ASHBRIDGES BAY
MAINTENANCE &
STORAGE FACILITY

Ashbridges Bay
Maintenance & Storage Facility for New Streetcars

Update to Portlands Action Committee

March 24, 2011

www.toronto.ca/involved/projects/lrv/

TORONTO TRANSIT COMMISSION

TORONTO

Presentation Overview

- Toronto's new streetcar
- Project Status
- Soil Removal Plans
- Leslie Street Design
- Next Steps

Why Do We Need a New Maintenance & Storage Facility (MSF)?

- New streetcars are twice as long as the current CLRVs and cannot be maintained at existing facilities.

- Equipment on new streetcars is located on the roof which will require overhead platform or scaffolding at the new facility.

- Insufficient amount of storage track at Roncesvalles and Russell carhouses.

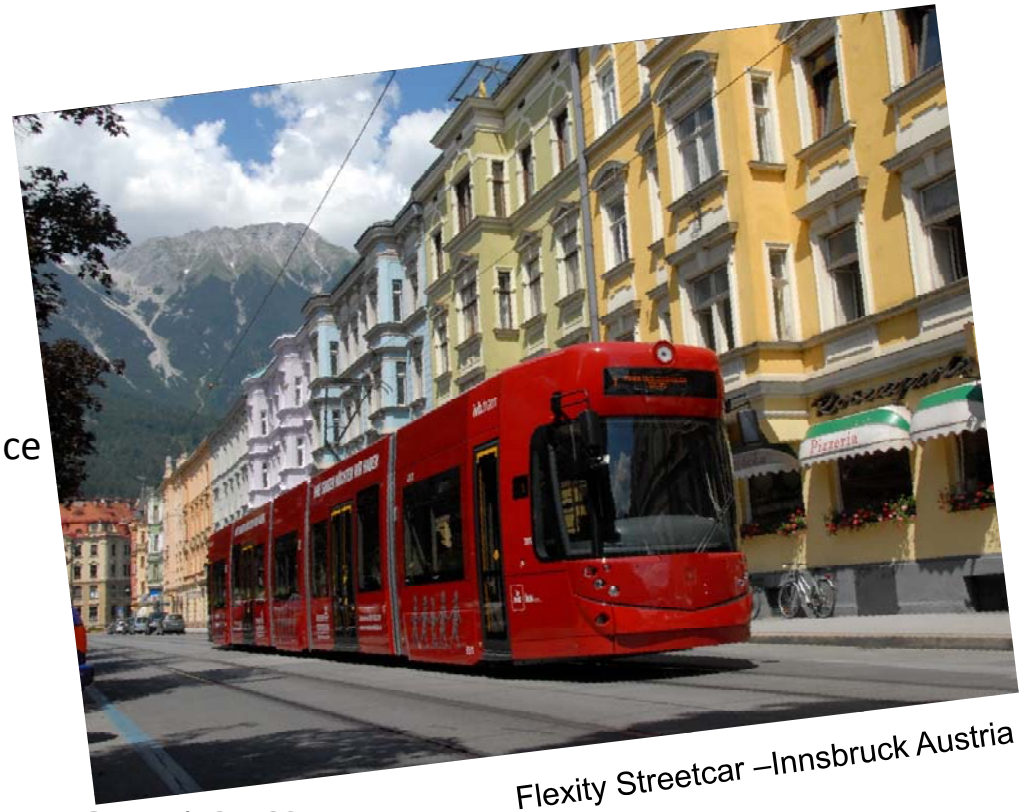
- Roncesvalles and Russell carhouse can store approximately 50 streetcars at each facility, including minor repairs/daily cleaning.

Meeting Ridership Demand

- Increase capacity by 35% and accommodate growth for 20 years.
- Boarding times to be shortened with new multiple doors.
- 204 new vehicles will offer more overall capacity than the existing fleet, allowing us to meet the demand experienced on current busy routes.

