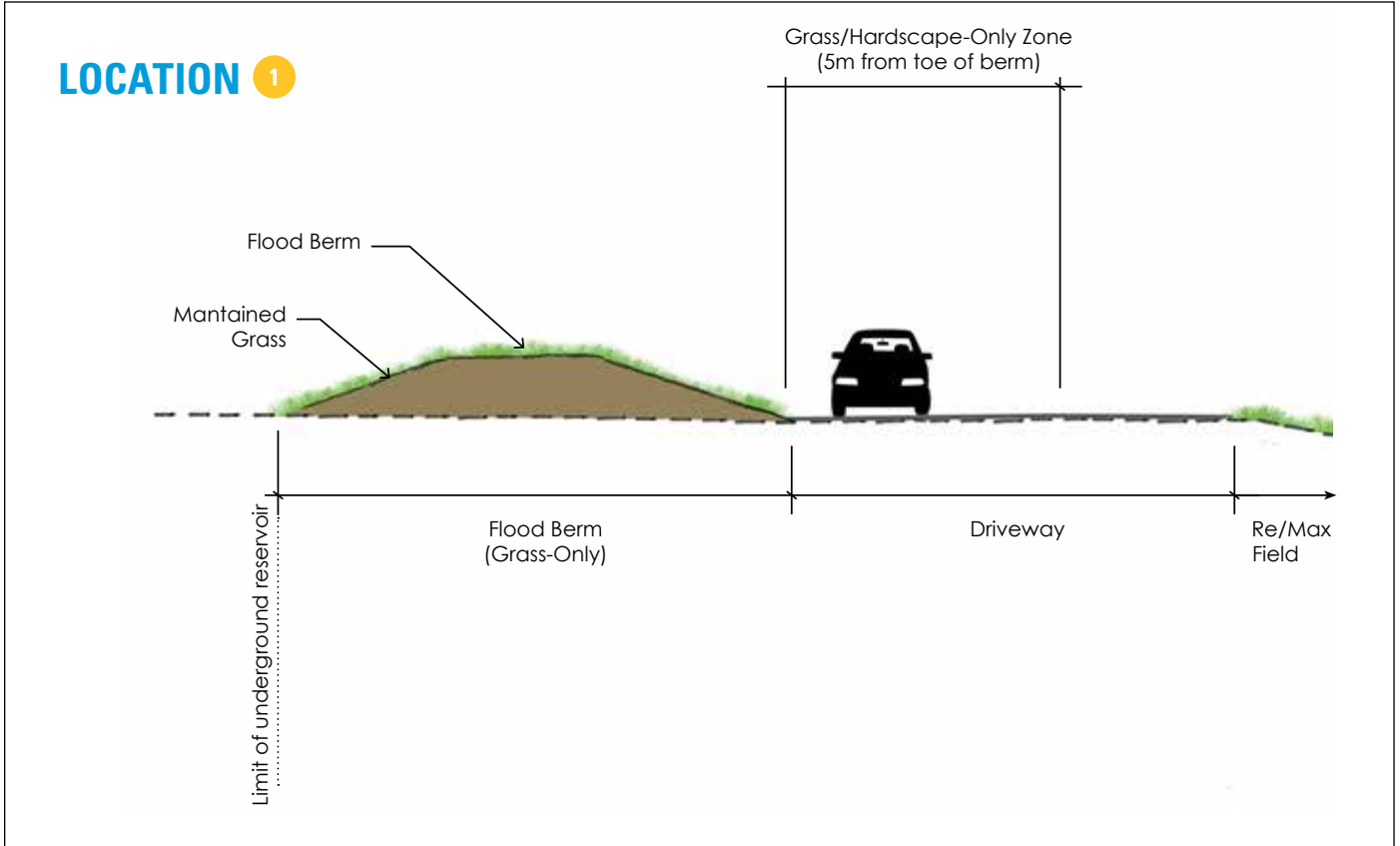
In certain locations the barrier could start as a wall and then transition into an embankment.



Security fencing on top of the flood barriers protects the water reservoirs and treatment plant.

With either type of flood barrier (wall or grass-covered embankment) buffer zones are in place that restrict the type of vegetation that can be replanted. The buffer zone is about 5m from the wall or end of the embankment slope. This is to maintain the structural integrity of the barrier.

1. NORTH OF RESEVOIR



This flood barrier is located directly north of the underground drinking water reservoirs.

