

## Chapter I: Introduction (Purpose and Need)

### Scope of the Report

The intent of this combined *Cultural Landscape Report and Environmental Assessment* (CLR/EA) is to guide treatment and use of the above-ground resources associated with the significant historic landscapes within the Quincy Unit of Keweenaw National Historical Park. A thorough investigation and evaluation of the historic landscapes has been conducted using National Park Service (NPS) and National Register of Historic Places guidelines. The documentation of historic significance and evaluation of integrity of the historic landscapes serves as a framework upon which treatment recommendations are developed. When completed, the report will provide park managers with a comprehensive understanding of the physical evolution of the historic landscape, and guidance for landscape management. The report has been prepared by a project team composed of the staff of Keweenaw National Historical Park, Quinn Evans | Architects (QEA), and Woolpert, Inc., to fulfill a contract with the Midwest Regional Office of the National Park Service.

### Report Methodology (Applicable Regulatory Requirements)

The report was prepared according to federal standards guiding cultural landscape projects and environmental assessments including *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, federal regulations (40 CFR 1500-1508) implementing the *National Environmental Policy Act of 1969* (NEPA), regulations of the *Council on Environmental Quality* (40 CFR 1508.9), *NPS Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-Making*, and the *National Historic Preservation Act of 1966* (as amended). Other applicable regulatory requirements include: the *National Park Service Organic Act*, the *American Indian Religious Freedom Act*, the *Act for the Preservation of American Antiquities of 1906*, the *Historic Sites Act of 1935*, the *National Park Service Director's Order #28, Cultural Resource Management*, and the *Archaeological Resources Protection Act*.

Archival research and preparation of the landscape history chapter was conducted by Steve DeLong and Jo Urion, both members of the staff at Keweenaw National Historical Park. The majority of the research was conducted at the park library and archives and at the archives of Michigan Technological University. Field inventories of existing conditions and landscape features were conducted by Quinn Evans | Architects in fall 2006.

The *Environmental Assessment* (EA) will analyze the impacts of each of the treatment alternatives on natural and cultural resources. The EA portion of the project is being coordinated by Woolpert, Inc., a consulting firm that specializes in environmental planning. Quinn Evans | Architects assisted in the preparation of this portion of the report.

Although the federal government has standard guidelines for the preparation of CLRs and EAs, there are no guidelines for preparing a combined report. The Midwest Regional Office of the National Park Service has recognized that combining the two documents to increase the value of the overall document and integrate the information generated through the CLR with the in-depth evaluation process inherent to the *Environmental Assessment*. Merging the documents can

improve and validate the recommended treatment while reducing the costs associated with the preparation and printing. This report has been organized as indicated below:

**Chapter I: Introduction (Purpose and Need)**

**Chapter II: Landscape History**

**Chapter III: Existing Conditions / Affected Environment**

**Chapter IV: Landscape Analysis**

**Chapter V: Management Philosophy and Landscape Management Issues**

**Chapter VI: Treatment Alternatives**

**Chapter VII: Impacts from Treatment Alternatives / Environmental Consequences**

**Chapter VIII: Implementation and Project Phasing**

**Chapter IX: Consultation and Coordination**

**Bibliography**

## **Purpose and Need**

### ***Purpose***

The purpose of the combined CLR/EA is to document and record the history and current conditions of the historic landscapes within the Quincy Unit of Keweenaw National Historical Park and to provide guidance for the future treatment and use of these landscapes. The document informs preservation of significant cultural and natural resources while providing opportunities and facilities for visitor education and use. Since Keweenaw National Historical Park is a partnership park, the document is meant to help inform the National Park Service and its Keweenaw Heritage Site (KHS) partners in the Quincy Unit, namely the Quincy Mine Hoist Association and the A.E. Seaman Mineral Museum operated by Michigan Technical University. The document may also be useful to potential KHS partners within and adjacent to the Quincy Unit; these include the Michigan Department of Transportation, Franklin Township and the City of Hancock.

### ***Need***

The combined CLR / EA is needed to guide treatment and use of the above-ground resources associated with the significant historic landscapes within the Quincy Unit of Keweenaw National Historical Park. The park's General Management Plan indicates the need for a Cultural Landscape Report for the Quincy Unit. It is needed to provide a comprehensive understanding of the historic development of these landscapes and to evaluate their significance and provide treatment recommendations that respond appropriately to their historic characteristics while accommodating current and future needs. This is particularly necessary due to the makeup of land ownership/management within this partnership park. The National Park Service owns only small properties within the park boundary. In contrast to the traditional national parks, within partnership parks like Keweenaw National Historical Park, the majority of the land within the boundary is owned and managed by private owners, public entities, non-profit and institutional organizations.

In addition, the General Management Plan indicates that the park's principal visitor center be established in the Quincy Unit, to provide visitors approaching from the Houghton/Hancock area a first destination point. This facility would provide general orientation and interpretation

to the Keweenaw Peninsula and Keweenaw National Historical Park.<sup>1</sup> The location of the visitor center in the Quincy Unit is not defined by the GMP. The CLR process explored alternatives for locating a visitor center within the Quincy Unit.

## Project Objectives

The objectives for the report include:

- Document the development of the historic landscapes within the Quincy Unit of Keweenaw National Historical Park.
- Document the existing conditions of the historic landscapes within the Quincy Unit of Keweenaw National Historical Park.
- Evaluate the significance and integrity of the historic landscapes within the Quincy Unit of Keweenaw National Historical Park.
- Provide treatment recommendations for managing the historic landscape resources within the Quincy Unit of the park.
- Recommend landscape treatments to address management needs identified by the NPS and park partners in the Quincy Unit.
- Provide management recommendations and schematic designs for specific historic landscapes within the park that accommodate current and future needs while preserving the historic character and significant features present.
- Streamline planning and compliance processes for the historic landscapes within the Quincy Unit of Keweenaw National Historical Park.
- Enhance visitor experience through providing information about the history of the development of the park, to interpreters and site managers.
- Provide recommendations for efficiently managing the historic landscapes within the Quincy Unit of the park while taking into consideration budget constraints.
- Recommend, on the basis of landscape considerations, a preferred location for the park's principal visitor center.

## Park Purpose/Significance

Keweenaw National Historical Park was established by Public Law 102-543 in October 1992 to commemorate the rich and complex story of copper mining on the Keweenaw Peninsula. The purposes of the park are four-fold:

- *Tell the story of the role of copper in the development of an American industrial society and the effects on the Keweenaw Peninsula of providing that copper.*
- *Identify, study, and preserve the nationally significant historical and cultural sites, structures, districts, landscapes, and other resources of the Keweenaw Peninsula for the education, benefit, and inspiration of present and future generations.*
- *Interpret the historic synergism among the geological, aboriginal, sociological, cultural, technological, economic, and corporate influences that relate the stories of copper on the Keweenaw Peninsula.*
- *Develop and sustain into the 21<sup>st</sup> century the park and the community through a blend of private, local, state, and federal management, investment, and ownership.*<sup>2</sup>

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<sup>1</sup> United States Department of the Interior, National Park Service, *Final General Management Plan and Environmental Impact Statement, Keweenaw National Historical Park*, 50.

<sup>2</sup> *Ibid.*, 13-14.

