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May 16, 2025

LRL File Ref.: 220200

400 Coventry Investments Inc.
100-85 Rue Bellehumeur
Gatineau, Quebec J8T 8B7

Attention: Simon Éthier

Subject: Remedial Action Plan
400 Coventry Road, Ottawa, Ontario.

Dear Mr. Éthier,

400 Coventry Investments Inc. has retained LRL Engineering (LRL) to complete a Remedial Action Plan in support of the anticipated re-development of the property located at 400 Coventry Road, Ottawa, Ontario (herein referred to as the "Site"). It is understood that the proposed use of the Site will be changed from the now Commercial Land Use, to Residential Land Use as part of a proposed re-development project. The proposed Residential Land Use criteria have been as part of this Remediation Action Plan. Based on the findings of the recently prepared Phase Two Environmental Site Assessment (ESA)[1], the following conditions were encountered which require remedial actions:

- **Groundwater**
    - **Chloride** concentrations exceeded the Table 3 of Ontario Regulation 153/04, as amended, site condition standards (SCS) in the groundwater collected from each of the monitoring wells sampled on the Site. **Sodium** concentrations were also encountered with elevated concentrations in select monitoring well locations, at the general western portion of the Site. These exceedances are likely the result of de-icing activities;
    - **Benzene** was reported above the Table 3 SCS in select groundwater monitoring wells located in the central portion of the Site, specifically in MW1, MW3 and MW5, likely a result of the former gasoline storage tank installation or repair garage activities; and
    - **1,4-Dichlorobenzene** was reported above applicable provincial SCS in the groundwater collected from monitoring well MW22-21, located within the

[1] Phase Two Environmental Site Assessment, 400 Coventry Road, Ottawa, Ontario, prepared for 400 Coventry Investments Inc., by LRL, June 9, 2023.

southwestern extent of the building, and likely a result of the previous petroleum storage tank installation and repair garage activities.

- **Soil**
    - **Sodium Absorption Ration (SAR)** and conductivity levels were found to exceed the applicable SCS generally throughout the Site. These exceedances are likely the result of de-icing operations across the parking and circulation area of the Site;
    - **Petroleum Hydrocarbon (PHC) Fractions F1 through F2** were reported above the SCS in samples collected from BH22-8 and BH22-10 (and corresponding duplicate sample), in addition to benzene, toluene, ethylbenzene, xylenes and hexane. These boreholes are located in the vicinity of the former petroleum storage tank, therefore may be the likely contributor for these impacts;
    - Elevated concentrations of **benzene, ethylbenzene** and xylenes were reported in samples collected from BH22-19 and BH22-20. **PHC Fraction F1** also exceeded the SCS in a sample collected from BH22-19. These boreholes are located in the vicinity of the former petroleum storage tank, therefore may be the likely contributor for these impacts;
    - **Polycyclic aromatic hydrocarbons (PAH)** parameters were reported above the Table 3 SCS in BH22-8, BH22-10 (and corresponding duplicate sample) and BH22-16. BH22-8 and BH22-10 are located in the vicinity of the former petroleum storage tank, therefore may be the likely contributor for these impacts, however BH22-16 is located at the southwestern portion of the Site, where coal was historically stored; and
    - **Cadmium** and **Lead** exceedances were also encountered in BH22-16, located at the southern portion of the Site, in the vicinity of the former coal storage area.

Further details with respect to concentrations, and more accurate representation of the anticipated impacted areas are provided in the previously prepared Phase Two ESA, as discussed above.

At the time of the Phase Two ESA, it was recommended that further delineation be completed to allow for a more thorough vertical and horizontal delineation of the identified impacts. However, based on further correspondence with the client regarding the proposed re-development plan of the Site, while additional groundwater delineation remains recommended (vertical and horizontal), the overburden soil exceedances can be addressed at the time of the anticipated re-development efforts.

1 BACKGROUND

In November 2022, 400 Coventry Investments Ltd. retained LRL to conduct a Phase Two Environmental Site Assessment for the property located at 400 Coventry Rd in Ottawa, Ontario, based on the findings of previously completed environmental investigations for the Site, including the Phase One ESA[2] prepared by LRL. At the time of the Phase One and Two ESA activities, the Site features included a building used for office space, and equipment and supplies storage for Enbridge gas. It is understood that the Site is anticipated to be re-developed with a multi unit residential development.

[2] Phase One Environmental Site Assessment, 400 Coventry Road, Ottawa, Ontario, prepared for 400 Coventry Investments Inc., by LRL, June 8, 2023

The Site is situated at the corner of Coventry Road and Belfast Road. According to the Map of Ontario Geological Survey, the Site is located in an area of glacial deposits of sandy silt to sand, and the bedrock on the property has been identified as black and brown shale of the Eastview Formation: dark grey almost black limestone. The Site is generally flat with a gentle slope west of the Phase One property. The inferred groundwater flow direction is west toward the Rideau River.