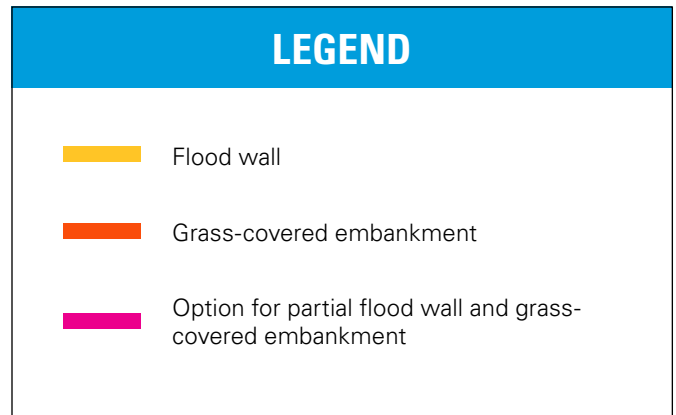
We are proposing a grass-covered embankment in this location. An embankment here would protect the reservoirs while minimizing the impact to the look and feel of the area.

The embankment and the space between the flood barrier and the roadway could be planted with natural grasses or sod.

LEGEND

- Flood wall
- Grass-covered embankment

2. EAST OF RESERVOIR



At this location there are three options for a flood barrier:

Grass-covered embankment



Partial flood wall and grass-covered embankment



Flood wall



WHAT TYPE OF BARRIER DO YOU PREFER IN THIS LOCATION?

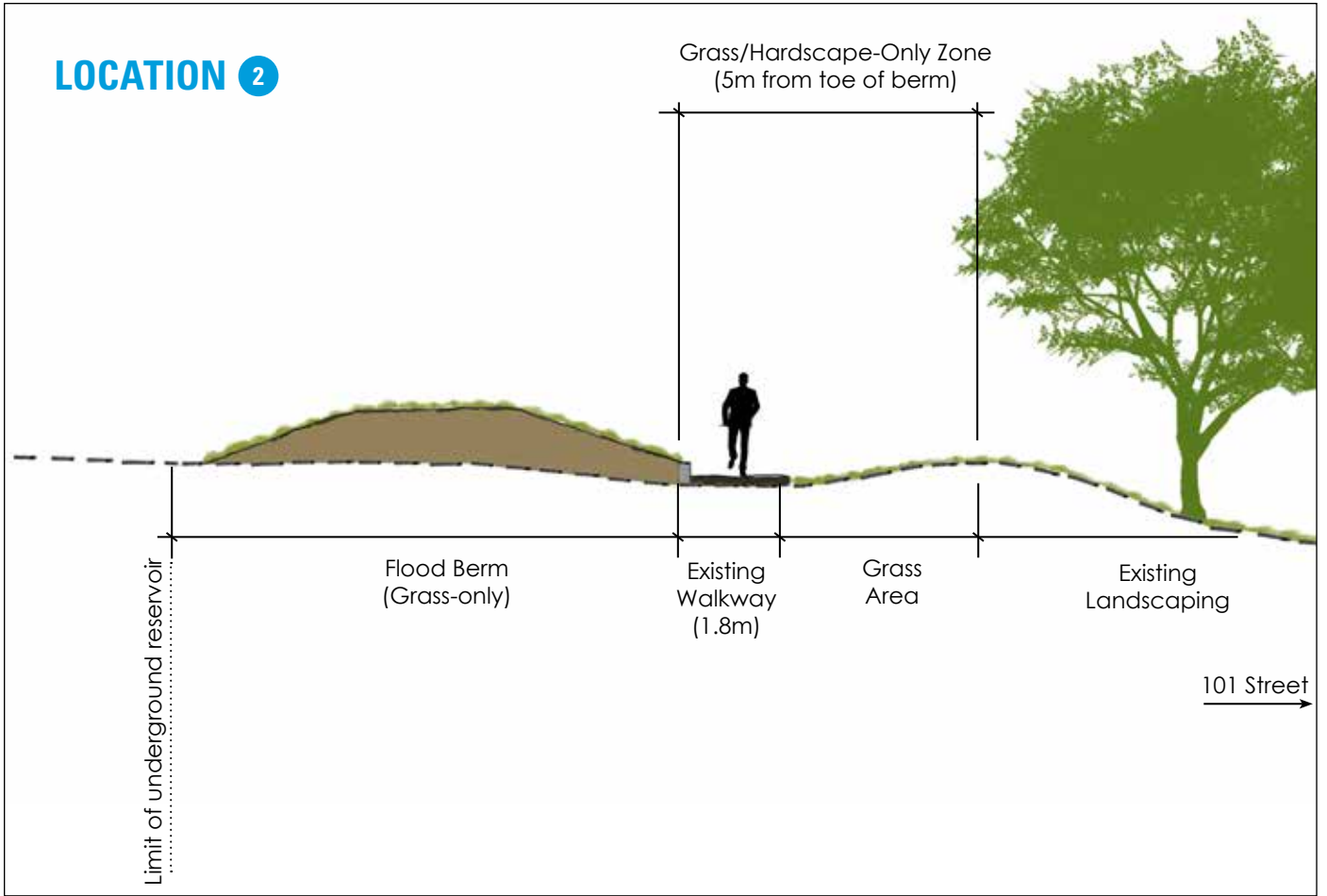
When considering which barrier you prefer, there are two important things to consider at this location:

- Regardless of which barrier is selected, to allow for a buffer zone, there will be some trees and vegetation removed along the barrier and between the barrier and the pathway. The space between the flood barrier and the path could be planted with sod or local grasses. If a wall is chosen there are more options for replanting larger vegetation.
- In the future, the grass area on the reservoirs may be accessible to the public. A grass-covered embankment in this location may make access to the park space different than a wall. The public would be able to walk over an embankment to enter a park and a wall would need stairs.

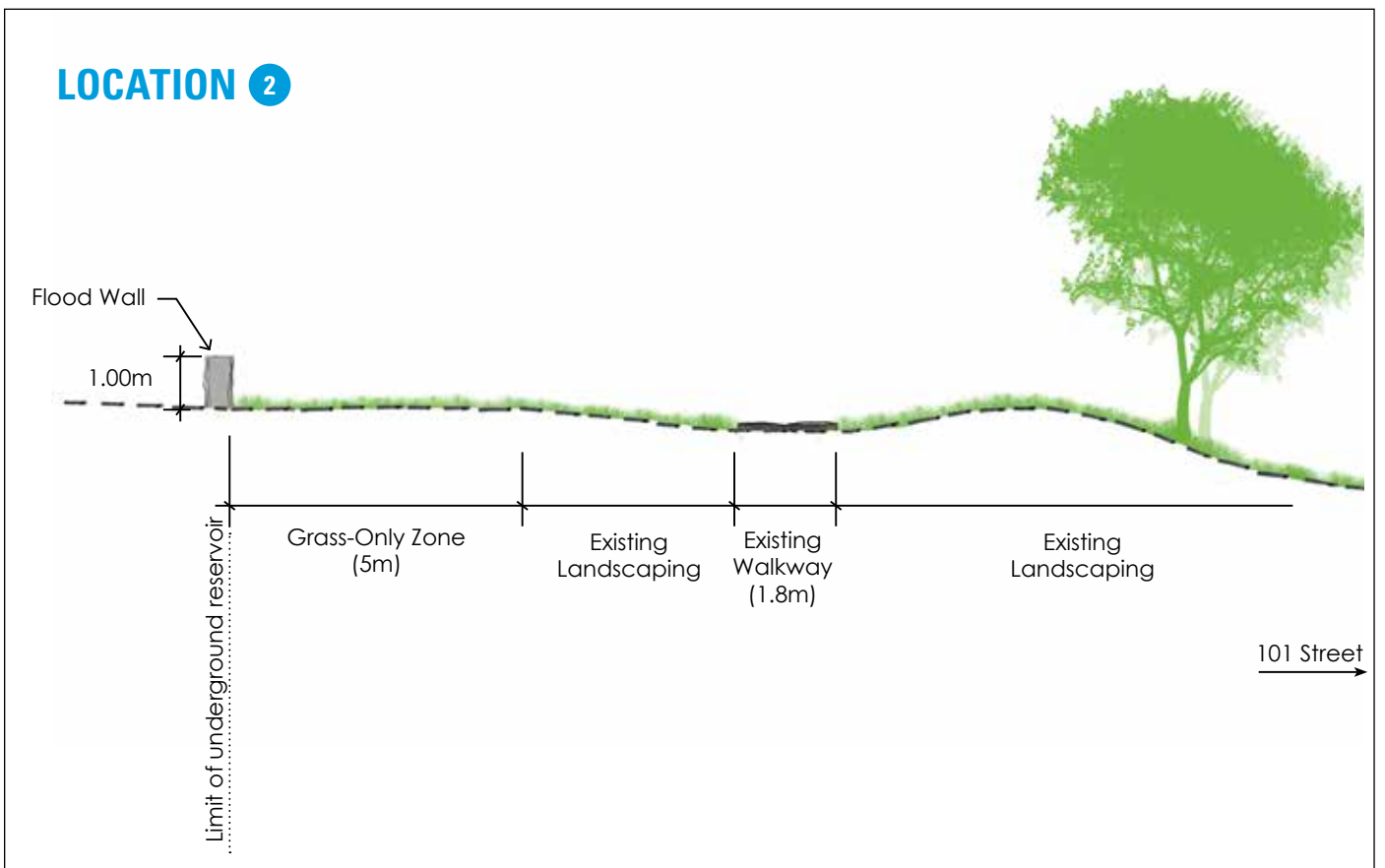
WHICH DESIGN CONSIDERATIONS ARE MOST IMPORTANT TO YOU IN THIS AREA?