## Description of the Study Area

Keweenaw National Historical Park is located in the western portion of Michigan's Upper Peninsula (see Figure 1-1). The Keweenaw Peninsula extends approximately 100 miles north into Lake Superior and includes the Lake Superior Copper Range, a "highland that forms a spine along the length of the peninsula and beyond."<sup>3</sup> The Copper Range held vast deposits of copper, attracting mining companies and workers who came to extract the copper. Keweenaw National Historical Park is located along the Copper Range spine, near the center of the peninsula. The park is made up of two units (Quincy and Calumet) that include extensive heritage resources associated with the copper mining industry (see Figure 1-2).<sup>4</sup> The current project is focused on the Quincy Unit of the park (see Figure 1-3).



### Regional Location of Keweenaw Peninsula

(Source: General Management Plan, Keweenaw National Historical Park, 9)

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<sup>3</sup> General Management Plan, Keweenaw National Historical Park, 1998, 5.

<sup>4</sup> Ibid.

<sup>8</sup> Ibid.





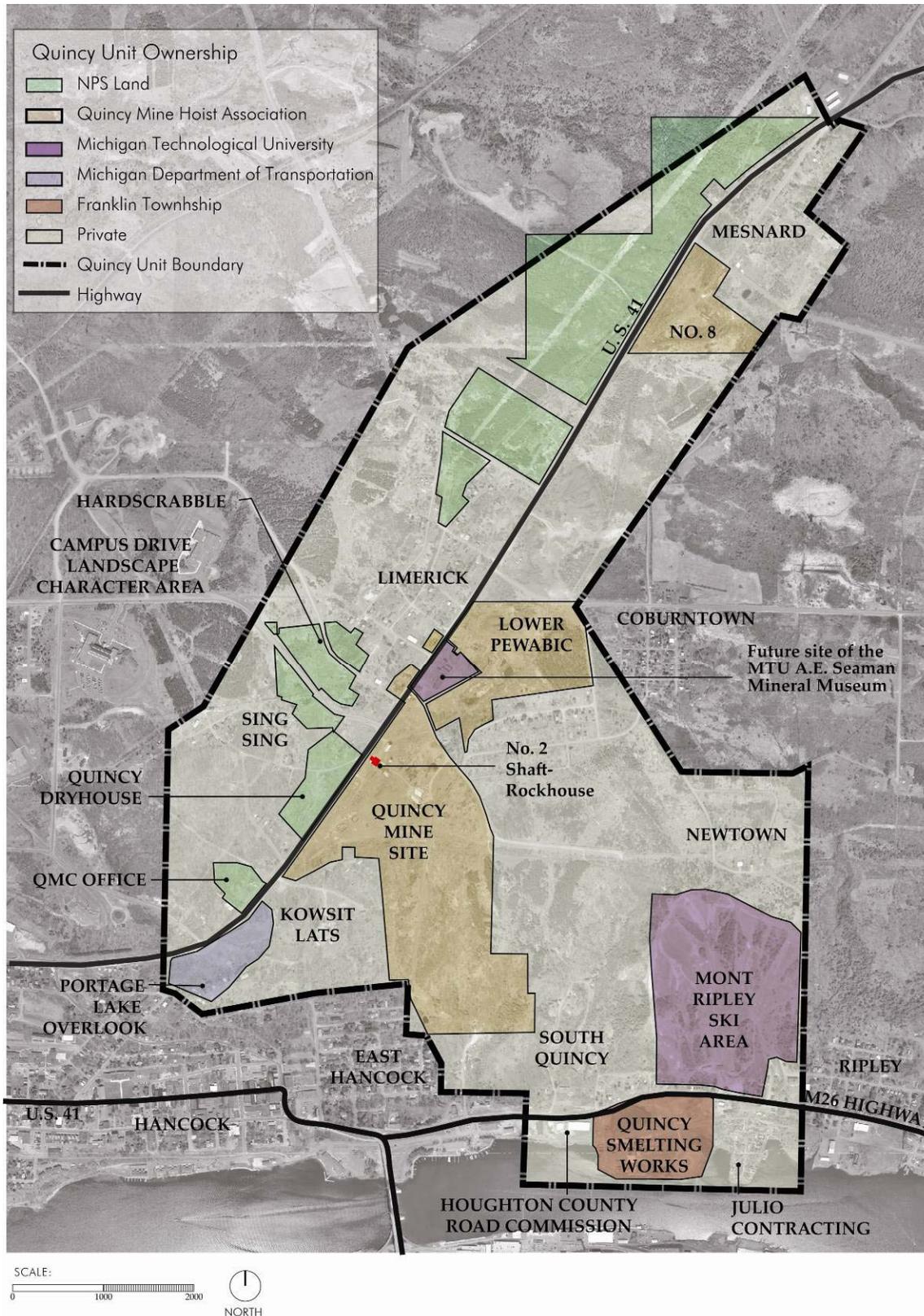


Figure 1- 3: Quincy Unit: Land owned by the NPS, heritage sites and local governments/public agencies.

Historic resources included in the unit are: seven Quincy mine shafts, associated mining and industrial surface works, features and ruins, several company housing locations, circulation routes and paths, and remnant administrative and service buildings and managers' residences. Of these the No. 2 shaft-rockhouse and the No. 2 hoist house are of particular significance. The No. 2 shaft-rockhouse is built over a shaft that extends 9,300 feet on the incline. The No. 2 hoist house contains the world's largest steam hoisting engine. The Quincy smelter, located on Portage Lake, is the only remaining smelter associated with 19<sup>th</sup> century Michigan copper mining.<sup>9</sup> In addition to the historic resources, the unit includes numerous non-historic developments.

### **Quincy Unit Landscape Character Areas and Landscape Character Types**

The landscapes within the Quincy Unit are described herein as landscape character areas that are defined by their physical qualities (such as landforms, vegetation, and topography) and the cultural resources present (see Figure 1-4).<sup>10</sup> Given the variety and number of landscape character areas, three *landscape character types* have been identified to group the landscape character areas for purposes of inventory and analysis. The landscape character types include 1) character areas related to historic mining and industrial activities (see Figure 1-5), 2) character areas that including historic mine housing locations (see Figure 1-6), and 3) character areas that contain non-historic and adjacent land uses (see Figure 1-7).

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<sup>9</sup> Ibid., 6.

<sup>10</sup> Page, Robert R., Cathy A. Gilbert, and Susan A. Dolan, 1998. A Guide to Cultural Landscape Reports: Contents, Process, and Techniques (Washington, DC: U.S. Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program), 75. The document defines landscape character areas as: "defined by the physical qualities of a landscape (such as landforms, structural clusters, and masses of vegetation) and the type and concentration of cultural resources. Character areas are based on the existing condition of the characteristics and features that define and illustrate the significance of the landscape."