The objectives of this Phase Two ESA are to investigate the presence of contaminants at the Site, as identified in the previously prepared Phase One ESA completed by LRL, dated June 8, 2023. Based on the results of the Phase One ESA, the following areas of potential environmental concern (APECs) were identified:

- **APEC 1** was generated due to PCA 30 for the presence of fill of unknown quality. Based on the site visit, aerial photographs and Ecolog ERIS report.
- **APEC 2** was generated due to the presence of PCA 28 for gasoline USTs that were formerly present on the Site. Based on the aerial photography, ERIS report and Site visit.
- **APEC 3** was generated due to the presence of PCA 28 for gasoline USTs that were formerly present on the Site. Identified in previously prepared Phase One ESA by others. Former diesel storage tank 9,000 L in size.
- **APEC 4** was generated due to the presence of PCA 52, Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems formerly on-Site. Based on the fire insurance plans, Phase One historical report.
- **APEC 5** was generated due to the presence of a former coal storage area on the Site (PCA Other – Coal Storage).
- **APEC 6** was generated due to the presence of waste generator records retrieved on the Site (PCA Other – Waste Generators), including petroleum-based products and metals.
- **APEC 7** was generated due to the presence of records of air emissions on the Site with the potential for VOC and particulate residual (PCA Other – Air Emissions).
- **APEC 8** for PCA 28 for gasoline and associated products storage in fixed tanks based on six (6) records of fuel storage tanks on the neighbouring property to the northeast.
- **APEC 9** was generated due to the presence of records of air emissions on the neighbouring property to the east (PCA Other – Air Emissions) with the potential for particulate impacts.
- **APEC 10** was generated due to the presence of records of a waste generator on the neighbouring property to the east (PCA Other – Waste Generator), including metals and petroleum-based products.
- **APEC 11** was generated due to the presence of records of spills on the neighbouring property to the east (PCA Other – Spill).
- **APEC 12** was generated due to the presence of a PCB storage facility to the east of the Site (PCA Other – PCB).

A Phase Two ESA to investigate the identified APECs was recommended.

2 APPLICABLE GUIDELINE CRITERIA

Regulatory requirements for assessing environmental conditions of a site are established by Ontario Regulation 153/04 – *Records of Site Conditions, Part XV.1 of the Environmental Protection Act* (O. Reg. 153/04). Site condition standards are set out in Ministry of Environment, Conservation and Parks (MECP) '*Soil, Ground Water and Sediment Standards for Use Under Part under Part XV. 1 of the Environmental Protection Act',* dated April 15, 2011, as amended.

The results of the soil and groundwater chemical analysis were evaluated using the Standards prescribed in the Ministry of the Environment, Conservation and Parks (MECP) Table 3 Residential/Parkland/Institutional (RPI) Standards for coarse-grained soils in a non-potable groundwater condition.

Although the Site is currently occupied and used for commercial purposes, the residential site conditions standards were used in support of the future site development. These Standards were used to evaluate soil and groundwater quality based on the samples collected and tested, to determine whether soil quality compiled with MECP Standards, and to determine whether additional investigations are required or warranted.

3 PREVIOUS PHASE TWO ENVIRONMENTAL SITE ASSESSMENT SUMMARY

A Phase Two ESA was conducted in order to investigate the APECs. The investigation involved advancing sixteen (16) boreholes across the Site at strategic locations based on APECs, to a maximum depth of 6.1 m bgs. Six (6) of the boreholes were completed into monitoring wells designed to intercept the water table and facilitate hydrological sampling. Previous investigations by others included the installation of groundwater monitoring wells, of which three (3) were retrieved and incorporated into the sampling program to assist with assessing the hydrogeological conditions of the Site.

Based on observations during drilling activities, along with screening of samples and laboratory analysis, the following contaminants of concern were identified in select soil samples:

