TOWNSHIP OF North Dundas

GOLDER
MEMBER OF WSP

Environmental Assessment of the Township of North Dundas Waste Management Plan

OPEN HOUSE #3

April 7, 2022

CONTENT

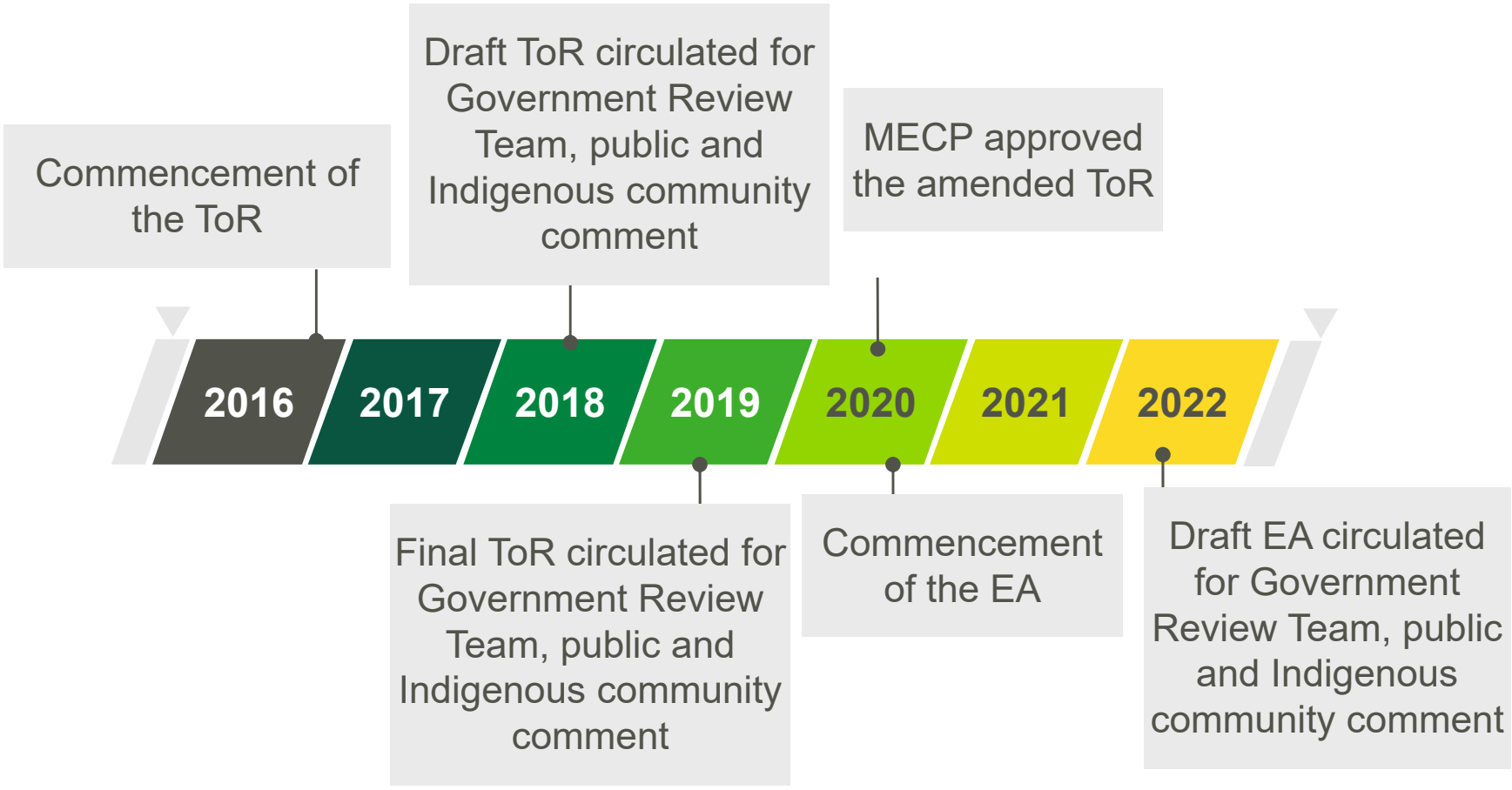
- Review of the EA Process
- Confirm the identification of the preferred ‘Alternative Method’
- The Proposed Project
- Results of the existing conditions studies and the predicted effects of the landfill expansion on the environment
- Commitments by the Township
- Next Steps in this EA and Other Approvals

Review of the EA Process

- An Environmental Assessment (EA) of the Township of North Dundas (Township) Waste Management Plan (WMP) is being undertaken under the provincial Environmental Assessment Act.
- The EA is comprised of the Terms of Reference (ToR) and the EA.
  - The ToR sets out the framework for the planning and decision-making process to be followed during the preparation of the EA.
  - The EA is a study that assesses the potential environmental effects (positive or negative) of this proposed Waste Management Plan.
- Both the ToR and EA require approval by the Minister of Environment, Conservation and Parks (MECP).

Review of EA Process

PROGRESS



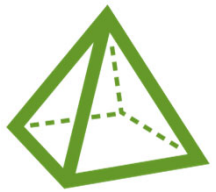
Review of the EA Process

RECAP OF TECHNICAL BULLETINS AND CONFIRMATION OF PREFERRED 'ALTERNATIVE METHOD'

- Existing **diversion** is approximately 23%. Changes to the system to include Backyard Composting of Food Organics, Dual Stream Recycling Program, Curbside Collection of Leaf & Yard Waste and Composting at the Boyne Road Landfill Site, and Use of Existing and New Waste Management Policies. Changes to the system commenced in 2021 and it is expected that the Township's residential waste diversion rate could increase to approximately 28% by 2025 and 33% by 2030

