

Unit 1C - Stage 1: Evaluation of Archaeological Potential

Overview of Process

<p>Background study</p> <p>Detailed documentary research of the archaeological and land use history and present condition of a property.</p>	
<p>Property inspection</p> <p>An inspection visit to the property to:</p> <ul style="list-style-type: none"> • gain first-hand knowledge of the property’s geography, topography and current condition • support background study findings • determine and map the potential for archaeological resources. <p>There is no excavation or artifact collecting at this stage.</p>	
<p>Analysis: Evaluating Archaeological Potential</p> <p>The review will provide:</p> <ul style="list-style-type: none"> • a clear description of all features of archaeological potential noted for the property • a detailed evaluation of the property’s potential to contain archaeological remains, based on the range of criteria that influenced site locations (e.g. as outlined in the <i>Checklist for Determining Archaeological Potential</i>.) 	
Evaluated Archaeological Potential	Recommended next step
All of the property has potential	Stage 2 assessment of whole property
Some of the property has potential	Stage 2 assessment of part of property
None of the property has potential	End of assessment

A Note on Stage 1 Licensed Activities

- Archival background study research is not considered archaeological fieldwork. An archaeological licence is not required.
- The property inspection, analysis and evaluation of archaeological potential are licensed activities and must be done by a licensed archaeologist.

- The project report must be filed by a licensed archaeologist. It must include the findings of both the background study and the property inspection.

Stage 1: Evaluation of Archaeological Potential

Stage 1 is a comprehensive review of the geographic and historical features of a property and its surroundings. It provides an evaluation of archaeological potential on and around the property with greater detail and accuracy than a determination of archaeological potential done by a non-archaeologist. It may be used in place of a determination of archaeological potential by provincial or municipal approval authorities, to determine whether the property requires archaeological assessment and to recommend efficient and cost-effective assessment strategies.

Objectives

- To evaluate in detail the property's archaeological potential (i.e. the likelihood that the property contains archaeological resources)
- To recommend appropriate strategies for future assessment.

When to Conduct Stage 1

Stage 1 is not required for every property undergoing archaeological assessment, but only at times when a greater level of detail is needed or desired. Typical examples include:

- When undertaking a stand-alone study on behalf of a client to determine if there are archaeological concerns for a property or properties under consideration for development, to help determine a development strategy
- When evaluating archaeological potential for a large area (e.g. municipality, forest management area, agency land holdings) where detailed mapping may be needed to determine whether portions with low potential can be eliminated from assessment.
- When supplementing or re-evaluating a previous determination of archaeological potential that was not made using the standard process and tools (such as the *Checklist for Determining Archaeological Potential*, archaeological master plan)
- When developing an assessment strategy for an urban or brownfield property.

Background Study

See *Standards and Guidelines for Archaeological Fieldwork: Background Study*.

Special Condition: Properties with Previous Disturbance

This condition applies to properties where the entire subject property has extensive and deep disturbance and it is clear there is no likelihood of deeply buried archaeological deposits, but an archaeological assessment is still required (because property information is either unavailable or not considered) as a condition of development.

In these cases, Stage 1 may consist of a detailed property inspection (as set out below) alone to confirm the property's condition. The background study component is not required.

This special condition does not apply to urban and brownfield properties.

Property Inspection

An inspection consists of a visit to the property to gain first-hand knowledge of the property's geography, topography and current condition, to support the background study findings, and to evaluate and map the potential for archaeological resources.

There is no excavation or artifact collecting at this stage.

Property inspection is not an equivalent to a Stage 2 Property Survey (see *Archaeological Fieldwork: Stage 2* for further information).

Standards

1. Conduct an on-site inspection of the complete property and its periphery. The inspection may be systematic (e.g. every 20, 50, 75 metres) or random spot-checking. Coverage must be sufficient to identify the presence or absence of features of archaeological potential if making recommendations for assessment strategies that will not follow the standards and guidelines.
2. Conduct the property inspection when weather conditions permit good visibility of land features. Do not conduct inspections when weather conditions may reduce the chance of finding features of archaeological potential (e.g. snow covered surface, frozen ground, excessive rain or drought).
3. The inspection must include:
 - Confirmation that features of archaeological potential are present where previously identified, e.g.:
 - Watercourses are present where mapped, and are not artificial or altered

