

Capital Line South Extension (Phase 1)

Century Park to Ellerslie Road

Project Overview

September 21, 2022



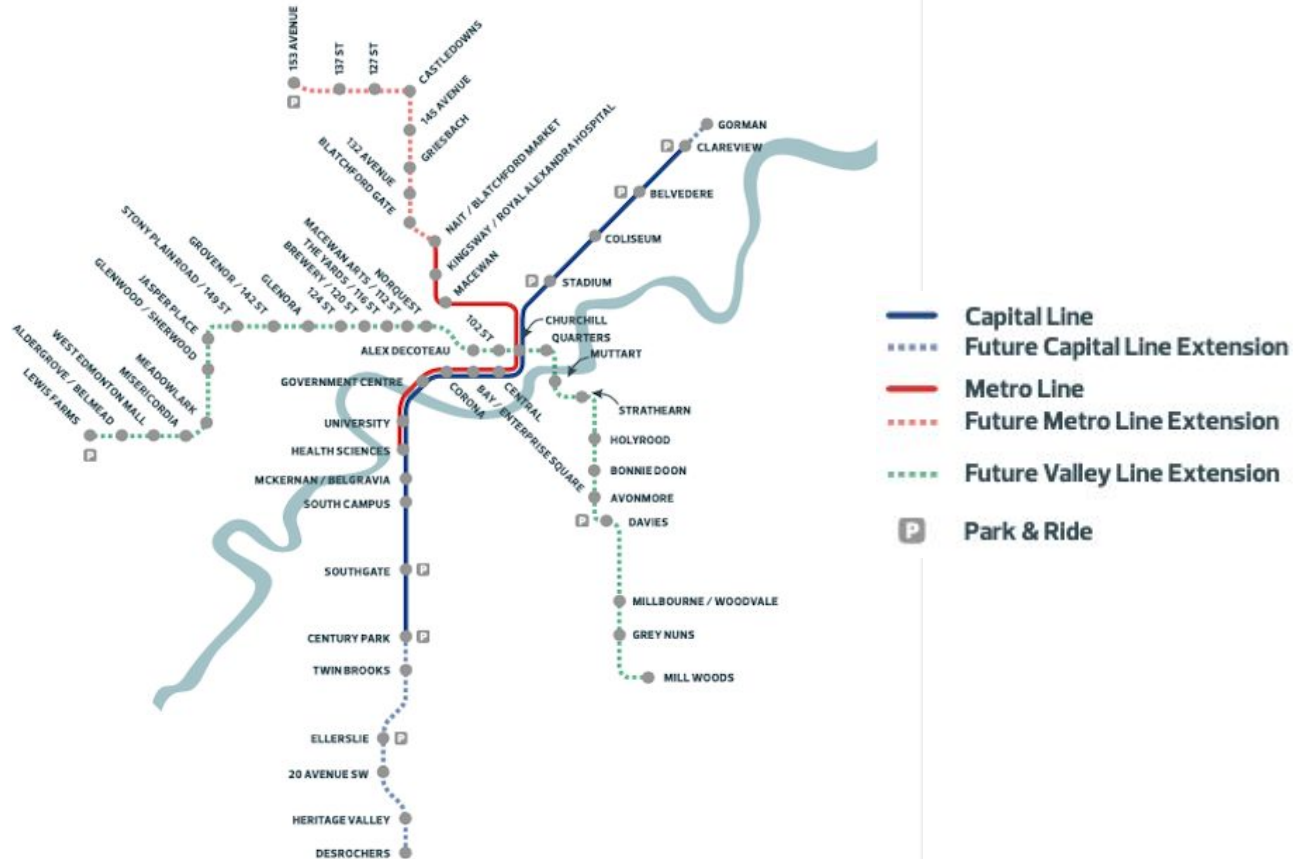
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Agenda

