

Background

The Seine Riverbank Stabilization Project at the Branch 1 Aqueduct will stabilize the east bank of the Seine River, near the corner of Notre Dame Street and Maisonneuve Street, in north St. Boniface. This aqueduct carries approximately 40% of the City of Winnipeg's (the City) treated water. Stabilizing the bank is necessary to keep the Branch 1 Aqueduct safe and ensure a continued supply of water to Winnipeg residents.

The banks of the Seine River at the Aqueduct crossing are vulnerable to movement. The City monitors this area and recent monitoring has shown some movement in the east bank of the Seine River. Any further movement could damage the Aqueduct. Stabilization work is expected to take place from January to June 2018.

The corner of Notre Dame Street and Maisonneuve Street will be re-graded to accommodate the surface water in the area. This construction work will take place in the summer of 2018 and will include road closures.

Engagement

The City met with nine stakeholders in September 2017 to introduce the project and gather feedback on construction access, access to the Seine River, and vehicular, pedestrian, and cyclist circulation.

A public information session was held on November 8, 2017 at the Notre Dame Community Centre to inform the public about the project. Thirteen people attended with six completing a survey. An online survey was open from October 25, 2017 to November 16, 2017. A total of 12 surveys were submitted.

Promotion

The public information session was promoted using the following methods:

- Email invitations sent to 23 stakeholders on October 25, 2017
- Postcard invitations hand delivered to 117 residents and businesses on October 28, 2017
- Advertisement in the Canstar Lance newspaper - October 25, 2017
- Advertisement in La Liberté newspaper - October 25, 2017
- City of Winnipeg webpage update - October 25, 2017
- News release - October 26, 2017
- Facebook posts with 16,797 followers
- Twitter posts with 78,700 followers
- City of Winnipeg public engagement newsletter with over 5,300 recipients

Public Information Session Summary

Thirteen presentation boards provided information about the Branch 1 Aqueduct, the need for stabilization, the design solution, the construction process, construction access and staging, site restoration, and the project's next steps.



Public information session participants discuss project with members of the project team.

To learn more about the Seine Riverbank Stabilization at the Branch 1 Aqueduct, please visit winnipeg.ca/SeineRiverbankStabilization

Technique	Date	Description
Webpage	August 11, 2017	Webpage launched: winnipeg.ca/SeineRiverStabilization
Stakeholder Meetings	September 14, 2017	Office of Scatliff+Miller+Murray with 9 participants
Online Survey	October 25, 2017 to November 16, 2017	12 responses collected
Public Information Session	November 8, 2017	Notre Dame Community Centre with 13 attendees

What We Heard

The following are examples of key input from the stakeholder meetings:

- Ensure infrastructure is restored to pre-construction conditions if damage occurs, and that residents are notified of any road closures.
- Ensure pedestrian and cycling routes are maintained and accommodated during construction
- Ensure replacement trees are planted to compensate tree removals
- Desire for more access to the Seine River, including canoe and kayak launches
- Desire for riverbottom forest and naturalized areas with improved biodiversity and habitat quality

The following information was gathered from the public information session, and online survey:

- The most common ways that the public heard about the project and information session were the email invitation (26%), followed by Facebook, and Twitter (19%), the City's Public Engagement Newsletter (15%), and City Website (11%).
- The majority of interest in the project came from residents that live nearby the site (30%), followed by people who are interested in pedestrian and cycling routes (27%), and then people that travel through the area (20%).

- The comments and feedback collected at the in-person event and the online survey mostly related to the refurbishment and maintenance of pedestrian pathways and trails, the importance of revegetation, the proposed bike detour, and the importance of keeping residents informed. (Refer to Appendix C for all comments).

Next Steps

- The Construction Contract will be awarded in December 2017.
- The Riverbank Stabilization work is expected to begin in January 2018 with expected completion in June 2018.
- The roadworks construction is expected to take place in the summer of 2018.
- The City will provide residents with street closure information prior to closures.

Appendices

- Appendix A – Public Information Session Invitation
- Appendix B – Presentation Boards
- Appendix C – Survey Data and Results

To learn more about the Seine Riverbank Stabilization at the Branch 1 Aqueduct, please visit winnipeg.ca/SeineRiverbankStabilization

Appendix A – Public Information Session Invitation

Seine Riverbank Stabilization at the Branch 1 Aqueduct

This project will stabilize the east bank of the Seine River, near the corner of Notre Dame Street and Maisonneuve Street. Stabilizing the bank is necessary to keep the Branch 1 Aqueduct safe and ensure a continued supply of water to Winnipeg residents.

Please join us at a public information session to learn about:

- The design solution and site restoration
- Construction work and neighbourhood access during construction
- Project timeline



Date: Wednesday, November 8, 2017

Time: 4 p.m. to 7 p.m.

Location: Notre Dame Community Centre, 271 Avenue de la Cathédrale

Format: Drop-in (come and go)

For more information, visit us online at winnipeg.ca/SeineRiverStabilization

For inquiries or for those who require alternate formats, French documents, or interpretation in order to participate, please contact

Cheryl Dixon at 204-927-3444 or cdixon@scatliff.ca by November 1, 2017.