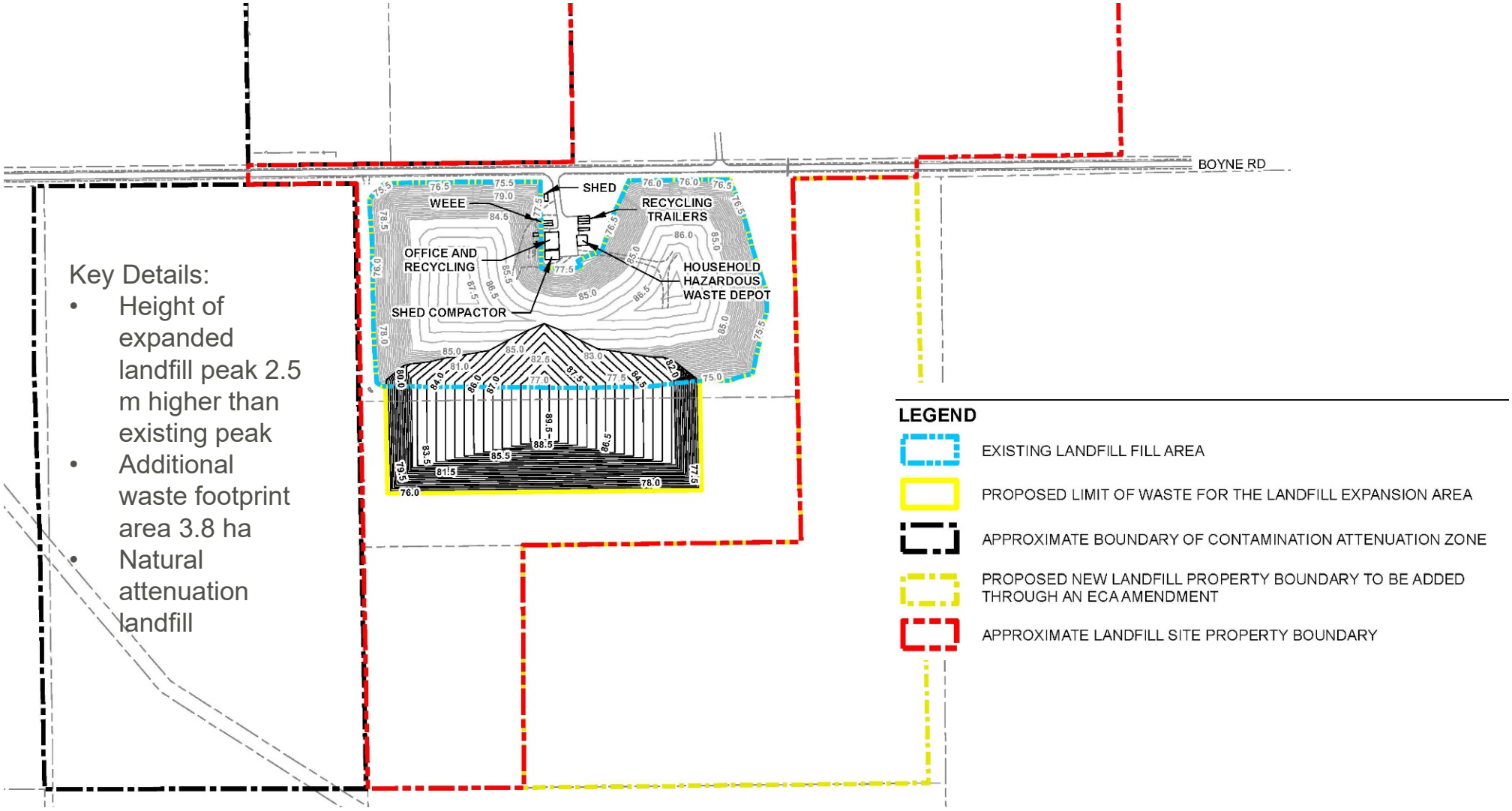
- **'Alternatives To'** are functionally different ways of dealing with the problem or opportunity (which in this case is to provide environmentally safe, long-term waste management). The comparison of 'Alternatives To' identified Boyne Road Landfill Site Expansion as the preferred 'Alternative To'.

- **'Alternatives Methods'** are different ways of doing the same activity. 'Alternative Methods' are different ways of doing the preferred 'Alternative To'. The comparison of 'Alternative Methods' identified Alternative 3, primarily horizontal expansion, as the preferred 'Alternative Method'.