The New Flexity Outlook

- Almost double the carrying capacity as the current CLRV
- Multi-door boarding
- Multi-propulsion system in case of break down (limp home feature)
- 100% low floor
- Accommodates bicycles/strollers
- Air conditioned
- New fare collection system to reduce line-ups



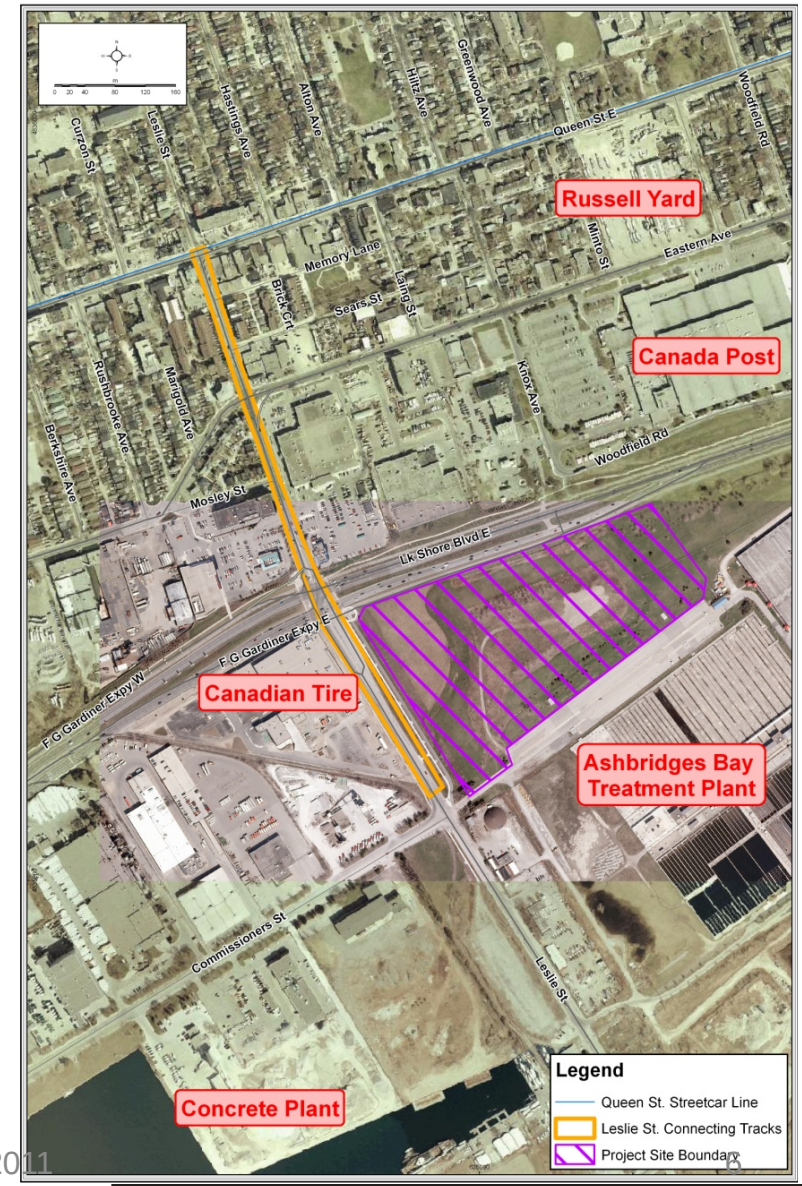
Flexity Streetcar –Innsbruck Austria

Project Status

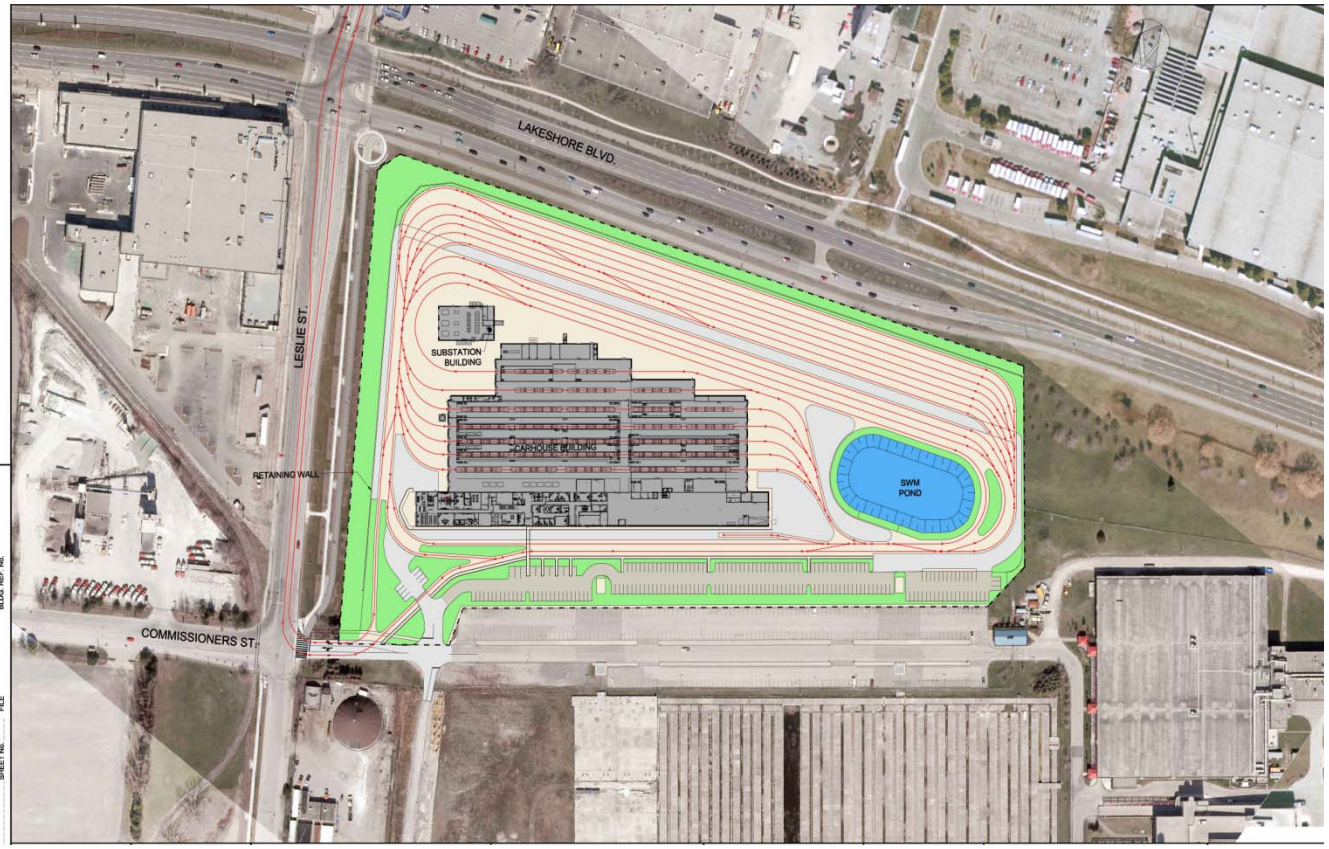
- Approved by TTC Commission on June 2, 2010
- Approved by City Council on June 9, 2010
  - Facility to maintain 204 LRVs and store 100 LRVs
  - Non-revenue service track required to connect the MSF to the existing streetcar network along Leslie Street (currently under review)