Appendix B – Presentation Boards



Seine Riverbank Stabilization at the Branch 1 Aqueduct



**Public Information Session
Notre Dame Community Centre
November 8, 2017**

winnipeg.ca/SeineRiverStabilization

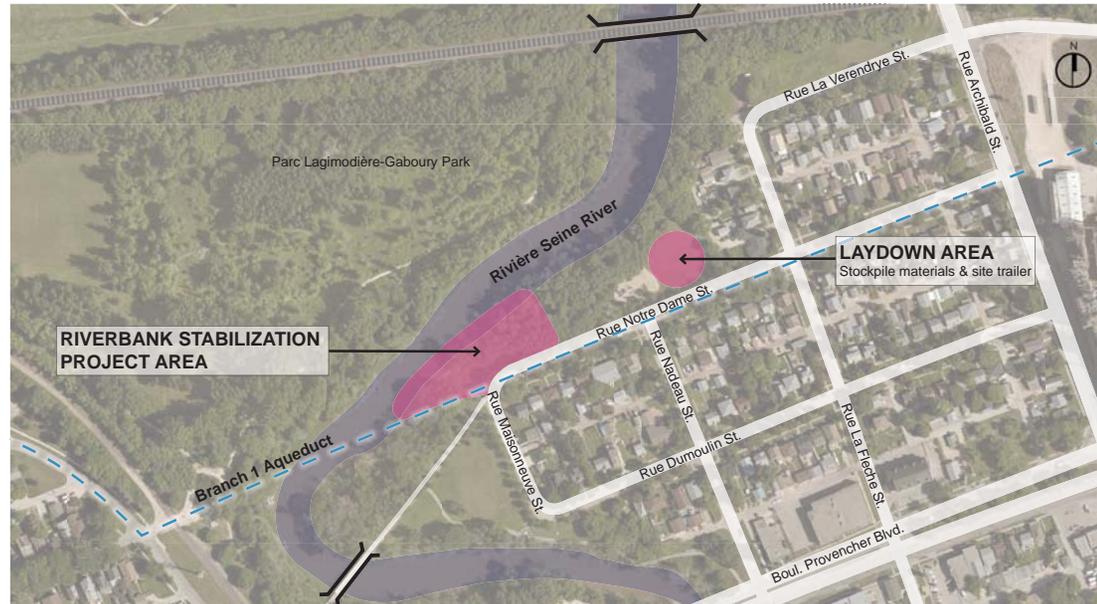
Welcome

The Branch 1 Aqueduct is a vital component of the City of Winnipeg's water system. It crosses under the Seine River near the corner of Notre Dame Street and Maisonneuve Street, in north St. Boniface. This project will stabilize the east bank of the river.

Stabilizing the bank is necessary to keep the Branch 1 Aqueduct safe and ensure a continued supply of water to Winnipeg residents.

Construction is expected to begin in early 2018, subject to regulatory approval.

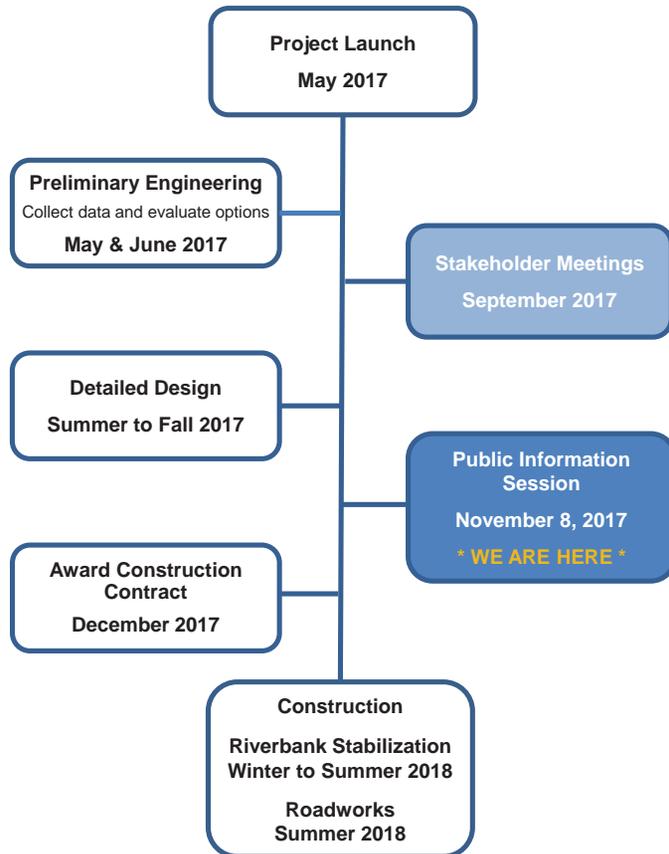
A \$2.2 million class 3 cost estimate has been developed for the project (expected level of accuracy of +30% to - 20%).



