CONROY ROAD SANITARY SEWER EXTENSION
DESIGN BRIEF

Project No.: CCO-25-1505

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1.0 PROJECT DESCRIPTION

1.1 Purpose of Report

Egis Canada Ltd. (Egis) has been retained by WO MW Realty Limited to prepare this Sanitary Design Brief in support of the proposed sanitary sewer extension required to service the development at 3145 Conroy Road in the City of Ottawa.

The purpose of this report is to document the design basis, servicing strategy, and hydraulic assessment for the proposed sanitary sewer extension from the existing 1200mm diameter trunk sanitary sewer located within Johnston Road to the subject property along Conroy Road. The report provides supporting rationale for the proposed design approach, including consideration of interim and future tributary drainage conditions, applicable City of Ottawa design requirements, and site-specific constructability constraints.

This report has been prepared to support the Site Plan Control approval process and should be read in conjunction with the associated sanitary design drawings, drainage area plans, sewer design sheets, and supporting technical studies included within the appendices.

1.2 Project Description

The subject lands consist of approximately 4.86ha of industrial-zoned property located on the east side of Conroy Road north of Johnston Road. The proposed development consists of an industrial building with associated parking and servicing infrastructure requiring connection to the municipal sanitary system.

As municipal sanitary servicing is not currently available along the Conroy Road frontage, a new sanitary sewer extension is proposed from the existing trunk sanitary sewer located within Johnston Road. The proposed sanitary sewer will extend approximately 229m north along Conroy Road to provide servicing to the subject site and to accommodate potential future servicing opportunities for adjacent frontage lands.

Due to the depth of the existing trunk sanitary sewer and the location of the connection within a major arterial roadway intersection, the design required careful consideration of hydraulic performance, constructability, and operational requirements. These factors influenced the proposed sewer configuration, drop structure approach, and the evaluation of interim versus ultimate servicing conditions.

1.3 Study Area and Servicing Limits

The sanitary design considers not only the subject development but also the broader tributary lands fronting the proposed sanitary extension along Conroy Road, consistent with City of Ottawa Sewer Design Guidelines requirements for sewer sizing based on the ultimate drainage area.

Sanitary drainage area plans have been prepared to assess the following servicing scenarios:

- Site-only servicing condition (interim condition)
- Near-term development condition including adjacent City lands
- Future development condition including additional frontage lands
- Ultimate tributary servicing condition

These scenarios were evaluated to confirm the adequacy of the proposed sanitary sewer sizing and to assess hydraulic performance under both interim and long-term servicing conditions.

1.4 Approvals and Review Process

The proposed sanitary servicing works are subject to review and approval through the City of Ottawa Site Plan Control process. As part of the review process, the City requested additional documentation to support the sanitary sewer sizing, tributary drainage assumptions, and the proposed drop structure configuration at the trunk sewer connection.

This design brief has been prepared to address these review comments and to provide supporting engineering rationale for the proposed design approach, including discussion of hydraulic performance, servicing assumptions, and construction constraints associated with the deep sanitary trunk connection.

2.0 BACKGROUND INFORMATION AND REFERENCES

2.1 Background Information

The proposed sanitary servicing strategy for 3145 Conroy Road has been developed based on review of available background information, existing record drawings, site survey information, applicable City of Ottawa guidelines, and supporting technical investigations. The design has also been informed by City review comments received through the Site Plan Control process, including requests to assess the full tributary drainage area fronting the proposed sanitary extension and to provide additional justification for the proposed drop structure arrangement at the Johnston Road connection.

The subject site is currently unserviced from a municipal sanitary perspective. As documented in the Site Servicing & Stormwater Management Report, the nearest municipal sanitary sewer is the existing 1200 mm concrete sanitary sewer within Johnston Road, and a new sanitary sewer extension is therefore required to service the proposed development.

To address the City's review comments, sanitary drainage area plans were prepared for multiple servicing scenarios, including interim, future, and ultimate tributary conditions. These plans assess not only the subject site at 3145 Conroy Road, but also adjacent frontage lands that may reasonably connect to the proposed extension over time.

Corresponding sanitary sewer design sheets were prepared for each scenario to review design flows, hydraulic capacity, and pipe velocities for each sewer segment.

In addition to the drainage area and hydraulic design work, the design has considered available supporting information including zoning mapping, existing as-built drawings, topographic survey information, and other technical investigations appended to this submission.

2.2 Applicable Design Guidelines and Standards

The sanitary sewer extension has been designed generally in accordance with the following documents:

- City of Ottawa Sewer Design Guidelines, Second Edition, October 2012, including applicable technical bulletins and amendments
- Design Guidelines for Sewage Works, Ministry of the Environment, Conservation and Parks
- Ontario Provincial Standard Drawings and Specifications (OPSD/OPSS), where applicable
- City of Ottawa Standard Tender Documents and Standard Details, where applicable
- City of Ottawa Sewer Use By-law, where applicable

The City of Ottawa Sewer Design Guidelines require that sanitary sewers be sized based on the ultimate sewage flows expected from the tributary area, and that sanitary sewers be designed to achieve a minimum full-flow velocity of 0.6m/s and a maximum full-flow velocity of 3.0m/s. The proposed sewer extension has been reviewed in this context using interim, future, and ultimate servicing scenarios.

2.3 Pre-Consultation and Design Development Process

A pre-consultation meeting was previously completed for the proposed development, during which it was confirmed that municipal sanitary servicing is not currently available to the site and that a sanitary sewer extension from Johnston Road would be required. As documented in the Site Servicing Report, preliminary servicing strategies included extending the sewer along Conroy Road or obtaining servicing access through adjacent lands.

During the design development stage, two potential sanitary sewer alignments within the Conroy Road right-of-way were evaluated:

- East boulevard alignment
- Median alignment

The east boulevard alignment was initially considered due to its separation from existing trunk infrastructure however review of available utility information identified potential conflicts with existing telecommunications infrastructure, including Bell fibre located within the boulevard and sidewalk corridor. Installation of the sanitary sewer in this location would have introduced increased risk of utility conflicts, potential service disruptions, and possible relocation requirements for critical communications infrastructure.

Based on discussions with the City of Ottawa, the median alignment was identified as the preferred approach, despite the presence of an existing 400mm diameter watermain within the median. The median alignment was considered preferable from an overall municipal servicing coordination perspective and reduced the risk of conflicts with private utilities located within the boulevard. The selected median alignment also provides improved opportunities for future connections to the sanitary sewer, as Conroy Road consists of a four-lane cross-section. A boulevard alignment would require significantly longer service connections and additional road crossings, which would increase both construction complexity and long-term maintenance considerations.

To mitigate potential risks to the existing watermain during construction, the sanitary sewer alignment was designed to maintain separation distances exceeding minimum regulatory requirements. While applicable guidance typically requires a minimum horizontal separation distance of 2.5 m between sanitary sewers and watermains, the proposed design maintains a minimum separation of approximately 4.0 m at the closest point near the subject site, with separation increasing further toward the Johnston Road connection where the watermain diverges from the sanitary alignment.

This increased separation distance was intentionally incorporated to reduce construction risk to the existing watermain, improve constructability, and provide additional tolerance for excavation support requirements. The selected median alignment therefore represents the lowest overall servicing and construction risk solution based on City input and utility coordination considerations.

In addition to alignment discussions, coordination meetings were also held with the City regarding the proposed connection to the existing deep trunk sanitary sewer at Johnston Road. Due to the significant depth of the existing sewer (approximately 9.9m), a conventional drop structure solution presents constructability challenges within the arterial roadway intersection, including deep excavation requirements, traffic staging impacts/signal impacts, and increased complexity associated with utility coordination.

During discussions with the City, Egis presented a proposed approach consisting of an external drop connection combined with an internal vortex drop structure to address both hydraulic performance and constructability considerations. This configuration represents a modified application of standard drop structure practices, as typically either an external drop structure or an internal drop structure would be used independently. It is also noted that a standalone internal vortex drop structure was reviewed during design development. However, the existing maintenance hole diameter at the trunk connection is not sufficient to accommodate a vortex drop structure without structural modifications. Implementation of an internal-only vortex drop configuration would require replacement of the existing maintenance hole chimney and upper structure with a larger diameter structure to accommodate the vortex unit. While technically feasible, this approach would still require significant excavation (approximately 5m depth) to facilitate replacement of the existing maintenance hole structure, introducing additional construction risk with the unknown condition of the chamber for required modifications. Given the depth of the proposed sanitary connection and the need for excavation to accommodate the external drop regardless, the proposed combined external drop and internal vortex configuration was determined to provide a more practical and constructible solution while maintaining hydraulic performance and operational functionality. Alternative configurations were reviewed as part of the design process; however, the proposed

arrangement is considered the most appropriate balance of constructability, operational performance, and coordination with existing infrastructure.

City review staff indicated that while this configuration is not commonly implemented, they did not identify any direct technical concerns with the proposed approach provided the hydraulic intent of the drop structure is maintained. City staff also noted that they were not aware of similar recent applications of this exact configuration but were supportive of the concept from a technical perspective. The City did indicate a preference that the internal drop structure utilize a vortex drop configuration to improve hydraulic performance and energy dissipation characteristics.

The City requested that additional context and engineering rationale be provided within the design brief to document the constraints associated with the deep connection and the justification for the proposed approach. Shop drawings for the vortex drop structure will be submitted for City review and approval as part of the detailed design process.

The proposed drop structure configuration therefore reflects coordination with City staff and represents a practical and technically sound solution to address the depth constraints at the trunk sewer connection while maintaining acceptable hydraulic performance, constructability, and long-term operational considerations.

2.4 Supporting Technical Studies

The sanitary sewer design has been developed based on available background information, field investigations, and supporting technical studies prepared as part of the overall servicing design. These documents provide supporting information regarding existing conditions, subsurface constraints, and design considerations relevant to the proposed sanitary extension.

Supporting documentation included in the appendices includes:

- Sanitary drainage area plans for interim, future, and ultimate servicing scenarios
- Sanitary sewer design sheets documenting design flows, pipe sizing, and hydraulic performance
- Existing record drawings and available municipal infrastructure information
- Topographic survey information
- Zoning and land use mapping
- Subsurface Utility Engineering (SUE) investigation to identify existing utility constraints
- Geotechnical investigation to characterize subsurface conditions and support trench design considerations
- Soil characterization information to support excavation planning and excess soils management requirements
- Dewatering considerations associated with the deep sanitary sewer installation

These supporting documents were used to confirm the feasibility of the proposed sanitary sewer alignment, identify utility conflicts, assess construction constraints, and verify hydraulic performance of the proposed design.

The sanitary sewer design sheets were also independently reviewed and verified to confirm compliance with City of Ottawa design criteria, including confirmation that minimum self-cleansing velocity requirements are achieved under interim and future servicing conditions.

3.0 EXISTING CONDTIONS

3.1 Existing Sanitary Infrastructure

The subject site at 3145 Conroy Road is not currently serviced by municipal sanitary infrastructure. The nearest available municipal sanitary sewer is an existing 1200mm diameter concrete trunk sanitary sewer located within Johnston Road, south of the site.

The proposed sanitary servicing strategy involves extending a new sanitary sewer from this existing trunk sewer north along Conroy Road to service the proposed development and to accommodate potential future connections from adjacent frontage lands.

Based on available record information, the existing trunk sewer is located at significant depth at the connection location, requiring a deep connection and the use of a drop structure to facilitate the proposed tie-in.

3.2 Existing Utility Infrastructure

The Conroy Road corridor contains significant existing municipal and private infrastructure which influenced the proposed sanitary sewer alignment and construction approach. Major existing infrastructure within the study limits includes:

- 400 mm diameter ductile iron watermain within the Conroy Road median
- Large diameter trunk storm sewer infrastructure within the corridor
- Smaller diameter local storm sewer infrastructure and catchbasin leads
- Telecommunications infrastructure including fibre within the boulevard corridor
- Natural gas infrastructure
- Streetlighting infrastructure and associated duct banks
- Traffic plant infrastructure including conduits, loops, and handholes
- Catchbasins and associated drainage infrastructure

Due to the density of existing infrastructure within both the boulevard and median corridors, the sanitary sewer design required careful consideration of utility conflicts, construction tolerances, and long-term servicing considerations.

Given the number of existing utilities within the corridor, construction of the sanitary sewer extension will require careful utility coordination, verification of existing infrastructure locations, and appropriate excavation support and utility support measures to minimize risk to existing utilities.

Subsurface Utility Engineering (SUE) information was reviewed to support identification of potential conflicts and inform the final sewer alignment.

3.3 Existing Topography and Depth Constraints

Review of available topographic survey information indicates that Conroy Road generally slopes toward Johnston Road at an approximate longitudinal grade of 1.0% along the proposed sanitary sewer corridor.

The proposed sanitary sewer profile was developed to generally follow this roadway grade. Maintaining a similar longitudinal slope allowed the sewer to be installed with consistent cover while minimizing excavation depths along the alignment. A design slope of approximately 1.0% was therefore adopted for the proposed sanitary sewer extension.

This approach allows the proposed sewer to maintain the City of Ottawa minimum cover requirement of 2.5m along the alignment while also supporting appropriate hydraulic performance.

Although the existing trunk sanitary sewer within Johnston Road is located at significant depth (approximately 9.9m), the proposed sanitary sewer does not connect at the trunk invert elevation. Instead, the proposed sewer maintains its design profile to the downstream maintenance hole, where a localized deeper excavation is required to facilitate installation of the external drop structure connection.

As a result, the proposed sanitary sewer does not transition to a continuous deep profile along the alignment. The deeper excavation is limited to the immediate area of the connection maintenance hole, where excavation of approximately 5m depth is anticipated to access the existing structure and construct the drop connection. The additional depth of the trunk sewer occurs within the existing maintenance hole structure and does not govern the proposed sewer profile.

These localized depth constraints influenced the design approach, including the selection of the drop structure configuration and consideration of constructability associated with the connection works.

4.0 PROPOSED SANITARY SERVICING STRATEGY

4.1 Overview of Proposed Sanitary Extension

A new municipal sanitary sewer is proposed to extend from the existing 1200mm diameter trunk sanitary sewer located within Johnston Road north along Conroy Road to service the proposed development at 3145 Conroy Road. The sanitary extension is approximately 229m in length and will be constructed within the Conroy Road median.

The proposed sewer will also provide servicing opportunities for adjacent frontage lands consistent with City of Ottawa servicing objectives and design requirements to consider the full tributary drainage area fronting the sewer.

4.2 Design Objectives

The proposed sanitary sewer design was developed to achieve the following objectives:

- Provide sanitary servicing to the proposed development
- Size the sewer to accommodate tributary frontage lands in accordance with City guidelines
- Minimize utility conflicts within the corridor
- Minimize excavation depth where feasible
- Maintain minimum cover requirements
- Achieve minimum hydraulic velocity requirements
- Provide a constructible connection to the existing deep trunk sewer
- Allow flexibility for future servicing connections

4.3 Sewer Alignment Rationale

As discussed previously, alternative sanitary alignments within both the boulevard and median were reviewed during design development. The median alignment was selected following discussions with the City due to reduced conflicts with telecommunications infrastructure and improved long-term servicing efficiency for future connections.

Locating the sewer within the median also reduces the length of future service connections given the four-lane cross-section of Conroy Road. A boulevard alignment would require longer service laterals and additional crossings of the roadway, increasing both construction complexity and future maintenance considerations.

The proposed sanitary alignment was also positioned to maintain increased separation from the existing median watermain to reduce construction risk. A minimum horizontal separation of approximately 4.0m is maintained at the closest location, exceeding typical minimum requirements.

4.4 Sewer Profile and Design Parameters

The proposed sanitary sewer consists of a 250mm diameter PVC sewer designed at an approximate slope of 1.0%, generally following the longitudinal grade of Conroy Road. This approach minimizes excavation depth while maintaining the City's minimum cover requirement of 2.5m along the alignment.

The 250mm diameter was selected to satisfy City minimum pipe size requirements for municipal sanitary sewers and to allow accommodation of future development connections along the corridor.

The sewer was designed using the following general parameters:

- Minimum pipe diameter: 250mm
- Manning's roughness coefficient: 0.013
- Minimum full-flow velocity: 0.6m/s
- Maximum full-flow velocity: 3.0m/s
- Minimum cover: 2.5m

4.5 Maintenance Holes

Two new maintenance holes are proposed as part of the sanitary sewer extension to provide access for maintenance and inspection and to facilitate the connection to the existing trunk sewer.

The proposed maintenance holes will consist of 1200mm diameter precast concrete maintenance holes constructed in accordance with OPSD standards and City of Ottawa Sewer Design Guidelines. Standard City frames and covers will be provided.

Maintenance hole spacing has been designed in accordance with City of Ottawa requirements, which permit a maximum spacing of 120m for a 250mm diameter sanitary sewer. The proposed sewer segments are approximately 114.5m in length, which complies with this requirement.

5.0 SANITARY FLOW ASSESSMENT

5.1 Design Criteria

Sanitary flows for the proposed sewer extension were calculated in accordance with the City of Ottawa Sewer Design Guidelines (2012) and applicable technical bulletins. The sewer was designed to accommodate flows from the subject development as well as potential future tributary lands fronting the sewer extension.

The following sanitary design criteria were applied:

General Hydraulic Criteria:

- Minimum sanitary sewer diameter: 250mm
- Manning's roughness coefficient: 0.013
- Minimum full-flow velocity: 0.6m/s
- Maximum full-flow velocity: 3.0m/s
- Minimum cover: 2.5m

Land Use Flow Criteria:

- Average residential flow: 280L/cap/day
- Population density (Neighbourhood zoning): 60 persons/gross hectare
- Average industrial flow: 55,000L/gross ha/day
- Average commercial flow: 28,000L/gross ha/day
- Truck wash flow: 400L per truck wash (per Ottawa Sewer Design Guidelines)

Peaking Factors:

- Industrial/Institutional peaking factor: 5.1 (Ottawa Sewer Design Guidelines Appendix 4-B)
- Commercial peaking factor: 1.5 (Ottawa Sewer Design Guidelines)
- Residential peaking factor: Harmon Formula

Allowance Factors:

- Infiltration allowance: 0.33L/s/gross hectare

As the proposed sanitary sewer is part of a separate sanitary system and not a combined sewer, foundation drains from future development are not anticipated to discharge to the sanitary system. Consistent with current City of Ottawa servicing practices, foundation drainage is expected to discharge to the storm system. As a result, no additional allowance for foundation drain extraneous flows was included beyond the standard infiltration allowance.

For lands zoned Neighbourhood, sanitary flows were initially calculated using the residential population density assumption of 60 persons per gross hectare and an average residential flow of 280L/cap/day. However, this approach resulted in lower design flows than would be expected if these lands were to redevelop with mixed-use or commercial uses, which are permitted within the zoning framework.

Two of the tributary properties currently contain commercial-type developments (including office and fuel service uses) that are presently serviced through alternative sanitary connections. Given their frontage along Conroy Road, these properties could reasonably connect to the proposed sanitary sewer extension in the future if servicing arrangements change or redevelopment occurs.

To provide a conservative assessment of long-term sanitary capacity, these lands were therefore evaluated using commercial flow criteria based on gross site area, as this approach results in higher flows than the residential population-based method. This conservative assumption was adopted solely to confirm that the proposed sewer has adequate capacity under potential future servicing conditions and does not represent a commitment regarding future servicing strategy.

6.0 TRIBUTARY DRAINAGE SCENARIOS

6.1 Overview

In response to City review comments requesting that the sanitary sewer be designed based on the drainage area fronting the sewer and not solely the proposed development, multiple tributary drainage scenarios were evaluated.

Sanitary drainage area plans and corresponding sewer design sheets were prepared to assess interim, future, and ultimate servicing conditions. These scenarios were developed to confirm that the proposed sanitary sewer provides adequate capacity and hydraulic performance under both initial servicing conditions and potential future development scenarios.

6.2 Servicing Scenarios Considered

The following servicing scenarios were evaluated:

- Scenario 1 – Interim Condition (Subject Site Only)
  This scenario considers sanitary flows generated solely from the proposed development at 3145 Conroy Road. This represents the initial operating condition following construction of the sewer extension.
- Scenario 2 – Interim Condition Including Adjacent City Lands
  This scenario includes flows from the subject site as well as adjacent City-owned lands identified during pre-consultation as having future development potential.
- Scenario 3 – Future Development Condition
  This scenario includes the subject site, adjacent City lands, and additional frontage lands along Conroy Road that could reasonably connect to the proposed sanitary sewer as part of future redevelopment.
- Scenario 4 – Ultimate Tributary Condition
  This scenario represents a conservative long-term servicing condition including all tributary frontage lands that could potentially connect to the proposed sewer extension.

6.3 Hydraulic Assessment of Scenarios

Sanitary sewer design sheets were prepared for each scenario to evaluate pipe capacity, flow depth, and velocity within each sewer segment. The analysis confirmed that the proposed 250mm sanitary sewer provides adequate hydraulic capacity under all servicing scenarios.

Hydraulic review confirms that the proposed sewer achieves the City of Ottawa velocity requirement of 0.6m/s under all scenarios, including the interim condition where only the subject site is connected.

A summary of the calculated velocities for each scenario is provided in the following table:

Scenario	Description	Pipe Segment MH1-MH2 Velocity (m/s)	Pipe Segment MH1-MH2 Capacity (%)	Pipe Segment MH2-EX Velocity (m/s)	Pipe Segment MH2-EX Capacity (%)
1	Interim – 3145 Conroy only	0.69	6	0.70	7
2	Interim – 3145 + adjacent City lands	1.11	34	1.11	34
3	Future Conroy frontage condition	1.15	39	1.21	48
4	Ultimate tributary condition	1.27	62	1.31	70

7.0 HYDRAULIC DESIGN ASSESSMENT

7.1 Hydraulic Design Methodology

Hydraulic analysis of the proposed sanitary sewer was completed using Manning's equation to confirm pipe capacity, flow depth, and velocity under each servicing scenario.

The Manning equation used in the analysis is:

$$Q = \frac{1}{n} A R^{2/3} S^{1/2}$$

Where:

- Q = Flow (m^3/s)
- n = Manning's roughness coefficient (0.013)
- A = Flow area (m^2)
- R = Hydraulic radius (m)
- S = Pipe slope (m/m)

Pipe flow depths and velocities were determined using standard circular pipe hydraulic relationships consistent with industry practice and City of Ottawa design methodology.

7.2 Pipe Capacity Assessment

The proposed 250mm sanitary sewer has a full flow capacity of approximately 62.0L/s at the design slope of 1.0%, based on Manning's equation and City of Ottawa design charts.

Hydraulic analysis confirms that under all servicing scenarios, the proposed sanitary sewer operates well below full capacity. Under ultimate servicing conditions, the sewer utilizes approximately 70% of available capacity, confirming that the proposed pipe size is appropriate for both interim and future conditions.

7.3 Velocity Assessment

Hydraulic review confirms that the proposed sanitary sewer achieves the City of Ottawa minimum velocity requirement of 0.6m/s under all servicing scenarios.

Even under interim conditions where only the subject development is connected, calculated velocities exceed the minimum requirement. Velocities increase under future servicing scenarios as additional tributary flows enter the system.

Based on this review:

- Minimum self-cleansing velocity requirements are satisfied
- No low-flow operational concerns are anticipated
- No special maintenance measures are required

7.4 Flow Depth and Hydraulic Performance

Review of flow depth to diameter ratios confirms that the sewer operates within acceptable hydraulic limits under all scenarios and does not approach surcharge conditions.

The sewer operates partially full under all servicing scenarios, consistent with typical municipal sanitary sewer design practice. This confirms adequate hydraulic capacity and appropriate pipe sizing.

7.5 Hydraulic Design Summary

Based on the hydraulic analysis completed:

- The proposed 250mm sanitary sewer provides adequate hydraulic capacity
- Minimum velocity requirements are achieved under interim and future conditions
- The sewer does not operate under surcharge conditions
- The proposed slope of 1.0% provides appropriate hydraulic performance
- The proposed design satisfies City of Ottawa sanitary sewer design criteria

The hydraulic assessment confirms the proposed sanitary sewer design is appropriate for both initial servicing and long-term development conditions.

8.0 DEEP TRUNK CONNECTION CONSTRAINTS

8.1 Existing Trunk Sewer Constraints

The proposed sanitary sewer extension connects to the existing 1200mm diameter trunk sanitary sewer located within Johnston Road. Based on available information, the existing sewer is located at significant depth, resulting in a connection depth of approximately 9.9m.

This depth presents constructability challenges associated with:

- Deep excavation within a major arterial intersection
- Traffic staging constraints
- Temporary excavation support requirements
- Groundwater management considerations
- Coordination with existing utilities

Due to the elevation difference between the proposed sewer and the trunk system, a drop structure is required to facilitate the connection.

8.2 Drop Structure Alternatives Considered

In accordance with City of Ottawa Sewer Design Guidelines Section 6.2.14, external drop structures are typically preferred unless site constraints limit their feasibility. As part of the design process, multiple drop structure configurations were reviewed to determine the most practical solution.

- Alternatives reviewed included:
    - External Drop Structure Only:
        - A conventional external drop structure was reviewed; however, due to the depth of the connection and the location within a signalized arterial intersection, this option presents construction challenges related to excavation depth, staging complexity, and increased construction risk.
    - Internal Drop Structure Only:
        - A standalone internal vortex drop structure was also reviewed. However, the existing maintenance hole diameter is not sufficient to accommodate an internal vortex drop structure without modification. Implementation of this option would require replacement of the existing maintenance hole chimney and upper structure with a larger diameter structure.

While technically feasible, this approach would still require excavation to significant depth to facilitate reconstruction of the upper maintenance hole structure, introducing similar construction risks within the Johnston Road intersection.

8.3 Proposed Drop Structure Configuration

Based on review of the above constraints, a combined external drop structure with an internal vortex drop configuration is proposed.

This approach provides the following advantages:

- Maintains hydraulic performance through use of a vortex drop structure
- Reduces modification requirements to the existing trunk maintenance hole
- Provides a practical constructible solution given depth constraints
- Minimizes impacts to the existing trunk sewer structure
- Maintains long-term operational functionality

This configuration represents a modified application of standard drop structure practices but maintains the hydraulic intent of the City design guidelines.

8.4 Design Considerations

The proposed drop structure configuration reflects the unique physical constraints at the connection location and represents a practical balance between hydraulic performance, constructability, and long-term operation.

Shop drawings for the vortex drop structure will be submitted to the City for review and approval prior to construction.

Based on the above considerations, the proposed connection approach is considered appropriate given the depth of the existing infrastructure and the constraints associated with construction within a major arterial roadway.

9.0 CONSTRUCTABILITY CONSIDERATIONS

9.1 General Construction Approach

Construction of the proposed sanitary sewer will occur within the Conroy Road right-of-way and will require careful coordination due to the depth of the sewer, presence of existing utilities, and traffic operations along the corridor.

Construction methods will be determined by the Contractor however the design has considered typical construction requirements associated with deep sanitary sewer installation.

9.2 Excavation Depth and Shoring Requirements

Due to the depth of the proposed sanitary sewer connection to the existing trunk system, excavation depths >5m will be required for the external drop structure.

Construction at these depths will require:

- Engineered trench support systems
- Staged excavation methods
- Appropriate excavation safety measures

- Coordination and temporary support of existing utilities
- Monitoring of adjacent infrastructure

Additional temporary support measures will also be required for existing underground infrastructure encountered within the excavation limits, including:

- Traffic signal and hydro/streetlighting duct banks at the Johnston Road intersection
- Catchbasin leads crossing the sanitary alignment
- Existing natural gas infrastructure within the corridor

These utilities may require temporary support, protection, or localized adjustments during construction to maintain service continuity and protect existing infrastructure. Utility support requirements are typical for deep sewer construction within urban arterial corridors and will be addressed through standard construction practices.

The proposed sewer alignment and profile were developed to minimize excavation depth where feasible while maintaining hydraulic requirements and minimum cover.

9.3 Traffic Management

Construction of the proposed sanitary sewer will require temporary traffic management measures along Conroy Road to facilitate installation while maintaining safe traffic operations.

Based on the proposed sewer alignment within the median, construction will likely require temporary closure of the inside southbound lane on Conroy Road to facilitate excavation and installation of the sanitary sewer. Traffic staging will be implemented to maintain through traffic during construction.

At the Johnston Road intersection, additional temporary lane restrictions will likely be required to facilitate construction of the deep sanitary connection and drop structure. This may include temporary closure of the southbound left-turn lane on Conroy Road to provide sufficient work area for excavation, utility support, and installation activities.

Traffic management considerations will include:

- Maintaining through traffic on Conroy Road during construction
- Coordination with City traffic management requirements
- Maintaining emergency access
- Temporary pavement markings and signage as required
- Restoration of all traffic lanes following construction

Detailed traffic management plans will be provided prior to construction subject to City review and approval.

10.0 SUPPORTING TECHNICAL STUDIES SUMMARY

10.1 Overview

The sanitary sewer design was supported by several technical investigations and background studies to confirm existing conditions, identify potential constraints, and inform design decisions. These reports are included in the appendices and provide supporting information related to utilities, subsurface conditions, and construction considerations.

10.2 Subsurface Utility Engineering Summary

Subsurface Utility Engineering (SUE) information was reviewed to identify existing underground infrastructure within the Conroy Road corridor. The SUE investigation provided information regarding the location of existing water, storm, telecommunications, gas, and traffic infrastructure that could influence the proposed sanitary sewer alignment.

This information was used to:

- Assist in selection of the preferred sewer alignment
- Identify potential utility conflicts
- Support constructability review
- Inform separation requirements from existing infrastructure

Final utility locations will be confirmed by the Contractor through standard utility locate procedures prior to construction.

10.3 Geotechnical Investigation Summary

The geotechnical investigation indicates subsurface conditions generally consist of silty sand fill overlying native silty clay soils. Excavation conditions are generally consistent with Type 3 soils in accordance with OHSA classifications, with the potential for Type 4 conditions below groundwater levels.

Key geotechnical considerations include:

- Excavation Conditions: Deep excavation will require engineered trench support systems consistent with Type 3 soil conditions
- Backfill Suitability: Existing fill containing organics is generally unsuitable for reuse. Native soils may be reused subject to moisture conditioning. Granular materials are recommended in confined areas and adjacent to structures

- Road Reinstatement: Pavement reinstatement for Conroy Road is recommended to consist of approximately 50mm surface asphalt, 100mm binder asphalt, 150mm Granular A, and 450mm Granular B, or matching existing pavement structure where greater

These findings confirm that the proposed sanitary sewer can be constructed using conventional deep trench construction practices.

10.4 Soil Characterization Summary

A Due Diligence Soil Characterization Report was completed to assess the environmental quality of soils anticipated to be generated during construction of the sanitary sewer extension and to support excess soil management planning.

The investigation included drilling of three boreholes along the proposed sewer alignment and laboratory analysis of representative soil samples for petroleum hydrocarbons, metals, PAHs, and other potential contaminants of concern.

Key Findings:

The soil characterization identified the following general findings relevant to construction:

- Soils generally consist of fill over native silty clay materials typical of the Ottawa area
- Some deeper native soils contained elevated metals (vanadium and chromium) exceeding certain excess soil quality standards, likely related to naturally occurring Champlain Sea sediments common in the Ottawa region
- Some deeper soils may require disposal at an appropriate licensed landfill or reuse site depending on final characterization and receiver site requirements

The report also notes that additional soil characterization during construction could reduce disposal volumes through further sampling and segregation of materials.

Based on the analytical results:

- Some soils may be suitable for reuse on-site or at appropriate reuse sites subject to excess soil regulations
- Some soils may require disposal depending on final characterization and regulatory requirements
- Soil reuse opportunities may be confirmed through additional sampling and testing during construction

The acceptance of excess soils will ultimately depend on the receiving site's requirements and compliance with Ontario Regulation 406/19 (On-Site and Excess Soil Management).

The Soil Characterization Report recommends that soils be monitored during excavation for visual or olfactory evidence of potential impacts. If impacted soils are encountered, they should be segregated and managed appropriately.

During construction, a Qualified Person (QP) will be required to:

- Confirm soil characteristics during excavation
- Direct soil segregation if required
- Confirm reuse or disposal requirements
- Provide guidance on excess soil documentation
- Support preparation of excess soil tracking documentation where required

These measures will ensure excess soils are managed in accordance with applicable provincial regulations. Final excess soil management requirements will be determined by the Contractor in consultation with a Qualified Person during construction.

10.5 Dewatering Requirements

Construction of the proposed sanitary sewer will require deep excavation, particularly near the Johnston Road connection. Based on the hydrogeological investigation, temporary groundwater control measures will likely be required during construction to maintain safe excavation conditions.

Subsurface investigations indicate groundwater levels were encountered between approximately 2.6m and 4.5m below existing grade. The native soils generally consist of low permeability silty clay deposits, resulting in relatively low anticipated groundwater inflow rates.

Measured hydraulic conductivities were on the order of approximately 10^{-9} m/s, which is consistent with low permeability clay soils and indicates limited groundwater inflow potential during excavation.

A hydrogeological assessment was completed to estimate anticipated dewatering requirements for the conceptual excavation geometry. Based on this assessment, temporary construction dewatering volumes were estimated to be approximately:

- 17,769L/day (≈18 m^3/day)

This estimate includes groundwater inflow, incident precipitation, and a factor of safety applied to groundwater contributions.

Based on these estimates, dewatering volumes are anticipated to remain below 50,000L/day, which is generally considered minor construction dewatering.

Based on the estimated dewatering volumes, no Permit to Take Water (PTTW) is anticipated to be required for the conceptual excavation scenario. Construction dewatering activities may instead require registration under the Environmental Activity and Sector Registry (EASR) depending on the Contractor's final pumping methodology and volumes.

The Contractor will be responsible for confirming regulatory requirements and obtaining any required registrations or permits prior to construction.

Groundwater sampling and laboratory testing were completed as part of the hydrogeological investigation to assess discharge suitability. Results indicate groundwater quality is generally consistent with native soil conditions within the area.

Additional groundwater quality testing may be required during construction to confirm compliance with discharge requirements and to determine whether temporary treatment measures are required prior to discharge.

Due to the limited availability of local sanitary infrastructure along portions of Conroy Road, discharge of dewatering flows will require coordination with the City to identify an acceptable discharge location. Potential discharge options may include:

- Controlled discharge to the existing Johnston Road trunk sanitary sewer
- Discharge to the storm sewer system where permitted
- Alternative approved discharge locations

Any discharge to municipal infrastructure will be required to comply with the City of Ottawa Sewer Use By-law and will require a Private Water Discharge Agreement with the City.

Depending on groundwater quality, temporary treatment measures such as sediment tanks, filtration systems, or other best management practices may be required to meet discharge criteria.

During construction, the Contractor will be responsible for:

- Obtaining required permits or EASR registrations
- Confirming groundwater quality through field testing
- Retaining a Qualified Person (QP) to oversee excess soil and water management requirements
- Implementing temporary treatment measures if required
- Coordinating discharge approvals with the City
- Managing dewatering in accordance with Ontario Regulation 406/19 and City requirements

Based on the hydrogeological assessment, anticipated dewatering requirements are considered typical for deep sanitary sewer construction within clay soils. Estimated groundwater inflows are relatively minor and are not expected to present a constraint to construction of the proposed sanitary sewer extension.

10.6 Environmental Considerations

Environmental considerations associated with the proposed sanitary sewer construction primarily relate to erosion and sediment control (ESC), excess soil management, and groundwater discharge management during construction.

Construction within the Conroy Road right-of-way will require implementation of erosion and sediment control measures to prevent the migration of sediment into the municipal drainage system during excavation activities.

ESC measures will be implemented in accordance with City of Ottawa standards and specifications and typical urban construction practices. Typical measures are expected to include:

- Sediment control barriers where required
- Filter fabric protection beneath catchbasin grates within the work zone
- Temporary stockpile protection measures
- Stabilization of disturbed areas following construction
- Street cleaning as required to prevent sediment tracking
- Inspection and maintenance of ESC measures during construction

ESC measures will be maintained throughout construction and removed once disturbed areas are stabilized.

Excess soils generated during construction will be managed in accordance with Ontario Regulation 406/19 (On-Site and Excess Soil Management) and recommendations provided in the Soil Characterization Report.

A Qualified Person (QP) will be retained during construction to support soil management decisions including soil segregation, reuse suitability, and disposal requirements.

Temporary dewatering associated with construction will be managed in accordance with regulatory requirements and the City Sewer Use By-law. Groundwater discharge locations and any required treatment measures will be confirmed prior to construction.

Environmental impacts associated with the proposed sanitary sewer installation are typical of urban infrastructure construction and can be effectively managed through standard construction practices and adherence to City specifications.

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Conclusions

This Design Brief was prepared to support the proposed sanitary sewer extension along Conroy Road to service the proposed development at 3145 Conroy Road and to address City review comments related to drainage area servicing, hydraulic performance, and constructability of the connection to the existing trunk sewer.

Based on the analysis completed, the following conclusions are provided:

- The proposed sanitary sewer extension has been designed to service not only the subject development but also tributary frontage lands in accordance with City of Ottawa Sewer Design Guidelines
- Multiple servicing scenarios were evaluated to confirm both interim and ultimate servicing capacity
- The proposed alignment within the Conroy Road median minimizes utility conflicts and supports future servicing connections
- The proposed 250mm sanitary sewer provides adequate capacity under all servicing scenarios
- Hydraulic analysis confirms the sewer achieves the minimum City velocity requirement of 0.6m/s under both interim and future servicing conditions
- The sewer operates below full capacity under all scenarios and does not approach surcharge conditions
- The proposed design satisfies City of Ottawa sanitary design criteria
- The connection to the existing trunk sewer requires a deep connection at the existing trunk maintenance hole
- A combined external drop structure with internal vortex drop configuration is proposed to address hydraulic requirements while maintaining constructability
- Construction challenges associated with deep excavation are typical for urban sanitary sewer construction and can be managed through conventional construction practices
- Utility conflicts have been considered in the alignment selection
- Traffic staging requirements have been identified and can be addressed with further coordination with the City's traffic management group and contractor's traffic control plan
- Supporting technical investigations confirm the proposed design is constructible
- Geotechnical, soil characterization, hydrogeological, and SUE investigations support the feasibility of the proposed sanitary sewer design
- No significant technical constraints were identified that would preclude construction
- Environmental impacts can be managed through standard construction practices

11.2 Recommendations

Based on the analysis presented in this Design Brief, the following recommendations are provided:

- The proposed sanitary sewer extension is suitable to service the subject development and future tributary lands
- The proposed sewer alignment and profile are appropriate given existing constraints
- The proposed drop structure configuration is considered an appropriate solution given the depth of the existing trunk sewer
- Shop drawings for the vortex drop structure should be submitted to the City for review
- Construction should proceed in accordance with supporting technical report recommendations and applicable City standards

12.0 STATEMENT OF LIMITATIONS

This report was prepared for the exclusive use of WO MW Realty Limited to support the proposed sanitary servicing works at 3145 Conroy Road. The purpose of this report is to document the proposed sanitary servicing design and demonstrate compliance with applicable guidelines and standards of the Ministry of the Environment, Conservation and Parks (MECP), the City of Ottawa, and other applicable approval agencies.

Egis Canada Ltd. has relied upon available background information, technical reports, and design information referenced in this report. While available information was reviewed and site visits were undertaken to observe general site conditions, no detailed field verification or survey confirmation of existing infrastructure was completed as part of this assignment unless otherwise noted.

This report has been prepared solely for the purposes described herein. Any use of this report by third parties, or any reliance on decisions made based on this report by third parties, is the responsibility of such parties. Egis Canada Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions based on this report without written authorization or a reliance letter from Egis Canada Ltd.

The findings, conclusions, and recommendations presented in this report are based on information available at the time of preparation and are valid as of the date of this report. No assurance is made regarding changes in site conditions, regulations, or other factors that may occur subsequent to this date. Should additional information become available, Egis Canada Ltd. should be retained to review the new information and, if necessary, revise the conclusions and recommendations provided herein.

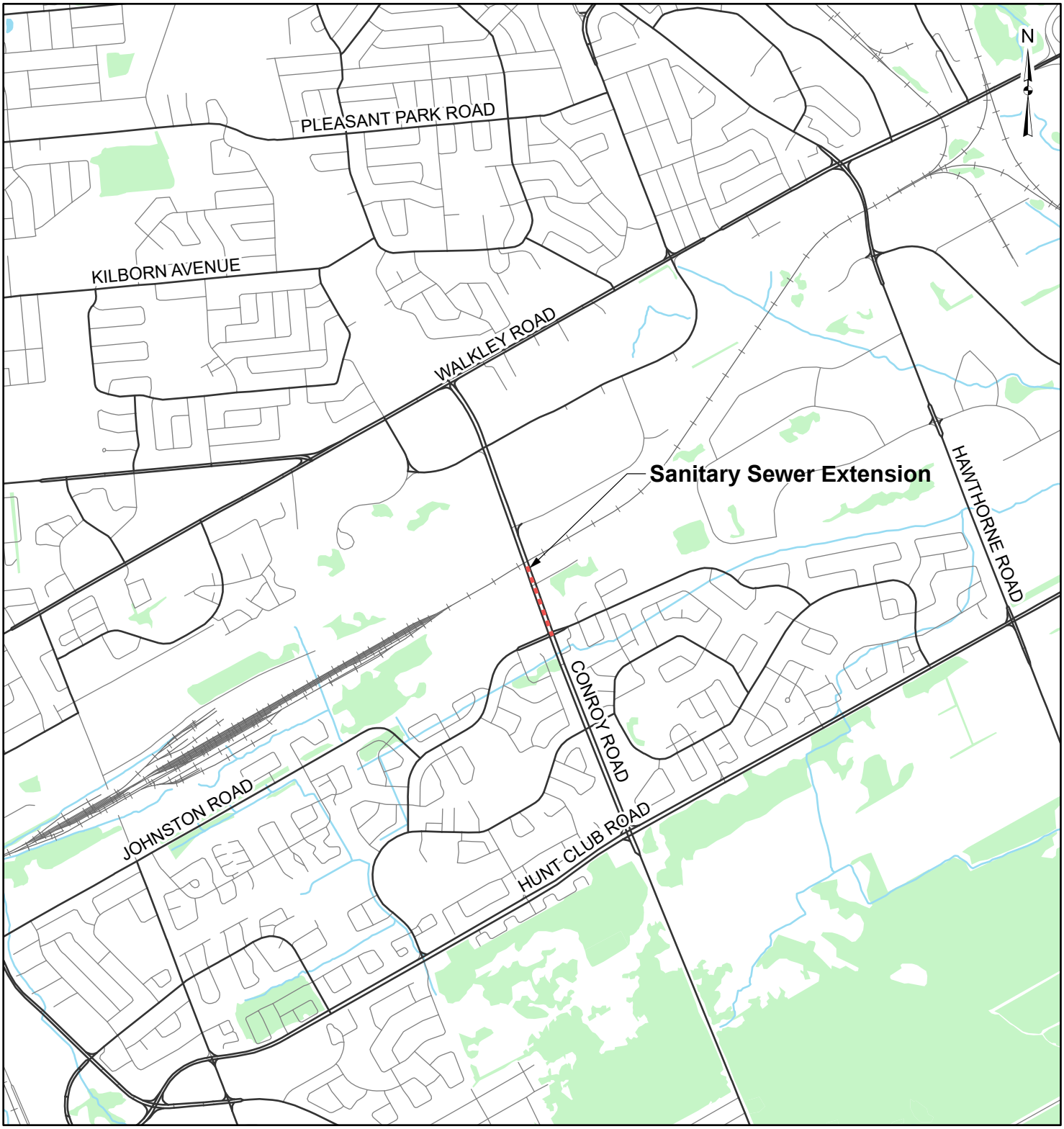
Based on the information presented in this report, it is our opinion that the proposed sanitary servicing design is appropriate and satisfies applicable City requirements. Accordingly, we respectfully request that the City of Ottawa approve this Design Brief in support of the proposed development at 3145 Conroy Road.

This report is respectfully submitted for review and approval.

EGIS CANADA LTD.

Calum MacDonald, P. Eng
Technical Lead, Municipal Engineering
613-778-8609

APPENDIX A
LOCATION PLAN



800 400 0 800

Scale 1:25,000 Metres

LEGEND

- Sanitary Extension
- Local Road
- Major Road
- Railroad
- Watercourse
- Waterbody
- Wooded Area

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2025.

CLIENT: MILLER WASTE SYSTEMS
112 BALES DRIVE EAST, EAST GWILLIMBURY, ON

PROJECT: 3145 CONROY ROAD

TITLE: LOCATION PLAN

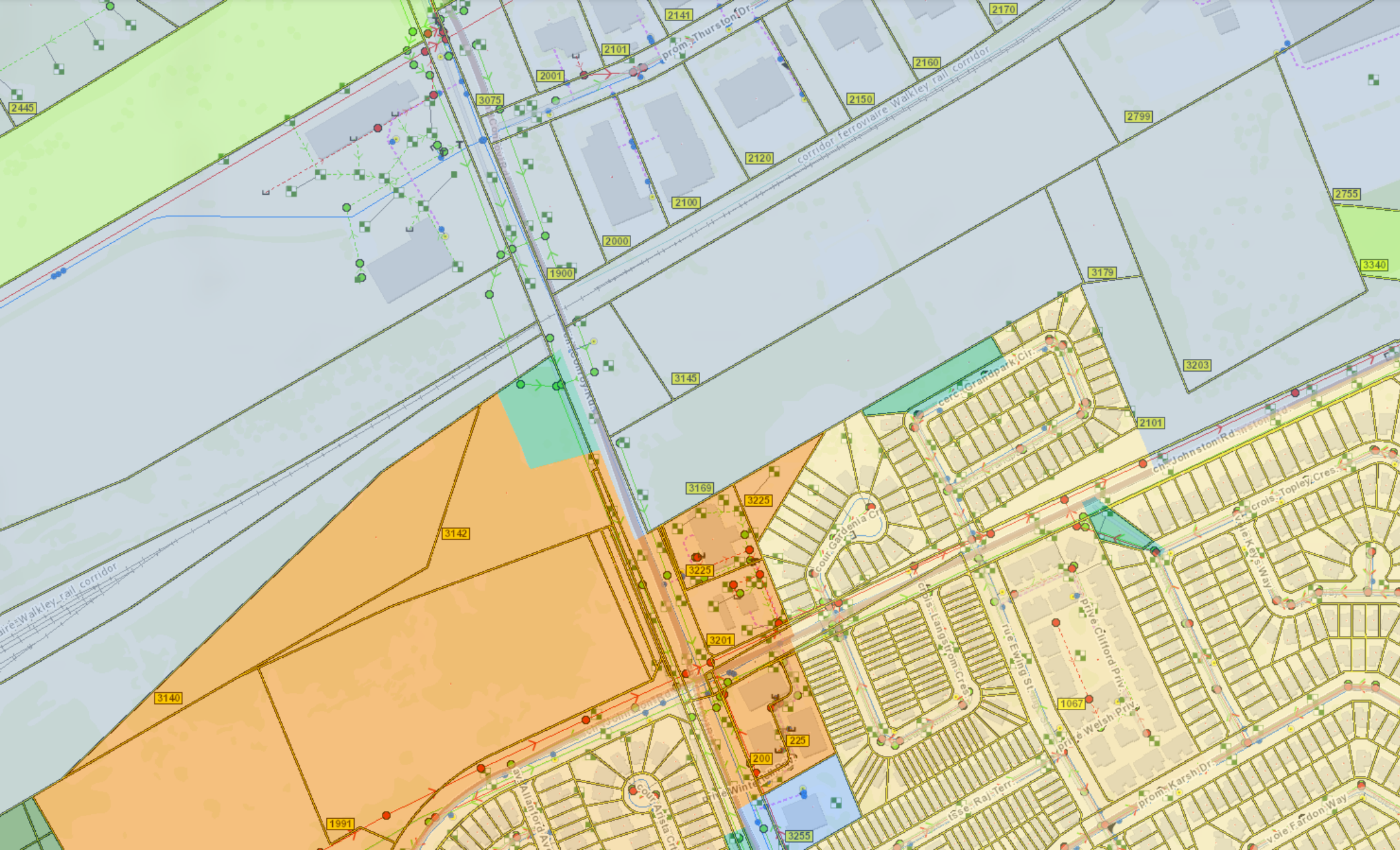
egis
750 Palladium Dr, Suite 310, Kanata, ON K2V 1C7
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO:	CO-25-1505
Date	Jul., 28, 2025
GIS	CZ
Checked By	RP

FIGURE: 00

C:\Users\c.zander\EGIS Group\GIS - Documents\Projects\2025\CO\CO-25-1505 3145 Conroy\aprx\Key Maps\Land Development\CO-25-1505 Key Plan.aprx

APPENDIX B
ZONING



Zoning Legend

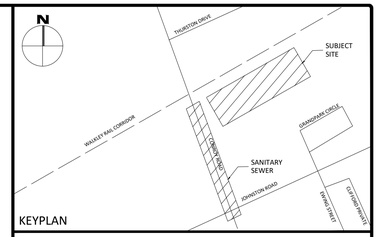
- N1 - Neighbourhood Zone
- N2 - Neighbourhood Zone
- N3 - Neighbourhood Zone
- N4 - Neighbourhood Zone
- N5 - Neighbourhood Zone
- N6 - Neighbourhood Zone
- IH, IL, IM, - Urban Industrial Zones
- T1, T2 - Transportation Zones
- INZ - Institutional Zone
- LGZ - Large-Scale Institutional and Recreation Zone
- REC - Recreation Zone
- GRN - Greenspace Zone

WHITE OWL

Ottawa

egis

APPENDIX C
SANITARY DRAINAGE AREA PLANS



No.	Revisions	Date
1	FOR SPA SUBMISSION	03.23.2026

Check and verify all dimensions before proceeding with the work

Do not scale drawings

egis

Stamp:

Client:

WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

Project:

PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:

SANITARY DRAINAGE AREA PLAN
INTERIM 3145 CONROY

Scale: 1:500	Project Number: CO-25-1505
Drawn By: CDM	
Checked By: CDM	Drawing Number: C105
Designed By: CDM	

D07-12-25-0107

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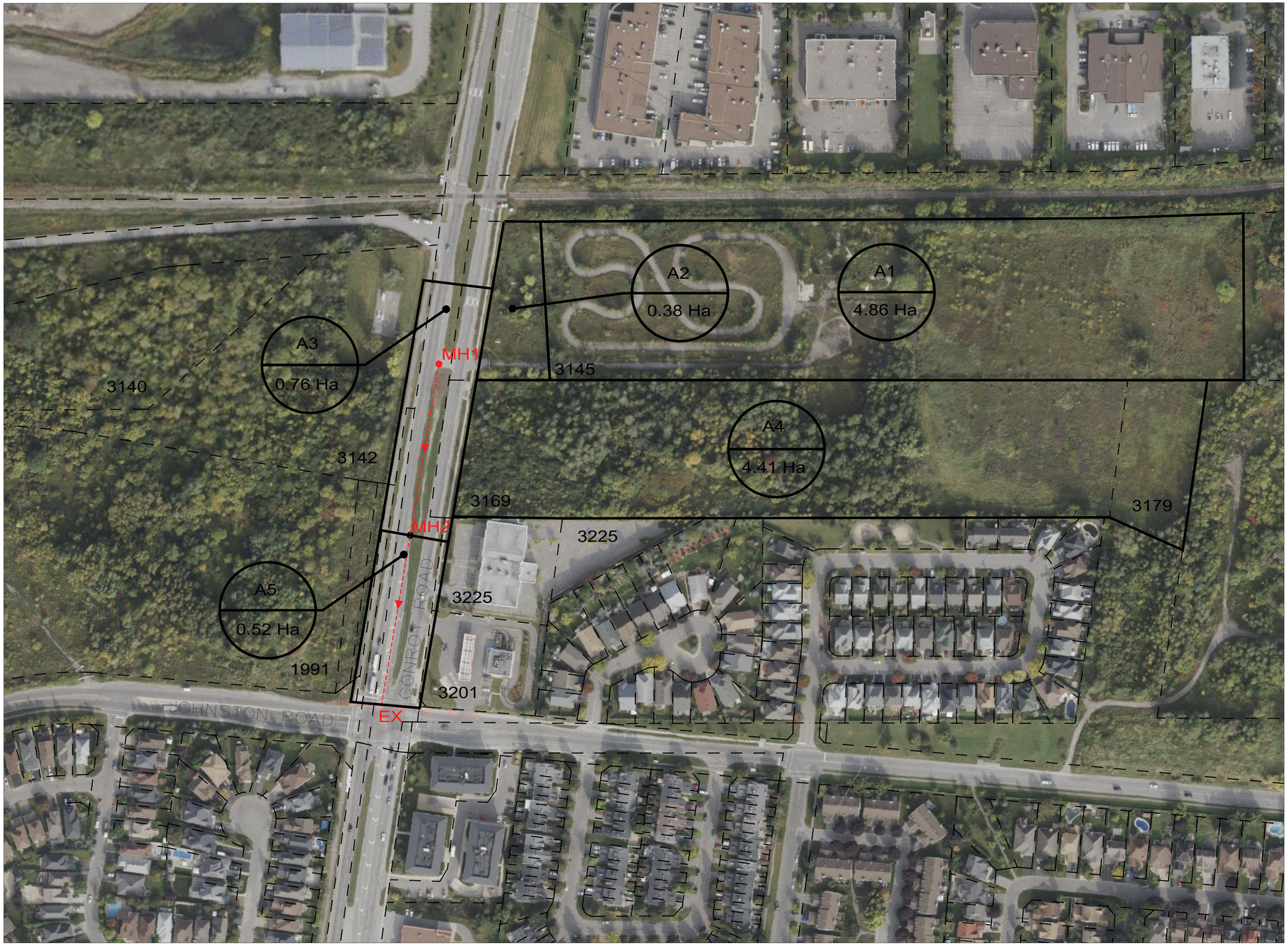
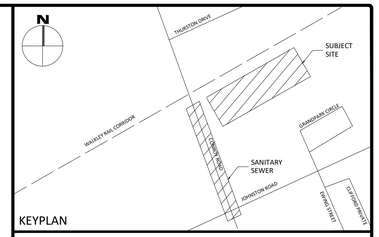
LAST PLOTTED: Monday, March 23, 2026 CTB FILE USED: —





No.	Revisions	Date
1	FOR SPA SUBMISSION	03.23.2026

Check and verify all dimensions before proceeding with the work

Do not scale drawings

egis

Stamp:

Client:

WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

Project:

PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:

SANITARY DRAINAGE AREA PLAN
INTERIM 3145 & 3169 CONROY

Scale: 1:500	Project Number: CO-25-1505
Drawn By: CDM	
Checked By: CDM	Drawing Number: C106
Designed By: CDM	