- Samples **BH22-1-SS2**, collected from depths of between 0.75 and 1.5 m bgs; **BH22-4-2**, collected from depths of between 0.35 and 0.50 m bgs; **BH22-7-SS3**, collected from depths of between 1.2 and 1.8 m bgs (and corresponding duplicate sample), **BH22-9-SS2**, collected from depths between 0.6 and 1.2 m (and the corresponding duplicate sample); **BH22-11-SS1**, collected from between 0.0 and 0.6 m bgs; and sample **BH22-12-SS3**, collected from depths of between 1.2 and 1.8 m bgs (and the corresponding duplicate sample) encountered elevated concentrations of **SAR** and **EC**. **EC** was also reported above the corresponding Table 3 site condition standard in sample **BH22-2-SS3**, collected at depths between 1.5 and 2.1 m bgs. These parameters are commonly associated with de-icing activities;
- Sample **BH22-8-SS3**, collected from depths of between 1.2 and 1.5 m bgs from the borehole located at the south of the former gasoline underground storage tank, previously located along the west face of the building, encountered elevated concentrations of **Benzene, Ethylbenzene, Hexane, Toluene, PHC F1 , PHC F2, Methylnaphthalene (1&2)** and **Naphthalene** parameters. These parameters are likely a result of the previous Site activities including the historical gasoline underground storage tank. The impacted soil has not been delineated vertically in this location;
- Sample **BH22-10-SS2**, collected from depths of between 0.6 and 1.2 m bgs from the borehole located at the north of the former gasoline underground storage tank, previously located along the west face of the building, encountered elevated concentrations of

Benzene, Ethylbenzene, Hexane, Toluene, Xylenes, PHC F1, Methylnaphthalene (1&2) and **Naphthalene** parameters. These parameters are likely a result of the previous Site activities including the historical gasoline underground storage tank. The impacted soil has not been delineated vertically in this location. The corresponding duplicate sample ha comparable results;

- Sample **BH22-15-SS2**, collected from depths of 0.6 and 1.2 m bgs encountered elevated concentrations of **SAR** and **EC**. These parameters are commonly associated with de-icing activities;
- Sample **BH22-16-SS5**, collected from depths of between 2.4 and 3.0 m bgs from the borehole located at the southwestern portion of the Site, encountered elevated concentrations of **PHC F3 & F4, Benzo(a)anthracene, Fluoranthene, Cadmium** and **Lead** parameters. These parameters are likely a result of the previous Site activities including the historical use for coal storage and the previous diesel storage tank. A sample submitted from above SS5 (BH22-16-SS1) was collected at depth of between 0.0 and 0.6 m bgs. Petroleum-based parameters were not included in the analysis, but rather metals and general inorganics. **EC** concentrations exceeded the site condition standards in sample **BH22-16-SS1**. The full extent of the contamination has not been vertically delineated. Refusal was encountered in this location at a depth of 4.9 m, and generally CSV readings measured between 3.0 and 4.9 m bgs were lower than those of sample BH22-16-SS5. The EC exceedance is likely associated with de-icing activities, therefore elevated concentrations are likely limited to the shallow stratum of soil;
- Sample **BH22-19-SS2**, collected from depths of 0.6 and 1.2 m bgs encountered elevated concentrations of **SAR** and **EC**. A sample submitted from a lower grade of between 1.8 and 2.4 m bgs, sample **BH22-19-SS4**, also was found to have elevated **SAR** and **EC** concentrations. These parameters are commonly associated with de-icing activities;
- Sample **BH22-19-SS4**, collected from depths of between 1.8 and 2.4 m bgs from the borehole located at the south of the former gasoline storage tank, along the western face of the building, encountered elevated concentrations of **Benzene, Ethylbenzene, Xylenes, PHC F1,** and **Napthalene** parameters. These parameters are likely a result of the previous Site activities including the historical gasoline underground storage tank. Sample **SS22-19-SS6**, collected from a depth of between 3.0 and 3.6 m bgs was also found to have VOC exceedances, namely **Benzene** and **Xylenes**. The full extent of the contamination has not been vertically delineated. Refusal was encountered in this location at a depth of 5.6 m bgs;
- Sample **BH22-20-SS1**, collected from depths of between 0.0 and 0.6 m bgs, was reported to have elevated **SAR** and **EC** concentrations. These parameters are commonly associated with de-icing activities;
- Sample BH22-20-SS2, collected from depths of between 0.6 and 1.2 m bgs, was reported to have elevated **ethylbenzene** and **xylenes** concentrations. This borehole is located to the north of the former underground gasoline storage tank, along the western face of the building. These exceedances are likely attributed by the former installation and associated activities. Sample Bh22-20-SS5, collected from between 2.4 and 3.0 m bgs did not have exceedances for petroleum-based parameters, therefore, the contamination encountered is vertically delineated to a depth of 2.4 m bgs; and
- Sample **BH22-22-SS3**, collected from depths of between 1.2 and 1.8 m bgs, was reported to have elevated **SAR** and **EC** concentrations. These parameters are commonly associated with de-icing activities.

None of the groundwater samples collected met the Table 3 SCS for non-potable groundwater, residential land use. **Chloride** concentrations exceeded the SCS in each of the groundwater monitoring well locations sampled, including the respective duplicate samples. **Sodium** was also elevated in **BH22-20**, **MW3** and **MW5**, all of which are located along the parking and circulation area at the western portion of the Site. These exceedances are likely associated to de-icing activities.

