

# New Approach to Construction Management

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Info Sheet:

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The GO Expansion program will require a large number of construction staging and laydown areas over an extended period of time. Metrolinx understands the importance of addressing and mitigating construction impacts and is developing a new approach to managing construction staging and laydown areas. This approach looks at the best practices and will help minimize environmental risk without unduly affecting our surrounding communities, natural areas, as well as project cost and schedule.

This Info Sheet describes:

- What are construction staging and laydown areas?
- Why the new approach?
- What are the best practices in managing construction staging and laydown areas? Including:
  - Construction Planning
  - Site Preparation
  - Storage Piles
  - Material Handling and Transfer Operations
  - Road Surfaces
  - Vacant Lots
  - On-site Fabrication Processes
  - Diesel and Gasoline Powered Equipment

## What are construction staging and laydown areas?

A construction staging and laydown area is used for the storage and assembly of construction equipment, materials, and other supplies. These areas are typically located near or at the construction site.

Metrolinx considers construction staging and laydown areas as part of:

- *Temporary Access Lands* that are included in the project study area and are selected, investigated, and evaluated by Metrolinx as part of the study; or
- *Optional Lands* that are outside of the project study area and are proposed by a private enterprise bidding to work or working on the study (a Project Co). If selected, Metrolinx or a Project Co conducts an environmental investigation and evaluation. If suitable, these lands are leased and/or acquired by Metrolinx.



## Why the new approach?

As part of its new approach, Metrolinx will require a Project Co to develop a Construction Staging and Laydown Area Plan for each *Optional Land*. The Plan should be based on best practices and help achieve the following:

- Minimize pollution, including air, noise, vibration, and light;
- Minimize impact on trees, vegetation, and local ecosystems;
- Minimize traffic impacts for trains, cars, pedestrians, and cyclists;
- Minimize visual / aesthetic impacts; and
- Stay on time and within budget.

A Construction Staging and Laydown Area Working Group (CSLAWG), led by a senior Metrolinx representative, will review and approve each plan prior to acquisition or lease of each *Optional Land*. Once construction begins, the CSLAWG will meet monthly to revisit and review the plan during the entire life cycle of the project.

## What are the best practices in managing construction?

The best practices Metrolinx is exploring include:

### Construction Planning

- Identify all adjacent Sensitive Receptors (e.g., hospitals, old age homes, day care facilities, schools, residences, and wildlife) that will require environmental protection from construction related air emissions.
- Plan a layout of construction sites for minimum air quality impacts for adjacent Sensitive Receptors. Planning includes but is not limited to the selection of access roads, site entrances and exits, and staging and laydown sites.
- Before construction commences, select methods, operations, materials, and equipment to minimize air pollution.
- Minimize road traffic congestion by reducing the duration of traffic interference with higher production rates and off-site fabrication.
- Minimize frequency of equipment and materials deliveries by judicious forward planning.
- Employ full-time, professional air quality management experts to develop and implement its Air Quality Management Plan. Experts will be available to address any and all Metrolinx enquiries throughout the duration of the project.



### Site Preparation

- Prepare an Arborist Report that identifies all trees and designated natural areas within the construction staging and laydown area. The Arborist Report will also identify all trees that require removal or preservation, and trees that may be injured as a result of construction.
- Develop an ecological compensation plan and obtain all necessary permits and approvals in accordance with existing regulations, by-laws, and policies.
- Keep vegetation intact until just prior to construction occurring on that segment of the construction site.
- Use temporary wind fencing for projects with a fixed geographical location and duration of over one year. Fencing should be 1 - 2 metres high, have a porosity of 50% or less, should be maintained in an upright and functional condition, and should be periodically washed to maintain effectiveness.
- Apply water in sufficient quantity to prevent generation of dust plumes.
- Compact and stabilize disturbed soil throughout the construction site.
- Stabilize backfill material with water when not actively handling, during handling, and at completion of activity.
- Maintain stability of soil through watering prior to and immediately after clearing and grubbing as well as cut and fill activities
- Stabilize surface soils where trencher, excavator or support equipment will operate and at the completion of trenching operations
- Apply non-toxic chemical stabilizers within 5 working days of grading or apply water to at least 80% of all inactive disturbed surfaces daily when there is evidence of wind driven fugitive dust
- Stabilize surfaces of completed earthworks with stone/soil/geotextiles within 10 days or vegetation within 21 days after active operations have ceased
- Ensure that the visible emissions from an air pollution sources do not exceed the 20% opacity criterion at any time.

