

Unit 1D - Stage 2: Property Assessment

Overview of Process

<p>Background study</p> <ul style="list-style-type: none"> • Detailed documentary research of the archaeological and land use history and present condition of a property. • Not required if Stage 1 was done. 	
<p>Property survey</p> <ul style="list-style-type: none"> • On-site documentation and inventorying of archaeological resources and identification of archaeological sites, by systematically walking the property finding, collecting and recording artifacts. • The required survey method depends upon the nature and extent of ground cover. The survey may include one or both of the following: <p>Pedestrian survey</p> <ul style="list-style-type: none"> • Mapping and collecting artifacts on the surface • For open ploughed fields. <p>Test pit survey</p> <ul style="list-style-type: none"> • Mapping and collecting artifacts by digging small regularly spaced pits • For areas where ploughing is not possible. 	
<p>Analysis: determination of archaeological resources requiring Stage 3 site-specific assessment</p> <ul style="list-style-type: none"> • Analysis of data to determine the nature of archaeological resources found. • Measuring archaeological resources against set criteria to determine whether they indicate an archaeological site requiring further assessment. 	
Property assessment results	Recommended next step
Archaeological sites of further cultural heritage value or interest found on property	Stage 3 site-specific assessment for each archaeological site
No archaeological sites of further cultural heritage value or interest found on property	End of assessment

Stage 2: Property Assessment

This is a critical stage, as it provides a complete overview of archaeological resources on the property and a preliminary determination of whether any of the resources might be of cultural heritage value or interest.

Objectives

- To document archaeological resources on the property
- To determine the presence of archaeological sites on the property
- To recommend appropriate assessment strategies for archaeological sites identified.

Background Study

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

If Stage 1 was done for the property, the background study is not required. Review the Stage 1 report to assist with determining the Stage 2 assessment strategy, conducting analysis and making recommendations.

Property Survey

On-site documentation and inventorying of archaeological resources and identification of archaeological sites, by systematically walking the property finding, collecting and recording artifacts. The required property survey method, either pedestrian survey or test-pit survey, depends upon the nature and extent of ground cover. The survey may include one or both methods.

Standards

1. Survey the entire property, including land adjacent to built structures (both intact and ruins). Areas that meet the criteria in the following table may be exempted from survey:

Allowable Exemptions from Property Survey	
A. Areas of no or low archaeological potential	<ul style="list-style-type: none">• Permanently wet areas, exposed bedrock or steep slopes (greater than 20°), except in locations likely to contain pictographs or petroglyphs.• Areas subjected to extensive and deep land

	<p>alteration that has severely damaged the integrity of archaeological resources.</p> <ul style="list-style-type: none"> • Additional areas recommended for exemption from test pitting in Stage 1. <ul style="list-style-type: none"> • If archaeological resources are found within 50 metres of these areas during Stage 2, these areas must be included in the survey area. • In the absence of a Stage 1 evaluation of archaeological potential, no additional areas beyond those noted in the first bullet may be exempted on the basis of archaeological potential.
<p>B. Areas with development constraints</p>	<ul style="list-style-type: none"> • Areas formally prohibited from alteration: areas in an environmental easement, restrictive setback, or prohibitive zoning, where the constraint prohibits alterations. • Areas excluded from the development application because they are to be transferred to a public land-holding body (e.g. municipality, conservation authority, provincial agency). <ul style="list-style-type: none"> • Areas that are included in the development application, even if they are planned for future transfer, must be surveyed. • Under Ministry of Natural Resources forestry management guidelines, areas of planned operations identified as not contributing to the alteration of archaeological sites.