Please participate today by:

1. Viewing the storyboards about the project
2. Asking questions and talking with the City of Winnipeg staff and engineering consultants
3. Providing feedback on an exit survey

Timeline



Site Images



VIEW OF SITE FROM NOTRE DAME STREET



VIEW FROM SITE LOOKING EAST BACK TO NOTRE DAME STREET



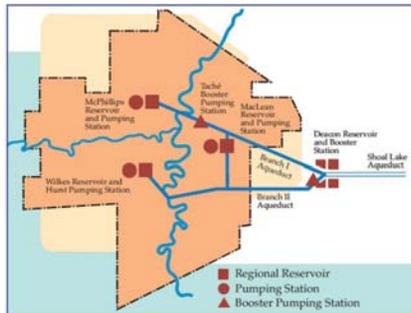
VIEW OF SITE FROM WEST BANK



VIEW FROM SITE LOOKING WEST

Branch 1 Aqueduct Facts

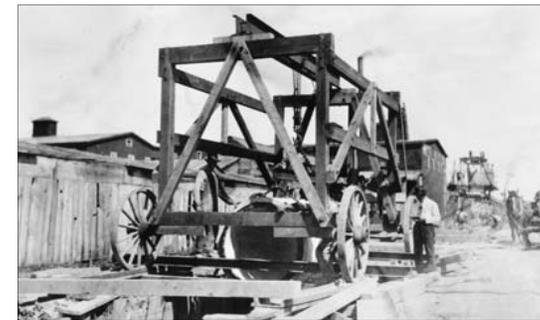
- The Branch 1 Aqueduct is a vital component of the City of Winnipeg’s water system.
- This Aqueduct is a 100-year-old pipe that carries approximately 40% of the City’s drinking water.
- The Aqueduct connects the Winnipeg Drinking Water Treatment Plant to both the MacLean and McPhillips Pumping Stations.
- Stabilizing the bank is important for keeping the Branch 1 Aqueduct safe.



Winnipeg’s water system is made up of a complex, but integrated group of parts that delivers water from Shoal Lake to Winnipeg homes and businesses on demand.



The Branch 1 & Shoal Lake aqueducts were built in 1919.

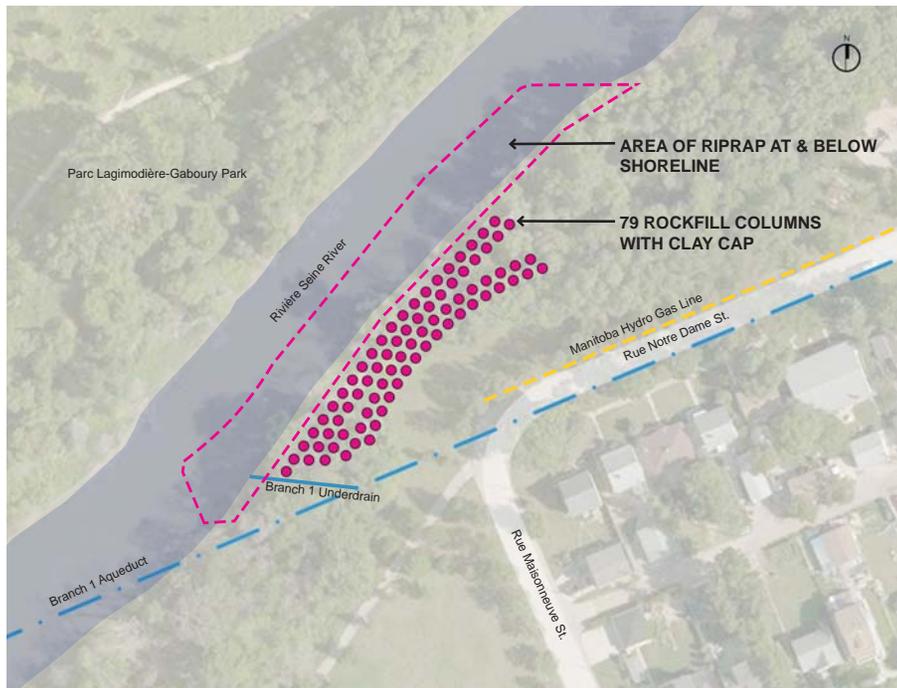


The Branch 1 Aqueduct is 18.8 km long.

Why Stabilize the Riverbank?

- The banks of the Seine River at the Branch 1 Aqueduct crossing are vulnerable to movement.
- The clay soils local to riverbanks in the Winnipeg area sometimes require stabilization.
- A consultant report recommended the City stabilize the west bank in 1999, and the work was completed in 2001. The report also recommended monitoring the east bank for movement.
- The City has monitored the area for a number of years to ensure that the stability of the east bank is within a comfortable safety level.
- Recent monitoring has revealed that the stability of the east bank has moved beyond the desired safety level and that stabilization of the bank is now required.

Rockfill Column Shear Key with Riprap Blanket along the shoreline



A matrix was developed to compare stabilization methods for eight different design solutions.