Description of the Proposed Project

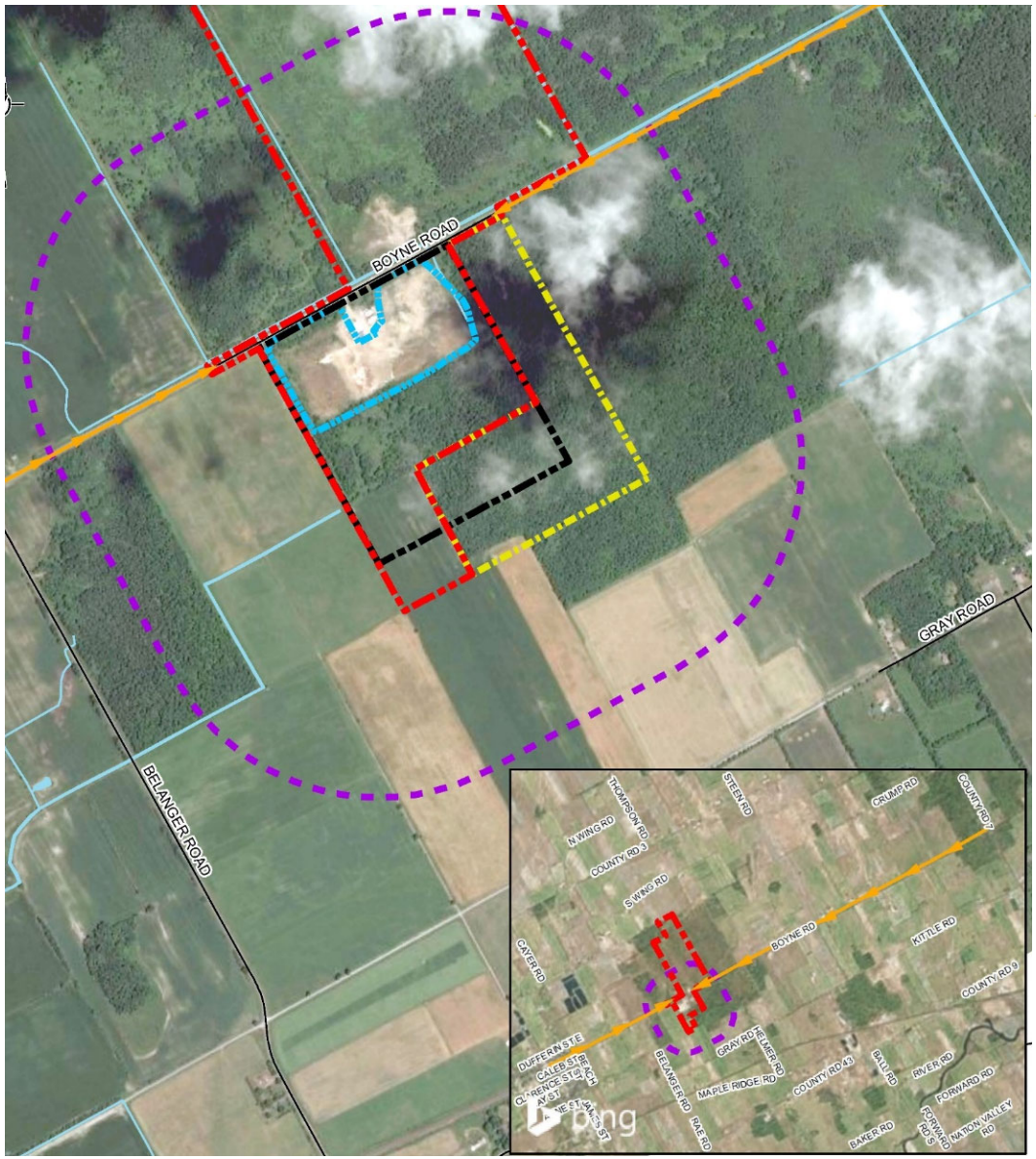
PRIMARILY HORIZONAL LANDFILL EXPANSION



Key Details:

- Height of expanded landfill peak 2.5 m higher than existing peak
- Additional waste footprint area 3.8 ha
- Natural attenuation landfill

Study Areas



Note: The lands in the area immediately adjacent to the Site Study Area that have the potential to be directly affected by the landfill expansion and activities with the Site Study Area. The extent of the Site-vicinity Study Area will be determined for each of the environmental components. For most environmental components, a Site-vicinity Study Area of 500 metres from the Site Study Area is appropriate

