



Green Line Board March 2023 Public Progress Report

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1.0 Executive Summary

In March, Green Line finalized the 78 Avenue project tender package, and [the RFP was issued on March 9, 2023](#). The RFP will be closing on April 20, 2023, with target contract award date expected by the end of May 2023.

Light Rail Vehicle (LRV) factory inspection and testing is being carried out at CAF and their subcontractor facilities for components and systems of the LRV. For the month of March, bogie frame welding inspections were completed, HVAC unit qualification tests, and bogie primary suspension tests commenced.

CAF finalized the remaining subcontractors of the major components supply in March and The City has confirmation from CAF that there are no outstanding subcontracts to be awarded. This completes the major milestone in CAF Supply Agreement related to the Subcontracts.

Ongoing utility relocation works in Downtown and the Beltline continued through March (see detailed list of work in [Section 1.1](#)). Enmax successfully completed vault installation works in Beltline East (5 Street S.E.) and Downtown (3 Avenue S.W.), and Telus completed installation of a vault in Downtown (3 Avenue S.W.).

To facilitate the installation of new stormwater and sanitary infrastructure, the intersection at 11 Avenue S.E. and Olympic Way was closed in March. Area mobility plans were created in collaboration with all key partners with traffic and pedestrian detours put in place to support local travel between Ramsay, East Village and Beltline, as well as during major events in the area.

Green Line met with 25 representatives from Downtown property management companies on March 22 to provide a project update and share information about upcoming BDURP construction activity. As construction progresses, regular updates to property managers will be provided to ensure that we collectively are helping their tenants to prepare for potential construction impact.

1.1 March Construction Highlights

Procurement of the 78 Avenue SE project was initiated with issuing the RFP and a proponents' meeting was held on March 21, 2023, followed by a site visit. Upon successful completion of the RFP process and award of the contract, the construction is expected to begin later this summer with the project completion date set for June 30, 2025.

Construction activities in Beltline and Downtown continued during the month of March. Green Line continues to work to minimize construction impacts to the travelling public and coordinate construction activities among third-party utilities, PCL who is managing BDURP construction activities on behalf of Green Line, and The City's Mobility business unit.



Bogie frame fabrication and welding inspections underway, the bogie will form part of the larger wheel set for the new trains (where motors, wheels, brakes, and suspension are attached).

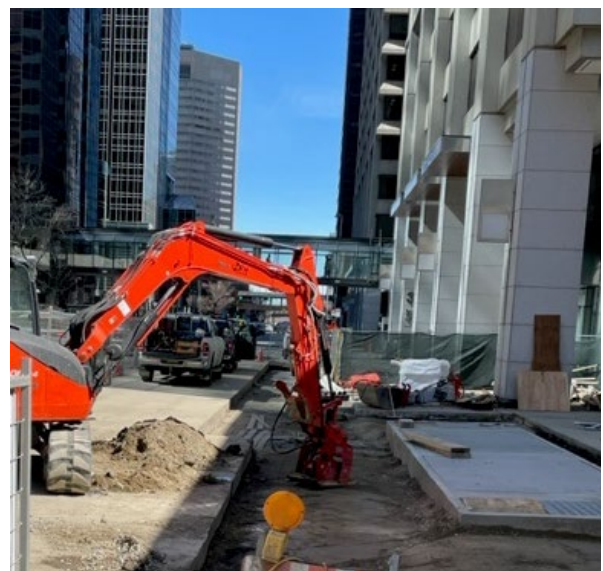


Shallow utility relocation work (such as third-party telecom, electricity, and gas utilities) continues within Beltline and Downtown, in addition to engineering design works for the remaining shallow utility work. Deep utility relocation works in Beltline include City sanitary, water and stormwater utilities. The following utility relocation work in the Beltline and Downtown continued during March with a look ahead at planned construction activity for the month of April:

Beltline		
Construction activity	March	April
Installation of deep utilities on 12 Avenue, east of 5 Street S.E.	Underway	Continues
Enmax vault installation work on 5 Street, north of 12 Avenue S.E.	Completed	-
Installation of a new sanitary and storm manhole on Olympic Way, north of 12 Avenue S.E.	Started	Continues
Installation of a new sanitary and storm lines along Olympic Way, between 12 Avenue and 11 Avenue S.E.	Started	Continues
Transmission Line relocation work in 10 Avenue S.W. between 2 Street S.W. and MacLeod Trail S.E.	Started	Continues
Downtown		
Construction activity	March	April
Telus duct bank relocation work on 4 Avenue between 1 Street and 2 Street S.W.	Underway	Continues
Enmax duct bank relocation works at: <ul style="list-style-type: none"> • 7 Avenue between 2 Street and 1 Street S.W. • 1 Street between 7 Avenue and 2 Avenue S.W. 	Underway	Expected completion
Enmax vault installations on 5 Avenue S.W.: <ul style="list-style-type: none"> • east of 2 Street S.W. • west of 2 Street S.W. 	Underway	Continues
Telus vault installation on 3 Avenue, west of 2 Street S.W.	Completed	-
Telus duct bank installation work on 6 Avenue between 1 Street and 2 Street S.W.	Started	Continues
Enmax duct bank installation work along Bow River Pathway, west of 2 Street S.W.	Started	Expected completion



Looking north at deep utility relocation work in Olympic Way S.E., north of 11 Avenue S.E.