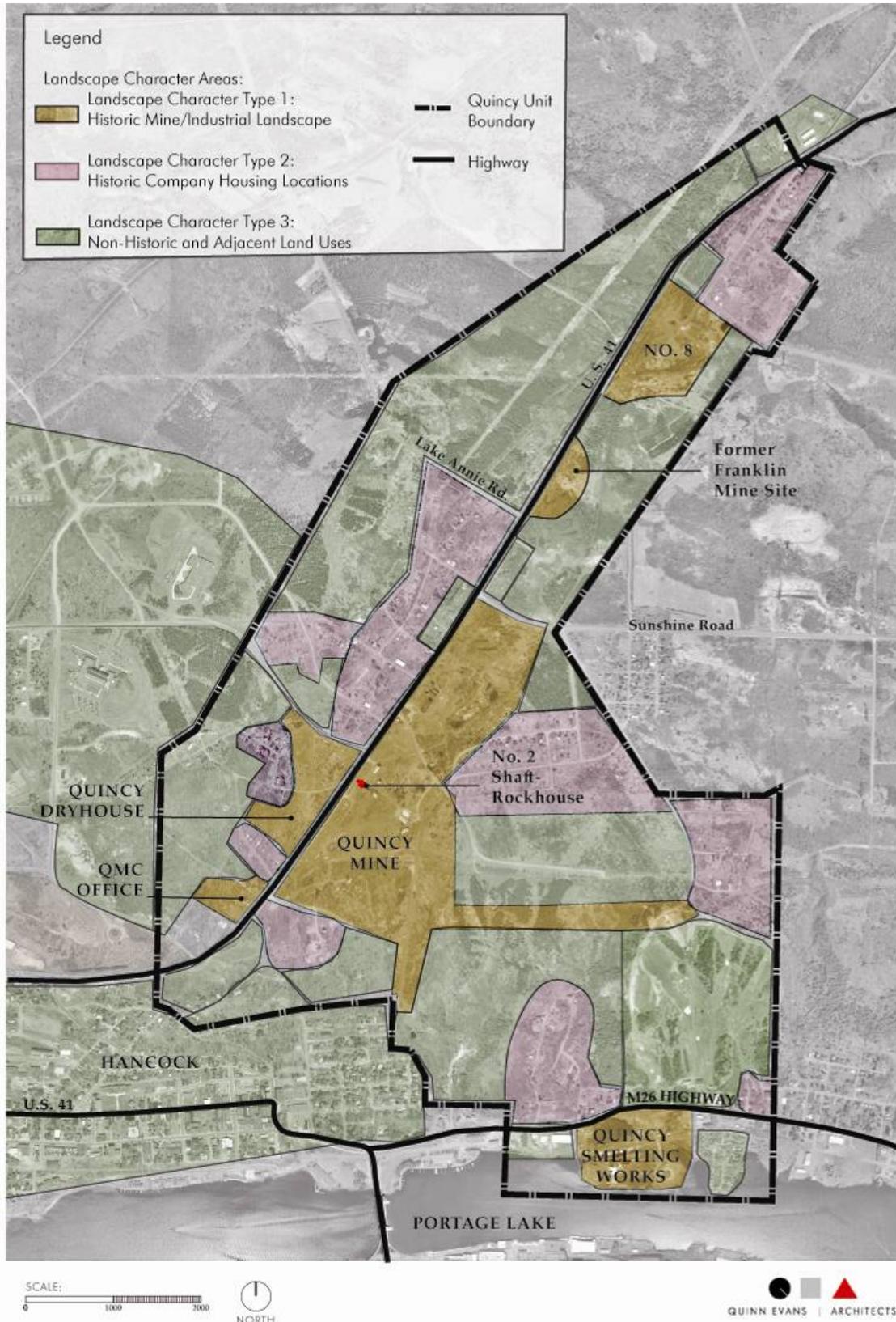


Figure 1- 4: Three Types of Landscape Character Areas

***Landscape Character Type 1 - Historic Mine / Industrial Landscapes***

*Quincy Mine Site landscape character area*

*Quincy Smelter landscape character area*

*Quincy Mine Office and Superintendent's Residence landscape character area*

*Quincy Dryhouse landscape character area*

*No.8 landscape character area*

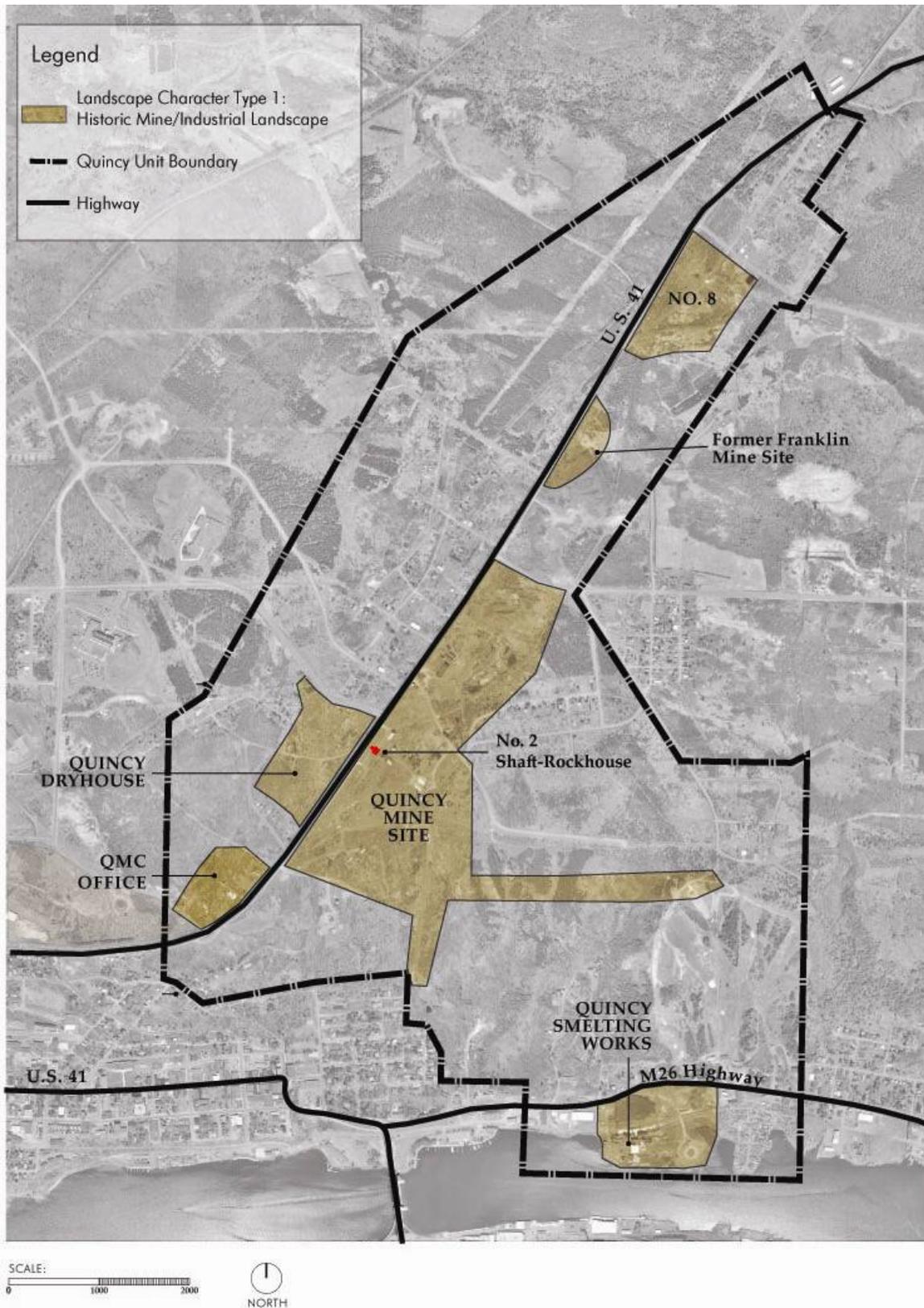


Figure 1-5: Quincy Unit Landscape Character Area Type 1: Historic Mine / Industrial Landscapes