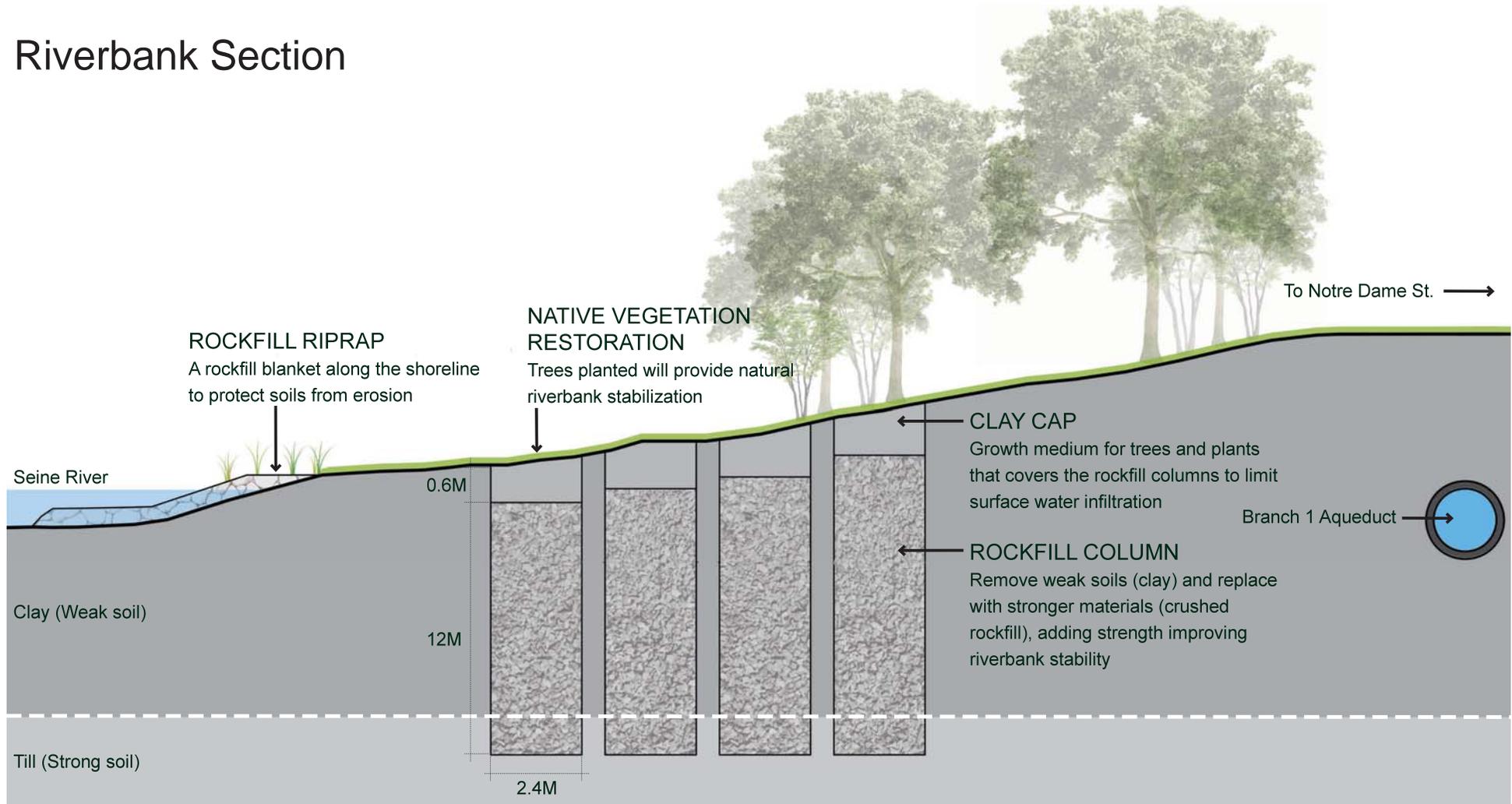
The following criteria was used to evaluate the methods and select the design solution:

- Construction cost
- Risk of potential movement during construction
- Vibration impacts to the aqueduct during construction
- Construction techniques
- Construction staging
- Timing of work
- Material and resource availability

Benefits of Rockfill Columns with Riprap Blanket:

- Relative low cost
- Meets City of Winnipeg slope stability factor of safety design criteria
- Simplest construction techniques with fewest staging requirements
- Construction over a single construction season
- Does not require relocation of Manitoba Hydro gas line
- Stabilization methods are a safe distance from Branch 1 Aqueduct location
- Can be built with readily available construction materials

Riverbank Section



What will construction and machinery look like?



1 **DRILLING ROCKFILL COLUMNS**
Large diameter holes are drilled into the bank through the weak clay and into deeper, stronger soil known as "till".



2 **FILLING ROCKFILL COLUMNS**
The holes are backfilled with stronger materials (crushed rockfill).