Looking east at Enmax vault installation at 2 Street S.W. and 5 Avenue S.W.



1.2 Program Status Dashboard

The table below provides the program status dashboard update for March 2023, including the overall program status and a comparison to the previous month.

Functional Area	March Status	February Status	Comments
Health & Safety	●	●	<ul style="list-style-type: none"> There were three property damage incidents in March 2023. The GL safety audit action plan is being finalized to advance continual opportunities for improvement identified in the External COR Audit report.
Environmental	●	●	<ul style="list-style-type: none"> There were no environmental incidents in March 2023. As part of the land acquisition process, the site-specific limited Environmental Site Assessments (ESA) are complete with final reports expected in April.
Stakeholder Relations	●	●	<ul style="list-style-type: none"> Connected with 380 businesses, residents, and key partners in March 2023 (238 in February 2023). Communicated the release of the 78 Avenue RFP and detours and road closures in East Beltline.
Schedule	●	●	<ul style="list-style-type: none"> Phase 1 DBF-DP RFP activities are on schedule. BDURP construction key milestones are on schedule.
Cost	●	●	<ul style="list-style-type: none"> Green Line continues to proactively monitor program costs. Appropriate mitigation measures for key risks continue to be identified and implemented.
Quality	●	●	<ul style="list-style-type: none"> Program Quality Management Plan implementation continued with ongoing oversight of design quality management, BDURP construction works, and LRV Supply project quality compliance.

*Definitions of the dashboard statuses can be found online in the [Monthly board report and financial summary legend](#).

1.3 Financial Summary as of March 31, 2023

Green Line continues to monitor the financial position of the program.

Category	Committed Cost	Cost to Date	Cost Year to Date
Owner's Cost	\$84,538,702	\$84,060,232	\$4,094,114
Design & Engineering	\$296,928,260	\$278,506,342	\$10,007,107
Construction, Land & Other Assets	\$541,367,826	\$471,496,719	\$15,733,796
Bus Rapid Transit	\$4,646,940	\$4,645,783	\$2,487
Grand Total	\$927,481,728	\$838,709,076	\$29,837,504

*Details on specific inclusions can be found online in the [Monthly board report and financial summary legend](#).



1.4 Milestone Schedule

Upcoming milestones and achievements for the Green Line program include:

- **Q2 2023** – Completion of outstanding clarification on the LRV Preliminary Design Review (PDR) Submissions
- **Q2 2023** – Inspections and tests for LRV:
 - **March 2023**: Testing for bogie primary suspension commenced (ongoing)
 - **April 2023**: Roof water tightness testing, underframe and carbody inspections
 - **May 2023**: Axle journal bearing testing
- **Q2 2023** – Execution of the Master Transaction Agreement and Major Closing Documents for the Eau Claire transaction with ECMI
- **Q2 2023** – Phase 1 DBF-DP Development Phase to begin

1.5 Risk Management

Risks are continually monitored by Green Line, some key risk items from March 2023 that are being addressed are:

- Green Line continues to monitor financial market changes due to the current economic climate. Regular external due diligence is ongoing to identify, evaluate and validate information and assumptions.
- Utility relocation works in Beltline and Downtown are ongoing in busy traffic corridors, which has a potential to significantly impact travelling public and pedestrians. Green Line continues to proactively engage and notify stakeholders of potential construction related impacts (e.g., road closures) and is working actively with City business units on a regular basis to optimize traffic control, lane closures, and assist with traffic management in Beltline and Downtown overall.

1.6 Stakeholder Relations

BDURP construction continues in Beltline and Downtown with coordinated traffic and pedestrian detours in place to maintain area access. To facilitate the installation of new stormwater and sanitary infrastructure, the intersection at 11 Avenue S.E. and Olympic Way was closed in March and traffic and pedestrian detours were put in place to support local travel between Ramsay, East Village and Beltline, as well as during major events in the area. The team worked collaboratively with CMLC, the Calgary Stampede, Calgary Sports and Entertainment (CSEC) and the City's Mobility team to develop the plans and ensure that Calgarians were prepared for the closure and detour. The intersection will remain closed through to June 2023.

On March 22, Green Line met with 25 representatives from Downtown property management companies to provide a project update and share information about upcoming BDURP construction activity. The information was well-received, there was an opportunity for Q&A, and Green Line has committed to ongoing regular updates as BDURP work progresses.

In addition to the thirteen (13) construction notices sent to more than 104 stakeholders in Beltline and Downtown during the month of March, direct stakeholder outreach for March 2023 is summarized below. There was a significant increase in business outreach as Green Line works to complete the business registry for Beltline and Downtown.



