

Archaeology Field Methodology Guidance for Broadband Projects

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Introduction

These guidelines were developed to assist archaeologists in designing an archaeological survey to determine whether archaeological sites will be affected by the installation of buried cable within an existing road right-of-way (ROW). The State Historic Preservation Office (SHPO) requested and considered input from the Office of the State Archaeologist (OSA), the Minnesota Indian Affairs Council (MIAC), the Minnesota Historical Society (MNHS), the Minnesota Department of Employment and Economic Development (MnDEED) Office of Broadband Development (OBD), and the Minnesota Department of Transportation (MnDOT) Cultural Resource’s Unit (CRU) on this guidance document. However, please note that those agencies have their own roles, responsibilities, and guidance that have not been fully addressed here. SHPO recommends reaching out directly to those agencies

with questions regarding their roles. Additionally, this guidance document does not address the installation of broadband on Tribal Land or other Federal Land. SHPO recommends reaching out directly to the land-owning agency for guidance.

Federal and State Laws that May Apply

- Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800
 - Please note that this guidance is not intended to be comprehensive for projects requiring review under federal law. Lead federal agencies determine appropriate historic property identification efforts under the NHPA and its implementing regulations.
- The Minnesota Field Archaeology Act (MN Statute 138.40)
 - If significant archaeological sites (i.e. those that are listed in or have previously been determined eligible for listing in the National Register of Historic Places (NRHP)) are located within or adjacent to the proposed fiber optic cable route, special attention should be paid to how those sites will be preserved.
- The Minnesota Historic Sites Act (MN Statute 138.665-666)
 - If properties designated in sections 138.662 and 138.664 or listed in the NRHP are located within or adjacent to the proposed fiber optic cable route, special attention should be paid to determine appropriate treatments and to seek ways to avoid any adverse effects to those properties.
- The Private Cemeteries Act (MN Statute 307.08)
 - Please note that SHPO has no responsibility or authority under this law. Please contact OSA or MIAC with questions.

MnDEED State-Funded Broadband Grant Projects

If a broadband grant has been awarded by MnDEED OBD, the grant applicant must work with MnDEED OBD's Environmental and Land Use Coordinator to determine if the project will need an archaeological survey. If MnDEED OBD requests an archaeological survey, then a qualified archaeologist should be hired by the grant applicant.

Finding an Archaeological Consultant

SHPO recommends that a [Secretary of the Interior-qualified](#) archaeological consultant conduct an archaeological survey following our recommended best practices for buried cable projects. The Minnesota Historical Society's [Preservation Specialists Directory](#) maintains a list of archaeological consultants. Search for "archaeologist" by Specialty.

If the archaeological survey will be conducted within MnDOT right-of-way (ROW), then the archaeological survey will need to comply with their [survey standards](#). Please reach out to MnDOT CRU staff with questions about their survey standards.

Methodology Guidelines

Disclaimer: These guidelines have been developed to the best of SHPO's ability to encompass different agency roles, responsibilities, and consultation protocols. There may be scenarios where the guidelines below are not appropriate. Additionally, while SHPO developed this guidance, other state agencies are in the process of developing new survey manuals. Be sure to check with those agencies prior to conducting field work to ensure that the most up-to-date guidance is in use. If you have any questions about conflicting guidance, please reach out to agency staff.

In general, SHPO recommends avoiding the installation of cable through, under, or over cemeteries, burial grounds, graves, and significant archaeological sites.

Step 1: Minnesota Indian Affairs Council Project Review Request

State law ([Minnesota Statute 138.31-42, the Field Archaeology Act](#)) requires an archaeological license for any survey work conducted in the public ROW. Prior to applying for an archaeological license, SHPO recommends that the archaeologist submit a project review request to [MIAC following their guidance](#). Please reach out to MIAC via email (miac.culturalresources.@state.mn.us) with any questions.

Step 2: Obtain an Archaeological License for Survey on Non-Federal Public Land

A license must be obtained in advance for any archaeological fieldwork (including a windshield survey) occurring on non-federal public land, which includes the public road ROW). SHPO is not involved in the licensing process, please reach out to OSA or MNHS with licensing questions.

Please visit the [Office of the State Archaeologist website](#) for information on licensing. Note that a license application must include a research design.

- Before applying for a license, review the [Archaeology Manual available from the Office of the State Archaeologist \(OSA\)](#) to gain a thorough understanding of how to determine when, where, and how to conduct shovel testing to inform the research design. Note: the use of augers to identify archaeological sites and/or determine subsurface disturbance is not recommended and should not be proposed in a license application.

Under state statute, the license application may be shared with MIAC for review. OSA strongly encourages license applicants to consult MIAC and appropriate Tribal Historic Preservation Officers before and after license application.

Step 3: Other Permits and Landowner Permissions for Archaeological Survey

The Minnesota Historic Sites Network and Permission to Survey from MNHS

Prior to conducting a survey within or through a [MNHS managed historic site](#) or held-in preservation site, reach out to the Archaeology Department for any questions or to obtain permission to conduct the survey by emailing archaeology@mnhs.org.