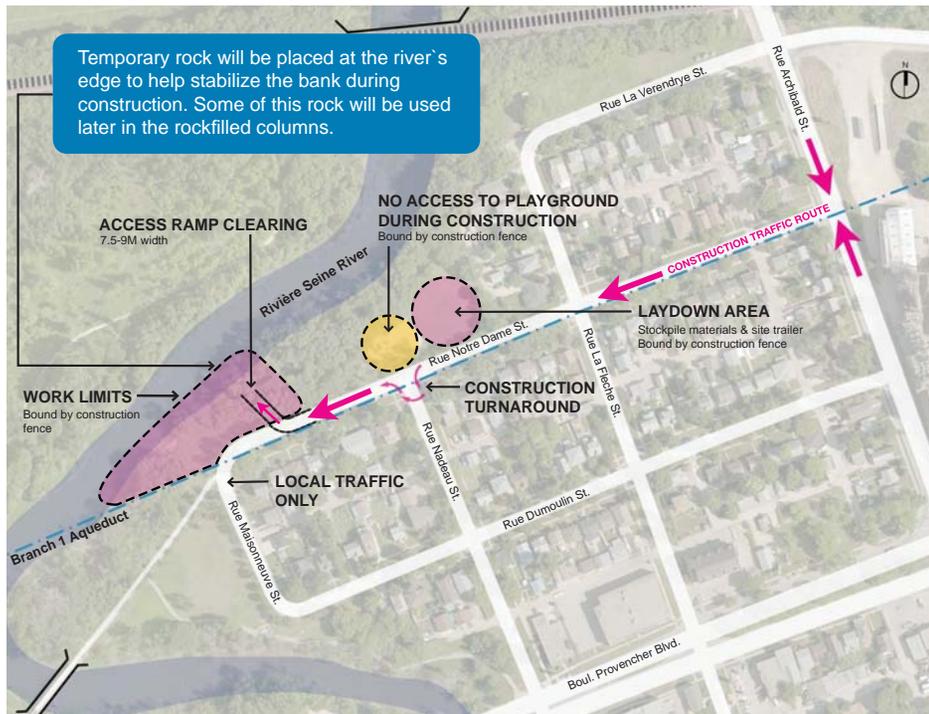


3 **PLACING RIPRAP**
The rockfill columns are covered with clay and soil. A rockfill riprap blanket is placed along the shoreline to protect soils from erosion.



4 **COMPLETED SHORELINE**
The riverbank is re-vegetated with native species of trees.

January - June 2018



■ Noise Considerations

There may be some noise associated with the stabilization portion of the work, however the project team will be taking noise into consideration when planning the construction activities and schedule.

■ Local Traffic

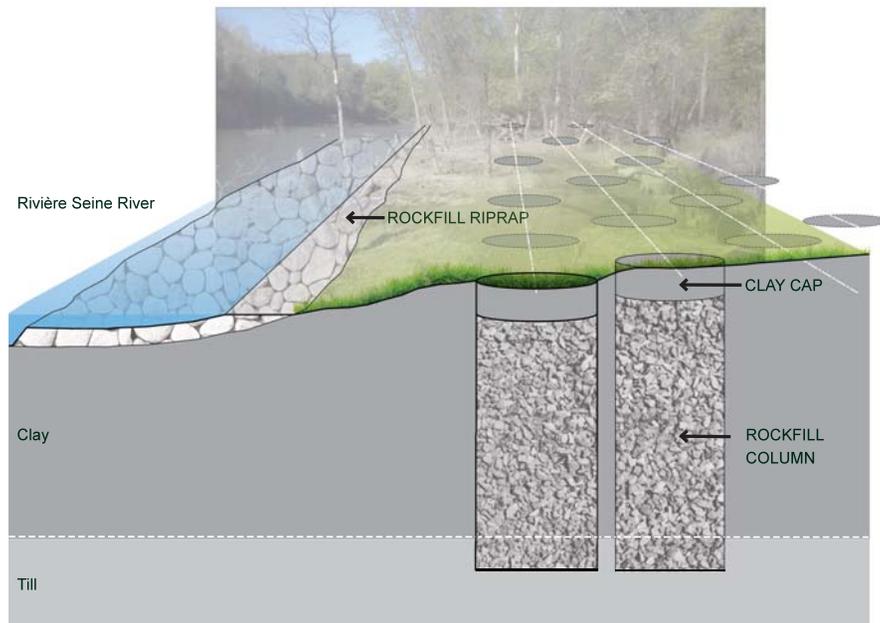
A traffic management plan will be developed to minimize traffic impacts in the area.

Notre Dame Street will remain open during the majority of the stabilization work.

■ Cycling and Pedestrian Circulation

The riverbank and a section of the footpath along the river will be closed during construction. A small section of the paved pedestrian walkway may be impacted during construction. Temporary access will be provided during construction to ensure safety for pedestrians and cyclists.

Riverbank Illustration



Aquatic Habitat

A plan will be developed to protect the fish and fish habitat during construction. No construction work will occur in the fish spawning window (April 1st to June 30th). This plan will require federal approval from the Department of Fisheries and Oceans.

Trees and Landscape

The majority of the construction will occur within the grassed area and riverbank northwest of the Notre Dame Street and Maisonneuve Street intersection.

Some trees near the lower slope area will be removed. Tree removal will be minimized as much as possible. Any trees removed will be replaced with new trees. The site will be restored to provide a riverbottom forest. The trees planted will provide natural bank stabilization.

What will revegetation look like?