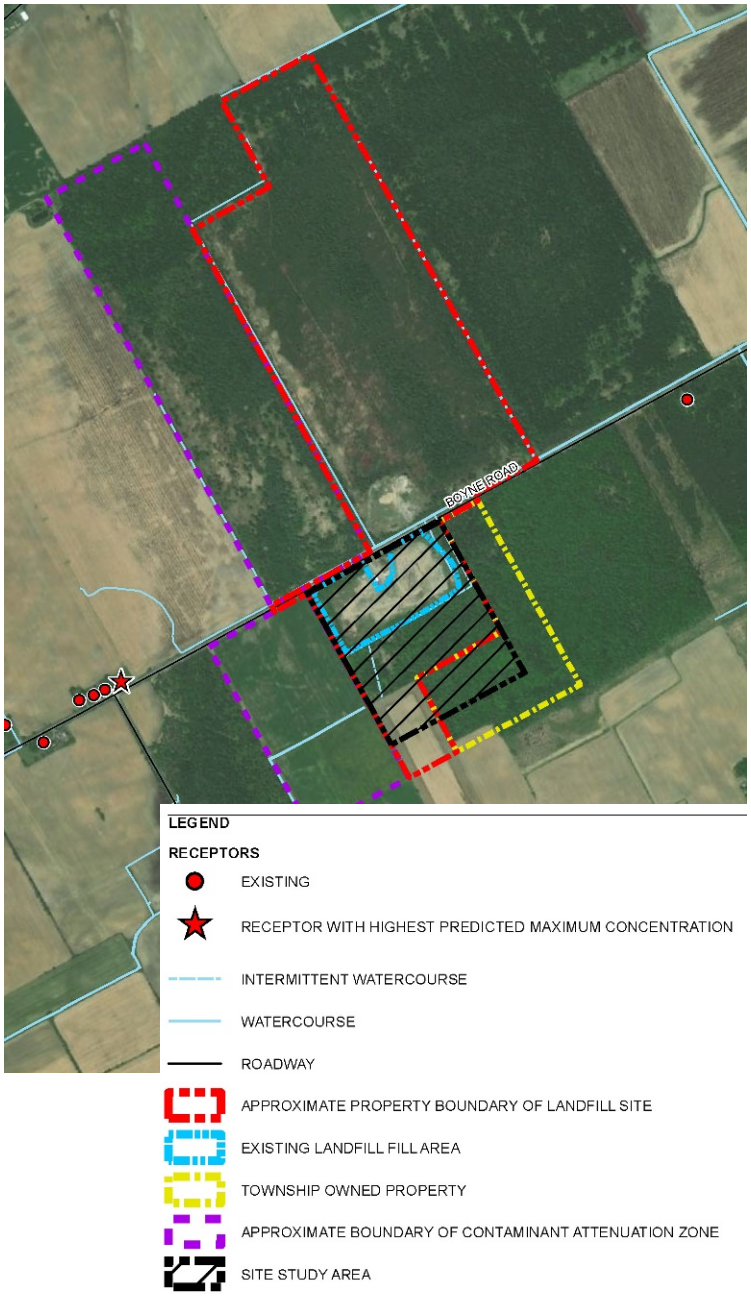
Atmosphere – Air Quality

EXISTING CONDITIONS

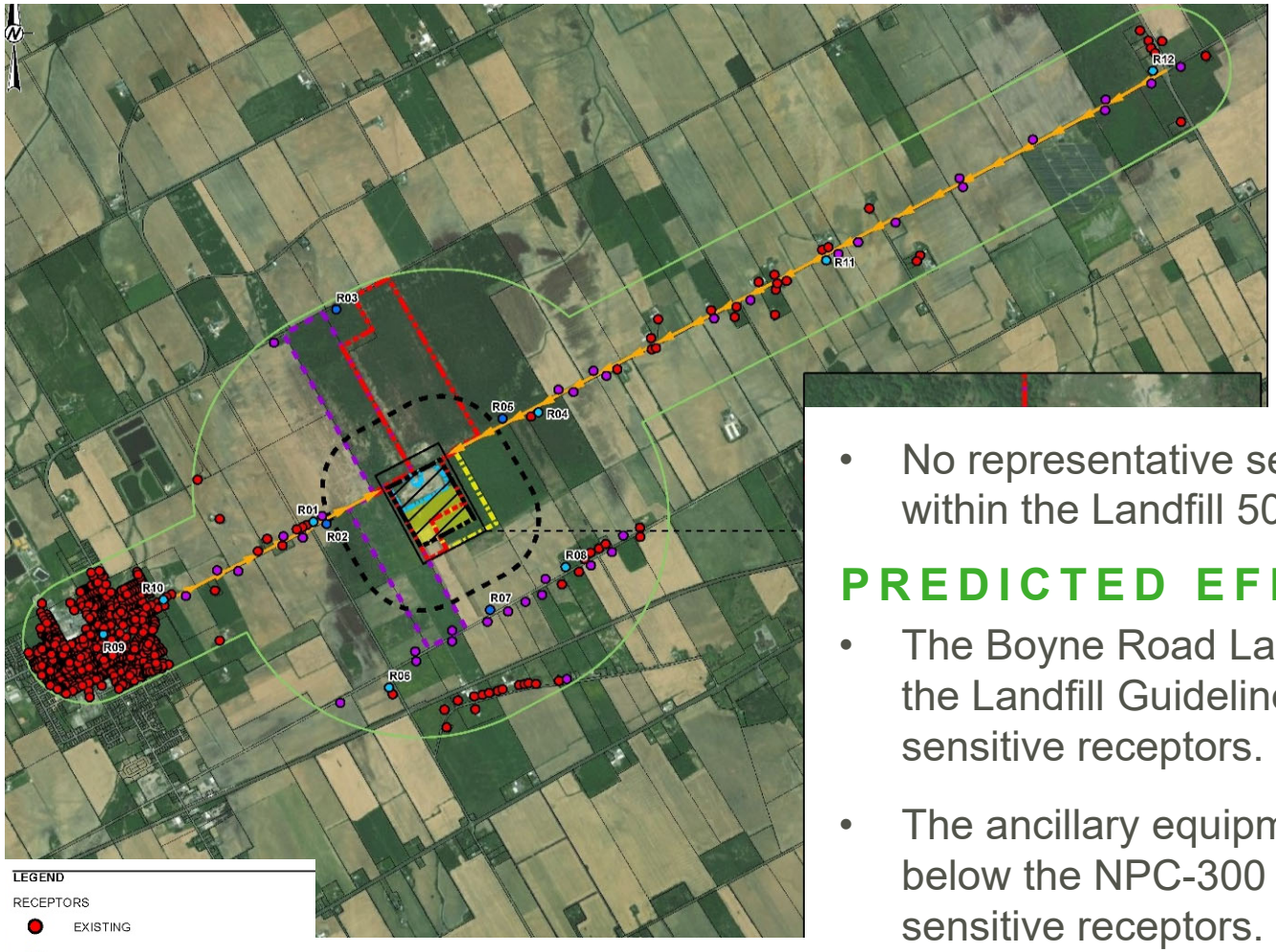
- Existing background air quality from Provincial monitoring station meets applicable Ontario criteria.
- No sensitive receptor locations (residences) have been identified within 500 m of the site.

PREDICTED EFFECTS

- Air quality and odour associated with the landfill expansion are predicted to meet relevant Ontario Regulations at sensitive receptors.



Atmosphere – Noise



EXISTING CONDITIONS

- Existing noise levels are influenced by human activities, vehicle traffic, existing landfill operations and sounds of nature.
- No representative sensitive receptors were identified within the Landfill 500 m Site-vicinity.

PREDICTED EFFECTS

- The Boyne Road Landfill is expected to meet the Landfill Guidelines sound level limits at all sensitive receptors.
- The ancillary equipment is expected to operate below the NPC-300 sound level limits at the sensitive receptors.
- Change in traffic noise levels between the existing landfill and proposed landfill expansion is insignificant to noticeable; this is considered an acceptable change.