D07-12-25-0107

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LAST SAVED: Monday, March 23, 2026 LAST SAVED BY: cmacdonald
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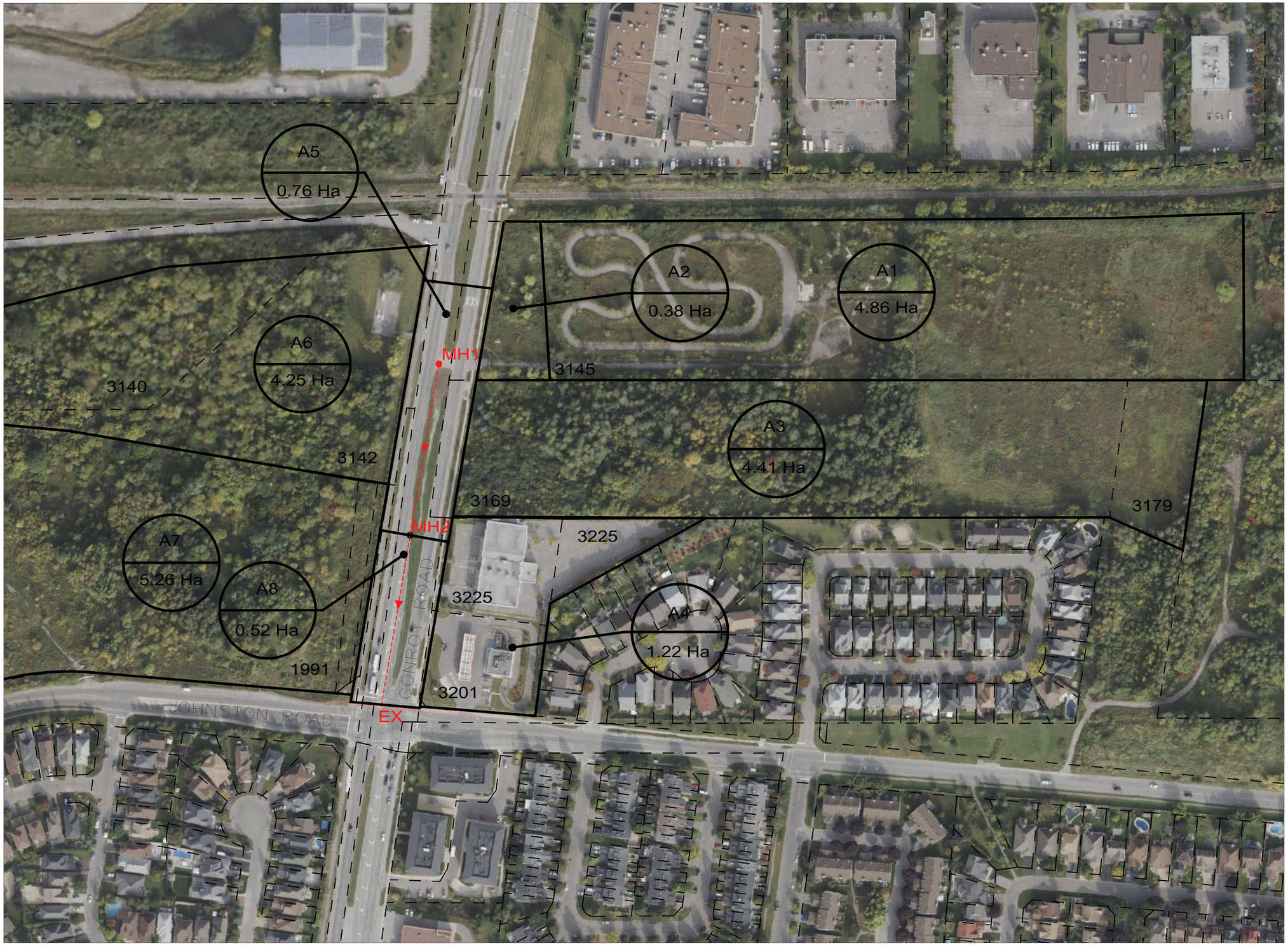

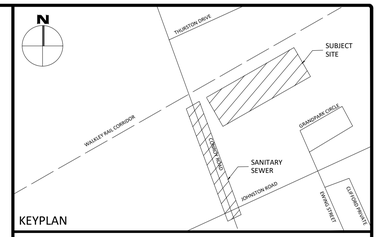

No.	Revisions	Date
1	FOR SPA SUBMISSION	03.23.2026

Check and verify all dimensions before proceeding with the work

Do not scale drawings

egis

Stamp:

Client:
WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

Project:
PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:
SANITARY DRAINAGE AREA PLAN
FUTURE/ULTIMATE CONROY

Scale: 1:500	Project Number: CO-25-1505
Drawn By: CDM	
Checked By: CDM	Drawing Number: C107
Designed By: CDM	

D07-12-25-0107

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LAST SAVED: Monday, March 23, 2026 LAST SAVED BY: cmacdonald
LAST PLOTTED: Monday, March 23, 2026 FILE USED: —

APPENDIX D
SANITARY SEWER DESIGN SHEETS

SANITARY SEWER DESIGN SHEET - INTERIM 3145 CONROY

PROJECT: 3145 Conroy Road - Sanitary Sewer Extension
LOCATION: Conroy Road
CLIENT: WO MW Realty Limited

LOCATION				TRUCK WASH				RESIDENTIAL					ICI AREAS							INFILTRATION ALLOWANCE			EXRANEOUS ALLOWANCE			FLOW	PIPE									
								AREA	POPULATION		PEAK	PEAK	AREA (ha)						PEAK	AREA (ha)		FLOW	AREA (ha)		FLOW	DESIGN	LENGTH	DIA	Material	SLOPE	PIPE FULL	VELOCITY	FLOW	VELOCITY	AVAILABLE		RATIO
													INSTITUTIONAL		COMMERCIAL		INDUSTRIAL																CAPACITY		
STREET	AREA ID	FROM	TO	TRUCKS WASHED	FLOW L/S	PEAK FACTOR	PEAK FLOW L/S	(ha)	IND	CUM	FACTOR	FLOW L/S	IND	CUM	IND	CUM	IND	CUM	FLOW L/S	IND	CUM	L/S	IND	CUM	L/S	FLOW L/S	(m)	(mm)		(%)	CAPACITY (L/s)	(full) (m/s)	DEPTH (mm)	(actual) (m/s)	L/s	(%)	q/Q
Run 1																																			
Conroy Road	A1, A2,A3	MH1	MH2	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.98	6.00	6.00	1.98	0.00	0.00	0.00	3.91	114.50	250	PVC	1.0%	62.04	1.22	45.0	0.69	58.13	93.71	0.06
Run 2																																			
Conroy Road	A4	MH2	EXISTING	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.98	0.52	6.52	2.15	0.00	0.00	0.00	4.08	114.50	250	PVC	1.0%	62.04	1.22	45.9	0.70	57.96	93.43	0.07

Design Parameters:
Manning Roughness Coefficient: 0.013 per Ottawa Sewer Design Guidelines
Truck Wash: 400L per Truck per Ottawa Sewer Design Guidelines Appendix 4-A
Average Heavy Industrial Flow: 55,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Industrial Areas: 5.1 per Ottawa Sewer Design Guidelines Appendix 4-B
Average Commercial Flow: 28,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Commercial Areas: 1.5 per Ottawa Sewer Design Guidelines
Average Residential Flow: 280L/c/day per Ottawa Sewer Design Guidelines
Population Density: 60 persons/gross hectare per City of Ottawa Sewer Design Guidelines
Peaking Factor for Residential Areas (Harmon): 4.0 per Ottawa Sewer Design Guidelines
Infiltration Allowance: 0.33L/s/gross Ha per Ottawa Sewer Design Guidelines

Designed: CDM

Checked: CDM

Project No.: CCO-25-1505

No.	Revision	Date
1	FOR SPA SUBMISSION	2026-03-23

Date:
2026-03-23

Sheet No:
1 of 4

SANITARY SEWER DESIGN SHEET - INTERIM 3145 & 3169 CONROY

PROJECT: 3145 Conroy Road - Sanitary Sewer Extension
LOCATION: Conroy Road
CLIENT: WO MW Realty Limited

LOCATION				TRUCK WASH				RESIDENTIAL					ICI AREAS							INFILTRATION ALLOWANCE			EXRANEOUS ALLOWANCE			FLOW	PIPE									
								AREA	POPULATION		PEAK	PEAK	AREA (ha)						PEAK	AREA (ha)		FLOW	AREA (ha)		FLOW	DESIGN	LENGTH	DIA	Material	SLOPE	PIPE FULL	VELOCITY	FLOW	VELOCITY	AVAILABLE		RATIO
													INSTITUTIONAL		COMMERCIAL		INDUSTRIAL								FLOW					CAPACITY	(full)	DEPTH	(actual)	CAPACITY		
STREET	AREA ID	FROM	TO	TRUCKS WASHED	FLOW L/S	PEAK FACTOR	PEAK FLOW L/S	(ha)	IND	CUM	FACTOR	FLOW L/S	IND	CUM	IND	CUM	IND	CUM	FLOW L/S	IND	CUM	L/S	IND	CUM	L/S	L/S	(m)	(mm)		(%)	(L/s)	(m/s)	(mm)	(m/s)	L/s	(%)	q/Q
Run 1																																				
Conroy Road	A1, A2,A3, A4	MH1	MH2	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	0.00	0.00	5.09	5.09	16.52	10.41	10.41	3.44	0.00	0.00	0.00	20.90	114.50	250	PVC	1.0%	62.04	1.22	101.2	1.11	41.14	66.30	0.34
Run 2																																				
Conroy Road	A4	MH2	EXISTING	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	0.00	0.00	0.00	5.09	16.52	0.52	10.93	3.61	0.00	0.00	0.00	21.08	114.50	250	PVC	1.0%	62.04	1.22	101.6	1.11	40.96	66.03	0.34

Design Parameters:
Manning Roughness Coefficient: 0.013 per Ottawa Sewer Design Guidelines
Truck Wash: 400L per Truck per Ottawa Sewer Design Guidelines Appendix 4-A
Average Heavy Industrial Flow: 55,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Industrial Areas: 5.1 per Ottawa Sewer Design Guidelines Appendix 4-B
Average Commercial Flow: 28,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Commercial Areas: 1.5 per Ottawa Sewer Design Guidelines
Average Residential Flow: 280L/c/day per Ottawa Sewer Design Guidelines
Population Density: 60 persons/gross hectare per City of Ottawa Sewer Design Guidelines
Peaking Factor for Residential Areas (Harmon): 4.0 per Ottawa Sewer Design Guidelines
Infiltration Allowance: 0.33L/s/gross Ha per Ottawa Sewer Design Guidelines

Designed: CDM

Checked: CDM

Project No.: CCO-25-1505

No.	Revision	Date
1	FOR SPA SUBMISSION	2026-03-23

Date:
2026-03-23

SANITARY SEWER DESIGN SHEET - FUTURE CONROY

PROJECT: 3145 Conroy Road - Sanitary Sewer Extension
LOCATION: Conroy Road
CLIENT: WO MW Realty Limited

LOCATION				TRUCK WASH				RESIDENTIAL					ICI AREAS							INFILTRATION ALLOWANCE			EXRANEOUS ALLOWANCE			FLOW	PIPE									
								AREA	POPULATION		PEAK	PEAK	AREA (ha)						PEAK	AREA (ha)		FLOW	AREA (ha)		FLOW	DESIGN	LENGTH	DIA	Material	SLOPE	PIPE FULL	VELOCITY	FLOW	VELOCITY	AVAILABLE		RATIO
													INSTITUTIONAL		COMMERCIAL		INDUSTRIAL								FLOW					CAPACITY	(full)	DEPTH	(actual)	CAPACITY		
STREET	AREA ID	FROM	TO	TRUCKS WASHED	FLOW L/S	PEAK FACTOR	PEAK FLOW L/S	(ha)	IND	CUM	FACTOR	FLOW L/S	IND	CUM	IND	CUM	IND	CUM	FLOW L/S	IND	CUM	L/S	IND	CUM	L/S	L/S	(m)	(mm)		(%)	(L/s)	(m/s)	(mm)	(m/s)	L/s	(%)	q/Q
Run 1																																				
Conroy Road	A1, A2,A3, A4	MH1	MH2	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	4.25	4.25	5.09	5.09	18.59	14.66	14.66	4.84	0.00	0.00	0.00	24.37	114.50	250	PVC	1.0%	62.04	1.22	109.7	1.15	37.67	60.71	0.39
Run 2																																				
Conroy Road	A4	MH2	EXISTING	40	0.19	5.1	0.94	0.00	0	0	4.00	0.00	0.00	0.00	6.48	10.73	0.00	5.09	21.74	7.00	21.66	7.15	0.00	0.00	0.00	29.83	114.50	250	PVC	1.0%	62.04	1.22	122.5	1.21	32.21	51.91	0.48

Design Parameters:
Manning Roughness Coefficient: 0.013 per Ottawa Sewer Design Guidelines
Truck Wash: 400L per Truck per Ottawa Sewer Design Guidelines Appendix 4-A
Average Heavy Industrial Flow: 55,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Industrial Areas: 5.1 per Ottawa Sewer Design Guidelines Appendix 4-B
Average Commercial Flow: 28,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Commercial Areas: 1.5 per Ottawa Sewer Design Guidelines
Average Residential Flow: 280L/c/day per Ottawa Sewer Design Guidelines
Population Density: 60 persons/gross hectare per City of Ottawa Sewer Design Guidelines
Peaking Factor for Residential Areas (Harmon): 4.0 per Ottawa Sewer Design Guidelines
Infiltration Allowance: 0.33L/s/gross Ha per Ottawa Sewer Design Guidelines

Designed: CDM

Checked: CDM

Project No.: CCO-25-1505

No.	Revision	Date
1	FOR SPA SUBMISSION	2026-03-23

Date:
2026-03-23

Sheet No:
3 of 4

SANITARY SEWER DESIGN SHEET - ULTIMATE CONROY

PROJECT: 3145 Conroy Road - Sanitary Sewer Extension
LOCATION: Conroy Road
CLIENT: WO MW Realty Limited

LOCATION				TRUCK WASH				RESIDENTIAL					ICI AREAS							INFILTRATION ALLOWANCE			EXRANEOUS ALLOWANCE			FLOW	PIPE									
								AREA	POPULATION		PEAK	PEAK	AREA (ha)						PEAK	AREA (ha)		FLOW	AREA (ha)		FLOW	DESIGN	LENGTH	DIA	Material	SLOPE	PIPE FULL	VELOCITY	FLOW	VELOCITY	AVAILABLE		RATIO
STREET	AREA ID	FROM	TO	TRUCKS WASHED	FLOW L/S	PEAK FACTOR	PEAK FLOW L/S	(ha)	IND	CUM	FACTOR	FLOW L/S	INSTITUTIONAL		COMMERCIAL		INDUSTRIAL		FLOW L/S	IND	CUM	L/S	IND	CUM	L/S	FLOW L/S	(m)	(mm)		(%)	CAPACITY (L/s)	(full) (m/s)	DEPTH (mm)	(actual) (m/s)	CAPACITY L/s	CAPACITY (%)	q/Q
													IND	CUM	IND	CUM	IND	CUM																		
Run 1																																				
Conroy Road	A1, A2,A3, A4	MH1	MH2	0	0.00	5.1	0.00	0.00	0	0	4.00	0.00	0.00	0.00	4.25	4.25	9.65	9.65	33.39	14.66	14.66	4.84	0.00	0.00	0.00	38.23	114.50	250	PVC	1.0%	62.04	1.22	141.8	1.27	23.81	38.37	0.62
Run 2																																				
Conroy Road	A4	MH2	EXISTING	0	0.00	5.1	0.00	0.00	0	0	4.00	0.00	0.00	0.00	6.48	10.73	0.00	9.65	36.54	7.00	21.66	7.15	0.00	0.00	0.00	43.69	114.50	250	PVC	1.0%	62.04	1.22	154.6	1.31	18.35	29.57	0.70

Design Parameters:

Manning Roughness Coefficient: 0.013 per Ottawa Sewer Design Guidelines
Truck Wash: 400L per Truck per Ottawa Sewer Design Guidelines Appendix 4-A
Average Heavy Industrial Flow: 55,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Industrial Areas: 5.1 per Ottawa Sewer Design Guidelines Appendix 4-B
Average Commercial Flow: 28,000L/gross Ha/day per Ottawa Sewer Design Guidelines
Peaking Factor for Commercial Areas: 1.5 per Ottawa Sewer Design Guidelines
Average Residential Flow: 280L/c/day per Ottawa Sewer Design Guidelines
Population Density: 60 persons/gross hectare per City of Ottawa Sewer Design Guidelines
Peaking Factor for Residential Areas (Harmon): 4.0 per Ottawa Sewer Design Guidelines
Infiltration Allowance: 0.33L/s/gross Ha per Ottawa Sewer Design Guidelines

Designed: CDM

Checked: CDM

Project No.: CCO-25-1505

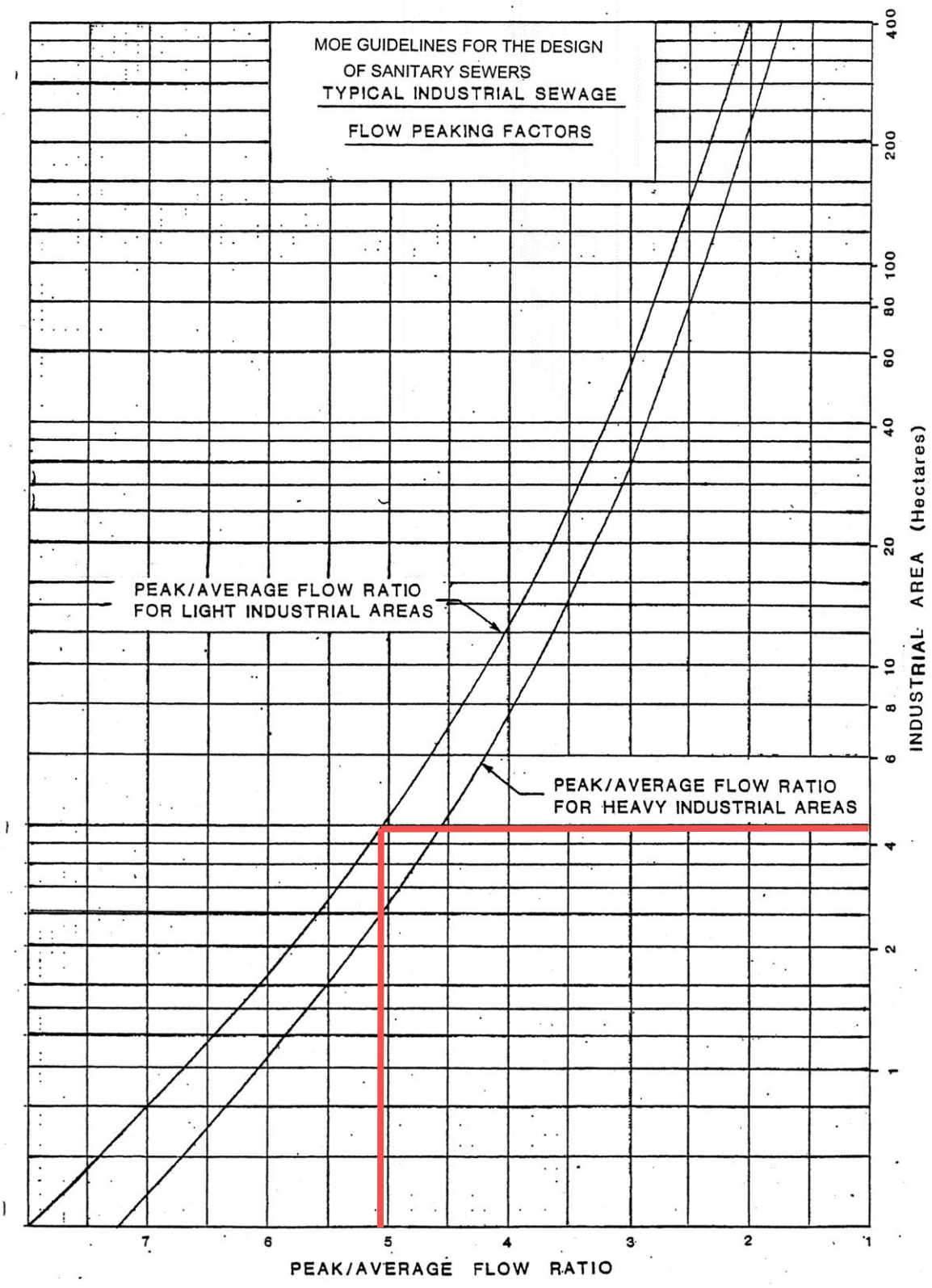
No.	Revision	Date
1	FOR SPA SUBMISSION	2026-03-23

Date: 2026-03-23

Sheet No: 4 of 4

APPENDIX E
PEAKING FACTOR FOR INDUSTRIAL AREAS

APPENDIX 4-B PEAKING FACTOR FOR INDUSTRIAL AREAS



APPENDIX F
EXISTING AS-BUILT DRAWINGS

DWG. FRAME 790mm x 534mm RMOC-06/93-WG

Regional Municipality of Ottawa-Carleton Environmental Services Department
Municipalité d'Ottawa-Carleton Services environnementaux

Approved

DATE ..... WATER WORKS

RECORD DRAWING

L. LICENSED PROFESSIONAL ENGINEER D.A.HEARDEN PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL ENGINEER P.G.SHARPE PROVINCE OF ONTARIO

DELCAN ENGINEERS PLANNERS

NO.	REVISIONS	BY	DATE
1	DEP. CURBS @ JOHNSTON	DAH	07/98
2	MH/CB/DI & ST. TABLES	DAH	07/98
3	DR 35 PIPE	DAH	07/98
4	SERVICES AT JOHNSTON	DAH	07/98
5	ADD MEDIAN SEWER	DAH	08/98
6	RECORD DRAWING	DGH	11/00

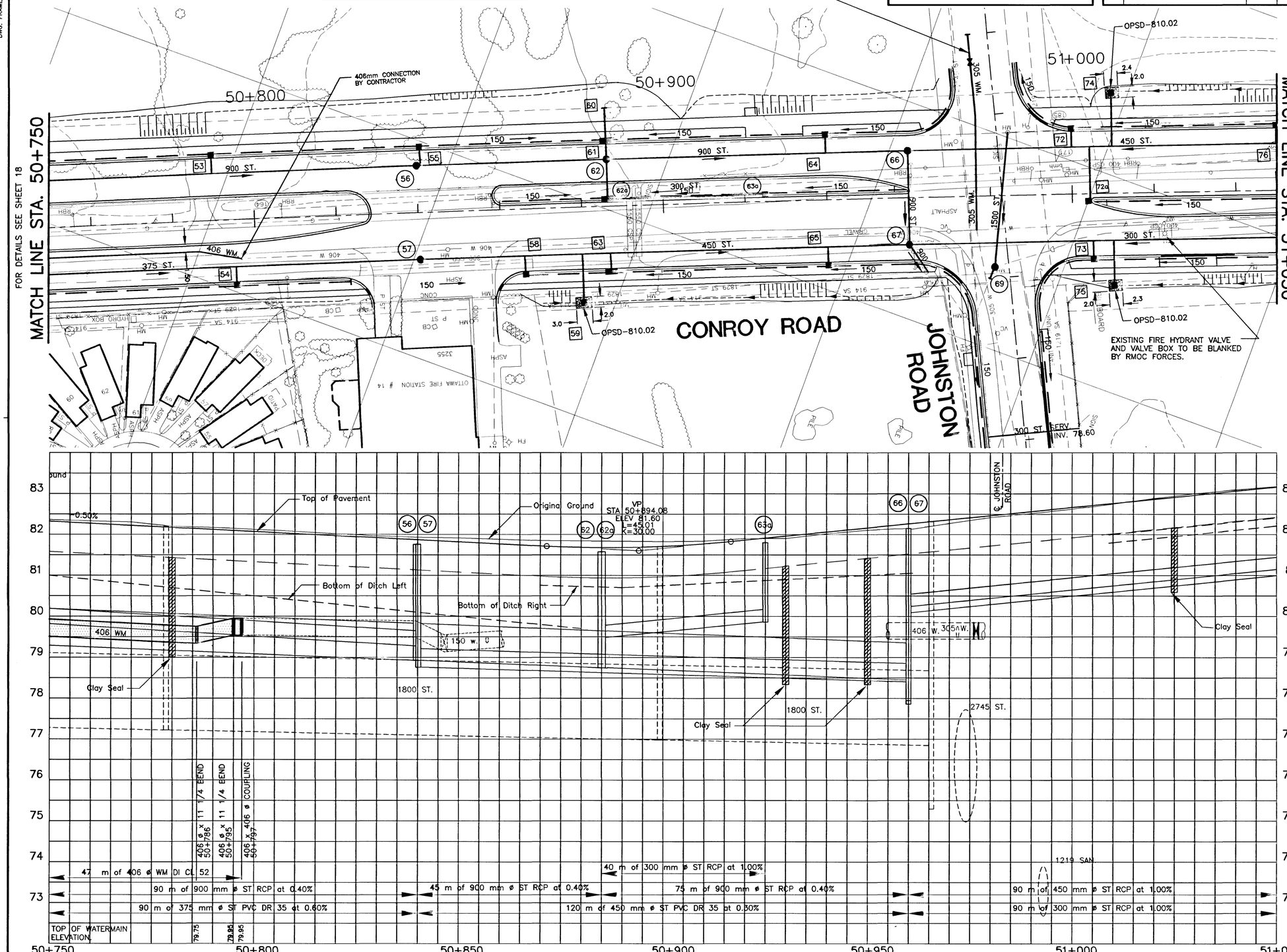
Ottawa-Carleton

CONROY ROAD
HUNT CLUB ROAD TO WALKLEY ROAD
GRADING AND DRAINAGE STA 50+750 TO STA 51+050

J. MILLER, P.ENG. Director, Engineering Division
W. BENNETT, P.ENG Manager, Transportation Projects

DWG. NO. R-3010-19
SHEET 019 OF ---
CONTRACT NO. 98-505
Date: MAY, 1998
HORIZONTAL 0m 5 10 20 / 0m 1 2 VERTICAL

NOTES:
1. FOR ADDITIONAL GRADING & DRAINAGE INFORMATION ON JOHNSTON ROAD SEE SHEET 25



MANHOLES, CATCHBASINS AND DITCH INLET DATA

No.	STATION	OFFSET (m)	TYPE OF STRUCTURE STD. No.	NEW GRATE STD. No.	ELEVATION TOP OF GRATE	ELEVATION LOW INVERT
53	50+790	15.25 L	705.010	J-3.4	81.94	80.19
54	50+795	15.25 R	705.010	J-3.4	81.91	80.16
55	50+841	15.25 L	705.010	J-3.4	81.68	79.93
56	50+840	11.50 L	701.012	J-3.10	81.73	78.93
57	50+840	11.50 R	701.010	J-3.10	81.73	78.67
58	50+866	15.25 R	705.010	J-3.4	81.61	79.86
59	50+880	23.39 R	705.030	403.01	80.75	79.26
60	50+885	28.78 L	804.030	–	–	79.70
61	50+885	15.25 L	705.020	J-3.4(2)	81.49	79.07
62	50+885	11.50 L	701.012	J-3.10	81.57	78.74
62a	50+885	1.00 L	705.020	J-3.4(2)	81.68	79.47
63	50+885	15.25 R	705.020	J-3.4(2)	81.56	79.81
63a	50+925	1.00 L	705.010	J-3.4	81.91	79.87
64	50+940	15.25 L	705.010	J-3.4	81.88	80.21
65	50+940	15.25 R	705.010	J-3.4	81.88	80.13
66	50+960	11.50 L	701.013	J-3.10	82.15	77.95
67	50+960	11.50 L	701.013	J-3.10	82.15	77.86
69	50+980	17.00 R	701.013	J-3.10	82.26	75.18
72	51+000	15.25 L	705.010	J-3.4	82.48	80.73
72a	51+005	1.78 R	705.010	400.02	82.71	80.96
73	51+005	15.25 R	705.010	J-3.4	82.53	80.78
74	51+010	24.85 L	705.030	403.01	81.90	80.87
75	51+010	22.55 R	705.030	403.01	82.10	80.85
76	51+050	15.25 L	705.010	J-3.4	83.15	81.40

* Offsets for Curb Inlets are to Face of Curb.
** Elve. for Curb Inlet Covers are Finished Asphalt at Grate.

STORM SEWER DATA

LOCATION No. TO No.	DIA. SIZE (mm)	CLASS OF PIPE	LENGTH (m)	INVERT ELEVATION UPSTREAM	INVERT ELEVATION DOWNSTREAM
MH 49 – MH 56	900	100 D	120	79.41	78.93
MH 56 – MH 62	900	100 D	46	78.93	78.74
MH 62 – MH 66	900	100 D	71.1	78.74	78.45
MH 78 – MH 66	450	100 D	120	81.29	80.09
MH 50 – MH 57	375	DR 35	120	79.99	79.27
MH 57 – MH 67	450	DR 35	121.3	78.67	78.31
MH 79 – MH 67	300	100 D	124	81.44	80.24
MH 66 – MH 67	900	100 D	23	77.95	77.86
MH 67 – EXIST.	900	100 D	10.7	77.86	77.81
EXIST. – MH 69	1500	100 D	28.7	75.25	75.16
53 – PIPE	250	3 ES	4	80.19	–
54 – PIPE	250	3 ES	4	80.16	–
55 – PIPE	250	3 ES	4	79.93	–
58 – PIPE	250	3 ES	4	79.86	–
59 – PIPE	300	100 D	12	79.26	–
60 – 61	600	100 D	12	79.70	79.07
61 – MH 62	600	100 D	4.3	79.07	79.04
62a – 62	300	100 D	10	79.47	79.34
63 – PIPE	250	3 ES	4	79.81	–
63a – 62a	300	100 D	40	79.87	79.47
64 – PIPE	250	3 ES	4	80.21	–
65 – PIPE	250	3 ES	5.2	80.13	–
72 – PIPE	250	3 ES	4	80.73	–
72a – PIPE	250	3 ES	13	80.96	–
73 – PIPE	250	3 ES	4.1	80.78	–
74 – PIPE	300	100 D	13	80.87	–
75 – PIPE	300	100 D	11	80.85	–
76 – PIPE	250	3 ES	4	81.40	–

1013

DWG. FRAME 790mm x 534mm RMOC-06/93-WG

R-3010-20

10313

1 RECORD DRAWING DGH 11/00

RECORD DRAWING

LICENSED PROFESSIONAL ENGINEER D.A.HEARDEN PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL ENGINEER P.G.SHARPE PROVINCE OF ONTARIO

DELCAN ENGINEERS PLANNERS

NO.	REVISIONS	BY	DATE
1	DEP. CURBS @ JOHNSTON	DAH	07/98
2	MEDIAN O/S @ RWY.	DAH	07/98
3	MH/CB/DI TABLES	DAH	07/98
4	SERVICES AT JOHNSTON	DAH	07/98
5	REC PATH & GRADING AT CN TRACK NORTH	PGS	08/98
6	DROP PIPE AT EXIST. MH	DAH	08/98
7	THUNDERBIRD–LT TURN LANE	DAH	06/99

Ottawa-Carleton

CONROY ROAD
HUNT CLUB ROAD TO WALKLEY ROAD
GRADING AND DRAINAGE STA 51+050 TO STA 51+350

J. MILLER, P.ENG. — Director, Engineering Division

W. BENNETT, P.ENG — Manager, Transportation Projects

DWG. NO. R-3010-20

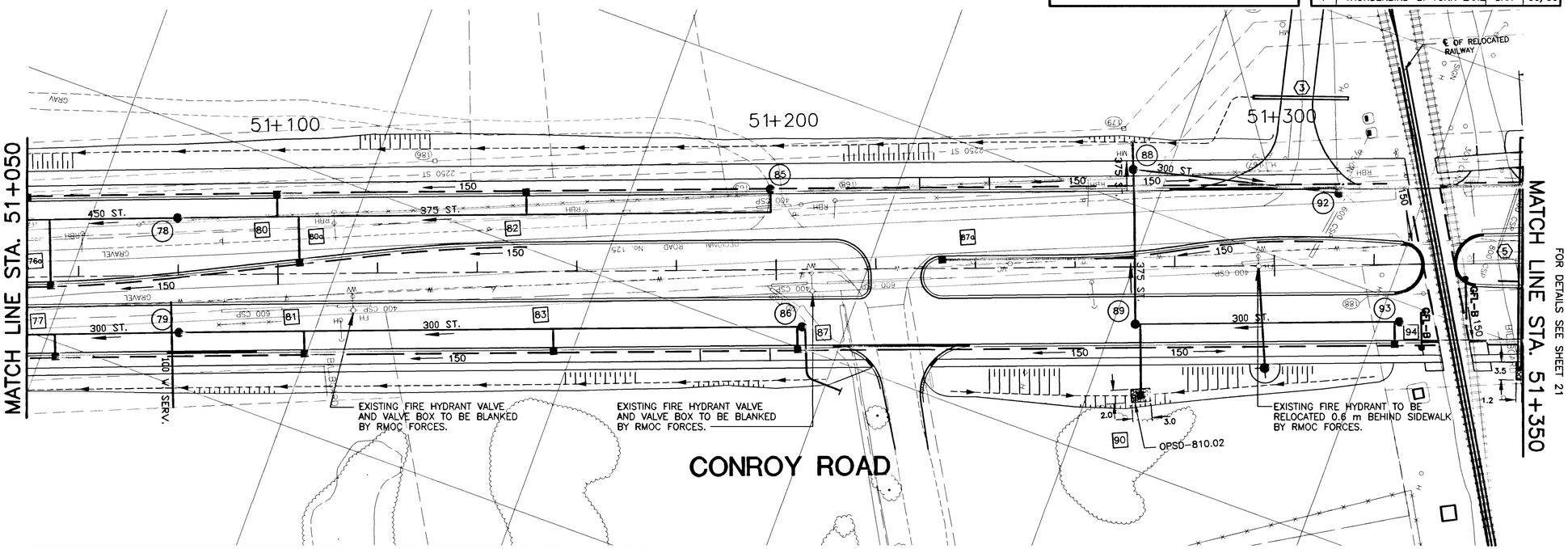
SHEET 020 OF ---

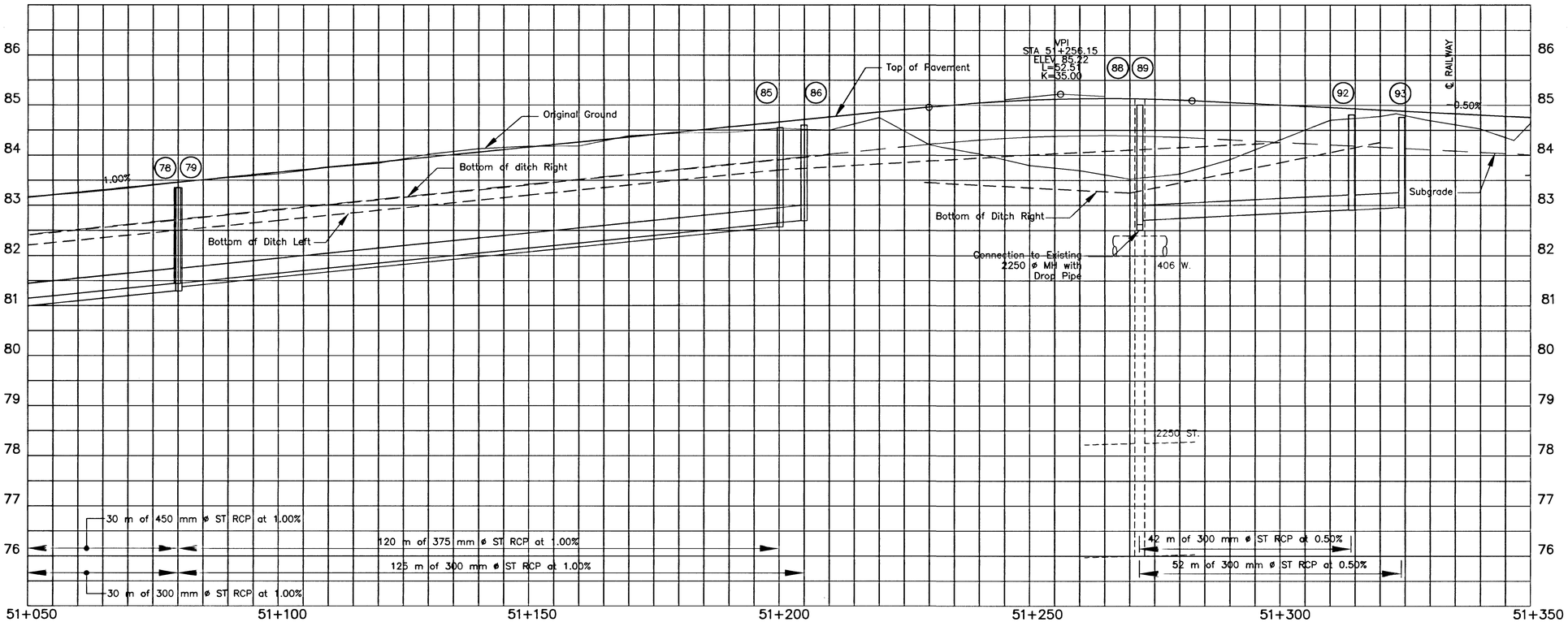
CONTRACT NO. 98-505

Date: MAY, 1998

HORIZONTAL 0m 5 10 20

VERTICAL 0m 1 2





MANHOLES, CATCHBASINS AND DITCH INLET DATA

No.	STATION	OFFSET (m)	TYPE OF STRUCTURE STD. No.	NEW GRATE STD. No.	ELEVATION TOP OF GRATE	ELEVATION LOW INVERT
76a	51+055	0.96 R	705.010	J–3.4	83.21	81.46
77	51+055	15.25 R	705.010	J–3.4	83.03	81.28
78	51+080	11.50 L	701.010	J–3.10	83.40	81.29
79	51+080	11.50 R	701.010	J–3.10	83.35	81.44
80	51+100	15.25 L	705.010	J–3.4	83.51	81.76
80a	51+105	2.93 L	705.010	J–3.4	83.71	81.96
81	51+105	15.25 R	705.010	J–3.4	83.53	81.78
82	51+150	15.25 L	705.010	J–3.4	83.98	82.23
83	51+155	15.25 R	705.010	J–3.4	84.03	82.28
~~84~~	~~51+189~~	~~15.25 L~~	~~705.010~~	~~J–3.4~~	~~84.47~~	~~82.72~~
85	51+200	11.50 L	701.010	J–3.10	84.55	82.57
86	51+205	15.25 R	701.010	J–3.10	84.60	82.69
87	51+204	15.25 R	705.010	J–3.4	84.52	82.77
87a	51+233.3	2.50 R	705.010	J–3.4	84.91	83.16
88	51+272	19.50 L	701.010	J–3.10	85.01	82.51
89	51+272	11.50 R	701.010	J–3.10	85.01	82.62
90	51+273	25.84 R	705.030	403.01	83.35	82.84
~~91~~	~~51+314~~	~~14.95 L~~	~~705.010~~	~~400.02~~	~~84.87~~	~~83.12~~
92	51+315	11.50 L	701.010	J–3.10	84.89	82.91
93	51+325	11.50 R	701.010	J–3.10	84.82	82.91
94	51+324	15.25 R	705.010	J–3.4	84.76	83.01

* Offsets for Curb Inlets are to Face of Curb.

** Elve. for Curb Inlet Covers are Finished Asphalt at Grate.

STORM SEWER DATA

LOCATION No. TO No.	DIA. SIZE (mm)	CLASS OF PIPE	LENGTH (m)	INVERT ELEVATION UPSTREAM	INVERT ELEVATION DOWNSTREAM
MH 85 – MH 78	375	100 D	120	82.57	81.37
MH 86 – MH 79	300	100 D	125	82.69	81.44
MH 92 – MH 88	300	100 D	44.5	82.91	82.70
MH 93 – MH 89	300	100 D	48	82.96	82.70
MH 89 – MH 88	375	100 D	31	82.62	82.51
MH 88 – EXIST.	375	100 D	4.6	82.51	82.44
76a – PIPE	250	3 ES	13	81.46	–
77 –PIPE	250	3 ES	4	81.28	–
80 – PIPE	250	3 ES	3	81.76	–
80a – PIPE	250	3 ES	9	81.96	–
81 – PIPE	250	3 ES	4	81.78	–
82 – PIPE	250	3 ES	2	82.23	–
83 – PIPE	250	3 ES	4	82.28	–
~~84 – PIPE~~	~~250~~	~~3 ES~~	~~4~~	~~82.72~~	Deleted
87 – PIPE	250	3 ES	4	82.77	–
87a – PIPE	250	3 ES	39	83.16	–
90 – PIPE	300	100 D	14	82.84	–
~~91 – PIPE~~	~~250~~	~~3 ES~~	~~3~~	~~83.12~~	Deleted
94 – PIPE	250	3 ES	4		
MHB6 – ThunderBird	250	100 D	19.4		

DWG. FRAME 790mm x 534mm RMOC-08/93-WG

TABLE OF RESTRAINED JOINTS AND NUMBER OF JOINTS WITH RETAINING RINGS EACH SIDE OF FITTING

FITTING TYPE	SIZE	# JOINTS
11 1/4 BEND	305mm DI	1
22 1/2 BEND	305mm DI	1
22 1/2 BEND	406mm DI	1
CAP	610mm CPC	6
305x406x610 CROSS	305mm DI	1
	406mm DI	1
	610mm CPC	1

NOTES (WATERMAIN):

1. ASSUMES FULL PIPE LENGTH EACH SIDE OF FITTING
   PIPE LENGTHS: DUCTILE IRON CL52 = 5.5m
   CONC. PRESSURE PIPE AWWA C301 = 7.32m
2. ANY FITTING LOCATED WITHIN THE REACTION LENGTH SHALL BE RESTRAINED
3. SEE DWG No. 26 FOR WATERMAIN DETAILS ON THURSTON DRIVE

Regional Municipality of Ottawa-Carleton Environmental Services Department
Municipalité d'Ottawa-Carleton Services environnementaux
Approved
DATE ..... WATER WORKS

D.A.HEARDEN — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO
P.G.SHARPE — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO
DELCAN ENGINEERS PLANNERS

NO.	REVISIONS	BY	DATE
1	MH/CB/DI TABLES	DAH	07/98
2	REC PATH & GRADING AT CN TRACK NORTH	PGS	08/98
3	DROP PIPE AT EXIST. MH	DAH	08/98
4	RELOCATE PARKING LOT	DAH	08/98
5	REV. CB 110 CONN. & REVISE 103 -101	DSG	11/98
6	REVISE 610 WATERMAIN	DAH	04/99
7	610 WATERMAIN STUB	DAH	04/99
8	RECORD DRAWING	DGH	11/00

Ottawa-Carleton

CONROY ROAD
HUNT CLUB ROAD TO WALKLEY ROAD
GRADING AND DRAINAGE STA 51+350 TO STA 51+650

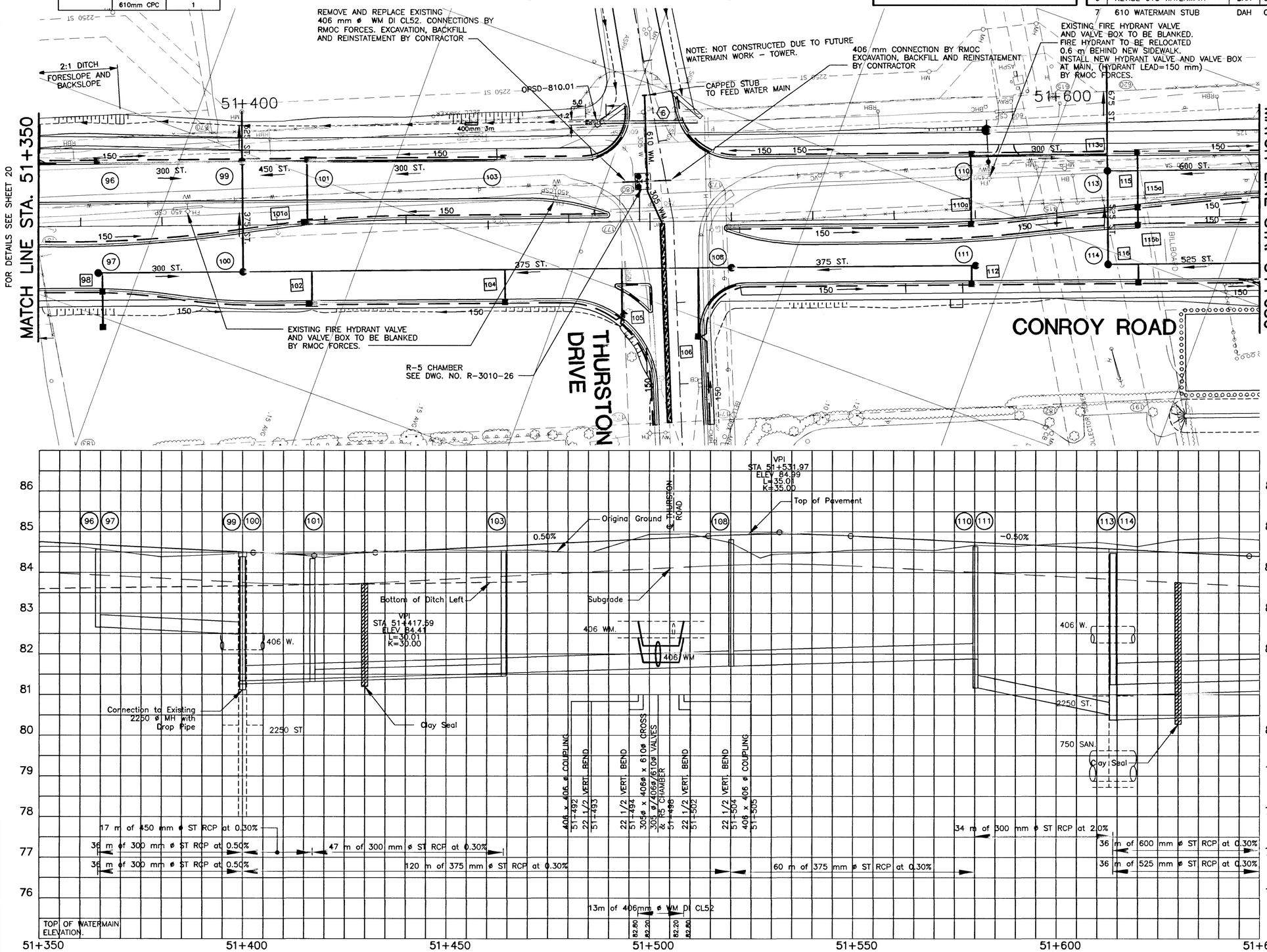
J. MILLER, P.ENG. — Director, Engineering Division
W. BENNETT, P.ENG — Manager, Transportation Projects

DWG. NO. R-3010-21
SHEET 021 OF ---
CONTRACT NO. 98-505
Date: MAY, 1998
HORIZONTAL 0m 5 10 20 — VERTICAL 0m 1 2

RECORD DRAWING

NOTES:

1. FOR ADDITIONAL GRADING & DRAINAGE INFORMATION ON THURSTON DRIVE SEE SHEET 26



MANHOLES, CATCHBASINS AND DITCH INLET DATA

No.	STATION	OFFSET (m)	TYPE OF STRUCTURE STD. No.	NEW GRATE STD. No.	ELEVATION TOP OF GRATE	ELEVATION LOW INVERT
96	51+365	15.25 L	701.010	J-3.4	84.69	82.89
97	51+365	11.50 R	701.010	J-3.10	84.57	82.66
98	51+366	15.31 R	705.010	J-3.4	84.53	82.78
99	51+400	15.55 L	701.011	J-3.10	84.53	81.12
100	51+400	11.50 R	701.010	J-3.10	84.43	81.34
101	51+415	15.25 L	701.011	J-3.4(2)	84.29	81.23
101a	51+414	0.15 L	705.020	J-3.4(2)	84.45	82.70
102	51+415	18.75 R	705.020	J-3.4(2)	84.26	82.51
103	51+465	15.25 L	701.010	J-3.4	84.46	81.37
104	51+465	18.75 R	705.010	J-3.4	84.46	82.71
108	51+520	11.50 R	701.010	J-3.10	84.78	81.70
110	51+579	15.25 L	701.010	J-3.4	84.62	81.17
110a	51+579	0.52 R	705.010	J-3.4	84.76	83.01
111	51+580	11.50 R	701.010	J-3.10	84.64	81.88
112	51+579	15.25 R	705.010	J-3.4	84.59	82.84
113	51+612	11.50 L	701.012	J-3.10	84.50	80.38
114	51+612	11.50 R	701.011	J-3.10	84.53	81.25
115	51+620	15.25 L	705.010	J-3.4	84.39	82.64
115a	51+620	3.20 L	705.010	J-3.4	84.55	81.74
115b	51+620	2.60 R	705.010	J-3.4	84.55	82.80
116	51+620	15.25 R	705.010	J-3.4	84.43	82.68

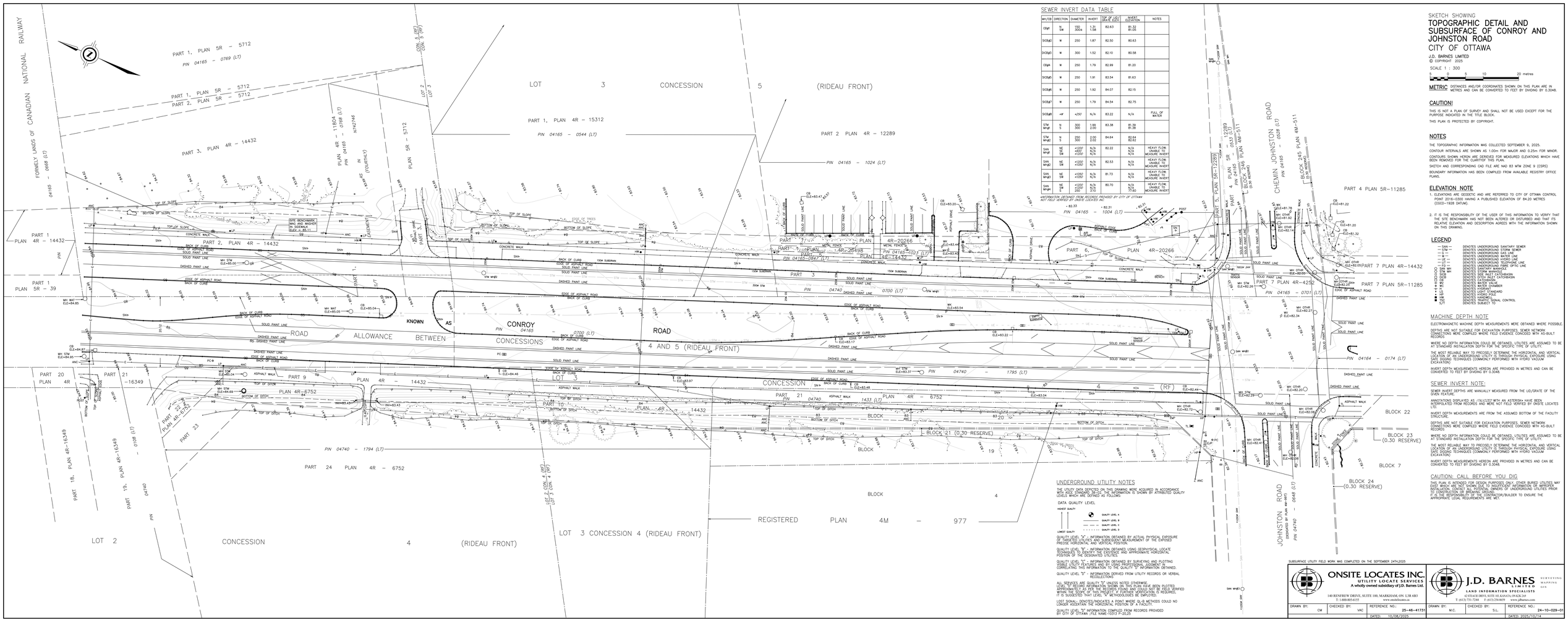
* Offsets for Curb Inlets are to Face of Curb.
** Elve. for Curb Inlet Covers are Finished Asphalt at Grate.

STORM SEWER DATA

LOCATION No. TO No.	DIA. SIZE (mm)	CLASS OF PIPE	LENGTH (m)	INVERT ELEVATION UPSTREAM	INVERT ELEVATION DOWNSTREAM
MH 96 – MH 99	300	100 D	35	82.89	82.70
MH 101 – MH 99	450	100 D	17	81.23	81.18
MH 103 – MH 101	450	100 D	50.5	81.37	81.23
MH 110 – MH 103	375	100 D	33	81.80	81.45
MH 119 – MH 113	600	100 D	68	80.58	80.38
MH 97 – MH 100	300	100 D	35	82.66	82.48
MH 100 – MH 99	375	100 D	31.35	81.34	81.27
MH 99 – EXIST	525	100 D	11	81.12	81.06
MH 108 – MH 100	375	100 D	120	81.70	81.34
MH 111 – MH 108	375	100 D	60	81.88	81.70
MH 120 – MH 114	525	100 D	68	81.45	81.25
MH 114 – MH 113	525	100 D	22.4	81.25	81.18
MH 113 – EXIST	675	100 D	27	80.38	80.30
98 – PIPE	250	3 ES	4	82.78	–
101a – PIPE	250	3 ES	15.5	82.70	–
102 – PIPE	250	3 ES	8	82.48	–
104 – PIPE	250	3 ES	7	82.71	–
110a – PIPE	250	3 ES	17	83.01	–
112 – PIPE	250	3 ES	4.5	82.84	–
115 – PIPE	250	3 ES	5	82.64	–
115a – PIPE	250	3 ES	8	82.74	–
115b – 115a	250	3 ES	5	82.80	82.74
116 – PIPE	250	3 ES	4	82.68	–

103/3

APPENDIX G
TOPOGRAPHIC SURVEY


FORMERLY LANDS OF CANADIAN NATIONAL RAILWAY
PART 1, PLAN 5R – 5712
PIN 04165 – 0769 (LT)
PART 1, PLAN 5R – 5712
PART 2, PLAN 5R – 5712
PART 3, PLAN 4R – 14432
PLAN 4R – 11804
PIN 04165 – 0768 (LT)
N742746
IN (QUANTITE)
PLAN 5R – 5712
LOT 3 CONCESSION 5 (RIDEAU FRONT)
PART 1, PLAN 4R – 15312
PIN 04165 – 0544 (LT)
PART 2 PLAN 4R – 12289
PIN 04165 – 1024 (LT)
PART 1 PLAN 4R – 14432
PART 1 PLAN 5R – 39
PART 2, PLAN 4R – 14432
PART 1, PLAN 4R – 28498
PLAN 4R – 14432
PART 3
PART 4 PLAN 5R–11285
PART 5, PLAN 5R–12289
PART 4 PLAN 4M–511
BLOCK 245 PLAN 4M–511
CHEMIN JOHNSTON ROAD
PIN 04165 – 0528 (LT)
PART 6, PLAN 4R–20266
PART 7 PLAN 4R–14432
PART 7 PLAN 4R–4252
PART 7 PLAN 5R–11285
PIN 04165 – 0701 (LT)
PIN 04164 – 0174 (LT)
KNOWN AS CONROY
PIN 04165 – 0700 (LT)
ROAD ALLOWANCE BETWEEN CONCESSIONS 4 AND 5 (RIDEAU FRONT)
ROAD
PART 20 PLAN 4R
PART 21 –16349
PART 9 PLAN 4R – 14432
PART 21 PLAN 4R–6752
PART 10 PLAN 4R – 14432
PART 22 PLAN 4R–6752
PART 23
PART 18, PLAN 4R–16349
PART 19, PLAN 4R–16349
PIN 04740 – 0108 (LT)
PIN 04740 – 1794 (LT)
PART 24 PLAN 4R – 6752
LOT 2 CONCESSION 4 (RIDEAU FRONT)
LOT 3 CONCESSION 4 (RIDEAU FRONT)
REGISTERED PLAN 4M – 977
LOT 3 CONCESSION 4 (RF)
PIN 04740 – 1795 (LT)
PIN 04740 – 1433 (LT)
BLOCK 21 (0.30 RESERVE)
BLOCK 22
BLOCK 23 (0.30 RESERVE)
BLOCK 24 (0.30 RESERVE)
BLOCK 7
JOHNSTON ROAD (DESIGNATED BY PLAN 4M–511)
PIN 04740 – 0648 (LT)
PIN 04165 – 1004 (LT)
PIN 04165 – 0847 (LT)
PIN 04740 – 0700 (LT)
PIN 04740 – 1795 (LT)
PIN 04740 – 1433 (LT)
PIN 04740 – 1794 (LT)
MEAN TENDER
4R–20266
PIN 04165–1003 (LT)
SITE BENCHMARK
MAG AND WASHER
IN SUNKEN
ELEV. = 85.11
EASEMENT
ASPHALT DRIVE
PART 1
PLAN 5R – 39
PART 2
PLAN 4R – 14432
PART 3
PART 4
PART 5
PART 6
PART 7
PART 8
PART 9
PART 10
PART 11
PART 12
PART 13
PART 14
PART 15
PART 16
PART 17
PART 18
PART 19
PART 20
PART 21
PART 22
PART 23
PART 24
BLOCK 19
BLOCK 20
BLOCK 21
BLOCK 22
BLOCK 23
BLOCK 24
BLOCK 7
SAN MH@1
SAN MH@2
SAN MH@3
SAN MH@4
SAN MH@5
SAN MH@6
SAN MH@7
SAN MH@8
SAN MH@9
STM MH@1
STM MH@2
STM MH@3
STM MH@4
STM MH@5
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STM MH@11
STM MH@12
STM MH@13
STM MH@14
STM MH@15
STM MH@16
STM MH@17
STM MH@18
STM MH@19
STM MH@20
STM

APPENDIX H
SUBSURFACE UTILITY ENGINEERING REPORT

ONSITE LOCATES INC.
UTILITY LOCATE SERVICES
A wholly owned subsidiary of J.D. Barnes Ltd.

