



# WELCOME

**Willow Farm Lane Stream Rehabilitation**  
**VIRTUAL PUBLIC INFORMATION CENTRE**  
**September 8<sup>th</sup>, 2022**

Your comments are encouraged and appreciated, as this will provide us an opportunity to address project issues and concerns.



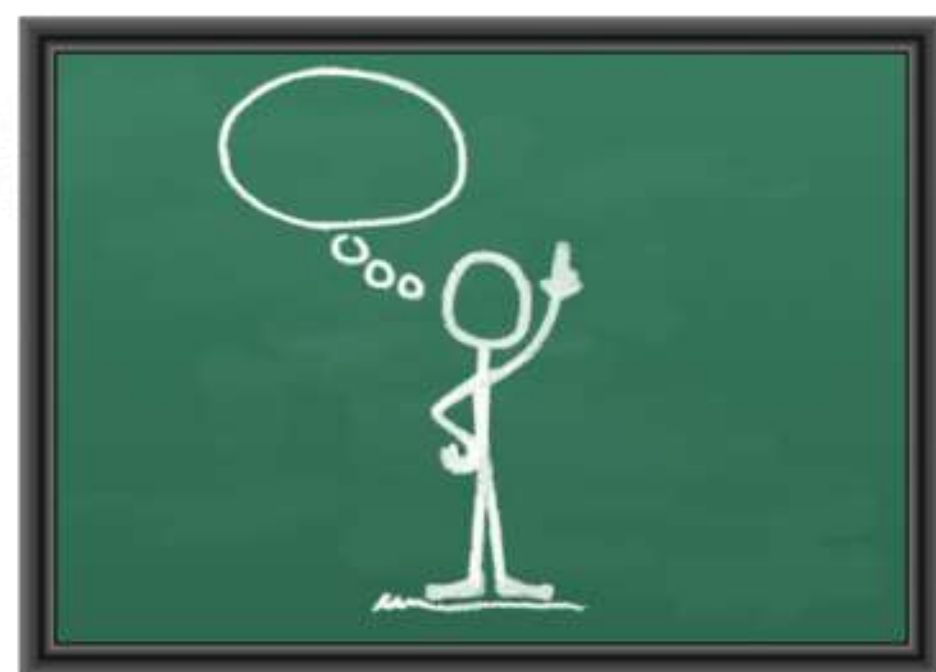


## STUDY PURPOSE / PROBLEM DEFINITION

The Town of Aurora has retained Aquafor Beech Limited to complete a stream rehabilitation to address erosion and infrastructure concerns along a tributary of Tannery Creek near Willow Farm Lane.

This will improve the stability and health of the watercourse and mitigate risks to private properties, Town infrastructure and public safety, while enhancing the aesthetics of the creek corridor.

## VIRTUAL PUBLIC INFORMATION CENTRE PURPOSE



### **This Virtual Public Information Centre (PIC) is Designed to:**

- Present information on existing conditions
- Present the detailed design solution
- Delineate Impacts to Vegetation and Private Property



### **To Gain Community Input on:**

- Existing conditions information
- The detailed design solution
- Planned site restoration
- Concerns related to the proposed works



- In 2019 the Town of Aurora completed a Stream Management Master Plan (SMMP) in conjunction with the Tannery Creek Flood Relief Study (TCFRS) to define flooding and erosion risk sites within the Town of Aurora.
- The SMMP identified this site as the fourth highest priority erosion mitigation project based on the existing level of risk and opportunities for risk reduction and remediation.
- A stormwater outfall within the site is in very poor condition and should be replaced to avoid issues that could result from complete failure.
- Gabion basket retaining walls are showing early signs of failure and should be replaced to ensure the longevity of project works and prevent re-disturbing the area in the coming years.
- This project is being undertaken to address the erosion concerns noted above as originally identified in the SMMP and TCFRS as well as to improve the condition of existing infrastructure.



# STUDY AREA

Tannery Creek flows eastward through the Study Area towards Lake Simcoe. The study area is generally bound by St John's Side Road to the north, Falling Leaf Court to the west, and Willow Farm Lane to the south and east. The project extents are shown in red below, which include the main project area and two localized areas further downstream.





