Conservation Halton	COMPLETE APPLICATION CHECKLIST	April 2024

UNDERGROUND UTILITY CROSSING (OPEN CUT)

The following checklist has been compiled to assist the applicant in preparing their application for approval under the Conservation Authorities Act and Ontario Regulation 41/24. This checklist is valid for a period of six months following issuance. The level of detail required in the application will depend on the proposed works, as well as the natural hazards and environmental conditions on site. We recommend that applicants contact Conservation Halton staff prior to submitting the application to determine what level of detail is deemed appropriate.

This checklist **must be returned** with the Permit application indicating in the appropriate spaces that all required information has been provided.

PROJECT TITLE:	DATE:
LOCATION:	FILE #:

		Applicable	Provided
General Submission Requirements			
Application Form	Completed and signed application form. *At a minimum, the landowner/utility company must sign the form. If an agent is representing the landowner, the agent must also sign the form.*	☐	☐
Application Fee	Non-refundable administrative fee as per category _____ on the fee schedule attached to permit application.	☐	☐
Electronically Submitted	All materials submitted electronically either through email or digital transfer.	☐	☐
Project Description	Description of, and rationale for, the proposed works including discussion of other alternatives considered. If a replacement structure is proposed, details regarding the current conditions of the existing structure are requested.	☐	☐
Photographs	Photographs of the watercourse, banks, adjacent vegetation and/or representative vegetation communities (if applicable) during ice-free conditions.	☐	☐
Drawings	Digital drawings and ___ ( ) hard copy sets of all drawings, folded to 8½" x 11", in standard metric scale. See 'Drawing Requirements' section.	☐	☐
Reports	Digital reports and ____( ) hard copies of reports listed under 'Technical Study Requirements'.	☐	☐
Qualified Persons	Where a drawing or report is required to be prepared by a P.Geo., P.Eng., OALA, or OLS, it must be stamped, dated and signed.	☐	☐

		Applicable	Provided
Drawing Requirements			
Digital Copies	Technical drawings and plans provided in pdf format unless requested otherwise (i.e. the most recent version of AutoCAD). GIS data and mapping should be submitted in an acceptable ESRI format and be properly georeferenced to real world coordinates (i.e., NAD83, UTM, Zone 17). It is highly desirable that mapping related data be submitted in ArcGIS Geodatabase format, containing all spatial, attribute, metadata and spatial joins/data rules. ESRI shape file format is an acceptable alternative.	☐	☐
Topographic Survey	Detailed topographic survey of the site by an OLS or qualified P.Eng. extending a minimum 15m upstream and downstream of the project footprint, with information collected at 1m intervals along the creek. The survey is to identify/confirm/include items such as: • Creek inverts, creek thalweg • Location of channel banks • Existing infrastructure/utilities • Observed water level • Dams/weirs/knick points • Slopes /valley walls/retaining walls (top and bottom of bank) • Limit of wetlands, staked by Conservation Halton • Ditch lines • Benchmarks • Date surveyed, etc.	☐	☐
Plan View(s)	Plan view(s) showing existing conditions and proposed development conditions including: • Detailed grading (clearly illustrate how the proposed works will blend in with the undisturbed areas) • Limit of work/disturbance • Location of open cut trench (with dimension) • Watercourse (bankfull width) • Culvert/Bridges • Watercourse features • Vegetation • Conservation Halton staked Wetland limits • Structures/buildings • Utilities/infrastructure • Borehole locations • Location of cross-sections and profile views, etc. • Location of approximate regulated limits (ARL) and applicable natural hazards, specifically: _____ _____	☐	☐
Aerial Photograph(s)	Plan view of the proposed works and limits of disturbance (or other, specifically _____), superimposed over top of a recent aerial photograph of the site. Please specify date of imagery.	☐	☐

		Applicable	Provided
Profile Views	Proposed profile view of the utility, trench and any mitigation measures (e.g. trench plugs), extending through the regulated area. Borehole logs, identifying soil conditions, if available should be provided on the drawing. For creek crossing, the thalweg of the channel or crossing structure inverts must be shown relative to the depth of utility crossing. The 100 year channel scouring should be delineated, if determined. For crossing of wetlands, wetland bathymetry relative to the depth of utility crossing must be provided. **Accurate delineation of the wetland would be required in support of this information.** Please consult with staff regarding the appropriate depth of the utility crossing.	☐	☐
Channel/ Wetland Restoration	Existing and proposed cross-sectional and longitudinal views of the natural feature, clearly illustrating restoration of the area to existing conditions or better. For creek crossings, creek invert, low flow channel, bank details, overall gradient, etc. must be shown).	☐	☐
Watercourse Features	Plan, section and profile details of proposed features (e.g. pools, riffles, etc.), as well as tie-in to the proposed channel. Bank location (bankfull, low flow), must be clearly identified on the above noted plans	☐	☐
Substrate Materials	Type, size/gradation and depth of appropriate substrate material. Details of granular mixtures proposed or native material to fill the void spaces must also be included.	☐	☐
Existing Vegetation	A vegetation inventory (including scientific names) and Tree Preservation Plan. Tree protection fencing location and details must be illustrated on the drawings. Recommend that Conservation Halton's *Guidelines for Landscaping and Rehabilitation Plans (2024)* be followed available at www.conservationhalton.ca.	☐	☐
Proposed Vegetation	Details on restoration, including a locally native, non-invasive seed mix for disturbed areas, as well as compensatory trees and/or shrubs must be indicated on the drawings (including scientific names). Follow Conservation Halton's *Guidelines on Landscaping and Rehabilitation Plans (2024)*, available at www.conservationhalton.ca. unless as directed below: _____ _____ _____	☐	☐