October 8, 2025

Christine Yee
Christine.yee@whiteowlgroup.ca
Senior Director, Development
White Owl Family Office Group
180 Renfrew Drive, Suite 230
Markham, ON L3R 9Z2

Re: **Subsurface Utility Mapping (SUM) – 3145 Conroy Road, Ottawa**
Project Ref: 25-46-41731

Project Summary

OnSite Locates Inc. (OSL) was engaged to complete Subsurface Utility Mapping of the above noted property by White Owl Family Office Group on August 28th,2025.

The SUM Investigation was completed in accordance with *CI/ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*.

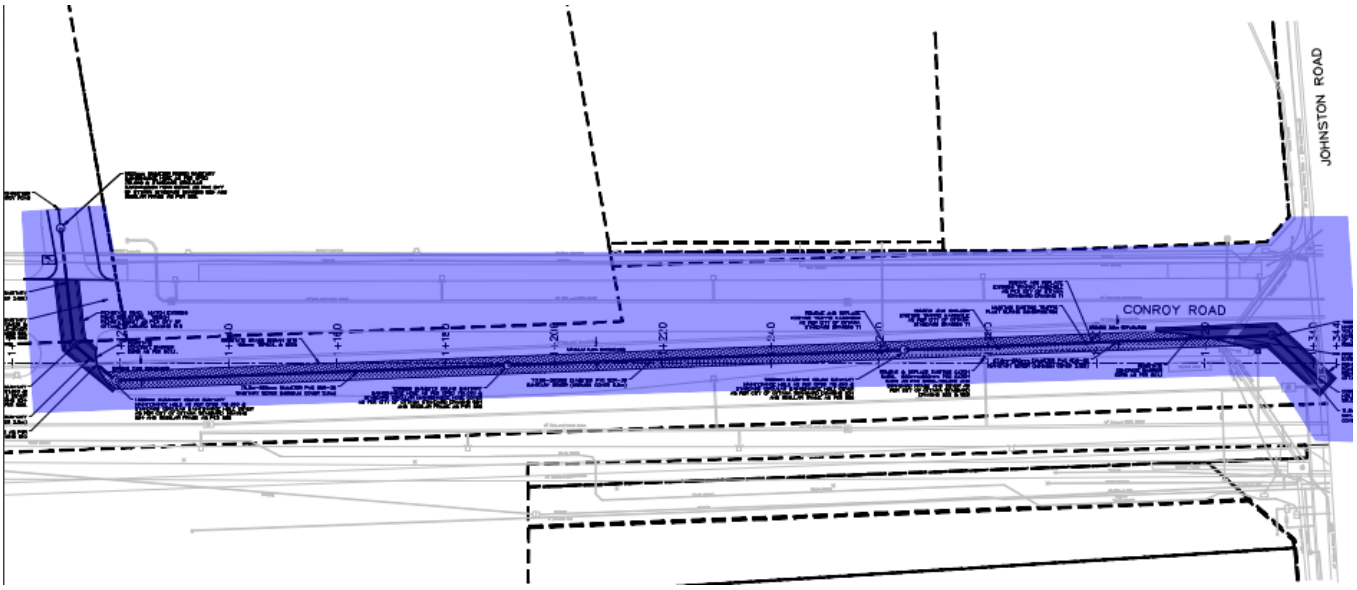
The work was conducted on September 24th,2025 and was successful in designating the alignment of the underground utilities within the Project Area.

The following utilities were identified:

- Hydro
- Gas
- Telecommunications
- Water
- Sanitary and Storm

This Report was created to supplement the digital file(s) 25-46-41731-Oct8.dwg that make up the final deliverable of the project.

Project Area



Subsurface Utility Mapping Investigation Standards

OnSite Locates Inc. performed the SUM Investigation in accordance with the *CI/ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*.

CI/ASCE Standard 38-02 Summary

Quality Level D (QL-D) - information derived from utility records or oral recollections.

Quality Level C (QL-C) - Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.

Quality Level B (QL-B) - Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.

Quality Level A (QL-A) - Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner.

Equipment and Techniques

JDB/OSL survey crews are trained to use the tools provided to them in accordance with the JDB/OSL Standard Operating Procedures, project scope, conditions, and the manufacturer's instructions to ensure the work is completed safely, accurately, and on time. Below is a description of the equipment and techniques used by JDB/OSL during the SUM Investigation.

Electromagnetic Designating Equipment
JDB/OSL uses industry standard electromagnetic cable and pipe locate kits. This equipment consists of a transmitter and receiver operating in a range of frequencies. In essence, the transmitter is used to induce a signal on a utility either through direct connection to the utility or electromagnetic induction and the signal is detected by the transmitter allowing the operator to mark on the ground the approximate horizontal location of the utility. The receiver also provides a depth estimation of the buried utility.

It is important to note that this type of equipment has its limitations, since it is the electromagnetic field that is detected, and not the utility itself. It will not locate non-metallic lines such as plastic pipes. Additionally, there are several factors that may distort the signal, causing the designation to be inaccurate, or making the utility impossible to detect. These factors are broken tracer wires, utility congestion, and change in utility material etc.

Invert Elevation Measurement
Sewer invert depths were manually measured using measuring tapes from the lid/grate of the given feature. Invert elevations were calculated from elevations provided in the topographic survey.

Survey Equipment
JDB/OSL employs the use of typical surveying instruments such as Total Stations and high accuracy Global Navigation Satellite Systems (GNSS). GNSS units are primarily used, with Total Stations being an alternative when there is no good satellite signal: under trees, near buildings etc.

Computer-Aided Design (CAD) Drafting
JDB/OSL employs the use of industry standard programs e.g. MicroStation and AutoCAD to manipulate and present data.

Subsurface Utility Mapping Investigation Summary

Utility Circulation Request
The record search process commenced on September 4th, 2025, the final records were obtained on September 20th, 2025. The results and status of the records search are provided below:

- Bell-Received/September 20th,2025
- Enbridge-Received/September 8th,2025
- GT-Cleared/ September 10th,2025
- Hydro One-Cleared/ September 11th,2025
- City of Ottawa-Received/ September 19th,2025
- Ottawa Hydro-Received/ September 19th,2025
- Rogers-Received/ September 17th,2025
- Telus-Received/ September 4th,2025

Field Investigation
The field investigation was conducted using geophysical locate techniques. All above ground features related to underground utilities, such as pedestals, ground level boxes etc. were investigated.
All manholes and catch basins in the investigation area were inspected to obtain invert depth and diameters measurements for storm and sanitary sewers.

Data Analysis
Field and record data were analyzed using professional judgement to provide a comprehensive presentation of the utility plant and infrastructure within the workspace.

SAN MH#1

First set of steps on North side Depth(m)	Second set of steps on North side Depth(m)	Steps on South side Depth(m)
0.92	6.20	3.90
1.22	**Unable to measure further**	4.22
1.55		4.55
1.84		4.86
2.10		
2.39		
2.65		
2.94		
3.25		
3.55		
3.85		
4.15		
4.45		
4.75		

Two platforms present inside manhole

- Depth of platform 1- 4.62m
- Depth of platform 2- 7.10m

A series of steps between Platform 1 and Platform 2 on the east side were observed. However, due to the presence of the platform, depth measurements could not be obtained.

Depth measurement of the bottom of the chamber – 9.40m

Figure 1:Sets of North side steps

Figure 2:Set of South side steps

Figure 1:Platforms

Figure 4: Chamber

SAN MH#2

First set of steps on North side Depth(m)	Second set of steps on North side Depth(m)
0.66	≈6.20
0.96	Unable to measure further since steps are recessed; extends till concrete layers possibly at 30cm intervals
1.25	
1.55	
1.98	
2.44	
2.95	
3.36	
3.73	
4.10	
4.67	
4.97	
5.27	
5.56	
5.87	
6.18	

One platform present inside manhole in N-S direction

- Depth of platform 1- 6.43m

Another series of steps were observed on the north side. However, due to their recessed condition, depth measurements could not be obtained.

Depth measurement of the bottom of the chamber – 9.80m

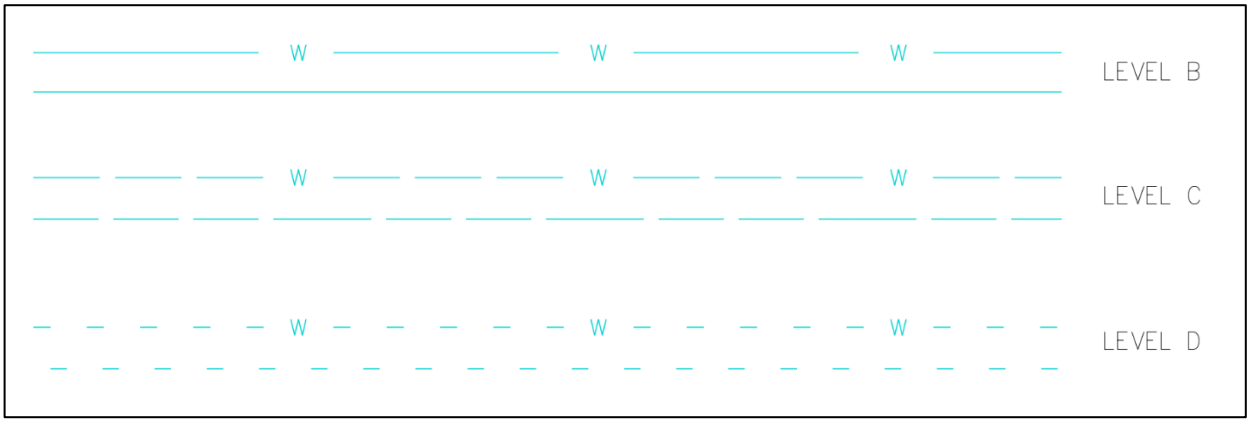
Figure51: First set of North side steps

Figure 6: Second Set of North side steps

Figure 7: Chamber

CAD Presentation

Line styles are designated as per the CI/ASCE Standard 38-02 and are depicted in the CAD deliverable as seen below.



Report Prepared by:

Chandana Murali
CAD Technologist, Utility Surveys

VJ Andrea Corpuz
Project Supervisor, Utility Surveys

APPENDIX I
GEOTECHNICAL INVESTIGATION

GEOTECHNICAL INVESTIGATION

Extension of Sanitary Services
Conroy Road, Ottawa, Ontario

CO1004.01

FINAL REPORT

February 25, 2026

Prepared for:

WO MW REALTY LTD.

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APPENDICES

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Appendix C	Borehole Log Sheets
Appendix D	Geotechnical Laboratory Test Results
Appendix E	Certificate of Chemical Analyses
Appendix F	Guidelines for Excavation Support
Appendix G	Photo of the Cored Asphalt Pavement

1.0 INTRODUCTION

Terrapex Environmental Ltd. (Terrapex) has been retained by WO MW Realty Ltd. to carry out a geotechnical investigation for the proposed sanitary sewer installation along Conroy Road in Ottawa, Ontario (the "Site"). Authorization to proceed with this study was given by Mr. Paul McGuigan of WO MW Realty Ltd.

It is understood that the Client plans to redevelop the property with civic address 3145 Conroy Road in Ottawa, and as a condition of the development, a sanitary sewer connection should be made. Client provided the preliminary design drawing titled Sanitary Sewer Plan & Profile, Project No. CO-25-1505, Drawing # C103 and C104, prepared by Egis, dated November 21, 2025. Based on the drawing, the proposed sanitary sewer will be a 250 mm PVC pipe with a length of 229 m along Conroy Road, extending between the 3145 Conroy Road and Johnston Road, installed at an approximate depth of 2.5 m to 3.0 m. The proposed sanitary sewer will be connected to an existing maintenance manhole on Johnston Road, with an internal drop structure to a depth of approximately 5.5 m.

The purpose of this investigation was to characterize the underlying soil and groundwater conditions, to determine the relevant geotechnical properties of encountered soils and to provide recommendations pertaining to the proposed development.

The geotechnical investigation was carried out in conjunction with hydrogeological and environmental studies undertaken by Terrapex, reported under separate covers.

This report presents the results of the investigation performed in accordance with the general terms of reference outlined above and is intended for the guidance of the owner and the design architects or engineers only. It is assumed that the design will be in accordance with the applicable building codes and standards.

2.0 FIELDWORK

The fieldwork for this study was carried out during the period December 30 to 31, 2025. It consisted of three (3) boreholes advanced by a drilling contractor commissioned by **Terrapex** utilizing conventional drilling techniques. The boreholes are designated as MW101, BH102, and MW103, advanced to a depth of approximately 5.2 m below ground surface (mbgs). Boreholes MW101 and MW103 were instrumented with monitoring wells for long-term monitoring of groundwater levels.

The boreholes were advanced at the locations shown on the borehole Location Plan in **Appendix B**. Borehole BH102 was initially located on the asphalt pavement of the road, however, the borehole hit an obstruction at a depth of approximately 0.45 mbgs. Accordingly, the borehole was moved to the grass area of the median in the centre of Conroy Road.

Standard penetration tests were carried out in the course of advancing the boreholes through the overburden soils to take representative soil samples and to measure penetration index values (N-values) to characterize the condition of the various soil materials. The number of blows of the striking hammer required to drive the split spoon sampler through 300 mm depth increments was recorded and these are presented on the logs in **Appendix C** as penetration index values (N values).

Groundwater level observations were made by Terrapex in the open boreholes during their advancement.

The ground surface elevation at the borehole locations were referenced to geodetic datum and was surveyed by Terrapex utilizing a Trimble GNSS Receiver and Rod.

The fieldwork for this project was carried out under the supervision of an experienced technician from this office who laid out the position of the borehole in the field; arranged locates of buried services; effected the drilling, sampling and in situ testing; observed groundwater conditions; and prepared field borehole log sheets.

3.0 LABORATORY TESTS

The soil samples recovered from the split spoon sampler were properly sealed, labelled and brought to our laboratory. They were visually classified and water content tests were conducted on all samples retained from the boreholes. The results of the classification, water contents, and Standard Penetration tests are presented on the borehole log sheets in **Appendix C**.

Grain-size analyses were carried out on three (3) soil samples (BH101-SS4, BH102-SS5, and BH103-SS5). All three (3) samples were also subjected to Atterberg Limits tests. The results of these tests are enclosed in **Appendix D**.

In addition, two (2) soil samples (BH101 samples SS6, BH103 sample SS4) were submitted to BV Laboratories for determination of pH and sulphate content and its potential for sulphate attack on buried concrete. The results of these tests are enclosed in **Appendix E**; discussed in **Section 5.7** of this report.

4.0 SITE AND SUBSURFACE CONDITIONS

Full details of the subsurface soil, groundwater conditions at the site are given on the Borehole Log Sheets attached in **Appendix C** of this report.

The following paragraphs present a description of the site and a commentary on the engineering properties of the various soil materials contacted in the boreholes.

It should be noted that the boundaries of soil types indicated on the borehole logs are inferred from non-continuous soil sampling and observations made during drilling. These boundaries are intended to reflect transition zones for the purpose of geotechnical design, and therefore, should not be construed as exact planes of geological change.

4.1 SITE DESCRIPTION

The Site is located on Conroy Road, from Johnston Road to approximately 230 m north to the front of 3145 Conroy Road, in Ottawa, Ontario. A median covered with grass is present at the center of Conroy Road.

The ground surface elevations at the locations of the boreholes ranged from 82.73 m at Borehole BH102 to 84.71 m at Borehole MW103.

4.2 SURFACE COVER

Asphaltic concrete pavement was present at the initial location of Borehole BH102. The thickness of the asphaltic concrete at the borehole location was measured to be approximately 150 mm. The photo of the cored asphalt pavement is attached in **Appendix G** of this report. Asphaltic concrete was underlain by intermixed granular base material consisting of sand and gravel. The thickness of the granular material was not measured due to an unforeseen obstruction, which resulted to abandoning the hole and shifting the borehole to the median.

Topsoil is present at the ground surface of all the boreholes. The thickness of the topsoil at the borehole locations are measured to be approximately 50 mm.

It should be noted that the topsoil thickness will vary along the median, and thicker topsoil than that found in the boreholes may be present in the surrounding places. This renders it difficult to estimate the quantity of topsoil to be stripped based on the findings at the borehole location.

4.3 FILL MATERIAL

Fill material is present below the surface cover in all boreholes. It extends to a depth of approximately 1.5 mbgs. The fill material consists of silty sand to sandy silt and gravel with trace to some organic, rootlets, and clay.

The fill is dark brown, grey and brown in colour and moist in appearance. The water content of the samples of fill obtained from Boreholes ranged from 7 to 24% by weight.

SPT in the fill provided N-values ranging from 13 to 21, indicating a compact condition.

4.4 NATIVE SOIL

The native soils below the fill material consist of layers of silty clay and sandy silt.

4.4.1 Silty Clay

A deposit of silty clay with trace of sand was encountered beneath the earth fill layer in all boreholes, extended to a depth of approximately 4.6 mbgs in borehole BH101 and extended to the explored depths of the remaining boreholes.

Silty clay is grey in colour and the water content of the samples obtained from Boreholes BH101, BH102 and BH103 ranged from 17% to 56% by weight, moist to wet in appearance.

SPT testing in the silty clay layer yielded N-values ranging from 2 to 12, indicating a soft to stiff consistency.

Grain size analyses and Atterberg Limits tests were carried out on three (3) representative samples of silty clay obtained from borehole BH101, BH102 and BH103. The test results are enclosed in **Appendix D** and summarized in the following table.

Sample No. and Depth	Sample Description (According to CFEM, 4th Edition)	Gravel %	Sand %	Silt %	Clay %	Plastic Limit	Liquid Limit	Soil Classification (According to USCS)
BH101 Sample 4	SILT AND CLAY trace sand, trace gravel	1.8	3.3	49.5	45.9	19.5	53.3	CH
BH102 Sample 5	CLAY AND SILT trace sand	0.6	3.3	36.9	59.2	22.0	55.7	CH
BH103 Sample 5	SILTY CLAY trace sand	0.4	1.7	22.0	75.9	29.8	76.9	CH

Based on the results of the grain size analyses, the Coefficient of Permeability (k) of the silty clay is estimated to be less than 10^{-7} cm/sec, corresponding to very low relative permeability, and based on the Atterberg limits tests the silty clay has a high plasticity.

4.4.2 Sandy Silt Till

A deposit of sandy silt till is present below the silty clay in Borehole MW101, extending to the explored depth of the borehole.

The sandy silt till is a glacial deposit consisting of a random mixture of soil particles ranging from clay to gravel, with sand and silt being the predominant fractions.

Sandy silt till is grey in colour and the water content of the sample obtained from BH101 is 9% weight, moist in appearance.

SPT carried out in the sandy silt till deposit provided N-value of 10, indicating a loose compactness condition.

4.5 GROUNDWATER

Groundwater observations were made in the open boreholes during their advancement and groundwater level measurements were made in the monitoring wells following their installation.

The groundwater levels measured in the monitoring wells are summarized in the following table.

Borehole No.	Ground Surface Eelevation (m)	Date	Groundwater Depth (mbgs)	Groundwater Elevation (m)
MW101	83.19	January 22, 2026	4.40	78.79
MW102	84.71	January 22, 2026	4.52	80.19

It should be noted that groundwater levels are subject to seasonal fluctuations. A higher groundwater level condition may also develop following significant rainfall events.

5.0 DISCUSSION AND RECOMMENDATIONS

The following discussions and recommendations are based on the factual data obtained from the boreholes advanced at the site by **Terrapex** and are intended for use by the client and design architects and engineers only.

It is understood that the Client plans to redevelop the property with civic address 3145 Conroy Road in Ottawa, and as a condition of the development, a sanitary sewer connection should be made. Client provided the preliminary design drawing titled Sanitary Sewer Plan & Profile, Project No. CO-25-1505, Drawing # C103 and C104, prepared by Egis, dated November 21, 2025. Based on the drawing, the proposed sanitary sewer will be a 250 mm PVC pipe with a length of 229.0 m along Conroy Road, extending between the 3145 Conroy Road and Johnston Road, installed at an approximate depth of 2.5 m to 3.0 m. The proposed sanitary sewer will be connected to an existing maintenance manhole on Johnston Road, with an internal drop structure to a depth of approximately 5.5 m.

The construction methods described in this report are not specifications or recommendations to the contractors or as the only suitable methods. The collected data and the interpretation presented in this report may not be sufficient to assess all the factors that may influence the construction. Contractors bidding on this project or conducting work associated with this project should make their own interpretation of the factual data and/or carry out their own investigations as they might deem necessary. The contractor should also select the method of construction, equipment and sequence based on their previous experience on similar projects.

5.1 EXCAVATION

Based on the field results, excavations for the sanitary sewer are not expected to pose any unusual difficulty in the overburden. Excavation of the overburden materials can be carried out with hydraulic excavators. Provisions must be made in the excavation and foundation installation contracts for the removal of possible obstructions such as concrete and construction debris associated with former structures at the site.

The native soil at this site is a glacial deposit, a non-sorted sediment, which may contain boulders. Provisions must be made in the foundation and excavation contracts for the removal of possible boulders.

All excavations must be carried out in accordance with the latest Occupational Health and Safety Act (OHSA). With respect to the latest OHSA, the fill material and native soils are expected to conform to Type 3 Soil above groundwater level and Type 4 Soil below groundwater level.

Temporary excavation sidewalls in Type 3 soils should not exceed 1.0 horizontal to 1.0 vertical. Excavation extended below the water table must be sloped at a maximum inclination of 3.0 horizontal to 1.0 vertical (Type 4 soil in accordance with the OHSA) will be required.

Locally, where loose or soft soil is encountered at shallow depths or within zones of persistent seepage, it will be necessary to flatten the side slopes as necessary to achieve stable conditions.

For excavations through multiple soil types, the side slope geometry is governed by the soil with the highest number designation. Excavation side-slopes should not be unduly left exposed to inclement weather.

Where workers must enter excavations extending deeper than 1.2 m below grade, the excavation sidewalls must be suitably sloped and/or braced in accordance with the Occupational Health and Safety Act and Regulations for Construction Projects.

In the planning of the trench shoring and excavation, the presence of the adjacent existing buried service pipes should be considered. In addition to the stability of these existing adjacent pipes, which must be maintained without detrimental settlements, the backfill in these trenches and especially the granular bedding surrounding the existing service pipes, manholes, etc. may be a source of water, which, if encountered, must be dealt with.

Excavations shall be undertaken in a manner to prevent damage to adjacent property, existing structures, utilities, roads, and sidewalks. During excavations, adjacent existing structures and public right of way, if present, must be protected by proper shoring or sloping. General guidelines for underpinning in soil and excavation support are presented in **Appendix F**.

5.2 REUSE OF ON-SITE EXCAVATED SOIL

On-site excavated inorganic soils are considered suitable for reuse as backfill material or engineering fill, provided their water content is within 2% of their optimum water content (OWC) as determined by Standard Proctor test, and the materials are effectively compacted with a suitably sized compactor. The compactors must be of sufficient size and energy to break down the lumps and to knead the soil into a homogeneous mass as water and compaction effort is applied. If the equipment does not have sufficient energy to break down the lumps, there is a tendency to bridging and post construction settlements.

The soils excavated from below the groundwater level are expected to be too wet to be re-used. The moisture content of the soils and the lift thickness for compaction must be properly controlled and monitored by a qualified field engineer/geotechnical inspector during backfilling. Alternatively, suitable imported material can be used.

On-site soils that are wetter than their OWC should be dried sufficiently prior to use as backfill in order to achieve the specified degree of compaction.

The fill material encountered at the site contained organics, and therefore not suitable for re-use. The underlying native soils were found generally much wetter than their optimum moisture content and will require significant drying before re-use.

In areas of narrow trenches or confined spaces such as around manholes, the use of aggregate fill such as Granular 'B' (OPSS 1010) is required if there is to be post-construction grade integrity.

5.3 GROUNDWATER CONTROL

Based on observations made during the drilling of the boreholes and close examination of the soil samples extracted from the boreholes, significant groundwater seepage is not anticipated to be encountered within the presumed excavation depths.

The silty clay soil possesses low permeability coefficient; the groundwater yield from this soil is expected to be small. It is anticipated that adequate control of the groundwater can be achieved by pumping from filtered sumps in the bases of the excavation within the fill and silty clay soils.

The underlying native sandy silt till soils encountered at the location of BH/MW101 is expected to have a moderate permeability.

If encountered, water-bearing sand seams below groundwater level or granular backfill of existing nearby utility trenches and manholes could yield significant seepage.

Surface water should be directed away from open excavations. However, the construction dewatering requirements should refer to the project hydrogeology study.

5.4 SERVICES TRENCHES

Based on the assumed site grades, sanitary sewer pipes are anticipated to be supported on undisturbed native deposits which which is considered competent to support the pipe bedding in a satisfactory manner provided the soil which lies in the base of the trench is undisturbed.

Installation and construction of the sanitary sewer should meet municipal and OPS standards.

If unsuitable bedding conditions occur, careful preparation and strengthening of the trench bases prior to pipe installation will be required.

The type of bedding depends mainly on the strength of the subgrade immediately below the invert levels.

Normal Class ‘B’ bedding is recommended for underground utilities. Granular ‘A’ or 19 mm crusher-run limestone can be used as bedding material; all granular materials should meet OPS 1010 specifications. The bedding material should be compacted to a minimum of 95% SPMDD. Bedding details should follow the applicable governing design detail. Trenches dug for these purposes should not be unduly left exposed to inclement weather.

Pipe bedding and backfill for flexible pipes should be undertaken in accordance with OPSD 802.010.

If unsuitable bedding conditions occur, careful preparation and strengthening of the trench bases prior to sewer installation will be required. The subgrade may be strengthened by placing a thick mat consisting of 50 mm crusher-run limestone. Field conditions will determine the depth of stone required. Geotextiles and/or geogrids may be helpful, and these options should be reviewed by Terrapex on a case-by-case basis.

Sand cover material should be placed as backfill to at least 300 mm above the top of pipes. Placement of additional granular material (thickness dictated by the type of compaction equipment) as required or use of smaller compaction equipment for the first few lifts of native material above the pipe will probably be necessary to prevent damage to the pipe during the trench backfill compaction.

To minimize any post construction settlement, it is recommended that the trenches be backfilled with Granular ‘A’ or Granular ‘B’ Type II material, compacted to 98% of its SPMDD.

5.5 PAVEMENT DESIGN

It is anticipated that the pavement within the trench sections along the right-of-way of Conroy Road will be restored. Based on the existing topography of the site and the presumption that there will be minor re-grading, it is anticipated that the sub-grade material for the pavement will generally comprise of granular backfill or native silty clay.

Preparation for construction of the new pavement should include the removal of existing pavement components (asphaltic concrete and granular materials) and any unsuitable materials such as organic, weak/softened and/or disturbed soils. After removal of all unsuitable soils, the subgrade should be proof-rolled with heavy rubber-tired equipment. The proof-rolling operation should be witnessed by the Geotechnical Engineer. Any soft or wet subgrade areas which deflect significantly should be sub-excavated and replaced with suitable approved granular fill material compacted to at least 98% of SPMDD.

The fill placement should not be performed during winter months when freezing temperatures occur persistently or intermittently. All fill must be placed in lifts not exceeding 200 mm in thickness and compacted to at least 98% of the material’s SPMDD.

Given the frost susceptibility and drainage characteristics of the subgrade soils, the pavement design presented below is recommended.

RECOMMENDED ASPHALTIC CONCRETE PAVEMENT STRUCTURE DESIGN (MINIMUM COMPONENT THICKNESSES)

Pavement Layer	Compaction Requirements	Material Type and Thickness*
Surface Course Asphaltic Concrete	92% to 97% MRD	50 mm Hot-Laid HL3 or SP12.5 B (PG64-34)
Binder Course Asphaltic Concrete	92% to 97% MRD	100 mm Hot-Laid HL8 or SP19.0 B (PG64-34)
Granular Base	100% SPMDD	150 mm compacted depth Granular A
Granular Sub-Base	100% SPMDD	450 mm compacted depth Granular B

* Or match existing pavement structure, whichever is greater

The subgrade must be compacted to at least 98% of SPMDD. The granular base and sub-base materials should be compacted to a minimum of 100% SPMDD.

Asphaltic concrete materials should be rolled and compacted per OPSS 310. The granular and asphaltic concrete pavement materials and their placement should conform to OPSS 310, 501, 1010 and 1150, and the pertinent Municipality specifications.

The pavement thickness designs provided above presume that construction will take place under favourable conditions. In the event that construction takes place during the spring thaw, the late fall, or following heavy rainfall events, a thicker granular sub-base layer may be required to compensate for reduced subgrade strength.

The long-term performance of the proposed pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures should be maintained to ensure that uniform subgrade moisture and density conditions are achieved as much as practically possible when fill is placed and that the subgrade is not disturbed and weakened after it is exposed.

All asphalt joints shall include a minimum 500 mm wide by 50 mm deep step joint into the existing top coarse asphalt. The new granular base and sub-base layers should be keyed (a step of about 300 mm) into the existing base and sub-base layers. It is recommended that compactive energy is applied to the surface of each granular layer at the interface of the old and new layer to ensure uniformity and adequate compaction. Care should be taken during construction of the new pavement such that voids or gaps do not develop at the underside of the existing pavement layers and result in future cracks. Also, care should be taken when constructing the excavations into the granular sub grade soils such that no ground movement is allowed in the adjacent soils supporting the existing pavement structure.

5.6 CHEMICAL CHARACTERIZATION OF SUBSURFACE SOIL

Two (2) oil samples obtained from Boreholes BH101 samples SS6 and BH103 sample SS4 were submitted to BV Laboratories for pH index test and water-soluble sulphate content to determine the potential of attacking the subsurface concrete. The Certificate of Analysis provided by the analytical chemical testing laboratory is contained in **Appendix E** of this report.

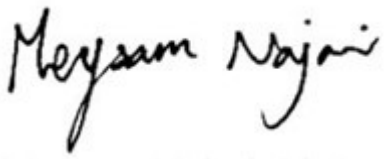
The test results revealed that the pH index of the soil samples are 7.38 and 7.89, indicating a slight alkalinity.

The water-soluble sulphate content of the tested samples are 0.021% and 0.054%. The concentration of water-soluble sulphate content of the tested samples is below the CSA Standard of 0.1% water-soluble sulphate (Table 12 of CSA A23.1, Requirements for Concrete Subjected to Sulphate Attack). Special concrete mixes against sulphate attack are therefore not required for the sub-surface concrete of the proposed structure.

6.0 LIMITATIONS OF REPORT

The Limitations of Report, as quoted in **Appendix 'A'**, are an integral part of this report.

Yours respectfully,
TERRAPEX ENVIRONMENTAL LTD.



Yacouba Doro, MBA, PMP®, P.Eng. Senior Geotechnical Project Manager	Meysam Najari, Ph.D., P.Eng. Vice President – Geotechnical Services

APPENDIX A
LIMITATIONS OF REPORT

LIMITATIONS OF REPORT

This report has been completed in accordance with the terms of reference for this project as agreed upon by **WO MW Realty Ltd** and Terrapex Environmental Ltd. (Terrapex) and generally accepted engineering consulting practices in this area.

The conclusion and recommendations in this report are based on information determined at the inspection locations. Soil and groundwater conditions between and beyond the test holes may differ from those encountered at the test hole locations, and conditions may become apparent during construction which could not be detected or anticipated at the time of the soil investigation. If new or different information is identified, Terrapex should be requested to re-evaluate its conclusions and recommendations and amend the report as appropriate.

The design recommendations given in this report are applicable only to the project described in the text, and then only if constructed substantially in accordance with details of alignment and elevations stated in the report. Since all details of the design may not be known to us, in our analysis certain assumptions had to be made as set out in this report. The actual conditions may, however, vary from those assumed, in which case changes and modifications may be required to our recommendations.

This report was prepared for the sole use of **WO MW Realty Ltd**. Terrapex accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than **WO MW Realty Ltd**. The material herein reflects Terrapex's judgement in light of the information available to it at the time of preparation. We recommend, therefore, that we be retained during the final design stage to review the design drawings and to verify that they are consistent with our recommendations, or the assumptions made in our analysis. We also recommend that we be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the test holes. In cases where these recommendations are not followed, Terrapex's responsibility is limited to accurately interpreting the conditions encountered at the test holes, only.

The comments given in this report on potential construction problems and possible methods are intended for the guidance of the design engineer, only. The number of inspection locations may not be sufficient to determine all the factors that may affect construction methods and costs. Contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the subsurface conditions may affect their work.

APPENDIX B
BOREHOLE LOCATION PLAN

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

0 20 40 60 80 100
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
GENERAL SITE LAYOUT

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION: 00	DATE: JANUARY 2026	FIGURE: 1

SFinlay \C:\Users\s.finlay\OneDrive - Terrapex Environmental Ltd\PROJECTS\Ottawa\CO1000\CO1004.01 3145 Conroy Rd, Ottawa\GIS\CO1004.01.aprx

APPENDIX C
BOREHOLE LOGS

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: MW101**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024663.66	EASTING (m): 451097.00 ELEV. (m) 83.19
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10 SAND TYPE: #2 SEALANT TYPE: BENTONITE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm)	0	83	19	12.5	1		85	<5			
		FILL compact, moist, dark brown gravel some clay, sand, organics	0.5	82.5									
		FILL compact, moist, dark brown sandy silt some gravel, clay	1	82	21	10.4	2		85	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	81.5	11	32.1	3		70	<5			
		--- soft	2	81									
			2.5	80.5	2	49.3	4		100	<5			GW Ele. 80.55 masl
		--- stiff --- wet	3	80		16.7	5		40	<5			
			3.5	79.5	12								
			4	79									
		compact, moist, grey, SANDY SILT (TILL) trace gravel	4.5	78.5	10	9.4	6		-	<5			
			5										
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: BH102**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024720.15	EASTING (m): 451073.04 ELEV. (m) 82.73
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): -	SCREEN SLOT #: - SAND TYPE: - SEALANT TYPE: -

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm)	0	82.5	15	13.1	1		75	<5			
		FILL compact, moist, dark brown silty sand and gravel	0.5										
		FILL compact, moist, grey/brown sandy silt trace gravel, clay	1	82	18	24.2	2		70	<5			
			1.5	81.5									
		stiff, moist, grey SILTY CLAY trace sand	2	81	8	31.7	3		75	<5			
		--- firm	2.5	80.5		50.3							
			3	80	6		4		100	<5			
		--- soft	3.5	79.5	3	39.6	5		100	<5			
			4	79									
		--- wet	4.5	78.5									
		--- firm --- (TILL)	5	78	4	28.8	6		100	<5			
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: -
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILTY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: MW103**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024809.46	EASTING (m): 451038.81 ELEV. (m) 84.71
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10 SAND TYPE: #2 SEALANT TYPE: BENTONITE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm) FILL compact, moist, brown silty sand some gravel, trace clay	0 0.5	84.5	15	13.8	1		65	<5			
			1	84	13	6.8	2		15	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	83.5									
			2	83	8	23.0	3		85	<5			
			2.5	82.5									
			3	82	8	42.5	4		90	<5			
		--- firm	3.5	81.5	4	56.0	5		100	<5			GW Ele. 80.75 masl
			4	81									
		--- stiff --- very moist	4.5	80.5									
			5	80	10	17.8	6		50	<5			
		END OF BOREHOLE											

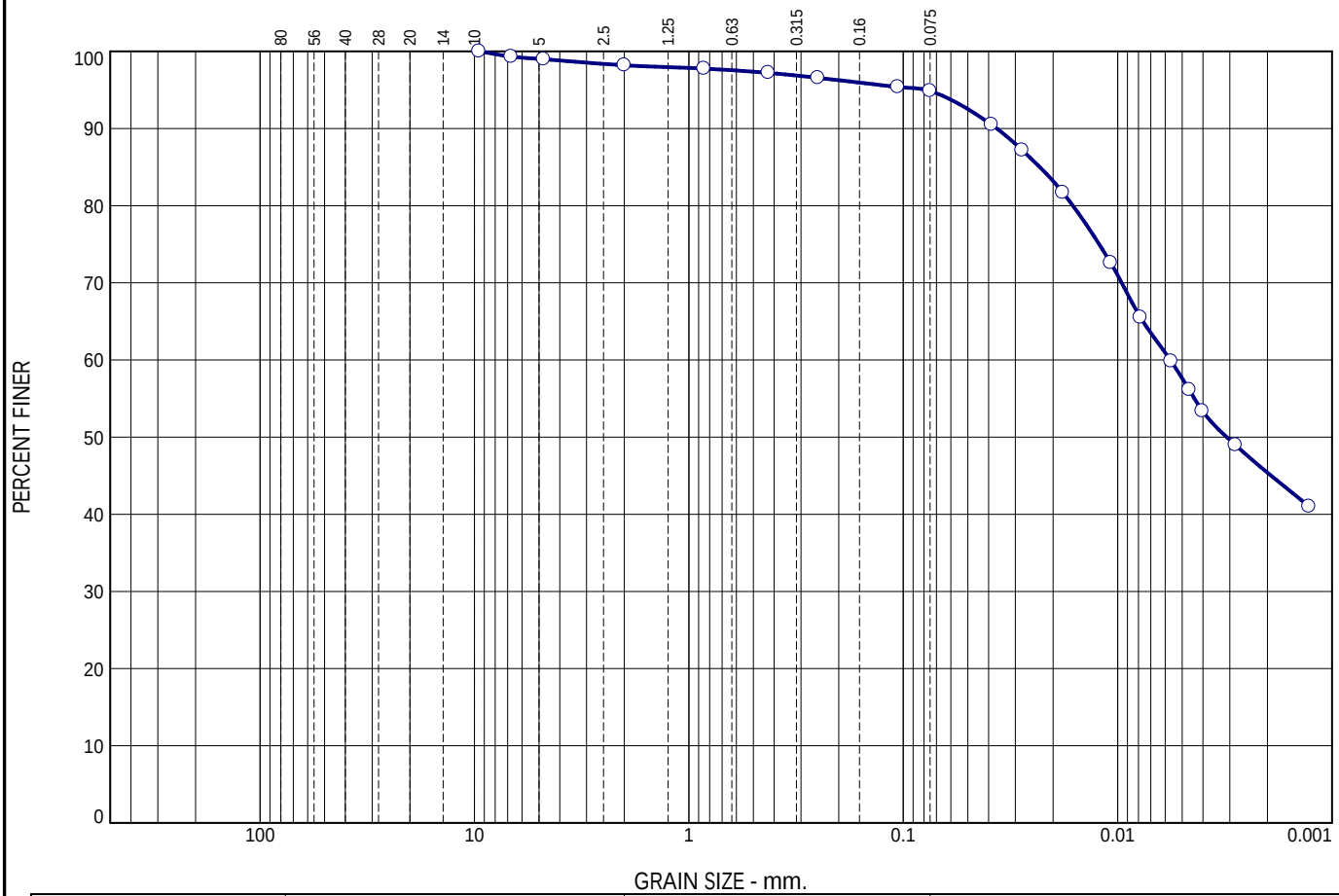
TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

APPENDIX D
GEOTECHNICAL LABORATORY TEST RESULTS

Particle Size Distribution Report

ASTM D422



	% +3"	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0.0	1.8	1.0	2.3	49.5	45.4

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	53.3	19.5	0.0231	0.0057	0.0031					

Material Description	Test Date	USCS	NM
○ SILT AND CLAY trace sand trace gravel	Jan 12/26	CH	

Project No. CO1004.01 Client: WO MW Realty Limited

Project: 3145 Conroy Road, Ottawa, ON

○Sample Number: BH101 SS4

Terrapex

Toronto, Ontario

Remarks:

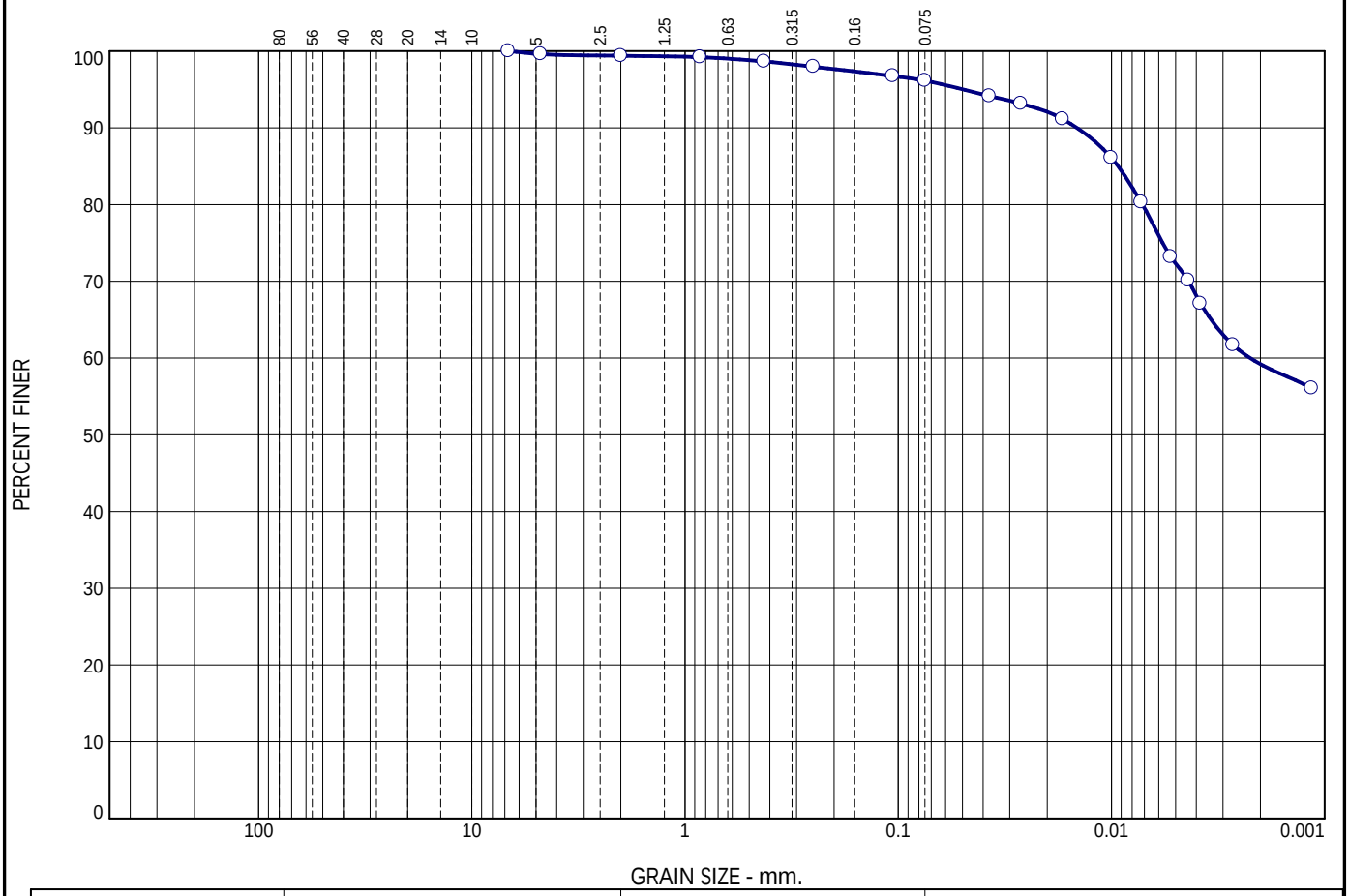
○Hydrometer Details: Spc. Grav. = 2.75(assumed); Vb=53cm^3; L2=13.8cm; L1=10.7cm; hs= 0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=40g/l

Figure 1

Tested By: AR/AM

Particle Size Distribution Report

ASTM D422



	% +3"	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0.0	0.6	0.7	2.6	36.9	59.2

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	55.7	22.0	0.0093	0.0022						

Material Description	Test Date	USCS	NM
○ SILT AND CLAY trace sand	Jan 13/26	CH	

Project No. CO1004.01 Client: WO MW Realty Limited

Project: 3145 Conroy Road, Ottawa, ON

○Sample Number: BH102 SS5

Terrapex

Toronto, Ontario

Remarks:

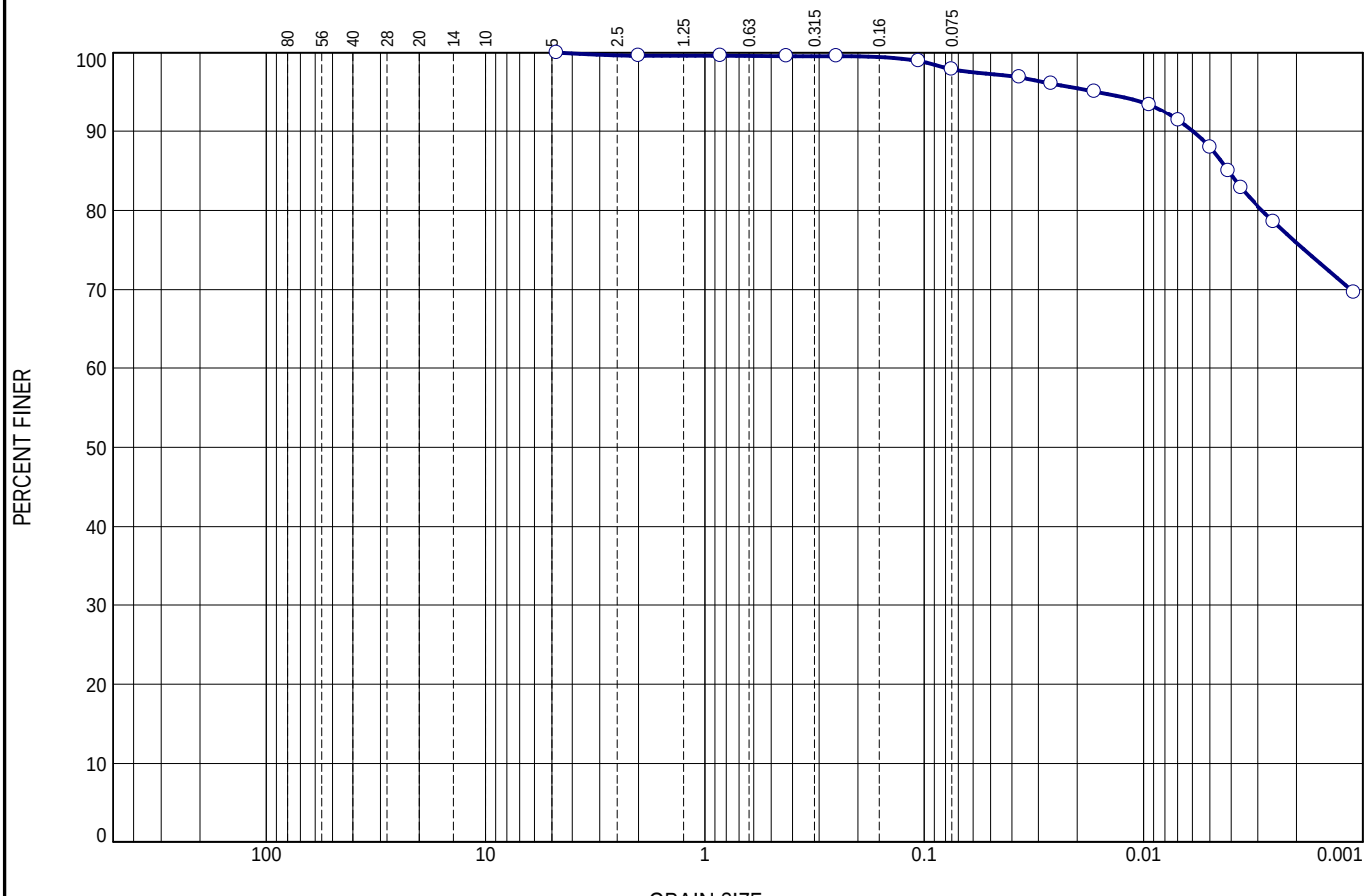
○Hydrometer Details: Spc. Grav. = 2.75(assumed); Vb=53cm^3; L2=13.8cm; L1=10.7cm; hs= 0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=40g/l

Figure 2

Tested By: AR/AM

Particle Size Distribution Report

ASTM D422



	% +3"	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0.0	0.4	0.0	1.7	22.0	75.9

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	76.9	29.8	0.0041							

Material Description	Test Date	USCS	NM
○ SILTY CLAY trace sand	Jan 13/26	CH	

Project No. CO1004.01 Client: WO MW Realty Limited

Project: 3145 Conroy Road, Ottawa, ON

○Sample Number: BH103 SS5

Terrapex

Toronto, Ontario

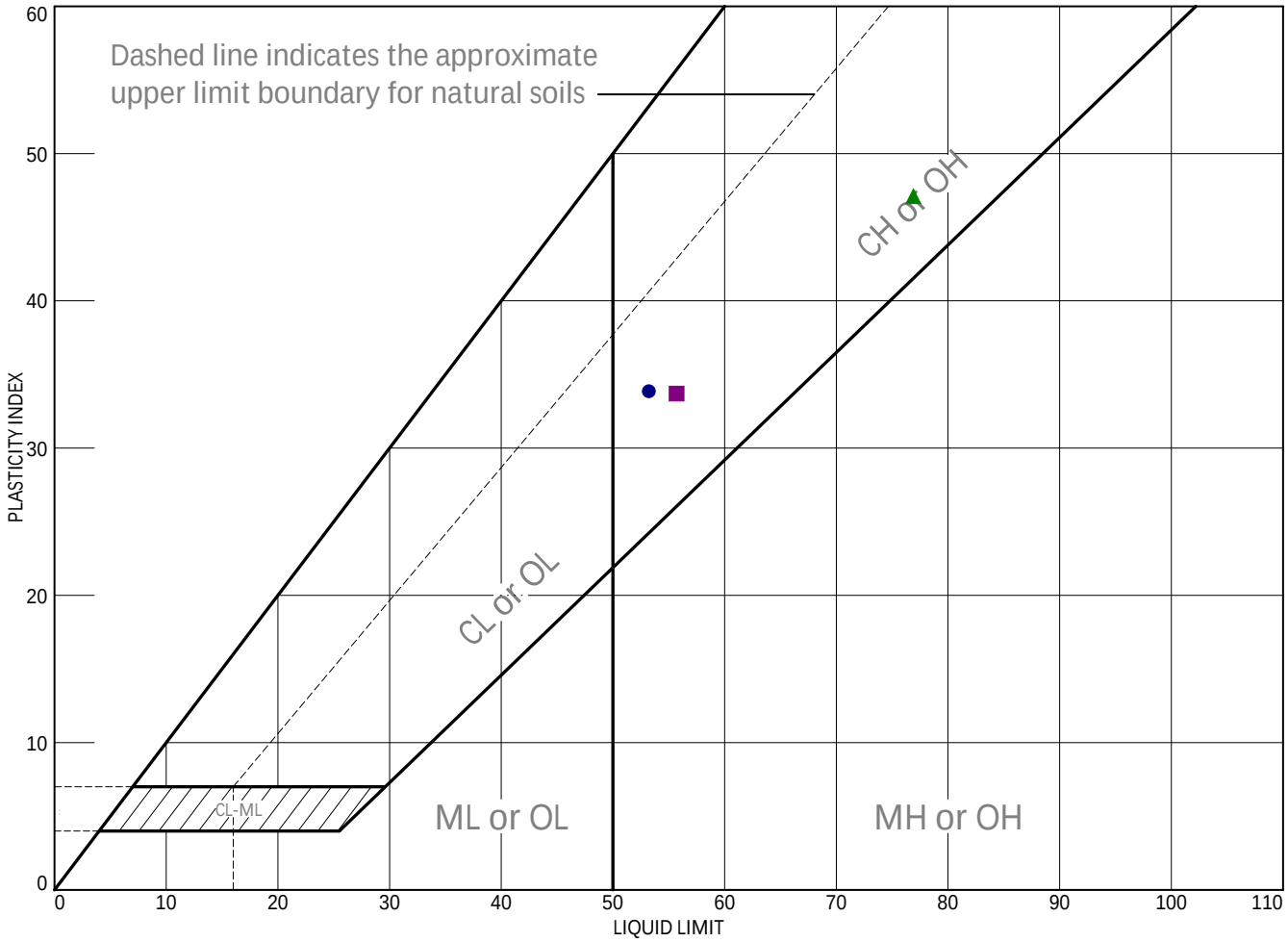
Remarks:

○Hydrometer Details: Spc. Grav. = 2.75(assumed); Vb=53cm^3; L2=13.8cm; L1=10.7cm; hs= 0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=40g/l