# EXISTING CONDITIONS

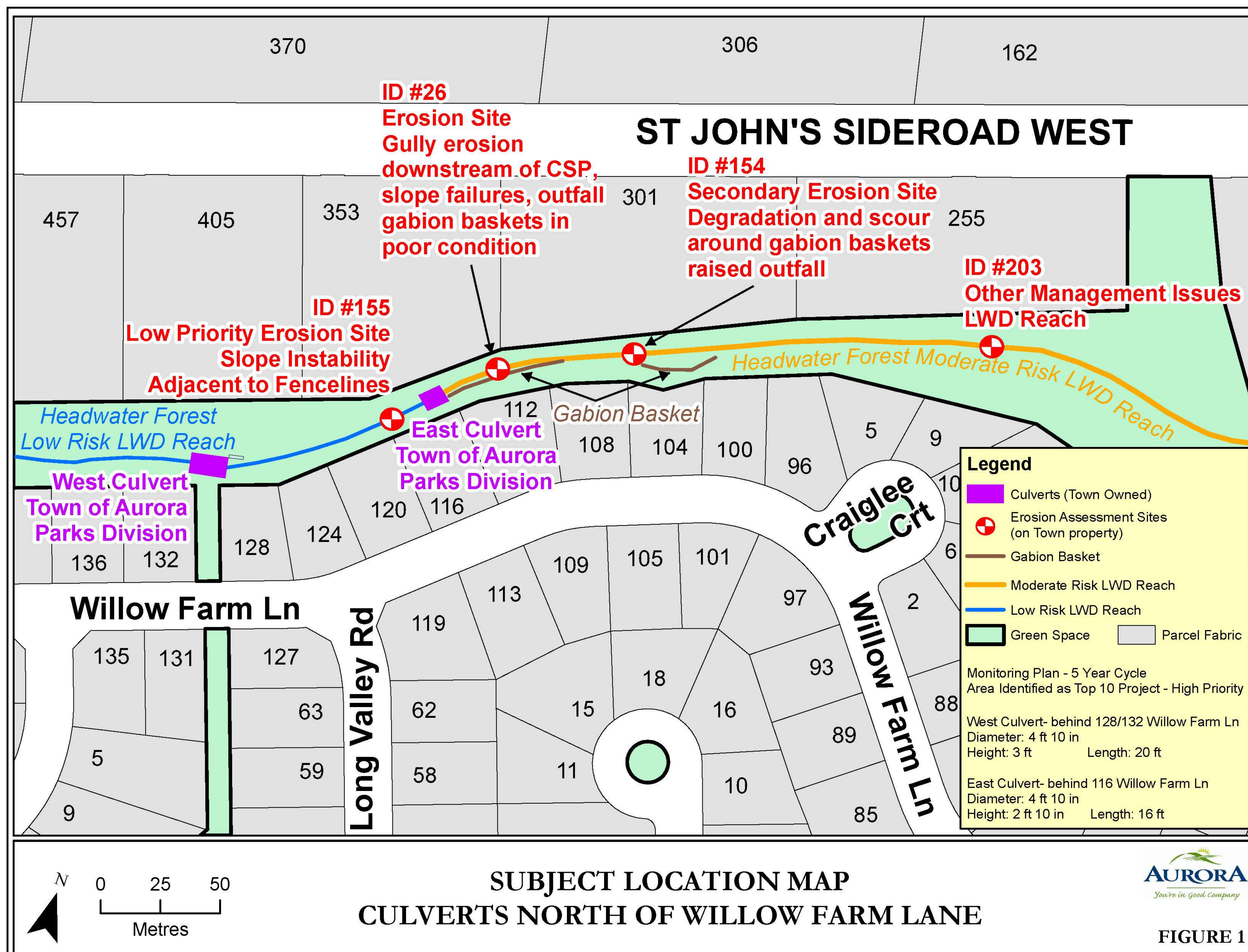
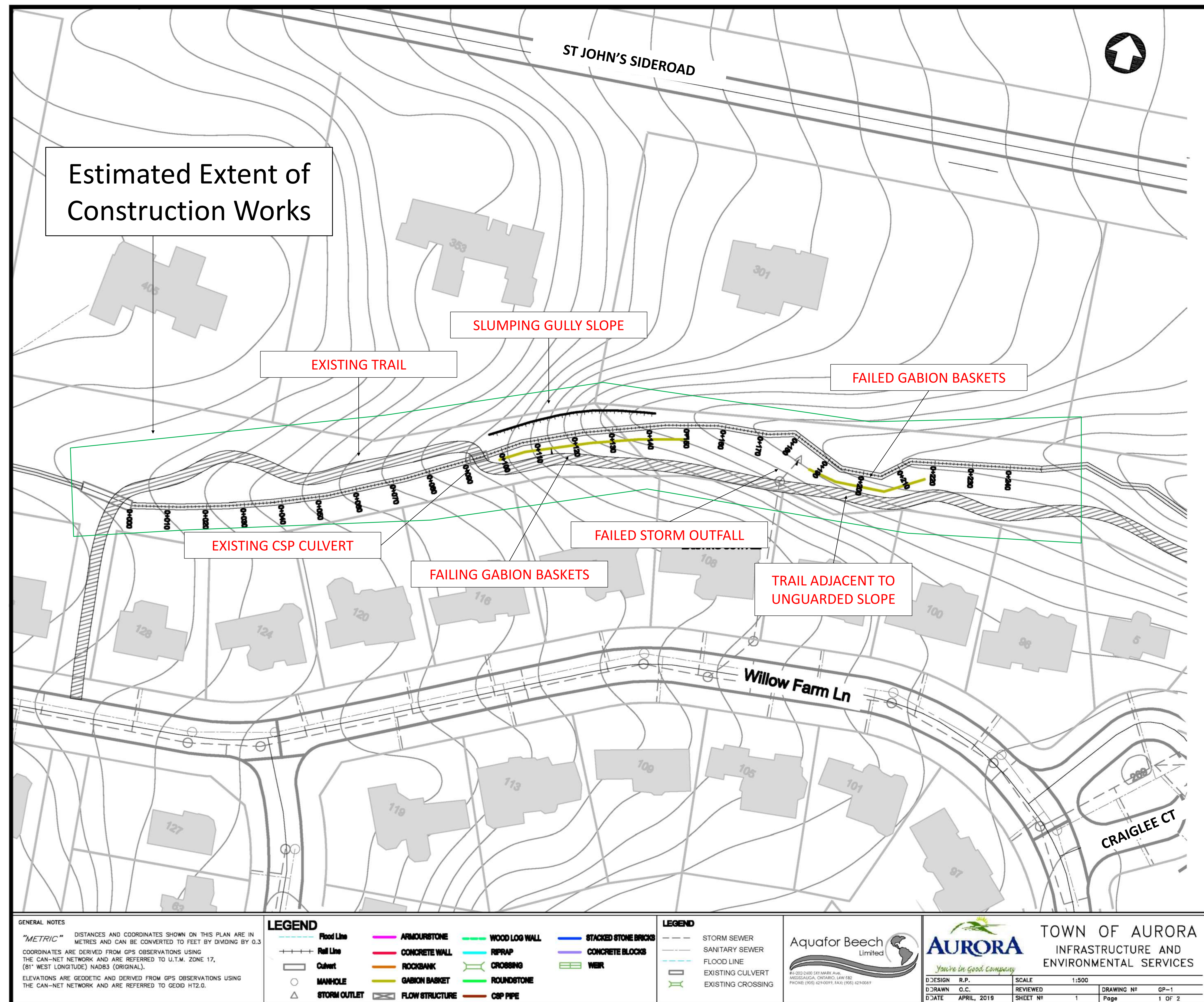