***Landscape Character Type 2 – Historic Company Housing Locations***

*Limerick landscape character area*

*Hardscrabble landscape character area*

*Kowsit Lats landscape character area*

*Lower Pewabic landscape character area*

*Sing-Sing landscape character area*

*Coburntown landscape character area (adjacent to unit boundary)*

*Frenchtown landscape character area*

*Ripley landscape character area (adjacent to unit boundary)*

*Mesnard landscape character area*

*Newtown landscape character area*

*South Quincy landscape character area*

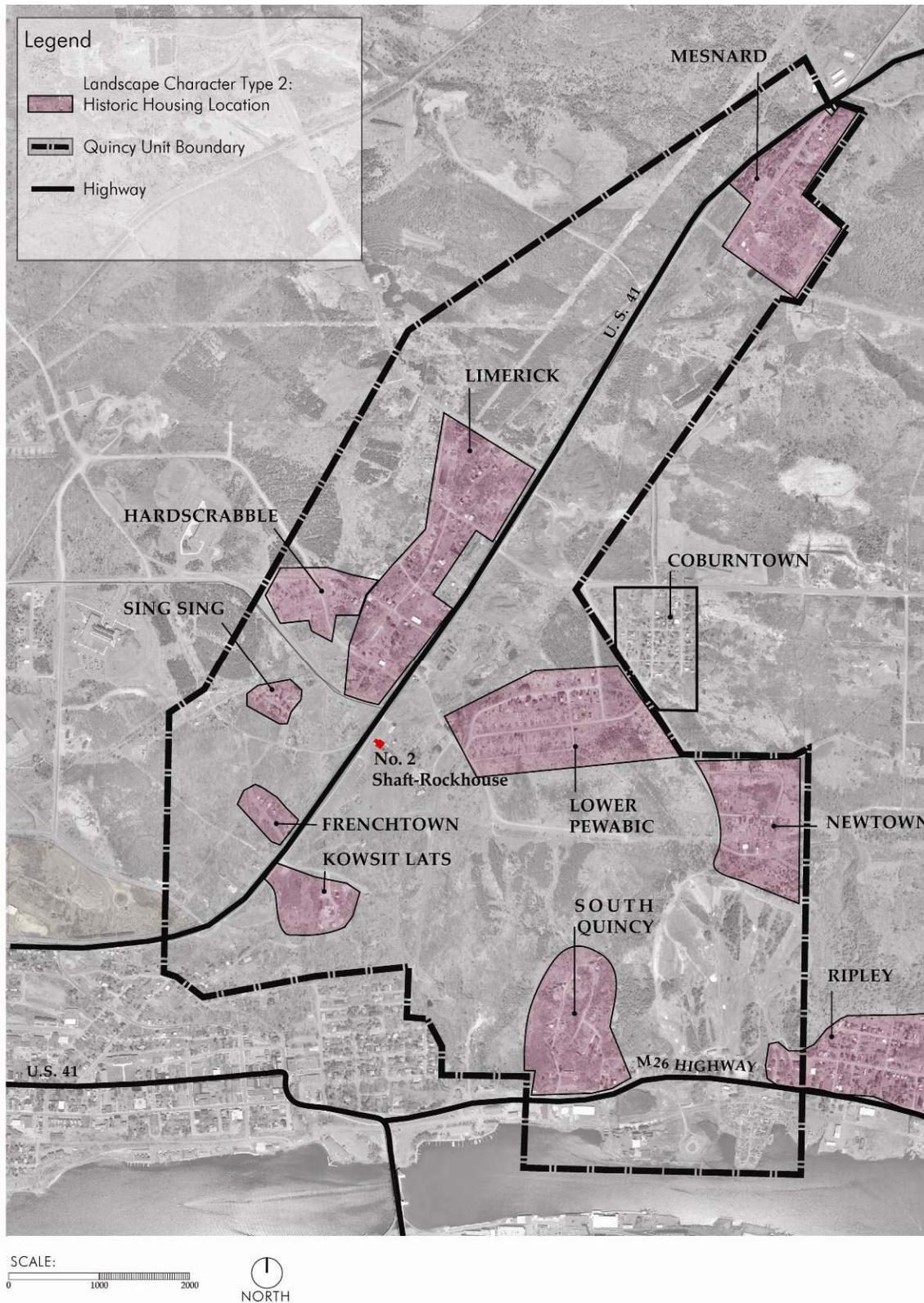


Figure 1-6: Quincy Unit Landscape Character Area Type 2: Company Housing Locations