  - Commitment for an Enhanced Landscape Design around the facility and along Leslie Street to Queen Street

Commission meeting February 2, 2011

- Staff to explore off-site storage
- Continue to look at route re-allocations



Site Layout



Layout Features:

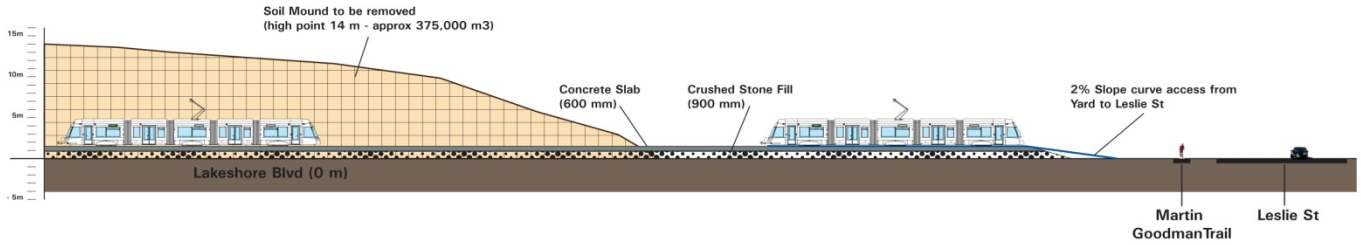
- Store up to 100 LRVs.
- Includes a main building with a green roof designed in accordance with Toronto Green Standards, and an electrical substation.
- On-site stormwater management pond.
- Approximately 470 employees to work at the facility.
- The facility will include the following activities: daily servicing and cleaning, preventative and corrective maintenance.
- The majority of the LRVs will leave and return to the site outside of rush hour periods.