FIGURE 1

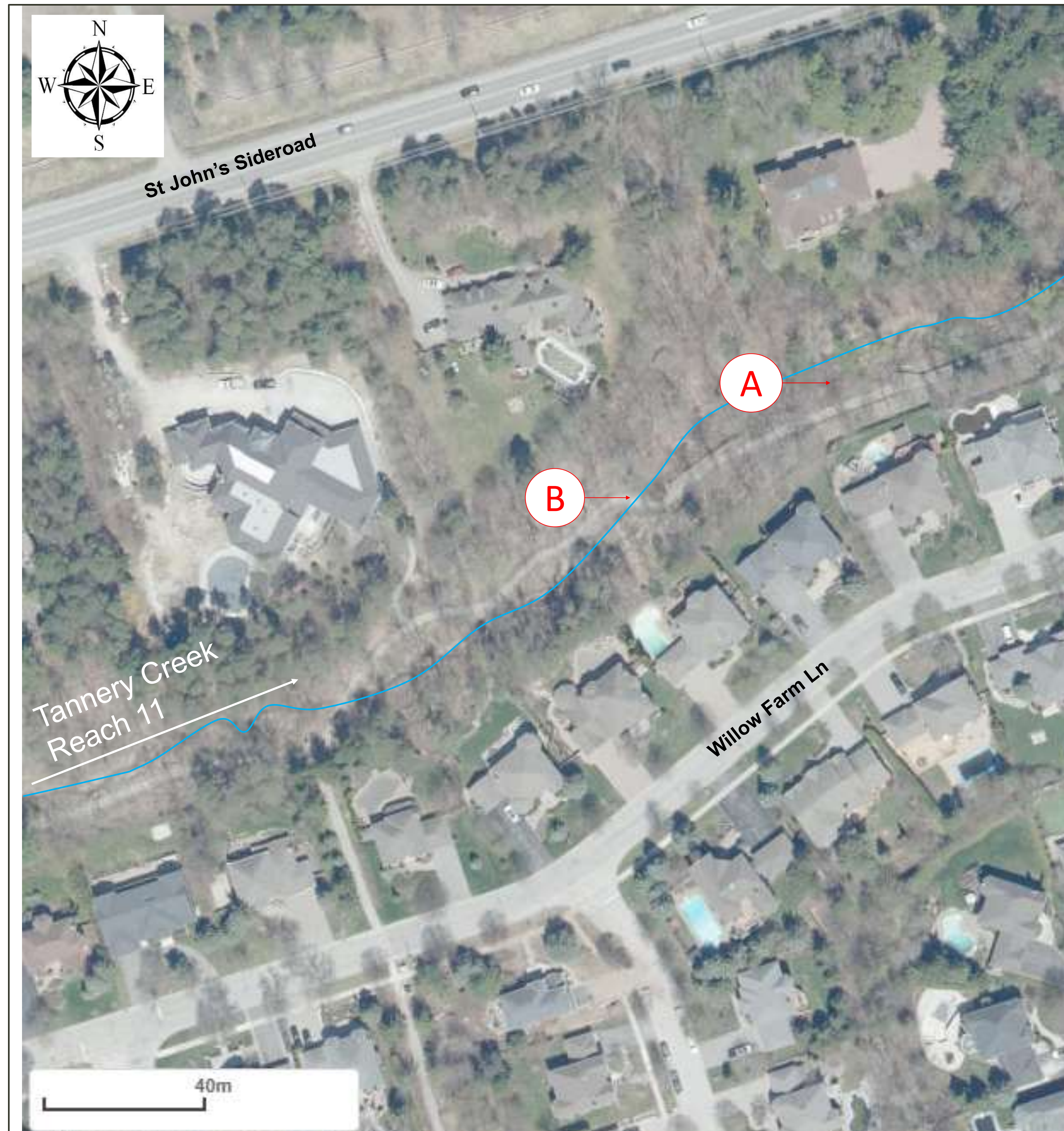


# EXISTING CONDITIONS





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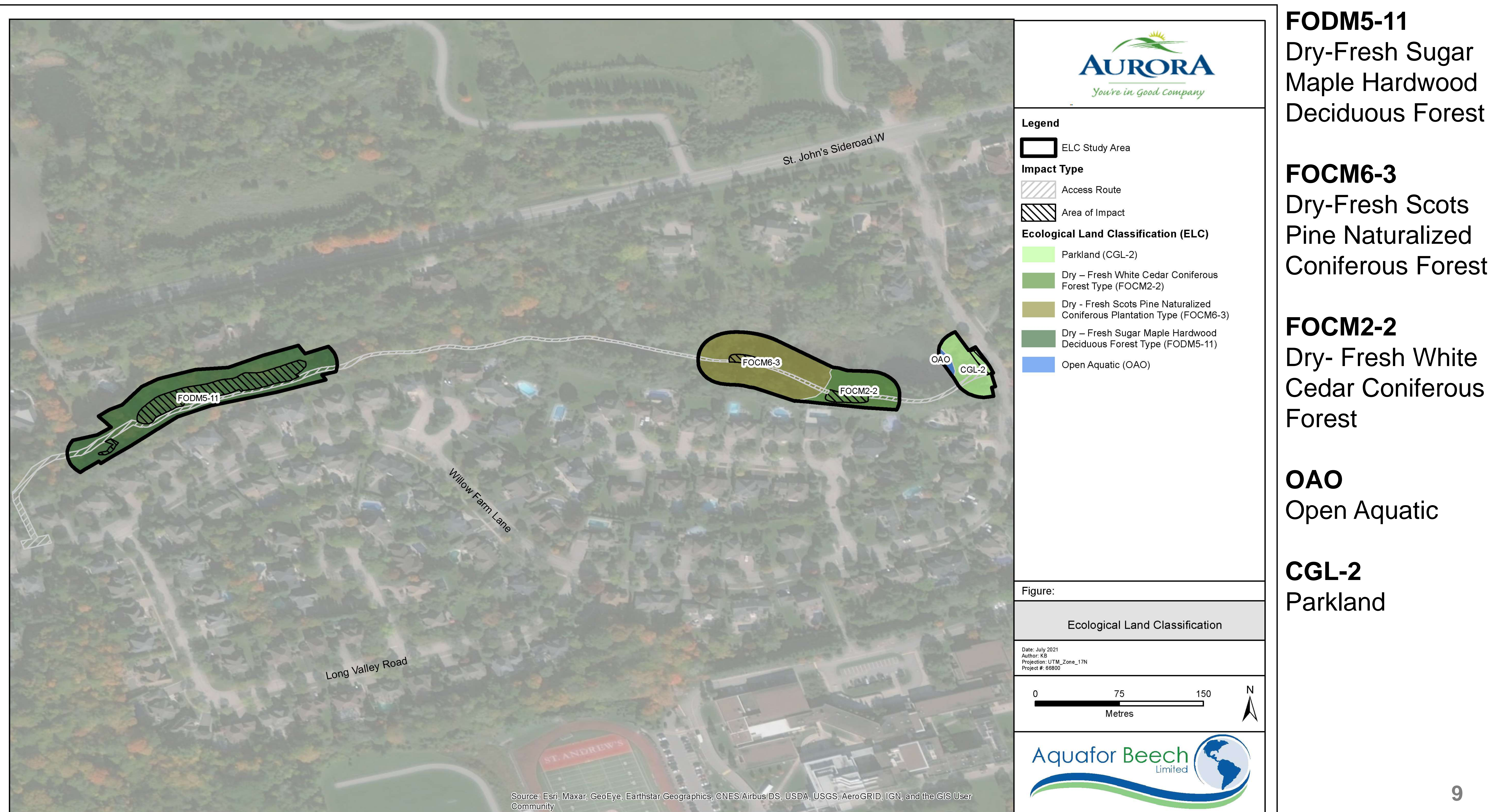
# EXISTING CONDITIONS





