

May 16, 2018

Mr. Brad Anderson  
Principal Planner  
Planning and Economic Development  
Regional Municipality of Durham  
PO Box 623  
605 Rossland Road East  
Whitby, ON  
L1N 6A3

RE: CARRUTHERS CREEK WATERSHED PLAN  
PHASE 2 TECHNICAL ANALYSES AND CONSULTATION PLAN

Dear Mr. Anderson

This letter confirms that I have reviewed TRCA's planned approaches to the Phase 2 Technical Analyses and the Communications and Consultation Strategy and have determined that they are comprehensive, rigorous and technically sound. They are leading edge among Ontario's conservation authorities. The scope and processes are consistent with what is described in the October 2017 TRCA document entitled "*Next Generation of Watershed Planning Terms of Reference*". They also embody directions found in newly drafted provincial guidance on watershed planning and in the 2016 Durham Community Climate Adaptation Plan. The continuing commitment to independent third-party peer-review, similar to that used in Phase 1, ensures that the completed Carruthers Watershed Plan will provide informed, unbiased, updatable and stakeholder-supported guidance over the management of the watershed for the sustained benefit of the communities it serves.

Through his recent letters (March 27 and April 3, 2018) to you, Gary Bowen has described Phase 2 work planning and timelines in some detail. My letter serves to highlight some of the key elements and expected deliverables.

#### PHASE 2 - TECHNICAL IMPACT ANALYSES AND EVALUATION

The Phase 2 technical impact analysis follows on from the Phase 1 watershed characterization studies in examining the expected impacts of future growth and changes in land use in combination with other influences such as climate change. The goals, objectives and management actions contained in the 2003 Watershed Plan and the 2004 Fisheries Management Plan will be revisited in light of the passage of time and the improved understanding of watershed conditions and processes gained through more recent monitoring and assessment. Potential management options for protecting human health and well-being, mitigating adverse impacts on watershed health and sustainability, and building a more robust natural heritage system will be evaluated using cause and effect modeling and other tools. Five forward looking scenarios are being selected to reflect differing land uses and growth, longer-term and extreme-event drivers and influences

attributable to climate change, and the application of a range of possible protection, restoration and enhancement actions. Priority action areas will be determined based on the evaluation of existing conditions, the analysis of future risks and vulnerabilities, and the identification of opportunities ranked according to feasibility and effectiveness.

Ecosystem components being examined include the terrestrial system, wetlands and woodlots, the urban canopy, the integrated (surface and ground and quality and quantity) water resource system, and aquatic system health. Their role in providing 'ecosystem services' such as human health and well-being and public safety (e.g. flooding) and how those services may be impacted under each scenario will be evaluated.

TRCA's goal is to have final reporting and peer-review of the impact analysis and a preliminary evaluation of potential management actions completed by December 2018 which will then lead into the development and refinement of management recommendations during the first half of 2019. Deliverables under each ecosystem component will include documentation of modeling and other evaluation tools used, digital mapping of key features and vulnerabilities, and the identification of restoration and enhancement targets and opportunities. A synthesis report will bring the components together into an integrated examination of deficiencies in the existing natural heritage system and in the management of water resources and an examination of potential actions and priorities for achieving and maintaining watershed resilience and sustainability.

## CLIMATE CHANGE CONSIDERATIONS

Mounting evidence of our changing climate and its impacts on human health and well-being and on natural heritage systems makes it imperative that observed and projected impacts be evaluated as part of the watershed planning process. Over the past decade the GGH and other parts of southern Ontario have seen the damaging effects on homes and businesses and on municipal infrastructure and services caused by flooding from intense, short-duration thunderstorms. Ice storms like the one that occurred in 2013 have caused extensive damage to the urban tree canopy and costly disruption of the electrical power grid. Prolonged drought-like conditions as seen in 2016 adversely impact rural communities, farmers and golf courses and increase risks to aquatic habitat.

The debate over how best to evaluate projected changes in climate variables including rainfall intensities and frequencies and temperatures is continuing. To assist them in moving forward with the selection of future climate scenarios as part of the watershed planning process TRCA has enlisted the support of the Ontario Climate Consortium (OCC). To this end the OCC is convening a forum of experts and invited stakeholders on June 11, 2018 at Black Creek Pioneer Village on the subject of climate change and watershed planning. In my peer-review oversight role on the Carruthers watershed I, along with other potential ecosystem component peer review candidates, will be attending the forum.

## COMMUNICATIONS AND CONSULTATION STRATEGY

As a critical part of this new generation of watershed planning TRCA is breaking new ground both in the extent and in the manner of communicating with and involving local governments, community-based organizations, businesses, residents, and other parties and persons with an interest in the Carruthers watershed. A range of methods will be employed to foster awareness and understanding, provide updates on progress, receive input and feedback and answer questions. These will include a dedicated interactive website, mailing lists, online surveys, public information

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centres, small group meetings, milestone reports to regional and local municipal councils, staff-to-staff meetings, and information releases via news media and social media. The unprecedented scope of this communications and consultation strategy should ensure that the vision, goals, objectives and management directions contained in the final watershed plan reflect a fully informed integration among all stakeholder interests

**MY ROLE**

My continuing role as an independent Peer Review Advisor is intended to bring process oversight from the perspective of someone with an extensive background in integrated watershed planning and management acquired through 30+ years of related provincial, conservation authority and private consulting service. I will be assisting TRCA in the selection of subject-matter peer reviewers, in the supplementary evaluation of peer review comments and staff responses, and in ensuring that Phase 2 reporting provides a sound basis for development of the final watershed plan.

I would be happy to respond to any questions you may have regarding my assessment of the Phase 2 approach, including the Work Plan and Communications and Consultation Strategy as currently documented. This could be done over the phone or in-person at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John Kinkead', with a stylized flourish at the end.

John Kinkead, P. Eng.  
President

Cc Gary Bowen, TRCA  
Maryam Nassar, TRCA