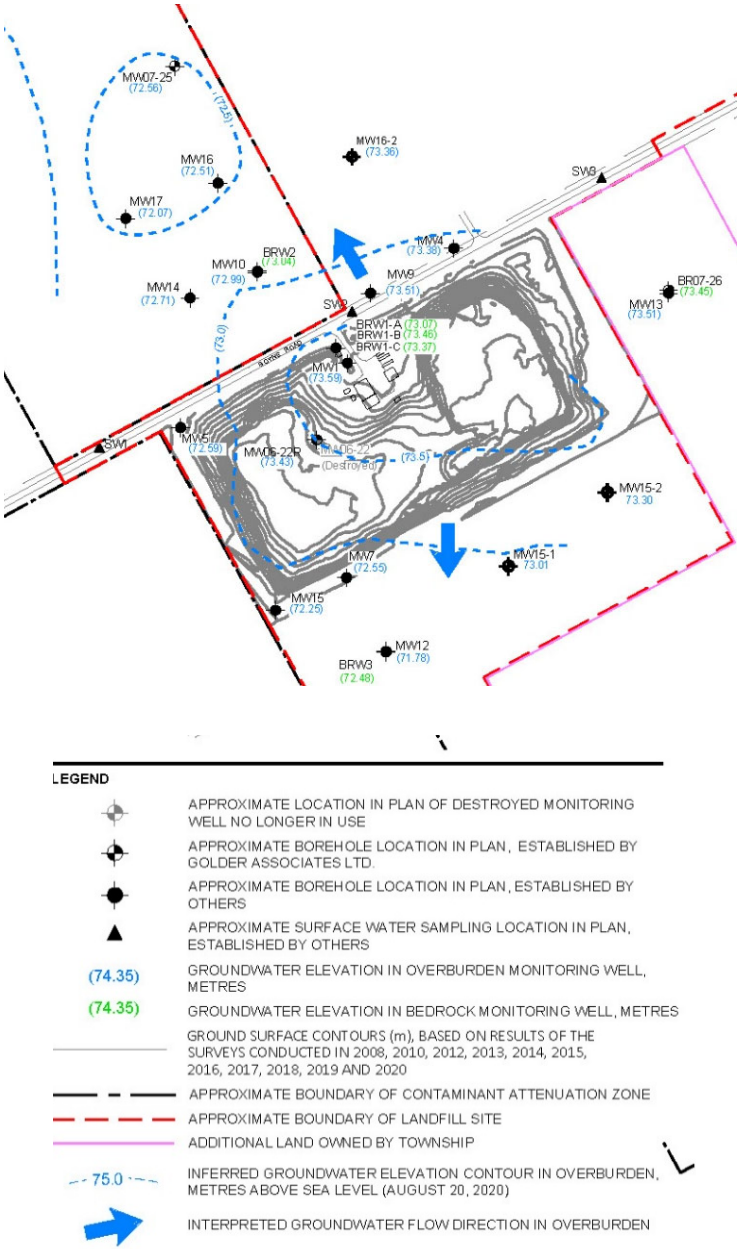
Geology and Hydrogeology

EXISTING CONDITIONS

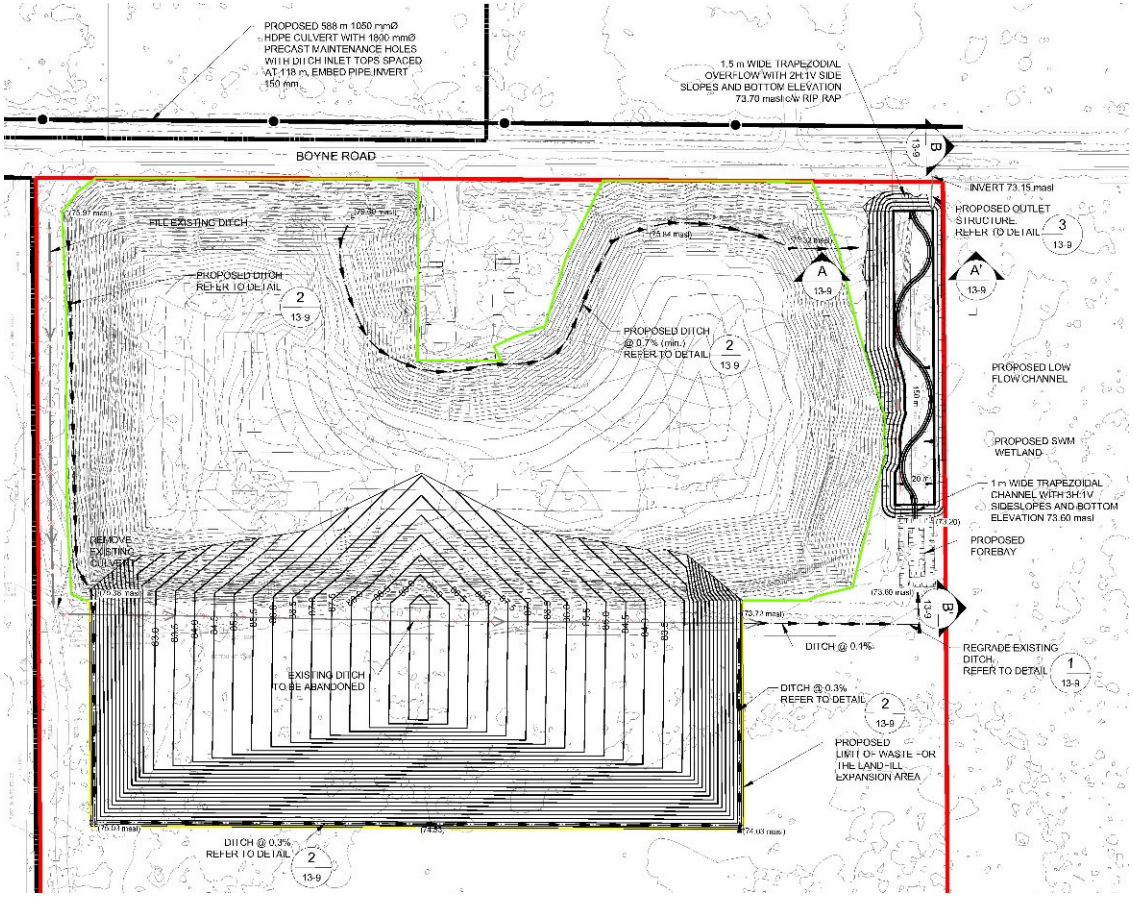
- The subsurface conditions in the landfill area consist of 0 to 2 m of topsoil/peat, 0 to 3 m of silt/clay, 0.9 to 6 m silty sand/sandy silt till followed by limestone bedrock.
- Topography in the landfill area is flat; as a result, hydraulic gradients, and groundwater flow directions may vary temporarily/seasonally and can be influenced by very slight variations in groundwater elevations. Data from both historical groundwater elevations and historical groundwater chemistry indicate that local groundwater mounding associated with the waste pile has been influencing local groundwater flow direction close to the landfill. Groundwater flow in the area to the north of the landfill is generally to the north, and groundwater flow in the area to the south of the landfill is generally to the south.
- Existing landfill is a natural attenuation landfill and groundwater meets MECP water quality guidelines for landfills (Reasonable Use Guideline).
- Residences in the area get their drinking water from wells within the bedrock.