Landscape Design Program

- Over 400 new trees within the site
- Majority of new plantings will be native species
- Landscape design competition will produce an inviting area for cyclists, pedestrians and other trail users
- Design will integrate with the existing Martin Goodman Trail
- Brown and Storey Architects working on detailed design

Soil Removal

Ashbridges Bay Soil Removal Illustration
Cross-sectional View from Lakeshore Blvd



Prepared by Ashbridges Bay MSF Project Team, TTC. Jan 2011

Environmental Investigations

- Extensive sampling and testing in 2009-2010 by AMEC Earth & Environmental
  - 33 boreholes
  - 21 test pits
  - Monitoring Wells
  - Soil Vapour Probes

- Specific Studies / Programs
  - Waste Content
  - Phase I &II Environmental Site Assessment
  - Dust Control and Air Monitoring

Soil impacts within the Soil Mound

- Metals (mainly Lead, Zinc, Arsenic, Cadmium and others)
- Polycyclic Aromatic Hydrocarbons (PAHs) - such as cinders, ashes
- Petroleum Hydrocarbons (PHCs) - such as oil, gasoline/diesel
- PCBs (trace amounts, <10 ppb)
- Volatile Organic Compounds (VOCs) – trace amount of solvents (xylenes, ethylbenzene, etc.)
- Construction Debris – concrete, metal, plastic, wood from project in the area

Wood and concrete debris mixed with soil and cinders.

Similar Soil Removal Projects in Toronto

- Excavation and removal of the type of contaminants at Ashbridges Bay is fairly common in Toronto
  - City Place Condo and town house development
  - Canada Packers redevelopment –St.Clair Ave West
  - TTC Mount Dennis Bus Garage
  - Victoria Park Subway Station Redevelopment
  - West Donlands development for the Pan Am games

MOE Standards

- Extensive soil sampling and testing carried out at site
- Worst case samples selected for testing
- Contaminant concentrations measured at site are considered "Non hazardous" according to MOE Standards

Hazardous vs "*Non Hazardous*" (according to MOE Standards)

- Hazardous – single exposure may be harmful
- Impacted, "non-hazardous" – time weighted, continuous & longer term exposure only may be harmful
- Exposure – (concentrations and exposure pathways depend on contaminant) can be direct contact, inhalation/ingestion or vapours
  - Example: no soil vapours from arsenic impacted soils, but ingestion harmful

Soil Removal

- Direct excavation planned for April 2011
- Removed offsite by Truck
  - Larger vehicles will minimize number of trips
- Truck Routing Options being finalized – non residential
- Disposal locations limited to MOE licensed landfills