MnDOT's Miscellaneous Use Permit for Archaeological Survey in Their ROW

When working on MnDOT controlled lands a [MnDOT "Miscellaneous Work on Trunk Highway Right of Way" Permit](#) is required. The exception to this is when the following situations apply: 1) a project for which a MnDOT Cultural Resources Unit (CRU) Project Manager (PM) is leading/reviewing on behalf of MnDOT; or 2) cultural resource identification/evaluation efforts associated with a current permit application for utility/other work that is actively under review by a MnDOT CRU PM.

- Example: if you are contracted by a MnDOT CRU PM to conduct investigations in MnDOT controlled lands, work with that MnDOT CRU PM. A miscellaneous work permit will *not* be necessary unless otherwise indicated.
- Example: you are contracted by a private utility company for a utility permit currently under review by MnDOT CRU; a miscellaneous work permit will *not* be necessary unless otherwise indicated.

MnDOT maintains an application called "[Right of Way Mapping and Monitoring](#)" which is an interactive mapping application which includes multiple layers that can be accessed via the application, including authoritative static MnDOT ROW maps organized by MnDOT Trunk Highway control section, and an "Approximate Right of Way Line" which shows *approximate* digitized limits of MnDOT controlled lands in Minnesota. This application will be helpful to determine the need to apply for a MnDOT miscellaneous work permit, as discussed above. Cultural resource investigation work conducted on MnDOT controlled lands should adhere to [MnDOT CRU consultant requirements](#).

Please note that SHPO is not familiar with and has no role in MnDOT's permits. Please reach out to [MnDOT CRU](#) with any questions.

Minnesota Department of Natural Resources

Permission to survey through land managed or owned by the Minnesota Department of Natural Resources may be needed in advance. If the archaeologist needs to survey through these areas, we recommend reaching out to Mandy Wintheiser for additional information (mandy.wintheiser@state.mn.us).

Private Land

If the project crosses private land, permission to survey should be obtained from the private landowner.

Step 4: Conduct a Literature Review and Archaeological Assessment

Best practices for archaeological surveys for broadband projects include conducting a literature review and archaeological assessment (desktop research) of the proposed project area in advance. As part of this research, we recommend reviewing LiDAR imagery coupled with available soils data to help determine previous ground disturbance and the potential for deeply buried sites that may be affected by the project.

Assessing the Extent of Previous Disturbance in the Project Area:

- Review LiDAR data coupled with aerial imagery to assess the extent of previous disturbance along the project route. SHPO agrees that areas of extensive disturbance include the ditches adjacent to roads and sand and gravel mining pits. SHPO does not agree that agricultural fields can be confirmed to be so extensively disturbed that a significant archaeological site will not be present based solely on a desktop review.
- Analysis of MnDOT roadway logs can help identify the previous locations and scope/scale of prior projects that have occurred along Trunk Highway control sections (and these should be documented in a report): <https://www.dot.state.mn.us/roadway/data/const-projlog-bycounty.html>
- Analysis of soils data available from the Natural Resources Conservation Service Web Soil Survey may help in identifying and documenting disturbed soils (e.g. udorthents, which can be cut-and-fill soils), very shallow and eroded soils, or the presence of deeply buried soil horizons with the potential for containing deeply buried archaeological sites.

The assessment of previous disturbance should be clearly documented in a report with appropriate citations. A narrative description is the most helpful for documenting previous disturbance. Maps can also be useful; however, given the length of some broadband development projects, presenting this information in a clear and meaningful manner on a map can be difficult.

Assessing the Potential for Archaeological Sites in the Project Area:

- The statewide predictive model, [MnModel](#), can be used to assess the potential for archaeological sites in a project area. However, it is important to understand the limitations of that model. SHPO recommends reviewing the [MnModel reports](#) to understand the model rather than merely relying on how the layer is shown in the OSA Portal.
 - [MnModel](#) primarily predicts the location of Woodland Period archaeological sites and is a poor predictor of sites that are earlier or more recent.
 - [MnModel](#) includes many areas where the probability of sites is unknown due to a lack of adequate survey in that area.
- Archaeologists may develop their own predictive model for a proposed project, however, due to the limitations of modeling, SHPO recommends that all high and moderate probability areas be surveyed as well as a sample of the low probability areas.

Project Redesign Based on Literature Review and Archaeological Assessment:

After the literature review and archaeological assessment, the archaeologist is encouraged to work with the grant applicant to reroute the cable installation to completely avoid cemetery and burial locations pursuant to [MN Statute 307.08, the Private Cemeteries Act](#), regardless of observed disturbances. Consultation with OSA and MIAC is recommended on this topic prior to submitting project review requests to SHPO.

The archaeologist is also encouraged to work with the grant applicant to develop measures to avoid significant archaeological sites and designated historic properties at this stage. The avoidance measures should be clearly documented in the archaeological survey report so that the grant applicant can reiterate those measures in the consultation cover letter to SHPO.

If the project cannot be redesigned and/or the project area includes several areas of moderate to high probability or unknown probability that do not appear to be disturbed, SHPO recommends a field investigation.