- Project overview
- Intersection crossings
- Noise study
- Visual screen fence
- Q&A

| Project overview

LRT Network Plan



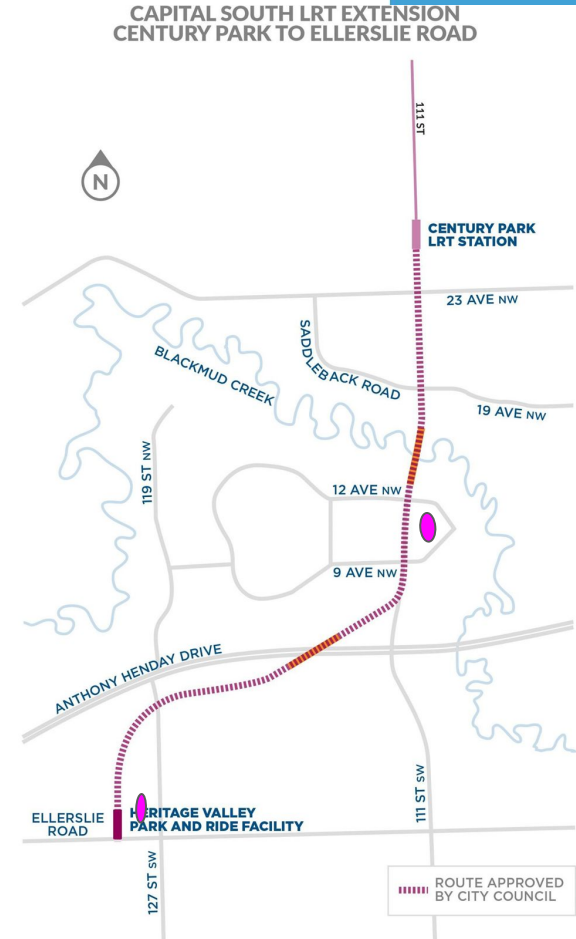
Project Overview

- Phase 1 - Century Park to Ellerslie Road
- Underpass at 23 Ave
- 2 stations (Twin Brooks and Ellerslie Road)
- 2 bridges (Blackmud Creek & Anthony Henday Drive)
- Operations & Maintenance Facility (south of AHD)
- 3 at-grade crossings
 - Saddleback Road, 12 Ave, 9 Ave

Project History

- Capital Line South Concept 2008 *
- Preliminary Design 2010 *
 - LRT track alignment & underpass at 23 Avenue
- Preliminary Design 2017-2018
 - Added Twin Brooks station and OMF *
 - Completed noise attenuation study (2018)
 - Public engagement
- Preliminary Design (updated) 2020
 - Ellerslie Road to Allard/Desrochers *

**Council approved*



Project Schedule

**WE ARE
HERE**

Early Works

Design-Builder
Procurement

Detailed Design &
Construction

Commission
and Operate

2022

2023

2024

2027/
2028

Schedule is subject to change once Design-Builder (DB) has been selected.

Edmonton

Early Works (2022-2023)

- Utility relocations
- Building assessments
- Visual screen fence
- Stormwater tunnelling and lift station (23 Ave & 111 Street)
- Operations & Maintenance Facility (OMF) site preparation
- Tree removals as required



Design & Construction (2024-2027)

- Design and construction will occur simultaneously
- Construction will take place at many locations at once
- Larger, more complex items will start early in the project
- Schedule (determined by DB contractor)
- Lane closures will occur (determined by DB contractor)
- Public notifications sent out as required
 - Sign up for ongoing email updates
- Testing & commissioning

Public Communications

Phase 1 (now):

- Led by City communications
- Website updates and mailouts, as required
 - **Go to edmonton.ca/capitalsw**
 - **Sign up to receive email updates**
- Public outreach, as required
- Community Advisory Committee (CAC)

Phase 2: After Design-Build contractor selection

- Led by DB Contractor (supplemented by the City)
- Website updates and mailouts, as required
 - **Sign up to receive email updates (eventually)**
- Public outreach, as required
- Community Advisory Committee (CAC)



Intersection Crossings

Intersection crossings

- LRT Crossing Assessment Framework (2017)
- Council approved process that identifies the level of need for a bridge or underpass at intersections the LRT will cross.
- Saddleback Rd, 12 Ave, 9 Ave did not meet the criteria for grade separation. Council approved this recommendation.