***Landscape Character Type 3 - Non-Historic and Adjacent Land Uses***

*Hancock landscape character area (adjacent to unit boundary)*

*Portage Lake Overlook landscape character area*

*U.S. 41 landscape character area*

*Community: Campus Drive landscape character area (adjacent to unit boundary)*

*Houghton County Road Commission Service Facility landscape character area*

*Julio Contracting landscape character area*

*Mont Ripley Ski Area landscape character area*

*Wooded landscape character area*

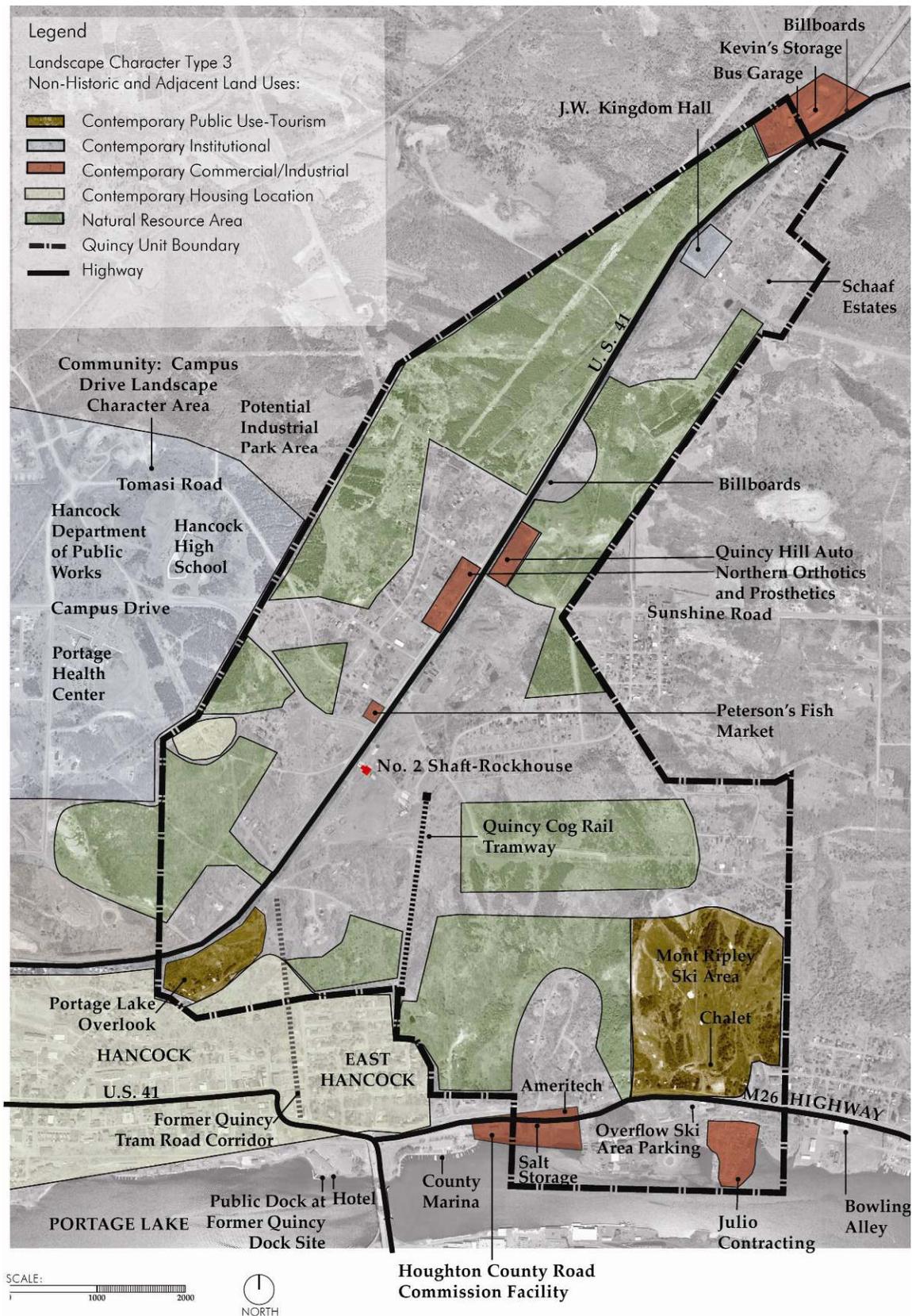


Figure 1-7: Landscape Character Area Type 3: Non-Historic and Adjacent Land Uses

## Relation to Other Planning Projects

Several previous planning project reports provided background and management information for this CLR/EA including: the *Final General Management Plan and Environmental Impact Statement* (1998), the *Houghton County, Michigan Land Use Plan* (2004), *Keweenaw National Historical Park Visitor Study* (2004), the *Fire Management Plan* (2005), the *Environmental Assessment and Finding of No Significant Impact for the Fire Management Plan* (2005), and the *Strategic Plan for Keweenaw National Historical Park, Fiscal Years 2005-2008*. These documents, along with research conducted as part of this CLR/EA, inform the development of treatment alternatives and analysis of potential impacts to park resources.

Project initiation meetings were held at Keweenaw National Historical Park headquarters in Calumet, Michigan in September 2006. Meeting attendees included Keweenaw National Historical Park staff members Steve DeLong, Landscape Architect, Abby Sue Fisher, Chief of Museum, Archives & Historical Services, Kathleen Harter, Chief of Interpretation and Education, and Jo Urion, Historian. Also in attendance were Marla McEnaney, Historical Landscape Architect, Midwest Regional Office of the National Park Service, and Brenda Williams, Quinn Evans | Architects project manager. During the meetings park staff indicated that the park General Management Plan (GMP) is very general and not effective in providing direction for the CLR/EA for managing the landscapes within the Quincy Unit. There is no Development Concept Plan or Site Development Plan for the park to help address the gaps left by the current GMP. During the winter of 2007-2008, the park underwent an internal, informal planning process to determine the best location for a visitor center within the Quincy Unit. The process determined that a visitor center should be located either within the Historic Industrial Core of the unit—the area on Quincy Hill that includes the resources associated with the No. 2, No. 4, No.6 and No. 7 locations, or at the Smelter site.

A Long Range Interpretive Plan (LRIP) is being developed for the park to provide an overall direction for interpretation of the resources. Kathleen Harter, Chief of Interpretation, and Dan Brown, Interpreter, have been included in development of the CLR treatment alternatives and selection of a preferred alternative for the CLR/EA to ensure that the CLR/EA and LRIP processes are integrated.

The park Resource Stewardship Plan is in draft form. It has been utilized to inform the development of treatment alternatives. The park has developed a standard for Heritage Sites wayfinding signs that will be taken into account during the development of treatment alternatives for the Quincy Unit. The park will develop a signage and wayfinding plan that may also be used to inform the treatment alternatives.

During the majority of the time that this Cultural Landscape Report / Environmental Assessment was being developed, the Quincy Smelting Works was the focus of a United States Environmental Protection Agency (EPA) remediation project. Although the physical site was not accessible during the field investigations phase of the CLR, the CLR has incorporated recommendations from the remediation project into the treatment recommendations common to all alternatives.

## **Environmental Assessment Impact Topics**

Park resources were considered in accordance with NPS *Management Policies 2006*. The NPS is charged with managing park resources and maintaining them in an unimpaired condition for future generations in accordance with the NPS-specific statutes, including the Organic Act of 1916 and the National Parks Omnibus Management Act of 1998; general environmental laws such as the Clean Air Act, the Clean Water Act, the Endangered Species Act of 1973, NEPA, The National Historic Preservation Act, and the Wilderness Act; Executive Orders; and applicable regulations. NEPA is the basic national charter for protection of the environment. It requires Federal agencies to use all practicable means to restore and enhance the quality of the human environment and to avoid or minimize any possible adverse effects of their actions upon the environment.

The CLR/EA only evaluates the treatment alternatives developed as part of the project. At this time, impact topics have been selected for analysis or eliminated from further analysis based on the anticipation that treatment alternatives developed for this project would not impact certain resources. After developing the alternatives, the impact topics will be revisited. If it appears that an alternative affects resources at an impact level of minor or greater, the affected topic(s) will be added to those analyzed within the CLR/EA.

Specific impact topics are identified for analysis and to allow comparison of the environmental consequences of each alternative. Impact topics that are analyzed for this project are: cultural resources including cultural landscape and archaeological resources; wetlands; special status species; socioeconomics; visitor experience; and park operations.

Impact topics that were dismissed from analysis for this project are: geology, soils; prime and unique farmlands; floodplains; water quality air quality; environmental justice; soundscape management; lightscape management; Indian trust lands; and ethnographic resources.

These impact topics were identified based on federal laws, regulations, and Executive Orders; NPS *Management Policies 2006*; and NPS knowledge of limited or easily impacted resources. A brief rationale for the selection of each impact topic is given below, as well as the rationale for dismissing specific topics from further consideration.

### **Impact Topics Selected for Analysis**

#### ***Cultural Resources***

The environmental analysis will include all landscape characteristics (natural systems and features, vegetation, topography, spatial organization, land use, circulation and viewsheds). Cultural resources at the park include the exterior of historic structures and how they interact with surrounding landscape. The Quincy Unit encompasses the Quincy Mining Company Historic District, a National Historic Landmark on the National Register of Historic Places.

There is great potential for both prehistoric and historic archaeological resources at this unit as well as throughout the park. Although archaeological resources have not been comprehensively inventoried within the Quincy unit, a number of projects have been conducted

that indicate the area contains extensive archaeological resources.<sup>11</sup> Implementation of any treatment alternative could affect cultural resources at Keweenaw National Historical Park; therefore this topic will require analysis in this document.

### *Socioeconomics*

The local economy of Houghton County is based on tourism/outdoor recreation, higher education, healthcare and professional services, light industry and agricultural services. Keweenaw National Historical Park and its partner organizations are an important part of the region's tourism and outdoor recreation economy. Potential treatments to the cultural landscape of Keweenaw National Historical Park – when evaluated within the greater context of the region and socioeconomic synergies with park Keweenaw Heritage Site Partners – could have effects on the regional economy; therefore, this topic will be addressed in this document.

### *Visitor Experience*

Keweenaw National Historic Park staff does provide some guided tours, however many of the visitor contacts and services for Keweenaw National Historic Park are provided through the Keweenaw Heritage Sites, the park's partners. During summer, the National Park Service operates a visitor information desk at the Quincy Mine Hoist Association Gift Shop, formerly the historic Supply House.<sup>12</sup> Keweenaw National Historical Park staff are involved in the process of establishing a comprehensive interpretive / education program for the park. Because implementation of any treatment alternatives could affect the visitor experience at the Quincy Unit, as well as the rest of Keweenaw National Historical Park and Keweenaw Heritage Sites, this topic will be addressed in this document.