Step 5: Conduct a Field Investigation

If as a result of the literature review and archaeological assessment, the archaeologist determines that a field investigation is warranted, SHPO recommends the following best practices for the field investigation.

- SHPO recommends reviewing the proposed project area (i.e. driving along the route) and taking photographs of a representative sample of existing disturbances to support the desktop assessment that portions of the proposed project area were previously disturbed. This is particularly important if the proposed project crosses through a previously documented archaeological site that is unevaluated or has been determined eligible for listing in the NRHP.
 - Examples of field-confirmed disturbances include the presence of ditches not visible in LiDAR and the presence of existing utility corridors.
 - It is helpful to SHPO if the photo locations are plotted on a map of the project area. This is particularly relevant for documenting disturbance within previously documented archaeological sites and alpha sites.
 - A **small** number of representative photos is acceptable in comparison to the length of the proposed project.
- Prior to subsurface testing, a [Gopher State One Call](#) is necessary. SHPO has learned from Gopher State One Call that, due in part to extensive broadband deployment in the state, their staff can be in heavy demand. Therefore, we recommend focusing Gopher State One Call utility locates in areas with the highest potential for subsurface testing and marking those areas in advance.
- In general, SHPO recommends that archaeologists prioritize workplace safety and avoid unnecessary risks by not conducting subsurface testing in roadside ditches or near existing or suspected buried utilities. However, the rationale for not conducting subsurface testing should be documented in the archaeological survey report.

- SHPO recommends subsurface testing in the form of soil probes to investigate areas where disturbance is unknown within the ROW and there are no safety concerns. The soil probes can be used to determine whether shovel testing is needed.
- SHPO recommends excavating shovel tests if ground surface visibility is poor and / or if there is the potential for deeply buried archaeological sites (based on the soils data and any soil probe data).
- If there are previously documented mortuary sites and the survey must be conducted within them, coordinate the survey with the appropriate authorities pursuant to [Minnesota Statute 307.08](#) (the Office of the State Archaeologist and the Minnesota Indian Affairs Council).

Special Considerations for Cemeteries, Burials, Graves

SHPO recommends rerouting the cable installation to completely avoid cemetery and burial locations pursuant to [MN Statute 307.08, the Private Cemeteries Act](#), regardless of observed disturbances. If the proposed cable route is within or near a cemetery boundary or burial location, consult with the OSA and MIAC. SHPO does not have a role in the Private Cemeteries Act, but since many cemeteries have been documented as archaeological sites, they often come up in our reviews. We recommend consulting with OSA and MIAC to determine appropriate avoidance methods prior to conducting an archaeological survey or submitting a project to SHPO for review. If avoidance measures are recommended, provide a detailed description of the avoidance measures in the archaeological survey report so that the grant applicant can include that information in their cover letter when they submit the project to SHPO for review. The grant applicant is responsible for ensuring the avoidance measures are carried out by the construction team. We recommend describing locations for installation of cable as a measurement in feet from the centerline of the road. We also recommend that avoidance areas be noted on project plans and in any special provisions.

- If an alternate corridor is suggested, the alternate corridor should be surveyed as needed.
- Options for avoidance noted by SHPO in previous reviews include wireless installation, relocating the cable outside the site boundary, lofting the cable, or using directional boring.
- Options to minimize effects and/or ensure the avoidance measures are carried out appropriately noted by SHPO in previous reviews include archaeological and/or Tribal monitoring.

Monitoring During Broadband Installation

In some cases, the archaeologists (or other consulting parties) recommend monitoring during construction as a way to minimize effects and/or ensure avoidance measures are carried out appropriately. If monitoring measures are recommended, the archaeologist should provide a clear description of the locations for monitoring in the report. Note that monitoring must be conducted by archaeologists and/or Tribal members with appropriate qualifications. Appropriate qualifications for Tribal members are generally determined by Tribal Historic Preservation Officers and/or Tribal Nations.

If a monitoring and/or unanticipated discoveries plan is recommended, we suggest that it be prepared in plain, clear language.

- The plan should identify who is responsible for stopping construction in the case of a discovery, who is responsible for delineating the area of the discovery, and who is responsible for calling the appropriate authorities (i.e. local law enforcement) and or other agencies (OSA, MIAC, SHPO) as required within the legal framework for the project. The plan should identify key contacts with their names, roles, and phone numbers. The plan should also identify who should be called and in what order.
- Finally, the construction team should be trained to identify an unanticipated discovery and how to implement the plan.

Archaeological Survey Reporting

The archaeologist who prepares the report should submit it in the OSA Portal following the [How to Submit an Archaeology Report](#) guidance. When submitting the report in the OSA Portal, a shapefile of the survey area is **required** for the submittal. While there is an option to “Skip” the location step, it will delay SHPO’s review of a project if this is selected.

The archaeologist should share the title, author(s), and date of the report with the grant applicant so that they can reference this information in their cover letter submitted to SHPO. The cover letter should clearly document any avoidance or monitoring recommendations and affirm how the grant applicant intends to carry out those recommendations. Refer to the guidance on SHPO’s website on how to submit [state funded fiber optic cable installation projects](#) or general guidance on [submitting a project to SHPO](#)