# TERRESTRIAL ECOLOGY

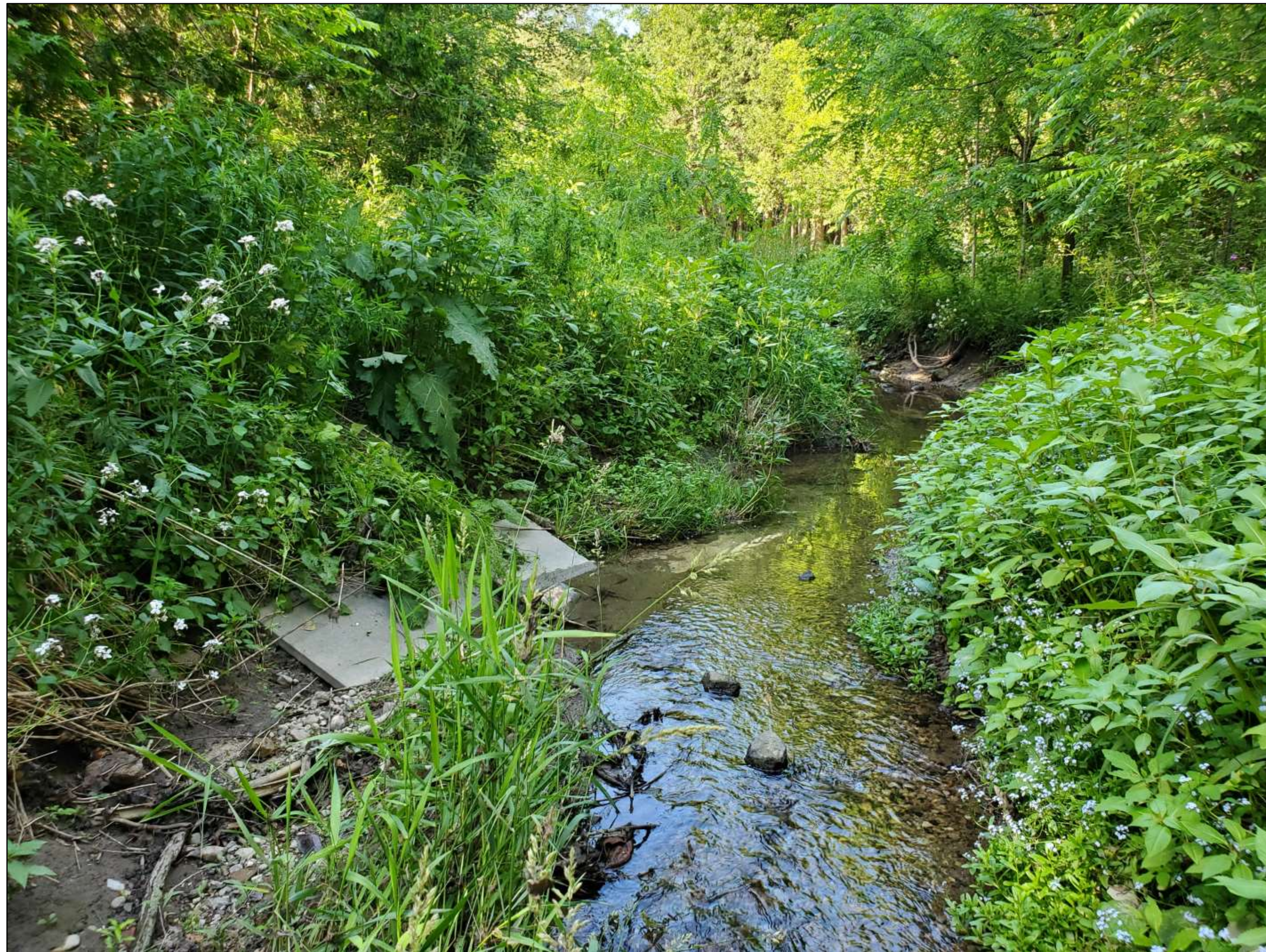
Ecological Land Classification (ELC) is a standard practice used to describe, identify, classify and map vegetation communities on the landscape. Community types found within the study area are shown in the map below.





# AQUATIC ECOLOGY

The study assessed aquatic habitat and fisheries within Tannery Creek to define existing conditions.



- No fish communities or habitat were identified in the western headwaters (which includes the study area) by LSRCA in their Subwatershed plan.
- Contributing fish barriers suggest that natural communities of fish do not exist upstream of the fish barrier associated with the stormwater management pond outlet structure.
- Aquatic habitat is generally in poor condition, demonstrating characteristics of a urban-impacted and stormwater fed watercourse.
- Aquatic habitat potentially supports Spring Spawning Species communities, and could be improved through restoration by adding more in-water cover and allowing the river to return to a more natural pattern.

## TARGET FISHERIES CONDITIONS

- Improved bank structure, providing cover and riparian vegetation.
- Increased channel morphology, providing varied habitat and flow.
- Improved variety of substrate to provide a better mix of habitat types and potential spawning areas.



The study looked into the Hydrology and Hydraulics of the study area in order to understand how water flows through the creek, the forces it exerts under normal and extreme conditions, and the extent of flooding, so as not to worsen or impact flood levels.

The modelled limits of the Regional floodplain are shown below, highlighting that the proposed design will not significantly increase the regional flood line extents.