Dust Control

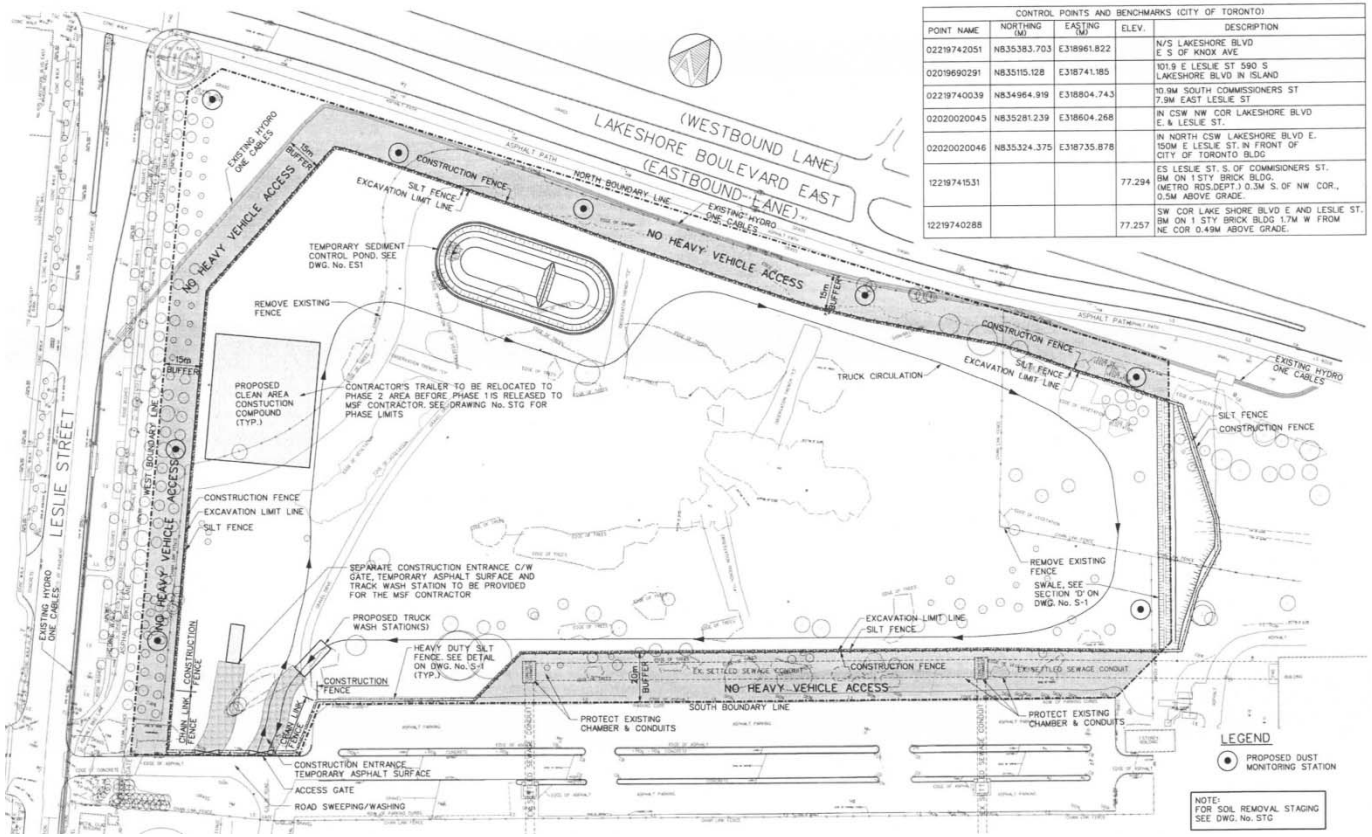
- Dust suppression methods
  - wetting soil with water misters or MOE approved dust suppressants (Standard technique during soil remediation)
- Silt fencing installed for sediment control
- Vehicles tarped
- Truck tires washed prior to leaving site
- Street cleaning carried out should any soil be tracked off-site

Air and Dust Monitoring Stations

- Eight monitoring stations around the perimeter of the site
- Regular reporting of total suspended particulates and interpretive analysis.
- Dust sampling 24 hrs/day 7 days a week
- Wireless, audible alarms notify site security should dust levels approach thresholds

Air and Dust Monitoring Units

Locations of Air and Dust Monitoring Stations



CONTROL POINTS AND BENCHMARKS (CITY OF TORONTO)

POINT NAME	NORTHING (M)	EASTING (M)	ELEV.	DESCRIPTION
02219742051	N835383.703	E318961.822		N/S LAKESHORE BLVD E S OF KNOX AVE
02019690291	N835115.128	E318741.185		101.9 E LESLIE ST 590 S LAKESHORE BLVD IN ISLAND
02219740039	N834964.919	E318804.743		10.9M SOUTH COMMISSIONERS ST 7.9M EAST LESLIE ST
02020020045	N835281.239	E318604.268		IN CSW NW COR LAKESHORE BLVD E. & LESLIE ST.
02020020046	N835324.375	E318735.878		IN NORTH CSW LAKESHORE BLVD E. 150M E LESLIE ST. IN FRONT OF CITY OF TORONTO BLDG
12219741531			77.294	ES LESLIE ST. S. OF COMMISIONERS ST. BM ON 1 STY BRICK BLDG. (METRO RDS.DEPT.) 0.3M S. OF NW COR., 0.5M ABOVE GRADE.
12219740288			77.257	SW COR LAKE SHORE BLVD E AND LESLIE ST. BM ON 1 STY BRICK BLDG 1.7M W FROM NE COR 0.49M ABOVE GRADE.