Benzene was reported above the Table 3 SCS in the groundwater collected from **MW1**, **MW3** and **MW5** as well as in the duplicate sample collected from MW3. **1,4-Dichlorobenzene** was reported above the applicable provincial standards in sample **MW22-21**, located within the southwestern extent of the building. These exceedances are most like a result of the previous gasoline storage tank installation, and repair garage activities. Groundwater impacts with respect to the petroleum -based parameters has been delineated horizontally, however vertical delineation has not been established at this time.

At the time of the Phase Two ESA, it was recommended that further delineation be completed to allow for a more thorough vertical and horizontal delineation of the identified impacts. However, based on further correspondence with the client regarding the proposed re-development plan of the Site, while additional groundwater delineation remains recommended (vertical and horizontal), the overburden soil exceedances can be addressed at the time of the anticipated re-development efforts.

4 REMEDIATION PLAN

4.1 Soil Remediation

Based on our findings, we have established that there are three (3) distinct contamination sources and areas at the Site. These include one (1) area along the general western extent of the Site with evidence of PHC, VOC and PAH impacts (**Area No.1**); PAH and select metal exceedances at the southwestern portion of the Site in the area of BH22-16 (**Area No. 2**); and General Inorganic impacted soil was encountered across the majority of the extents of the Site (**Area No. 3**).

These areas are outlined in greater detail as follows:

- **Area No.1:** This area has been calculated to encompass approximately 780 m² of soil along the western extent of the Site in the area of the former underground storage tanks, extending halfway from BH22-10 and BH22-11; towards BH22-9; halfway between BH22-8 and BH22-3.

  The impacted material does not appear to have extended under the structure of the existing garage, as BH22-6 did not return evidence of impacts. This is based on field observations and chemical analysis which revealed that the boreholes had exceedances above applicable MECP SCS (Table 3, Residential). The thickness can vary however for the purpose of this exercise, 2.4 m has been used (average depth of visually evidence, confirmed with analytical testing, and where inferred bedrock was encountered).

  Based on this, the quantity of soils to be removed could be in the range of 3 930 metric tonnes (1 872 m³). The inferred extent of the contamination area is shown in the attached **Figure 1**;

- **Area No.2:** This impacted soil area includes impacts of PHC F3 & F4, Benzo(a)anthracene, Fluoranthene, Cadmium and Lead parameters encountered in BH22-16. This area is limited to area of BH22-16, located at the southwestern portion of the Site, and inferred to extend across an area of approximately 150 m^2 from halfway to BH22-18, BH22-13,

BH22-12 and the southern property limit. This is based on field observations and chemical analysis which revealed that the boreholes had exceedances above applicable MECP SCS (Table 3, Residential).

The thickness can vary however for the purpose of this exercise, 4.9 m has been used (depth to inferred bedrock encountered in MW22-16). Based on this, the quantity of soils to be removed could be in the range of approximately 1 545 metric tonnes (735 m³). The inferred extent of the contamination area is shown in the attached **Figure 1**; and

- **Area No.3:** This area includes the entirety of the Site, extending from BH22-11 to the north; BH22-1 to the south and most locations in-between. The area is comprised of General Inorganic parameters, namely Sodium Absorption Ratio and Conductivity. Although it is likely associated with general seasonal snow removal and de-icing operations, the material cannot be considered as clean fill for off-Site use and may require disposal at a waste disposal facility. Consultation with MECP is advised to confirm if the material is suitable to remain on the Site post re-development.

  For the purposes of this exercise, it will be inferred that all of this material will require off-Site disposal. The thickness can vary however for the purpose of this exercise, 2.5 m has been used (average depth of confirmed with analytical testing, and where inferred bedrock was encountered). Based on this, the quantity of soils to be removed could be in the range of 26 754 metric tonnes (12 740 m³).

  The inferred extent of the contamination area is shown in the attached **Figure 1**.

Based on O. Reg 153/04 Table 3, various confirmatory samples will be collected from the floor and sidewalls of the excavations. The sample frequency, and procedures will follow the applicable provincial guideline. Samples collected from the limits of the excavations will be submitted for chemical analysis, based on the respective area of concern identified, generally as follows:

- PHC, VOC and PAH parameters (Area No.1);
- PAH and metal parameters (Area No. 2); and
- General Inorganic parameters (Area No. 3).

4.1.1 Excess Soils

Should additional excavation of ‘clean’ overburden be required to support the re-development project, the based on O. Reg 406/19, and the “Rules of Soil Management and Excess Soil Quality Standards” prepared by the MECP in 2019 (as amended), section 2.(3)15., at least one (1) soil sample shall be analysed for each 200 m^3 of soil for the first 10,000 m^3 to be excavated. Synthetic Leachate analysis will be required for every three (3) + 10% of the bulk samples collected for analysis.