Outreach Activity	Activity (March)
Business outreach*	345
Residential/property outreach*	9
Key stakeholder/partner meetings	26
Email/social/311 requests	20
Information sessions/events	1

* Outreach includes calls, meetings, and on-site visits.

March Website Metrics

Updates to the website in March included the release of the RFP for the 78 Avenue Project, updates to the Construction section to explain road closures and detours in Beltline East, and new information about the North Central BRT project. The table below provides an overview of the most viewed webpages in March.

Top 10 Pages in March	Unique Page Visits	Number of Page Views	Average Time on Page
Home	5,854	7,350	1:36
Map	4,158	4,971	3:39
Construction	1,583	2,149	2:09
Future Stages	1,125	1,399	2:22
Station Details	866	1,291	3:46
RFP released – 78 Ave project	859	973	1:50
Procurement Status	841	1,042	4:07
Planning	756	931	0:39
Construction Impacts	639	875	3:31
Utility Relocation Project	419	570	5:01
Total	11,752	29,297	

2.0 Health & Safety

Green Line monitors safety compliance by Green Line staff, consultants, and contractors at construction sites.

The following three property damage incidents occurred in March 2023 and were addressed immediately:

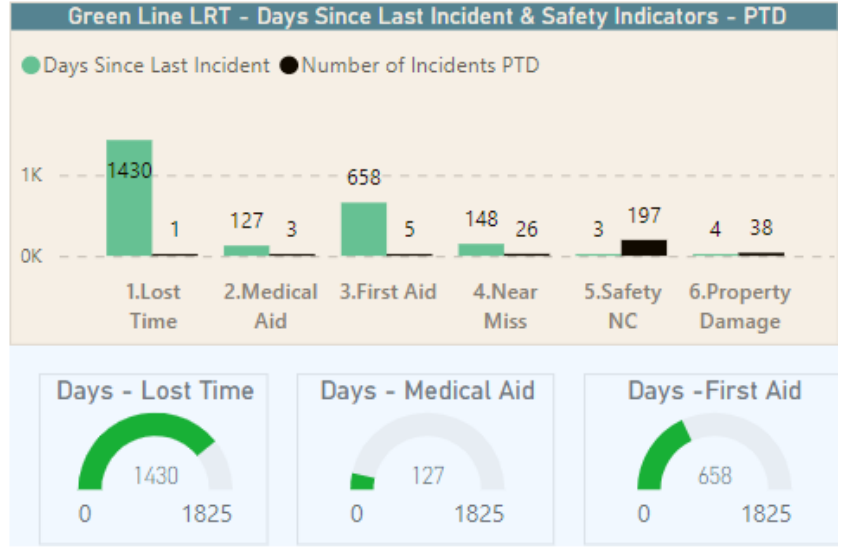
- The first incident occurred on March 20 in Beltline East when a subcontractor to the CM Contract hit Telus duct bank during installation of piles for support of excavation work at the intersection of Olympic Way and 11 Ave S.E. Before start of the drilling operation, the contractor verified the presence of the duct bank but contact with the Telus duct was still made during the piling operation. Telus had previously advised that the duct bank was abandoned but active wires were found in the duct bank. Telus later advised that their record was incorrect.
- The second incident also occurred on March 20 in Downtown, when Enmax’s subcontractor’s construction equipment made contact with the +15 bridge while performing excavation work on 1 Street S.W., north of 5 Avenue S.W. The incident resulted in a scratch at the bottom of the bridge’s metal cladding.



- The third property damage incident occurred on March 27 in Beltline East when a subcontractor to the CM Contract hit an 1,800 mm storm main during installation of piles for support of excavation work at the intersection of Olympic Way and 11 Ave S.E.

All incidents are being investigated and Green Line is following-up with the respective contractor and Third-Party utilities to identify and understand the root causes that led to these incidents and implement measures to address them moving forward. Safety remains a focus for Green Line as BDURP construction activity continues in the Beltline and Downtown areas.

Safety Targets include zero Lost Time Incidents (LTI's) for all Green Line related work, compliance with monthly inspections on enabling works, requirement to input all safety records into the Green Line database, maintaining joint Occupational Health & Safety committee representation, and performing safety audits.



PTD = Program to Date

Table 1: Overview of Safety Metrics as of March 31, 2023

This chart represents the Program to Date (PTD) safety metrics.

Safety Audit

In March, a safety audit action plan was drafted based on the opportunities for improvement identified in the external 2022 COR audit report and is being reviewed by management.

Green Line staff continues to work with an external consultant to audit the CM Contractor's Safety Management System.

Safety Reporting

Table 2: Green Line Safety Incident Frequency Statistics				
Performance Indicator		Green Line & City Staff	Contractors	Green Line, City Staff & Contractors
TRIFR: Total Recordable Injury Frequency Rate	per 200,000 hrs	●	●	●

**Statistics based on a rolling 12-month period from March 31, 2022, to March 31, 2023*