Air Quality Monitoring

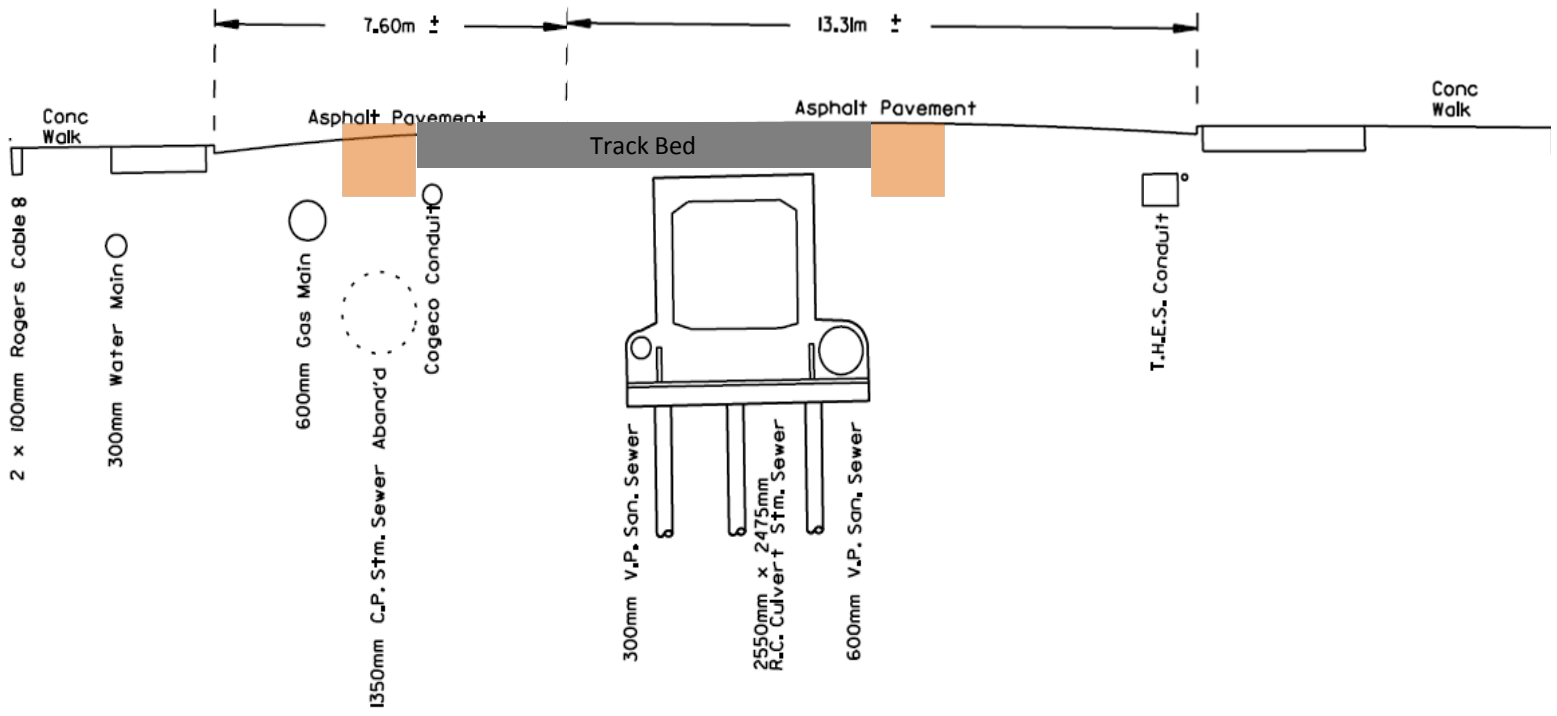
- Air quality monitoring carried out at the site
- Samples (running air pump)collected over 24 hour periods for total particulates(dust), heavy metals, PAHs.
- Staff on-site during soil removal to monitor and sample the soil/dust conditions.
- Sampling planned to be carried out on a regular basis
- Provided results indicate sufficient dust control has been and is being implemented by the contractor, regular tests still undertaken **throughout project**
- Dust monitors connected to audible alarm at construction trailer

Leslie Street Connection Track*

- Detailed review underway to ensure that utilities can co-exist with track bed
- 800 metres of new Connection Track along shared roadway use i.e. mixed traffic
- Design will address EA requirements for noise and vibration levels
- Existing roadway in complex urban area with many existing utilities
- Utility re-locates and/or changes will be required
    - Analysis and design underway:
        - Storm Water Sewer
        - Gas
        - Hydro
        - Telus