2. Conduct the property survey when weather and lighting conditions permit good visibility of land features. Do not conduct the property survey when weather and lighting conditions reduce the chance of finding evidence of archaeological resources (e.g. snow cover, frozen ground, conditions of excessive rain or drought, heavy fog).
3. Using the Global Positioning System (GPS) according to the requirements set out in *Standards and Guidelines for Archaeological Fieldwork: Using the Global Positioning System (GPS)*, record the locations of:
 - all archaeological sites
 - all findspots, (i.e. the location of an isolated artifact or two, separate from any additional finds that would suggest it is part of a larger site)

- all fixed reference landmarks.
- 4. Map all field activities (e.g. extent and location of survey methods, survey intervals) in reference to fixed landmarks, survey stakes and development markers:
 - Mapping must be accurate to five metres or to best scale available.
 - Use any mapping system that achieves this accuracy.
- 5. Map and retain all diagnostic artifacts and formal tools.
- 6. Photo-document all field conditions (e.g. ploughed field, pasture or woodlot, disturbances).
- 7. Do not use heavy machinery (e.g. gas powered augers, backhoes) to remove soil except when removing sterile or recent fill covering confirmed deeply buried or sealed archaeological sites (e.g. in urban areas, floodplains).
- 8. If fieldwork uncovers human remains, cease fieldwork and report the discovery to the appropriate authorities. See *The Discovery of Human Remains – Best Practices* for details.

Pedestrian Survey

Systematically walking the property mapping and collecting artifacts on the ground surface. This method is only for open and weathered ploughed land and agricultural lands (e.g. orchards, vineyards) that meet conditions below.

Standards

1. Required ground preparation:
 - Open ploughed land must be recently ploughed (or ploughed and disked if the soil is heavy) and weathered by one heavy rainfall or several light rains to improve the visibility of archaeological resources.
 - At least 80% of ground surface must be visible. If surface visibility is reduced below 80% (e.g. due to crop stubble, weeds, young crop growth) land must be re-ploughed before survey.
 - Ploughing must be deep enough to ensure total topsoil exposure, but not exceed the depth of previous ploughing.
 - Strip-ploughing or linear ploughing of agricultural land is not an acceptable alternative to full ploughing, except for orchards or vineyards where plants are more than five metres apart (measured from trunk to trunk).

2. Space survey transects at maximum intervals of five metres (20 survey transects/hectare). Reduction of survey intervals to compensate for poor ground visibility is not allowed.
3. When archaeological resources are found, decrease survey transects to one-metre intervals over a 20-metre radius around the find to determine if it is isolated or is part of a larger artifact scatter. Continue working outward at this interval until the full extent of the surface scatter is defined.

Test Pit Survey

Walking the property mapping and collecting artifacts by digging small regularly spaced pits. This method is less efficient and less accurate than pedestrian survey.

Standards

1. Use test pit surveying only on terrain where ploughing is not possible or feasible:
 - Wooded areas
 - Pasture with high rock content
 - Abandoned farmland with heavy brush and weed growth
 - Orchards and vineyards that cannot be strip-ploughed (i.e. planted rows are 5 metres apart or less), gardens, parkland or lawns that will remain in use for several years after survey
 - Very small (one hectare or less) properties
 - Narrow (10 metres or less) linear survey corridors (e.g. water or gas pipelines, road widening). Ploughed lands on either side of a narrow unploughed linear corridor may be surveyed by pedestrian survey or test pit survey.
2. Do not use test pit survey for surveying actively cultivated agricultural land.
3. Space test pits at maximum intervals of five metres (400 test pits/hectare) in areas less than 300 metres away from any feature of archaeological potential.
4. Space test pits at maximum intervals of 10 metres (100 test pits/hectare) in areas more than 300 metres away from any feature of archaeological potential.
5. Test pit to within one metre of built structures (both intact and ruins) or until test pits show evidence of recent ground disturbance.
6. Test pits must be at least 30 centimetres in diameter.

7. Excavate each test pit by hand into the first five centimetres of subsoil and examine the pit for evidence of fill, stratigraphy or cultural features.
8. Screen soil through mesh no greater than six millimetres.
9. Backfill all test pits unless instructed not to by the landowner.