Figure 3

Tested By: AR/AM

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	SILT AND CLAY trace sand trace gravel	53.3	19.5	33.8	97.2	94.9	CH
■	SILT AND CLAY trace sand	55.7	22.0	33.7	98.7	96.1	CH
▲	SILTY CLAY trace sand	76.9	29.8	47.1	99.6	97.9	CH

Project No. CO1004.01 Client: WO MW Realty Limited

Project: 3145 Conroy Road, Ottawa, ON

●Sample Number: BH101 SS4
■Sample Number: BH102 SS5
▲Sample Number: BH103 SS5

Remarks:
●Test Date: Jan 20, 2026
■Test Date: Jan 21, 2026
▲Test Date: Jan 20, 2026

Terrapex

Toronto, Ontario

Figure 4

Tested By: AM

APPENDIX F
CERTIFICATE OF CHEMICAL ANALYSES

Your Project #: CO1004.01
Site Location: 3145 CONROY RD
Your C.O.C. #: N/A

Attention: Hussain Mohammed

Terrapex Environmental Ltd
20 Gurdwara Road
Unit 1
Ottawa, ON
CANADA K2E 8B3

Report Date: 2026/01/13
Report #: R8680843
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600994
Received: 2026/01/06, 14:49

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
pH CaCl2 EXTRACT (1)	2	2026/01/12	2026/01/12	CAM SOP-00413	EPA 9045 D m
Sulphate (20:1 Extract) (1)	2	2026/01/12	2026/01/13	CAM SOP-00464	MOE E3013 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8

Your Project #: CO1004.01
Site Location: 3145 CONROY RD
Your C.O.C. #: N/A

Attention: Hussain Mohammed

Terrapex Environmental Ltd
20 Gurdwara Road
Unit 1
Ottawa, ON
CANADA K2E 8B3

Report Date: 2026/01/13
Report #: R8680843
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600994
Received: 2026/01/06, 14:49

Encryption Key

Bureau Veritas
13 Jan 2026 16:29:40

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633
==========
This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C600994
Report Date: 2026/01/13

Terrapex Environmental Ltd
Client Project #: CO1004.01
Site Location: 3145 CONROY RD
Sampler Initials: HM

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		AYVI24	AYVI25			AYVI25	
Sampling Date		2026/01/05 13:00	2026/01/05 14:00			2026/01/05 14:00	
COC Number		N/A	N/A			N/A	
	UNITS	BH101-SS6	BH103-SS4	RDL	QC Batch	BH103-SS4 Lab-Dup	QC Batch
Inorganics							
Available (CaCl2) pH	pH	7.83	7.49		A085765	7.38	A085765
Soluble (20:1) Sulphate (SO4)	ug/g	210	540	20	A085634		

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Job #: C600994
Report Date: 2026/01/13

Terrapex Environmental Ltd
Client Project #: CO1004.01
Site Location: 3145 CONROY RD
Sampler Initials: HM

TEST SUMMARY

Bureau Veritas ID: AYVI24 **Collected:** 2026/01/05
Sample ID: BH101-SS6 **Shipped:**
Matrix: Soil **Received:** 2026/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	A085765	2026/01/12	2026/01/12	Surinder Rai
Sulphate (20:1 Extract)	SKAL/EC	A085634	2026/01/12	2026/01/13	Massarat Jan

Bureau Veritas ID: AYVI25 **Collected:** 2026/01/05
Sample ID: BH103-SS4 **Shipped:**
Matrix: Soil **Received:** 2026/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	A085765	2026/01/12	2026/01/12	Surinder Rai
Sulphate (20:1 Extract)	SKAL/EC	A085634	2026/01/12	2026/01/13	Massarat Jan

Bureau Veritas ID: AYVI25 Dup **Collected:** 2026/01/05
Sample ID: BH103-SS4 **Shipped:**
Matrix: Soil **Received:** 2026/01/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	A085765	2026/01/12	2026/01/12	Surinder Rai

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Bureau Veritas Job #: C600994
Report Date: 2026/01/13

QUALITY ASSURANCE REPORT

Terrapex Environmental Ltd
Client Project #: CO1004.01
Site Location: 3145 CONROY RD
Sampler Initials: HM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A085634	Soluble (20:1) Sulphate (SO4)	2026/01/13	93	70 - 130	99	75 - 125	<20	ug/g	NC	35
A085765	Available (CaCl2) pH	2026/01/12			100	97 - 103			1.4	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Louise Harding, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

C600994
2026/01/06 14:49

Received in Ottawa

www.BVNA.com

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD

ENV COC - 00014v6

Page _____ of _____

Invoice Information	Invoice to (requires report)	Report Information (if differs from invoice)	Project Information	
Company:	TPx		Quotation #:	LAB USE ONLY - PLACE STICKER HERE
Contact Name:	Hussain Mohammed		P.O. #/ AFE#:	
Street Address:	20 Gurdwara RD		Project #:	C10004.01
City:	Nepean Prov: ON Postal Code: K2E 8B4	Prov: Postal Code:	Site #:	-
Phone:	613-745-6471		Site Location:	3145 Conray RD
Email:	H.Mohammed@Terrapex.com		Site Location Province:	-
Copies:	y.dore@Terrapex.com		Sampled By:	HM

Regulatory Criteria

REG 153: Table 1, Table 2, Table 3, Table _____; Res/Park, Ind/Comm, Agri/other, Med/Fine, Coarse, For RSC

OTHER: CCME, Reg 558*, *min 3 day TAT, MISA, PWQO, Reg 406, Table:, Sanitary Sewer Bylaw, Storm Sewer Bylaw Municipality, Other:

Include Criteria on Certificate of Analysis (check if yes):

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification (Please print or Type)	Date Sampled YYYY	MM	DD	Time (24hr) HH	MM	Matrix	FIELD FILTERED	FIELD PRESERVED	LAB FILTRATION REQUIRED	BTEX/ F1	F2 - F4	VOCs	Reg 153 metals and inorganics	Reg 153 ICPMS metals	Reg 153 metals (Hg, Cr VI, ICPMS metals, HWS - B)	Metal Soluble Sulph	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
1	BH101-SS6	2026	01	5	13	20	S										X	1	
2	BH103-SS4	2026	01	5	14	40	S										X	1	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

OTT-2026-01-013

Regular Turnaround Time (TAT): 5 to 7 Day, 10 Day

Rush Turnaround Time (TAT) Surcharges apply: Same Day, 1 Day, 2 Day, 3 Day, 4 Day

Date Required: YYYY MM DD

Comments

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No		LAB USE ONLY	Yes	No		LAB USE ONLY	Yes	No	
Seal present		✓	NO	Seal present				Seal present			
Seal intact		✓		Seal intact				Seal intact			
Cooling media present		✓	Ice	Cooling media present				Cooling media present			
°C	1	7		°C	1			°C	1		
	2	8			2				2		
	3	9			3				3		

Temperature reading by:

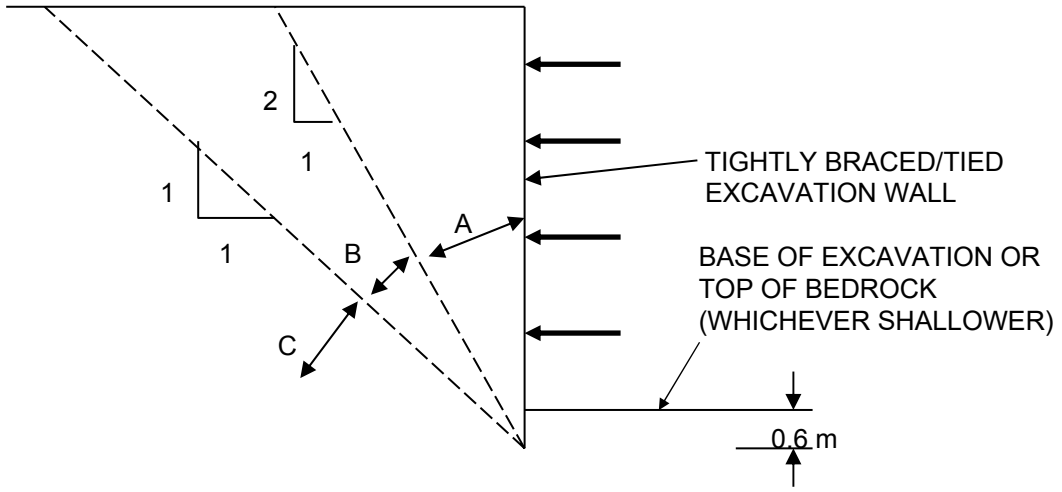
Relinquished by: (Signature/ Print)	Date YYYY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YYYY	MM	DD	Time HH	MM	Special instructions
1 Hussain Mohammed	2026	01	06	14	30	1 Leen Asad	2026	01	06	14	49	
2						2						

APPENDIX D

GUIDELINES FOR UNDERPINNING IN SOIL AND EXCAVATION SUPPORT

Guidelines for Underpinning in Soil and Excavation Support

Existing foundations located within Zone A normally require underpinning, especially for heavy structures. For some foundations in Zone A, it may be possible to eliminate underpinning and control foundation movement by tightly braced excavation walls, such as caisson walls.



Zone A Foundations located within this zone normally require underpinning. Horizontal and vertical pressures on the excavation wall of non-underpinned foundations must be considered

Zone B Foundations located within this zone normally do not require underpinning. Horizontal and vertical pressures on the excavation wall of non-underpinned foundations must be considered

Zone C Underpinning to structures is normally founded in this zone. Lateral pressure from underpinning is not normally considered

(Reference: Figure 26.27 from Canadian Foundation Engineering Manual, 4th Edition)

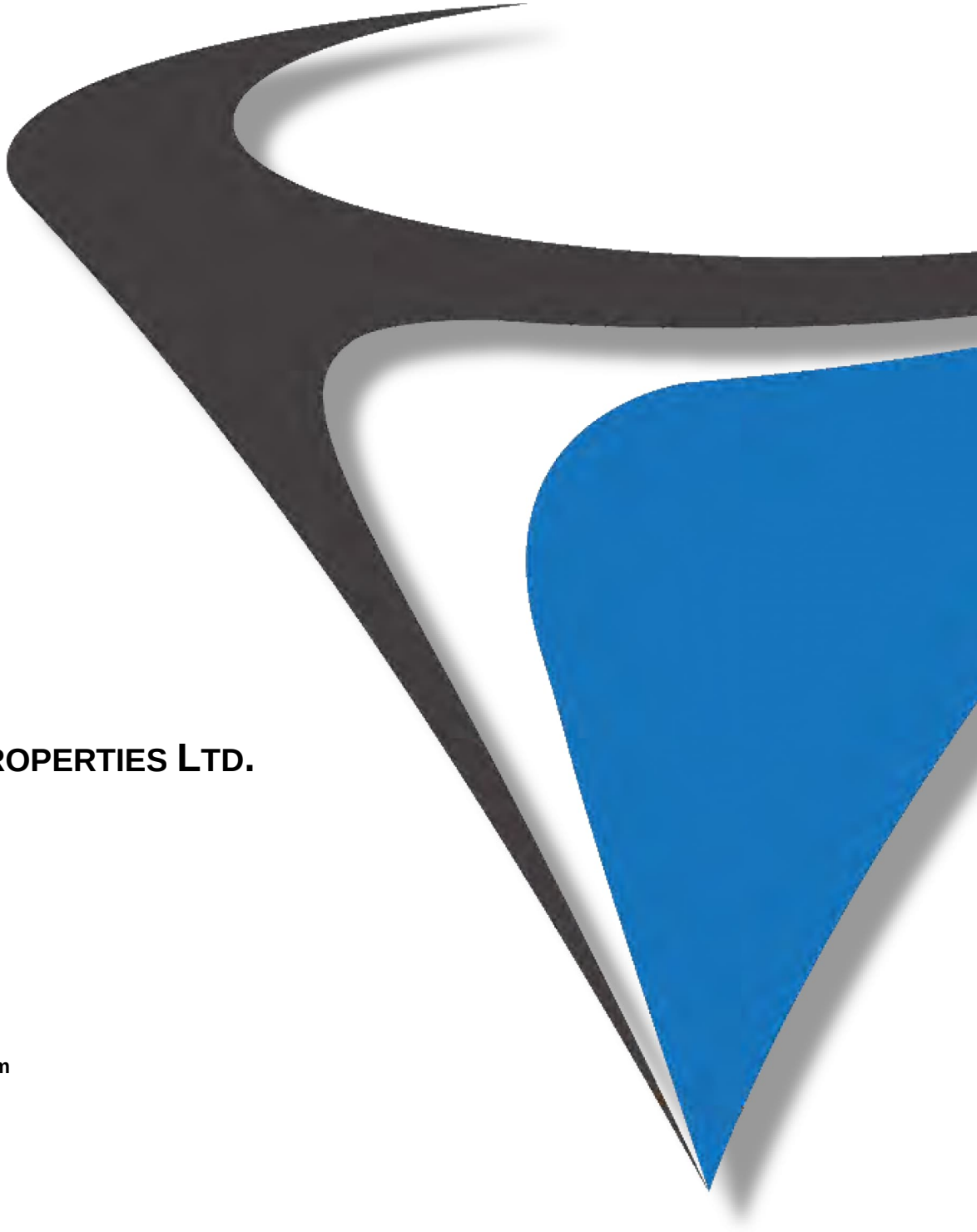
APPENDIX G
PHOTO OF THE CORED ASPHALT PAVEMENT

MAXIMUM
26ft
8m

APPENDIX J
SOIL CHARACTERIZATION REPORT

DUE DILIGENCE
SOIL CHARACTERIZATION

City of Ottawa Right-of-Way Adjacent To
3145 Conroy Road, Ottawa, ON



CO1004.01

FINAL REPORT

February 25, 2026

Prepared for:

WHITE OWL PROPERTIES LTD.

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EXECUTIVE SUMMARY

Terrapex Environmental Ltd. (Terrapex) was retained by White Owl Properties Ltd. (the Client) to complete a Due Diligence Soil Characterization program to facilitate the proposed extension of sanitary sewer services in the central median of Conroy Road (the Site) as part of the proposed re-development of the property with the civic address 3145 Conroy Road, Ottawa, Ontario. The Site location is provided in Figure 1. The Due Diligence Soil Characterization was conducted concurrently with geotechnical and hydrogeological investigations (reported under separate covers).

On December 30 and 31, 2025, three boreholes (MW101, BH102, and MW103) were drilled using a 7822 DT Geoprobe track mounted drill rig. The boreholes were drilled from surface to a maximum depth of 5.2 meters below ground surface (m bgs). Three soil samples from each borehole were submitted for laboratory analysis of benzene, toluene, ethylbenzene and xylenes (collectively BTEX), petroleum hydrocarbon fractions F1 to F4 (PHC F1-F4), metals and inorganics and/or polycyclic aromatic hydrocarbons (PAHs). In order to evaluate potential soil management options, the analytical results were compared to the following standards:

- Table 1 full depth background site condition standards (SCS) for non-agricultural property use;
- Table 2.1 excess soil quality standards (ESQS) applicable to receiver sites in a potable groundwater condition with industrial / commercial / community (I/C/C) property use; and,
- Table 3.1 ESQS applicable to receiver sites in a non-potable groundwater condition with I/C/C property use.

Based on the analytical results, soil located in the central and northern portions of the Site in the vicinity of the proposed excavation of the sanitary sewer extension had concentrations of metal parameters (vanadium or chromium) greater than the Table 3.1 ESQS in soil samples collected from BH102 and MW103. The exceedances were generally from samples collected generally deeper than 2.3 m bgs from the native silty clay soils. The excess soils generated from these areas and depths may need to be disposed at a licensed landfill. However, it should be noted that vanadium concentrations in samples BH102-4 and MW103-4 are consistent with elevated background concentrations in the Ottawa area for Champlain Sea sediments (Geofirma Engineering Ltd. proposed a Region-Specific Background Value of 122 µg/g of vanadium[1]). Therefore, there may be receiver sites in the Ottawa area with naturally elevated vanadium that may be able to accept these soils. Further discussion with potential receiver sites would be required to confirm.

[1] From *Background Metals in Champlain Sea Sediments: Updates from 2019 Drilling and Sampling Program*, *Eastern Ontario – Ottawa Region*, Geofirma Engineering Ltd., November 30, 2023.

The volume of fill material potentially to be disposed of at landfill could also be reduced based on either additional in-situ sampling and/or stockpile sampling during the construction phase. During construction it is suggested that the soil being excavated be inspected for either visual or olfactory evidence of impact. If any impact is observed the soil should be separated and stockpiled for testing or added to the soil to be sent to landfill.

The soil generated in the vicinity of borehole MW101 located at the southern portion of the proposed sanitary sewer extension exhibited concentrations of the mandatory required COPCs less than the Table 2.1 ESQS with the exception of electrical conductivity (EC) and sodium adsorption ratio (SAR) likely related to the application of de-icing salt on Conroy Road and adjacent sidewalks for vehicle and pedestrian safety. The soil generated from this area may be re-used at the Site or the 3145 Conroy Road property (e.g., for backfilling, landscaping or berm construction pending geotechnical considerations). Due to the value of EC and/or SAR exceeding the Table 2.1 ESQS, it is suggested that this soil be reused in an area in which it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice (i.e., adjacent to a roadway or a parking lot).

Based on the bulk analytical results, the soil to be generated in the vicinity of borehole MW101 could potentially be sent to a Table 2.1 I/C/C reuse site provided the following is completed:

- The completion of a planning documents (i.e., APU, sampling and analysis plan and a SCR and ESDR);
- Any update to the sampling (if required) based on review of the APU in the event that additional APECs and/or COPCs are identified; and,
- Completing the required amount of leachate analysis to properly characterize the excess soil in the vicinity of borehole MW101.

Further soil characterization is recommended in the area of the sanitary sewer extension excavation between boreholes MW101 and BH102 to better define the amount of soil that could potentially be sent to a Table 2.1 I/C/C reuse site.

The acceptance of the tested materials, along with the frequency of sampling and testing, and applicable evaluation standards (e.g., O. Reg. 406/19 or O. Reg. 153/04) are at the discretion of the reuse site. It is recommended that the any potential receiver site reviews the analytical data, their intended use of the materials, and site conditions with respect to O. Reg. 406/19. Furthermore, a reuse site may not accept excess soil of appropriate environmental quality if the geotechnical conditions of the material are not suitable for its intended use (i.e., beneficial purpose).

During the export of materials, should adverse environmental conditions become apparent, Terrapex must be immediately notified in order to provide further assessment and recommendations.

1.0 INTRODUCTION

Terrapex Environmental Ltd. (Terrapex) was retained by White Owl Properties Limited (the Client) to complete a Due Diligence Soil Characterization program to facilitate the proposed extension of sanitary sewer services along Conroy Road (the Site) as part of the redevelopment of the property with the civic address 3145 Conroy Road, Ottawa, Ontario. The due diligence soil characterization was completed concurrently with geotechnical and hydrogeological investigations (which are reported under a separate covers). The Site location is provided in Figure 1.

1.1 MANDATES AND OBJECTIVES

The objective of the Due Diligence Soil Characterization was to determine the environmental quality of the excess soils anticipated to be generated during the construction of the proposed sanitary sewer extension and is as follows:

- If the soils are suitable for placement at other areas of the Site (e.g., used in berms or landscaping at other areas of the Site); or
- If the soils are suitable for beneficial reuse at a reuse site in accordance with the excess soil requirement as part of O. Reg. 406/19 (e.g., at a location different than the Site).

The Due Diligence Soil Characterization was conducted in accordance with our proposal titled *Revised Proposal for Geotechnical, Hydrogeological and Environmental Investigations For the Extension of Sanitary Services, Conroy Road, Ottawa*, *Ontario*, dated November 21, 2025. Although not in full accordance with the Excess Soil Regulation (O. Reg 406/19), the number of soil samples and the chemical analyses were completed to get preliminary results to assess potential soil management options.

The Due Diligence Soil Characterization and sampling locations were designed based on a drawing received from the Client titled *Sanitary Sewer Plan & Profile* dated November 21, 2025, and prepared by Egis, with some consideration to the requirements of the geotechnical investigation (reported under a separate cover). The drawing is provided in Appendix I.

1.2 SITE DESCRIPTION

It is understood that the Client owns the 3145 Conroy Road property and plans to redevelop the property with an office, service garage and works yard. As part of the project planning, options for connecting to existing municipal services were evaluated. Based on the information provided, the preferred alternative for the extension of the sanitary sewer is to trench in the centre median of Conroy Road in the municipal right-of-way (ROW) to an anticipated depth of 2.9 m below ground surface (bgs) over an estimated length of 250 m between the 3145 Conroy Road property and the intersection with Johnston Road to the south. Therefore, the area of investigation for the proposed sanitary sewer extension is within the boulevard in the section of Conroy Road located

south of 3145 Conroy Road and north of Johnson Road in Ottawa. The proposed sanitary sewer alignment is provided on Figure 2.

1.3 SITE HISTORY

Terrapex was not provided any information regarding past assessments done on-Site.

2.0 SCOPE OF WORK

The scope of work for the Due Diligence Soil Characterization program included the following:

- Obtaining a road cut permit from the City of Ottawa for the work within the municipal ROW;
- Preparing a site-specific health and safety plan (HASP) for field personnel and sub-contractors as per Terrapex's standard practice for each component of the work program. Job Safety Analyses (JSAs) were completed in the field prior to each task;
- Obtaining buried service locates from local public utilities and retaining a private locating company to identify secondary services and to clear the proposed investigation locations prior to commencing the intrusive investigation;
- Providing traffic management during the drilling work in accordance with the requirements of Ontario Book 7 - Temporary Conditions and City of Ottawa requirements.
- Supervising the drilling of three boreholes (MW101, BH102, and MW103) along the proposed length of the sewer extension to a maximum depth of 5.2 m bgs using a 7822 DT track mounted drill rig;
- Collecting representative soil samples during drilling and logging each sample for visual, olfactory, and tactile soil characteristics, as well as any evidence of chemical impact (if present), and measuring combustible soil vapours (CSV) readings in recovered soil samples using an RKI Eagle II hydrocarbon surveyor operated in methane elimination mode;
- Submitting selected soil samples from each of the boreholes for laboratory analyses of polycyclic aromatic hydrocarbons (PAHs), metals and inorganics, benzene, toluene, ethylbenzene and xylene (collectively BTEX) and petroleum hydrocarbons F1 through F4 (PHC F1-F4);
- Evaluating soil analytical results with respect to the appropriate O. Reg. 153/04 Site Condition Standards (SCS) and O. Reg. 406/19 Excess Soil Quality Standards (ESQS); and,
- Preparing a report detailing the findings and results of the project.

Underground locating services were provided by Geo-Daylighting and Locating Inc. of Halton Hills, Ontario. Borehole drilling services for this work program were provided by Strata Drilling Group (Strata) of Stouffville, Ontario using a track mounted drill rig equipped with hollow stem augers. Strata is an MECP-licensed well drilling contractor. Traffic control services were provided by Beacon Lite Ltd. of Ottawa, Ontario.

Laboratory analytical services for this work program were provided by Bureau Veritas Laboratories (BV Labs) at their Mississauga laboratory. At the time of the assessment, BV Labs's Mississauga laboratory was accredited by the Standards Council of Canada (SCC) for each of the analyses it was required to undertake as part of this work program.

2.1 LIMITATIONS

Terrapex has exercised due care, diligence, and judgement in the performance of this due diligence soil characterization; however, studies of this nature have inherent limitations. The reported information is believed to provide a reasonable representation of the general environmental conditions of the soils to be excavated. However, the data were collected at discrete locations based on field observations and conditions may vary at other locations or with the passage of time. The assessment was also limited to a study of those chemical parameters specifically addressed in this report.

The scope of work did not include the completion of an Assessment of Past Uses (APU). The Area of Potential Environmental Concern (APECs) and contaminants of potential concern (COPCs) are based on what is known of the Site based on a Phase One ESA conducted for the 3145 Conroy Road property (for which the Site was part of the study area) and mandatory parameters required by O. Reg. 406/19. The completion of an APU for the Site may identify additional COPCs not analyzed during this work program. Further, leachate samples were not submitted as part of the work program.

3.0 FIELD PROGRAM

Terrapex conducted the field components of the Due Diligence Soil Characterization program between December 30 and 31, 2025. The work program described herein was generally completed in accordance with industry-standard practices.

3.1 SAMPLING AND ANALYSIS PLAN

To ensure the soil anticipated to be excavated was suitable for reuse on the Site and/or at another reuse location (i.e., in accordance with the requirements of the O. Reg. 406/19), a soil characterization program was conducted. The following represents the rationale for the number of samples collected and the types of analysis completed.

Based on an anticipated length and depth of excavation (i.e., 250 m by 3.5 m deep by 2.5 m wide), it is estimated that approximately 2,200 m^3 of excess soils will be generated during the excavation work for the sanitary sewer extension. A total of nine soil samples were submitted for laboratory analysis, representing one sample per approximately 250 m^3 of anticipated excess soil to be generated, including samples of fill and underlying native soil.

The mandatory minimum laboratory analyses required by O. Reg. 406/19, as contained in the MECP document titled "*Rules for Soil Management And Excess Soil Quality Standards*" dated February 19, 2024 (referred to as the "*Soil Rules*") comprises:

- PHC F1-F4;
- BTEX;
- pH, metals and hydride-forming metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc);
- Sodium adsorption ration (SAR) and electrical conductivity (EC) if the soil is excavated from an area where a substance has been used for the purpose of keeping the area safe for use under conditions of snow or ice (as is the case for the Site);
- COPCs identified during the APU, namely based on the identified APECs; and,
- mSPLP analysis for certain contaminants, if required.

An APU was not completed for the Site. However, base on available information, including a Phase One ESA conducted for the 3145 Conroy Road property that included the Site within the study area, the following PCAs are considered to potentially affect the Site:

- PCA #30 Importation of Fill Material of Unknown Quality – Possible placement of fill of unknown quality during the construction of the road and/or installation of underground services;
- PCA #28 Gasoline and Associated Products Storage in Fixed Tanks – Operation of a retail fuel outlet at 3201 Conroy Road (approximately 16 m east from the southern portion of the Site); and,
- Application of De-Icing Salt for Vehicle and Pedestrian Safety – Application of de-icing salt on Conroy Road and sidewalks.

In addition to the COPC outlined above, PAHs were considered a COPC for any fill material encountered.

Based on the preceding, the sampling and analysis plan consisted of drilling three boreholes along the length of the proposed sanitary sewer extension to at least 5.2 m bgs and submitting three samples per borehole for all of the minimum COPCs. One sample of fill per borehole was also analyzed for PAHs. Consideration of geotechnical requirements were also considered during the borehole placement.

3.2 FIELD PREPARATION

Prior to the drilling work, a road cut permit (No. RC253556) was obtained from the City of Ottawa for work within the municipal ROW. Traffic management plans were also prepared by Beacon Lite.

Prior to conducting the intrusive fieldwork, Terrapex contacted the appropriate public agencies (Ontario One Call) to identify the locations of buried utilities at and near the subject Site. Terrapex also retained Geo-Daylighting and Locating Inc. to locate private buried utilities, if any, and provide clearances for buried services at the proposed borehole locations.

A site-specific HASP and JSA were prepared by Terrapex prior to commencing the fieldwork. A copy of the HASP and JSA remained with the field crew on the subject Site for the duration of the field activities. The project team members and subcontractors that conducted the field activities read and signed the HASP and JSA before commencing work.

3.3 BOREHOLE DRILLING AND SOIL SAMPLING

On December 30 and 31, 2025, three boreholes (MW101, BH102, and MW103) were drilled using a 7822 DT Geoprobe track mounted drill rig to a maximum depth of 5.2 m bgs. The borehole drilling was completed concurrently with a geotechnical investigation (reported under a separate cover). During drilling, traffic management was conducted in accordance with the traffic management plans with traffic control services provided by Beacon Lite.

Soil samples were collected in the overburden at each borehole location at regular depth intervals using a disposable dual tube sampler for the direct push method. Each sample was logged in the field and visual/olfactory observations of PHC or chemical impact, if any, were noted. CSV concentrations were measured in each sample using a RKI Eagle II hydrocarbon surveyor, calibrated to n-hexane and operated in “methane elimination” mode. Fresh nitrile gloves were used to handle each sample.

No visual or olfactory indication of chemical impact was observed at any of the boreholes. Three soil samples were submitted for analysis generally representing a sample from the shallow fill material, and two deeper samples from native silty clay for vertical coverage.

The following soil samples were submitted for analysis during the borehole drilling program:

- One sample of the fill material from each of the boreholes (MW101-2, MW102-1 and MW103-1) were submitted for laboratory analysis of BTEX, PHC F1-F4, PAHs, metals and inorganics; and,
- Six soil samples (MW101-4, MW101-5, MW102-3, MW102-4, MW103-3, and MW103-4) of the native silty clay soil were submitted for laboratory analysis of BTEX, PHC F1-F4, metals and inorganics.

Soil samples were collected directly into pre-cleaned, laboratory-supplied sampling containers, packed in a cooler with ice, and transported with a signed chain-of-custody to BV Labs’ depot in Ottawa, Ontario prior to shipment to the laboratory in Mississauga, Ontario for analysis.

On January 9, 2025, Terrapex completed a survey of the location of each borehole using a Trimble Catalyst DA2 global navigation satellite system (GNSS) receiver.

3.4 MONITORING WELL INSTALLATION

As part of the hydrogeological investigation, monitoring wells were installed in two of the boreholes (MW101 and MW103). The monitoring wells were constructed using of 50-mm diameter polyvinyl chloride (PVC) well pipe and screen. The monitoring wells were screened to intersect the apparent water table within the overburden. The depth to the top of the screen was approximately 2.1 m bgs with the bottom of the screen at approximately 5.2 m bgs.

The annulus of each of the monitoring wells was backfilled with washed silica sand to a minimum depth of approximately 0.3 m above the screened interval and a bentonite seal was placed above the sand pack to grade to prevent infiltration of surface water. A flushmount protective casing was installed at each monitoring well location and cemented in place.

Monitoring well locations are shown in Figure 2. Monitoring well construction details are provided in the borehole logs included in Appendix II.

3.5 QUALITY CONTROL/QUALITY ASSURANCE MEASURES

Quality Assurance and Quality Control (QA/QC) measures were implemented during the work program in accordance with Terrapex Standard Operating Procedures. A summary of these measures follows.

During drilling, to mitigate cross-contamination, a dedicated plastic liner was used for the collection of each sample. Fresh nitrile gloves were worn for the handling of each sample. Pre-cleaned sample containers for the specific parameters of interest were provided by the laboratory and used at each borehole location for the collection of soil samples. Samples for analyses were placed in an enclosed cooler with loose ice and shipped with a signed chain of custody and custody seals to BV Labs for chemical analysis.

The QA/QC sample collected from the borehole sampling comprised of the following:

- One blind field duplicate soil sample (MW103-80, duplicate of MW103-1) was submitted for analysis of BTEX,PHC F1-F4, PAHs, metals and inorganics; and,
- one methanol blank sample was submitted for analysis of BTEX and PHC F1.

The laboratory was not informed of the nature or number of the field duplicate samples outlined above.

4.0 FIELD OBSERVATIONS

The soil stratigraphy consisted of topsoil at surface overlying fill material described as gravely sandy silt with varying amounts of clay, followed by native silty clay to approximately to at least 5.2 m bgs. Sandy silt was observed at MW101 between 4.5 and 5.2 m bgs. Refusal was not encountered in any of the boreholes to the maximum depth of investigation (5.2 m bgs).

No olfactory evidence of chemical impact was observed in any of the soil samples collected. No evidence of non-aqueous phase liquids (i.e., NAPL) or free product was encountered during the field program. Combustible soil vapour (CSV) concentrations were measured for each soil sample recovered from the boreholes using a RKI Eagle. CSV concentrations were less than five parts per million (ppm) in all soil samples.

The CSV concentrations measured for each soil sample are included on the boreholes logs (Appendix II).

5.0 ANALYTICAL RESULTS

5.1 SOIL STANDARDS

To explore potential reuse options, the analytical results were compared to different standards: Table 1 full depth background site condition standards (SCS) for non-agricultural property use, Table 2.1 ESQS applicable to receiver sites in a potable groundwater condition with industrial / commercial / community property use, and Table 3.1 ESQS applicable to receiver sites in a non-potable groundwater condition with industrial / commercial / community property use, as provided in the soil rules.

5.2 ANALYTICAL RESULTS

Laboratory results for soil samples submitted for analysis of BTEX, and PHC F1-F4, PAHs, and metals and inorganics are summarized in Tables 1 to 3, respectively for comparison to the Table 1 SCS, Tables 4 to 6 for comparison to the Table 2.1 ESQS, and Tables 7 to 9 for comparison to the Table 3.1 ESQS. The laboratory certificates of analysis for the analysed soil samples are included in Appendix III. Visual representations of the soil analytical results for the various parameter groups and in comparison to the different standards are provided in Figures 3 to 11.

5.2.1 BTEX and PHC F1-F4

As shown in Table 1, the concentrations of BTEX and PHC F1-F4 parameters were less than the Table 1 SCS in the soil samples submitted for analysis with the following exceptions:

- Soil sample MW101-5 exhibited a concentration of PHC F2 greater than the Table 1 SCS.

As shown in Table 4, the concentrations of BTEX and PHC F1-F4 parameters were less than the Table 2.1 ESQS in all the soil samples submitted for analysis.

As shown in Table 7, the concentrations of BTEX and PHC F1-F4 parameters were less than the Table 3.1 ESQS in all the soil samples submitted for analysis.

A summary of the BTEX and PHC F1-F4 analytical results in comparison to their respective standards are presented in Figures 3, 6, and 9, respectively.

5.2.2 PAHs

As shown in Table 2, the concentrations of PAH parameters were less than the Table 1 SCS in all the soil samples submitted for analysis.

As shown in Table 5, the concentrations of PAH parameters were less than the Table 2.1 ESQS in all the soil samples submitted for analysis.

As shown in Table 8, the concentrations of PAH parameters were less than the Table 3.1 ESQS in all the soil samples submitted for analysis.

A summary of the PAH analytical results in comparison to their respective standards are presented in Figures 4, 7, and 10, respectively.

5.2.3 METALS AND INORGANICS

As shown in Table 3, the following soil sampled had concentrations of metals and/or inorganic greater than the Table 1 SCS:

- Soil sample MW101-2 exhibited concentrations of barium and molybdenum greater than the Table 1 SCS;
- Soil sample MW101-4 exhibited a concentration of barium greater than the Table 1 SCS;
- Soil sample MW102-1 exhibited a concentration of molybdenum greater than the Table 1 SCS;
- Soil sample MW102-3 exhibited concentrations of barium and total chromium greater than the Table 1 SCS;
- Soil sample MW102-4 exhibited concentrations of barium, total chromium, and vanadium greater than the Table 1 SCS;
- Soil sample MW103-1 exhibited concentrations of barium and total chromium greater than the Table 1 SCS;
- Soil duplicate sample MW103-80 (duplicate of MW103-1) exhibited a concentration of barium, total chromium, cobalt and vanadium greater than the Table 1 SCS;
- Soil sample MW103-3 exhibited a concentration of total chromium and molybdenum greater than the Table 1 SCS; and,
- Soil sample MW103-4 exhibited a concentration of barium, total chromium, cobalt, and vanadium greater than the Table 1 SCS.

Soil sample MW101-5 had concentrations of metals and inorganics less than the Table 1 SCS.

As shown in Table 6, the concentrations of metal and inorganic parameters were less than the Table 2.1 ESQS in the soil samples submitted for analysis with the following exceptions:

- Soil sample MW102-4 exhibited a concentration of vanadium greater than the Table 2.1 ESQS;
- Soil duplicate sample MW103-80 (duplicate of MW103-1) exhibited a concentration of vanadium greater than the Table 2.1 ESQS;

- Soil sample MW103-3 exhibited a concentration of total chromium greater than the Table 2.1 ESQS; and,
- Soil sample MW103-4 exhibited a concentration of vanadium greater than the Table 2.1 ESQS.

As shown in Table 9, the concentrations of metal and inorganic parameters were less than the 3.1 ESQS in the soil samples submitted for analysis with the following exceptions:

- Soil sample MW102-4 exhibited a concentration of vanadium greater than the Table 3.1 ESQS;
- Soil duplicate sample MW103-80 (duplicate of MW103-1) exhibited a concentration of vanadium greater than the Table 3.1 ESQS;
- Soil sample MW103-3 exhibited a concentration of total chromium greater than the Table 3.1 ESQS; and,
- Soil sample MW103-4 exhibited a concentration of vanadium greater than the Table 3.1 ESQS.

Soil samples from boreholes MW101, BH102, and MW103 also had concentrations of electrical conductivity (EC) and sodium absorption ratio (SAR) that exceeded the Table 1 SCS, Table 2.1 ESQS, and Table 3.1 ESQS. These impacts are attributed to the applications of de-icing salt to adjacent roadways and sidewalks for pedestrian and vehicle safety. As such the Standards for EC and SAR are deemed to have been met. However, there could be additional requirements for potential receiver sites for salt-impacted soils.

A summary of the metals and inorganics analytical results in comparison to their respective standards are presented in Figures 5, 8, and 11.

5.3 QUALITY CONTROL/QUALITY ASSURANCE RESULTS

The BV Labs QA/QC program consisted of the analysis of laboratory duplicates, matrix spikes, method blanks spikes, and surrogate percent recoveries, as appropriate for the particular analysis protocol.

A review of the quality assurance report attached to the certificates of analysis indicated that the laboratory QA/QC samples were within the quality control limits.

Laboratory results for the QA/QC samples associated with the field program are provided in the respective tables including the blind field duplicate and the methanol blank samples. For the blind duplicate sample, relative percent differences (RPDs) were calculated between the sampling pairs when concentrations in both samples were greater than five times the laboratory reportable detection limits (RDLs). The RPDs were generally compared to an alert criterion of 30%. However,

RPDs as high as 50% are considered acceptable for volatile organic compounds in soil (e.g., BTEX and PHC F1) and as low as 10% for certain inorganic parameters (EC).

RPD for blind duplicate sample results was calculated as follows:

$$RPD = \left| \frac{result_1 - result_2}{\frac{1}{2} x\ (result_1 + result_2)} \right| x\ 100\%$$

The RPD for soil sample MW103-1 and its duplicate sample (MW103-80) exceeded the alert criteria of 30% for barium (49%), cobalt (34%), copper (58%), nickel (34%), thallium (33%), vanadium (38%) and zinc (32%). The elevated RPDs are likely due to the heterogeneous nature of the fill material. In comparison to the Table 1 SCS, the elevated RPDs do not affect the interpretation of the results (i.e., both samples have metals parameters that exceed the Table 1 SCS). However, in comparison to the Table 2.1 and 3.1 ESQS, only the duplicate sample MW103-80 had concentrations that exceeded the ESQS for vanadium. In both cases, the vanadium concentration in sample MW103-1 was just below the Table 2.1/3.1 ESQS (82 µg/g compared to an ESQS of 86 µg/g). As a conservative measure, it is assumed that soil sample MW103-1 exceed the Table 2.1 and 3.1 ESQS.

BTEX and PHC F1 were not detected at the laboratory RDL in the methanol blank sample submitted with the laboratory submission.

Overall, the QA/QC for the project is considered acceptable. The QA/QC results for the project does not indicate any significant concerns with data quality.

6.0 CONCLUSIONS

Terrapex conducted a Due Diligence Soil Characterization program to facilitate the proposed extension of sanitary sewer services in the central median of Conroy Road (the Site) as part of the proposed re-development of the property with the civic address 3145 Conroy Road, Ottawa, Ontario. The soil characterization included the drilling of three boreholes along the length of the proposed extension of sanitary sewer services between the Site to the north and Johnston Road to the south.

Soil located in the central and northern portions of the Site had concentrations of metal parameters (vanadium or chromium) greater than the Table 3.1 ESQS in soil samples collected from BH102 and MW103. The exceedances were generally from samples collected generally deeper than 2.3 m bgs from the native silty clay soils. The excess soils generated from these areas and depths may need to be disposed at a licensed landfill. However, it should be noted that vanadium concentrations in samples BH102-4 and MW103-4 are consistent with elevated background concentrations in the Ottawa area related to Champlain Sea sediments (Geofirma Engineering Ltd. proposed a Region-Specific Background Value of 122 µg/g of vanadium [2]). Therefore, there may be receiver sites with naturally elevated vanadium in the Ottawa area that may be able to accept these soils. Further discussion with potential receiver sites would be required to confirm.

The volume of fill material potentially to be disposed of at landfill could also be reduced based on either additional in-situ sampling and/or stockpile sampling during the construction phase. During construction it is suggested that the soil being excavated be inspected for either visual or olfactory evidence of impact. If any impact is observed the soil be separated and stockpiled for testing or added to the soil to be sent to landfill.

The soil generated in the vicinity of borehole MW101, located at the southern portion of the proposed sanitary sewer extension, exhibited concentrations of the mandatory required COPCs which had concentrations less than the Table 2.1 ESQS with the exception of EC and SAR likely related to de-icing salt applied to Conroy Road and adjacent sidewalks for vehicle and pedestrian safety. The soil generated from this area may be re-used at the Site or 3145 Conroy Road property (e.g., for backfilling, landscaping or berm construction pending geotechnical considerations). Due to the value of EC and/or SAR exceeding the Table 2.1 ESQS, it is suggested that this soil be reused in an area in which it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice (i.e., adjacent to a roadway or a parking lot).

[2] From *Background Metals in Champlain Sea Sediments: Updates from 2019 Drilling and Sampling Program*, *Eastern Ontario – Ottawa Region*, Geofirma Engineering Ltd., November 30, 2023.

Based on the bulk analytical results, the soil to be generated in the vicinity of borehole MW101 could potentially be sent to a Table 2.1 I/C/C reuse site provided the following is completed:

- The completion of a planning documents (i.e., APU, sampling and analysis plan and a SCR and ESDR);
- Any update to the sampling (if required) based on review of the APU in the event that additional APECs and/or COPCs are identified; and,
- Completing the required amount of leachate analysis to properly characterize the excess soil in the vicinity of borehole MW101.

Further soil characterization is recommended in the area of the sanitary sewer extension excavation between boreholes MW101 and BH102 to better define the amount of soil that could potentially be sent to a Table 2.1 I/C/C reuse site.

The acceptance of the tested materials, along with the frequency of sampling and testing, and applicable evaluation standards (e.g., O. Reg. 406/19 or O. Reg. 153/04) are at the discretion of the reuse site. It is recommended that the any potential receiver site reviews the analytical data, their intended use of the materials, and site conditions with respect to O. Reg. 406/19. Furthermore, a reuse site may not accept excess soil of appropriate environmental quality if the geotechnical conditions of the material are not suitable for its intended use (i.e., beneficial purpose).

During the export of materials, should adverse environmental conditions become apparent, Terrapex must be immediately notified in order to provide further assessment and recommendations.

7.0 CLOSURE

The soil characterization described herein was conducted in accordance with the terms of reference for this project, agreed upon by White Owl Properties Limited. The soil characterization was conducted in general accordance with O. Reg. 406/19 by, or under the supervision of, a Qualified Person as required by the regulation.

Terrapex Environmental Ltd. has exercised due care, diligence, and judgement in the performance of this work program; however, studies of this nature have inherent limitations. The reported information is believed to provide a reasonable representation of the general environmental conditions at the Site at the time the assessment was conducted. However, the data were collected at discrete locations and conditions may vary at other locations or with the passage of time. The assessment was also limited to a study of those chemical parameters specifically addressed in this report.

In addition, our comments, conclusions, and recommendations are based in part on the observations and data documented by third parties. By necessity, except where explicitly noted, we have relied upon the accuracy and completeness of information presented by said third parties, regardless of any disclaimers regarding reliance provided in the documentation subjected to peer review. Terrapex Environmental Ltd. does not assume any responsibility for errors, omissions, or other limitations pertaining to third party work programs

This report was prepared for the sole use of White Owl Properties Limited and accepts no liability for claims arising from the use of this report, or from decisions made or actions taken as a result of this report, by parties other than White Owl Properties Limited.

We trust this report meets your current requirements. If you have any questions regarding this report, please contact the undersigned.

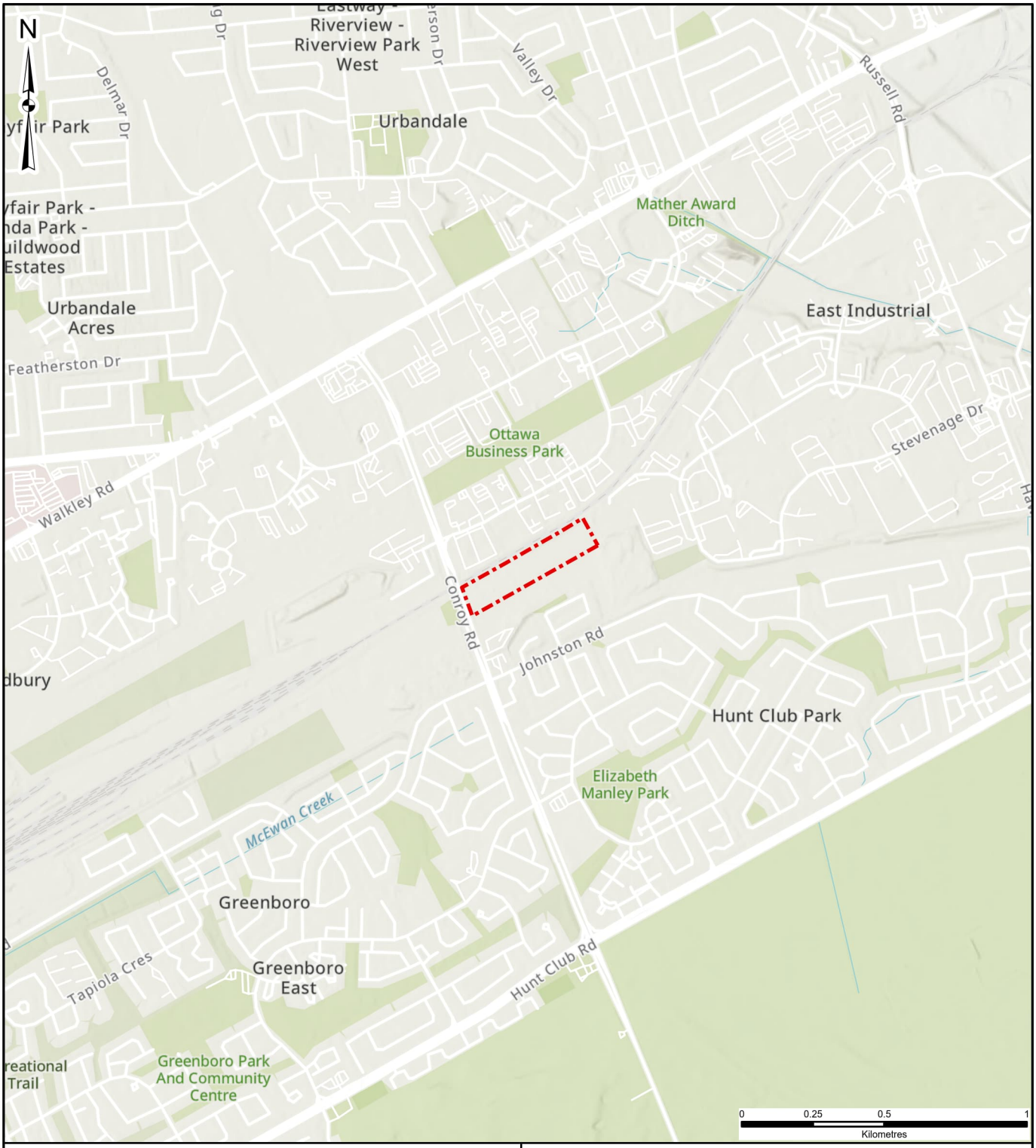
Sincerely,
TERRAPEX ENVIRONMENTAL LTD.

Eric Boonstra, BSc
Environmental Scientist

Keith Brown, P.Eng.
Senior Project Manager
Qualified Person per O. Reg. 153/04

LICENSED PROFESSIONAL ENGINEER
K. W. BROWN
100114792
Feb. 25, '26
PROVINCE OF ONTARIO

FIGURES



LEGEND

SITE BOUNDARY

DATA SOURCE: ESRI
MAP PROJECTION: NAD 1983 UTM Zone 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SITE LOCATION

DRAWN BY: JS	PROJECT NO.: CO1004.01	CHECKED BY: KWB
REVISION: 00	DATE: JANUARY 2026	**FIGURE: 1**

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LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

0 20 40 60 80 100
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
GENERAL SITE LAYOUT

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION: 00	DATE: JANUARY 2026	FIGURE: **2**

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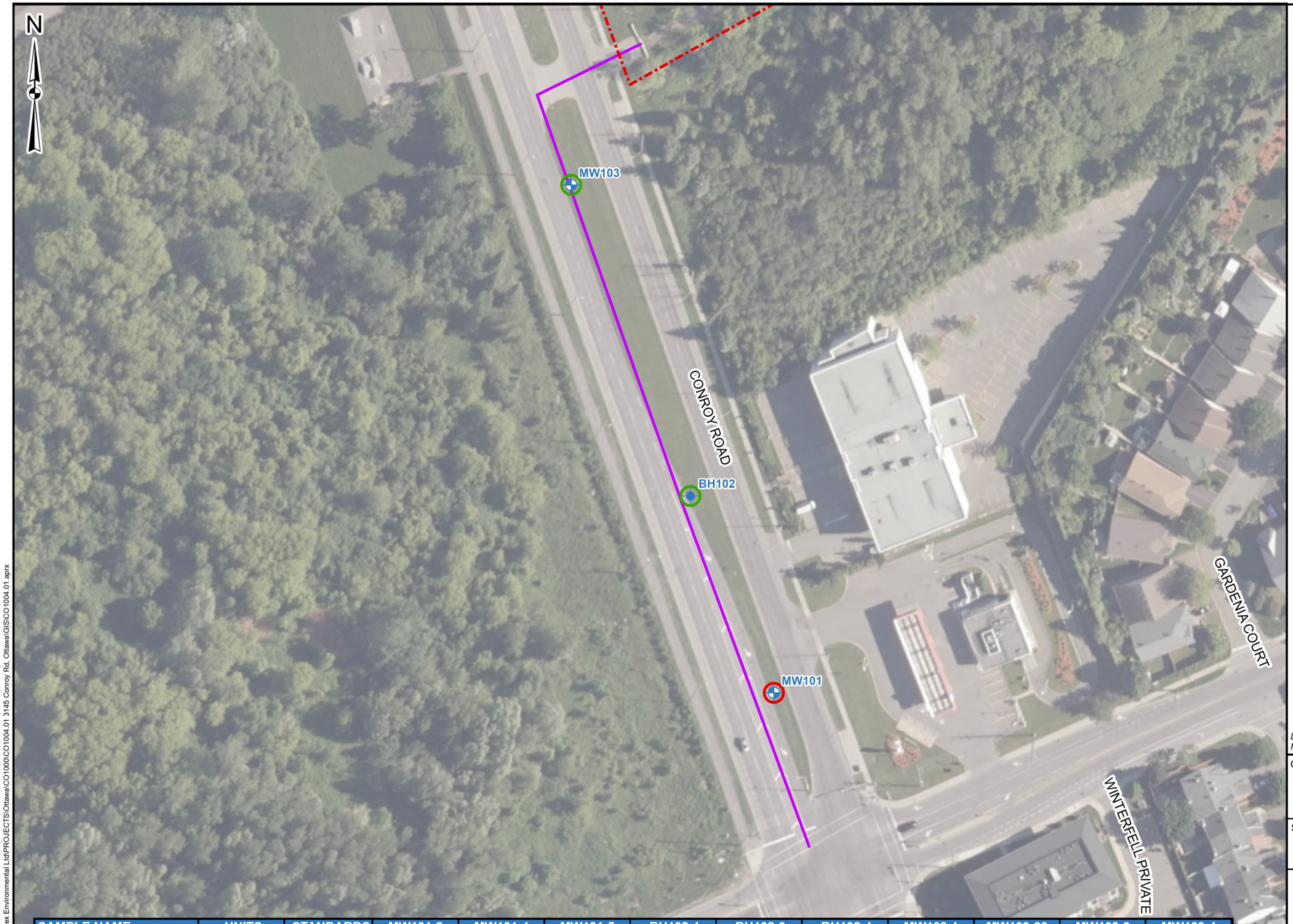

SAMPLE NAME	UNITS	STANDARDS Table 1 Non-Agricultural	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25
Petroleum Hydrocarbons F2	ug/g	10	<7.0	<7.0	**16**	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0	<7.0

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 1 SCS
- GREATER THAN TABLE 1 SCS

STANDARD INFORMATION

MECP TABLE 1: FULL DEPTH BACKGROUND SCS FOR NON-AGRICULTURAL PROPERTY-USE WITH ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - BTEX AND PHCS (TABLE 1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	**DATE:**	**FIGURE:**
00	JANUARY 2026	**3**

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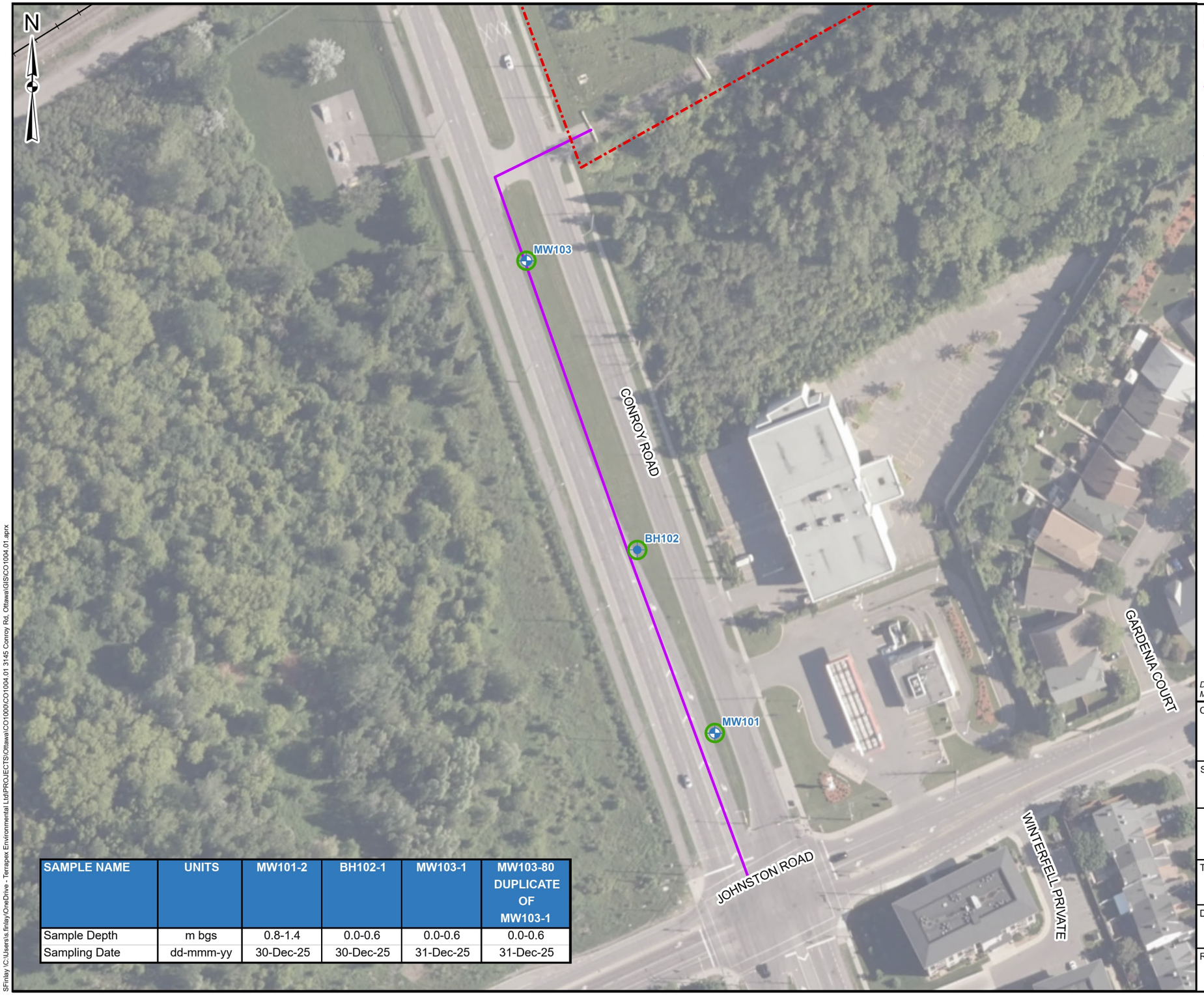

SAMPLE NAME	UNITS	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1
Sample Depth	m bgs	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6
Sampling Date	dd-mmm-yy	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 1 SCS

STANDARD INFORMATION

MECP TABLE 1: FULL DEPTH BACKGROUND SCS FOR NON-AGRICULTURAL PROPERTY-USE WITH ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - PAHs (TABLE 1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	DATE:	FIGURE:
00	JANUARY 2026	**4**

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SAMPLE NAME	UNITS	STANDARDS Table 1 Non-Agricultural	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25
METALS												
Barium	ug/g	220	**250**	**320**	89	57	**260**	**430**	**230**	**380**	82	**360**
Chromium Total	ug/g	70	29	63	15	22	**80**	**130**	**89**	**120**	**200**	**120**
Cobalt	ug/g	21	11	14	5.7	7.8	18	21	19	**27**	6.7	**24**
Molybdenum	ug/g	2.0	**3.2**	<0.50	0.97	**3.9**	0.68	<0.50	1.1	0.89	**2.6**	0.81
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	26	**110**
OTHER REGULATED PARAMETERS (ORPs)												
Electrical Conductivity	mS/cm	0.57	**0.89***	**3.4***	**0.81***	**0.68***	**1.9***	**1.5***	**0.77***	**1.1***	0.54	**1.5***
Sodium Adsorption Ratio	N/A	2.4	**6.2***	**7.2***	**3.5***	2.2	**18***	**5.7***	**14***	**20***	**5.3***	**18***

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- GREATER THAN TABLE 1 SCS

STANDARD INFORMATION

MECP TABLE 1: FULL DEPTH BACKGROUND SCS FOR NON-AGRICULTURAL PROPERTY-USE WITH ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

NOTE
* DEEMED TO MEET THE SITE CONDITION STANDARD PER SECTION 49.1, O. REG. 153/04 (PLEASE REFER TO CONCEPTUAL SITE MODEL TEXT).