## Storage Piles

- Conduct storage pile activities downwind.
- Use enclosures/coverings or wind fences/screens/vegetation as wind break or apply chemical stabilizers/water to at least 80% of the surface area of pile.
- Stockpiles within 30 m of occupied buildings must not be greater than 3 m in height or must be properly irrigated.

## Material Handling and Transfer Operations

- Apply water to soil not more than 15 minutes prior to moving it.
- Stabilize material while loading, transporting, and unloading.
- Maintain at least 15 cm of freeboard on haul vehicles.
- Limit material drop heights to 2 metres at transfer points and use enclosures wherever practical.
- Secure and cover loads on haul trucks.
- Minimize material handling operations, particularly under windy conditions.
- When instantaneous wind gusts exceed 50 km/h, the frequency of watering will be increased, or other additional fugitive dust mitigation measures will be implemented.
- When instantaneous wind gusts exceed 50 km/h and fugitive dust cannot be curtailed to achieve the 20% maximum opacity criterion, even with additional dust mitigation, construction activities on unpaved surfaces shall be discontinued.
- During sustained winds (3 minutes over a 60-minute period) exceeding 30 km/h, earth moving activities will be ceased.



*Construction site watering for dust*

## Road Surfaces within and around Construction Sites

- Establish on-site vehicle restrictions.
- Apply and maintain surface improvements to unpaved road surfaces.
- Minimize fugitive dust from de-icing operations by minimizing use of de-icers through careful planning, minimizing silt content and silt formation, plowing instead of sanding, and sweeping up de-icing materials for re-use.
- Stabilize all off-road traffic and parking areas as well as haul routes.
- Direct construction traffic over established haul routes.
- Water all unpaved roads under active use 3 times per 8-hour work period; or restrict vehicle speeds to 20 km/h; or apply chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface.
- Place gravel on access road approaches and track-out control devices, such as shaker plates, at the intersection of unpaved access roads and paved roads.
- Remove any caked dirt or mud from vehicle and equipment wheels.
- Remove track-out onto paved roads at the end of each shift with water sweepers, if visible soil material from the construction site or unpaved access road is carried onto adjacent public roads.
- Track-out onto paved roads that exceed 10 metres shall be removed immediately.

## **Vacant Lots under Project Co Control**

- In instances where vacant lots are 400 m<sup>2</sup> or larger, prevent motor vehicle or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.

## **On-site Fabrication Processes**

- Minimize dust from cutting, grinding and drilling by applying water sprays and dust extraction and using prefabricated materials.
- Avoid cutting and grinding with appropriate tolerances/interfaces, optimum concrete pour volumes, using bonding agents, and using wet grit blasting.
- Use curtains or shrouds to surround the work area.
- Use pre-mixed, pre-cast and prefabricated materials and components where possible.
- Vacuum work site frequently.

## **Diesel and Gasoline Powered Equipment**

- Minimize the use of diesel and gasoline powered equipment.
- Where practicable, use electricity powered equipment.
- Maintain diesel and electric equipment and their emission control systems to manufacturers' specifications.
- All heavy-duty diesel equipment and vehicles shall employ filters or a combination of oxidation catalysts and filters.
- All heavy-duty diesel equipment shall pass an annual emissions test demonstrating compliance with original equipment emission standards.
- Equipment and vehicle engines should not be allowed to idle for over 15 minutes.
- Deploy less polluting alternatives to vehicle idling for heating and air conditioning, such as cab heaters and HVAC units powered by auxiliary electricity generators.



This Info Sheet is part of a package of Info Sheets and a Discussion Guide provided by Metrolinx to share updates on system-wide studies and policies. The current set of Info Sheets cover a number of different topics, including benefits of GO Expansion, heritage conservation, vegetation removal and compensation program, electromagnetic fields and electromagnetic interference, and grade separations.

## **For more information**

For more information about GO Expansion and to download other materials, check out our website: [MetrolinxEngage.com](http://MetrolinxEngage.com)