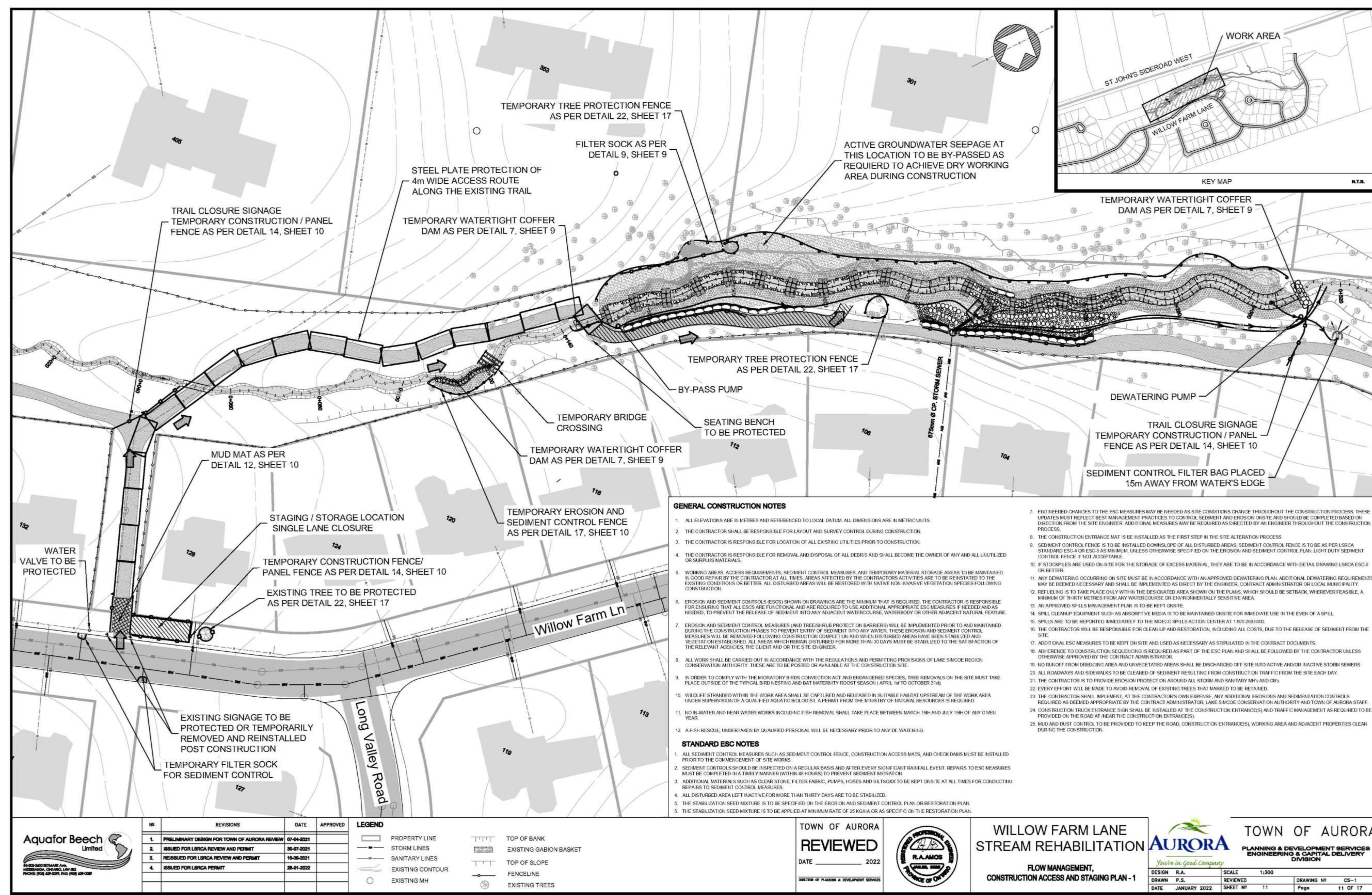
# OWNERSHIP AND EASEMENT

## Willow Farm Lane Stream Rehabilitation

The Creek within the study area flows through City owned property, though some minor access to properties backing onto the north bank will be required for construction activities.

The site will be accessed via the existing trail from Willow Farm Lane. The section of trail through the site will be closed during construction.

The boulevard on Willow Farm Lane adjacent to the trail entrance will be used for staging/storage of construction equipment and materials. Any damage to the boulevard due to construction will be restored after completion of the works.





Aquafor Beech Limited

**WILLOW FARM LANE STREAM REHABILITATION**

**PLAN AND PROFILE - 1**

**PROPOSED WORKS**

**TOWN OF AURORA**

**REVIEWED**

**DATE** 2022

**DESIGNER** PLANNING & DEVELOPMENT SERVICES

**PLANNING & DEVELOPMENT SERVICES**

**ENGINEERING & CAPITAL DELIVERY DIVISION**

**AURORA**

**Town of Aurora**

**PLANNING & DEVELOPMENT SERVICES**

**ENGINEERING & CAPITAL DELIVERY DIVISION**

**DESIGN** R.A. **SCALE** HOR. 1:200, VER. 1:100

**DRAWN** P.S. **REVIEWED**

**DATE** JANUARY 2022 **SHEET** 4 **PAGE** 4 OF 17

**PP-1**

NO.	REVISIONS	DATE	APPROVED
1.	PRELIMINARY DESIGN FOR TOWN OF AURORA REVIEW	07-04-2021	
2.	ISSUED FOR LIRCA REVIEW AND PERMIT	30-07-2021	
3.	REDESIGNED FOR LIRCA REVIEW AND PERMIT	10-09-2021	
4.	ISSUED FOR LIRCA PERMIT	28-01-2022	

**LEGEND**

— PROPERTY LINE

--- STORM LINES

--- SANITARY LINES

--- EXISTING CONTOUR

○ EXISTING MH

--- TOP OF BANK

--- EXISTING GABION BASKET

The image contains two technical drawings of a stone armorstone rib placement system.

**PLAN View:**

- BURIED ARMORSTONE ENDS:** Indicated by arrows pointing to the ends of the armorstone rib placement.
- ARMORSTONE RIB PLACEMENT:** 1.2m (W) x 1.2m (L) x 0.9m (H).
- MIX OF 50% SUBSTRATE AND 50% APPROVED NATIVE FILL:** The material surrounding the armorstone rib placement.
- ARMORSTONE RIB PLACEMENT:** 1.2m (W) x 1.2m (L) x 0.9m (H).
- 0.75m DEEP STONE PLACEMENT AS PER TABLE 1:** Indicated by arrows pointing to the stone placement.