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - METALS, HYDRIDE-FORMING METALS AND ORPs (TABLE 1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	DATE:	FIGURE:
00	JANUARY 2026	**5**

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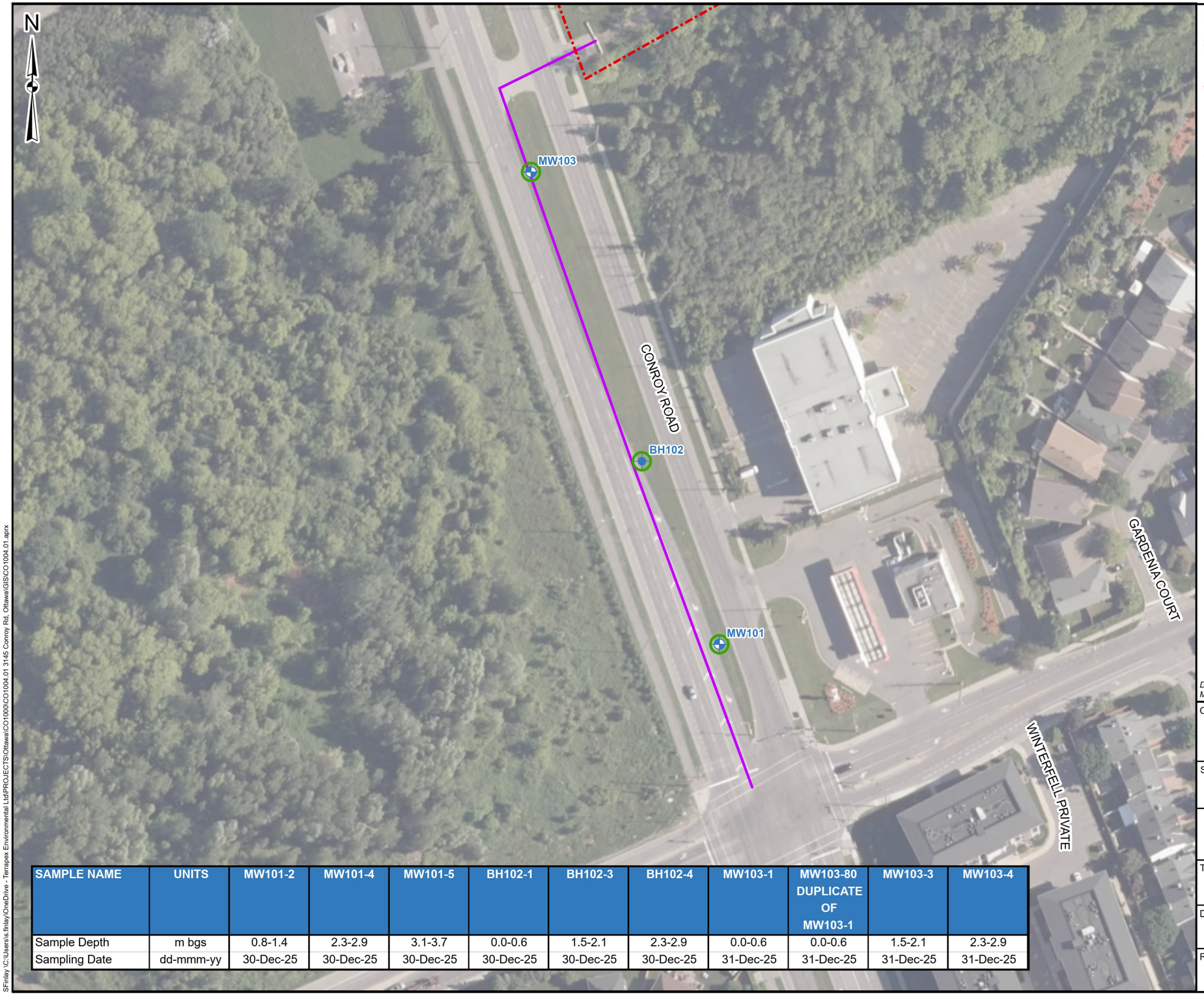

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 2.1 ESQS

STANDARD INFORMATION

MECP TABLE 2.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

SAMPLE NAME	UNITS	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - BTEX AND PHCS (TABLE 2.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	**DATE:**	**FIGURE:**
00	JANUARY 2026	**6**

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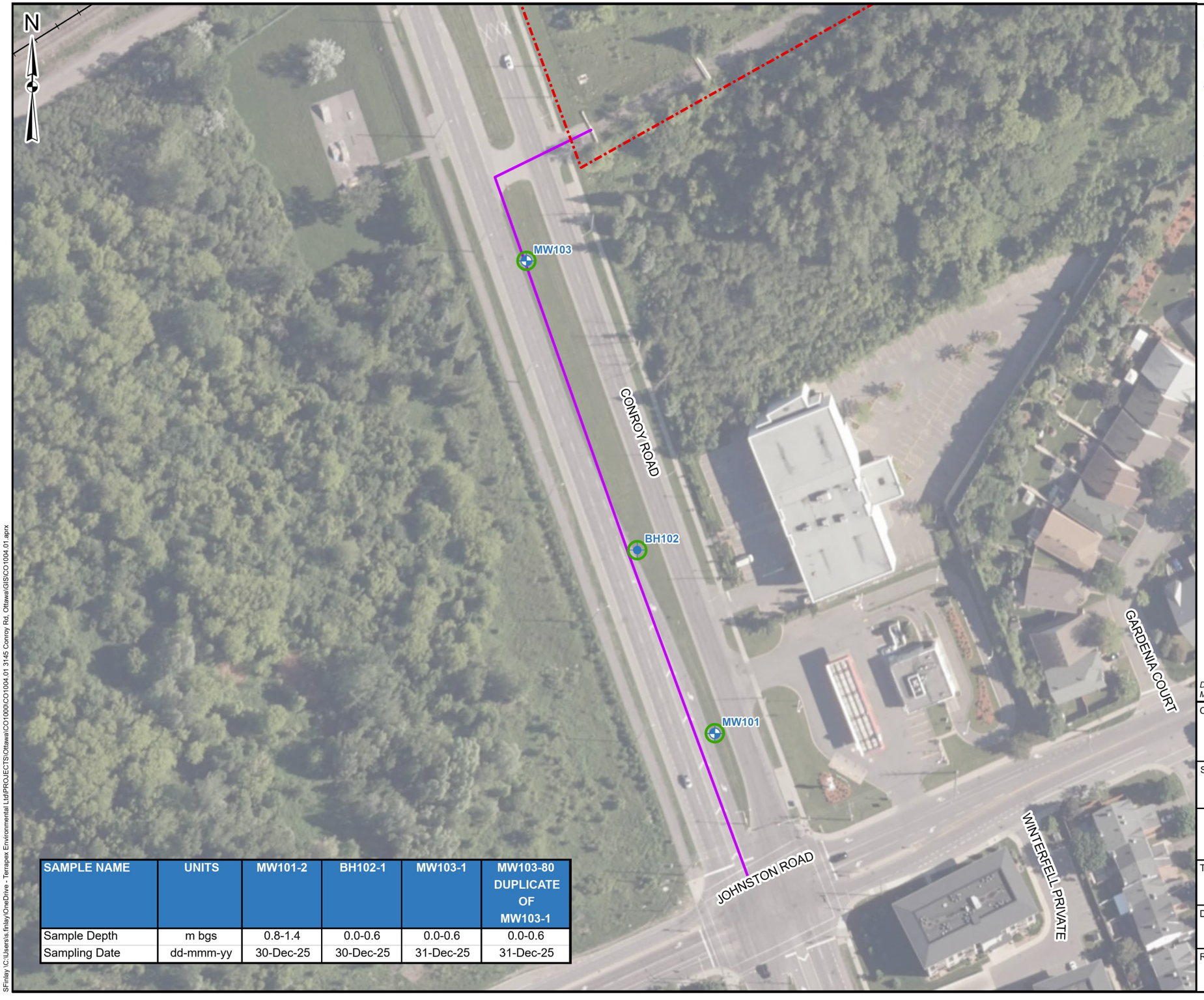

SAMPLE NAME	UNITS	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1
Sample Depth	m bgs	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6
Sampling Date	dd-mmm-yy	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 2.1 ESQS

STANDARD INFORMATION

MECP TABLE 2.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - PAHs (TABLE 2.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	DATE:	FIGURE:
00	JANUARY 2026	7

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LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 2.1 ESQS
- GREATER THAN TABLE 2.1 ESQS

STANDARD INFORMATION

MECP TABLE 2.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

NOTE
* DEEMED TO MEET THE SITE CONDITION STANDARD PER SECTION 49.1, O. REG. 153/04 (PLEASE REFER TO CONCEPTUAL SITE MODEL TEXT).

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

SAMPLE NAME	UNITS	STANDARDS Table 2.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25
Chromium Total	ug/g	160	29	63	15	22	80	130	89	120	**200**	120
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	26	**110**
OTHER REGULATED PARAMETERS (ORPs)												
Electrical Conductivity	mS/cm	1.4	0.89	**3.4***	0.81	0.68	**1.9***	1.5*	0.77	1.1	0.54	**1.5***
Sodium Adsorption Ratio	N/A	12	6.2	7.2	3.5	2.2	**18***	5.7	**14***	**20***	5.3	**18***

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

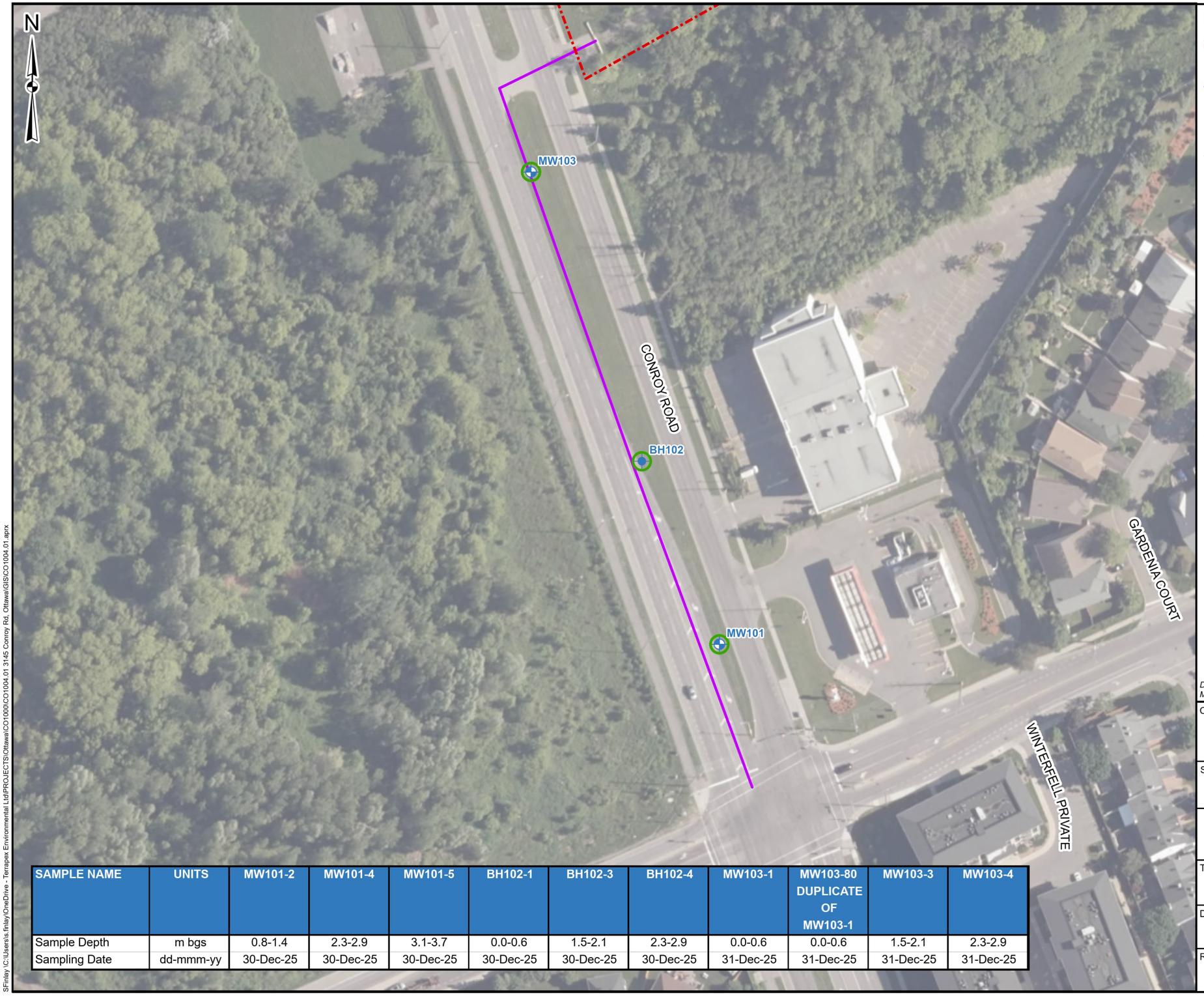
SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - METALS, HYDRIDE-FORMING METALS AND ORPs (TABLE 2.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	DATE:	FIGURE:
00	JANUARY 2026	8

SFinlay IC:\Users\s.finlay\OneDrive - Terrapex Environmental Ltd\PROJECTS\Ottawa\CO1000\CO1004.01 3145 Conroy Rd, Ottawa\GIS\CO1004.01.aprx



SAMPLE NAME	UNITS	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 3.1 ESQS

STANDARD INFORMATION

MECP TABLE 3.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - BTEX AND PHCS (TABLE 3.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION:	DATE:	FIGURE:
00	JANUARY 2026	**9**

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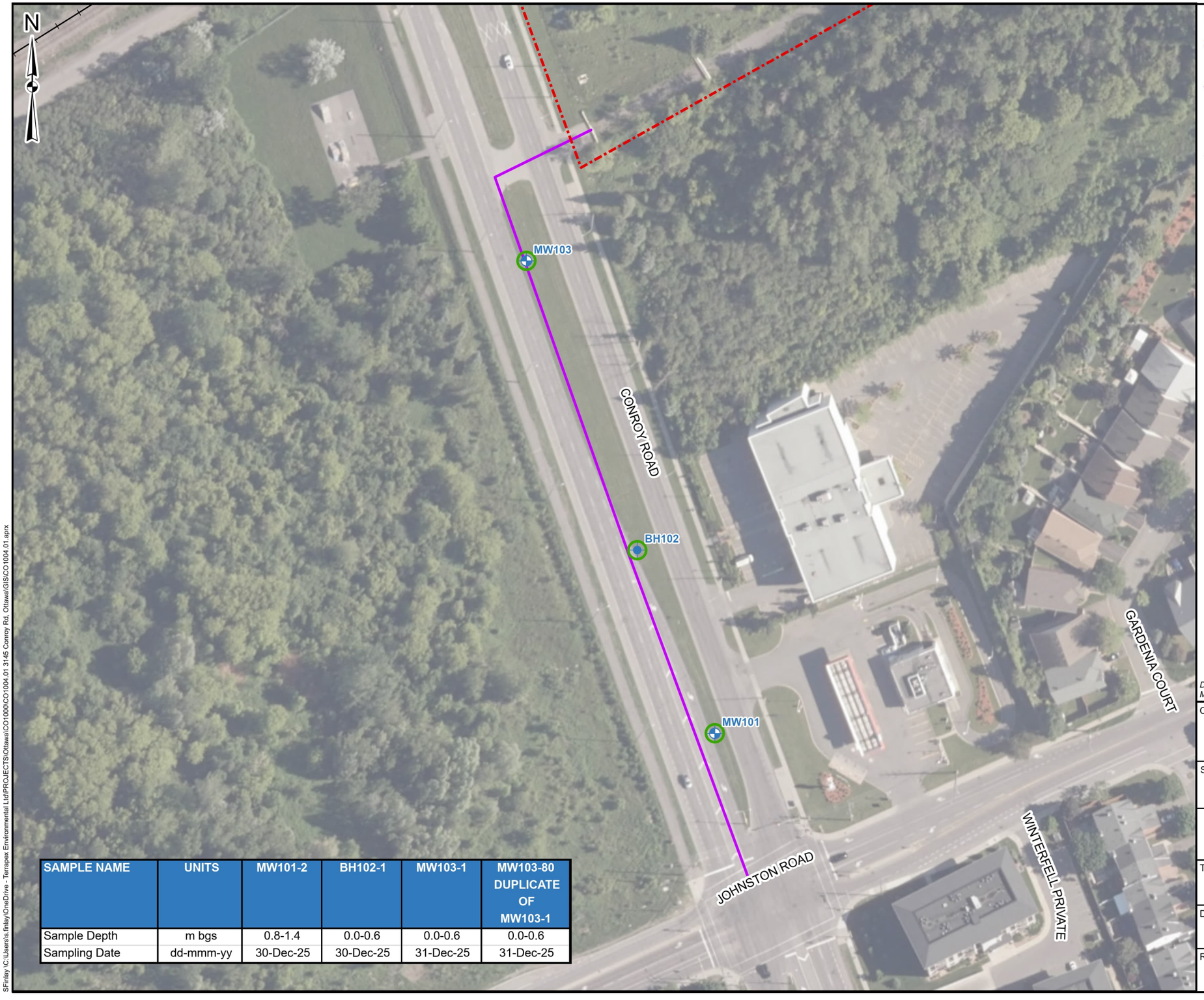

SAMPLE NAME	UNITS	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1
Sample Depth	m bgs	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6
Sampling Date	dd-mmm-yy	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25

LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 3.1 ESQS

STANDARD INFORMATION

MECP TABLE 3.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - PAHs (TABLE 3.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION: 00	DATE: JANUARY 2026	FIGURE: **10**

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LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

ANALYSIS INFORMATION

- LESS THAN OR EQUAL TO TABLE 3.1 ESQS
- GREATER THAN TABLE 3.1 ESQS

STANDARD INFORMATION

MECP TABLE 3.1: FULL DEPTH EXCESS SOIL QUALITY STANDARDS IN A POTABLE GROUND WATER CONDITION INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY-USE, ANY SOIL TEXTURE.

VALUE GREATER THAN SCS
VALUE LESS THAN OR EQUAL TO SCS

NOTE
* DEEMED TO MEET THE SITE CONDITION STANDARD PER SECTION 49.1, O. REG. 153/04 (PLEASE REFER TO CONCEPTUAL SITE MODEL TEXT).

0 10 20 30 40 50
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

SAMPLE NAME	UNITS	STANDARDS Table 3.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	MW103-3	MW103-4
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25	31-Dec-25
Chromium Total	ug/g	160	29	63	15	22	80	130	89	120	**200**	120
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	26	**110**
OTHER REGULATED PARAMETERS (ORPs)												
Electrical Conductivity	mS/cm	1.4	0.89	**3.4***	0.81	0.68	**1.9***	**1.5***	0.77	1.1	0.54	**1.5***
Sodium Adsorption Ratio	N/A	12	6.2	7.2	3.5	2.2	**18***	5.7	**14***	**20***	5.3	**18***

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
SOIL ANALYTICAL RESULTS - METALS, HYDRIDE-FORMING METALS AND ORPs (TABLE 3.1)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	KWB
REVISION: 00	DATE: JANUARY 2026	FIGURE: **11**

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TABLES

TABLE 1: SUMMARY OF SOIL ANALYTICAL RESULTS - BTEX AND PHCs
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 1 Non-Agricultural	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4	Methanol Blank
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm	-
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9	-
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255	C600255
BENZENE, TOLUENE, ETHYLBENZENE, XYLENES (BTEX)														
Benzene	ug/g	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020
Toluene	ug/g	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020
Ethylbenzene	ug/g	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020
m-Xylene & p-Xylene	ug/g	NA	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040	<0.020
o-Xylene	ug/g	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020
Xylenes (Total)	ug/g	0.050	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040	<0.040
PETROLEUM HYDROCARBONS (PHCs)														
Petroleum Hydrocarbons F1-BTEX	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10	<10
Petroleum Hydrocarbons F2	ug/g	10	<7.0	<7.0	**16**	<7.0	<7.0	<7.0	<7.0	<7.0	-	<7.0	<7.0	-
Petroleum Hydrocarbons F3	ug/g	240	<50	<50	<50	54	<50	<50	<50	<50	-	<50	<50	-
Petroleum Hydrocarbons F4	ug/g	120	110	<50	<50	82	<50	<50	<50	<50	-	<50	<50	-

Standards from Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011 and as amended).

Table 1: Full Depth Background SCS
Non-Agricultural Property-Use, Any Soil Texture

-	Not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard

TABLE 2: SUMMARY OF SOIL ANALYTICAL RESULTS - PAHs
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 1 Non-Agricultural	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	-	-
Sample Depth	m bgs	-	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6	-
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Acenaphthene	ug/g	0.072	<0.050	<0.050	<0.0050	<0.0050	-
Acenaphthylene	ug/g	0.093	<0.050	<0.050	<0.0050	<0.0050	-
Anthracene	ug/g	0.16	<0.050	<0.050	<0.0050	<0.0050	-
Benz[a]anthracene	ug/g	0.36	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[a]pyrene	ug/g	0.30	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[b]fluoranthene	ug/g	0.47	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[ghi]perylene	ug/g	0.68	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[k]fluoranthene	ug/g	0.48	<0.050	<0.050	<0.0050	<0.0050	-
Chrysene	ug/g	2.8	<0.050	<0.050	<0.0050	<0.0050	-
Dibenz[a h]anthracene	ug/g	0.10	<0.050	<0.050	<0.0050	<0.0050	-
Fluoranthene	ug/g	0.56	<0.050	<0.050	<0.0050	<0.0050	-
Fluorene	ug/g	0.12	<0.050	<0.050	<0.0050	<0.0050	-
Indeno[1 2 3-cd]pyrene	ug/g	0.23	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 1-	ug/g	0.59	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-	ug/g	0.59	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-(1-)[1]	ug/g	0.59	<0.071	<0.071	<0.0071	<0.0071	-
Naphthalene	ug/g	0.090	<0.050	<0.050	<0.0050	<0.0050	-
Phenanthrene	ug/g	0.69	<0.050	<0.050	<0.0050	<0.0050	-
Pyrene	ug/g	1.0	<0.050	<0.050	<0.0050	<0.0050	-

Standards from Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011 and as amended).

Table 1: Full Depth Background SCS

Non-Agricultural Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard
[1]	the sum of 1-methylnaphthalene and 2- methylnaphthalene

TABLE 3: SUMMARY OF SOIL ANALYTICAL RESULTS - METALS, HFMs AND OTHER REGULATED PARAMETERS
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 1 Non-Agricultural	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255
METALS													
Barium	ug/g	220	**250**	**320**	89	57	**260**	**430**	**230**	**380**	49%	82	**360**
Beryllium	ug/g	2.5	0.47	0.64	0.27	0.25	0.61	0.84	0.73	0.91	-	0.26	0.91
Boron (Total)	ug/g	36	6.9	6.0	5.3	5.3	<5.0	<5.0	<5.0	<5.0	-	5.2	<5.0
Cadmium	ug/g	1.2	0.13	<0.10	<0.10	<0.10	0.10	<0.10	0.14	0.14	-	0.15	<0.10
Chromium Total	ug/g	70	29	63	15	22	**80**	**130**	**89**	**120**	30%	**200**	**120**
Cobalt	ug/g	21	11	14	5.7	7.8	18	21	19	**27**	34%	6.7	**24**
Copper	ug/g	92	19	37	15	15	19	63	29	53	58%	27	53
Lead	ug/g	120	16	6.2	4.5	20	7.2	7.2	6.7	7.8	15%	21	7.6
Molybdenum	ug/g	2.0	**3.2**	<0.50	0.97	**3.9**	0.68	<0.50	1.1	0.89	-	**2.6**	0.81
Nickel	ug/g	82	23	38	13	17	39	71	46	65	34%	16	63
Silver	ug/g	0.50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20
Thallium	ug/g	1.0	0.23	0.24	0.10	0.23	0.31	0.42	0.32	0.45	33%	0.16	0.44
Uranium	ug/g	2.5	0.79	0.65	1.0	0.64	0.80	0.86	0.99	1.0	1%	0.53	1.1
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	38%	26	**110**
Zinc	ug/g	290	52	76	26	42	140	130	87	120	32%	79	120
HYDRIDE-FORMING METALS													
Antimony	ug/g	1.3	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	-	0.61	<0.20
Arsenic	ug/g	18	5.0	<1.0	1.7	5.9	1.1	1.0	1.1	1.2	-	2.9	1.4
Selenium	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50
OTHER REGULATED PARAMETERS (ORPs)													
Boron (Hot Water Soluble)[1]	ug/g	NA	0.37	0.32	0.16	0.27	<0.050	0.069	0.13	0.084	-	0.46	0.058
Cyanide (CN-)	ug/g	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Chromium VI	ug/g	0.66	<0.18	<0.18	<0.18	<0.18	<0.18	0.19	<0.18	<0.18	-	<0.18	<0.18
Mercury	ug/g	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050
pH	pH	NV	8.74	7.73	7.76	7.54	7.30	7.07	7.17	7.42	-	7.69	7.71
Electrical Conductivity	mS/cm	0.57	0.89	3.4	0.81	0.68	1.9	1.5	0.77	1.1	-	0.54	1.5
Sodium Adsorption Ratio	N/A	2.4	6.2	7.2	3.5	2.2	18	5.7	14	20	-	5.3	18

Standards from Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011 and as amended).

Table 1: Full Depth Background SCS
Non-Agricultural Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
*	Surface soil (<1.5m bgs) acceptable pH range
**	Subsurface soil (>1.5m bgs) acceptable pH range
Value	Exceeds applicable site condition standard
	Deemed to meet the SCS per section 49.1 O.Reg 153/04
Value	Detection limit exceeds standard
[1]	Hot water soluble boron applies to surface soils (<1.5 m bg).

TABLE 4: SUMMARY OF SOIL ANALYTICAL RESULTS - BTEX AND PHCs
3145 CONROY ROAD, OTTAWA, ON

SAMPLE NAME	UNITS	STANDARDS Table 2.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255
BENZENE, TOLUENE, ETHYLBENZENE, XYLENES (BTEX)													
Benzene	ug/g	0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Toluene	ug/g	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Ethylbenzene	ug/g	0.050	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
m-Xylene & p-Xylene	ug/g	NA	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040
o-Xylene	ug/g	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Xylenes (Total)	ug/g	0.091	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040
PETROLEUM HYDROCARBONS (PHCs)													
Petroleum Hydrocarbons F1-BTEX	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10
Petroleum Hydrocarbons F2	ug/g	26	<7.0	<7.0	16	<7.0	<7.0	<7.0	<7.0	<7.0	-	<7.0	<7.0
Petroleum Hydrocarbons F3	ug/g	240	<50	<50	<50	54	<50	<50	<50	<50	-	<50	<50
Petroleum Hydrocarbons F4	ug/g	3300	110	<50	<50	82	<50	<50	<50	<50	-	<50	<50

Standards from the rules for soil management and excess soil quality standards (MECP, 2024).

Table 2.1: Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard

TABLE 5: SUMMARY OF SOIL ANALYTICAL RESULTS - PAHs
3145 CONROY ROAD, OTTAWA, ON

SAMPLE NAME	UNITS	STANDARDS Table 2.1 I/C/C	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	-	-
Sample Depth	m bgs	-	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6	-
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Acenaphthene	ug/g	2.5	<0.050	<0.050	<0.0050	<0.0050	-
Acenaphthylene	ug/g	0.093	<0.050	<0.050	<0.0050	<0.0050	-
Anthracene	ug/g	0.16	<0.050	<0.050	<0.0050	<0.0050	-
Benz[a]anthracene	ug/g	0.92	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[a]pyrene	ug/g	0.31	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[b]fluoranthene	ug/g	3.2	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[ghi]perylene	ug/g	13	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[k]fluoranthene	ug/g	3.1	<0.050	<0.050	<0.0050	<0.0050	-
Chrysene	ug/g	9.4	<0.050	<0.050	<0.0050	<0.0050	-
Dibenz[a h]anthracene	ug/g	0.70	<0.050	<0.050	<0.0050	<0.0050	-
Fluoranthene	ug/g	2.8	<0.050	<0.050	<0.0050	<0.0050	-
Fluorene	ug/g	6.8	<0.050	<0.050	<0.0050	<0.0050	-
Indeno[1 2 3-cd]pyrene	ug/g	0.76	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 1-	ug/g	0.59	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-	ug/g	0.59	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-(1-)[1]	ug/g	0.59	<0.071	<0.071	<0.0071	<0.0071	-
Naphthalene	ug/g	0.20	<0.050	<0.050	<0.0050	<0.0050	-
Phenanthrene	ug/g	12	<0.050	<0.050	<0.0050	<0.0050	-
Pyrene	ug/g	28	<0.050	<0.050	<0.0050	<0.0050	-

Standards from the rules for soil management and excess soil quality standards (MECP, 2024).
Table 2.1: Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard
[1]	the sum of 1-methylnaphthalene and 2- methylnaphthalene

TABLE 6: SUMMARY OF SOIL ANALYTICAL RESULTS - METALS, HFMs AND OTHER REGULATED PARAMETERS
3145 CONROY ROAD, OTTAWA, ON

SAMPLE NAME	UNITS	STANDARDS Table 2.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255
METALS													
Barium	ug/g	670	250	320	89	57	260	430	230	380	49%	82	360
Beryllium	ug/g	8.0	0.47	0.64	0.27	0.25	0.61	0.84	0.73	0.91	-	0.26	0.91
Boron (Total)	ug/g	120	6.9	6.0	5.3	5.3	<5.0	<5.0	<5.0	<5.0	-	5.2	<5.0
Cadmium	ug/g	1.9	0.13	<0.10	<0.10	<0.10	0.10	<0.10	0.14	0.14	-	0.15	<0.10
Chromium Total	ug/g	160	29	63	15	22	80	130	89	120	30%	**200**	120
Cobalt	ug/g	80	11	14	5.7	7.8	18	21	19	27	34%	6.7	24
Copper	ug/g	230	19	37	15	15	19	63	29	53	58%	27	53
Lead	ug/g	120	16	6.2	4.5	20	7.2	7.2	6.7	7.8	15%	21	7.6
Molybdenum	ug/g	40	3.2	<0.50	0.97	3.9	0.68	<0.50	1.1	0.89	-	2.6	0.81
Nickel	ug/g	270	23	38	13	17	39	71	46	65	34%	16	63
Silver	ug/g	40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20
Thallium	ug/g	3.3	0.23	0.24	0.10	0.23	0.31	0.42	0.32	0.45	33%	0.16	0.44
Uranium	ug/g	33	0.79	0.65	1.0	0.64	0.80	0.86	0.99	1.0	1%	0.53	1.1
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	38%	26	**110**
Zinc	ug/g	340	52	76	26	42	140	130	87	120	32%	79	120
HYDRIDE-FORMING METALS													
Antimony	ug/g	40	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	-	0.61	<0.20
Arsenic	ug/g	18	5.0	<1.0	1.7	5.9	1.1	1.0	1.1	1.2	-	2.9	1.4
Selenium	ug/g	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50
OTHER REGULATED PARAMETERS (ORPs)													
Boron (Hot Water Soluble)[1]	ug/g	2.0	0.37	0.32	0.16	0.27	<0.050	0.069	0.13	0.084	-	0.46	0.058
Cyanide (CN-)	ug/g	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Chromium VI	ug/g	8.0	<0.18	<0.18	<0.18	<0.18	<0.18	0.19	<0.18	<0.18	-	<0.18	<0.18
Mercury	ug/g	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050
pH	pH	5-9* or 5-11**	8.74	7.73	7.76	7.54	7.30	7.07	7.17	7.42	-	7.69	7.71
Electrical Conductivity	mS/cm	1.4	0.89	3.4	0.81	0.68	1.9	1.5	0.77	1.1	-	0.54	1.5
Sodium Adsorption Ratio	N/A	12	6.2	7.2	3.5	2.2	18	5.7	14	20	-	5.3	18

Standards from the rules for soil management and excess soil quality standards (MECP, 2024).

Table 2.1: Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
*	Surface soil (<1.5m bgs) acceptable pH range
**	Subsurface soil (>1.5m bgs) acceptable pH range
Value	Exceeds applicable site condition standard
Value	Deemed to meet the SCS per section 49.1 O.Reg 153/04
Value	Detection limit exceeds standard
[1]	Hot water soluble boron applies to surface soils (<1.5 m bg).

TABLE 7: SUMMARY OF SOIL ANALYTICAL RESULTS - BTEX AND PHCs
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 3.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255
BENZENE, TOLUENE, ETHYLBENZENE, XYLENES (BTEX)													
Benzene	ug/g	0.034	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Toluene	ug/g	7.8	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Ethylbenzene	ug/g	1.9	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
m-Xylene & p-Xylene	ug/g	NA	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040
o-Xylene	ug/g	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020
Xylenes (Total)	ug/g	3.0	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-	<0.040	<0.040
PETROLEUM HYDROCARBONS (PHCs)													
Petroleum Hydrocarbons F1-BTEX	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	-	<10	<10
Petroleum Hydrocarbons F2	ug/g	26	<7.0	<7.0	16	<7.0	<7.0	<7.0	<7.0	<7.0	-	<7.0	<7.0
Petroleum Hydrocarbons F3	ug/g	1700	<50	<50	<50	54	<50	<50	<50	<50	-	<50	<50
Petroleum Hydrocarbons F4	ug/g	3300	110	<50	<50	82	<50	<50	<50	<50	-	<50	<50

Standards from the rules for soil management and excess soil quality standards (MECP, 2024).

Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard

TABLE 8: SUMMARY OF SOIL ANALYTICAL RESULTS - PAHs
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 3.1 I/C/C	MW101-2	BH102-1	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	-	-
Sample Depth	m bgs	-	0.8-1.4	0.0-0.6	0.0-0.6	0.0-0.6	-
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	-
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
Acenaphthene	ug/g	15	<0.050	<0.050	<0.0050	<0.0050	-
Acenaphthylene	ug/g	0.093	<0.050	<0.050	<0.0050	<0.0050	-
Anthracene	ug/g	0.16	<0.050	<0.050	<0.0050	<0.0050	-
Benz[a]anthracene	ug/g	1.0	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[a]pyrene	ug/g	0.70	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[b]fluoranthene	ug/g	7.0	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[ghi]perylene	ug/g	13	<0.050	<0.050	<0.0050	<0.0050	-
Benzo[k]fluoranthene	ug/g	7.0	<0.050	<0.050	<0.0050	<0.0050	-
Chrysene	ug/g	14	<0.050	<0.050	<0.0050	<0.0050	-
Dibenz[a h]anthracene	ug/g	0.70	<0.050	<0.050	<0.0050	<0.0050	-
Fluoranthene	ug/g	70	<0.050	<0.050	<0.0050	<0.0050	-
Fluorene	ug/g	6.8	<0.050	<0.050	<0.0050	<0.0050	-
Indeno[1 2 3-cd]pyrene	ug/g	0.76	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 1-	ug/g	8.7	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-	ug/g	8.7	<0.050	<0.050	<0.0050	<0.0050	-
Methlynaphthalene, 2-(1-)[1]	ug/g	8.7	<0.071	<0.071	<0.0071	<0.0071	-
Naphthalene	ug/g	1.8	<0.050	<0.050	<0.0050	<0.0050	-
Phenanthrene	ug/g	12	<0.050	<0.050	<0.0050	<0.0050	-
Pyrene	ug/g	70	<0.050	<0.050	<0.0050	<0.0050	-

Standards from the rules for soil management and excess soil quality standards (MECP, 2024).
Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
Value	Exceeds applicable site condition standard
Value	Detection limit exceeds standard
[1]	the sum of 1-methylnaphthalene and 2- methylnaphthalene

TABLE 9: SUMMARY OF SOIL ANALYTICAL RESULTS - METALS, HFMs AND OTHER REGULATED PARAMETERS
3145 CONROY ROAD, OTTAWA, ONTARIO

SAMPLE NAME	UNITS	STANDARDS Table 3.1 I/C/C	MW101-2	MW101-4	MW101-5	BH102-1	BH102-3	BH102-4	MW103-1	MW103-80 DUPLICATE OF MW103-1	RPD	MW103-3	MW103-4
Vapour Reading	see note	-	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	<5 ppm	-	-	<5 ppm	<5 ppm
Sample Depth	m bgs	-	0.8-1.4	2.3-2.9	3.1-3.7	0.0-0.6	1.5-2.1	2.3-2.9	0.0-0.6	0.0-0.6	-	1.5-2.1	2.3-2.9
Sampling Date	dd-mmm-yy	-	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	30-Dec-25	31-Dec-25	31-Dec-25	-	31-Dec-25	31-Dec-25
Analysis Date (on or before)	dd-mmm-yy	-	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	9-Jan-26	-	9-Jan-26	9-Jan-26
Certificate of Analysis No.	-	-	C600255	C600255	C600255	C600255	C600255	C600255	C600255	C600255	-	C600255	C600255
METALS													
Barium	ug/g	670	250	320	89	57	260	430	230	380	49%	82	360
Beryllium	ug/g	8.0	0.47	0.64	0.27	0.25	0.61	0.84	0.73	0.91	-	0.26	0.91
Boron (Total)	ug/g	120	6.9	6.0	5.3	5.3	<5.0	<5.0	<5.0	<5.0	-	5.2	<5.0
Cadmium	ug/g	1.9	0.13	<0.10	<0.10	<0.10	0.10	<0.10	0.14	0.14	-	0.15	<0.10
Chromium Total	ug/g	160	29	63	15	22	80	130	89	120	30%	**200**	120
Cobalt	ug/g	80	11	14	5.7	7.8	18	21	19	27	34%	6.7	24
Copper	ug/g	230	19	37	15	15	19	63	29	53	58%	27	53
Lead	ug/g	120	16	6.2	4.5	20	7.2	7.2	6.7	7.8	15%	21	7.6
Molybdenum	ug/g	40	3.2	<0.50	0.97	3.9	0.68	<0.50	1.1	0.89	-	2.6	0.81
Nickel	ug/g	270	23	38	13	17	39	71	46	65	34%	16	63
Silver	ug/g	40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20
Thallium	ug/g	3.3	0.23	0.24	0.10	0.23	0.31	0.42	0.32	0.45	33%	0.16	0.44
Uranium	ug/g	33	0.79	0.65	1.0	0.64	0.80	0.86	0.99	1.0	1%	0.53	1.1
Vanadium	ug/g	86	37	67	25	21	73	**110**	82	**120**	38%	26	**110**
Zinc	ug/g	340	52	76	26	42	140	130	87	120	32%	79	120
HYDRIDE-FORMING METALS													
Antimony	ug/g	40	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	-	0.61	<0.20
Arsenic	ug/g	18	5.0	<1.0	1.7	5.9	1.1	1.0	1.1	1.2	-	2.9	1.4
Selenium	ug/g	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50
OTHER REGULATED PARAMETERS (ORPs)													
Boron (Hot Water Soluble)[1]	ug/g	2.0	0.37	0.32	0.16	0.27	<0.050	0.069	0.13	0.084	-	0.46	0.058
Cyanide (CN-)	ug/g	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01
Chromium VI	ug/g	8.0	<0.18	<0.18	<0.18	<0.18	<0.18	0.19	<0.18	<0.18	-	<0.18	<0.18
Mercury	ug/g	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050
pH	pH	5-9* or 5-11**	8.74	7.73	7.76	7.54	7.30	7.07	7.17	7.42	-	7.69	7.71
Electrical Conductivity	mS/cm	1.4	0.89	3.4	0.81	0.68	1.9	1.5	0.77	1.1	-	0.54	1.5
Sodium Adsorption Ratio	N/A	12	6.2	7.2	3.5	2.2	18	5.7	14	20	-	5.3	18

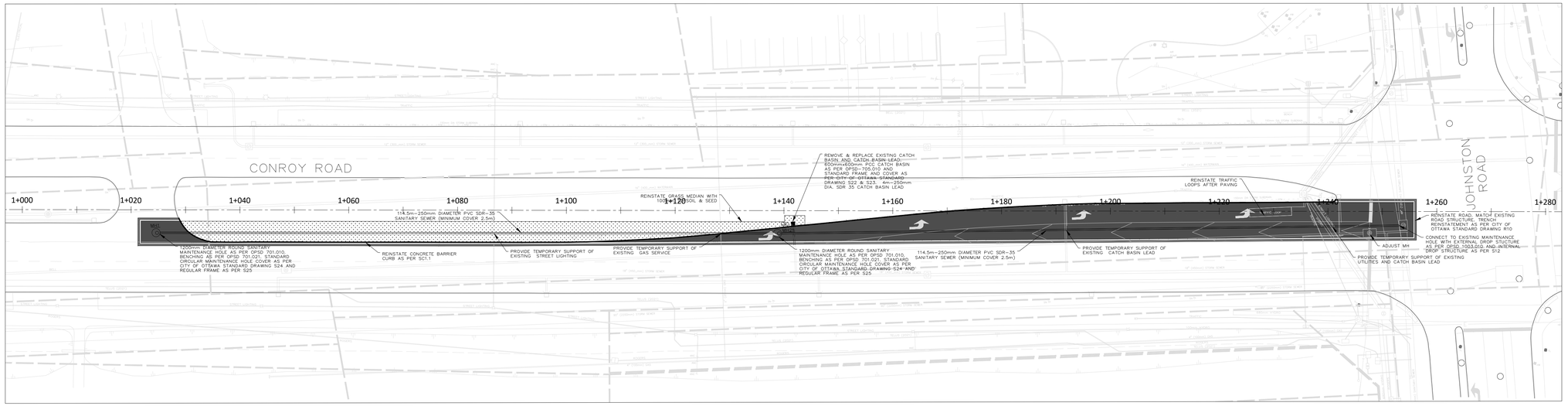
Standards from the rules for soil management and excess soil quality standards (MECP, 2024).

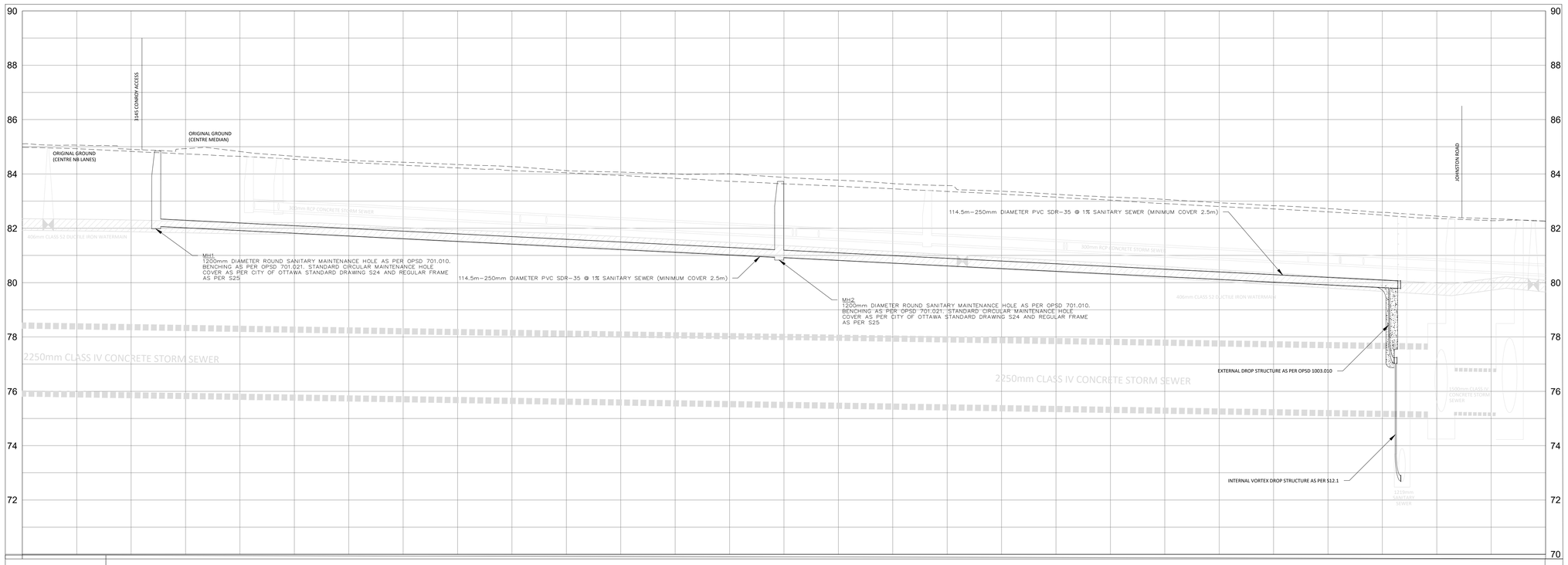
Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition
Industrial/Commercial/Community Property-Use, Any Soil Texture

-	Parameter not analyzed
m bgs	meters below ground surface
ppm	parts per million by volume
% LEL	percent of the lower explosive limit
RPD	Relative percent difference
NA	Not Applicable; no standard established because a standard is not required
*	Surface soil (<1.5m bgs) acceptable pH range
**	Subsurface soil (>1.5m bgs) acceptable pH range
Value	Exceeds applicable site condition standard
Value	Deemed to meet the SCS per section 49.1 O.Reg 153/04
Value	Detection limit exceeds standard
[1]	Hot water soluble boron applies to surface soils (<1.5 m bg).

APPENDIX I

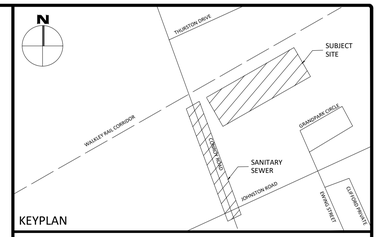
PROPOSED CONSTRUCTION DRAWING





STATION	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280
REINSTATEMENT ELEVATION	84.91 84.906	84.82 84.823	84.51 84.509	84.35 84.345	84.12 84.122	84.00 84.000	83.88 83.880	83.64 83.645	83.36 83.362	83.15 83.148	82.94 82.939	82.72 82.723	82.45 82.447	82.27 82.266
SANITARY SEWER	MH1 T/Cv=84.84m S' INV=82.06m	114.5m–250mm DIAMETER PVC SDR–35 @ 1% SANITARY SEWER (MINIMUM COVER 2.5m)					MH2 T/Cv=83.72m S' INV=80.92m S INV=80.92m	114.5m–250mm DIAMETER PVC SDR–35 @ 1% SANITARY SEWER (MINIMUM COVER 2.5m)					1200x2.718m INV=79.45m	

FOR REVIEW ONLY
NOT FOR CONSTRUCTION



No.	Revisions	Date
3	RE-ISSUED FOR SPA SUBMISSION	03.23.2026
2	FOR SPA SUBMISSION	11.24.2025
1	FOR REVIEW	08.29.2025

Check and verify all dimensions before proceeding with the work — Do not scale drawings

egis

Stamp: LICENSED PROFESSIONAL ENGINEER — C. D. MACDONALD — 100130351 — March 23rd, 2026 — PROVINCE OF ONTARIO

Client:
WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

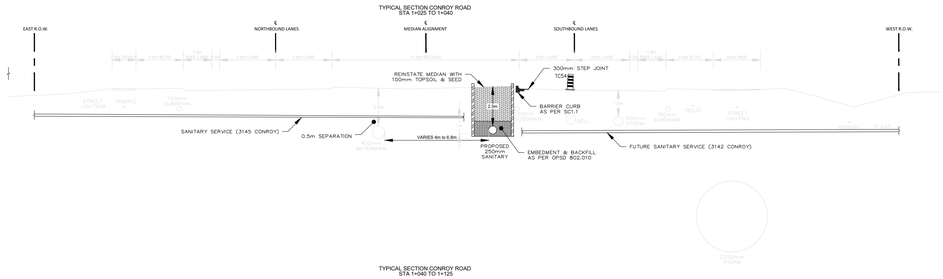
Project:
PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:
SANITARY SEWER PLAN & PROFILE

Scale:	1:500	Project Number:	CO-25-1505
Drawn By:	CDM		
Checked By:	CDM	Drawing Number:	C103
Designed By:	CDM		

D07-12-25-0107

FILENAME: U:\Ottawa\01 Projects_Proposals\2002 Jobs\CO\CO-25-1505 White Owl Group_Due Diligence_3145 Conroy Road\12 Drawings\Municipal\Conroy Road Sanitary Sewer Extension - Plan & Profile.dwg
LAST SAVED: Tuesday, March 24, 2026 LAST SAVED BY: c.macdonald
LAST PLOTTED: Tuesday, March 24, 2026 CTB FILE USED: ----



STANDARD DRAWINGS & SPECIFICATIONS

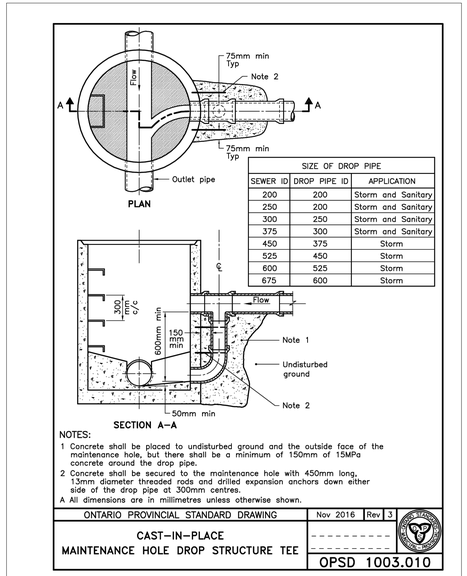
CITY OF OTTAWA STANDARDS				ONTARIO PROVINCIAL STANDARDS		
DRAWINGS		SPECIFICATIONS		DRAWINGS	SPECIFICATIONS	
R10	S25	F-3101	F-4070	701.010	206	501
S10	SC1.1	F-3106	F-4100	705.010	314	510
S12.1	SC2	F-3130	F-8021	802.010	351	802
S22	SC7.3	F-3147	F-8041	802.013	353	804
S23	SC11.3	F-3510	F-9040	1003.030	407	904
S24	T1	F-3531	F-9045		410	

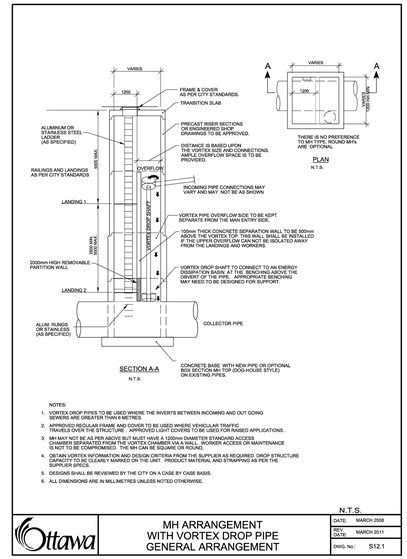
SANITARY STRUCTURE TABLE

NAME	T/G	INVERT IN	INVERT OUT	DESCRIPTION
MH1	84.84		S82.06	FRAME: CITY S25 COVER: CITY S24 STR: OPSD 701.010
MH2	83.72	N80.94	S80.92	FRAME: CITY S25 COVER: CITY S24 STR: OPSD 701.010

STORM STRUCTURE TABLE

NAME	T/G	INVERT IN	INVERT OUT	DESCRIPTION
CB1	83.87		W83.17	COVER: CITY S23 FRAME: CITY S22 STR: OPSD 705.010

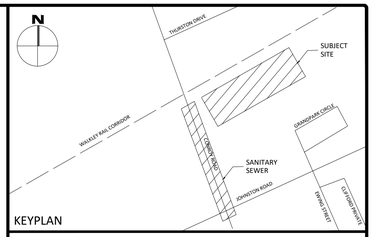




SANITARY TRUNK MAINTENANCE HOLE (NORTH LADDER)

NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE BASED ON TOPOGRAPHIC SURVEY INFORMATION PREPARED BY J.D. BARNES LIMITED, DATED OCTOBER 14, 2025, AND ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. NO GUARANTEE OF ACCURACY IS EXPRESSED OR IMPLIED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, IN ACCORDANCE WITHTHE SOIL MANAGEMENT PLAN PREPARED BY OTHERS.
8. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND REINSTATEMENT WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
10. CONTRACTOR RESPONSIBLE FOR TRAFFIC CONTROL PLAN ADHERING TO THE CITY OF OTTAWA TRAFFIC RESTRICTIONS AND OTM BOOK 7.
11. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
12. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH CITY OF OTTAWA & ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS
13. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
14. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED



No.	Revisions	Date
2	RE-ISSUED FOR SPA SUBMISSION	03.23.2026
1	FOR SPA SUBMISSION	11.24.2025

Check and verify all dimensions before proceeding with the work — Do not scale drawings

egis

Stamp: LICENSED PROFESSIONAL ENGINEER C. D. MACDONALD 100130351 March 23rd, 2026 PROVINCE OF ONTARIO

Client:
WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

Project:
PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:
SANITARY SEWER TYPICAL DETAILS

Scale:	1:500	Project Number:	CO-25-1505
Drawn By:	CDM		
Checked By:	CDM	Drawing Number:	C104
Designed By:	CDM		

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

D07-12-25-0107

FILENAME: U:\Ottawa\01 Project - Proposal\2025 Jobs\CCO\CCO-25-1505 White Owl Group_Due Diligence_3145 Conroy Road\12 - Drawings\Municipal\Conroy Road Sanitary Sewer Extension - Plan & Profile.dwg
LAST SAVED: Tuesday, March 24, 2026 LAST SAVED BY: c.macdonald
LAST PLOTTED: Tuesday, March 24, 2026 CTB FILE USED: —

APPENDIX II

BOREHOLE LOGS

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: MW101**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024663.66	EASTING (m): 451097.00 ELEV. (m) 83.19
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10 SAND TYPE: #2 SEALANT TYPE: BENTONITE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm)	0	83	19	12.5	1		85	<5			
		FILL compact, moist, dark brown gravel some clay, sand, organics	0.5	82.5									
		FILL compact, moist, dark brown sandy silt some gravel, clay	1	82	21	10.4	2		85	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	81.5	11	32.1	3		70	<5			
		soft	2	81									
			2.5	80.5	2	49.3	4		100	<5			GW Ele. 80.55 masl
		stiff wet	3	80	12	16.7	5		40	<5			
			3.5	79.5									
			4	79									
		loose, grey SANDY SILT (TILL) trace gravel	4.5	78.5	10	9.4	6		-	<5			
			5										
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: BH102**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024720.15	EASTING (m): 451073.04 ELEV. (m) 82.73
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): -	SCREEN SLOT #: - SAND TYPE: - SEALANT TYPE: -

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm) FILL compact, moist, dark brown silty sand and gravel	0	82.5	15	13.1	1		75	<5			
		FILL compact, moist, grey/brown sandy silt trace gravel, clay	0.5										
			1	82	18	24.2	2		70	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	81.5									
			2	81	8	31.7	3		75	<5			
		--- firm	2.5	80.5		50.3							
				80	6		4		100	<5			
		--- soft	3										
			3.5	79.5	3	39.6	5		100	<5			
			4	79									
		--- wet	4.5	78.5									
		--- firm --- (TILL)	5	78	4	28.8	6		100	<5			
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: -
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILTY PROPERTIES LIMITED		PROJECT NO.: CO1004.01	**RECORD OF: MW103**
ADDRESS: 3145 CONROY ROAD		STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024809.46	EASTING (m): 451038.81	ELEV. (m) 84.71
CONTRACTOR: STRATA DRILLING GROUP		METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10	SAND TYPE: #2	SEALANT TYPE: BENTONITE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm) FILL compact, moist, brown silty sand some gravel, trace clay	0 0.5	84.5	15	13.8	1		65	<5			
			1	84	13	6.8	2		15	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	83.5									
			2	83	8	23.0	3		85	<5			
			2.5	82.5									
				82	8	42.5	4		90	<5			
		firm	3	81.5	4	56.0	5		100	<5			GW Ele. 80.75 masl
			3.5	81									
		stiff very moist	4	80.5									
			4.5	80	10	17.8	6		50	<5			
			5										
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

APPENDIX III

LABORATORY CERTIFICATE OF ANALYSIS

Your Project #: C01004.01
Site Location: WHITE OWL CONROY
Your C.O.C. #: C#1076991-01-01

Attention: Keith Brown

Terrapex Environmental Ltd
1-20 Gurdwara Rd.
O awa, ON
CANADA K2E 8B3

Report Date: 2026/01/09
Report #: R8679694
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600255
Received: 2026/01/02, 13:03

Sample Matrix: Soil
Samples Received: 11

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	4	N/A	2026/01/07	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron (1)	10	2026/01/08	2026/01/08	CAM SOP-00408	R153 Ana. Prot. 2011
Free (WAD) Cyanide (1)	9	2026/01/07	2026/01/07	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide (1)	1	2026/01/08	2026/01/08	CAM SOP-00457	OMOE E3015 m
Conductivity (1)	10	2026/01/07	2026/01/07	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	10	2026/01/09	2026/01/09	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 3)	11	N/A	2026/01/05	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 4)	10	2026/01/06	2026/01/06	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	6	2026/01/07	2026/01/07	CAM SOP-00447	EPA 6020B m
Acid Extractable Metals by ICPMS (1)	4	2026/01/08	2026/01/08	CAM SOP-00447	EPA 6020B m
Moisture (1)	4	N/A	2026/01/05	CAM SOP-00445	Carter 2nd ed 70.2 m
Moisture (1)	6	N/A	2026/01/06	CAM SOP-00445	Carter 2nd ed 70.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	4	2026/01/06	2026/01/06	CAM SOP-00318	EPA 8270E
pH CaCl2 EXTRACT (1)	10	2026/01/08	2026/01/08	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	10	N/A	2026/01/08	CAM SOP-00102	EPA 6010C

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Your Project #: C01004.01
Site Location: WHITE OWL CONROY
Your C.O.C. #: C#1076991-01-01

Attention: Keith Brown

Terrapex Environmental Ltd
1-20 Gurdwara Rd.
O awa, ON
CANADA K2E 8B3

Report Date: 2026/01/09
Report #: R8679694
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C600255
Received: 2026/01/02, 13:03

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) Soils are reported on a dry weight basis unless otherwise speci ed.
(3) No lab extrac on date is given for F1BTEX & VOC samples that are eld preserved with methanol. Extrac on date is the date sampled unless otherwise stated.
(4) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modi ca ons have been validated and proven equivalent following "Alberta Environment's Interpreta on of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Valida on of Performance-Based Alterna ve Methods September 2003". Documenta on is available upon request. Modi ca ons from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extrac on instead of Soxhlet extrac on.