Guidelines

1. Randomly spaced or clustered test pits may be excavated in addition to standard transects, but not to replace them.
2. To augment test pit survey, pedestrian survey may be used in pockets of land within an area to be surveyed by test pitting, if the pocket of land can be ploughed to the required standards.

When archaeological resources are found (positive test pit):

1. Intensify survey coverage around a positive test pit to confirm whether it is an isolated find or a potential archaeological site, using **one** of following strategies:
 - Reduce the distance between test pits to a maximum of 2.5 metres within a circumference of five metres around the positive test pit.
Excavate:
 - a maximum of eight additional test pits within this intensified area, **and**
 - one or more one-metre test units, at a minimum placing one unit over the positive test pit.

or

- Excavate additional one-metre test units as required within five metres of the positive test pit. See *Standards and Guidelines for Archaeological Fieldwork: Stage 3* for test unit standards and guidelines.
 - If excavating three or more one-metre test units around a positive test pit, intensified test pitting may be omitted.
2. If positive test pits or test units are found within the intensified area, resume test pit survey at five metre intervals, noting where the positive test pits end.
 3. Excavation of test units around a positive test pit may be done in Stage 2 or deferred to Stage 3. The Stage 2 report recommendations must include note of the deferred fieldwork.

Special Conditions: Test Pit Survey Where Archaeological Master Plans Exist

Guidelines

When the property is in an area covered by an archaeological master plan, the test pit survey interval (i.e. when to shift from five to 10 metre intervals) may be based on the master plan's mapping, if that distance is less than 300 metres around features of archaeological potential. For example, London's archaeological master plan sets out a high potential zone of 260 metres around features of archaeological potential, allowing survey intervals to widen from five to 10 metres at 260 metres.

Special Conditions: Test Pit Survey in Northern and Eastern Ontario

Guidelines

A modified test pit survey interval may be used for northern and Canadian Shield terrain:

1. Space test pits at maximum intervals of five metres within 50 metres of any feature of archaeological potential.
2. Space test pits at maximum intervals of 10 metres 50-150 metres from any feature of archaeological potential. Survey is not required beyond 150 metres.
3. Clustered test pits may be used to survey small areas of archaeological potential located in areas otherwise determined to be of low archaeological potential

Northern Ontario is defined as the region north of the southern boundary of the District of Muskoka, including the regions of Muskoka, Parry Sound, Nipissing and Manitoulin.

Canadian Shield terrain extends through central and eastern Ontario and is characterized by a rocky non-agricultural landscape with large areas of low, wet or flat topography.

Special Conditions: Undisturbed Forest Floor

Undisturbed forest floors typically exhibit shallow soil horizons that can make it difficult or impossible to excavate test pits. Archaeological resources are often visible to surface inspection once vegetation is cleared.

Guidelines

1. Conduct surface inspection of the forest floor in addition to test pit survey, as appropriate.
2. If soil horizons are absent or very thin, conduct surface inspection of the forest floor as an alternative to test pit survey.
3. Clearing vegetation:

- ☑ Use a soft-toothed leaf rake
- ☑ Cleared areas must be two metres in diameter, spaced at no more than five-metre intervals
- ☑ When live vegetation cover is dense, augment raking with close (i.e. “hands and knees”) visual inspections
- ☑ When archaeological resources are found, clear a 10-metre square around the positive cleared area. If positive cleared areas continue beyond this area, resume clearing two-metre areas at five-metre intervals, noting where the positive cleared areas end.

Special Conditions: Deeply Buried Archaeological Resources

In urban properties or on floodplains, original ground surfaces may be preserved under deep fill or soil deposits. In these conditions, test pit surveying is done not only to determine the presence of archaeological resources, but also to make preliminary assessment of the cultural heritage value or interest of multiple layers of deposit and possible mitigation or avoidance strategies. See *Standards and Guidelines for Archaeological Fieldwork: Stage 3* for further information on assessing cultural heritage value or interest.