Design considerations for education and history, art and community space can be found on on page 17.

LOCATION 2





LOCATION 2



3. EAST OF WATER TREATMENT PLANT



LEGEND	
	Flood wall
	Grass-covered embankment

This flood barrier will be located east of the water treatment plant. Between the flood barrier and the multi-use trail along 101 Street, there is currently a grassy space with trees and landscaped beds.

At this location there are two options for a flood barrier:

Grass-covered embankment



Flood wall



WHAT TYPE OF BARRIER DO YOU PREFER IN THIS LOCATION?

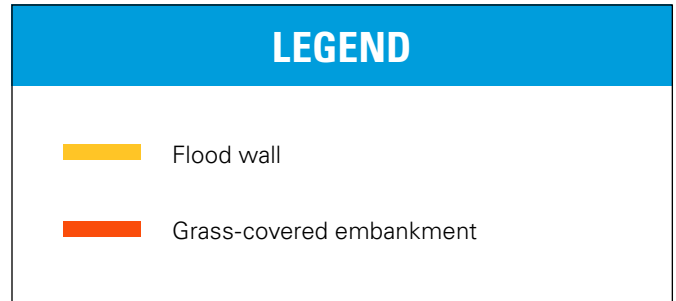
When considering which barrier you prefer, there are two important things to consider at this location:

- Overall in this location it is important to consider which option (wall or embankment) you prefer visually. In this space there is more area to replant vegetation and install amenities, so the footprint of the barrier has less of an impact on replanting than it does in other locations where the barrier is close to a path.
- To secure the water treatment plant, security fences are required on top of the barrier.
 - If a grass-covered embankment is chosen there would be a tall security fence needed on top of the embankment, approximately 2.5m high.
 - A short security top would be needed on the wall, approximately 0.5m high.

WHICH DESIGN CONSIDERATIONS ARE MOST IMPORTANT TO YOU IN THIS AREA?

Design considerations for education and history, art and community space can be found on page 17.

4. SOUTH OF WATER TREATMENT PLANT



This flood barrier is located south of the water treatment plant, next to the multi-use path beside the river.

At this location there is an opportunity for the flood barrier to be either a wall or a back-filled wall. A back-filled wall looks similar to a half grass-covered embankment sloping up to a wall. A security fence would be installed on the top of the slope. See cross-sections on the next page for reference.

At this location there are two options for a flood barrier:

Back-filled wall



A wall here would protect the critical river water intake infrastructure, while minimizing the impact to the existing trail between the river and the water treatment plant. The space between the flood barrier and the path could be planted with local grasses or sod.

Trees and vegetation would be removed between the water treatment plant and the path in order to construct the barriers and allow for a buffer zone. The space between the flood barrier and the path could be planted with sod or local grasses.

Flood wall



WHAT TYPE OF BARRIER DO YOU PREFER IN THIS LOCATION?