LRT Crossing Assessment Framework for LRT Grade Separations

Accessibility

How the various transportation modes link to one another and adjacent developments

Network Operations

How the surrounding and broader transportation network is impacted

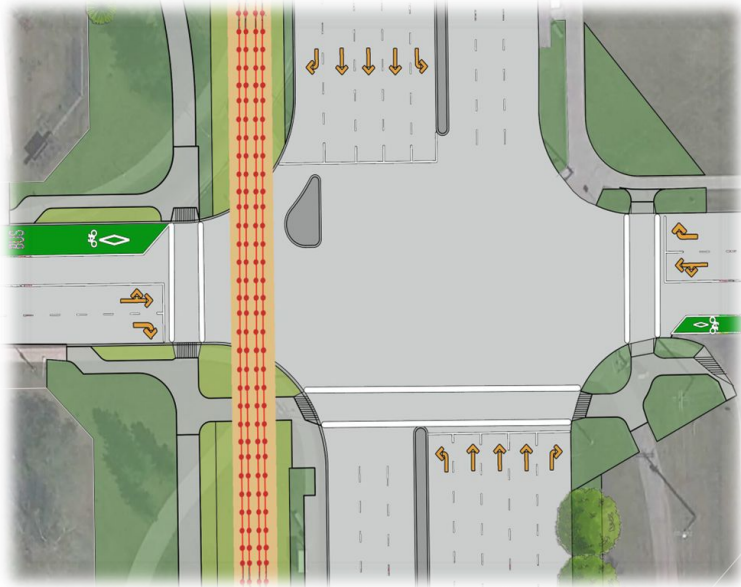
Urban Design & Social Environment

How the surrounding communities and stakeholders are impacted

Feasibility & Construction

Feasibility, construction costs and risk assessments

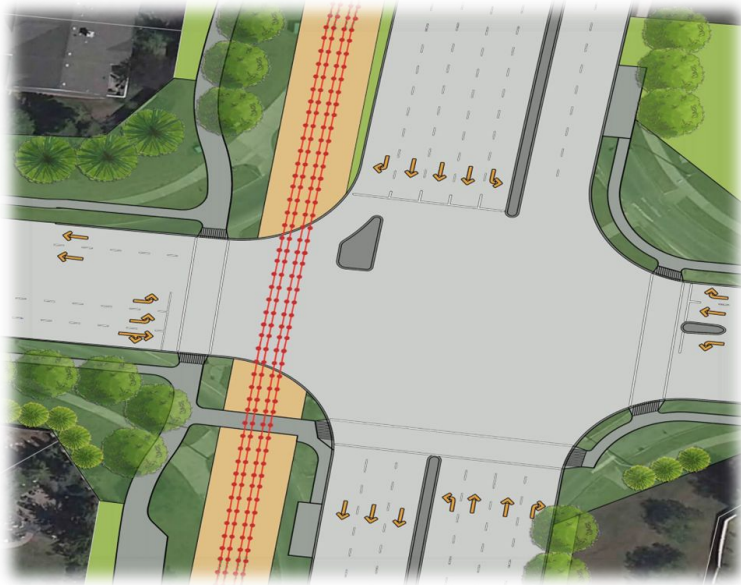
Traffic Modelling



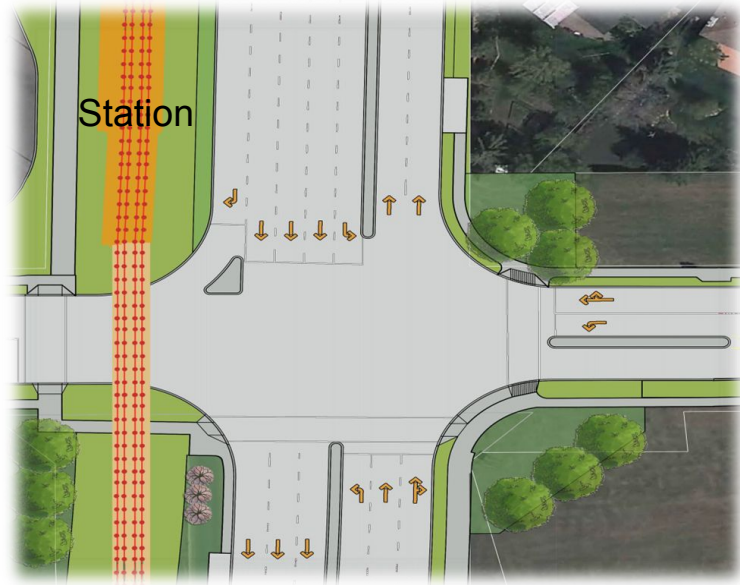
Saddleback Road and 111 Street
(2018 Preliminary Design; subject to change during detailed design)