- Land formations are natural and not artificial.
- Identification and documentation of additional features of archaeological potential not visible on mapping, e.g.:
 - Knolls, ridges or plateaux too small to show on large-scale topographic maps
 - Relic water channels
 - Glacial shorelines
 - Patches of well-drained soils in areas of heavy soil
 - Slightly elevated areas in low and wet areas.
- Identification and documentation of features that will affect assessment strategies, e.g.:
 - Woodlots
 - Small bogs, swamps or permanently wet areas
 - Steeper grade than indicated on maps
 - Overgrown vegetation that does not allow ploughing
 - Heavier soils than anticipated
 - Recent land disturbances such as regrading, fill deposit or vegetation clearing.

Guidelines

1. The inspection may include:

- identification and documentation of structures and built features not noted in documentation, e.g.:
 - Heritage structures or landscapes
 - Cairns, monuments, or plaques
 - Cemeteries.

Special Conditions: Property is Not Accessible for Inspection

If physical access to the complete property is not possible (e.g. remote location, land owner refuses permission to enter), the assessment must proceed to Stage 2, and Stage 1 may not be used to exclude areas from further assessment.

Special Conditions: Linear Corridors

Some linear corridor projects (e.g. highway right of way, pipeline or hydro corridor) cover many areas of high and low archaeological potential and are too large or long to inspect in detail.

When the property inspection for this type of project consists of spot checks, areas being recommended for further assessment must be mapped based on closeness to features of archaeological potential using aerial mapping or detailed engineering plans for the project.

Special Conditions: Urban and Brownfield Property Inspections

Urban and brownfield properties are often complex, with a likelihood of deeply buried or well-preserved archaeological resources. They often have a long history of human use and occupation, and may be associated with well-documented historic events or structures (e.g. former military base, dwelling, industrial complex) or Aboriginal occupation sites.

Old industrial sites and landfills pose a greater health risk due to contamination by chemicals and metals. Archaeological fieldwork must comply with the Environmental Protection Act and Occupational Health and Safety Act and their guidelines to protect the health and safety of workers.

Standards

1. In addition to the standards listed on page **x**, remote sensing may be used as an on-site inspection technique. This technique may not be used alone, as results are not detailed enough to confirm the presence or absence of archaeological resources.

Guidelines

1. In addition to the guidelines listed on page **x**, when there is the possibility of deeply buried intact archaeological resources or the nature of overburden and extent of impacts is not clear, exploratory trenches to reveal stratigraphy may be excavated by heavy machinery such as a backhoe (see *Archaeological Fieldwork: Stage 4* for further information on the use of heavy machinery).

Analysis: Evaluating Archaeological Potential

The Stage 1 review leads to an evaluation of the property's potential to contain archaeological resources. If the review indicates that it is possible that archaeological resources exist anywhere on the property, a Stage 2 assessment must be done to confirm it.

When making an evaluation and subsequent recommendations, it will be necessary to account for all features present on the property that can affect a determination of archaeological potential. As a starting point, the *Checklist for Determining Archaeological Potential*, developed by the Ministry of Culture for non-specialists, summarizes these features. Also consider factors such as integrity of the archaeological resources and the impact of the proposed development.

Features Indicating Archaeological Potential

In this section, the numbers refer to the *Checklist for Determining Archaeological Potential*.

1. Previously identified archaeological sites.
2. A water source: It is important to distinguish types of water and shoreline, as well as distinguishing natural from artificial water sources, as these affect site locations and types to different degrees:
 - Primary water sources (lakes, rivers, streams, creeks)
 - Secondary water sources (intermittent streams and creeks, springs, marshes, swamps)
 - Features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; cobble beaches)
 - Accessible or inaccessible shoreline (e.g. high bluffs, swamp or marsh fields by edge of lake, sandbars stretching into marsh).
3. Elevated topography (e.g. eskers, drumlins, large knolls, plateaux).
4. Pockets of well-drained sandy soil, especially around heavy soil or rocky ground.
5. Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, promontories and their bases. There may be physical indicators of their use such as burials, structures, offerings, rock paintings or carving.
6. Resource areas, including:
 - Food or medicinal plants (e.g. migratory routes, spawning areas, prairie)
 - Scarce raw materials (e.g. outcrops of chert, quartz, minerals such as copper or ochre)
 - Early Euro-Canadian industry (e.g. logging, prospecting, mining).
7. Areas of early Euro-Canadian settlement. This includes places of early military or pioneer settlement (e.g. pioneer homesteads, isolated

cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history such as local, provincial or federal monuments or heritage parks.