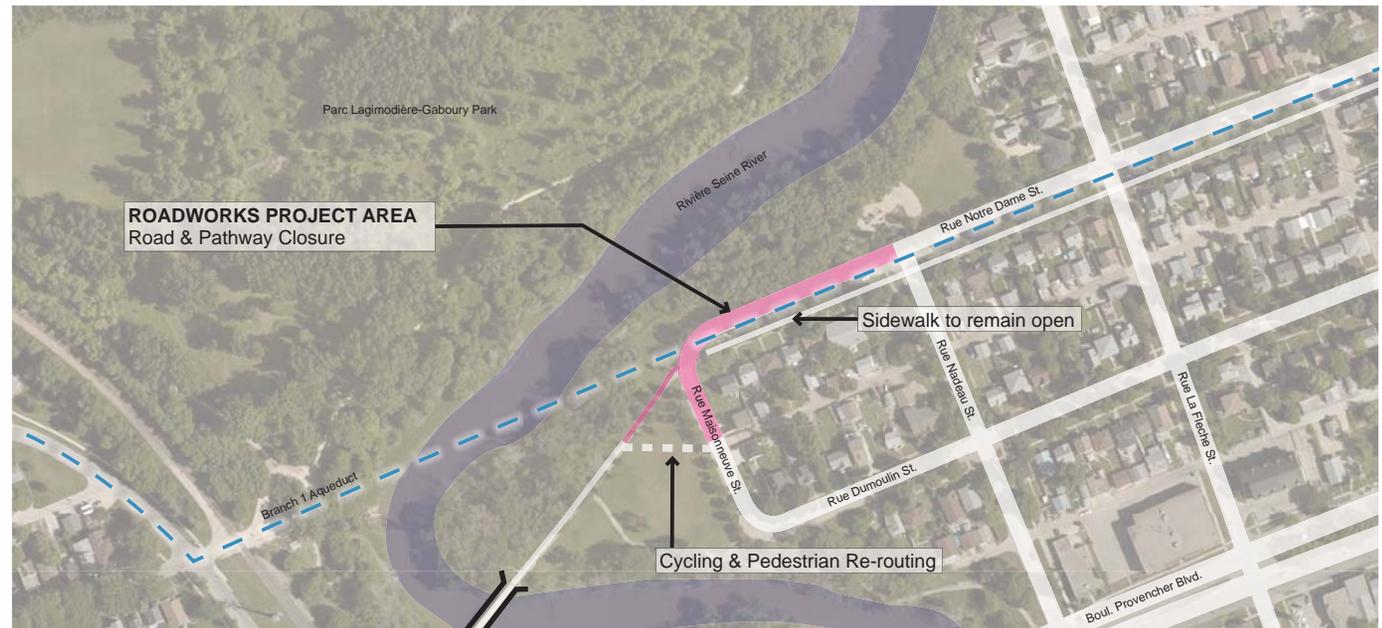


Summer 2018

As part of this work the road will be regraded to allow for proper drainage.

This construction work will include road closures on Notre Dame Street and Maisonneuve Street during the summer of 2018. Notices will be delivered to residents in advance of the closures.

A small section of the paved pedestrian pathway will be impacted during construction. Temporary access will be provided during construction to ensure safety for pedestrians and cyclists.



The project team met with stakeholders to identify preferences, issues and review the design solution and construction staging.

Key stakeholder input:

CONSTRUCTION

- Ensure local roads are repaired if any damage is caused by machinery and trucks during construction
- Ensure the playground and park area is restored to pre-construction conditions
- Ensure residents are notified of road closures and construction timelines
- Ensure access to and from the neighbourhood during rush hours

THE SEINE RIVER

- Concern that the look of the riprap will affect the natural feel of the river, especially when the water is low
- Preference for minimizing the control of riverbank edges overall within the City of Winnipeg

ACCESS TO THE SEINE RIVER

- More access to the Seine River is desired
- Enhance canoe and kayak access to the Seine River
- A canoe launch in an area that is not muddy is desired

RESTORATION

- Ensure replacement trees are planted to compensate tree removals
- Desire for riverbottom forest and naturalized areas with improved biodiversity and habitat quality

CIRCULATION

- The pedestrian bridge over the Seine River is a well-used cycling route, ensure a pathway connection to Maisonneuve Street is provided during construction
- Ensure pedestrian and cycling routes are maintained and accommodated during construction

STAKEHOLDERS ENGAGED:

City of Winnipeg: Forestry • City Naturalist • Parks, Planners & Urban Designers • Active Transportation • Streets Engineers • Riverbank Engineers and Waterways
 Save Our Seine • Old St. Boniface Residents Association • Provencher Biz • Manitoba Historical Society

- The Construction Contract will be awarded in December 2017.
- The Riverbank Stabilization work is expected to begin in January 2018 with completion in June 2018.
- The Roadworks construction will take place in summer of 2018.

Thank you for coming today!

winnipeg.ca/SeineRiverStabilization

Appendix C – Survey Data and Results

Seine Riverbank Stabilization at the Branch 1 Aqueduct

Public Information Session - November 8, 2017

IN-PERSON EVENT SURVEY RESULTS

Total number of surveys collected: 6

1. How did you hear about this public information session? Check all that apply

La Liberte	The Lance	City of Wpg Public Engagement Newsletter	City of Wpg website	Email Invitation	Mail-drop	In the media	Facebook or Twitter
1	1	1		3	1	1	2

Other: Matt Allard

Answered: 6 Skipped: 0

2. What is your interest in this project? Check all that apply

I live nearby	I travel through the area	I work in the area	I visit the area	Interest in pedestrian and cycling routes	Interest in work surrounding waterways
5	2		1	5	

Other: nature lover

Answered: 6 Skipped: 0

3. I had an opportunity to talk to and/or ask questions of the City of Winnipeg and consultant staff

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
			3	3

Answered: 6 Skipped: 0

4. I understand the reasons for this project

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
			4	2

Answered: 6 Skipped: 0

5. Please provide any other comments you may have regarding this project

- I support the project, my only concern is the existing trail along the south side of the Seine River be restored to its original state. The city should also take this opportunity to install new benches where the existing ones are currently situated. They are old and falling apart.
- Should consider installing traffic lights on Provencher and LaFleche (or Nadeau) which would help heavy trucking route
- Il est important de bien proteger la riviere et les alentours naturels
- Good info provided at public meeting. Insist on re-planting trees, refurbished pathways etc., anything that is destroyed in the process. Keep residents in the loop.