Encryp on Key

Please direct all ques ons regarding this Cer cate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group speci c valida on, please refer to the Valida on Signatures page if included, otherwise available by request. For Department speci c Analyst/Supervisor valida on names, please refer to the Test Summary sec on if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory opera ons.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		AYUD02		AYUD03	AYUD04		
Sampling Date		2025/12/30 10:40		2025/12/30 11:00	2025/12/30 11:10		
COC Number		C#1076991-01-01		C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW101-2**	**QC Batch**	**MW101-4**	**MW101-5**	**RDL**	**QC Batch**
Calculated Parameters							
Sodium Adsorption Ratio	N/A	6.2	A083174	7.2	3.5		A083174
Inorganics							
Conductivity	mS/cm	0.89	A083921	3.4	0.81	0.002	A083921
Moisture	%	9.0	A083295	28	14	1.0	A083500
Available (CaCl2) pH	pH	8.74	A084512	7.73	7.76		A084512
WAD Cyanide (Free)	ug/g	<0.01	A083895	<0.01	<0.01	0.01	A083895

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		AYUD05		AYUD06		AYUD07		
Sampling Date		2025/12/30 13:00		2025/12/30 13:20		2025/12/30 13:30		
COC Number		C#1076991-01-01		C#1076991-01-01		C#1076991-01-01		
	UNITS	**BH102-1**	**QC Batch**	**BH102-3**	**QC Batch**	**BH102-4**	**RDL**	**QC Batch**
Calculated Parameters								
Sodium Adsorption Ratio	N/A	2.2	A083174	18	A083174	5.7		A083174
Inorganics								
Conductivity	mS/cm	0.68	A083921	1.9	A083921	1.5	0.002	A083921
Moisture	%	13	A083295	27	A083500	33	1.0	A083500
Available (CaCl2) pH	pH	7.54	A084512	7.30	A084512	7.07		A084512
WAD Cyanide (Free)	ug/g	<0.01	A083895	<0.01	A084386	<0.01	0.01	A083895

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		AYUD08	AYUD09		AYUD10	AYUD11		
Sampling Date		2025/12/31 09:50	2025/12/31 09:50		2025/12/31 10:20	2025/12/31 10:30		
COC Number		C#1076991-01-01	C#1076991-01-01		C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW103-1**	**MW103-80**	**QC Batch**	**MW103-3**	**MW103-4**	**RDL**	**QC Batch**
Calculated Parameters								
Sodium Adsorption Ratio	N/A	14	20	A083174	5.3	18		A083174
Inorganics								
Conductivity	mS/cm	0.77	1.1	A083921	0.54	1.5	0.002	A083921
Moisture	%	28	28	A083295	12	29	1.0	A083500
Available (CaCl2) pH	pH	7.17	7.42	A084512	7.69	7.71		A084512
WAD Cyanide (Free)	ug/g	<0.01	<0.01	A083895	<0.01	<0.01	0.01	A083895

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		AYUD02	AYUD03		AYUD04	AYUD05		
Sampling Date		2025/12/30 10:40	2025/12/30 11:00		2025/12/30 11:10	2025/12/30 13:00		
COC Number		C#1076991-01-01	C#1076991-01-01		C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW101-2**	**MW101-4**	**QC Batch**	**MW101-5**	**BH102-1**	**RDL**	**QC Batch**
Inorganics								
Chromium (VI)	ug/g	<0.18	<0.18	A084918	<0.18	<0.18	0.18	A084918
Metals								
Hot Water Ext. Boron (B)	ug/g	0.37	0.32	A084472	0.16	0.27	0.050	A084472
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	A083968	<0.20	0.30	0.20	A084454
Acid Extractable Arsenic (As)	ug/g	5.0	<1.0	A083968	1.7	5.9	1.0	A084454
Acid Extractable Barium (Ba)	ug/g	250	320	A083968	89	57	0.50	A084454
Acid Extractable Beryllium (Be)	ug/g	0.47	0.64	A083968	0.27	0.25	0.20	A084454
Acid Extractable Boron (B)	ug/g	6.9	6.0	A083968	5.3	5.3	5.0	A084454
Acid Extractable Cadmium (Cd)	ug/g	0.13	<0.10	A083968	<0.10	<0.10	0.10	A084454
Acid Extractable Chromium (Cr)	ug/g	29	63	A083968	15	22	1.0	A084454
Acid Extractable Cobalt (Co)	ug/g	11	14	A083968	5.7	7.8	0.10	A084454
Acid Extractable Copper (Cu)	ug/g	19	37	A083968	15	15	0.50	A084454
Acid Extractable Lead (Pb)	ug/g	16	6.2	A083968	4.5	20	1.0	A084454
Acid Extractable Molybdenum (Mo)	ug/g	3.2	<0.50	A083968	0.97	3.9	0.50	A084454
Acid Extractable Nickel (Ni)	ug/g	23	38	A083968	13	17	0.50	A084454
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	A083968	<0.50	<0.50	0.50	A084454
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	A083968	<0.20	<0.20	0.20	A084454
Acid Extractable Thallium (Tl)	ug/g	0.23	0.24	A083968	0.10	0.23	0.050	A084454
Acid Extractable Uranium (U)	ug/g	0.79	0.65	A083968	1.0	0.64	0.050	A084454
Acid Extractable Vanadium (V)	ug/g	37	67	A083968	25	21	5.0	A084454
Acid Extractable Zinc (Zn)	ug/g	52	76	A083968	26	42	5.0	A084454
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	A083968	<0.050	<0.050	0.050	A084454

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		AYUD06		AYUD07			AYUD07		
Sampling Date		2025/12/30 13:20		2025/12/30 13:30			2025/12/30 13:30		
COC Number		C#1076991-01-01		C#1076991-01-01			C#1076991-01-01		
	UNITS	**BH102-3**	**QC Batch**	**BH102-4**	**RDL**	**QC Batch**	**BH102-4 Lab-Dup**	**RDL**	**QC Batch**
Inorganics									
Chromium (VI)	ug/g	<0.18	A084918	0.19	0.18	A084918	0.21	0.18	A084918
Metals									
Hot Water Ext. Boron (B)	ug/g	<0.050	A084472	0.069	0.050	A084472			
Acid Extractable Antimony (Sb)	ug/g	<0.20	A084454	<0.20	0.20	A083968			
Acid Extractable Arsenic (As)	ug/g	1.1	A084454	1.0	1.0	A083968			
Acid Extractable Barium (Ba)	ug/g	260	A084454	430	0.50	A083968			
Acid Extractable Beryllium (Be)	ug/g	0.61	A084454	0.84	0.20	A083968			
Acid Extractable Boron (B)	ug/g	<5.0	A084454	<5.0	5.0	A083968			
Acid Extractable Cadmium (Cd)	ug/g	0.10	A084454	<0.10	0.10	A083968			
Acid Extractable Chromium (Cr)	ug/g	80	A084454	130	1.0	A083968			
Acid Extractable Cobalt (Co)	ug/g	18	A084454	21	0.10	A083968			
Acid Extractable Copper (Cu)	ug/g	19	A084454	63	0.50	A083968			
Acid Extractable Lead (Pb)	ug/g	7.2	A084454	7.2	1.0	A083968			
Acid Extractable Molybdenum (Mo)	ug/g	0.68	A084454	<0.50	0.50	A083968			
Acid Extractable Nickel (Ni)	ug/g	39	A084454	71	0.50	A083968			
Acid Extractable Selenium (Se)	ug/g	<0.50	A084454	<0.50	0.50	A083968			
Acid Extractable Silver (Ag)	ug/g	<0.20	A084454	<0.20	0.20	A083968			
Acid Extractable Thallium (Tl)	ug/g	0.31	A084454	0.42	0.050	A083968			
Acid Extractable Uranium (U)	ug/g	0.80	A084454	0.86	0.050	A083968			
Acid Extractable Vanadium (V)	ug/g	73	A084454	110	5.0	A083968			
Acid Extractable Zinc (Zn)	ug/g	140	A084454	130	5.0	A083968			
Acid Extractable Mercury (Hg)	ug/g	<0.050	A084454	<0.050	0.050	A083968			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		AYUD08		AYUD09	AYUD10	AYUD11		
Sampling Date		2025/12/31 09:50		2025/12/31 09:50	2025/12/31 10:20	2025/12/31 10:30		
COC Number		C#1076991-01-01		C#1076991-01-01	C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW103-1**	**QC Batch**	**MW103-80**	**MW103-3**	**MW103-4**	**RDL**	**QC Batch**
Inorganics								
Chromium (VI)	ug/g	<0.18	A084918	<0.18	<0.18	<0.18	0.18	A084918
Metals								
Hot Water Ext. Boron (B)	ug/g	0.13	A084472	0.084	0.46	0.058	0.050	A084472
Acid Extractable Antimony (Sb)	ug/g	<0.20	A084454	<0.20	0.61	<0.20	0.20	A083968
Acid Extractable Arsenic (As)	ug/g	1.1	A084454	1.2	2.9	1.4	1.0	A083968
Acid Extractable Barium (Ba)	ug/g	230	A084454	380	82	360	0.50	A083968
Acid Extractable Beryllium (Be)	ug/g	0.73	A084454	0.91	0.26	0.91	0.20	A083968
Acid Extractable Boron (B)	ug/g	<5.0	A084454	<5.0	5.2	<5.0	5.0	A083968
Acid Extractable Cadmium (Cd)	ug/g	0.14	A084454	0.14	0.15	<0.10	0.10	A083968
Acid Extractable Chromium (Cr)	ug/g	89	A084454	120	200	120	1.0	A083968
Acid Extractable Cobalt (Co)	ug/g	19	A084454	27	6.7	24	0.10	A083968
Acid Extractable Copper (Cu)	ug/g	29	A084454	53	27	53	0.50	A083968
Acid Extractable Lead (Pb)	ug/g	6.7	A084454	7.8	21	7.6	1.0	A083968
Acid Extractable Molybdenum (Mo)	ug/g	1.1	A084454	0.89	2.6	0.81	0.50	A083968
Acid Extractable Nickel (Ni)	ug/g	46	A084454	65	16	63	0.50	A083968
Acid Extractable Selenium (Se)	ug/g	<0.50	A084454	<0.50	<0.50	<0.50	0.50	A083968
Acid Extractable Silver (Ag)	ug/g	<0.20	A084454	<0.20	<0.20	<0.20	0.20	A083968
Acid Extractable Thallium (Tl)	ug/g	0.32	A084454	0.45	0.16	0.44	0.050	A083968
Acid Extractable Uranium (U)	ug/g	0.99	A084454	1.0	0.53	1.1	0.050	A083968
Acid Extractable Vanadium (V)	ug/g	82	A084454	120	26	110	5.0	A083968
Acid Extractable Zinc (Zn)	ug/g	87	A084454	120	79	120	5.0	A083968
Acid Extractable Mercury (Hg)	ug/g	<0.050	A084454	<0.050	<0.050	<0.050	0.050	A083968

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AYUD02	AYUD05		AYUD08	AYUD09		
Sampling Date		2025/12/30 10:40	2025/12/30 13:00		2025/12/31 09:50	2025/12/31 09:50		
COC Number		C#1076991-01-01	C#1076991-01-01		C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW101-2**	**BH102-1**	**RDL**	**MW103-1**	**MW103-80**	**RDL**	**QC Batch**
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	<0.071	<0.071	0.071	<0.0071	<0.0071	0.0071	A083021
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Acenaphthylene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Anthracene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Benzo(a)anthracene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Benzo(a)pyrene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Benzo(b/j)fluoranthene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Benzo(g,h,i)perylene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Benzo(k)fluoranthene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Chrysene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Dibenzo(a,h)anthracene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Fluoranthene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Fluorene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Indeno(1,2,3-cd)pyrene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
1-Methylnaphthalene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
2-Methylnaphthalene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Naphthalene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Phenanthrene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Pyrene	ug/g	<0.050	<0.050	0.050	<0.0050	<0.0050	0.0050	A083424
Surrogate Recovery (%)								
D10-Anthracene	%	121	111		98	98		A083424
D14-Terphenyl (FS)	%	93	90		88	91		A083424
D8-Acenaphthylene	%	85	80		74	76		A083424

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AYUD02		AYUD03	AYUD04		AYUD05		
Sampling Date		2025/12/30 10:40		2025/12/30 11:00	2025/12/30 11:10		2025/12/30 13:00		
COC Number		C#1076991-01-01		C#1076991-01-01	C#1076991-01-01		C#1076991-01-01		
	UNITS	**MW101-2**	**QC Batch**	**MW101-4**	**MW101-5**	**QC Batch**	**BH102-1**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons									
Benzene	ug/g	<0.020	A083234	<0.020	<0.020	A083234	<0.020	0.020	A083234
Toluene	ug/g	<0.020	A083234	<0.020	<0.020	A083234	<0.020	0.020	A083234
Ethylbenzene	ug/g	<0.020	A083234	<0.020	<0.020	A083234	<0.020	0.020	A083234
o-Xylene	ug/g	<0.020	A083234	<0.020	<0.020	A083234	<0.020	0.020	A083234
p+m-Xylene	ug/g	<0.040	A083234	<0.040	<0.040	A083234	<0.040	0.040	A083234
Total Xylenes	ug/g	<0.040	A083234	<0.040	<0.040	A083234	<0.040	0.040	A083234
F1 (C6-C10)	ug/g	<10	A083234	<10	<10	A083234	<10	10	A083234
F1 (C6-C10) - BTEX	ug/g	<10	A083234	<10	<10	A083234	<10	10	A083234
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	A083436	<7.0	16	A083762	<7.0	7.0	A083436
F3 (C16-C34 Hydrocarbons)	ug/g	<50	A083436	<50	<50	A083762	54	50	A083436
F4 (C34-C50 Hydrocarbons)	ug/g	110	A083436	<50	<50	A083762	82	50	A083436
Reached Baseline at C50	ug/g	Yes	A083436	Yes	Yes	A083762	Yes		A083436
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	100	A083234	100	99	A083234	101		A083234
4-Bromofluorobenzene	%	94	A083234	95	95	A083234	95		A083234
D10-o-Xylene	%	97	A083234	105	106	A083234	97		A083234
D4-1,2-Dichloroethane	%	99	A083234	97	97	A083234	99		A083234
o-Terphenyl	%	77	A083436	90	91	A083762	86		A083436

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AYUD05			AYUD06	AYUD07		
Sampling Date		2025/12/30 13:00			2025/12/30 13:20	2025/12/30 13:30		
COC Number		C#1076991-01-01			C#1076991-01-01	C#1076991-01-01		
	UNITS	**BH102-1 Lab-Dup**	**RDL**	**QC Batch**	**BH102-3**	**BH102-4**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons								
Benzene	ug/g	<0.020	0.020	A083234	<0.020	<0.020	0.020	A083234
Toluene	ug/g	<0.020	0.020	A083234	<0.020	<0.020	0.020	A083234
Ethylbenzene	ug/g	<0.020	0.020	A083234	<0.020	<0.020	0.020	A083234
o-Xylene	ug/g	<0.020	0.020	A083234	<0.020	<0.020	0.020	A083234
p+m-Xylene	ug/g	<0.040	0.040	A083234	<0.040	<0.040	0.040	A083234
Total Xylenes	ug/g	<0.040	0.040	A083234	<0.040	<0.040	0.040	A083234
F1 (C6-C10)	ug/g	<10	10	A083234	<10	<10	10	A083234
F1 (C6-C10) - BTEX	ug/g	<10	10	A083234	<10	<10	10	A083234
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g				<7.0	<7.0	7.0	A083762
F3 (C16-C34 Hydrocarbons)	ug/g				<50	<50	50	A083762
F4 (C34-C50 Hydrocarbons)	ug/g				<50	<50	50	A083762
Reached Baseline at C50	ug/g				Yes	Yes		A083762
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	101		A083234	99	101		A083234
4-Bromofluorobenzene	%	95		A083234	95	94		A083234
D10-o-Xylene	%	100		A083234	108	105		A083234
D4-1,2-Dichloroethane	%	98		A083234	95	96		A083234
o-Terphenyl	%				91	89		A083762

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AYUD07			AYUD08	AYUD09		
Sampling Date		2025/12/30 13:30			2025/12/31 09:50	2025/12/31 09:50		
COC Number		C#1076991-01-01			C#1076991-01-01	C#1076991-01-01		
	UNITS	**BH102-4 Lab-Dup**	**RDL**	**QC Batch**	**MW103-1**	**MW103-80**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons								
Benzene	ug/g				<0.020	<0.020	0.020	A083234
Toluene	ug/g				<0.020	<0.020	0.020	A083234
Ethylbenzene	ug/g				<0.020	<0.020	0.020	A083234
o-Xylene	ug/g				<0.020	<0.020	0.020	A083234
p+m-Xylene	ug/g				<0.040	<0.040	0.040	A083234
Total Xylenes	ug/g				<0.040	<0.040	0.040	A083234
F1 (C6-C10)	ug/g				<10	<10	10	A083234
F1 (C6-C10) - BTEX	ug/g				<10	<10	10	A083234
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	7.0	A083762	<7.0	<7.0	7.0	A083436
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	A083762	<50	<50	50	A083436
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	A083762	<50	<50	50	A083436
Reached Baseline at C50	ug/g	Yes		A083762	Yes	Yes		A083436
Surrogate Recovery (%)								
1,4-Difluorobenzene	%				99	101		A083234
4-Bromofluorobenzene	%				95	94		A083234
D10-o-Xylene	%				104	105		A083234
D4-1,2-Dichloroethane	%				96	97		A083234
o-Terphenyl	%	91		A083762	87	91		A083436

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AYUD09			AYUD10	AYUD11		
Sampling Date		2025/12/31 09:50			2025/12/31 10:20	2025/12/31 10:30		
COC Number		C#1076991-01-01			C#1076991-01-01	C#1076991-01-01		
	UNITS	**MW103-80 Lab-Dup**	**RDL**	**QC Batch**	**MW103-3**	**MW103-4**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons								
Benzene	ug/g				<0.020	<0.020	0.020	A083234
Toluene	ug/g				<0.020	<0.020	0.020	A083234
Ethylbenzene	ug/g				<0.020	<0.020	0.020	A083234
o-Xylene	ug/g				<0.020	<0.020	0.020	A083234
p+m-Xylene	ug/g				<0.040	<0.040	0.040	A083234
Total Xylenes	ug/g				<0.040	<0.040	0.040	A083234
F1 (C6-C10)	ug/g				<10	<10	10	A083234
F1 (C6-C10) - BTEX	ug/g				<10	<10	10	A083234
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	7.0	A083436	<7.0	<7.0	7.0	A083762
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	A083436	<50	<50	50	A083762
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	A083436	<50	<50	50	A083762
Reached Baseline at C50	ug/g	Yes		A083436	Yes	Yes		A083762
Surrogate Recovery (%)								
1,4-Difluorobenzene	%				100	100		A083234
4-Bromofluorobenzene	%				94	94		A083234
D10-o-Xylene	%				96	103		A083234
D4-1,2-Dichloroethane	%				95	95		A083234
o-Terphenyl	%	89		A083436	84	89		A083762

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AYUD12		
Sampling Date		2025/12/31 12:00		
COC Number		C#1076991-01-01		
	UNITS	**METHANOL BLANK**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons				
Benzene	ug/g	<0.020	0.020	A083234
Toluene	ug/g	<0.020	0.020	A083234
Ethylbenzene	ug/g	<0.020	0.020	A083234
o-Xylene	ug/g	<0.020	0.020	A083234
p+m-Xylene	ug/g	<0.040	0.040	A083234
Total Xylenes	ug/g	<0.040	0.040	A083234
F1 (C6-C10)	ug/g	<10	10	A083234
F1 (C6-C10) - BTEX	ug/g	<10	10	A083234
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	100		A083234
4-Bromofluorobenzene	%	94		A083234
D10-o-Xylene	%	97		A083234
D4-1,2-Dichloroethane	%	100		A083234

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: AYUD02 **Collected:** 2025/12/30
Sample ID: MW101-2 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	A083021	N/A	2026/01/07	Automated Statchk
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083436	2026/01/06	2026/01/06	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083295	N/A	2026/01/05	Parth Khatri
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	A083424	2026/01/06	2026/01/06	Margaret Kulczyk-Stanko
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD03 **Collected:** 2025/12/30
Sample ID: MW101-4 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD04 **Collected:** 2025/12/30
Sample ID: MW101-5 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A084454	2026/01/08	2026/01/08	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

TEST SUMMARY

Bureau Veritas ID: AYUD05 **Collected:** 2025/12/30
Sample ID: BH102-1 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	A083021	N/A	2026/01/07	Automated Statchk
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083436	2026/01/06	2026/01/06	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	A084454	2026/01/08	2026/01/08	Viviana Canzonieri
Moisture	BAL	A083295	N/A	2026/01/05	Parth Khatri
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	A083424	2026/01/06	2026/01/06	Margaret Kulczyk-Stanko
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD05 Dup **Collected:** 2025/12/30
Sample ID: BH102-1 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin

Bureau Veritas ID: AYUD06 **Collected:** 2025/12/30
Sample ID: BH102-3 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A084386	2026/01/08	2026/01/08	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A084454	2026/01/08	2026/01/08	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD07 **Collected:** 2025/12/30
Sample ID: BH102-4 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota

TEST SUMMARY

Bureau Veritas ID: AYUD07 **Collected:** 2025/12/30
Sample ID: BH102-4 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD07 Dup **Collected:** 2025/12/30
Sample ID: BH102-4 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb

Bureau Veritas ID: AYUD08 **Collected:** 2025/12/31
Sample ID: MW103-1 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	A083021	N/A	2026/01/07	Automated Statchk
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083436	2026/01/06	2026/01/06	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	A084454	2026/01/08	2026/01/08	Viviana Canzonieri
Moisture	BAL	A083295	N/A	2026/01/05	Parth Khatri
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	A083424	2026/01/06	2026/01/06	Margaret Kulczyk-Stanko
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD09 **Collected:** 2025/12/31
Sample ID: MW103-80 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	A083021	N/A	2026/01/07	Automated Statchk
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083436	2026/01/06	2026/01/06	Anna Stuglik-Rolland

TEST SUMMARY

Bureau Veritas ID: AYUD09 **Collected:** 2025/12/31
Sample ID: MW103-80 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083295	N/A	2026/01/05	Parth Khatri
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	A083424	2026/01/06	2026/01/06	Margaret Kulczyk-Stanko
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD09 Dup **Collected:** 2025/12/31
Sample ID: MW103-80 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083436	2026/01/06	2026/01/06	Anna Stuglik-Rolland

Bureau Veritas ID: AYUD10 **Collected:** 2025/12/31
Sample ID: MW103-3 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas ID: AYUD11 **Collected:** 2025/12/31
Sample ID: MW103-4 **Shipped:**
Matrix: Soil **Received:** 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	A084472	2026/01/08	2026/01/08	Medhat Nasr
Free (WAD) Cyanide	TECH	A083895	2026/01/07	2026/01/07	Prgya Panchal
Conductivity	AT	A083921	2026/01/07	2026/01/07	Nachiketa Gohil
Hexavalent Chromium in Soil by IC	IC/SPEC	A084918	2026/01/09	2026/01/09	Rupinder Sihota
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	A083762	2026/01/06	2026/01/06	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	A083968	2026/01/07	2026/01/07	Viviana Canzonieri
Moisture	BAL	A083500	N/A	2026/01/06	Kamaldeep KAUR
pH CaCl2 EXTRACT	AT	A084512	2026/01/08	2026/01/08	Helen He
Sodium Adsorption Ratio (SAR)	CALC/MET	A083174	N/A	2026/01/08	Automated Statchk

Bureau Veritas Job #: C600255
Report Date: 2026/01/09

Terrapex Environmental Ltd
Client Project #: C01004.01
Site Location: WHITE OWL CONROY
Sampler Initials: HM

TEST SUMMARY

Bureau Veritas ID: AYUD12
Sample ID: METHANOL BLANK
Matrix: Soil

Collected: 2025/12/31
Shipped:
Received: 2026/01/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	A083234	N/A	2026/01/05	Lincoln Ramdahin

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C

Sample AYUD02 [MW101-2] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

PAH Analysis: Due to the sample matrix, sample required dilu on. Detec on limits were adjusted accordingly.

Sample AYUD03 [MW101-4] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

Sample AYUD04 [MW101-5] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

Sample AYUD05 [BH102-1] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

PAH Analysis: Due to the sample matrix, sample required dilu on. Detec on limits were adjusted accordingly.

Sample AYUD06 [BH102-3] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

Sample AYUD09 [MW103-80] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

Sample AYUD11 [MW103-4] : F1/BTEX Analysis: Soil weight exceeds the protocol speci ca on of approximately 5g in the eld preserved vial. Addi onal methanol was added to the vial to ensure extrac on efficiency.

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A083234	LRA	Matrix Spike [AYUD05-02]	1,4-Difluorobenzene	2026/01/05		96	%	60 - 140
			4-Bromofluorobenzene	2026/01/05		96	%	60 - 140
			D10-o-Xylene	2026/01/05		97	%	60 - 140
			D4-1,2-Dichloroethane	2026/01/05		98	%	60 - 140
			Benzene	2026/01/05		87	%	50 - 140
			Toluene	2026/01/05		87	%	50 - 140
			Ethylbenzene	2026/01/05		98	%	50 - 140
			o-Xylene	2026/01/05		98	%	50 - 140
			p+m-Xylene	2026/01/05		94	%	50 - 140
			F1 (C6-C10)	2026/01/05		108	%	60 - 140
A083234	LRA	Spiked Blank	1,4-Difluorobenzene	2026/01/05		100	%	60 - 140
			4-Bromofluorobenzene	2026/01/05		90	%	60 - 140
			D10-o-Xylene	2026/01/05		97	%	60 - 140
			D4-1,2-Dichloroethane	2026/01/05		89	%	60 - 140
			Benzene	2026/01/05		81	%	50 - 140
			Toluene	2026/01/05		85	%	50 - 140
			Ethylbenzene	2026/01/05		97	%	50 - 140
			o-Xylene	2026/01/05		94	%	50 - 140
			p+m-Xylene	2026/01/05		92	%	50 - 140
			F1 (C6-C10)	2026/01/05		104	%	80 - 120
A083234	LRA	Method Blank	1,4-Difluorobenzene	2026/01/05		110	%	60 - 140
			4-Bromofluorobenzene	2026/01/05		97	%	60 - 140
			D10-o-Xylene	2026/01/05		89	%	60 - 140
			D4-1,2-Dichloroethane	2026/01/05		115	%	60 - 140
			Benzene	2026/01/05	<0.020		ug/g	
			Toluene	2026/01/05	<0.020		ug/g	
			Ethylbenzene	2026/01/05	<0.020		ug/g	
			o-Xylene	2026/01/05	<0.020		ug/g	
			p+m-Xylene	2026/01/05	<0.040		ug/g	
			Total Xylenes	2026/01/05	<0.040		ug/g	
			F1 (C6-C10)	2026/01/05	<10		ug/g	
			F1 (C6-C10) - BTEX	2026/01/05	<10		ug/g	
A083234	LRA	RPD [AYUD05-02]	Benzene	2026/01/05	NC		%	50
			Toluene	2026/01/05	NC		%	50
			Ethylbenzene	2026/01/05	NC		%	50
			o-Xylene	2026/01/05	NC		%	50
			p+m-Xylene	2026/01/05	NC		%	50
			Total Xylenes	2026/01/05	NC		%	50
			F1 (C6-C10)	2026/01/05	NC		%	30
			F1 (C6-C10) - BTEX	2026/01/05	NC		%	30
A083295	KAT	RPD	Moisture	2026/01/05	0		%	20
A083424	MKS	Matrix Spike	D10-Anthracene	2026/01/06		99	%	50 - 130
			D14-Terphenyl (FS)	2026/01/06		91	%	50 - 130
			D8-Acenaphthylene	2026/01/06		79	%	50 - 130
			Acenaphthene	2026/01/06		77	%	50 - 130
			Acenaphthylene	2026/01/06		68	%	50 - 130
			Anthracene	2026/01/06		103	%	50 - 130
			Benzo(a)anthracene	2026/01/06		111	%	50 - 130
			Benzo(a)pyrene	2026/01/06		110	%	50 - 130
			Benzo(b/j)fluoranthene	2026/01/06		102	%	50 - 130
			Benzo(g,h,i)perylene	2026/01/06		105	%	50 - 130
			Benzo(k)fluoranthene	2026/01/06		95	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chrysene	2026/01/06		102	%	50 - 130
			Dibenzo(a,h)anthracene	2026/01/06		98	%	50 - 130
			Fluoranthene	2026/01/06		148 (1)	%	50 - 130
			Fluorene	2026/01/06		84	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2026/01/06		112	%	50 - 130
			1-Methylnaphthalene	2026/01/06		77	%	50 - 130
			2-Methylnaphthalene	2026/01/06		80	%	50 - 130
			Naphthalene	2026/01/06		66	%	50 - 130
			Phenanthrene	2026/01/06		126	%	50 - 130
			Pyrene	2026/01/06		133 (1)	%	50 - 130
A083424	MKS	Spiked Blank	D10-Anthracene	2026/01/06		103	%	50 - 130
			D14-Terphenyl (FS)	2026/01/06		94	%	50 - 130
			D8-Acenaphthylene	2026/01/06		80	%	50 - 130
			Acenaphthene	2026/01/06		80	%	50 - 130
			Acenaphthylene	2026/01/06		72	%	50 - 130
			Anthracene	2026/01/06		98	%	50 - 130
			Benzo(a)anthracene	2026/01/06		89	%	50 - 130
			Benzo(a)pyrene	2026/01/06		95	%	50 - 130
			Benzo(b/j)fluoranthene	2026/01/06		99	%	50 - 130
			Benzo(g,h,i)perylene	2026/01/06		103	%	50 - 130
			Benzo(k)fluoranthene	2026/01/06		97	%	50 - 130
			Chrysene	2026/01/06		92	%	50 - 130
			Dibenzo(a,h)anthracene	2026/01/06		101	%	50 - 130
			Fluoranthene	2026/01/06		98	%	50 - 130
			Fluorene	2026/01/06		84	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2026/01/06		108	%	50 - 130
			1-Methylnaphthalene	2026/01/06		83	%	50 - 130
			2-Methylnaphthalene	2026/01/06		86	%	50 - 130
			Naphthalene	2026/01/06		75	%	50 - 130
			Phenanthrene	2026/01/06		100	%	50 - 130
			Pyrene	2026/01/06		98	%	50 - 130
A083424	MKS	Method Blank	D10-Anthracene	2026/01/06		102	%	50 - 130
			D14-Terphenyl (FS)	2026/01/06		92	%	50 - 130
			D8-Acenaphthylene	2026/01/06		79	%	50 - 130
			Acenaphthene	2026/01/06	<0.0050		ug/g	
			Acenaphthylene	2026/01/06	<0.0050		ug/g	
			Anthracene	2026/01/06	<0.0050		ug/g	
			Benzo(a)anthracene	2026/01/06	<0.0050		ug/g	
			Benzo(a)pyrene	2026/01/06	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2026/01/06	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2026/01/06	<0.0050		ug/g	
			Benzo(k)fluoranthene	2026/01/06	<0.0050		ug/g	
			Chrysene	2026/01/06	<0.0050		ug/g	
			Dibenzo(a,h)anthracene	2026/01/06	<0.0050		ug/g	
			Fluoranthene	2026/01/06	<0.0050		ug/g	
			Fluorene	2026/01/06	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2026/01/06	<0.0050		ug/g	
			1-Methylnaphthalene	2026/01/06	<0.0050		ug/g	
			2-Methylnaphthalene	2026/01/06	<0.0050		ug/g	
			Naphthalene	2026/01/06	<0.0050		ug/g	
			Phenanthrene	2026/01/06	<0.0050		ug/g	
			Pyrene	2026/01/06	<0.0050		ug/g	
A083424	MKS	RPD	Acenaphthene	2026/01/06	NC		%	40

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acenaphthylene	2026/01/06	3.6		%	40
			Anthracene	2026/01/06	32		%	40
			Benzo(a)anthracene	2026/01/06	45 (1)		%	40
			Benzo(a)pyrene	2026/01/06	44 (1)		%	40
			Benzo(b/j)fluoranthene	2026/01/06	41 (1)		%	40
			Benzo(g,h,i)perylene	2026/01/06	40		%	40
			Benzo(k)fluoranthene	2026/01/06	NC		%	40
			Chrysene	2026/01/06	44 (1)		%	40
			Dibenzo(a,h)anthracene	2026/01/06	NC		%	40
			Fluoranthene	2026/01/06	42 (1)		%	40
			Fluorene	2026/01/06	NC		%	40
			Indeno(1,2,3-cd)pyrene	2026/01/06	41 (1)		%	40
			1-Methylnaphthalene	2026/01/06	NC		%	40
			2-Methylnaphthalene	2026/01/06	NC		%	40
			Naphthalene	2026/01/06	NC		%	40
			Phenanthrene	2026/01/06	26		%	40
			Pyrene	2026/01/06	45 (1)		%	40
A083436	AS2	Matrix Spike [AYUD09-03]	o-Terphenyl	2026/01/06		100	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06		97	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2026/01/06		104	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2026/01/06		98	%	60 - 140
A083436	AS2	Spiked Blank	o-Terphenyl	2026/01/06		100	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06		96	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2026/01/06		103	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2026/01/06		99	%	80 - 120
A083436	AS2	Method Blank	o-Terphenyl	2026/01/06		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06	<7.0		ug/g	
			F3 (C16-C34 Hydrocarbons)	2026/01/06	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2026/01/06	<50		ug/g	
A083436	AS2	RPD [AYUD09-03]	F2 (C10-C16 Hydrocarbons)	2026/01/06	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2026/01/06	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2026/01/06	NC		%	30
A083500	KDK	RPD	Moisture	2026/01/06	0.77		%	20
A083762	MSZ	Matrix Spike [AYUD07-03]	o-Terphenyl	2026/01/06		86	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06		81	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2026/01/06		86	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2026/01/06		85	%	60 - 140
A083762	MSZ	Spiked Blank	o-Terphenyl	2026/01/06		86	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06		83	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2026/01/06		87	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2026/01/06		85	%	80 - 120
A083762	MSZ	Method Blank	o-Terphenyl	2026/01/06		94	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2026/01/06	<7.0		ug/g	
			F3 (C16-C34 Hydrocarbons)	2026/01/06	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2026/01/06	<50		ug/g	
A083762	MSZ	RPD [AYUD07-03]	F2 (C10-C16 Hydrocarbons)	2026/01/06	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2026/01/06	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2026/01/06	NC		%	30
A083895	GYA	Matrix Spike	WAD Cyanide (Free)	2026/01/07		107	%	75 - 125
A083895	GYA	Spiked Blank	WAD Cyanide (Free)	2026/01/07		103	%	80 - 120
A083895	GYA	Method Blank	WAD Cyanide (Free)	2026/01/07	<0.01		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A083895	GYA	RPD	WAD Cyanide (Free)	2026/01/07	NC		%	35
A083921	NGI	Spiked Blank	Conductivity	2026/01/07		104	%	90 - 110
A083921	NGI	Method Blank	Conductivity	2026/01/07	<0.002		mS/cm	
A083921	NGI	RPD	Conductivity	2026/01/07	0.39		%	10
A083968	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2026/01/07		84	%	75 - 125
			Acid Extractable Arsenic (As)	2026/01/07		90	%	75 - 125
			Acid Extractable Barium (Ba)	2026/01/07		91	%	75 - 125
			Acid Extractable Beryllium (Be)	2026/01/07		95	%	75 - 125
			Acid Extractable Boron (B)	2026/01/07		85	%	75 - 125
			Acid Extractable Cadmium (Cd)	2026/01/07		93	%	75 - 125
			Acid Extractable Chromium (Cr)	2026/01/07		92	%	75 - 125
			Acid Extractable Cobalt (Co)	2026/01/07		94	%	75 - 125
			Acid Extractable Copper (Cu)	2026/01/07		95	%	75 - 125
			Acid Extractable Lead (Pb)	2026/01/07		92	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2026/01/07		96	%	75 - 125
			Acid Extractable Nickel (Ni)	2026/01/07		92	%	75 - 125
			Acid Extractable Selenium (Se)	2026/01/07		92	%	75 - 125
			Acid Extractable Silver (Ag)	2026/01/07		98	%	75 - 125
			Acid Extractable Thallium (Tl)	2026/01/07		91	%	75 - 125
			Acid Extractable Uranium (U)	2026/01/07		92	%	75 - 125
			Acid Extractable Vanadium (V)	2026/01/07		89	%	75 - 125
			Acid Extractable Zinc (Zn)	2026/01/07		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2026/01/07		90	%	75 - 125
A083968	VIV	Spiked Blank	Acid Extractable Antimony (Sb)	2026/01/07		103	%	80 - 120
			Acid Extractable Arsenic (As)	2026/01/07		101	%	80 - 120
			Acid Extractable Barium (Ba)	2026/01/07		99	%	80 - 120
			Acid Extractable Beryllium (Be)	2026/01/07		101	%	80 - 120
			Acid Extractable Boron (B)	2026/01/07		98	%	80 - 120
			Acid Extractable Cadmium (Cd)	2026/01/07		98	%	80 - 120
			Acid Extractable Chromium (Cr)	2026/01/07		102	%	80 - 120
			Acid Extractable Cobalt (Co)	2026/01/07		103	%	80 - 120
			Acid Extractable Copper (Cu)	2026/01/07		104	%	80 - 120
			Acid Extractable Lead (Pb)	2026/01/07		98	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2026/01/07		103	%	80 - 120
			Acid Extractable Nickel (Ni)	2026/01/07		101	%	80 - 120
			Acid Extractable Selenium (Se)	2026/01/07		99	%	80 - 120
			Acid Extractable Silver (Ag)	2026/01/07		104	%	80 - 120
			Acid Extractable Thallium (Tl)	2026/01/07		99	%	80 - 120
			Acid Extractable Uranium (U)	2026/01/07		100	%	80 - 120
			Acid Extractable Vanadium (V)	2026/01/07		102	%	80 - 120
			Acid Extractable Zinc (Zn)	2026/01/07		102	%	80 - 120
			Acid Extractable Mercury (Hg)	2026/01/07		95	%	80 - 120
A083968	VIV	Method Blank	Acid Extractable Antimony (Sb)	2026/01/07	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2026/01/07	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2026/01/07	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2026/01/07	<0.20		ug/g	
			Acid Extractable Boron (B)	2026/01/07	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2026/01/07	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2026/01/07	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2026/01/07	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2026/01/07	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2026/01/07	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2026/01/07	<0.50		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Nickel (Ni)	2026/01/07	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2026/01/07	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2026/01/07	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2026/01/07	<0.050		ug/g	
			Acid Extractable Uranium (U)	2026/01/07	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2026/01/07	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2026/01/07	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2026/01/07	<0.050		ug/g	
A083968	VIV	RPD	Acid Extractable Antimony (Sb)	2026/01/07	NC		%	30
			Acid Extractable Arsenic (As)	2026/01/07	1.8		%	30
			Acid Extractable Barium (Ba)	2026/01/07	0.027		%	30
			Acid Extractable Beryllium (Be)	2026/01/07	11		%	30
			Acid Extractable Boron (B)	2026/01/07	NC		%	30
			Acid Extractable Cadmium (Cd)	2026/01/07	NC		%	30
			Acid Extractable Chromium (Cr)	2026/01/07	3.4		%	30
			Acid Extractable Cobalt (Co)	2026/01/07	2.2		%	30
			Acid Extractable Copper (Cu)	2026/01/07	1.7		%	30
			Acid Extractable Lead (Pb)	2026/01/07	5.2		%	30
			Acid Extractable Molybdenum (Mo)	2026/01/07	NC		%	30
			Acid Extractable Nickel (Ni)	2026/01/07	0.73		%	30
			Acid Extractable Selenium (Se)	2026/01/07	NC		%	30
			Acid Extractable Silver (Ag)	2026/01/07	NC		%	30
			Acid Extractable Thallium (Tl)	2026/01/07	7.7		%	30
			Acid Extractable Uranium (U)	2026/01/07	7.1		%	30
			Acid Extractable Vanadium (V)	2026/01/07	2.6		%	30
			Acid Extractable Zinc (Zn)	2026/01/07	1.3		%	30
A084386	GYA	Matrix Spike	WAD Cyanide (Free)	2026/01/08		102	%	75 - 125
A084386	GYA	Spiked Blank	WAD Cyanide (Free)	2026/01/08		104	%	80 - 120
A084386	GYA	Method Blank	WAD Cyanide (Free)	2026/01/08	<0.01		ug/g	
A084386	GYA	RPD	WAD Cyanide (Free)	2026/01/08	NC		%	35
A084454	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2026/01/08		102	%	75 - 125
			Acid Extractable Arsenic (As)	2026/01/08		104	%	75 - 125
			Acid Extractable Barium (Ba)	2026/01/08		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2026/01/08		102	%	75 - 125
			Acid Extractable Boron (B)	2026/01/08		99	%	75 - 125
			Acid Extractable Cadmium (Cd)	2026/01/08		102	%	75 - 125
			Acid Extractable Chromium (Cr)	2026/01/08		100	%	75 - 125
			Acid Extractable Cobalt (Co)	2026/01/08		103	%	75 - 125
			Acid Extractable Copper (Cu)	2026/01/08		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2026/01/08		97	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2026/01/08		105	%	75 - 125
			Acid Extractable Nickel (Ni)	2026/01/08		101	%	75 - 125
			Acid Extractable Selenium (Se)	2026/01/08		102	%	75 - 125
			Acid Extractable Silver (Ag)	2026/01/08		105	%	75 - 125
			Acid Extractable Thallium (Tl)	2026/01/08		100	%	75 - 125
			Acid Extractable Uranium (U)	2026/01/08		105	%	75 - 125
			Acid Extractable Vanadium (V)	2026/01/08		99	%	75 - 125
			Acid Extractable Zinc (Zn)	2026/01/08		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2026/01/08		103	%	75 - 125
A084454	VIV	Spiked Blank	Acid Extractable Antimony (Sb)	2026/01/08		101	%	80 - 120
			Acid Extractable Arsenic (As)	2026/01/08		99	%	80 - 120
			Acid Extractable Barium (Ba)	2026/01/08		99	%	80 - 120
			Acid Extractable Beryllium (Be)	2026/01/08		98	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Boron (B)	2026/01/08		95	%	80 - 120
			Acid Extractable Cadmium (Cd)	2026/01/08		99	%	80 - 120
			Acid Extractable Chromium (Cr)	2026/01/08		98	%	80 - 120
			Acid Extractable Cobalt (Co)	2026/01/08		101	%	80 - 120
			Acid Extractable Copper (Cu)	2026/01/08		98	%	80 - 120
			Acid Extractable Lead (Pb)	2026/01/08		99	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2026/01/08		100	%	80 - 120
			Acid Extractable Nickel (Ni)	2026/01/08		99	%	80 - 120
			Acid Extractable Selenium (Se)	2026/01/08		99	%	80 - 120
			Acid Extractable Silver (Ag)	2026/01/08		103	%	80 - 120
			Acid Extractable Thallium (Tl)	2026/01/08		100	%	80 - 120
			Acid Extractable Uranium (U)	2026/01/08		103	%	80 - 120
			Acid Extractable Vanadium (V)	2026/01/08		97	%	80 - 120
			Acid Extractable Zinc (Zn)	2026/01/08		99	%	80 - 120
			Acid Extractable Mercury (Hg)	2026/01/08		101	%	80 - 120
A084454	VIV	Method Blank	Acid Extractable Antimony (Sb)	2026/01/08	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2026/01/08	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2026/01/08	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2026/01/08	<0.20		ug/g	
			Acid Extractable Boron (B)	2026/01/08	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2026/01/08	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2026/01/08	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2026/01/08	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2026/01/08	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2026/01/08	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2026/01/08	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2026/01/08	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2026/01/08	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2026/01/08	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2026/01/08	<0.050		ug/g	
			Acid Extractable Uranium (U)	2026/01/08	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2026/01/08	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2026/01/08	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2026/01/08	<0.050		ug/g	
A084454	VIV	RPD	Acid Extractable Antimony (Sb)	2026/01/08	NC		%	30
			Acid Extractable Arsenic (As)	2026/01/08	4.9		%	30
			Acid Extractable Barium (Ba)	2026/01/08	0.34		%	30
			Acid Extractable Beryllium (Be)	2026/01/08	8.4		%	30
			Acid Extractable Boron (B)	2026/01/08	NC		%	30
			Acid Extractable Cadmium (Cd)	2026/01/08	NC		%	30
			Acid Extractable Chromium (Cr)	2026/01/08	1.4		%	30
			Acid Extractable Cobalt (Co)	2026/01/08	0.94		%	30
			Acid Extractable Copper (Cu)	2026/01/08	1.5		%	30
			Acid Extractable Lead (Pb)	2026/01/08	4.5		%	30
			Acid Extractable Molybdenum (Mo)	2026/01/08	NC		%	30
			Acid Extractable Nickel (Ni)	2026/01/08	1.7		%	30
			Acid Extractable Selenium (Se)	2026/01/08	NC		%	30
			Acid Extractable Silver (Ag)	2026/01/08	NC		%	30
			Acid Extractable Thallium (Tl)	2026/01/08	10		%	30
			Acid Extractable Uranium (U)	2026/01/08	2.8		%	30
			Acid Extractable Vanadium (V)	2026/01/08	2.2		%	30
			Acid Extractable Zinc (Zn)	2026/01/08	0.26		%	30
			Acid Extractable Mercury (Hg)	2026/01/08	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A084472	MEN	Matrix Spike	Hot Water Ext. Boron (B)	2026/01/08		113	%	75 - 125
A084472	MEN	Spiked Blank	Hot Water Ext. Boron (B)	2026/01/08		104	%	75 - 125
A084472	MEN	Method Blank	Hot Water Ext. Boron (B)	2026/01/08	<0.050		ug/g	
A084472	MEN	RPD	Hot Water Ext. Boron (B)	2026/01/08	0.34		%	40
A084512	HH	Spiked Blank	Available (CaCl2) pH	2026/01/08		101	%	97 - 103
A084512	HH	RPD	Available (CaCl2) pH	2026/01/08	0.42		%	N/A
A084918	RSU	Matrix Spike [AYUD07-01]	Chromium (VI)	2026/01/09		95	%	70 - 130
A084918	RSU	Spiked Blank	Chromium (VI)	2026/01/09		97	%	80 - 120
A084918	RSU	Method Blank	Chromium (VI)	2026/01/09	<0.18		ug/g	
A084918	RSU	RPD [AYUD07-01]	Chromium (VI)	2026/01/09	10		%	35

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The rela ve di erence between the concentra on in the parent sample and the spike amount was too small to permit a reliable recovery calcula on (matrix spike concentra on was less than the na ve sample concentra on)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentra on in the sample and/or duplicate was too low to permit a reliable RPD calcula on (absolute di erence <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Louise Harding, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group speci c valida on, please refer to the Valida on Signatures page if included, otherwise available by request. For Department speci c Analyst/Supervisor valida on names, please refer to the Test Summary sec on if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory opera ons.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

C600255
2026/01/02 13:03

Bureau Veritas
36 Antares Dr Unit 100, Nepean, Ontario Canada K2E 7W5 Tel (613) 274-0573 Toll-free 800-563-6266 Fax (613) 274-0574 www.bvna.com

Received in Ottawa

CHAIN OF CUSTODY RECORD

Invoice To:		Report To:		PROJECT INFORMATION:		Laboratory Use Only:	
Company:	#12638 Terrapex Environmental Ltd	Company:	Terrapex	Quotation #:	C45738	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Keith Brown	P.O. #:			1076991
Address:	1-20 Gurdwara Rd. Ottawa ON K2E 8B3	Address:	20 Gurdwara Rd Ottawa ON K2E 8B3	Project:	White Oak Canopy	COC #:	Project Manager:
Tel:	(613) 745-6471 Fax: (613) 745-0796	Tel:	(613) 745-6471 Ext: 225 Fax: (613) 745-0796	Project Name:	G01004.01	C#1076991-01-01	Katherine Szozda
Email:	accounts.payable@terrapex.com	Email:	k.brown@terrapex.com, EDD@terrapex.com	Site #:			
				Sampled By:	HM		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agr/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): ☐ Reg 153 PHCs, BTEX/F1-F4 (Soil)	☐ Reg 153 Metals & Inorganics Pkg (Soil)	☐ Reg 153 PAHs (Soil)	# of Bottles	Comments
1		MW101-2	30-Dec-25	10:40	SOIL	—	X	X	X	4	
2		MW101-4		11:00	SOIL	—	X	X		3	
3		MW101-5		11:10	SOIL	—	X	X		3	
4		BH102-1		13:00	SOIL	—	X	X	X	4	
5		BH102-3		13:20	SOIL	—	X	X		3	
6		BH102-4	↓	13:30	SOIL	—	X	X		3	
7		MW103-1	31-Dec-25	9:50	SOIL	—	X	X	X	4	
8		MW103-80		9:50	SOIL	—	X	X	X	4	
9		MW103-3		10:20	SOIL	—	X	X		3	
10		MW103-4	↓	10:30	SOIL	—	X	X		3	