If the soil volume to be excavated is less than 350 m^3 then O. Reg 153/04 applies and one (1) sample for every 160 m^3.

Representative soil samples will be collected to confirm the fill disposal requirements for the Site. If the material is found to fail to meet the receiving facilities applicable standards, the material will be disposed of at a licensed landfill or soil recycling facility based on the results.

It should be noted that the results of the June 2022 Phase Two Environmental Site Assessment can be used to support the off-Site disposal of excess soils, although the data, and the report must be provided to the receiving facility well in advance to confirm that they will not require additional details. The results of the remedial efforts discussed above should also be provided to the receiving facility to demonstrate the conditions remaining on the Site are acceptable.

4.2 Groundwater Remediation

4.2.1 Sodium and Chloride Impacted Groundwater

None of the groundwater samples collected met the Table 3 SCS for non-potable groundwater, residential land use. Chloride concentrations exceeded the SCS in each of the groundwater monitoring well locations sampled, including the respective duplicate samples. Sodium was also elevated in BH22-20, MW3 and MW5, all of which are located along the parking and circulation area at the western portion of the Site. These exceedances are likely associated to de-icing activities.

Consultation with the MECP is recommended to confirm that these conditions can remain on the Site post re-development, as the risk to human health or environmental features is considered low. Additionally, as these concentrations are likely associated with de-icing, which is intended to continue on the property post re-development, the conditions of the groundwater with respect to these parameters will likely continue to be impaired in the future.

4.2.2 Volatile Organic Compound Impacted Groundwater

Benzene was reported above the Table 3 SCS in the groundwater collected from MW1, MW3 and MW5 as well as in the duplicate sample collected from MW3. 1,4-Dichlorobenzene was reported above the applicable provincial standards in sample MW22-21, located within the southwestern extent of the building. The exceedances encountered in MW3, MW5 and MW22-21 are suspected to be the result of the previous underground petroleum storage tank installation, and repair garage activities. The benzene exceedance in MW1 may also be attributed by the former site activities, although based on the inferred groundwater flow direction, the monitoring well is located up-gradient of the former installation.

To address and remediation the VOC impaired groundwater on the Site, the following initial steps are recommended:

Step 1 – Additional Groundwater Sampling & Analysis

Conduct one (1) additional round of groundwater monitoring well sampling, following the MECP *Guidance on Sampling and Analytical Methods for use at Contaminated Site in Ontario*, December 1996, and in general accordance with Ontario Regulation 153/04. The additional sampling will be limited to MW1, MW3, MW5 and MW22-21. Additional efforts to retrieve MW4, located at the northeastern extent of the Site, will be made as in in 2022, ground cover conditions limited the ability to locate the installation. MW4, if located, will be included in the additionally sampling program to confirm the conditions at this portion of the Site.

Samples collected will be submitted for laboratory analysis of VOC, PHC and PAH parameters.

Should the quality of the groundwater be comparable to those encountered in 2022, **Step 2**, as described below, will be initiated. However, if there is a variance in the quality of the groundwater (i.e. conditions are found to have improved with no exceedances encountered), additional consideration to the overall quality groundwater handing during and post re-development will be required, including preparation of a formal summary to the City of Ottawa detailing the findings and updated recommendations.

Step 2 – Impacted Groundwater Delineation

In the event that groundwater impacts, in excess of both the applicable SCS, City of Ottawa Storm Sewer and City of Ottawa Sanitary Sewer Use guideline, an additional intrusive investigation will be initiated to allow for vertical and horizontal delineation of the

impacts on the Site. The anticipated methodology and scope of the contamination delineation activities are included below in Section 5.

Step 3 – Groundwater Remediation

Once the VOC impacted groundwater conditions have been delineated vertically and horizontally, the following remediation measures should be taken:

1. Decommission all monitoring wells which will be within the proposed work area associated with the re-development of the Site. This will prevent possible damage to the structures during construction, as well as allow for the construction activities to proceed without limitation from maintaining setbacks from the wells to prevent damage.
2. Complete the soil remediation activities, as discussed above Section 4.1, of the petroleum-based impacted material.
3. Remediation activities can be completed using conventional 'dig and dump' with off-Site disposal at a licensed waste disposal, or soil recycling facility.
4. The impacted overburden is thought to be a contributor to the impaired groundwater conditions encountered.
5. Based on the findings of the Phase Two ESA, groundwater in the overburden was found at depths ranging between 0.98 and 2.28 m below grade in the area of concern. Impaired soils extended to depths of at least between 0.6 and 1.5 m below grade, therefore, during the soil remediation as well as during the overall construction activities associated with re-development, groundwater will likely be encountered.
    a. Should groundwater infiltrate into the excavation during remediation, and construction, from within the known extents of the VOC impacted area, a collection trench will be dug at the lowest point in the excavation. The trench will be equipped with a trash pump (or equivalent) which will pump into a dewatering tank. A sample of the water in the dewatering tank will be submitted for analysis of PHCs, VOCs, and PAH to an environmental laboratory in order to determine its disposal requirements.
    b. The water in the dewatering tank will then be pumped out as needed via vacuum truck and the water will be disposed of by a certified waste management contractor based on the results of the analysis.
    c. Sampling is recommended weekly as conditions of the groundwater may change, which would have a direct impact on the handling and disposal requirements.
    d. Dewatering activities during re-development construction work should be verified periodically to confirm that the conditions are acceptable for discharge into the receptive receiver. The City of Ottawa has prescribed requirements for discharge into the storm or sanitary catchment systems which must be followed. This includes gaining permission and acquiring corresponding permits, flow monitoring, and periodic sampling and analysis.
6. Once the excavation activities are complete, and it has been confirmed that the limits of the excavation meet the appliable SCS, a final groundwater sample will be collected from the excavation, to confirm the quality prior to backfilling.

7. Following the removal of the impacted soils, the excavation extents can be backfilled with clean imported fill, as per the construction design.

8. If elevated concentrations of parameters of concern remain in the groundwater, additional groundwater collection, and off-Site disposal will continue until conditions improve.
    a. This could include the installation of a temporary recovery well, which will be removed once conditions improve.
    b. Alternatively, a carbon filtration treatment unit can be acquired from a supplier to initiate a ‘pump and treatment’ system to facilitate the groundwater remediation, rather than off-Site disposal. The unit must be operated under an active Environmental Compliance Approval, issued by the MECP.
9. Groundwater monitoring wells will be re-installed in the area of concern to allow for the sampling and analysis of parameters of concern for a minimum of two (2) quarterly sampling events, until parameters meet the applicable SCS. Samples will be collected and analysed for the parameters of concern.
10. Post remediation, and subsequent sampling, the following options shall be considered:

Option 1	If groundwater conditions post-remediation are in accordance with applicable provincial site conditions standards (O. Reg. 153/04, Table 3 SCS), no further remedial efforts would be considered warranted. The quality of the water results will also be compared to the City of Ottawa Storm Sewer Use Discharge Criteria to confirm the safe handling practices of future accumulated groundwater. Groundwater collected on the Site post re-development, can be discharged into the City of Ottawa's storm sewer services, without the need for treatment if conditions meet the City of Ottawa Storm Sewer Use Discharge Criteria. Otherwise, alternative consideration to another available sewer (sanitary) will be explored. Acceptable groundwater quality will be required to meet the conditions of filing a Record of Site Condition, which will be needed for the anticipated Change in Use to residential, from the current commercial use.
Option 2	If groundwater conditions post-remediation do not meet the applicable provincial site conditions standards (O. Reg. 153/04, Table 3 SCS), although the quality of the water results meets the City of Ottawa Storm Use Discharge Criteria, the groundwater can be discharged to the storm sewer services without the need for treatment. A Risk Assessment will be required to address on-Site risks associated with the encountered exceedances in support of the Record of Site Condition filing.
Option 3	Should the groundwater remediation efforts be proven as un-successful, and the quality exhibits exceedances to the City of Ottawa Storm Sewer Use Discharge Criteria, alternative means of collection and discharge will be considered, which include the following: 1. Should the water quality be confirmed to meet the City of Ottawa Sanitary Sewer Use Discharge Criteria, then the water may be released into the City of Ottawa sanitary services; or 2. Should the water quality be confirmed to exceed the City of Ottawa Sanitary Sewer Use Discharge Criteria, then treatment options must be considered, and implemented. Effluent from a water treatment system must be discharged into the City of Ottawa Sanitary Sewers. Monitoring of the groundwater quality can continue as this implemented treatment system would act as a form of remediation. Once conditions of the groundwater exhibit two (2) consecutive quarterly events with acceptable quality, the Option 1 or Option 2, as listed above may apply.

5 PROPOSED GROUNDWATER DELINEATION PLAN

For the purposes of this remediation action plan, it will be inferred that MW1, MW3, MW5 and MW22-21 are impacted with VOCs. Once the additional sampling event has been completed, this will be confirmed. The full vertical and horizontal extents of the impacts have not been delineated at the time. Horizontal delineation will require the advancement into the underlying bedrock formation. Bedrock monitoring wells typically represent the groundwater conditions within a 5 m radius from the intrusion, therefore the spacing of the bedrock monitoring wells will be approximately 5 m from each other. The overburden delineation offset from known impacted monitoring wells will be approximately 15 m.