- Traffic modelling software was used to:
 - Consider traffic, train and pedestrian movements for the short-term and long-term
 - Predict traffic volumes across Edmonton
 - Analyse intersection capacity
 - Model the LRT movement through the system
 - Model the flow of the LRT and traffic through the entire network

Traffic Modelling



12 Avenue and 111 Street
(2018 Preliminary Design; subject to change during detailed design)



9 Avenue and 111 Street
(2018 Preliminary Design; subject to change during detailed design)

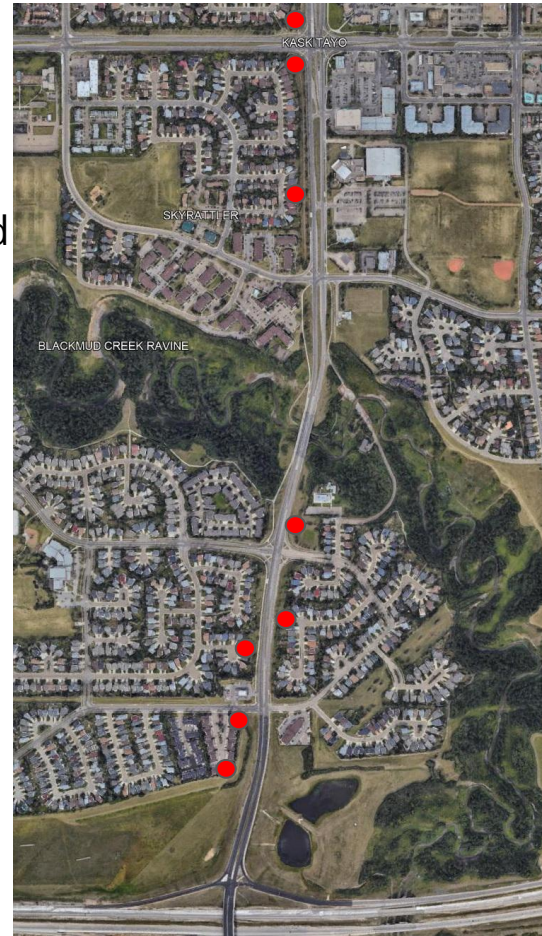
Noise Study

Noise Studies

- In 2009, an initial noise study was conducted
- In 2018, the noise study was updated.
- ACI conducted 8 noise monitorings:
 - 1 on public land
 - 7 in residential backyards



Example of noise monitor



Noise Monitoring Locations (red circles)

Noise Monitoring Methods

ACI uses specialized noise monitors to perform measurements from 24-48 hours.

Equipment:

- Sound Level Meter
 - Omni-directional microphone

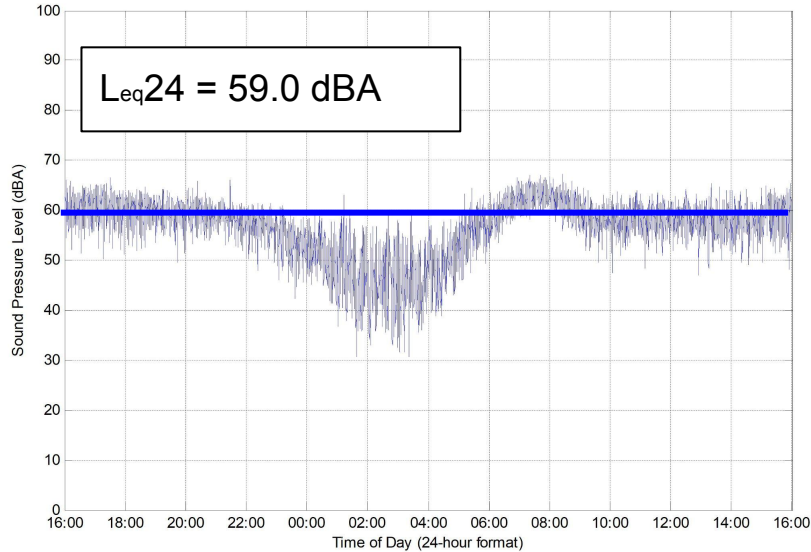
Conditions for Monitoring:

- Wind speeds are below 15 km/hr
- Monitor is downwind/crosswind from source
- No precipitation
- Only performed from Monday to Friday
- Performed from April to October (no snow)

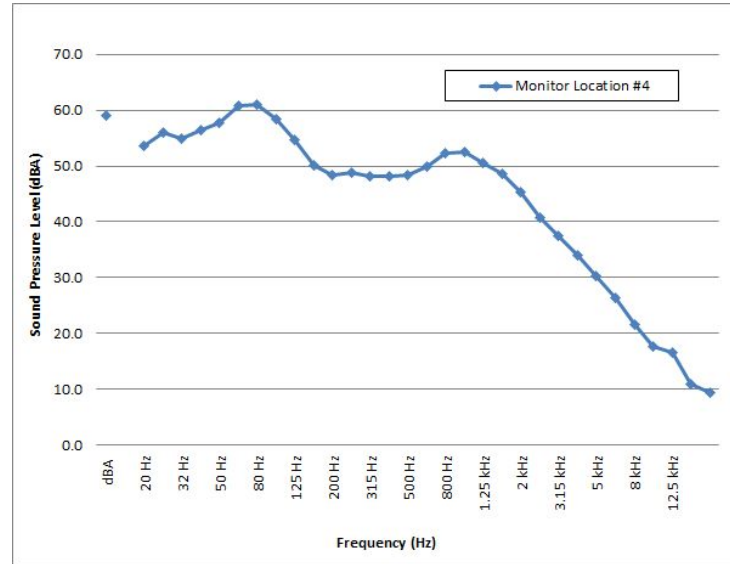


Example of noise monitor

Noise Monitoring Results



24-Hour Broadband A-Weighted Leq Sound Levels
(Loudness)

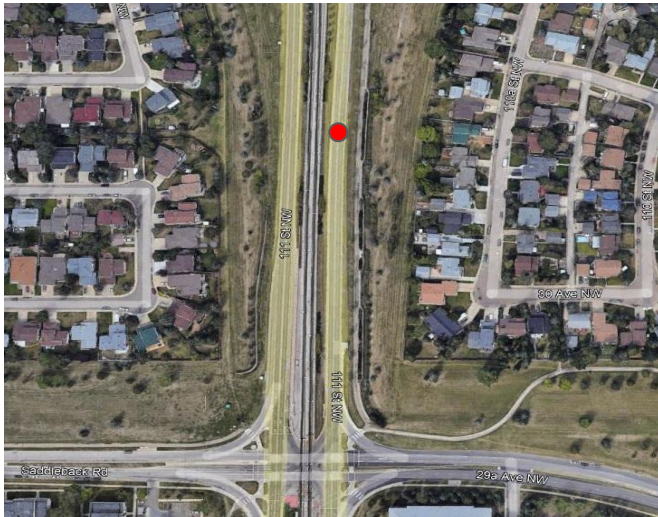


24-Hour 1/3 Octave Band Leq Sound Levels
(Frequency Content)

Noise Measurements of Existing LRT

In 2018:

- ACI conducted measurements of existing LRT Line



Noise Measurement Location (red circle)



Setup for Noise Measurement

Noise Modelling

Noise Modeling Software:

- CadnaA Noise Modeling Software
- ISO 9613-2 1996 - Acoustics - Attenuation of sound during propagation outdoors
- Considers:
 - Elevation contours, vegetation, etc.
 - Meteorological conditions

Noise Model Includes:

- Digital Drawings of Study Area (Current & Future)
- Traffic Noise Monitoring Data
- LRT Noise Data