### *Park Operations*

Keweenaw National Historical Park is open year-round, although most of the Keweenaw Heritage Sites are closed during the winter. Park staff is based in park headquarters in Calumet, Michigan. Maintenance and interpretation of the Quincy Unit is a partnership with Keweenaw Heritage Sites, which requires the park staff to coordinate the implementation of these efforts to meet the NPS standards. Implementation of potential alternatives may affect staffing levels, logistics and costs for maintenance and interpretation at Keweenaw National Historical Park; therefore this topic will be addressed in this document.

### *Impact Topics Considered But Eliminated from Further Analysis*

#### *Geology*

Surficial geology in the region underlying the Quincy Unit of Keweenaw National Historical Park consists of basalt bedrock.<sup>13</sup> The bedrock is referred to as Portage Lake Volcanics according to the 1987 Bedrock Geology of Michigan, and is composed of pre-Cambrian

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<sup>11</sup> Mishkar, Land Use History and Archaeological Survey, A.E. Seaman Mineral Museum Project, Quincy Mine National Historic Landmark, Houghton County, Michigan; Whittlesey, Ancient Mining on the Shores of Lake Superior, Smithsonian Contributions to Knowledge; other unpublished projects conducted by Michigan Technological University.

<sup>12</sup> United States Department of the Interior, National Park Service, Keweenaw National Historical Park website, <http://www.nps.gov/kewe/index.htm>, accessed 23 July 2007.

<sup>13</sup> United States Department of the Interior, National Park Service, *Environmental Assessment and Finding of No Significant Impact for Fire Management Plan for Keweenaw National Historic Park*.

andesites and felsites, as well as basalts.<sup>14</sup> There may also be sandstone bedrock, which predominates eastward of the park. The Jacobsville Formation is composed of sandstones, rare conglomerates, and shales and is of the Cambrian age.<sup>15</sup> The Keweenaw Fault runs southwest to northeast through the Quincy Unit. However, because the proposed action would not disturb bedrock, there would be no impacts to geologic resources. Therefore, further analysis of geology will be dismissed from this document.

### ***Soils***

According to the United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS), there are 15 soil types representing 10 soil series within the Quincy Unit.<sup>16</sup> The most dominant soils include Keweenaw-Kalkaska-Waiska complex, dissected, on slopes of 15 to 70 percent; Trimountain-Paavola-Waiska complex on slopes of 1 to 8 percent; Udipsamments and Udorthents on nearly level slopes; and Urban lands. These soils account for 75 percent of the Quincy Unit soils, and generally consist of well drained to excessively well drained sandy loams and sand. None of the soil types within the Quincy Unit meet the criteria of "prime farmland" as defined in the Farmland Protection Policy Act.

Because proposed cultural landscape treatment alternatives would result only in short-term, direct negligible impacts, further analysis of soils will be dismissed from this document. Nevertheless, all soil disturbing activities are subject to applicable regulations; including the National Pollutant Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SPPP) requirements, such as implementation of NPS Best Management Practices (BMPs).

### ***Prime and Unique Farmlands***

In August 1980, the Council on Environmental Quality (CEQ) directed that Federal agencies assess the effects of their actions on farmland soils classified by the USDA NRCS as prime or unique. Prime or unique farmland is defined as soil that particularly produces general crops including common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts.

Active farmland does not currently occur within the Quincy Unit or near the area of potential impacts by the proposed cultural landscape alternatives and consequently this topic will not be analyzed further in this document. The proposed cultural landscape alternatives are exempt from the requirements of the Farmland Protection Policy Act because there are no prime farmlands associated with the cultural landscape project area, and there are no potential impacts that would directly affect wetland areas associated with agriculture. Therefore, this topic is dismissed from further consideration in this document.

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<sup>14</sup> Michigan Technological University website, <http://www.geo.mtu.edu/> accessed 20 July 2007.

<sup>15</sup> Ibid.

<sup>16</sup> United States Department of Agriculture website, <http://websoilsurvey.nrcs.usda.gov/app/>, accessed 20 July 2007.

### *Wildlife*

NEPA requires federal agencies to use all practicable means to restore and enhance the quality of the human environment and to avoid or minimize all possible adverse effects of their actions upon the environment. NPS policy is to protect the components and processes of naturally occurring biotic communities, including the natural abundance, diversity, and ecological integrity of plants and animals.<sup>17</sup>

Treatment actions are expected to result in loss of wildlife in an amount proportional to the amount of habitat lost, which would be minimal. The project area has been previously affected through years of disturbance, mining, and other development. These landscapes will tend to feature species typical of forested and disturbed settings. Wildlife adapted to disturbed and partially disturbed habitats that are likely to occur in the Quincy Unit include several mammals; least chipmunk, house mouse, red squirrel, raccoon, coyote, and white-tailed deer, and birds including mourning dove, northern flicker, American crow, black-capped chickadee, American robin, European starling, chipping sparrow, song sparrow, and house sparrow.<sup>18</sup>

Wildlife in the area are habituated to human activity, noise, or departed entirely. Larger wildlife are likely to avoid a project area to a certain extent during construction activities. During construction some small animals, like rodents, may be killed or forced to relocate to areas outside a project area. Overall, populations of affected species might be slightly and temporarily lowered during construction, but no permanent negative effects to wildlife are anticipated. Any treatment alternative may have short-term, negligible, localized, adverse impacts on wildlife therefore; this topic will not be addressed further in this document.

### *Special Status Species*

The Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.) requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the ESA requires all federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the NPS *Management Policies 2006* and Director's Order 77 *Natural Resources Management Guidelines* require the NPS to examine the impacts on federally-listed, endangered and candidate species, as well as state-listed threatened, endangered, candidate, rare, declining and sensitive species.

Potential impacts to special status species or their habitats were evaluated based on species presence and the potential effects of actions related to treatments to the cultural landscape at Keweenaw National Historical Park. For the purposes of this analysis, the USFWS, Michigan Department of Natural Resources and the Michigan Natural Features Inventory were contacted to determine if federally-listed and state-listed species occur on or near the project area. As noted in Section 2, the USFWS indicated that there are no known records of threatened or endangered species in the project area. However, they commented that the federally threatened and state endangered Canada lynx (*Lynx canadensis*) may occur in the area. The Michigan

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<sup>17</sup> National Park Service, *Management Policies 2006*.

<sup>18</sup> United States Department of the Interior, National Park Service, *Fire Management Plan for Keweenaw National Historic Park*, February 3, 2005; Kurta, *Mammals of the Great Lakes Region*, 1995; and United States Geological Survey website, <http://www.mbr-pwrc.usgs.gov/bbs/>, accessed July 2007.

Natural Features Inventory indicated that there are occurrences of a state-listed species of concern (Douglas' hawthorn-*Crataegus douglasii*) within Houghton County and possibly within Keweenaw National Historical Park.

*Canada Lynx*

Canada lynx is a medium sized cat, and is a specialized predator of the snowshoe hare. In the Great Lakes region, Canada lynx occupies large boreal forests comprising conifer trees (primarily spruce and firs). Woodlands in the Historic Industrial Core and the overall Quincy Unit were entirely cleared for the industrial development that historically occurred at the site. Volunteer trees have become established in areas that were abandoned or uncultivated since areas of the site became inactive in the late 19<sup>th</sup> middle of the 20<sup>th</sup> century, however, boreal forests are not common. Since large tracts of boreal forests comprised of conifer forests are not present, habitat for Canada lynx does not exist. Therefore, all of the proposed alternatives will have no effect/no adverse modification to Canada lynx. This conclusion is reached when the proposed action and its interrelated and interdependent actions will not directly or indirectly affect listed species or destroy/adversely modify designated critical habitat. Formal Section 7 consultation is not required when the no effect conclusion is reached.