PREDICTED EFFECTS

- All parameters and conditions modelled met the required groundwater quality guidelines for landfills except chloride to the south
- Additional contaminant attenuation zone land is required extending 400 metres further to the south so that the site will remain in compliance for groundwater.



Surface Water – Quality and Quantity



EXISTING CONDITIONS

- Drainage along the northern side of the landfill is directed towards the Boyne Road ditch along the south side of the road. The remainder of the landfill drains to a constructed drainage ditch (perimeter ditch) along the west, south, and east boundaries of the existing landfill.
- Leachate-impacted groundwater can sometimes discharge to the Volks Municipal Drain along the north side of Boyne Road.

PREDICTED EFFECTS

- Provide new perimeter ditch system around the landfill expansion.
- Construct one wetland type stormwater facility at the northeast corner area of the landfill site to provide flow control and quality control.
- Install a culvert along a section of Volks Municipal Drain to the north of the landfill.

Biology – Aquatic and Terrestrial Ecosystems

EXISTING CONDITIONS

- Fish habitat present in existing perimeter ditch, Volks Municipal Drain and Quart Municipal Drain.
- 4 provincially listed Species at Risk (2 bird species and 2 bat species) were observed with the site and 120 m study area beyond the site.
- Significant wildlife habitat in the form of interior forest exists to the west of the landfill expansion.

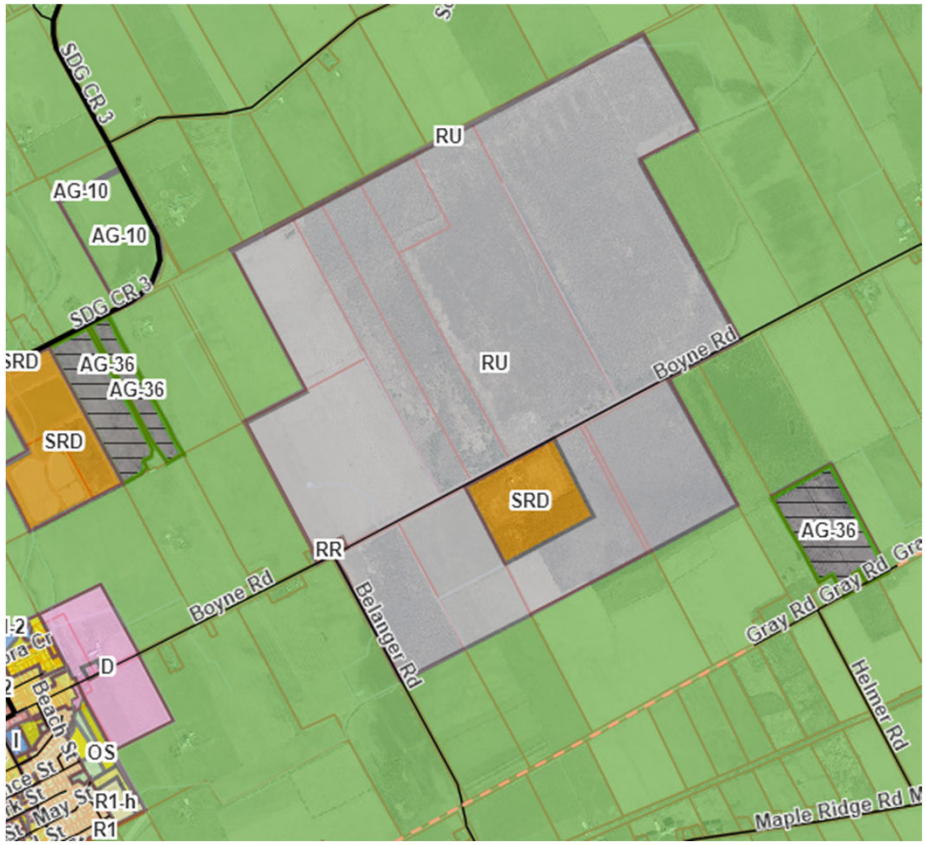
PREDICTED EFFECTS

- Potential direct impacts to aquatic species and habitats as a result of installing the culvert in Volks Municipal Drain. The length of culvert is impassable for fish. Alternatively, it was suggested to install a low permeability liner in the ditch to minimize leachate-impacted groundwater discharge. The alternative will be determined during future approvals.
- Potential direct impacts to aquatic species in the perimeter ditch as a result of moving the ditch.
- Potential direct impacts to habitat for endangered or threatened species (little brown myotis bat).
- Potential direct impacts to significant woodland, evaluated non-PSW and unevaluated wetlands, significant wildlife habitat (wood thrush and eastern wood-pewee), and significant wildlife habitat – interior forest.

Land Use Planning and Agriculture

EXISTING CONDITIONS

- Existing land use planning policy and regulatory context allows for landfill in this area.
- The separation distance between SRD (waste site zoning) uses and dwelling units set at 500 metres as stated in the Official Plan.
- In the Official Plan, the majority of the Township of North Dundas is designated as Agricultural Resource Lands outside of the Urban Settlement Area.



- The existing landfill lies within a Muck soil area. Muck soil is soil having a 0 to 0.45 m thickness of organic layer. Presently, this soil is generally not suitable for agriculture and has traditionally not been included in an Agricultural designation, as it requires a great deal of work to prepare for crops and the rate of return is low.