Screen shot from CadnaA

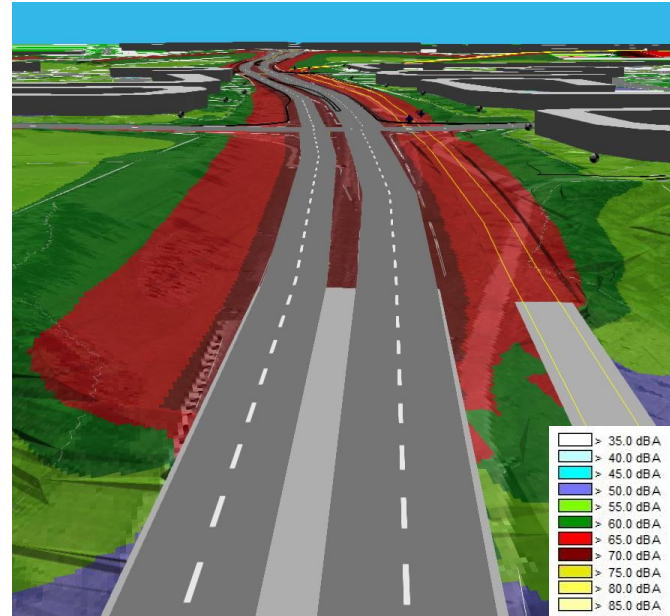
Noise Modelling Results

Noise Modelling Conditions (2018):

- Future Case
 - 2050 Traffic Projections
 - Proposed preliminary design alignment
 - Proposed topography

Results:

Noise ranged from **52.2-62.3** dBA L_{eq24} .



Screen shot from CadnaA

City of Edmonton Criteria

Urban Traffic Noise Policy (UTNP) C506A:

“The City of Edmonton will seek to achieve a projected attenuated noise level below 65 dBA Leq24 or as low as technically, administratively, and economically practicable, where any urban transportation facility (arterial roadways, light rail transit) is proposed to be built or upgraded through or adjacent to a developed residential area where private back yards will abut the transportation facility. Funding for noise attenuation, where appropriate, and subject to availability, is considered in the cost of the project.”

Since the noise ranged from **52.2-62.3** dBA, noise attenuation is not required.