*Douglas' Hawthorn*

Douglas' hawthorn is an understory deciduous tree occurring on rocky and/or disturbed ground. The Quincy Unit was originally described by copper speculators in the mid 1800's as being forested with high quality pines, occasional swamps, and other forests of sugar maple, birch, fir, oak, and white pine. It is possible that the forest types of the time could have provided habitat for Douglas' hawthorn. However, after the Quincy Mining Company became established in the area, the company cleared land for roads, crops, and mine development. Also, coal for steam powered mining equipment was not available. Therefore, nearly every tree in the area was cut for fuel wood in the mid-late 1800's. At the top of the mines, sorting of copper from rock was undertaken and the waste rock was discarded in piles.

Since the abandonment of the Quincy Mine area in the mid-20<sup>th</sup> century, habitat for the establishment of Douglas' hawthorn was created by the numerous rock piles and slopes present on the site from the mining process. This "new habitat" probably has led to an increase in the number of Douglas' hawthorn trees present at the site when compared to landscape conditions prior to the mid-19<sup>th</sup> century. However, actual tree surveys have not been conducted at the site.

There would likely be some losses of Douglas' hawthorn trees at similar levels for each of the alternatives, especially along rock slopes and/or rock piles. Therefore, any of the alternatives may affect, but are not likely to adversely affect species/critical habitat. This conclusion is appropriate when effects to the species or critical habitat are expected to be beneficial, discountable, or insignificant. However, to compensate for the loss of Douglas' hawthorn individual trees, a species presence/absence survey and a voluntary programmatic incidental take and reporting agreement between the National Park Service and the Michigan Natural Features Inventory should be considered.

The potential impacts to special status species would be negligible direct negative impacts; therefore, special status species will not be addressed in this document.

### *Wetlands*

Section 404 of the Clean Water Act (CWA) and Executive Order 11990 requires federal agencies to avoid impacts to wetlands whenever possible. Further, the NPS Management Policies 2006, section 4.6.5, Wetlands and DO-77-1 (Wetland Protection) provide guidelines for development proposed in wetlands, which includes a sequenced approach. Based on the policy, the NPS employs a sequence of:

- a) avoiding adverse wetland impacts to the extent practicable,
- b) minimizing impacts that could not be avoided, and
- c) compensating for remaining unavoidable adverse wetland impacts via restoration of degraded wetlands.

Furthermore, the state of Michigan Department of Environmental Quality (DEQ) under the authority of the Wetland Protection Act, Part 303 of the Natural Resources and Environmental Protection Act, MCL 324.30301 et seq., also regulates impacts to wetlands within the state.

The Quincy Unit was originally described by copper speculators in the mid 1800's as being forested with high quality pines, occasional swamps, and other forests of sugar maple, birch, fir, oak, and white pine. However, after the Quincy Mining Company became established in the area, the company cleared land for roads, crops, mine development and fuel wood. Other than widening of the Portage River, descriptions of specific dredging or filling of vegetated wetlands are not present in recorded histories. However, based on the records, it is likely that forested wetlands were cleared of vegetation, but may not have been drained or filled.

No comprehensive wetland determinations have been conducted in the Quincy Unit; however United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps identify the potential for forested/scrub-shrub wetlands in the northern part of the Quincy Unit on both sides of U.S. 41. This area is north of the Quincy Unit's Historic Industrial Core. The USFWS NWI identifies potential areas of wetlands (small freshwater ponds) in the Quincy Unit Historic Industrial Core. These potential wetland areas are former cooling ponds associated with mining activities. Impacts to wetlands can include losses of functions and values, diversion of contributing water sources, vegetation removal, dredging, filling, and conversion to non-natural land cover. The various alternatives propose vegetation removal (primarily to restore views and interpret and stabilize the park's cultural resources), but wetland filling or dredging is not proposed and vegetation removal in the vicinity of wetlands would be avoided. Since no filling or dredging, or vegetation removal will occur in, or in the vicinity of potential wetland areas, no impacts requiring federal or state permits are proposed by any of the alternatives, therefore wetlands will not be addressed in this document.

### *Air Quality*

The 1970 Clean Air Act, as amended in 1990 (42 U.S.C. 7401 et seq.), requires federal land managers to protect park air quality, while the 2006 NPS *Management Policies* address the need to analyze air quality during park planning. The 1970 Clean Air Act provides that the federal land manager (the Assistant Secretary for Fish and Wildlife and Parks and the Park Superintendent) has an affirmative responsibility to protect the park's air quality related values (including visibility, plants, animals, soils, water quality, cultural and historic resources and objects, and visitor health) from adverse air pollution impacts. Section 118 of the 1970 Clean Air

Act requires the park to meet all federal, state, and local air pollution standards. Section 176(c) of the 1970 Clean Air Act requires all federal activities and projects to conform to state air quality implementation plans to attain and maintain national ambient air quality standards.

Keweenaw National Historical Park does not conduct air quality monitoring. The effects of air pollution on the park's natural resources and historic structures are unknown. A Fire Management Plan addresses air quality and various means to mitigate smoke impacts from prescribed fires.<sup>19</sup> If fires are prescribed as part of any treatment alternatives, the prescribed burns will be conducted within the guidelines of the Fire Management Plan.

According to the US Environmental Protection Agency (EPA), Michigan has no non-attainment areas for carbon monoxide, nitrogen dioxide, one-hour ozone, sulfur dioxide, particulates (and <10 micrometers), and lead.<sup>20</sup> As of June 2007, nine counties in the state are in non-attainment for the eight-hour ozone and seven counties are in non-attainment for the < 2.5 micrometers particulates standards. However, Houghton County is not among the counties in non-attainment for these two criteria. Consequently, Keweenaw National Historical Park does not occur within any areas of non-attainment for criteria air pollutants, and therefore this subject will not be further analyzed.

Local air quality would be temporarily affected by dust and vehicle emissions during the period of construction for any cultural landscape alternative. Operating equipment during this period would result in increased vehicle exhaust and emissions. Hydrocarbons, nitrous oxide, and sulfur dioxide emissions would be rapidly dissipated by air drainage since air stagnation is rare in the park vicinity. To reduce equipment emissions, the park would apply appropriate mitigating measures limiting idling of motorized vehicles.

Fugitive dust plumes from equipment would intermittently increase airborne particulates in the area near the construction sites, but loading rates are not expected to be significant. To partially mitigate these effects, project construction activity can be coupled with water sprinkling to reduce dust.

Overall, there would be negligible, short-term, adverse impacts to local air quality due to dust generated from motorized equipment. These effects would last only as long as the life of the project so local and regional air quality is unlikely to be affected by any of the alternatives. Therefore, air quality is dismissed as an impact topic in this document.

## **Water Resources**

### *Floodplains*

Executive Order 11988 (Floodplain Management) directs Federal agencies and their actions to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of

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<sup>19</sup> United States Department of the Interior, National Park Service, *Fire Management Plan for Keweenaw National Historic Park*, February 3, 2005.

<sup>20</sup> United States Environmental Protection Agency website, <http://www.epa.gov/air/data/nonat.html?st~MI~Michigan>, accessed 23 July 2007.

floodplain development wherever there is a practicable alternative. Although low-lying portions of the Quincy Unit border Portage Lake, the cities of Hancock and Houghton have no designated floodplains as defined by Executive Order 11988.<sup>21</sup> As floodplains do not occur within the project area, floodplains will be dismissed as an impact topic in this document.