- Very happy to see the detour for the walk/bike path. One thing to watch out for will be cleaning of clay on roadway and pathways as it can be very slippery (both on the spot and by attaching to tires). Detour signage would be appreciated.

Answered: 5 Skipped: 1

6. Please provide any other comments you may have regarding today's public information session event

- My concern is the lack of water in the Seine but this link will not change that
- The information was fairly straight-forward
- Please make sure that curb cut on roadways are smooth and do not attract puddles

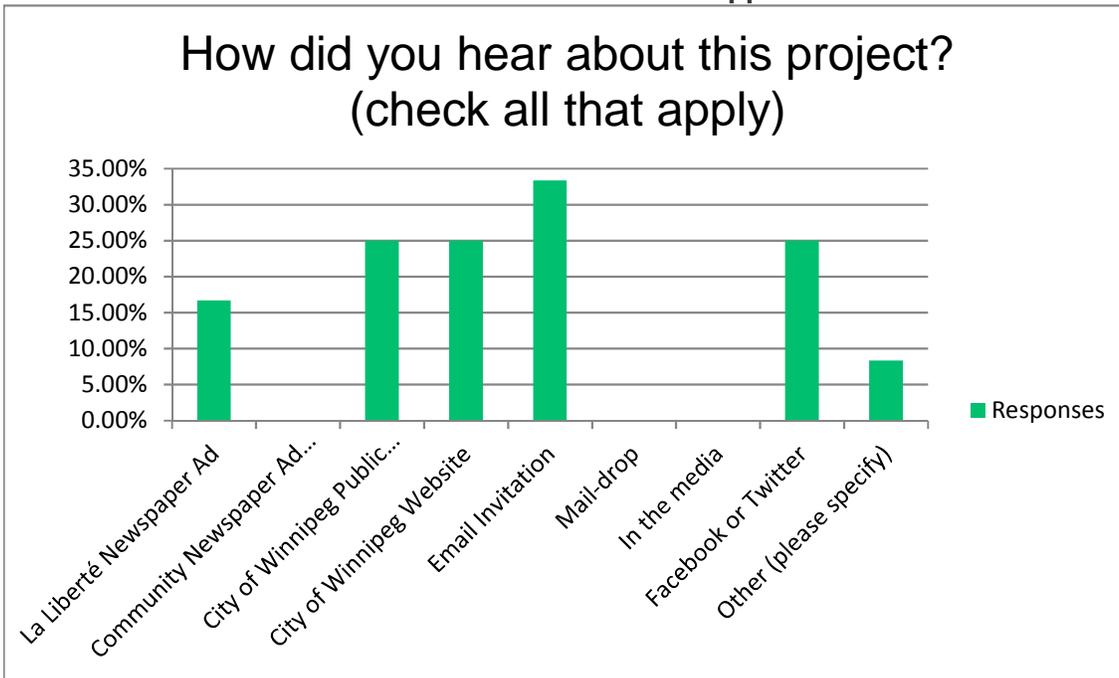
Answered: 3 Skipped: 3

Seine Riverbank Stabilization at the Branch 1 Aqueduct Online Survey Results

Question 1

How did you hear about this project? (check all that apply)

Answer Choices	Responses	
La Liberté Newspaper Ad	16.67%	2
Community Newspaper Ad (The Lance)	0.00%	0
City of Winnipeg Public Engagement Newsletter	25.00%	3
City of Winnipeg Website	25.00%	3
Email Invitation	33.33%	4
Mail-drop	0.00%	0
In the media	0.00%	0
Facebook or Twitter	25.00%	3
Other (please specify)	8.33%	1
Answered		12
Skipped		0



Respondents	Response Date	Other (please specify)
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1