OTT-2026-01-003

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only (CE)			
Keith Brown	26/01/02	11:00	Leen Asad	2026/01/02	13:03		Time Sensitive	Temperature (°C) on Recei: 6/7/9	Custody Seal Present	Yes ☐
									Intact	No ☑

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

C600255
2026/01/02 13:03

Bureau Veritas
36 Antares Dr Unit 100, Nepean, Ontario Canada K2E 7W5 Tel (613) 274-0573 Toll-free 800-563-6266 Fax (613) 274-0574 www.bvna.com

Received in Ottawa

CHAIN OF CUSTODY RECORD

Invoice To:		Report To:		PROJECT INFORMATION:		Laboratory Use Only:	
Company:	#12638 Terrapex Environmental Ltd	Company:	Terrapex	Quotation #:	C45738	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Keith Brown	P.O. #:			1076991
Address:	1-20 Gurdwara Rd. Ottawa ON K2E 8B3	Address:	20 Gurdwara Rd Ottawa ON K2E 8B3	Project:	C01004.01	COC #:	Project Manager:
Tel:	(613) 745-6471 Fax: (613) 745-0796	Tel:	(613) 745-6471 Ext: 225 Fax: (613) 745-0796	Project Name:	White Owl Conrad	C#1076991-02-01	Katherine Szozda
Email:	accounts.payable@terrapex.com	Email:	k.brown@terrapex.com, EDD@terrapex.com	Site #:			
				Sampled By:	HM		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Rec/Park ☐ Medium/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
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Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
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Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 Metals & Inorganics Pkg (Soil)	O.Reg 153 PAHs (Soil)	BTEX/PHC F1	# of Bottles	Comments
1		Methanol Blank	31-Dec-25	12:00	SOIL	—				X	2	
2					SOIL							
3					SOIL							
4					SOIL							
5					SOIL							
6					SOIL							
7					SOIL							
8					SOIL							
9					SOIL							
10					SOIL							

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
Keith Brown	26/01/02	11:00	Refer to Page 1						Present		
									Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas
36 Antares Dr Unit 100, Nepean, Ontario Canada K2E 7W5 Tel (613) 274-0573 Toll-free 800-563-6266 Fax (613) 274-0574 www.bvna.com

Received in Ottawa

CHAIN OF CUSTODY RECORD

Invoice To:		Report To:		PROJECT INFORMATION:		Laboratory Use Only:	
Company:	#12638 Terrapex Environmental Ltd	Company:	Terrapex	Quotation #:	C45738	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Keith Brown	P.O. #:			1076991
Address:	1-20 Gurdwara Rd. Ottawa ON K2E 8B3	Address:	20 Gurdwara Rd. Ottawa ON	Project:	Calgary.01	COC #:	Project Manager:
Tel:	(613) 745-6471 Fax: (613) 745-0796	Tel:	(613) 745-6471 Ext: 225 Fax: (613) 745-0796	Project Name:	White Owl - Conway	C#1076991-03-01	Katherine Szozda
Email:	accounts.payable@terrapex.com	Email:	k.brown@terrapex.com, EDD@terrapex.com	Site #:			
				Sampled By:	HM		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

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Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 Metals & Inorganics Reg (Soil)	O.Reg 153 PAHs (Soil)	PHC F3-F4						# of Bottles	Comments
1		MW101-4	30-Dec-25		SOIL	—				X						1	Please add to
2		MW101-5	↓		SOIL	—				X						1	submission
3		BH102-3			SOIL	—				X						1	BV Job C560255
4		BH102-4	↓		SOIL	—				X						1	~~C560255~~ SBSOIL
5		MW103-3	31-Dec-25		SOIL	—				X						1	C560255
6		MW103-4	↓		SOIL	—				X						1	
7					SOIL												
8					SOIL												
9					SOIL												
10					SOIL												

OTT-2026-01-005

C560255

EDD 20260104105

* Relinquished By (Print):	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Keith Brown	26/01/05	11:00	Pedrea da Silva	~~2025~~/2026/01/05	13:38	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	11/9/9 (ice)	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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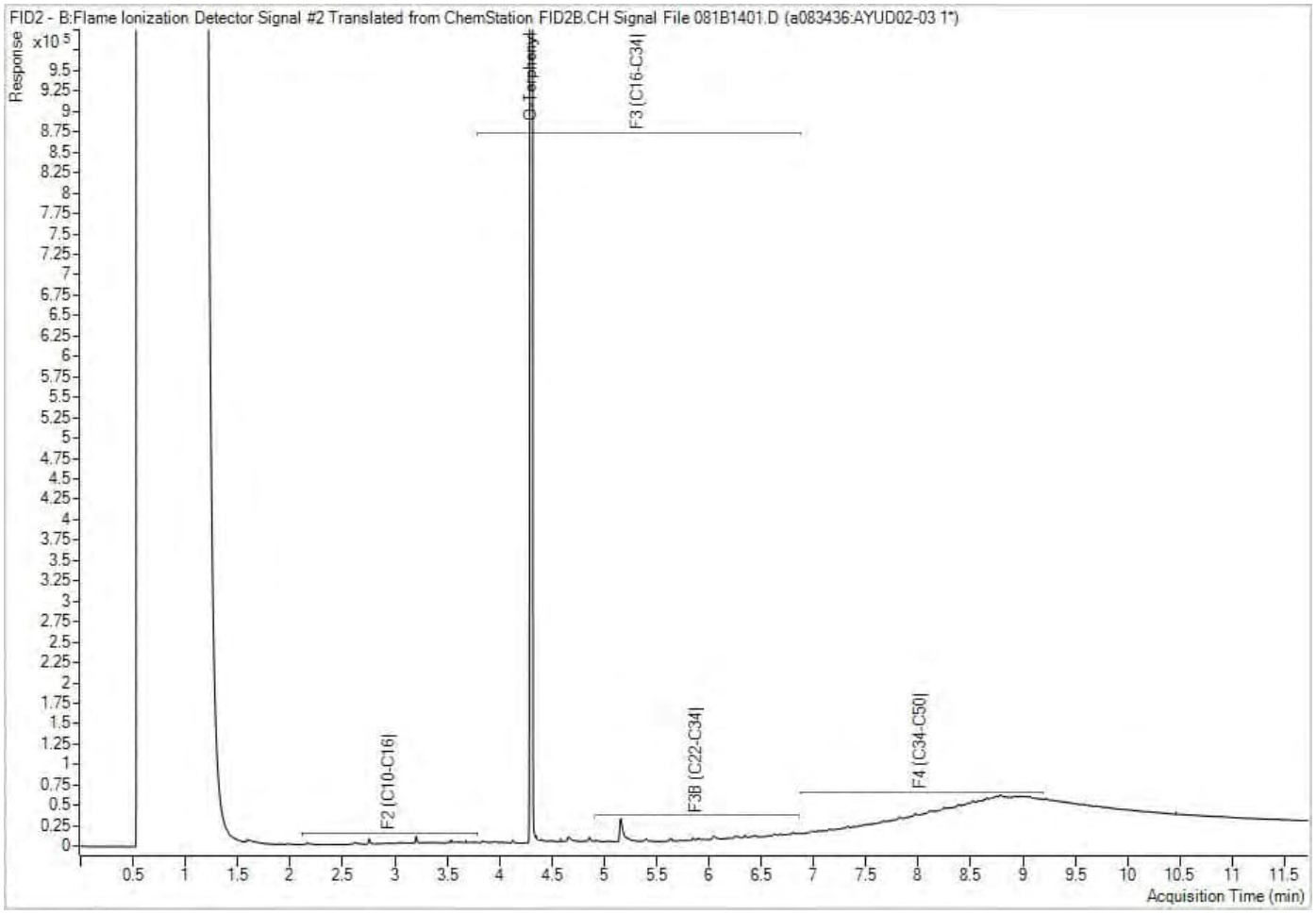
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD02

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW101-2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

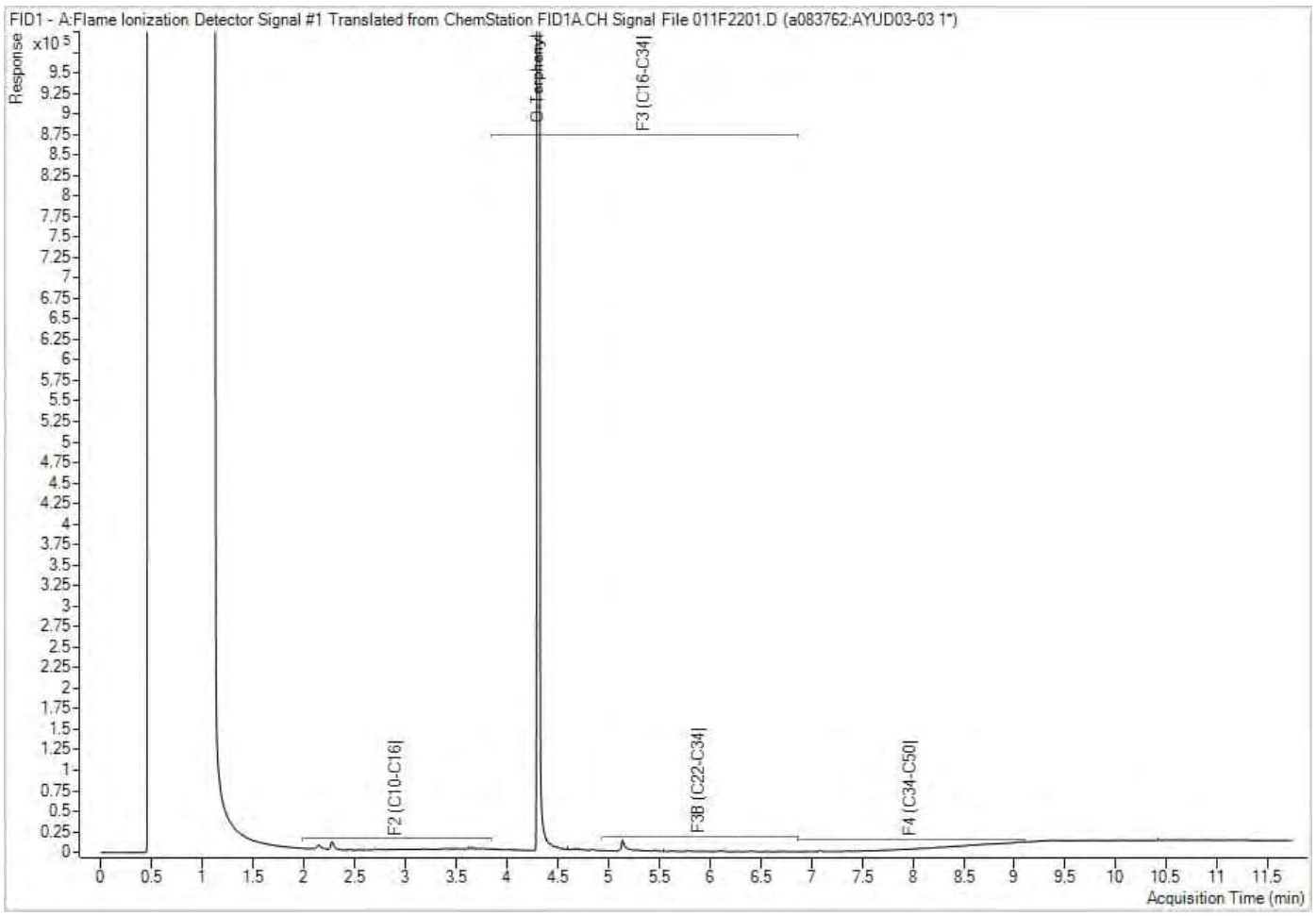


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD03

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW101-4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

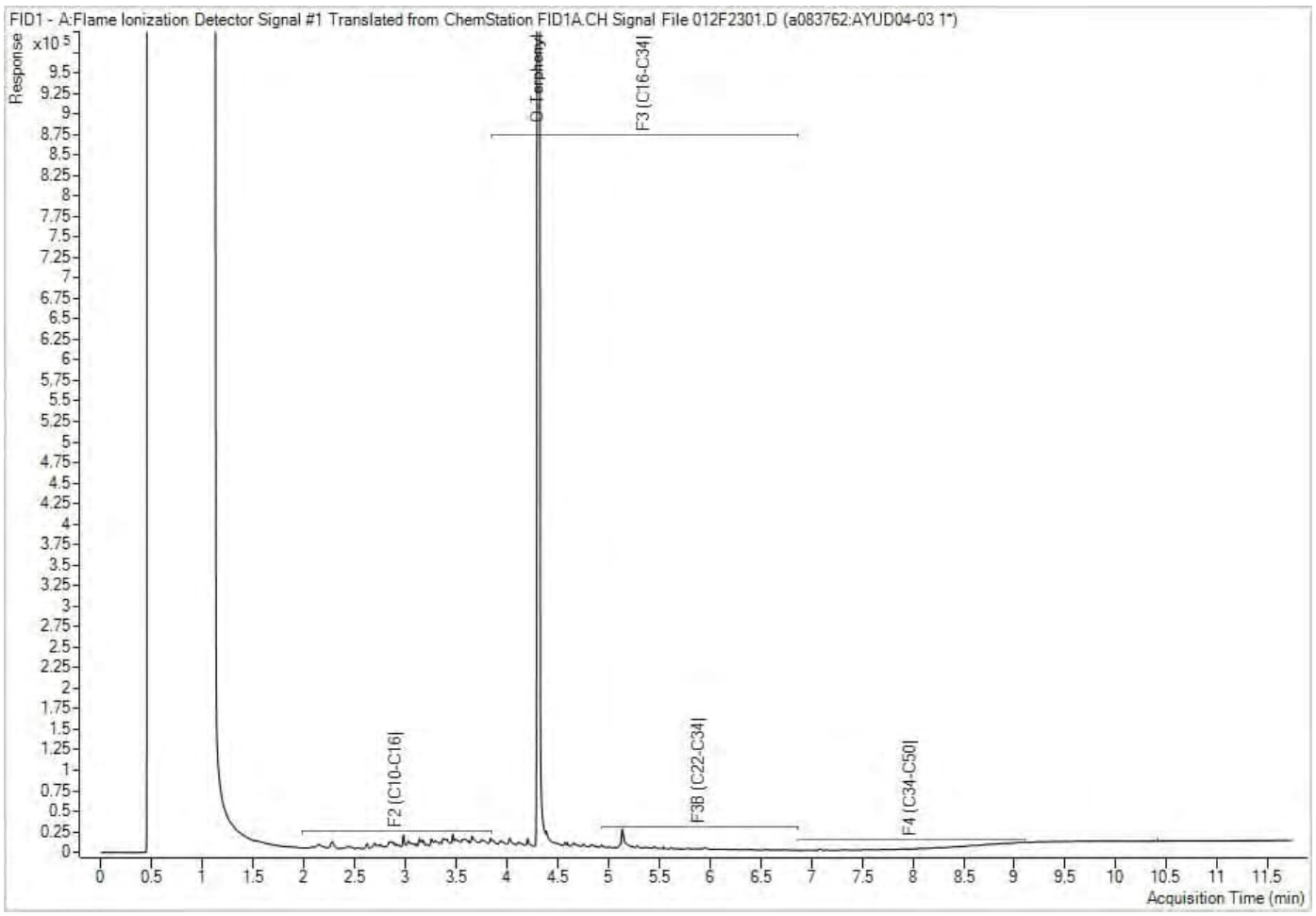


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD04

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW101-5

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

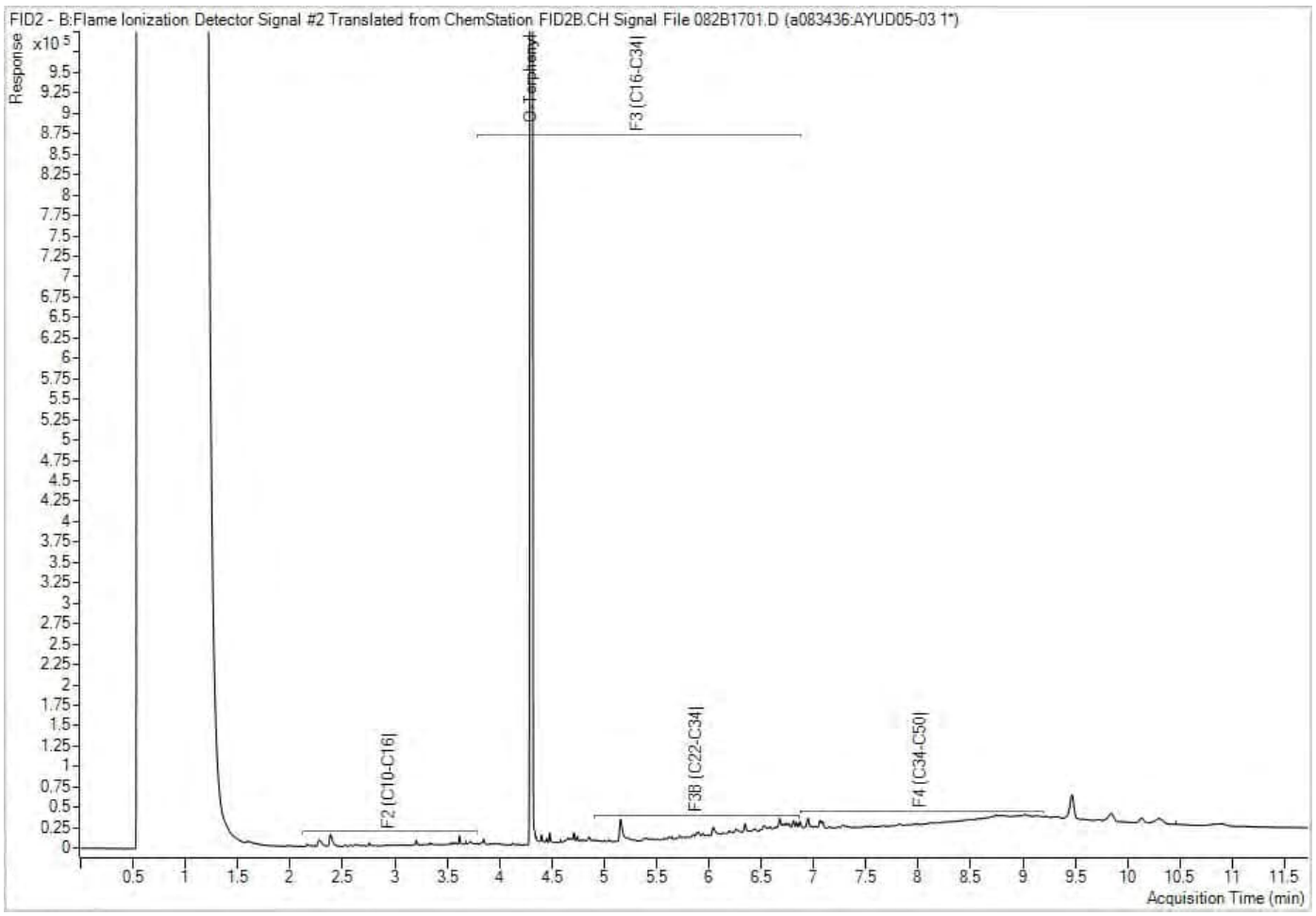


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD05

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: BH102-1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

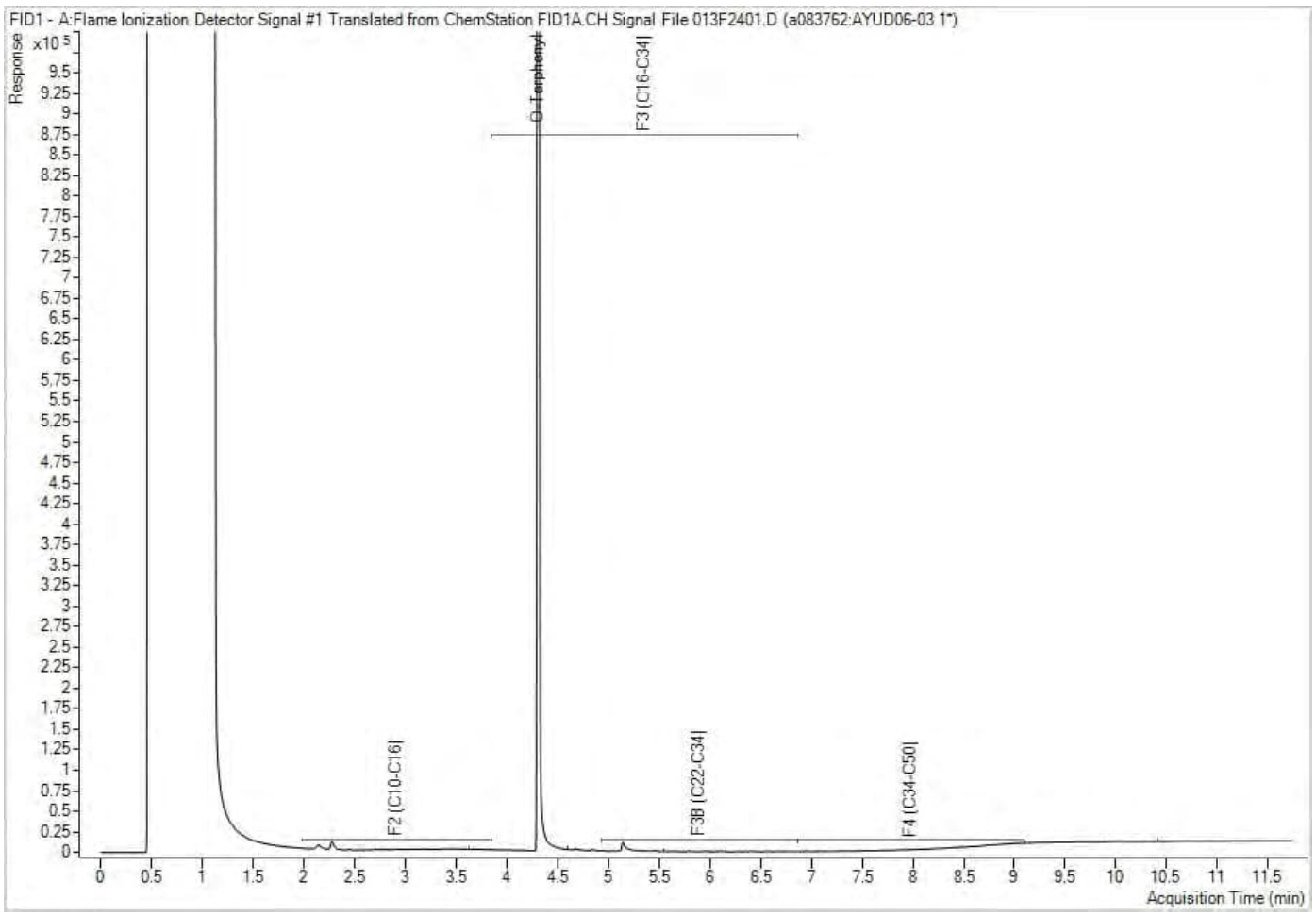


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD06

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: BH102-3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

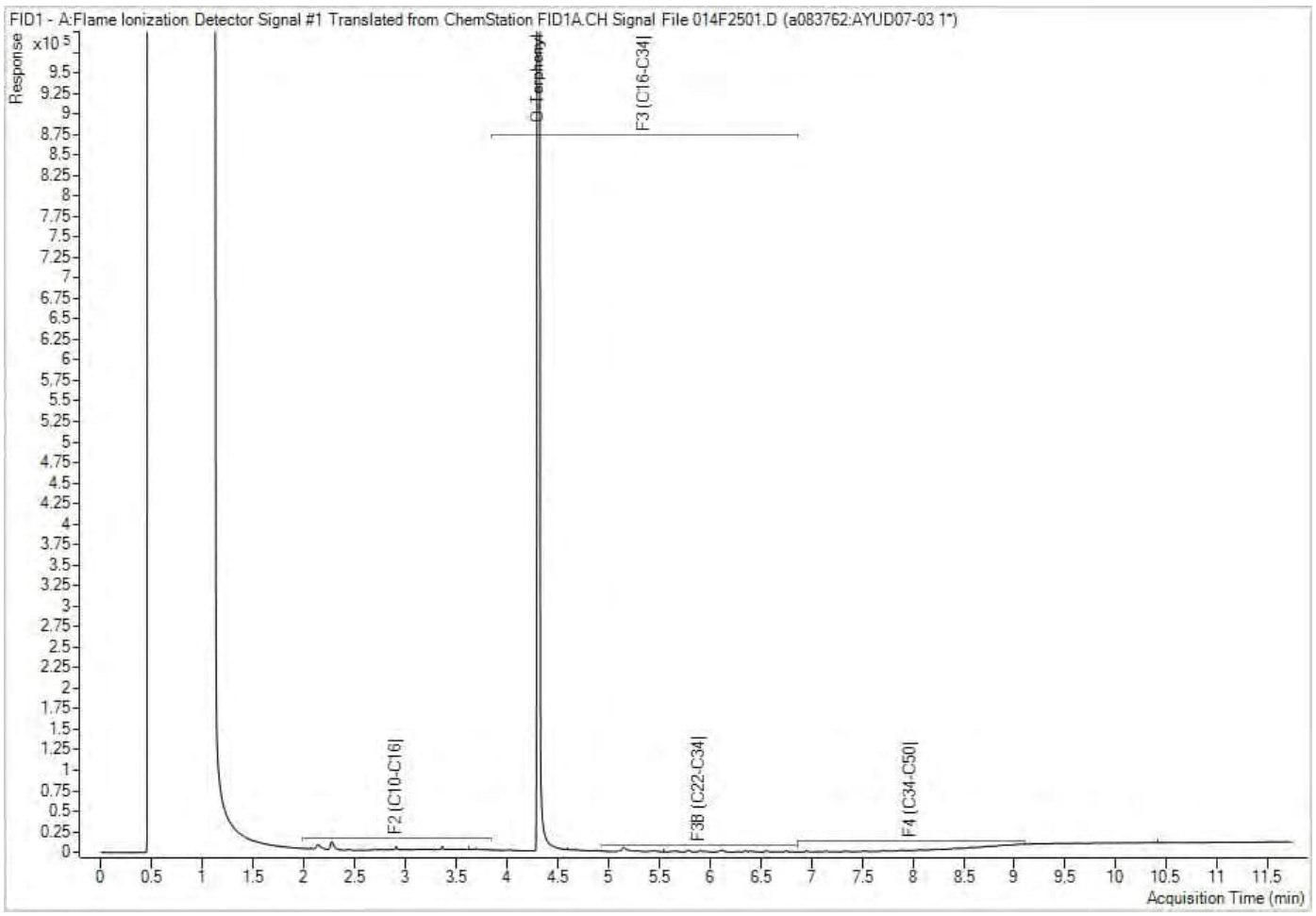


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD07

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: BH102-4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

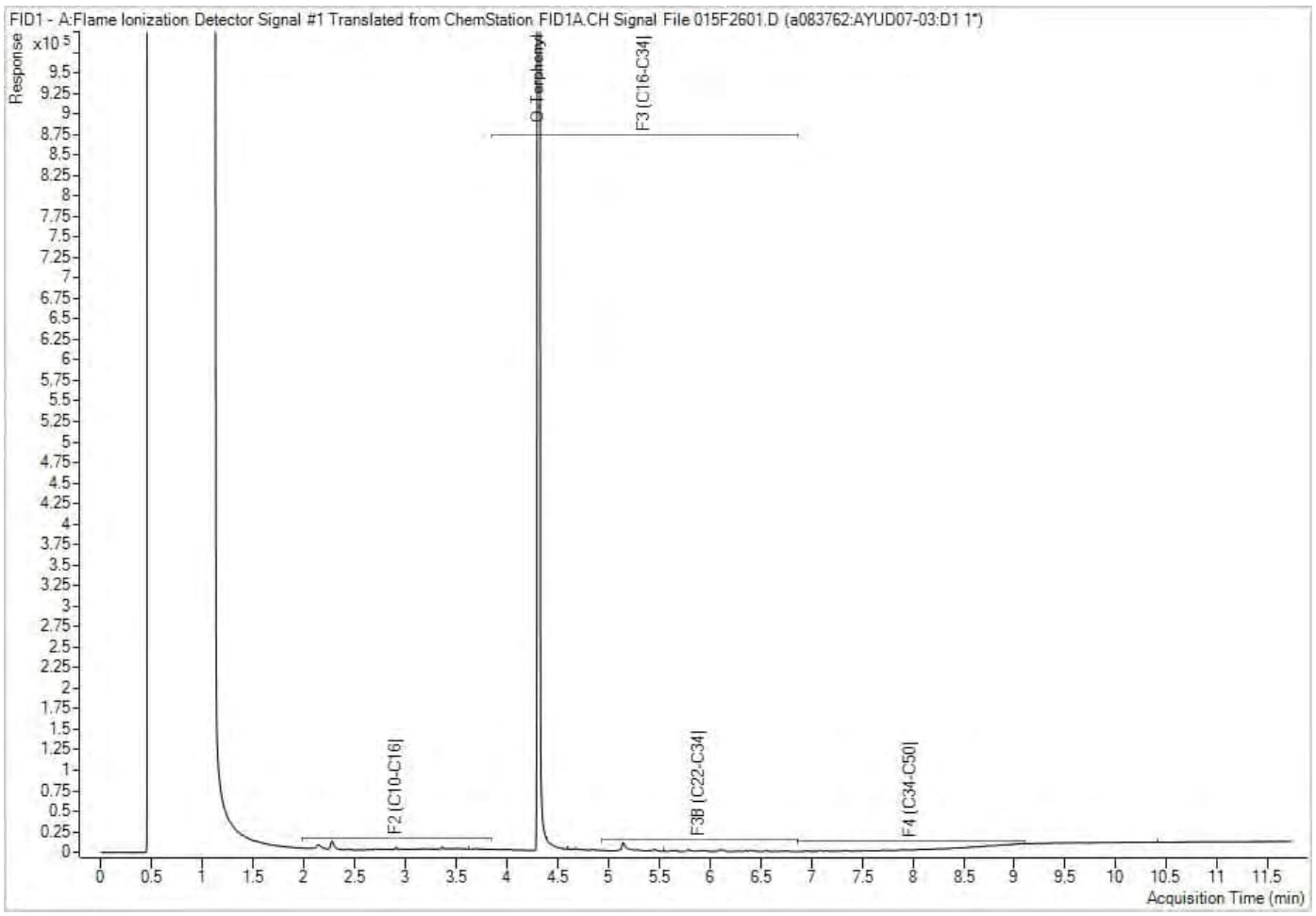


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD07 Lab-Dup

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: BH102-4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

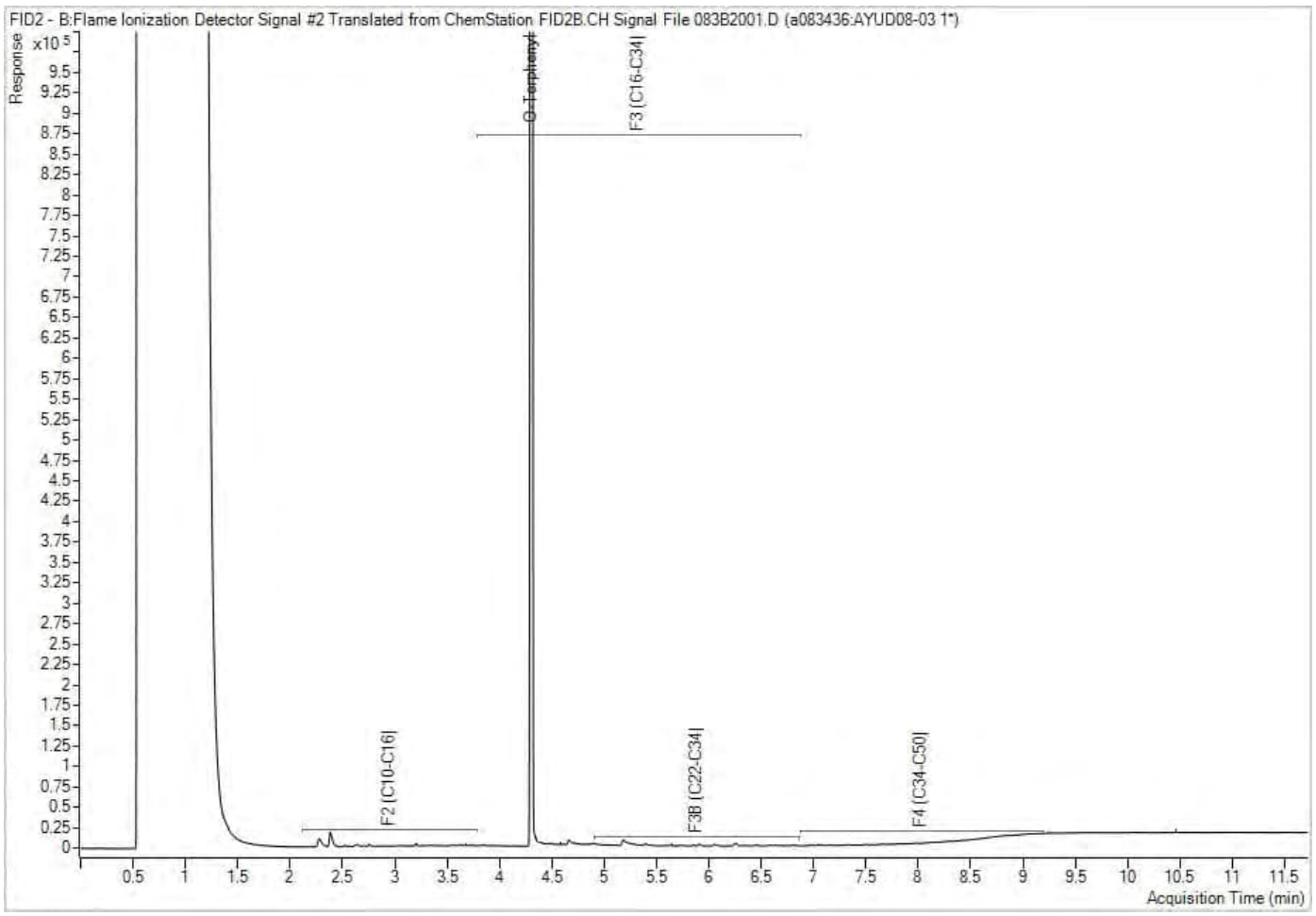


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD08

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW103-1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

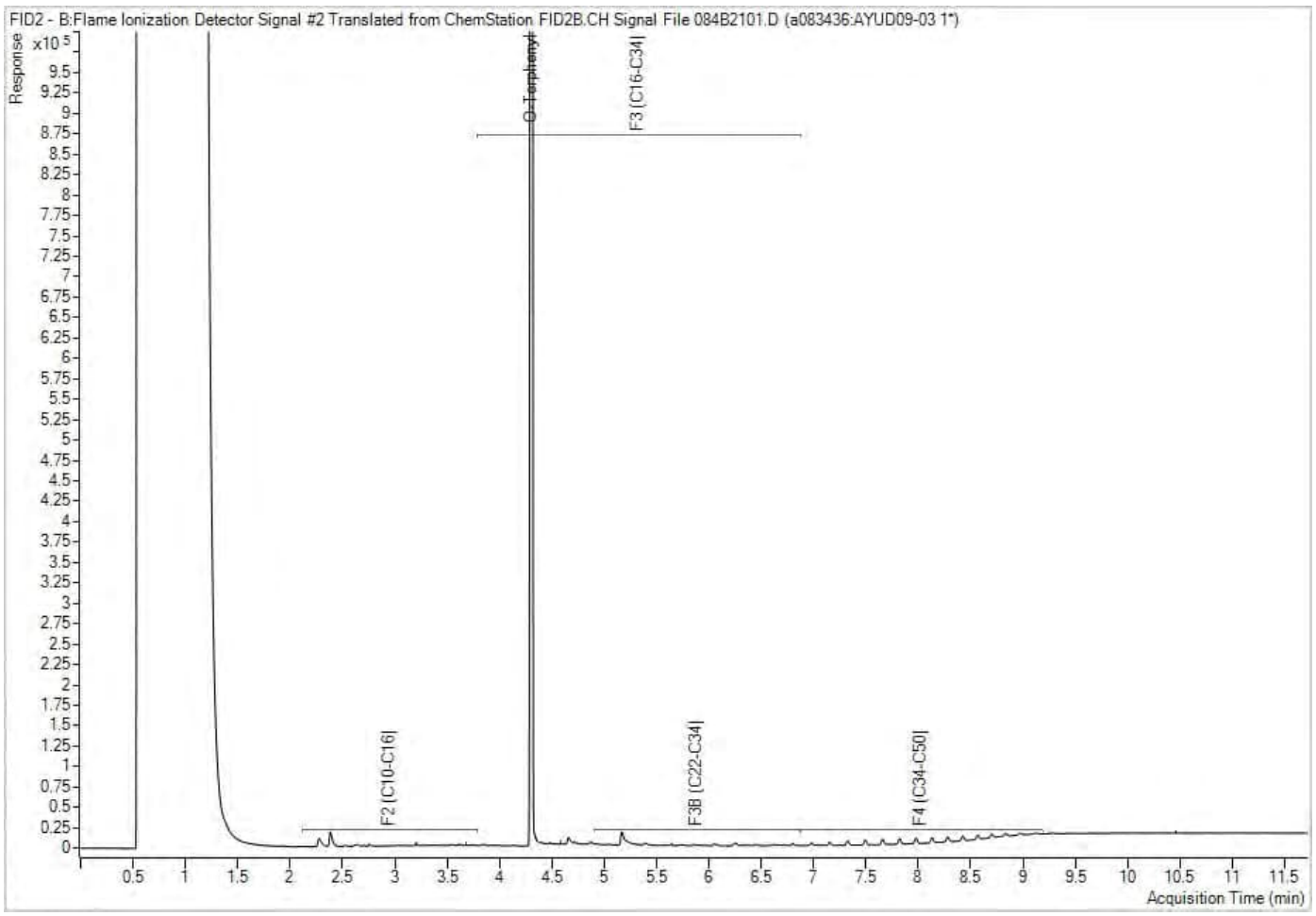


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD09

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW103-80

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

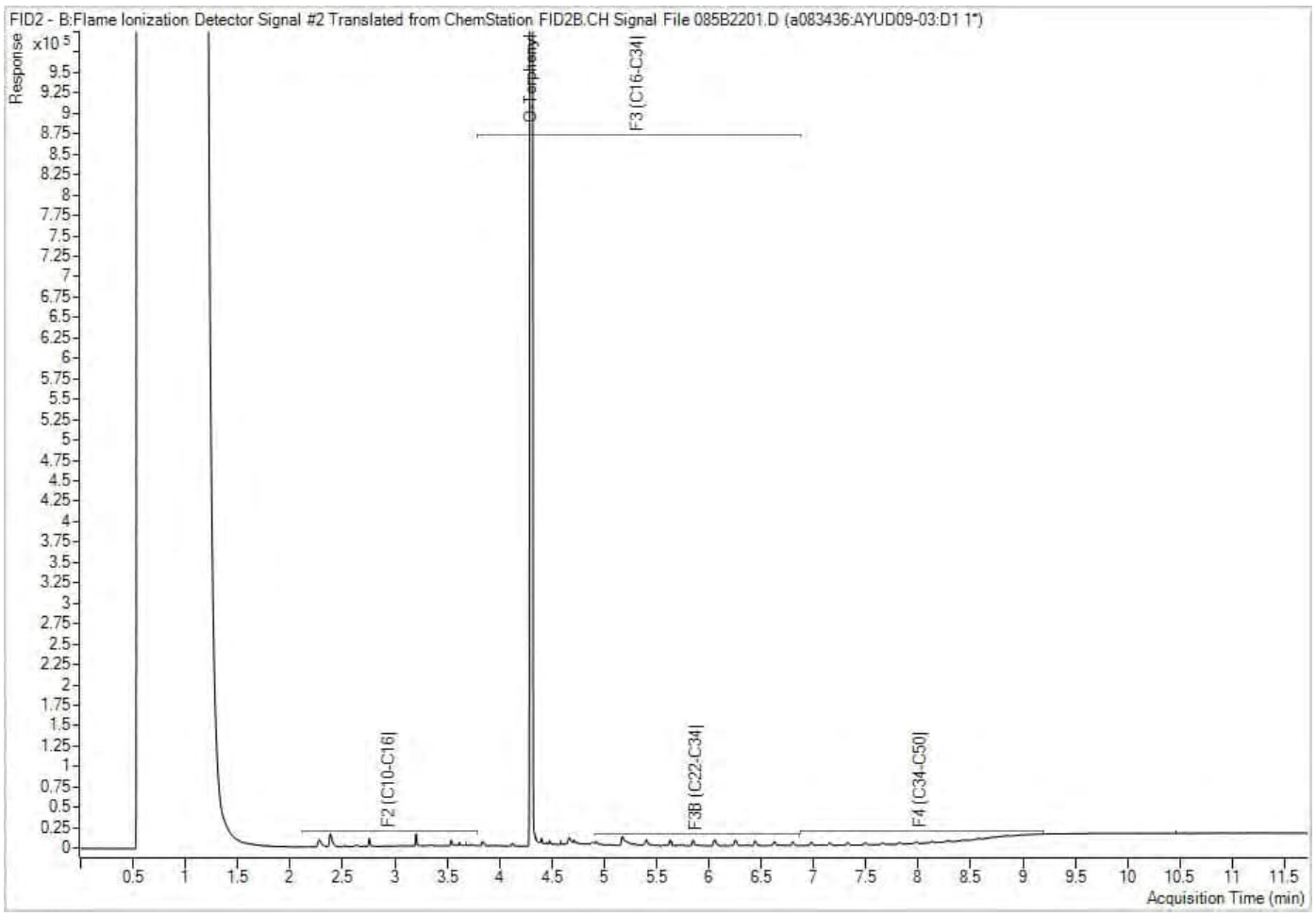


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD09 Lab-Dup

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW103-80

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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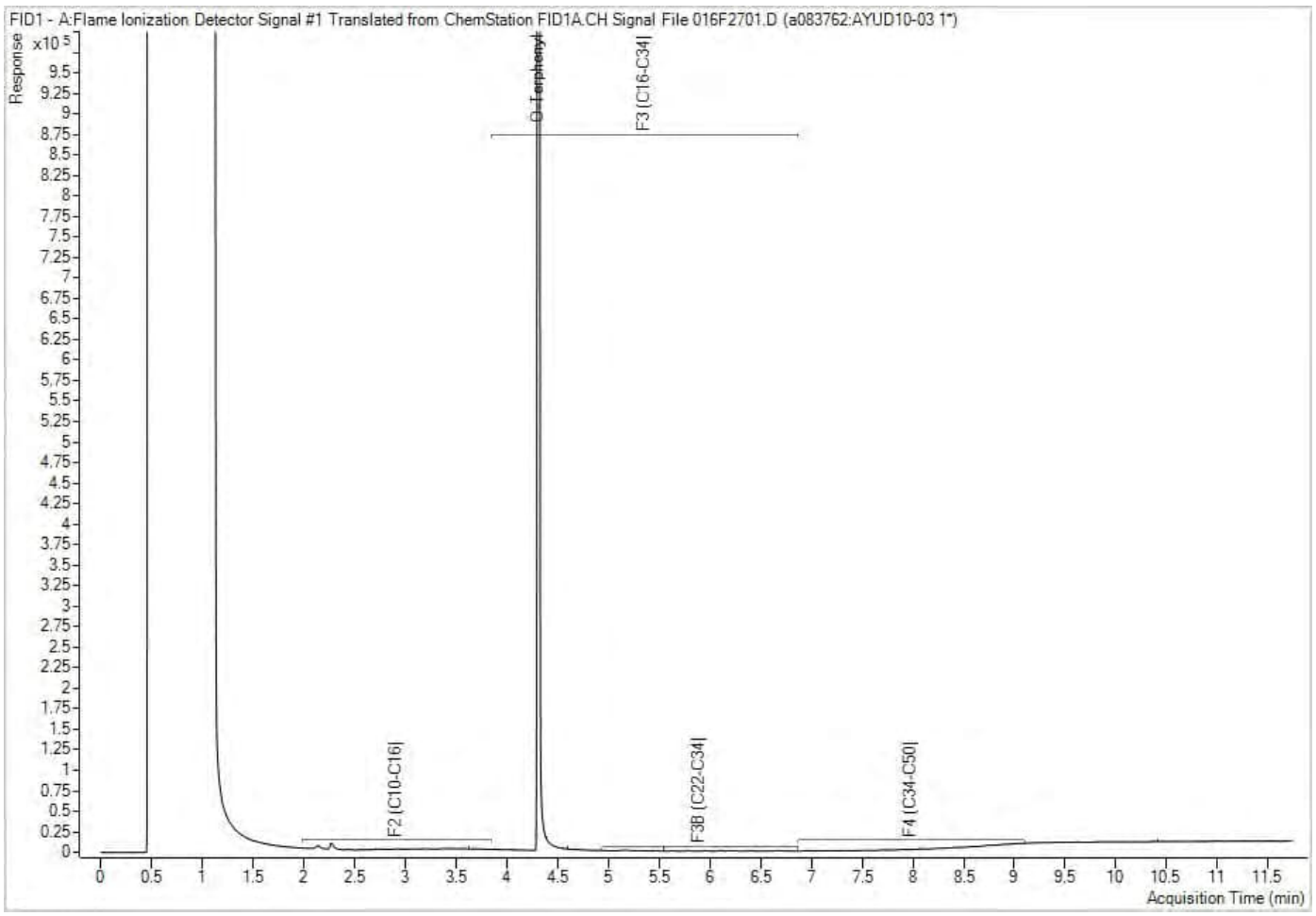
Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD10

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW103-3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

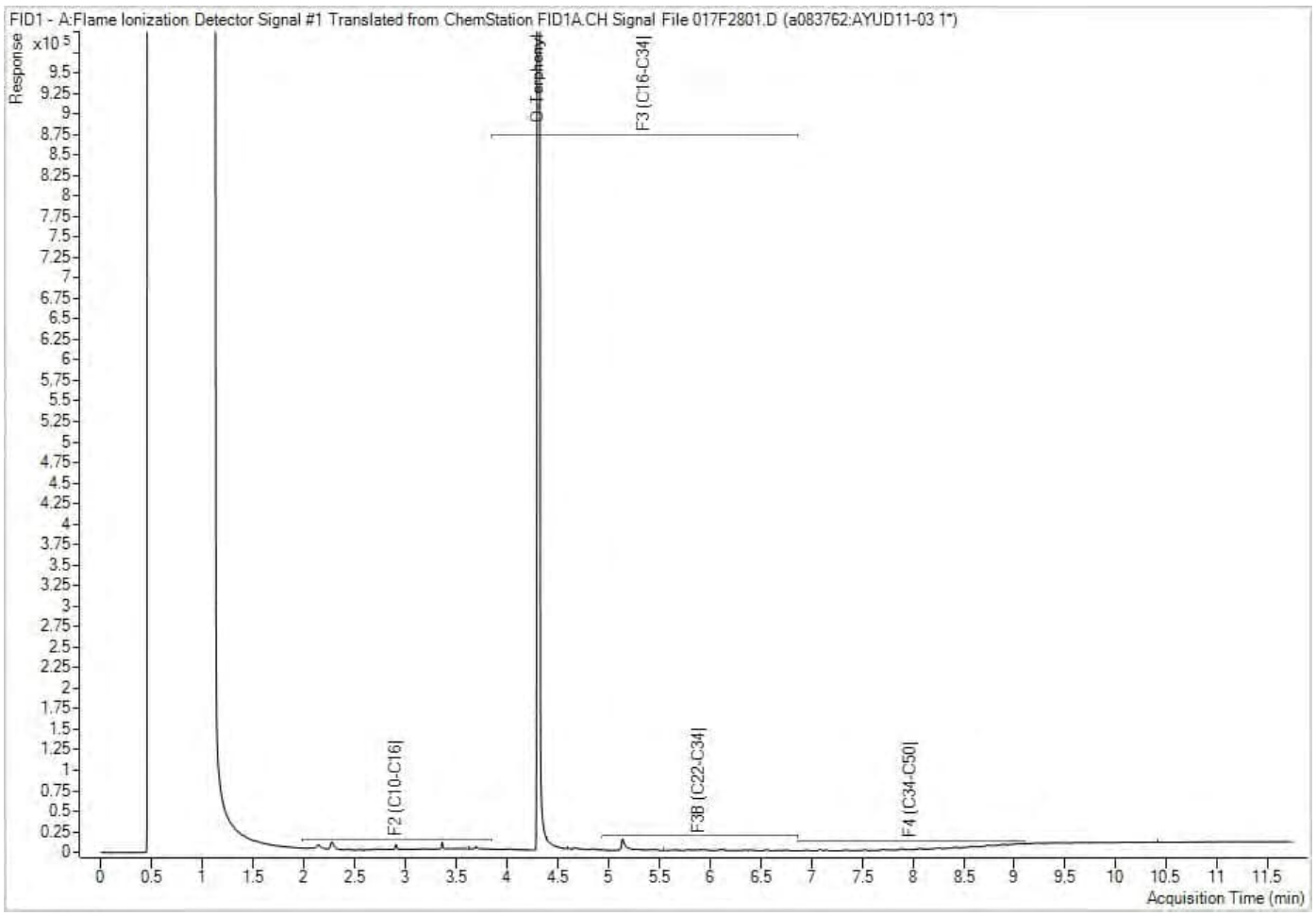


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C600255
Report Date: 2026/01/09
Bureau Veritas Sample: AYUD11

Terrapex Environmental Ltd
Client Project #: C01004.01
Project name: WHITE OWL CONROY
Client ID: MW103-4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

APPENDIX K
DRAFT DEWATERING ASSESSMENT

DEWATERING ASSESSMENT – PROPOSED EXCAVATION

3145 Conroy Road, Ottawa, ON
Ottawa, Ontario

CO1004.01

DRAFT REPORT

Prepared for:

WHITE OWL PROPERTIES LIMITED

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1.0 INTRODUCTION

Terrapex Environmental Ltd. (Terrapex) has been retained by White Owl Properties Limited (the Client) to carry out a Hydrogeological Investigation, including dewatering assessment for the proposed excavation for an extension of sanitary sewer services along Conroy Road (the Site) as part of the re-development of the property with the civic address 3145 Conroy Road, Ottawa, Ontario. The purpose of this investigation was to assess estimated dewatering quality and quantity for the proposed excavation.

The location of the Site is provided on **Figure 1**.

2.0 SITE CHARACTERIZATION

Review of online Ministry of Environment, Conservation and Parks (MECP) mapping (Source Protection Atlas, accessed February 2026) indicated that the area of interest is located over a Highly Vulnerable Aquifer with a score of 4. The Site is not located within a groundwater intake protection zone or well head protection area.

A review of the available well records shows that there are seventeen (17) reported wells within approximately 500 metres of the subject property. Of the known wells, none of the wells are reported to be purposed for water supply use, historically. The location of the wells within 500 m of the site are provided on **Figure 2**, and a summary of the MECP Well Records report is provided in **Appendix I**.

It is noted that older wells may no longer be operational, and that historically there was not a requirement to register dug wells with the MECP; as such, they can be under-represented in the water well record database.

3.0 FIELDWORK

3.1.1 GROUNDWATER MONITORING WELL CONSTRUCTION

As part of the hydrogeological investigation, three (3) boreholes were advanced using direct push drilling techniques to a depth of 5.2 metres below grade (mbg). Monitoring wells were installed at two (2) borehole locations: MW101 and MW103 and were used for the monitoring program.

The fieldwork for this project was carried out under the supervision of a licensed Professional Hydrogeologist in accordance with the provincial Professional Geoscientists Act (2002). A summary of test well construction specifications is provided in **Table 1**, below. The locations of the monitoring wells are provided in **Figure 3**.

TABLE 1: SUMMARY OF GROUNDWATER MONITORING CONDITIONS

Well ID	Date of Construction	Approximate Location[1] (UTM Zone 17T)		Approximate Ground Surface Elevation[1]	Screened Interval	Soils at Screened Interval	SPT N-Value at Screened Interval
		metres east	metres north	masl	mbg		
MW101	30-Dec-2025	451097.11	5024663.65	83.186	2.0 to 5.1	Silty clay / sandy silt	2 to 12
MW103	30-Dec-2025	451038.80	5024809.33	84.712	2.0 to 5.1	Silty clay	4 to 10

mbg = metres below ground
masl = metres above sea level
NA = not available
1 locations and elevations measured with Trimble DA2 CATALYST GNSS Receiver

Based on the information in **Table 1**, above and the appended borehole logs provided in **Appendix II**, the encountered native soils are generally comprised of soft to stiff silty clay and loose sandy silt. The native soils throughout the site are overlain by fill materials consisting of compact silty sand and gravel, and compact sandy silt. All boreholes were covered by topsoil. Bedrock was not encountered in this investigation.

3.1.2 GROUNDWATER MONITORING

Groundwater measurements were reported during three (3) site visit events, carried out from 9 January to 22 January 2026. A summary of the groundwater depths is presented in **Table 2**. The recorded water levels reflect the groundwater conditions on the dates they were measured.

Monitoring well MW101 was instrumented with a datalogger to capture static groundwater measurements for the period of 9 January to 22 January 2026 at 10-minute intervals. The datalogger recorded 1,859 readings.

TABLE 2: MEASURED GROUNDWATER LEVELS

Well ID	Top of Pipe	Ground Surface Elevation	Groundwater Measurements			
			2026			
			Jan 9	Jan 14	Jan 22	TBD
	mbg	masl	mbg (masl)	mbg (masl)	mbg (masl)	mbg (masl)
MW101	-0.109	83.186	4.30 (78.89)	**2.64** (80.55)	4.40 (**78.79**)	TBD
MW103	-0.077	84.712	Dry (-)	3.97 (**80.75**)	**4.52** (80.20)	TBD

Elevations measured by Trimble DA2 CATALYST GNSS Receiver
masl = metres above sea level
mbg = metres below ground
shaded cells indicate high/low values.
Grey values indicate that monitoring well had not recovered to static at this time.

As summarized in **Table 2**, *in-situ* measurements of the static groundwater level ranged from approximately 2.64 mbg to 4.52 mbg, water table elevations ranging from 80.75 masl to 78.79 masl.

Based on manual measurements and a datalogger installed in MW101 for the period of 9 January to 22 January 2026, the highest measured groundwater elevation was 80.87 masl on 14 January 2026. A Datalogger Hydrograph for MW101 is found in **Chart 1**.

Based on visual examination of the soil samples collected during drilling operations, the native soil was grey in appearance beginning at approximate depths of approximately 1.5 mbg, indicating that groundwater may be present for long periods of time during the year. The native grey soil consisted of silty clay and sandy silt.

It should be noted that groundwater levels are subject to seasonal fluctuations.