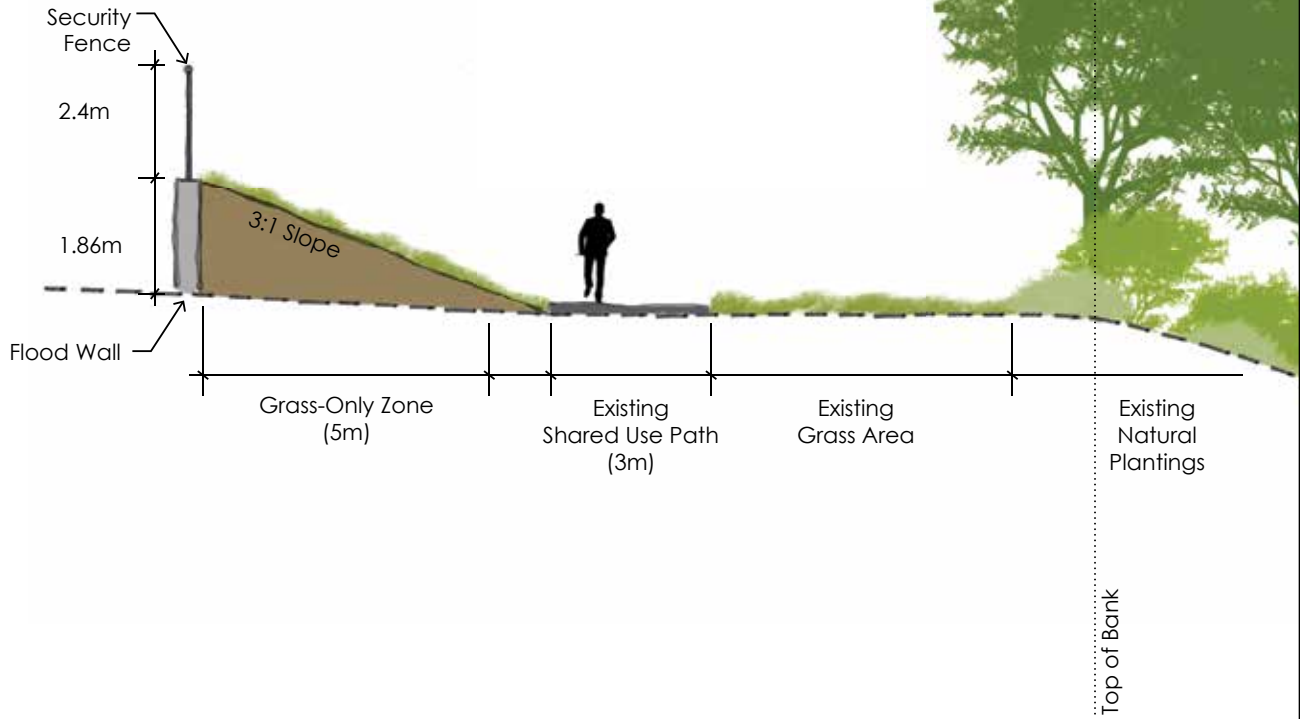
When considering which barrier you prefer, there is an important consideration at this location:

- To secure the water treatment plant, security fences are required on top of the barrier.
 - If a grass-covered embankment is chosen there would be a tall security fence needed on top of the embankment, approximately 2.5m high.
 - A short security top would be needed on the wall, approximately 0.5m high.

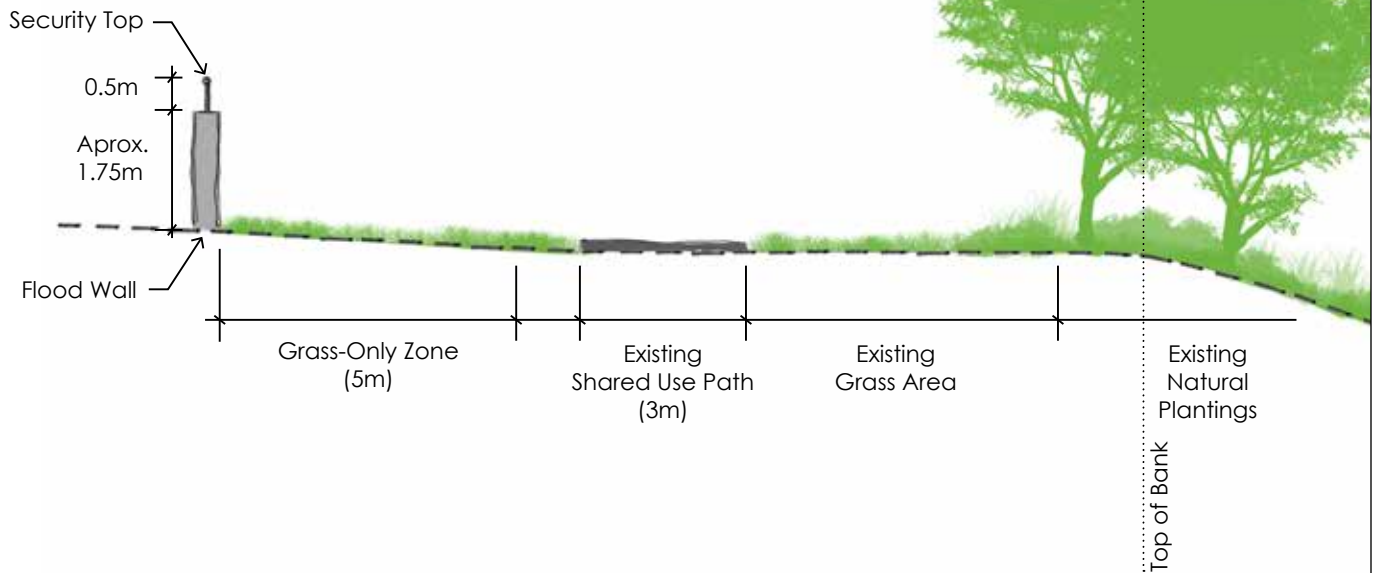
WHICH DESIGN CONSIDERATIONS ARE MOST IMPORTANT TO YOU IN THIS AREA?