Nov 09 2017
06:02 PM

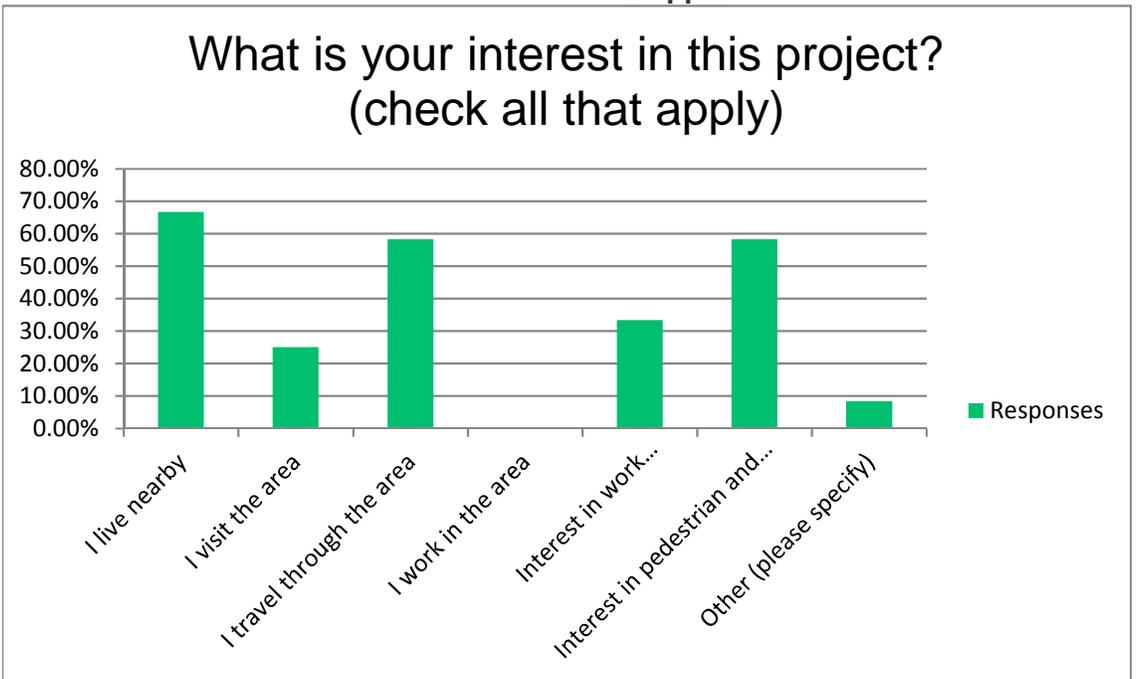
Newspaper ad

Seine Riverbank Stabilization at the Branch 1 Aqueduct Online Survey Results

Question 2

What is your interest in this project? (check all that apply)

Answer Choices	Responses	
I live nearby	66.67%	8
I visit the area	25.00%	3
I travel through the area	58.33%	7
I work in the area	0.00%	0
Interest in work surrounding waterways	33.33%	4
Interest in pedestrian and cycling routes	58.33%	7
Other (please specify)	8.33%	1
	Answered	12
	Skipped	0



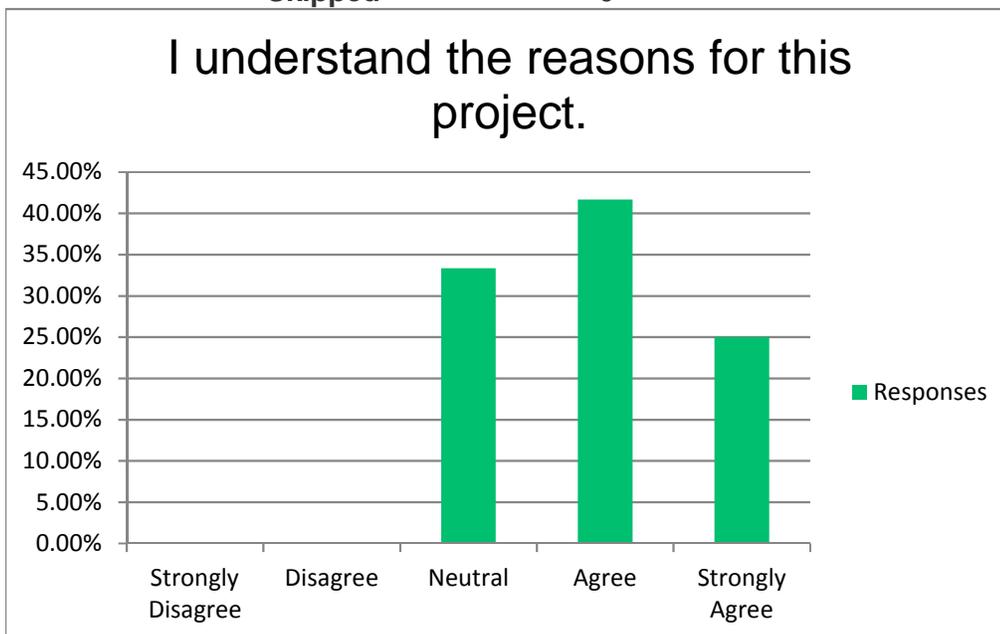
Respondents	Response Date	Other (please specify)
1	Nov 09 2017 06:02 PM	Riparian Restoration

Seine Riverbank Stabilization at the Branch 1 Aqueduct Online Survey Results

Question 3

I understand the reasons for this project.

Answer Choices	Responses	
Strongly Disagree	0.00%	0
Disagree	0.00%	0
Neutral	33.33%	4
Agree	41.67%	5
Strongly Agree	25.00%	3
Answered		12
Skipped		0



Seine Riverbank Stabilization at the Branch 1 Aqueduct

Online Survey Results

Question 4

Please provide any other comments you may have regarding this project.

Answered 5

Skipped 7

Respondents	Response Date	Responses
1	Nov 15 2017 02:45	We need to maintain infrastructure in this city and agree it's necessary to look at this issue.
2	Nov 10 2017 08:07	I haven't heard much about this or the issues that made this come about.
3	Nov 09 2017 06:02	Water from Shoal Lake and making this area an environmental restoration project at the same time is paramount.
4	Nov 08 2017 04:55	will the riverbank trail be repaired
5	Nov 07 2017 04:18	I don't like spending \$2.2 million for something that doesn't obviously improve life in the City, but I trust the assessed threat to our water supply and that a low-cost option was chosen. This work will affect my bicycle route from Transcona to Downtown (Mission St to the Dumoulin Park bridge), but I'm thankful it will only affect me by adding a distance of 150 metres.