To address the benzene impacts encountered in MW1, it is proposed that three (3) additional shallow monitoring wells (MWX (S)) will be installed approximately 15 m to the north, east and west, along the east-central portion of the Site. Due to the proximity of the property boundary, and inferred southwesterly groundwater flow direction, as previously reported, installation of a monitoring well to the east of MW1 is not considered practical. Three (3) shallow bedrock monitoring wells (MWX (D)) will be installed within a 5 m radius around MW1, generally to the northwest, east and southwest. The proposed locations of these groundwater monitoring wells are presented in the included **Figure 1**.

The impacted groundwater plume along the western portion of the Site encompasses MW3, MW5 and MW22-21. The plume is delineated to the north by MW22-20, located approximately 25 m north of MW3 and MW5. Although this is a greater distance than typically required for delineation, it is considered acceptable for the purposes of the proposed remediation and re-development of the Site. Four (4) shallow bedrock monitoring wells (MWX (D)) are proposed to be placed to the north and south of MW3 and MW5, as well as to the east of MW22-21 and west of MW5. Four (4) overburden monitoring wells (MWX (S)) are proposed to be advanced to the north, east and south of these respective monitoring wells of concern, as presented in the included **Figure 1**.

Each groundwater monitoring well will be installed following the requirements set out in Ontario Regulation 903. The general proposed work plan is outlined as follows:

- Request utility locates for the proposed on-Site monitoring well installation locations.
- Coordinate the installation of the monitoring wells with current Site occupants.
- Retain the services of a licenced monitoring well installer (as per O. Reg. 903), to advance and install the monitoring wells. The overburden monitoring wells will be advanced to bedrock refusal, anticipated to be between 0.7 and 5.0 m below grade. The bedrock monitoring wells will continue an additional 3.0 m into bedrock.
- Using dedicated sample barrels or a thoroughly cleaned split spoon sampler, soil samples will be collected of the overburden, of which select samples will be submitted for laboratory analysis of petroleum-based parameters of concern.
- The dedicated proposed shallow bedrock monitoring well locations will extend into bedrock, using HQ bedrock coring techniques.
- Each monitoring well will be constructed with a screen interval of 1.5 m in length, with silica sand surrounding the interval and extending at least 0.3 m above the top of the screen. A minimum of 0.6 m of bentonite hole plug will be placed over the silica sand to seal the screen interval from surface interference. The remaining annual space will be filled with silica sand. The bedrock monitoring wells will be sealed in bedrock, with the bentonite hole plug extending throughout the remainder of the bedrock layer.

- No less than 24-hours following the construction of the monitoring wells, each of the newly constructed, will be developed, by removing the equivalence of ten (10) well volumes, or until dry conditions are reached three (3) times.
- Using low-flow sampling techniques, to reduce the potential for sediment, and maintain a representative sample, no less than 24-hours following the development of the monitoring wells, collect samples from each of the newly installed monitoring well locations.
- QA/QC measures, and duplicate sample collection will be implemented.
- Samples collected from the groundwater monitoring wells will be submitted for laboratory analysis of:
    - Petroleum Hydrocarbon Fractions F1 through F4;
    - Volatile Organic Compounds; and
    - Polycyclic Aromatic Hydrocarbons.

The findings will be incorporated into the remediation activation plan, as outlined above. Any significant variances to the scope, as outlined herein, will be reported to the City of Ottawa, although the options post remediation with respect to groundwater dewatering will not be changed.

6 LIMITATIONS AND USE OF REPORT

The findings contained in this report are based on data and information collected during previous investigative site activities completed by LRL Engineering. The recommendations are based solely on-Site conditions encountered at the time of our fieldwork and findings presented in the previous Phase II Environmental Site Assessment report prepared for 400 Coventry Road, Ottawa, dated June 9, 2023. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Engineering should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Engineering has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

This report is intended for the sole use of 400 Coventry Investments Inc. and their authorized agents. LRL Engineering will not be responsible for any use of the information contained within this report by any third party.