#### *Water Quality*

Section 404 of the Clean Water Act also requires federal agencies and their actions to avoid impacts to other waters of the United States, which includes lakes, ponds, streams, and rivers. According to the United States Geological Survey (USGS) topographic quadrangle of Hancock, Michigan and the National Wetlands Inventory mapping by the USFWS, several small ponds are depicted within the Quincy Unit, although there are no USGS-mapped streams or rivers, with the exception of Portage Lake bordering the south edge of the Unit.<sup>22</sup>

Michigan DEQ under the authority of the Shorelands Protection and Management Act, Part 323 of the Natural Resources and Environmental Protection Act, MCL 324.30301 et seq., regulates impacts to coastal areas within the state. Coastal areas are defined as occurring within 1,000 feet landward from the ordinary high water mark of a Great Lake or a connecting waterway. Within this zone, the Act places emphasis on areas at high risk for erosion and flooding. Although ponded areas are mapped within the project area, any proposed treatment alternative would have negligible adverse impacts ponds, lakes, streams, or rivers and consequently water quality is dismissed as an impact topic in this document.

#### *Hazardous Materials*

A federal and state database search was conducted for the Quincy Unit and adjacent areas within a 1.5-mile radius from the intersection of U.S. 41 and 5<sup>th</sup> Street. A total of 80 records were obtained within this search radius, although only three records occur within the Quincy Unit.

- Lakeside Auto at 416 Royce Road, which is a Resource Recovery Conservation Act (RCRA) Generator Site. The detailed information indicates that this site is a Conditionally Exempt Small Quantity Generator of less than 100 kg/month of hazardous materials/wastes.
- David J. Hanke and Superior Oil Company at 801 Royce Road. Under Mr. Hanke's file, five underground storage tanks that held gasoline, diesel fuel, or kerosene were removed from the ground in 1990 and 1997. Under Superior Oil Company, two underground storage tanks were removed from the ground, but no other information is available as of the report revision dated 1 July 2001.
- Julio Contracting Company on Royce Road. In 1990 two underground storage tanks (one gasoline, one diesel) were removed from the ground.

No National Priority List (NPL) or Superfund sites were found in this database search. However, the Quincy Smelting Works site is part of the Torch Lake Area of Concern and

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<sup>21</sup> Houghton County, 2007. Personal communication by email (25 July 2007) with Tracy Smith of the Houghton County Building Department ([building@houghtoncounty.net](mailto:building@houghtoncounty.net))

<sup>22</sup> United States Geological Survey website, <http://www.mbr-pwrc.usgs.gov/bbs/>, accessed July 2007; and United States Fish and Wildlife Service, National Wetlands Inventory website, <http://www.fws.gov/nwi/>, accessed 19 July 2007.

currently included on the National Priorities List. At this site the USEPA has conducted asbestos abatement at the barn and garage in addition to removal of hazardous materials from other buildings on site. Additional cleanup (*i.e.*, mitigation) will allow the site to be de-listed from the NPL. Delisting is expected to provide access to state and federal Brownfield resources.

Any site where the presence of hazardous materials is considered to be in question would be avoided in developing treatment alternatives; however if any potentially hazardous sites are within an area designated for treatment, all appropriate measures will be taken to mitigate hazardous working conditions. Park staff would adhere to appropriate NPS policies and directives; Michigan EPA; and Occupational Safety and Health Administration (OSHA) safety precautions for workers at the project sites. These actions are required of any treatment alternative that is considered for the site. Therefore, this topic will not be addressed further in this document.

### *Environmental Justice*

Under a policy established by the Secretary of the Interior, to comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, departmental agencies should identify and evaluate, during the scoping and/or planning processes any anticipated effects, direct or indirect, from the proposed project or action on minority and low-income populations and communities, including the equity of the distribution of the benefits and risks. Data from the U.S. Census Bureau reveals a very small minority population within the census tract that includes the Quincy Unit, local communities and Houghton County. All geographic areas evaluated in the socioeconomic section of this report have a percentage of the overall population that exceeds the State of Michigan poverty rate.

Although there are residents within the Quincy Unit and surrounding communities that are minority and low income, any proposed treatment alternative would not likely result in direct or indirect impacts on minority or low-income populations. Potential short-term, direct, minor beneficial impacts could result from treatment alternatives. Therefore, environmental justice is not included as an impact topic in this document.

### *Indian Trust Resources*

Secretarial Order 3175 requires any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaskan Native tribes.

There are no Indian trust resources at the park. The lands comprising the park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, Indian trust resources are dismissed as an impact topic in this document.

### *Ethnographic Resources*

Impacts associated with ethnographic resources typically deal with questions about contemporary groups or peoples, their identity, and their heritage. As defined by the NPS, an ethnographic resource is a site, structure, object, landscape, or natural resource feature assigned

traditional, legendary, religious, subsistence or other significance in the cultural system of a group. The Keweenaw Bay Indian Community has identified no sacred Indian sites on the subject federal lands.<sup>23</sup> At this time the NPS has no knowledge of any other traditionally affiliated organizations or groups.

Copies of this CLR / EA will be sent to the Keweenaw Bay Indian Community and any other interested tribes for their review and comment. If the tribes subsequently identify the presence of ethnographic resources, appropriate mitigation measures would be undertaken in consultation with the tribes. Also, the park has requested an Ethnographic Overview and Assessment be completed for Keweenaw National Historical Park. This document will not be prepared before the CLR/EA process is completed. In the unlikely event human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 and Executive Order 13007 would be followed (25 USC 3001). Therefore, Ethnographic Resources will not be discussed further as an impact topic in this document.

### ***Museum Collections***

Keweenaw National Historical Park has an extensive museum collection. As of September 2007, there are 435,208 items in the collection and these items are stored in two locations. The two facilities are the Keweenaw History Center and Warehouse No. 1. The park is continually upgrading collections facilities to meet NPS requirements for curation and storage. The ongoing upgrades to collections facilities are required because the park's collections grow on an annual basis.

Although the park's collections continue to grow, it is not anticipated that implementation of any treatment alternative would result in a large number of new items that require storage and curation in the park's museum collections. Implementation of any treatment alternative would result in negligible impacts to museum collections. This topic has been dismissed from further analysis in this document; however if it is determined that treatment alternatives would result in impacts that exceed minor, this topic would be evaluated.

### ***Soundscape Management***

In accordance with NPS *Management Policies 2006* and Director's Order #47, *Sound Preservation and Noise Management*, an important part of the NPS mission is preservation of natural soundscapes associated with national park units. Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and duration of human-caused sound considered acceptable varies among NPS units, as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

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<sup>23</sup> United States Department of the Interior, National Park Service, *Environmental Assessment and Finding of No Significant Impact for Fire Management Plan for Keweenaw National Historic Park*.

Human-caused noise that is experienced at the developed areas of the park is what a visitor would expect from a small town. Visitors would likely expect to hear sounds from vehicle traffic and general “white noise” emanating from an urban area. Construction associated with any treatment alternative would be consistent with the normal background of noise of a small town and would only occur during length of construction resulting in short-term, negligible adverse impact to the soundscape of the Quincy Unit; therefore, soundscape management is dismissed as an impact topic in this document.

*Lightscape Management*

In accordance with NPS *Management Policies 2006*, the NPS strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human-caused light. Keweenaw National Historical Park is located within a rural town setting which includes lighting associated with streets, businesses, and small neighborhood residential areas. There are no sources of light associated with treatment alternatives; therefore, lightscape management is dismissed as an impact topic in this document.