These conditions require modified testing procedures. As these procedures have the potential to damage archaeological resources, the survey strategy must be the most cautious possible.

Guidelines

1. Use drilling augers or backhoes instead of shovels to excavate deep subsurface test holes. Space test holes at maximum intervals of five to 10 metres within the core of the planned development area and over any feature of archaeological potential.
2. When the deposit depth or land conditions preclude the use of augers or an examination of stratigraphic profiles is required, excavate linear trenches with backhoes. Locate trenches to provide sections and clear profiles of the core of the planned development area and areas identified with archaeological potential.

Analysis: Determination of Archaeological Sites Requiring Stage 3

When determining archaeological sites requiring Stage 3, Aboriginal peoples may have an interest in the proper identification of all Aboriginal archaeological sites that may be affected. The consultant may wish to engage with Aboriginal peoples to ensure there are no unaddressed Aboriginal cultural heritage interests.

Archaeological resources with at least one of the following characteristics indicate an archaeological site with enough cultural heritage value or interest requiring Stage 3 assessment:

1. Pre-contact archaeological resources containing diagnostic artifacts or a concentration of artifacts (or both):
 - In pedestrian survey, this is defined as finding in a 10 x 10 metre area:
 - at least one diagnostic artifact or fire-cracked rock in addition to two or more undiagnostic artifacts **or**
 - in areas east or north of the Niagara Escarpment, at least five undiagnostic artifacts **or**
 - in areas on or west of the Niagara Escarpment, at least 10 undiagnostic artifacts. In these areas, concentrations of five to nine undiagnostic artifacts can be evaluated case-by-case to determine if they require Stage 3.
 - In test pit survey, this is defined as finding:
 - at least one diagnostic artifact from combined test pit and test unit excavations **or**
 - at least three undiagnostic artifacts from combined test pit and test unit excavations.
2. Single examples of archaeological resources of special interest:
 - Aboriginal ceramics
 - Exotic or period-specific cherts
 - An isolated Paleo or Early Archaic diagnostic artifact
 - Human remains.
3. Post-contact archaeological resources containing at least 20 datable artifacts dating the period of use to before 1900. Further guidance for evaluating the potential cultural heritage value or interest of Euro-Canadian domestic sites post-dating 1830 is provided in *Standards and Guidelines for Archaeological Fieldwork: Stage 3*.
4. Twentieth century archaeological resources where background documentation or archaeological features indicate possible cultural heritage value or interest.

Regulation 170/04 under the Ontario Heritage Act defines:

archaeological site as “any property that contains an artifact or any other physical evidence of past human use or activity that is of cultural heritage value or interest”;

artifact as “any object, material or substance that is made, modified, used, deposited or affected by human action and is of cultural heritage value or interest”.

5. Archaeological resources without these characteristics may be recommended for Stage 3 based on the professional judgement of the consultant.

Special Conditions: Combining Stages 3 and 4

Where high cultural heritage value or interest of the archaeological site is clearly evident by the end of Stage 2 (based on the criteria in *Standards and Guidelines for Archaeological Fieldwork: Stage 3*), a recommendation may be made to combine Stage 3 and 4.

In this case, Stage 3 fieldwork must still be done to complete the site assessment and documentation; it is not possible to go straight from Stage 2 to Stage 4. Stage 3 also includes the process of evaluating cultural heritage value or interest, which may require engaging local communities and reviewing a range of mitigation options with the client, creating a pause in the process between Stage 3 assessment and Stage 4 mitigation.

Related Units:

- *Standards and Guidelines for Archaeological Fieldwork: Background Study*
- *Standards and Guidelines for Archaeological Fieldwork: Using the Global Positioning System (GPS).*
- *The Discovery of Human Remains – Best Practices*
- *Standards and Guidelines for Archaeological Fieldwork: Stage 1*
- *Standards and Guidelines for Archaeological Fieldwork: Stage 3*
- *Project Reports and Maps: Stage 2*