		Applicable	Provided
Staging, Phasing and Access Route Plans	Details regarding the sequence of construction with consideration of site management, best management practices, and construction timing. The construction sequence should consider: • Vegetation removal, • In-stream works, • Seasonal timing of landscaping and bioengineering, • Stockpiling operations, etc. The full limits of disturbance for access to the site must be delineated with details regarding temporary crossings (if applicable). Efforts to minimize the extent of the disturbance must be demonstrated.	☐	☐
Erosion and Sediment Control Plans	Details regarding sediment and erosion control measures, site dewatering, equipment, materials, access to and from work area, monitoring, site supervision, etc. See *Erosion & Sediment Guidelines for Urban Construction* prepared by the Greater Golden Horseshoe Area Conservation Authorities (www.sustainabletechnologies.ca) for additional guidance.	☐	☐
	Above plan is to be prepared by a qualified professional (i.e. CISEC, CPESC or an approved equivalent).	☐	☐
Technical Study Requirements			
Studies pertaining to flooding and erosion hazards must be completed in accordance with the Ministry of Natural Resources & Forestry (MNRF) Technical Guidelines (MNR, 2002) and current CH Guidelines.			
Geotechnical Assessment (Soil/Bedrock Investigation)	A geotechnical assessment by a qualified P.Eng for the purposes of verifying soil, bedrock and groundwater conditions, as well as the feasibility of the open cut crossing.	☐	☐
Geotechnical Assessment (Slope Stability)	A geotechnical slope stability assessment by a qualified P.Eng. to ensure the proposed works will not negatively impact slope stability of the valley wall.	☐	☐
Downcutting/ Scour Analysis	Detailed analysis by a qualified licenced professional of the potential for downcutting/scour based on historical observations or acceptable modelling. Future channel migration and widening modifying the plan form of the creek should be considered.	☐	☐
Hydrogeological Assessment	A hydrogeological assessment by a qualified P.Eng or P.Geo. to study the potential impacts to surface/groundwater interactions related to creek relocation/lowering, dewatering, and discharge activities. The assessment must provide adaptive management, mitigation and monitoring strategies with considerations for discharge (i.e. quantity of water), construction phasing, etc.	☐	☐

		Applicable	Provided
Hydrologic Evaluation	Assessment of the impact of hydrologic changes to wetlands using a multi-disciplinary approach by Qualified Person(s).	☐	☐

Other Requirements	
Fisheries Act	If works are proposed in/near water, the proponent is responsible for avoiding Harmful, Alteration, Disruption or Destruction (HADD) to fish and fish habitat under the *Fisheries Act* . Please refer to the Fisheries and Oceans Canada (DFO) website for additional information. Questions can be directed to DFO by phone 1 855 852-8320 or email FisheriesProtection@dfo-mpo.gc.ca.
Endangered Species	The Ministry of Environment, Conservation and Parks (MECP) may have concerns with respect to species listed on the Species at Risk in Ontario list as it pertains to *the Endangered Species Act* (ESA) Please contact MECP and DFO directly to determine if there is potential for Species at Risk on, or adjacent, to your project site. The MECP will determine if detailed project information will be required to begin the ESA approval process: SAROntario@ontario.ca
Timing Windows	Please be advised that regulatory agencies such as the MECP and DFO (mentioned above), as well as other agencies such as the MNRF (scp.aurora@ontario.ca or scp.guelph@ontario.ca) may have seasonal timing restrictions which dictate when in-water work can occur. Please be sure to contact regulatory agencies as appropriate.
Prepared by: _____	**Signature: _____**

Additional Design Considerations

- The time of year that work is proposed may impact permit requirements for in-water works. Seasonal Design Considerations (SDCs) associated with works to occur during times of higher expected flow (e.g. freshet) may include enhanced ESC measures or increased monitoring and mitigation measures. Changes in work schedules may require a revised permit to address SDCs
- Appropriate measures must be taken to ensure that groundwater flow patterns are not altered. For example, ensure that groundwater is not misdirected along pipe bedding through the use of cut off collars or alternative measures.
- Current channel conditions should be replicated (i.e. hydrograph, slope, etc.) or rationale provided for changing these channel features.
- Substrate material must be an appropriate for size for the watercourse. Natural substrate should be utilized where appropriate. Voids of new substrate material should be filled to avoid subsurface flow.
- Instream work with heavy machinery should be minimized.
- Work area should be isolated from flowing water. Phasing of works should allow construction to be performed in the dry.
- Settling or filtering of water pumped from work area must be addressed.
- Existing crossing must be abandoned using appropriate techniques. Removal of existing utility should be carried out where feasible without greatly impacting the natural environment.
- Monitoring by the proponent after construction is crucial to verify the success of the project.