PREDICTED EFFECTS

- The expansion is to take place within the existing lands designated by the Official Plan as a Waste Disposal Site.
- The landfill expansion is to take place within the Muck soil area and it is not anticipated that the expansion will overtly affect neighbouring soils.
- No active agricultural operations will be affected by the proposed landfill expansion. Lands adjacent to the landfill site and used as agricultural fields will continue to be used for this purpose.

Cultural Heritage Resources – Archaeological Resources, Built Heritage Resources and Cultural Heritage Landscapes

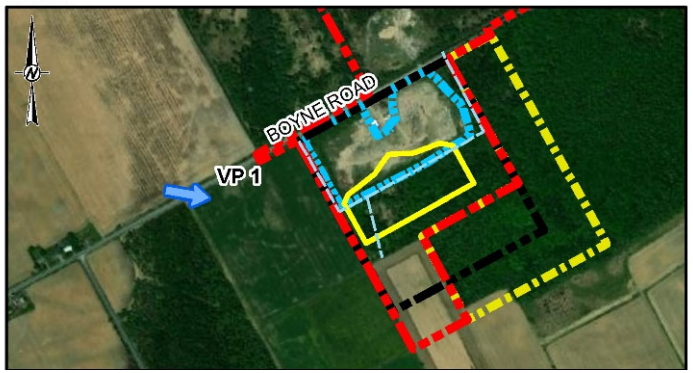
EXISTING CONDITIONS

- There are no registered archaeological sites located within a 1 km radius of the Site Study Area according to the Ontario Archaeological Sites Database.
- A Stage 1 Archaeological Assessment was completed.
- No known or potential built heritage resources or cultural heritage landscapes identified within the landfill boundary or on parcels adjacent to the landfill.

PREDICTED EFFECTS

- No further archaeological assessments are required based on findings of Stage 1 Archaeological Assessment.
- No known or potential built heritage resources or cultural heritage landscapes identified within the landfill boundary or on parcels adjacent to the landfill expansion.

Socio-economic – Local Economy, Residents and Community and Visual

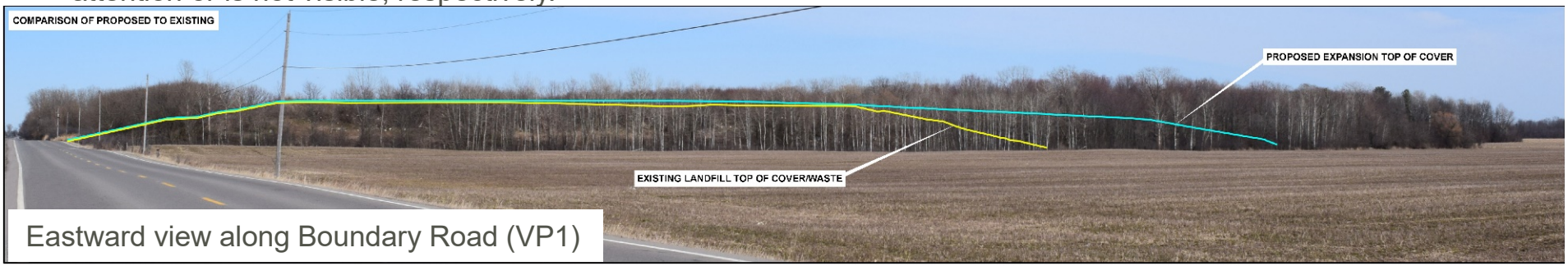


EXISTING CONDITIONS

- The Township of North Dundas is considered an “agri-food cluster” with many agriculture related businesses.
- The landfill site is located in a mainly agricultural setting with few residences or notable features in the immediate vicinity. There are no existing residences within 500 metres of the landfill boundary.
- The overall topographic relief across the landfill surrounding area indicated by topographic mapping shows that the ground surface ranges in elevation from approximately 75 masl in the northwest to 80 masl in parts of the southeast. The existing landfill rises approximate 12 m above the surrounding terrain but is relatively well screened.

PREDICTED EFFECTS

- No lasting positive or negative effects on the local economy.
- Out-migration is not anticipated since residents are accustomed to living in an agricultural area and near the existing landfill, noting no residences within 500 metres. Nuisance effects are expected to be managed and mitigated appropriately.
- All modelled viewpoints were weak to none, meaning the proposed expansion can be seen but does not attract attention or is not visible, respectively.



Eastward view along Boundary Road (VP1)