Design considerations for education and history, art and community space can be found on page 17.

LOCATION 4




LOCATION 4



5. SOUTHWEST OF WATER TREATMENT PLANT



LEGEND	
	Flood wall

This flood barrier is located between the decommissioned Rossdale Power Plant and the southwest edge of the water treatment plant. As this location is close to the river, a flood wall barrier has been chosen so that there is less impact to trees and vegetation in the area.

Location 4 and 5 are close to a number of future projects that the City of Edmonton is planning such as Touch the Water. As a result, the exact alignment of this barrier may change to accommodate the goals and objectives of that project. Community feedback on this location will be considered in this decision and communicated to the City of Edmonton for inclusion in their project planning for Touch the Water.



FLOOD BARRIER DESIGN CONSIDERATIONS

In certain locations we can incorporate community-preferred design elements into the flood barrier. Below is a list of potential amenities that may be included.

We appreciate the ideas participants brought forward in phase one of our engagement that helped shape this list of amenities and what they could mean to the community. We are still in the early phases of this project and are open to further ideas.

EDUCATION AND HISTORY

Educational features: improve signage or add interactive features outside the existing fence line to educate people about the services the water treatment plant provides.



Historical features: add features that draw inspiration from local history. Options could include working with a local historic group, or highlighting Fort Edmonton's history at this site.



Indigenous connections: honour Indigenous perspectives of water and the connections that many Nations have to this site since time immemorial. Recognize the importance of water for all beings.



ART




Artistic features: adorn the area with local or Indigenous art, murals or sculptures. The public art could be interactive in nature or highlight the community's character. EPCOR would further engage with the local and Indigenous community regarding art selection.




COMMUNITY SPACE

 **Welcoming space:** designing features around the water treatment plant site that foster community interaction. This could include adding seating to an area, and creating space for community gathering.



 **Space that supports recreation:** features that encourage and enhance recreational use of the area.



 **Flexible space:** area in the community that will encourage a variety of activities.



ENGAGEMENT OPPORTUNITIES

Now is the time to get involved! We want to hear from you so that we can design flood barriers that protect the Rosssdale Water Treatment Plant and integrate into your community as much as possible, while being mindful of costs.

We want to understand your preferences for amenities at each location and what type of flood barrier (wall or grass-covered embankment) you would like to see.



Take our online survey right now by scanning this QR code with your smart phone.

<https://www.surveymonkey.com/r/JLDC72P>

Visit our project web page at epcor.com/floodprotection to find:

- Registration links for our online workshops
 - **Thursday, February 10 from 6:30 - 8:30 p.m.**
<https://zoom.us/meeting/register/tJwpduhqD8jHdxSudHpu2NwaYX81cHh8Gex>
 - **Wednesday, February 16 from 9:30 - 11:30 a.m.**
<https://zoom.us/meeting/register/tJlIsd-CuqTMvE9FrkUjL-fIzKvcGDI-PlyD>
- A map to a self-guided walking tour you can take to see the locations where flood barriers are needed.

OUR ROSSDALE WEBPAGE

Did you know that we regularly share facility updates about the Rosssdale Water Treatment Plant, information about works underway, and advertise future engagement activities on our website? Check it out at www.epcor.com/rossdale.

We've also been advertising engagement opportunities on our EPCOR Canada social media pages.



twitter.com/EPCOR



facebook.com/EPCOR



linkedin.com/EPCOR



[@EPCOR](https://instagram.com/EPCOR)

LET'S TALK

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We believe in listening to and engaging with participants. Community input and involvement is an important part of our decision making and we want to hear what you think about our initiatives.