**PROFILE View:**

- ARMORSTONE RIB PLACEMENT:** 0.9m (H) x 1.2m (W) x 1.2m (L).
- 0.75m DEEP STONE PLACEMENT AS PER TABLE 1:** Indicated by arrows pointing to the stone placement.
- 100mm LEVELING BASE (19mm CLEARSTONE):** The base layer beneath the armorstone rib placement.
- TERRAFIX 360R GEOTEXTILE OR APPROVED EQUIVALENT:** The geotextile layer beneath the leveling base.
- Dimensions:** 0.5m, 0.35m, 5m, 0.20m, 0.85m.

300MM TOPSOIL

POTTED STOCK PLANTINGS  
AS PER RESTORATION PLAN

EROSION CONTROL (COIR)  
MATTING  
AS PER DETAIL 7, THIS SHEET

300MM DIA. ROUNDSTONE

600MM DIA. BOULDERS  
PLACED IN 2 LIFTS

FILL VOIDS WITH 75MM -  
150MM ROUNDSTONE AND  
SALVAGED SOIL

900MM DIA.  
BOULDERS  
PLACED IN 1 LIFT.

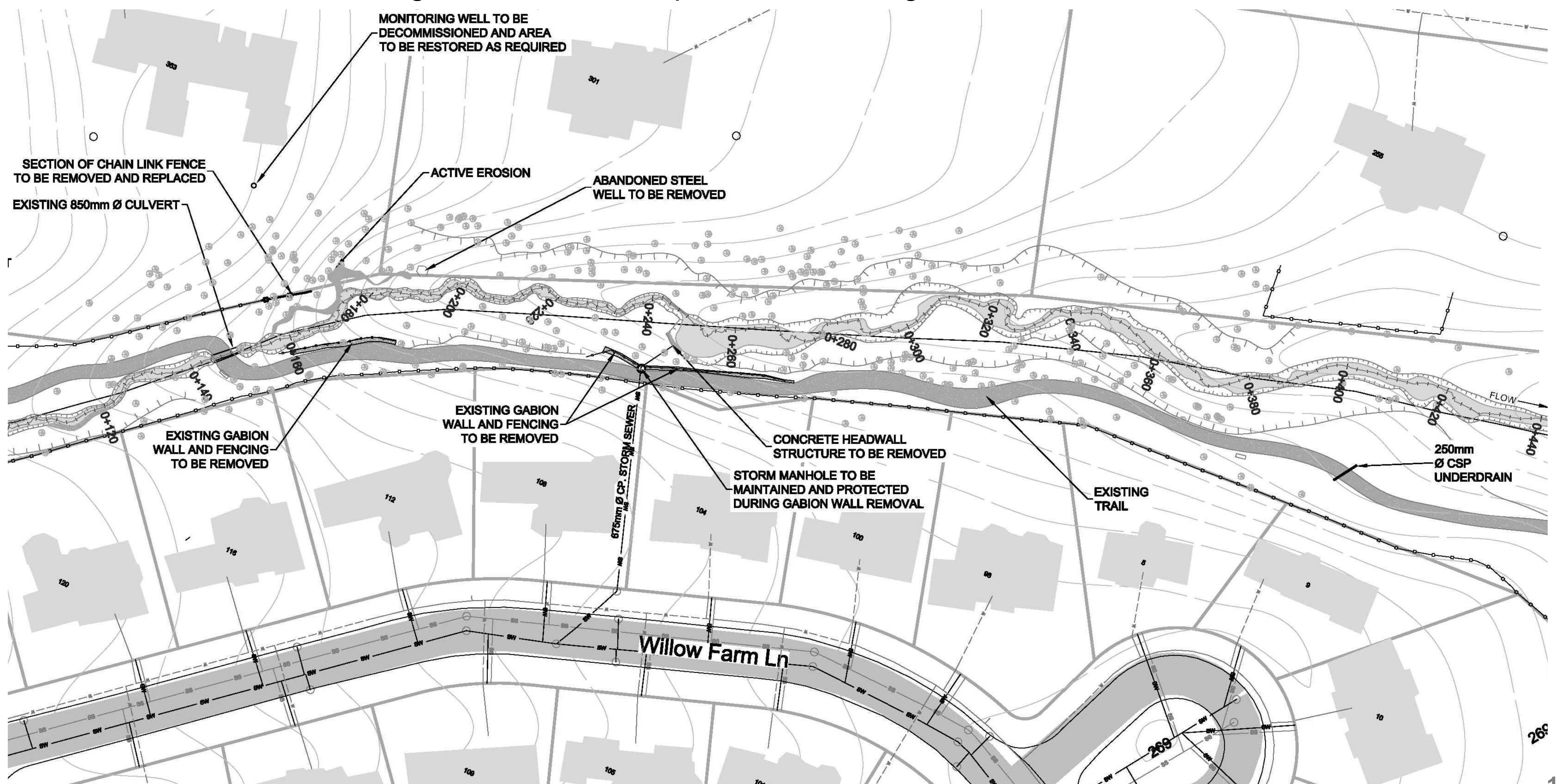
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- 13