3.1.3 HYDRAULIC TESTING

To estimate the hydraulic conductivity (K) of the soil materials adjacent to the screened intervals at the tested monitoring wells, single well response tests were carried out at locations MW101 and MW103. Single Well Response test reports are provided in **Appendix III**.

The tests were carried out by rapidly removing a volume of water from the well (Rising Head Test) or adding a volume of water from a well (Falling Head Test) and monitoring the subsequent water level recovery to the static water level conditions. The Bouwer and Rice (1976) method was applied to test data, using the unconfined solution. The data was analyzed using the AQTESOLV™ (v. 4.50). A summary of the single well response tests carried out is presented below in **Table 3**.

TABLE 3: HYDRAULIC CONDUCTIVITY

Location Identification	Description of Soil Moisture Conditions	Soils Reported at Screened Interval	Reported Screened Interval	Reported SPT N-Value at Screened Interval	Estimated Hydraulic Conductivity
			mbg (masl)		K (m/s)
MW101	Saturated	Silty clay / sandy silt	2.0 to 5.0 (81.2 to 78.2)	2 to 12	5.837×10^{-10}
MW103	Unsaturated	Silty clay	2.0 to 5.0 (82.7 to 79.7)	4 to 10	1.716×10^{-9}

mbg– indicates 'metres below ground.
masl– indicates 'metres above sea level.

As summarized in **Table 3**, hydraulic conductivities ranged from approximately 5.837×10^{-10} m/s to 1.716×10^{-9} m/s at the locations and depths tested. These results indicate relatively impervious materials and are consistent with values expected for unweathered marine clay and glacial till (Bear, 1972; Freeze and Cherry, 1979).

4.0 HYDROCHEMICAL ANALYSES – DISCHARGE CRITERIA ASSESSMENT

Due to limited groundwater, groundwater sampling will be carried out in Spring 2026.

5.0 DEWATERING ASSESSMENT

Groundwater will move toward the construction excavation so it must be controlled to provide dry and safe working conditions. Disposal of accumulated water generated by incident precipitation will occasionally be required as well.

The dewatering calculations are limited to the excavation and information provided in design drawings, dated 21 November 2025 (Egis).

5.1.1 EXCAVATION GEOMETRY AND HYDROGEOLOGY

It is understood from design drawings provided by Egis (3145 Conroy - Sanitary Sewer Drawings, 21 November 2025) that the proposed sanitary sewer extension will be trenched in the centre median of Conroy Road in the municipal right-of-way (ROW) to an anticipated depth of 2.9 mbg over an estimated length of 230 m between the 3145 Conroy Road property and the intersection with Johnston Road to the south.

Measurements of static groundwater level ranged from approximately 2.64 mbg to 4.52 mbg, water table elevations ranging from 80.75 masl to 78.79 masl. Based on available measurements taken during the monitoring events listed in **Table 2**, the proposed excavation depth would be expected to cut into the saturated zone and dewatering should be anticipated during construction.

5.1.2 ESTIMATED CONSTRUCTION DEWATERING VOLUMES

The hydraulic conductivities derived from soils on Site were used to estimate a worst-case scenario for temporary construction dewatering rates for the proposed sewer trench excavations. Dewatering estimates were carried out with the understanding that the trenches will have a maximum depth of 2.9 mbg (Drawings C103 and C104; Egis, 21 November 2025). For the purposes of our calculations, the length and width of the proposed utility trench excavations are approximately 100.0 m by 2.0 m.

The following assumptions were made:

Assumptions for Temporary Construction Dewatering Estimates:

Excavation Footprint:	100.0 m by 2.0 m
Deepest trench depth:	2.9 mbg + 1 m = 3.9 mbg
Hydraulic conductivity:	1.716×10^{-9} m/sec
Highest reported static groundwater depth:	2.64 mbg (14 January 2026)
Estimated Drawdown:	3.90 m – 2.64 masl = 1.26 m

To estimate the steady state dewatering rate, the modified Jacob's equation was applied, as presented in Powers et. al. (2007), using the groundwater conditions summarized above. Calculations are based on anticipation of response similar to an unconfined hydraulic aquifer. The

results of calculations for groundwater seepage for temporary construction dewatering are summarized on **Table 4**, below. Details of the calculations made as part of the estimates are provided in **Appendix III**.

TABLE 4: SUMMARY OF ESTIMATED CONSTRUCTION DEWATERING VOLUMES FOR CONCEPT DEVELOPMENT

		(A)	(B)	(C)	(D)	
Dewatering Concept [2]	Dimensions	Estimated Dewatering Volume	Incident PPTN [1]	Total Dewatering Volume	Design Dewatering Volume [3] (A x FOS) + B	Zone of Influence (ZOI)
	(L x W x drawdown)	(L/day)	(L/day)	(L/day)	(L/day)	(m radius)
Excavation footprint	100.0 m x 2.0 m x 1.26 m	6,385	5,000	11,385	17,769	0.2

1 Based on a precipitation event of 25 mm
2 Based on provided drawings (Accardi Engineering Group Ltd, 23 April 2025).
3 Used to determine if EASR is required. FOS = 2x

5.1.3 TOTAL DEWATERING RATE

Temporary construction dewatering calculations, based on the assumption and analyses above, are provided in **Appendix II**. **Table 4** summarizes the anticipated steady state dewatering rate estimates. It is noted that dewatering operations will need to draw the groundwater to at least one meter below the excavation floor (CFEM, 2006). It is noted that higher dewatering rates may be required initially for short periods of time to remove the volume of groundwater stored within the adjacent pore space and suppress the groundwater level to 3.90 mbg.

As summarized in **Table 4**, based on the conditions encountered during the hydrogeological field investigations, the excavation is anticipated to required temporary construction dewatering (inclusive of incident rainfall and a Factor of Safety of 2.0) equivalent to approximately 17,769 L/day.

5.1.4 ZONE OF INFLUENCE

The radius of influence is the distance range beyond which the drawdown on groundwater caused by dewatering is not expected to be detectable. The dewatering zone of influence was estimated for the excavation area using the groundwater elevations and hydraulic conductivities provided above and using the empirical Sichart and Kyrieleis relationship described in Powers (2007).

Based on the hydraulic conductivity and proposed excavation dimensions with consideration for a 100-metre sewer trench excavation, the dewatering operations are estimated to have a Zone of Influence (ZOI) equivalent to a 0.2-metre radius from the dewatering locations. The estimated ZOI is provided in **Table 4**, above, and as part of the analyses provided in **Appendix III**.

5.1.5 INCIDENT PRECIPITATION

In addition to groundwater inflows, the total dewatering rate needs to consider the removal of incident precipitation that must be handled with the groundwater. Obstructions, berms and/or grading should be used to direct overland drainage away from the excavations to the extent possible.

A 25 mm precipitation event was used for the estimates provided in **Table 4**, above.

5.1.6 PERMITTING

As of 1 July 2025, volumetric restrictions for construction dewatering activities have been removed by the Ontario Ministry of Environment, Conservation and Parks (MECP) and only require a self-registration process under the online Environmental Activity and Sector Registry (EASR) regardless of the volume of water taking. Additionally, foundation drainage systems used primarily for residential purposes will be exempt from requiring approval or self-registration for takings of up to 379,000 L/day. A Category 3 Permit to Take Water (PTTW) is still required where permanent dewatering volumes exceed 379,000 L/day.

Based on the estimated volumes in **Table 4**, the temporary construction dewatering rate **is anticipated to be less than 50,000 L/day**, and therefore no MECP permitting is anticipated during construction for the concept excavation dimensions.

A Private Water Discharge Agreement is required for discharge of construction dewatering to City sewers. The City will have to review the dewatering discharge and issue the applicable permit(s).

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following summarizes the information above, obtained during the review of the Site:

- **The subsurface stratigraphy** is generally comprised of soft to stiff silty clay and loose sandy silt. The native soils throughout the site are overlain by fill materials consisting of compact silty sand and gravel, and compact sandy silt. All boreholes were covered by topsoil. Bedrock was not encountered in this investigation.
- *In-situ* measurements of **the static groundwater** level ranged from approximately 2.64 mbg to 4.52 mbg, water table elevations ranging from 80.75 masl to 78.79 masl.
- **Hydraulic conductivities** ranged from approximately 5.837 x 10^{-10} m/s to 1.716 x 10^{-9} m/s in the locations tested.
- **The temporary construction dewatering volume** was estimated to be **17,769 L/day** (inclusive of incident rainfall and with a Factor of Safety of 2.0 for groundwater contributions).

  Based on these volumes, the temporary construction dewatering rate is **less than 50,000 L/day**, and therefore no MECP permitting is anticipated during construction for the concept excavation dimensions.

  A Private Water Discharge Agreement is required for discharge of construction dewatering to City sewers.

7.0 CLOSURE

This report has been completed in accordance with the terms of reference for this project as agreed upon by White Owl Properties Limited (the Client) and Terrapex Environmental Ltd. (Terrapex) and generally accepted hydrogeological consulting practices in this area.

The reported information is believed to provide a reasonable representation of the general hydrogeological conditions at the site; however, studies of this nature have inherent limitations. The data were collected at specific locations and conditions may vary at other locations, or with the passage of time. Where applicable, the assessment of the environmental quality of groundwater was limited to a study of those chemical parameters specifically addressed in this report.

Terrapex has relied in good faith on information and representations obtained from the Client and third parties and, except where specifically identified, has made no attempt to verify such information. Terrapex accepts no responsibility for any deficiency or inaccuracy in this report as a result of any misstatement, omission, misrepresentation, or fraudulent act of those providing information. Terrapex shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time of the study.

This report has been prepared for the sole use of White Owl Properties Limited. Terrapex accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than White Owl Properties Limited.

Respectfully submitted,

TERRAPEX ENVIRONMENTAL LTD.

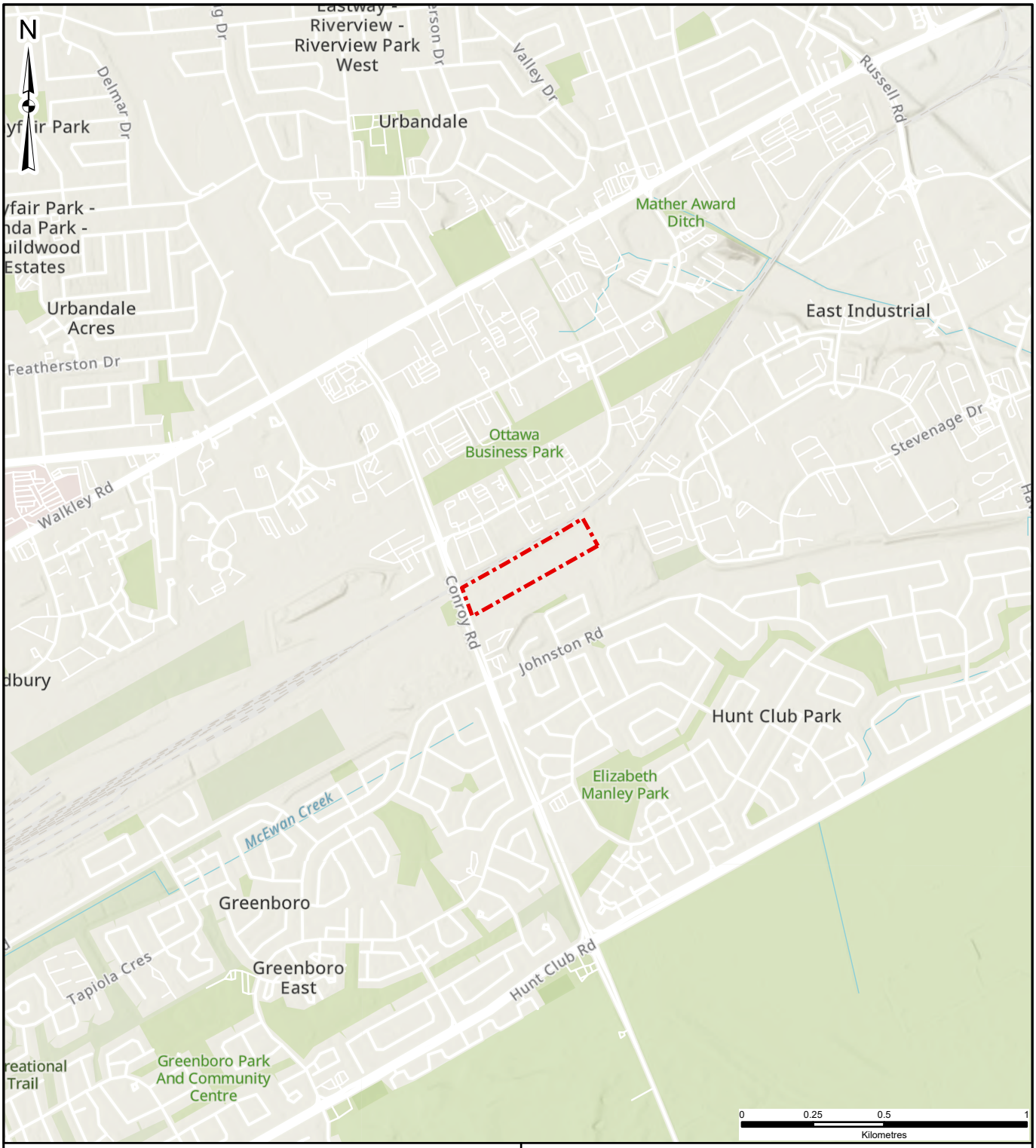
Draft

Andrew Durbano, M.Sc., P.Geo.
Hydrogeologist

Draft

Zen Keizars, P.Geo., FGC.
Manager – Hydrogeological Service Line

FIGURES & CHART



LEGEND

SITE BOUNDARY

DATA SOURCE: ESRI
MAP PROJECTION: NAD 1983 UTM Zone 18N

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION: 3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE: **SITE LOCATION**

DRAWN BY: JS	PROJECT NO.: CO1004.01	CHECKED BY: KWB
REVISION: 00	DATE: JANUARY 2026	**FIGURE: 1**

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LEGEND

- SITE BOUNDARY
- 500m RADIUS FROM SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY

MECP WATER WELL RECORDS LOCATIONS

- OBSERVATION/MONITORING WELL AND/OR TEST HOLE (INCLUDING ABANDONED, OTHER OR UNKNOWN)

0 50 100 150 200
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

TERRAPEX

TITLE:
WATER WELL RECORDS - 500 m

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF/SW	CO1004.01	AD
REVISION:	DATE:	FIGURE:
00	FEBRUARY 2026	**2**

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LEGEND

- SITE BOUNDARY
- CANADIAN NATIONAL RAILWAY
- PROPOSED SANITARY SEWER ALIGNMENT
- BOREHOLE
- MONITORING WELL

0 20 40 60 80 100
Metres

DATA SOURCE: CITY OF OTTAWA
MAP PROJECTION: NAD 1983 UTM ZONE 18N

CLIENT:
WHITE OWL FAMILY PROPERTIES LIMITED

SITE LOCATION:
3145 CONROY ROAD
OTTAWA, ONTARIO

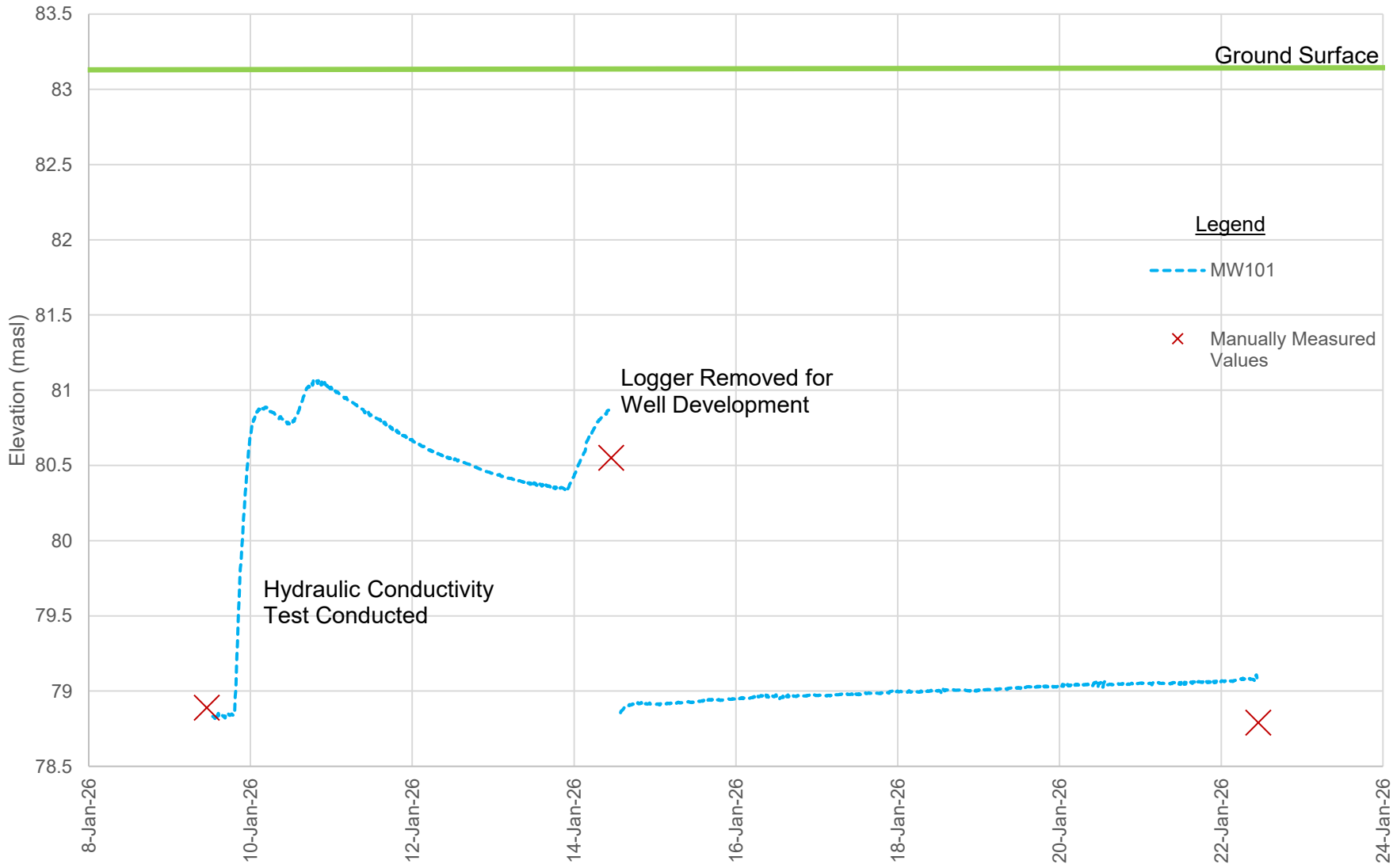
TERRAPEX

TITLE:
GENERAL SITE LAYOUT

DRAWN BY:	PROJECT NO.:	CHECKED BY:
JS/SF	CO1004.01	AD
REVISION: 00	DATE: JANUARY 2026	FIGURE: **3**

SFinlay \C:\Users\s.finlay\OneDrive - Terrapex Environmental Ltd\PROJECTS\Ottawa\CO1000\CO1004.01 3145 Conroy Rd, Ottawa\GIS\CO1004.01.aprx

Chart 1: Datalogger Hydrograph of MW101: 9 January to 22 January 2026
3145 Conroy Road
Ottawa, Ontario



APPENDIX I
MECP WELL RECORD REPORT

MECP Water Well Records

Well Record #

1535222 Lot 002 Conc 05 GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2004-11-18 DD/MM/YYYY

Elev / (masl) Easting 451447 Northing 5025182

Test Hole **UTM RC** 3 **margin of error : 10 - 30 m**

Water Found 3.0 (mbgs) (masl) FRESH

Casing Diameter 50 mm **Casing Material:**

Top of Screen 2.0 (mbgs) Bottom of Screen 5.0 (mbgs)

Screen Interval 3.0 (m) **Contractor** GEORGE DOWNING ESTATE DRI

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.7		BROWN	CLAY / SAND / FILL /
5.0		GREY	CLAY / / SOFT

7049870 Lot 002 Conc 04 OTTAWA CITY / OTTAWA-CARLETON

Date 2007-09-17 DD/MM/YYYY

Elev / (masl) Easting 450876 Northing 5025031

Test Hole **UTM RC** 3 **margin of error : 10 - 30 m**

Water Found (mbgs) (masl) FRESH

Casing Diameter 5 cm **Casing Material:** STEEL

Top of Screen 1.6 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 4.5 (m) **Contractor**

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
1.0		BROWN	FINE SAND / SILT / GRAVEL
6.1		GREY	CLAY / SILT / SOFT

7119472 Lot Conc OTTAWA CITY / OTTAWA-CARLETON

Date 2009-02-05 DD/MM/YYYY

Elev / (masl) Easting 451394 Northing 5025363

Test Hole / Monitoring and Te **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 4.3 (mbgs) Bottom of Screen 7.3 (mbgs)

Screen Interval 3.1 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.6		BROWN	FILL / SAND / LOOSE
		BROWN	FILL / SAND / LOOSE
		BROWN	FILL / SAND / LOOSE
		BROWN	FILL / SAND / LOOSE
		BROWN	FILL / SAND / LOOSE
		BROWN	FILL / SAND / LOOSE
3.1		BROWN	CLAY / SILT / SOFT
		BROWN	CLAY / SILT / SOFT
		BROWN	CLAY / SILT / SOFT
		BROWN	CLAY / SILT / SOFT
		BROWN	CLAY / SILT / SOFT
		BROWN	CLAY / SILT / SOFT
7.3		GREY	CLAY / SILT / WATER-BEARING
		GREY	CLAY / SILT / WATER-BEARING
		GREY	CLAY / SILT / WATER-BEARING
		GREY	CLAY / SILT / WATER-BEARING
		GREY	CLAY / SILT / WATER-BEARING
		GREY	CLAY / SILT / WATER-BEARING

Record Count 3

Well Record #

7152103 Lot 002 Conc 04 GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2010-08-05 DD/MM/YYYY

Elev (masl) Easting 450876 Northing 5025031 / **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter **Casing Material:**

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor**

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7184995 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2012-06-27 DD/MM/YYYY

Elev (masl) Easting 451524 Northing 5025478 / Monitoring and Te Observation Wells **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 4 cm **Casing Material:** PLASTIC

Top of Screen 2.4 (mbgs) Bottom of Screen 5.5 (mbgs)

Screen Interval 3.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.3		BLACK	OTHER / GRAVEL / LOOSE
0.9		BROWN	FILL / SAND / STONES
5.5		GREY	SHALE / SOFT / FRACTURED

7267737 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2016-06-27 DD/MM/YYYY

Elev (masl) Easting 451795 Northing 5025135 / **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter **Casing Material:**

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor** GEORGE DOWNING ESTATE DRI

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7267747 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2015-07-08 DD/MM/YYYY

Elev (masl) Easting 451793 Northing 5025163 / Not Used Abandoned-Other **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter **Casing Material:**

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor** GEORGE DOWNING ESTATE DRI

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7280060 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2016-12-20 DD/MM/YYYY

Elev (masl) Easting 451389 Northing 5025384 / Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 2 cm **Casing Material:** PLASTIC

Top of Screen 10.0 (mbgs) Bottom of Screen 20.0 (mbgs)

Screen Interval 10.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.0		BROWN	FILL / GRAVEL / LOOSE

Record Count 8

Well Record #

			10.0	BROWN	CLAY /	SILT	/ SOFT
			20.0	GREY	CLAY /	SILT	/ SOFT

7280061 Lot Conc OTTAWA CITY / OTTAWA-CARLETON

Date 2016-12-20 DD/MM/YYYY

Elev (masl) Easting 451420 Northing 5025372

/ Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 2 cm **Casing Material:** PLASTIC

Top of Screen 10.0 (mbgs) Bottom of Screen 20.0 (mbgs)

Screen Interval 10.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions		
0.0					
3.0		BROWN	FILL /	GRAVEL	/ LOOSE
10.0		BROWN	CLAY /	SILT	/ SOFT
20.0		GREY	CLAY /	SILT	/ SOFT

7280063 Lot Conc OTTAWA CITY / OTTAWA-CARLETON

Date 2016-12-20 DD/MM/YYYY

Elev (masl) Easting 451378 Northing 5025412

/ Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 2 cm **Casing Material:** PLASTIC

Top of Screen 10.0 (mbgs) Bottom of Screen 20.0 (mbgs)

Screen Interval 10.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions		
0.0					
3.0		BROWN	FILL /	GRAVEL	/ LOOSE
10.0		BROWN	CLAY /	SILT	/ SOFT
20.0		GREY	CLAY /	SILT	/ SOFT

7280106 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2016-11-18 DD/MM/YYYY

Elev (masl) Easting 451279 Northing 5024866

/ Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 6.1 (mbgs) Bottom of Screen 9.1 (mbgs)

Screen Interval 3.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions		
0.0					
3.7		BROWN	FILL /		/
6.1		BROWN	CLAY /	SILT	/ SANDY
9.1		GREY	SILT /	CLAY	/

7280107 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2016-11-18 DD/MM/YYYY

Elev (masl) Easting 451402 Northing 5024936

/ Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 3.1 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions		
0.0					
			/		/
0.6		BROWN	SAND /		/ SOFT
3.1		BROWN	CLAY /	SILT	/ SOFT
6.1		GREY	SILT /	CLAY	/ SOFT

Record Count 12

Well Record #

7280108 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2016-11-18 DD/MM/YYYY

Elev (masl) Easting 451311 Northing 5024978

/ Monitoring and Te Monitoring and Test Hole **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 3.1 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BROWN	SAND / / SOFT
3.1		BROWN	CLAY / SILT / SOFT
6.1		GREY	SILT / CLAY / SOFT

7311680 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2018-03-27 DD/MM/YYYY

Elev (masl) Easting 451581 Northing 5025183

/ Monitoring Observation Wells **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor** GEORGE DOWNING ESTATE DRI

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.1		BLACK	FILL / /
6.7			CLAY / /

7314631 Lot Conc OTTAWA CITY / OTTAWA-CARLETON

Date DD/MM/YYYY

Elev (masl) Easting 451786 Northing 5025176

/ **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter **Casing Material:**

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor** GEORGE DOWNING ESTATE DRI

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7348149 Lot Conc GLOUCESTER TOWNSHIP / OTTAWA-CARLETON

Date 2019-10-01 DD/MM/YYYY

Elev (masl) Easting 450726 Northing 5024805

/ Monitoring Abandoned-Other **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter 2 Inch **Casing Material:** PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 4.6 (mbgs)

Screen Interval 1.5 (m) **Contractor** 1793746 ONTARIO INC O/A STRA

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7465859 Lot Conc OTTAWA CITY / OTTAWA-CARLETON

Date 2023-10-31 DD/MM/YYYY

Elev (masl) Easting 451163 Northing 5024721

/ **UTM RC** 4 **margin of error : 30 m - 100 m**

Water Found (mbgs) (masl)

Casing Diameter **Casing Material:**

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) **Contractor** OGS INCORPORATED

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

Record Count 17

Well Record #

/ /

Record Count 17

APPENDIX II
BOREHOLE REPORT RECORDS

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: MW101**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024663.66	EASTING (m): 451097.00 ELEV. (m) 83.19
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10 SAND TYPE: #2 SEALANT TYPE: BENTONITE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm)	0	83	19	12.5	1		85	<5			
		FILL compact, moist, dark brown gravel some clay, sand, organics	0.5	82.5									
		FILL compact, moist, dark brown sandy silt some gravel, clay	1		21	10.4	2		85	<5			
			1.5	82									
		stiff, moist, grey SILTY CLAY trace sand	2	81.5	11	32.1	3		70	<5			
		--- soft	2.5	81									
				80.5	2	49.3	4		100	<5			GW Ele. 80.55 masl
		--- stiff --- wet	3	80									
			3.5		12	16.7	5		40	<5			
			4	79.5									
				79									
		loose, grey SANDY SILT (TILL) trace gravel	4.5	78.5	10	9.4	6		-	<5			
			5										
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: BH102**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024720.15	EASTING (m): 451073.04 ELEV. (m) 82.73
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): -	SCREEN SLOT #: - SAND TYPE: - SEALANT TYPE: -

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm)	0	82.5	15	13.1	1		75	<5			
		FILL compact, moist, dark brown silty sand and gravel	0.5										
		FILL compact, moist, grey/brown sandy silt trace gravel, clay	1	82	18	24.2	2		70	<5			
			1.5	81.5									
		stiff, moist, grey SILTY CLAY trace sand	2	81	8	31.7	3		75	<5			
		--- firm	2.5	80.5		50.3							
			3	80	6		4		100	<5			
		--- soft	3.5	79.5	3	39.6	5		100	<5			
			4	79									
		--- wet	4.5	78.5									
		--- firm --- (TILL)	5	78	4	28.8	6		100	<5			
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: -
REVIEWED BY: HM	PAGE 1 OF 1

CLIENT: WHITE OWL FAMILTY PROPERTIES LIMITED	PROJECT NO.: CO1004.01	**RECORD OF: MW103**
ADDRESS: 3145 CONROY ROAD	STATION:	
CITY/PROVINCE: OTTAWA, ONTARIO	NORTHING (m): 5024809.46	EASTING (m): 451038.81 ELEV. (m) 84.71
CONTRACTOR: STRATA DRILLING GROUP	METHOD: DT 45	
BOREHOLE DIAMETER (cm): 12.7	WELL DIAMETER (cm): 5.08	SCREEN SLOT #: 10 SAND TYPE: #2 SEALANT TYPE: BENTONITE

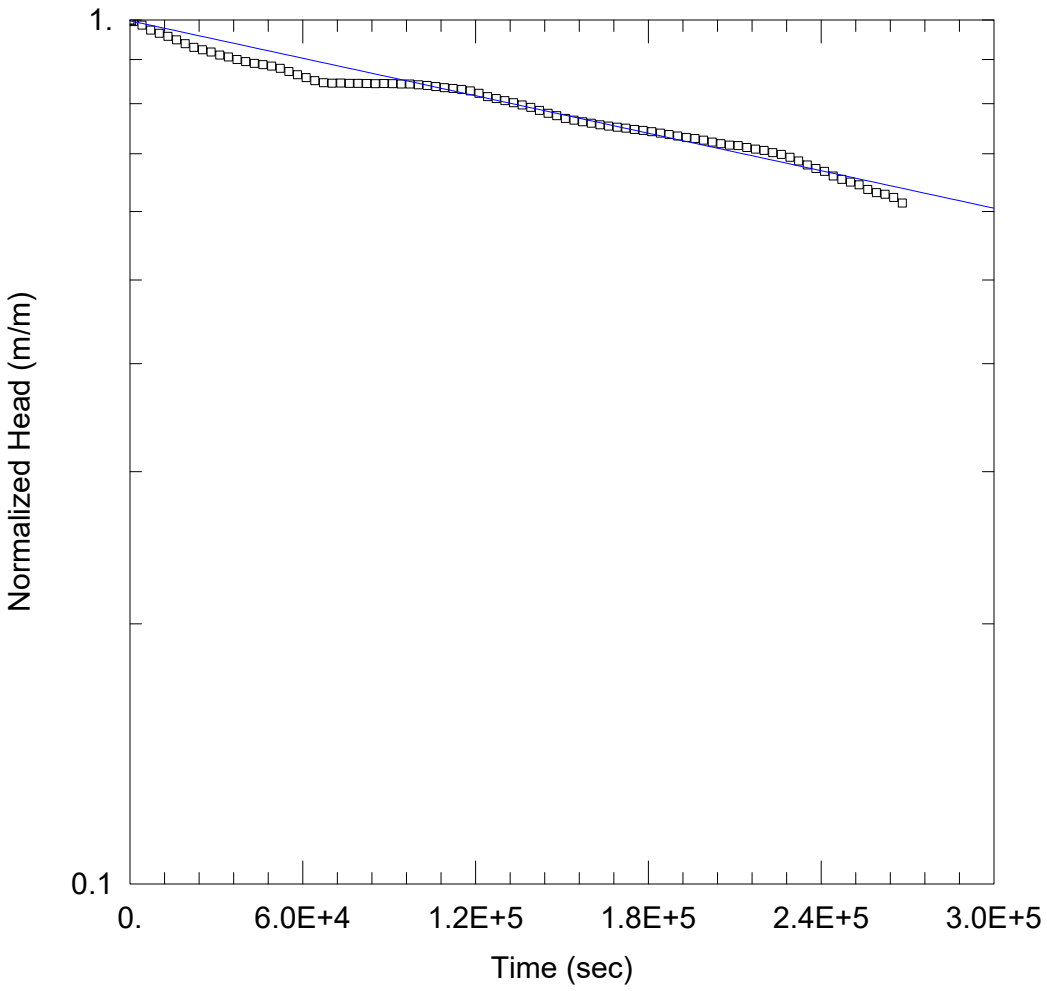
SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON | GRAB

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	CSV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		TOPSOIL (50 mm) FILL compact, moist, brown silty sand some gravel, trace clay	0 0.5	84.5	15	13.8	1		65	<5			
			1	84	13	6.8	2		15	<5			
		stiff, moist, grey SILTY CLAY trace sand	1.5	83.5									
			2	83	8	23.0	3		85	<5			
			2.5	82.5									
			3	82	8	42.5	4		90	<5			
		--- firm	3.5	81.5	4	56.0	5		100	<5			GW Ele. 80.75 masl
			4	81									
		--- stiff --- very moist	4.5	80.5									
			5	80	10	17.8	6		50	<5			
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: HM	DRILLING DATE: 30-DEC-2025
INPUT BY: SAF	MONITORING DATE: 14-JAN-2026
REVIEWED BY: HM	PAGE 1 OF 1

APPENDIX III
HYDRAULIC ANALYSES



WELL TEST ANALYSIS

Data Set: C:\...\MW101.aqt
Date: 02/04/26 Time: 11:52:47

PROJECT INFORMATION

Company: Terrapex Environmental
Client: White Owl
Project: CT1004.01
Location: 3145 Conroy Rd., Ottawa
Test Well: MW101
Test Date: Jan 9, 2026

AQUIFER DATA

Saturated Thickness: 5.633 m Anisotropy Ratio (Kz/Kr): 1.

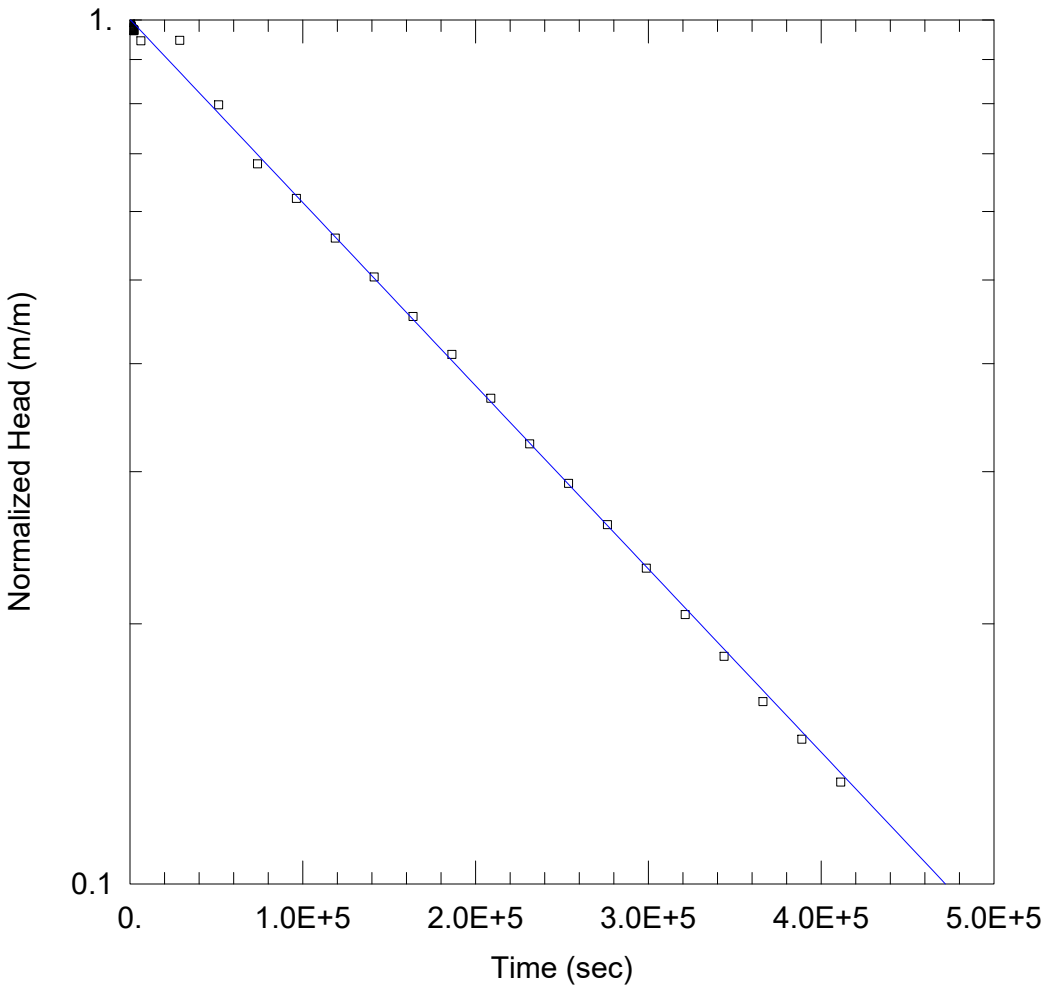
WELL DATA (MW101)

Initial Displacement: 2.353 m
Total Well Penetration Depth: 3.048 m
Casing Radius: 0.026 m
Static Water Column Height: 0.31 m
Screen Length: 3.048 m
Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 5.837E-10 m/sec
y0 = 2.347 m



WELL TEST ANALYSIS

Data Set: C:\...\MW103.aqt
Date: 02/04/26 Time: 11:53:31

PROJECT INFORMATION

Company: Terrapex Environmental
Client: White Owl
Project: CT1004.01
Location: 3145 Conroy Rd., Ottawa
Test Well: MW103
Test Date: Jan 9, 2026

AQUIFER DATA

Saturated Thickness: 5.36 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW103)

Initial Displacement: 4.476 m Static Water Column Height: 0. m
Total Well Penetration Depth: 3.048 m Screen Length: 3.048 m
Casing Radius: 0.026 m Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

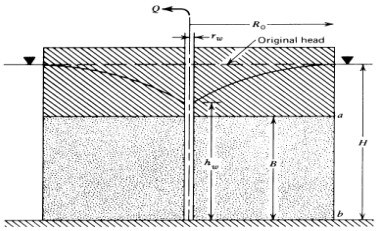
K = 1.716E-9 m/sec y0 = 4.482 m

Construction Dewatering Worksheet

TERRAPEX

Project: 3145 Conroy Road, Ottawa, Ontario
Project Number: CO1004.01
Location: Roadway from 3145 Conroy Rd. to the Intersection of Conroy Rd. and Johnston Rd.
Date: February 13, 2026

Input Parameters



(1)	Aquifer Thickness	(H)	10	m
(2)	Target Aquifer Thickness	(h)	8.74	m
(3)	Effective Drawdown	(Δh)	1.26	m
(4)	Hydraulic Conductivity	(K)	1.7E-09	m/s
(5)	Hydraulic Conductivity	(K)	1.5E-04	m/d
(6)	Excavation length	(a)	100	m
(7)	Excavation width	(b)	2	m
(8)	Excavation Length/Width Ratio	(a/b)	50.0	

Distance Calculations

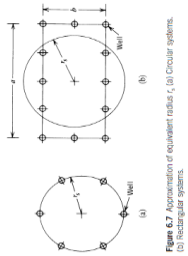
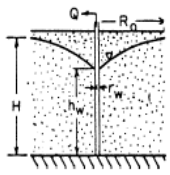


Figure 6.7 Approximation of equivalent radius r_s (a) Circular systems. (b) Rectangular systems.



Radial flow, water table aquifer

(9)	**Width of Dewatering**	(L)	0	m
(10)	**Radius/Zone of Influence (ZOI)**	(R_o)	0.2	m
(11)	**Equivalent Radius of Well** (where a/b ≤ 1.5)	(R_s)		m
(12)	**Equivalent Radius of Well** (where a/b > 1.5)	(R_s)	32	m

Volume Calculations

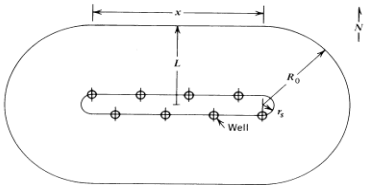


Figure 6.8 Approximate analysis of long, narrow systems.

(13)	**Trench Calculation** (where a/b ≤ 1.5)	(Q) (Q)	0 	m3/day L/day
(14)	**Trench Calculation** (where a/b > 1.5)	(Q) (Q)	6 6,385	m3/day L/day
(15)	**Anticipated Incident Precipitation**		5,000	L/day @ 25mm storm

SUMMARY OF VOLUMES

Estimated Dewatering Volume	(A)	6,385	L/day
Incident Precipitation (25mm storm)	(B)	5,000	L/day
Total Dewatering Volume (A+B)	(C)	11,385	L/day
Design Dewatering Volume (Ax2+B)	(D)	17,769	L/day

Relevant Formulae (Powers, 2007)

(9) R_o / 2 (eq. 6.15, p. 105)

(10) 3000 (H - h) x sqrt (K) (eq. 6.12, p. 71)

(11) sqrt ((a x b)/ pi) (eq. 6.9, p. 70) (eq. 6.10, p.102)

(12) (a+b)/pi)

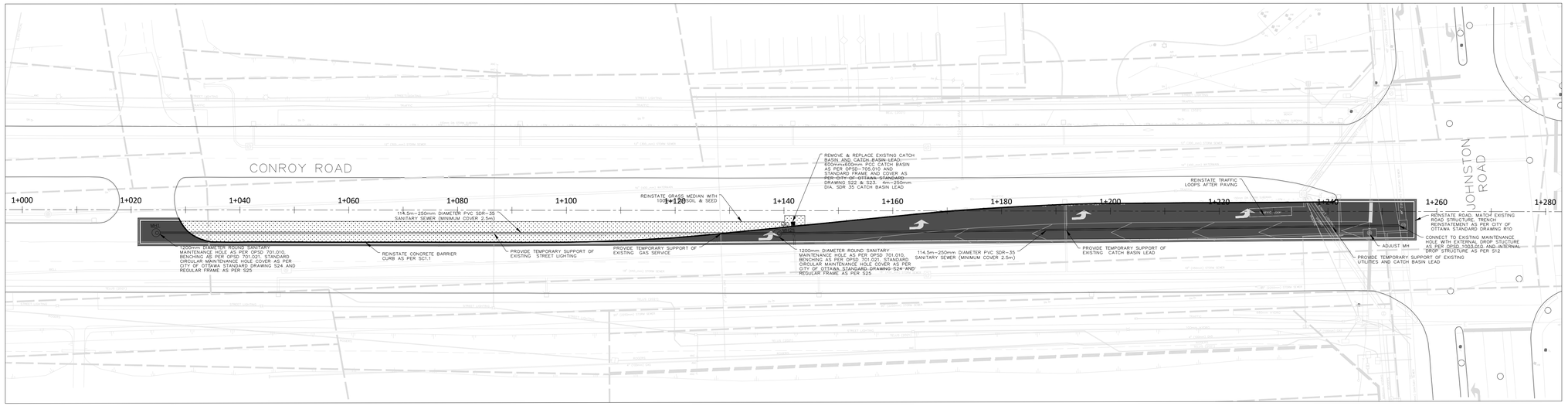
(13) (pi x K x (H^2 - h^2)) / ln ((Ro+Rs) / Rs) + 2 x (X x K x (H^2 - h^2)) /(2 x L) (pg. 66,67,68; eq. 6.1 and 6.2)

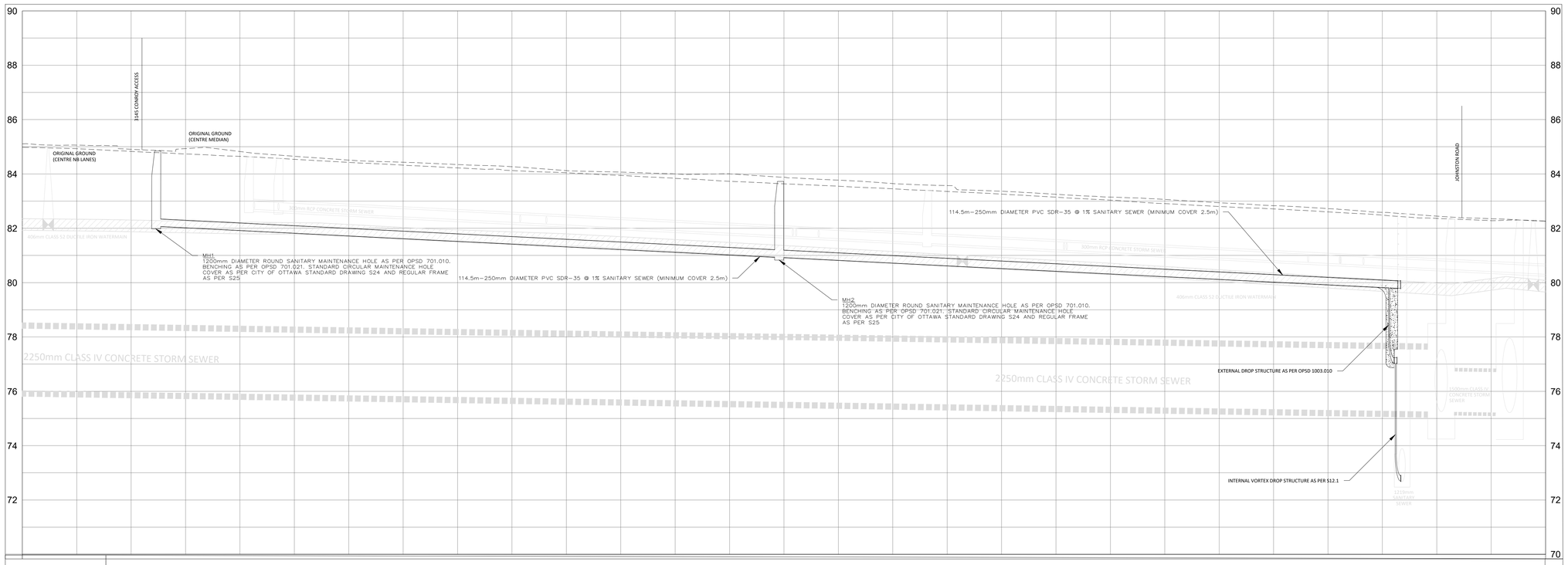
(14) (pi x K x (H^2 - h^2)) / ln ((Ro+Rs)/ Rs) + 2 x (X x K x (H^2 - h^2)) / (2 x L) (pg. 66,67,68; eq. 6.1 and 6.2)

(15) a x b x 25

(zk 1Sept2022)

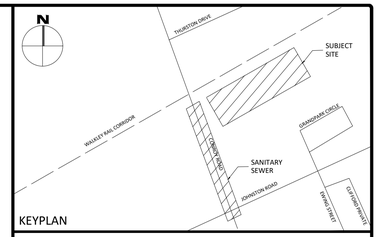
APPENDIX L
PROPOSED SANITARY SEWER EXTENSION PLAN & PROFILE





STATION	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280
REINSTATEMENT ELEVATION	84.91 84.906	84.82 84.823	84.51 84.509	84.35 84.345	84.12 84.122	84.00 84.000	83.88 83.880	83.64 83.645	83.36 83.362	83.15 83.148	82.94 82.939	82.72 82.723	82.45 82.447	82.27 82.266
SANITARY SEWER	MH1 T/Cv=84.84m S' INV=82.06m	114.5m–250mm DIAMETER PVC SDR–35 @ 1% SANITARY SEWER (MINIMUM COVER 2.5m)					MH2 T/Cv=83.72m S' INV=80.92m S INV=80.92m	114.5m–250mm DIAMETER PVC SDR–35 @ 1% SANITARY SEWER (MINIMUM COVER 2.5m)					1200x2.718m INV=79.45m	

FOR REVIEW ONLY
NOT FOR CONSTRUCTION



No.	Revisions	Date
3	RE-ISSUED FOR SPA SUBMISSION	03.23.2026
2	FOR SPA SUBMISSION	11.24.2025
1	FOR REVIEW	08.29.2025

Check and verify all dimensions before proceeding with the work — Do not scale drawings

egis

Stamp: LICENSED PROFESSIONAL ENGINEER — C. D. MACDONALD — 100130351 — March 23rd, 2026 — PROVINCE OF ONTARIO

Client:
WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

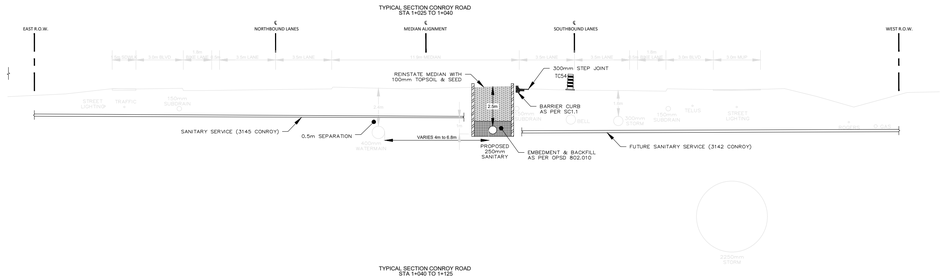
Project:
PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:
SANITARY SEWER PLAN & PROFILE

Scale:	1:500	Project Number:	CO-25-1505
Drawn By:	CDM		
Checked By:	CDM	Drawing Number:	C103
Designed By:	CDM		

D07-12-25-0107

FILENAME: U:\Ottawa\01 Projects_Proposals\2002 Jobs\CO\CO-25-1505 White Owl Group_Due Diligence_3145 Conroy Road\12 Drawings\Municipal\Conroy Road Sanitary Sewer Extension - Plan & Profile.dwg
LAST SAVED: Tuesday, March 24, 2026 LAST SAVED BY: c.macdonald
LAST PLOTTED: Tuesday, March 24, 2026 CTB FILE USED: ----



STANDARD DRAWINGS & SPECIFICATIONS

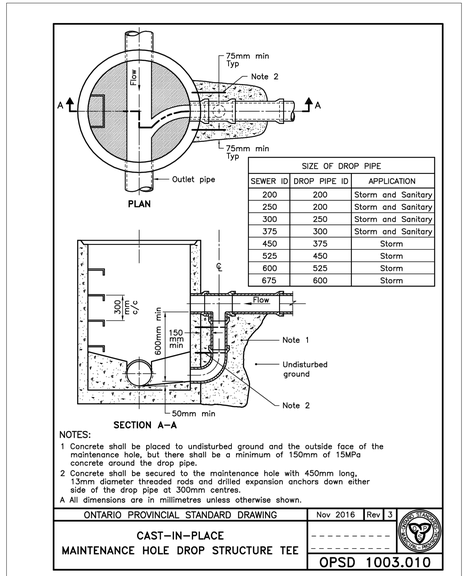
CITY OF OTTAWA STANDARDS				ONTARIO PROVINCIAL STANDARDS		
DRAWINGS		SPECIFICATIONS		DRAWINGS	SPECIFICATIONS	
R10	S25	F-3101	F-4070	701.010	206	501
S10	SC1.1	F-3106	F-4100	705.010	314	510
S12.1	SC2	F-3130	F-8021	802.010	351	802
S22	SC7.3	F-3147	F-8041	802.013	353	804
S23	SC11.3	F-3510	F-9040	1003.030	407	904
S24	T1	F-3531	F-9045		410	

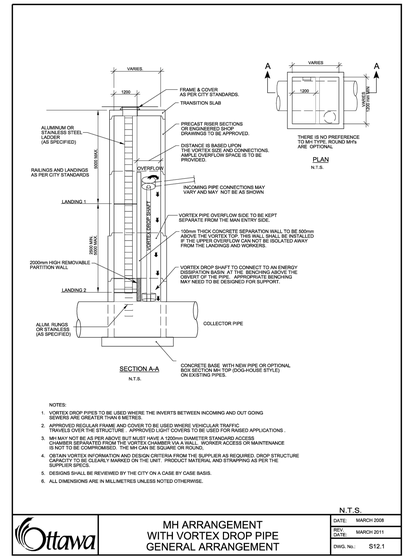
SANITARY STRUCTURE TABLE

NAME	T/G	INVERT IN	INVERT OUT	DESCRIPTION
MH1	84.84		S82.06	FRAME: CITY S25 COVER: CITY S24 STR: OPSD 701.010
MH2	83.72	N80.94	S80.92	FRAME: CITY S25 COVER: CITY S24 STR: OPSD 701.010

STORM STRUCTURE TABLE

NAME	T/G	INVERT IN	INVERT OUT	DESCRIPTION
CB1	83.87		W83.17	COVER: CITY S23 FRAME: CITY S22 STR: OPSD 705.010

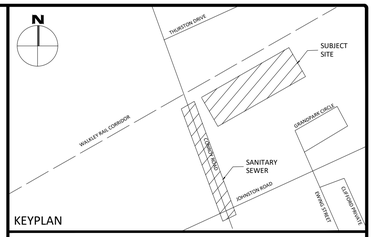




SANITARY TRUNK MAINTENANCE HOLE (NORTH LADDER)

NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE BASED ON TOPOGRAPHIC SURVEY INFORMATION PREPARED BY J.D. BARNES LIMITED, DATED OCTOBER 14, 2025, AND ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. NO GUARANTEE OF ACCURACY IS EXPRESSED OR IMPLIED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, IN ACCORDANCE WITHTHE SOIL MANAGEMENT PLAN PREPARED BY OTHERS.
8. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND REINSTATEMENT WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
10. CONTRACTOR RESPONSIBLE FOR TRAFFIC CONTROL PLAN ADHERING TO THE CITY OF OTTAWA TRAFFIC RESTRICTIONS AND OTM BOOK 7.
11. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
12. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH CITY OF OTTAWA & ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS
13. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.
14. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED



No.	Revisions	Date
2	RE-ISSUED FOR SPA SUBMISSION	03.23.2026
1	FOR SPA SUBMISSION	11.24.2025

Check and verify all dimensions before proceeding with the work — Do not scale drawings

egis

Stamp: LICENSED PROFESSIONAL ENGINEER C. D. MACDONALD 100130351 March 23rd, 2026 PROVINCE OF ONTARIO

Client:
WO MW REALTY LIMITED
180 RENFREW DRIVE
MARKHAM, ON

Project:
PROPOSED OFFICE/INDUSTRIAL BUILDING
3145 CONROY ROAD
OTTAWA, ON

Drawing Title:
SANITARY SEWER TYPICAL DETAILS

Scale:	1:500	Project Number:	CO-25-1505
Drawn By:	CDM		
Checked By:	CDM	Drawing Number:	C104
Designed By:	CDM		

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

D07-12-25-0107

FILENAME: U:\Ottawa\01 Project - Proposal\2025 Jobs\CCO\CCO-25-1505 White Owl Group_Due Diligence_3145 Conroy Road\12 - Drawings\Municipal\Conroy Road Sanitary Sewer Extension - Plan & Profile.dwg
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