AINLEY GRAHAM & ASSOCIATES LIMITED
1-50 Grant Timmins Drive, Kingston, ON K7M 8N2
Tel: (343) 266-0002 • www.ainleygroup.com

VIA EMAIL: ADEM.ADEBAYO@UCLG.ON.CA

March 4, 2025 File No. 23676-2

United Counties of Leeds and Grenville
25 Central Ave W.
Brockville, ON
K6V 4N6

Attn: Adem Isaac Adebayo, M.Eng., Manager of Engineering and Operations

Re: Lyn Creek Bridge Replacement, Change Order Request #1

Dear Adem:

The purpose of this change order request is to address the additional areas that will be affected by the bridge replacement and will therefore also require engineering studies and design to accommodate their replacement/rehabilitation into the overall contract package for subject area.

Figure 1: Project Location

AREAS OF CONCERN

As identified in the Preliminary Design Report (PDR) submitted to the Counties in December 2024 and our follow up site meeting and discussions the following areas require additional engineering review and design:

- The replacement of the deteriorated masonry wall which runs in a west – east direction and ties into the NW corner of the existing bridge.
- The replacement of the deteriorated concrete weir which ties into the limestone masonry wall.
- The design of shoreline protection both upstream and downstream of the bridge replacement.
- The design of shoreline protection/retaining structure at the NE corner of the proposed bridge replacement due to the skew of the structure.
- Significant relocation of utilities in the vicinity of the bridge replacement.

ADDITIONAL STUDIES & DESIGN EFFORTS

The following additional efforts are required to incorporate the above areas of concern into the overall design package for the bridge replacement.

- Topographic Surveying – increased creek cross-sections for the creek upstream and downstream, retaining wall, weir and detailed measurements along the adjacent house using total station; $5,305.00.

- Hydraulics – additional modeling and meetings for upstream, weir and along the adjacent house and retaining wall; $8,495.00.

- Fisheries – Our original scope of work included existing conditions reviews and preparation of DFO request for review forms; however, with the modified alignment and removal / reinstatement of the existing parallel retaining wall, and an enhanced level of fisheries review will be required for creek reinstatement and habitat design. Works will be coordinated with the drainage team to coincide design elements in an effort to satisfy hydraulic and fisheries requirements; $3,125.00.

- Archaeology – Our original proposal included a Stage 1 arch assessment for the structure only. The study will need to be expanded to include the wall area and upstream / downstream portion of the creek; $1,500.00

*Note it is interpreted that a Stage 2 study will be required, and a follow up cost estimate will be provided for those works at the completion of the Stage 1 study.

- Cultural Heritage – Our original proposal included a CHER, but the study limits and components included the existing bridge structure only. To appropriately address the entire study area, the report would benefit from additional information

pertaining to the significance of the wall. Cultural heritage design / sympathetic design principles for incorporation into the design of the replacement wall have also been included; $1,875.00.

Note: Specific or specialty designs of the replacement wall from a heritage perspective have not been included. It is assumed that the Counties will provide input on the direction of the wall design in this regard, and if additional support from heritage / restoration specialists is warranted.

- Municipal Class EA Process – With the inclusion of the retaining wall, additional materials / options will require presentation to the public at a forthcoming PIC, and documentation within the Project File Report. Details to be included include creek bed restoration details and heritage considerations. It is anticipated that details will be provided by the structural and drainage design teams to support this task. We have also allowed for two (2) stakeholder meetings (virtual) as it is anticipated that project specific details regarding the creek realignment / existing weir will require discussion with the Conservation Authority; $3,125.00

- Excess Soils – Preliminary reviews suggest that the replacement of the retaining wall may generate upwards of 1,000 m^3 of excess material. It is interpreted that any works associated with the excess soils component will be managed under a similar circumstance to the approach as presented in Addendum 3 to the original RFP, in which an allowance for $20,000 has been set aside for the excess soils component of the work. It is assumed that this work will be completed concurrently with the geotechnical investigation.

- Geotechnical – Two boreholes along the retaining wall to 6.0 m or refusal with 2 3.0 m rock core from each should refusal be encountered less than 6.0 m below grade and 4 samples for material testing; $10,500.00.

- Structural – Incorporation of retaining wall, weir and surrounding area into preliminary and detail design, PIC documentation, reporting, tendering and specifications; $18,750.00.

- Utility Relocation Coordination and Incorporation of Design (from individual utility groups) into the design packages; $3,200.00
- Project Management – $7,587.50

- Disbursements – 5%

Total: $83,462.50 (includes a $20k allowance for excess soils) plus disbursements

Therefore, regardless of the chosen option for bridge replacement, the removals as noted above are necessary. However, we understand, that the specific process and extent of this removal will depend on further historical, hydrological, and environmental investigations.

If you have any questions or require any further information in this regard, please do not hesitate to contact the undersigned.

Regards,

AINLEY GRAHAM AND ASSOCIATES LIMITED

Prepared by:

Lois-Ann Hayes, P.Eng.
Vice President and Branch Manager