# DETAILED DESIGN – Other Components

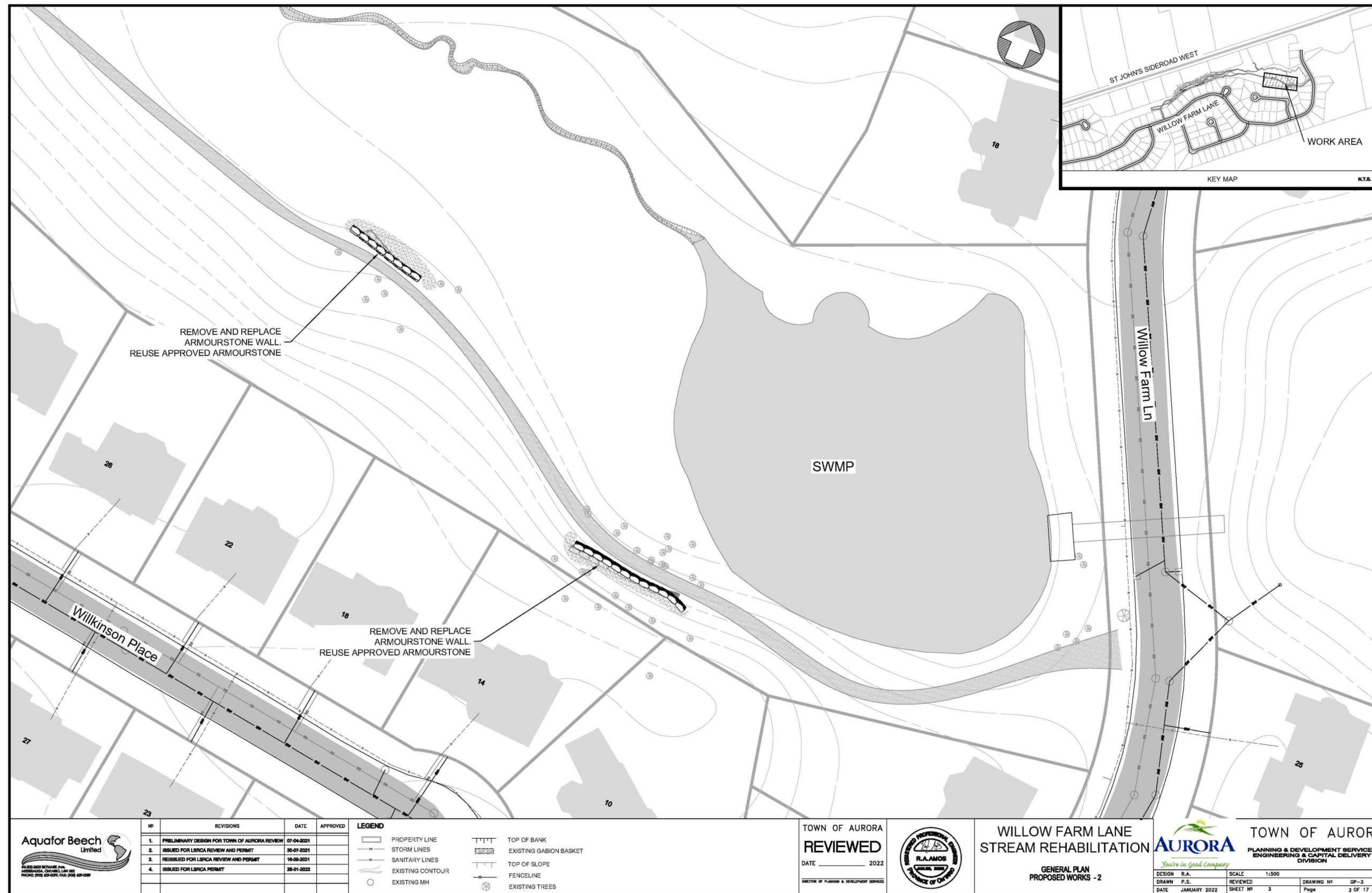
- Abandoned steel well near creek to be removed, along with monitoring well at 353 St. John's Sideroad.
- Sediment and woody debris accumulations will be cleared from culverts and creek sections where causing blockages.
- Failing stormwater outfall to be replaced with new pipe and headwall.
- New armourstone retaining walls installed in place of current gabion baskets.