8. Early historic transportation routes (e.g. trail, pass, road, rail, portage route).
9. Property designated under the *Ontario Heritage Act*.
10. Local history or local informants identify the property with possible archaeological sites, historic events, activities or occupations.

Archaeological Potential Removed

11. The entire property or portions of it have been subjected to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. Examples include:

- Quarrying
- Major landscaping involving grading below topsoil
- Building footprints
- Sewage and infrastructure development.

Activities such as agricultural cultivation, gardening, minor landscaping and grading do not necessarily affect archaeological potential.

In urban or brownfield contexts with documented potential for deeply buried intact archaeological resources beneath land alterations, archaeological potential is not removed.

Special Conditions: Stage 2 Test Pit Survey Coverage

Generally, Stage 1 results are not detailed enough to support recommendations to exempt portions of a property from further assessment.

The Stage 1 evaluation may be used, however, to recommend exempting areas from test pit survey beyond those set out in Stage 2 **only** under the following conditions:

- Both a background study and property inspection have been done.
- The property inspection must cover the entire property to document areas proposed for exemption and capture small pockets of archaeological potential. Do not exempt any area that has not been inspected on-site.
- No areas within 300 metres (150 metres for lands in northern Ontario or on the Canadian Shield) of features meeting

archaeological potential criteria numbers 1, 2, 7, 8 and 10, located either on or adjacent to the property, may be exempted from further assessment.

- No areas within the property with features meeting archaeological potential criteria numbers 3, 4, 5, 6 and 9 may be exempted from further assessment

When making recommendations to exempt areas meeting the criteria for low archaeological potential from further assessment, the consultant may wish to engage with Aboriginal peoples to ensure there are no unaddressed Aboriginal cultural heritage interests.

This option is not acceptable for ploughed lands that will be pedestrian surveyed in Stage 2.

Stage 1 and Archaeological Master Plans

Municipal Archaeological Master Plans

Municipal archaeological master plans, while based on an archaeological potential model developed by a professional archaeologist, usually require that all lands within a property be assessed to ensure that the full archaeological record is captured. Often, this requirement is reflected in municipal policies.

Stage 1 may be useful to refine assessment strategies, but it may not be used to exempt the property from assessment, except where it confirms that potential has been removed by extensive and deep ground disturbance.

Forestry Management Master Plans

The Ministry of Natural Resources uses a screening process to define areas requiring archaeological survey within a forest management unit. This includes:

1. An archaeological potential master plan based on a potential model that gives weights and values to specific landscape elements:
 - Pre-testing includes reviewing the locations of registered archaeological sites, and other cultural heritage values. Landform types that show stronger associations with these have higher values.
 - The Ministry of Natural Resources also confirms the preliminary potential map by reviewing additional information available internally, and through the local community, aerial photography and historic mapping.

2. Applying the potential model only to areas of confirmed ground alterations.
 - Under Ministry of Natural Resources guidelines, when forestry operations are proposed, the proponent and the Ministry of Natural Resources evaluate the planned activities for their potential to alter the ground to the point of impacting archaeological sites. They also review best practices to avoid those alterations or reduce the impact (e.g. advance planning for water crossings, restriction of activities to frozen ground conditions only).
 - This review determines if an archaeological assessment will be necessary for any areas of the proposed operation. The resulting assessment must then be conducted only for areas with archaeological potential where avoidance is not possible.
 - As this process results in a high level of pre-survey screening, further exemption of areas from Stage 2 assessment (apart from allowable exemptions in Stage 2) is not allowed.

Related units:

- *Standards and Guidelines for Archaeological Fieldwork: Background Study.*
- *Standards and Guidelines for Archaeological Fieldwork: Stage 2*
- *Standards and Guidelines for Archaeological Fieldwork: Stage 4*
- *Project Reports and Maps: Stage 1*
- *Project Reports and Maps: Stage 2*

Related forms:

- *Checklist for Determining Archaeological Potential*