Visual Screen Fence

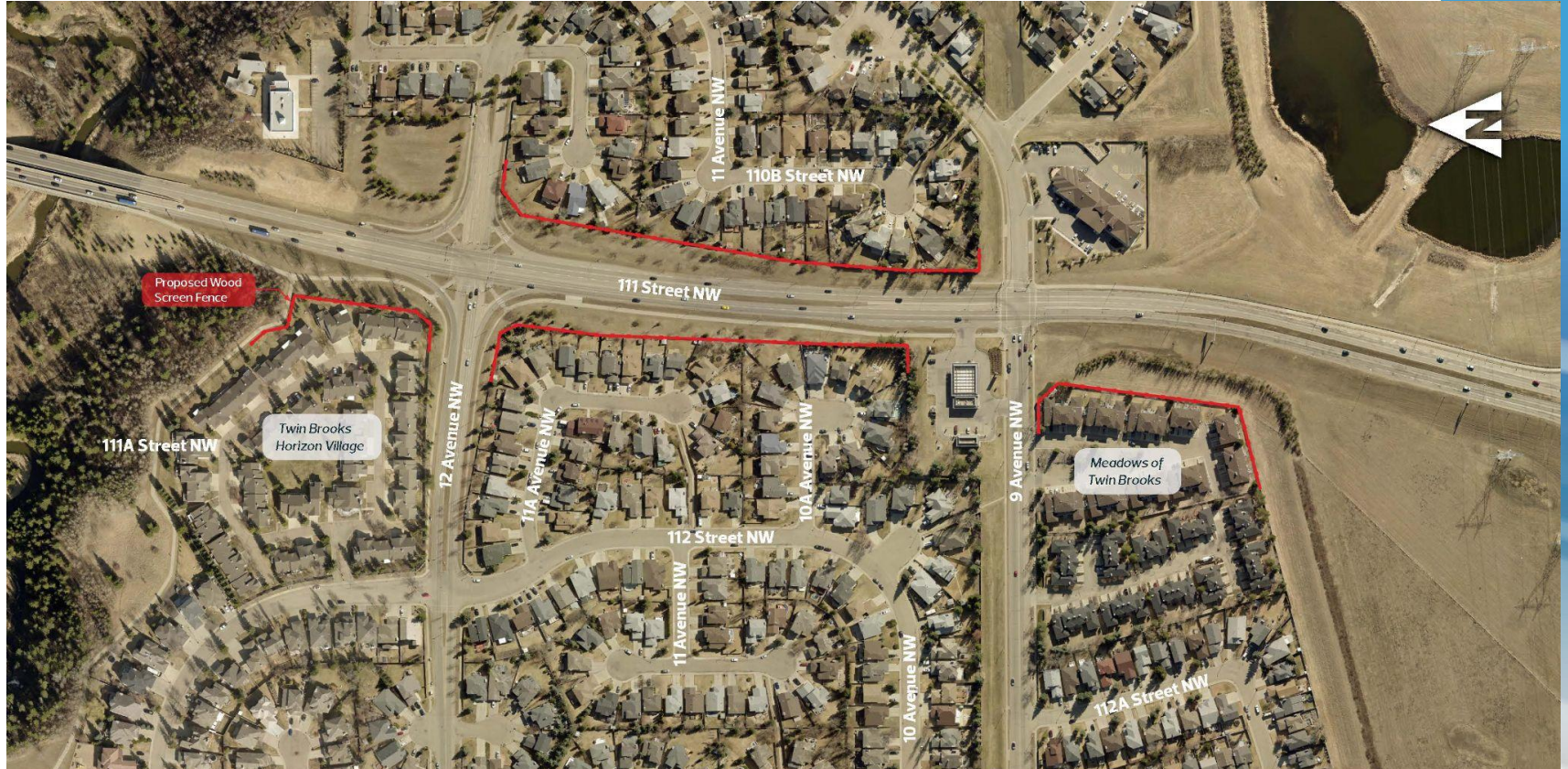
Visual Screen Fence - History

- 2010 - Visual Screen Wall
 - Decorative concrete wall proposed
 - Initial noise study completed
- 2018 - Visual Screen Wall
 - Noise study updated
 - No noise attenuation required (less than 65 dBA)
- 2022 - Visual Screen Fence
 - Wooden visual screen fence developed
 - Public outreach to obtain consent

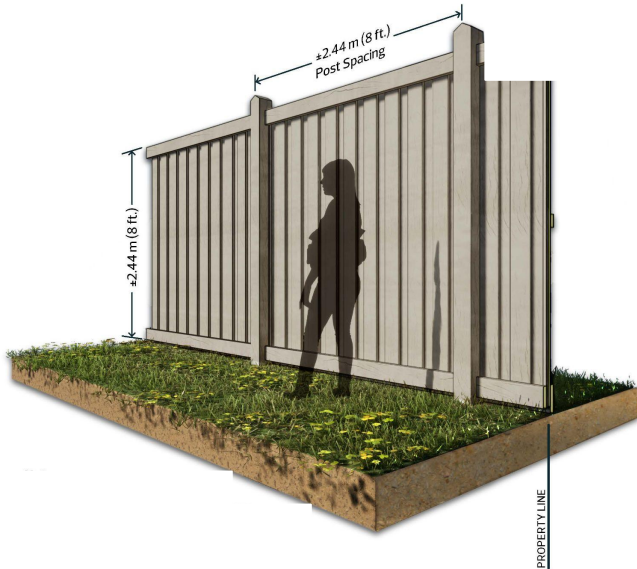
Visual Screen Fence - Proposed Location



Visual Screen Fence - Proposed Location



Visual Screen Fence



- New fence is optional
- Existing gates will be replaced
- New gate may be installed at property owner's cost
- Development permit applied and paid for by the City
- **Construction anticipated to start in spring 2023.**

Where are we today with Consent Forms?

- 64 property owners
 - Including 3 condo boards
- **56** consent forms signed so far

Thank you

- Keep your eye on edmonton.ca/capitalsw for updates:
 - On the website, sign up for ongoing email updates
 - LRT questions?
 - 780-496-4874 (voicemail)
 - lrtprojects@edmonton.ca
- Councillor Rice:
 - jennifer.rice@edmonton.ca
 - 780-496-8132
- Twin Brooks Community League:
 - president@twinbrooks.ca