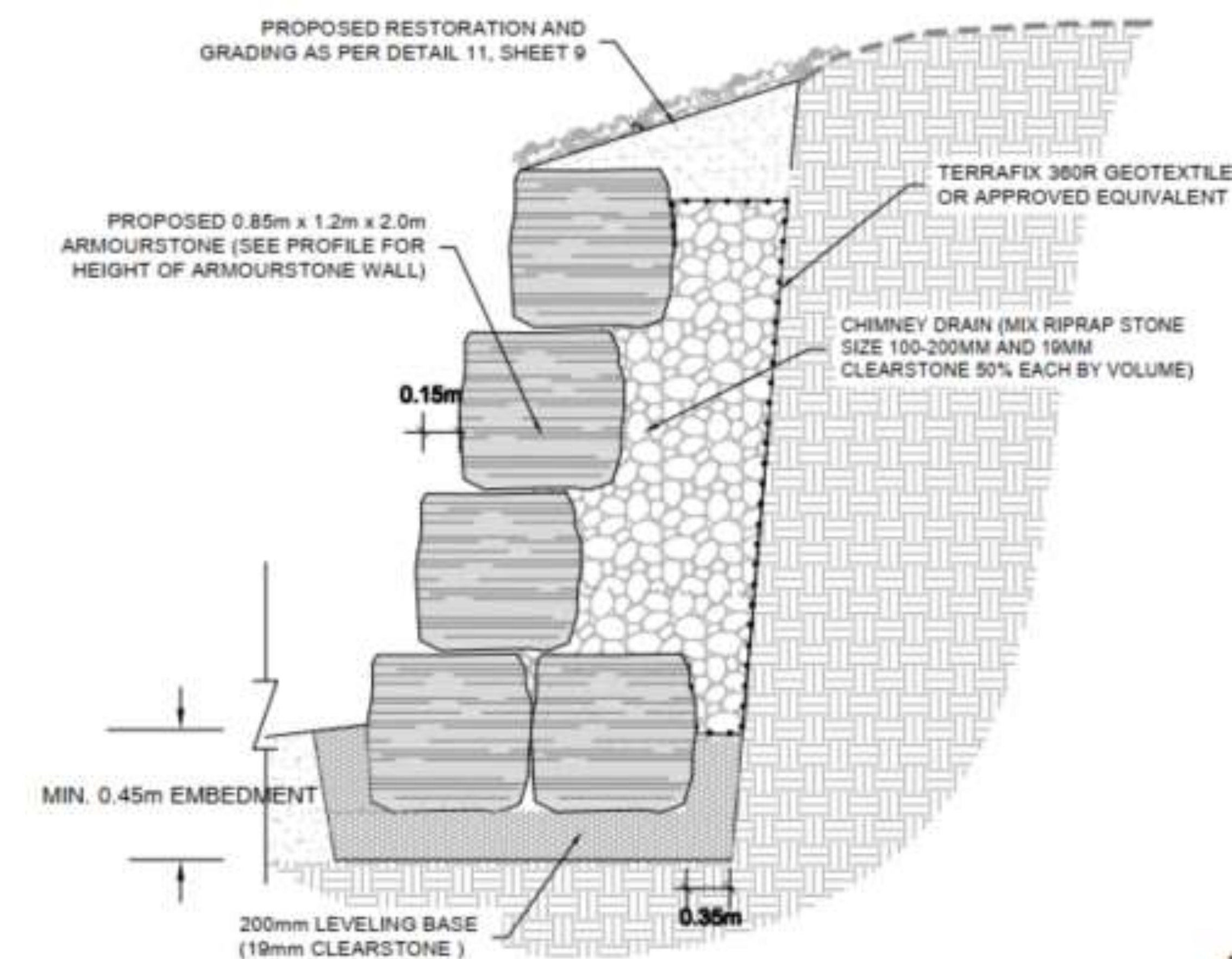


# DETAILED DESIGN – Localized Works

## Willow Farm Lane Stream Rehabilitation



### DETAIL 4 - ARMOURSTONE RETAINING WALL



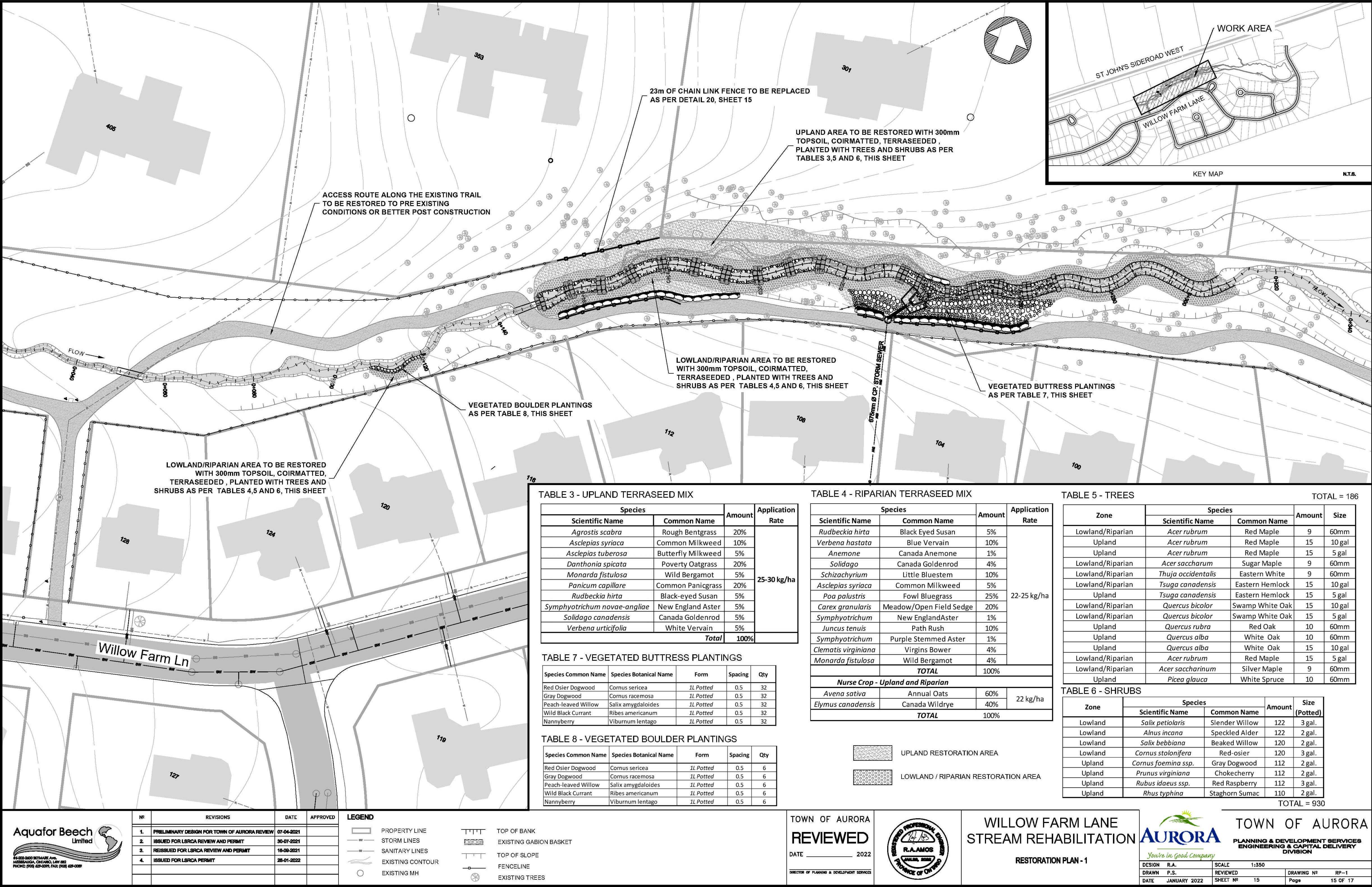
- Less extensive localized works in reach 11D (behind Wilkinson Pl.)
- Replacement of aging gabion baskets with armourstone retaining walls.
- Access will be from Willow Farm Lane along existing trail.



# DETAILED DESIGN – Site Restoration



## Willow Farm Lane Stream Rehabilitation



- 68 Total Tree Removals
- 249 Proposed Tree Plantings
- 1245 Proposed Shrub Plantings
- 190 Proposed Vegetated Buttress and Boulder Plantings



# NEXT STEPS

## PUBLIC CONSULTATION – September 2022

- Any questions or concerns can be directed to Sabir Hussain at the Town of Aurora.
- The project team will compile and review feedback, and will confirm or adapt the detailed design accordingly.

## OBTAIN AGENCY APPROVALS – 2022

- Final approvals and permits to be obtained from LSRCA, MECP.

## CONSTRUCTION - 2023

- Construction currently planned for 2023.

**TO PROVIDE COMMENT, OR TO BE ADDED TO THE STUDY  
STAKEHOLDER LIST, PLEASE CONTACT:**

**Sabir Hussain, P.Eng.**

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Engineering Division  
Town of Aurora  
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Aurora, ON L4G 6J1  
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shussain@aurora.ca

**Robert Amos, P.Eng.**

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Mississauga, Ontario  
(905) 629-0099, ext. 294  
amos.r@aquaforbeech.com

# THANK YOU

**FOR PARTICIPATING IN THE WILLOW FARM LANE  
STREAM REHABILITATION PUBLIC INFORMATION  
CENTRE**