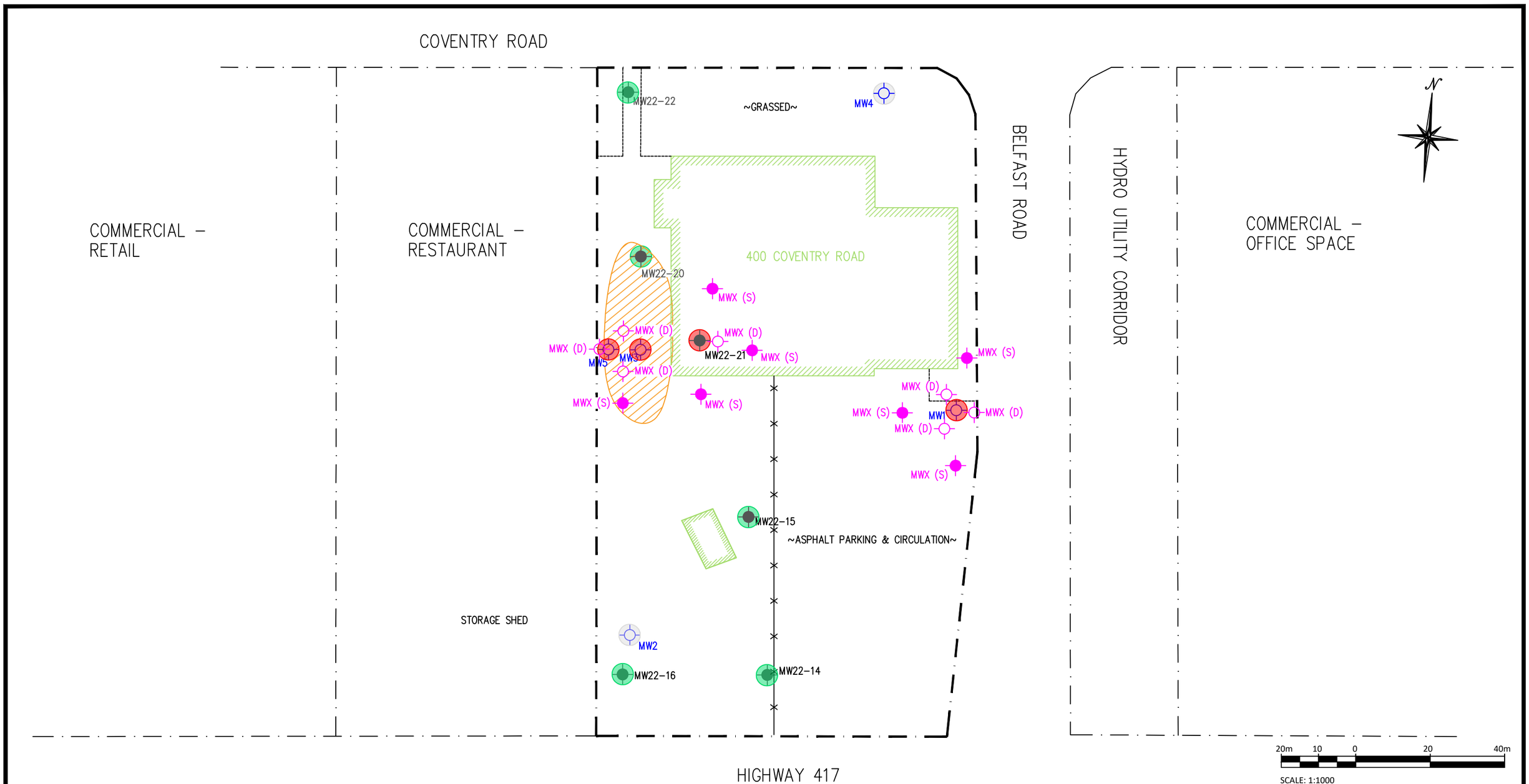
In addition, LRL Engineering will not be responsible for the real or perceived decrease in the property value, its saleability or ability to gain financing, through the reporting of factual information.

Yours truly,
LRL Engineering

Jessica Arthurs
Environmental Engineering Manager

Gianni Lametti, P. Eng.
Senior Environmental Engineer

Enclosed
Figure 1 Proposed Monitoring Well Locations



Legend

- MWXX — Monitoring Well Previously Installed by Others (2021)
- Existing Building
- Property Line
- Monitoring Well Location (2022)
- Proposed Bedrock Monitoring Well Location
- Proposed Overburden Monitoring Well Location
- Approximate Extent of PHC & VOC Soil Impacts
- Monitoring Well with Exceedance to Table 3 SCS – Residential
- Monitoring Well with No Exceedance to Table 3 SCS – Residential
- Monitoring Well Not Retrieved

No.	REVISIONS	BY	DATE
01	FINAL	J.A.	14/05/25

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CLIENT
400 COVENTRY INVESTMENTS INC

DESIGNED BY:	DRAWN BY:	APPROVED BY:
J.A.	J.A.	J.L.

PROJECT
REMEDIATION ACTION PLAN
400 COVENTRY ROAD
OTTAWA, ONTARIO

DRAWING TITLE
CONTAMINATION DELINEATION PLAN - PROPOSED GROUNDWATER MONITORING WELL LOCATIONS

PROJECT NO.
220200

DATE
MAY 2025

FIGURE1