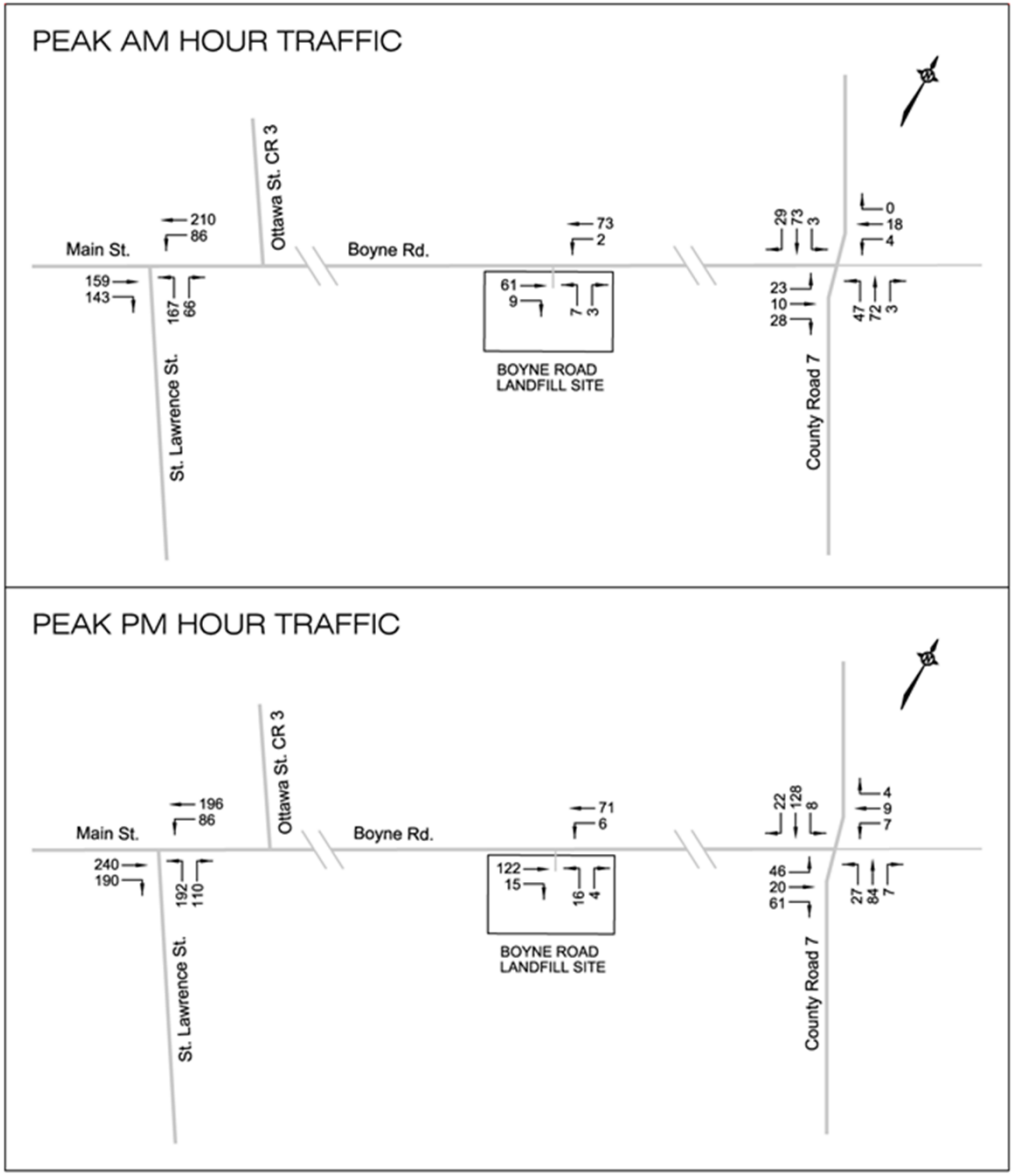
Transportation - Traffic

EXISTING CONDITIONS

- Three intersections were evaluated: the landfill access/Boyne Road intersection, St. Lawrence Street/Main Street intersection in Winchester and County Rd. 7/Boyne Road intersection.
- Peak hour traffic obtained by traffic counts in September 2021. Morning and afternoon peak traffic into the landfill was 4 vehicles and 11 vehicles, respectively.

PREDICTED EFFECTS

- No road improvement or intersection improvements required.



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NOT TO SCALE

Design and Operations

EXISTING CONDITIONS

- Landfill has been operational since 1965 and is the only operational waste disposal site in the Township.
- The existing landfill operates as a natural attenuation landfill with no engineered liner or leachate collection system but rather relies on natural attenuation within the site property boundary and contaminant attenuation zone lands.
- Ongoing environmental monitoring demonstrates site compliance with regulatory requirements.

PREDICTED EFFECTS

- The management of leachate will continue to rely on the same strategy of natural attenuation based on groundwater modelling results with the addition of 400 m of contaminant attenuation zone land/easement to the south of the current landfill boundary.
- The portion of the Volks Municipal Drain adjacent and north of the landfill will either be lined or have a culvert installed to minimize leachate-impacted groundwater discharging to this drain. A stormwater management wetland is required in the northeast corner of the site.
- No landfill gas collection required.
- Capital costs for construction of the landfill expansion are estimated to be $2.1 to $2.8 million, although costs will be expended in a phased approach. Operating costs are expected to be comparable to the current operating costs.

Summary of Commitments

Compliance monitoring of the proposed Boyne Road Landfill expansion will be carried out to confirm that it has been constructed, implemented and operated in accordance with the commitments made in the EA. Some example key commitments include:

- Implementation of all required site effects monitoring and reporting programs.
- The Township commits to implement the practices set out in the Waste Diversion Study.
- The Township commits, in future, to obtain control over an additional 400 m of groundwater travel distance towards the south as contaminant attenuation zone.
- An information gathering form will be prepared and submitted to the MECP prior to any works as it relates to habitat for little brown myotis (bats).
- Prepare and submit a Request for Review application to Department of Fisheries and Oceans to determine if habitat compensation measures are required for fish habitat.

Next Steps in this EA and Other Approvals

1. Complete the EA
2. Complete Approvals Under EPA & OWRA
3. Prepare Site for Disposal in Expansion Area

Activities to complete include:

- Circulate Draft EA to the public, Indigenous communities and the Government Review Team (spring 2022)
- Circulate Final EA to the public, Indigenous communities and the Government Review Team (summer/fall 2022)

- These approvals are for the Environmental Protection Act and Ontario Water Resources Act.
- The approvals cannot be issued until the EA is approved but can be worked on and submitted before EA approval.
- Once submitted to the MECP, EPA & OWRA approval can take up to 12 months.

- Construction cannot commence until EPA and OWRA approvals received.
- Assume several months required for site preparation - moving ditches, preparing the landfill expansion base and constructing a stormwater management pond.

Questions, Feedback and Comments

We encourage you to let us know your thoughts by sending your comments to dfroats@northdundas.com and/or using the attached comment form by April 28, 2022.

Or contact us at 613-774-2105 ext. 235 for any accessibility requirements.

If you would like to be notified of any project updates, please let us know and provide either an email address or your mailing address.

Project details can be found on the project website at: https://www.northdundas.com/municipal-services/environmental-assessments

GOLDER

MEMBER OF WSP

Thank You.