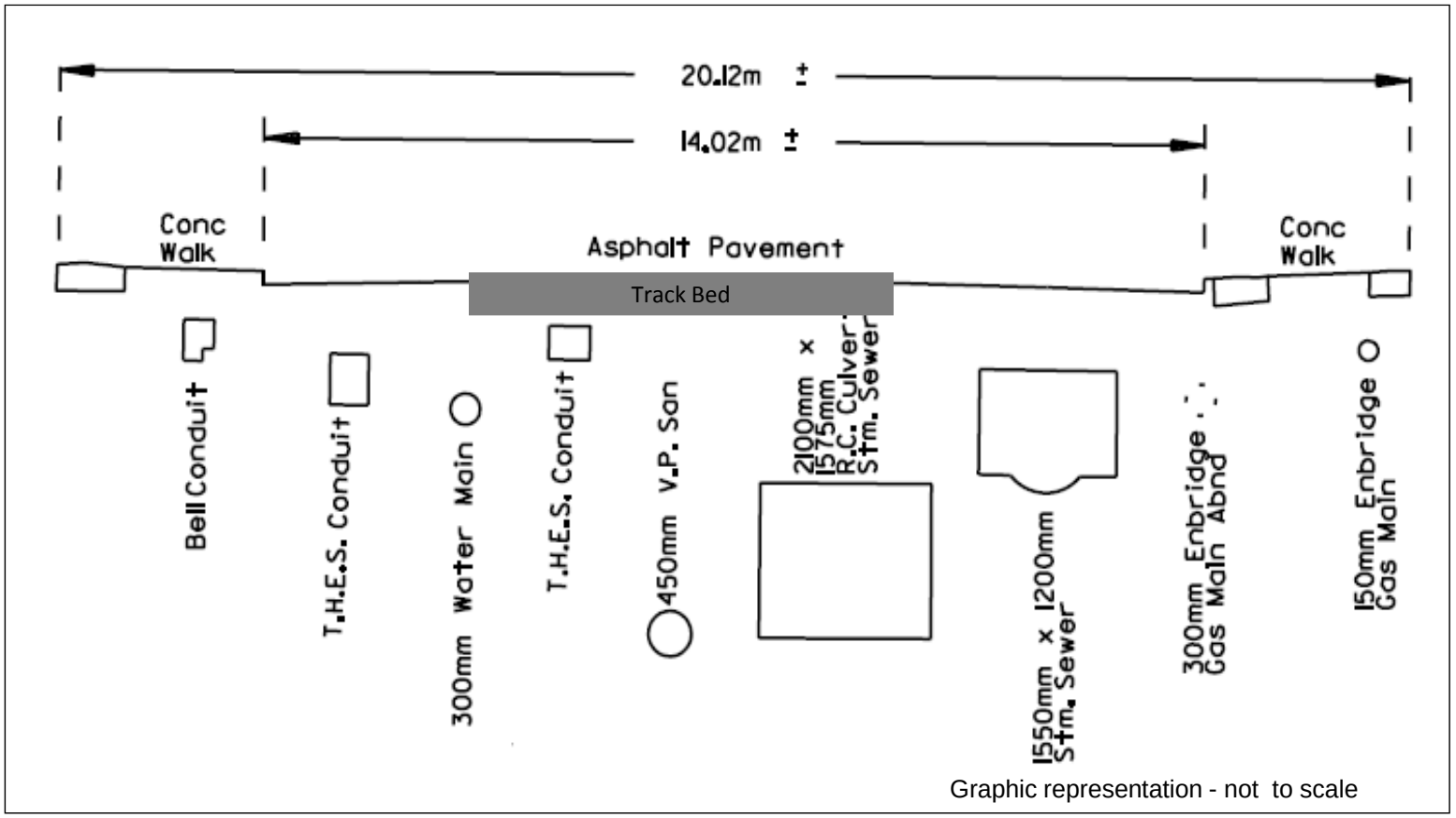
*** currently under review**

Leslie Street
Existing Conditions – South of Lake Shore Boulevard



Graphic representation - not to scale

Leslie Street
Existing Conditions – North of Lake Shore Boulevard



Next Steps

• April , 2011	Soil removal begins Launch Construction Liaison Group
• Early Summer, 2011	Report to Commission on connecting track and off-site storage allocation
• Summer, 2011	Commence MSF construction First Prototype vehicle arrives
• Spring 2012 - 2013	Commence connection track construction
• December 2013	Complete MSF and connection track construction Vehicles begin arriving (approx 36 per year)

EXTERIOR PERSPECTIVE FROM LAKE SHORE BOULEVARD LOOKING SOUTH-WEST
(concept subject to change)

Communication

For more information:

www.toronto.ca/involved/projects/lrv

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