

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

2 **Scope of the Report**

3 The intent of this combined *Cultural Landscape Report and Environmental Assessment*
4 (CLR/EA) is to guide treatment and use of the above-ground resources associated with the
5 significant historic landscapes within the Quincy Unit of Keweenaw National Historical Park.
6 The current document includes Part 1 of the report. A thorough investigation and evaluation of
7 the historic landscapes has been conducted using National Park Service (NPS) and National
8 Register of Historic Places guidelines. The documentation of historic significance and
9 evaluation of integrity of the historic landscapes serves as a framework upon which treatment
10 recommendations will be based in Part 2 of this report. When completed, Parts 1 and 2
11 combined will provide park managers with a comprehensive understanding of the physical
12 evolution of the historic landscape, and guidance for landscape management. The report has
13 been prepared by a project team composed of the staff of Keweenaw National Historical Park,
14 Quinn Evans | Architects (QEA), and Woolpert, Inc., to fulfill a contract with the Midwest
15 Regional Office of the National Park Service.

16 **Report Methodology (Applicable Regulatory Requirements)**

17 The report was prepared according to federal standards guiding cultural landscape
18 projects and environmental assessments including *A Guide to Cultural Landscape Reports:*
19 *Contents, Process, and Techniques*, *The Secretary of Interior's Standards for the Treatment of Historic*
20 *Properties with Guidelines for the Treatment of Cultural Landscapes*, federal regulations (40 CFR
21 1500-1508) implementing the *National Environmental Policy Act of 1969* (NEPA), regulations of
22 the *Council on Environmental Quality* (40 CFR 1508.9), *NPS Director's Order 12: Conservation*
23 *Planning, Environmental Impact Analysis, and Decision-Making*, and the *National Historic*

1 *Preservation Act of 1966* (as amended). Other applicable regulatory requirements include: the
2 *National Park Service Organic Act*, the *American Indian Religious Freedom Act*, the *Act for the*
3 *Preservation of American Antiquities of 1906*, the *Historic Sites Act of 1935*, the *National Park Service*
4 *Director’s Order #28*, *Cultural Resource Management*, and the *Archaeological Resources Protection*
5 *Act*.

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

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

15 Although the federal government has standard guidelines for the preparation of CLR
16 and EAs, there are no guidelines for preparing a combined report. The Midwest Regional
17 Office of the National Park Service has recognized that combining the two documents to
18 increase the value of the overall document and integrate the information generated through the
19 CLR with the in-depth evaluation process inherent to the *Environmental Assessment*. Merging
20 the documents can improve and validate the recommended treatment while reducing the costs
21 associated with the preparation and printing. This report has been organized as indicated
22 below; the sections with grey text are not part of the current draft:

23 Chapter I: Introduction (Purpose and Need)

24 Chapter II: Landscape History

25 Chapter III: Existing Conditions / Affected Environment

1 Chapter IV: Landscape Analysis
2 Chapter V: Management Philosophy and Management Issues
3 Chapter VI: Treatment Alternatives
4 Chapter VII: Impacts from Treatment Alternatives (Environmental Consequences)
5 Chapter VIII: Recommended Treatment and Project Phasing
6 Chapter IX: Consultation and Coordination
7 Bibliography

8 **Purpose and Need**

9 Purpose

10 The purpose of the combined CLR/EA is to document and record the history and
11 current conditions of the historic landscapes within the Quincy Unit of Keweenaw Historical
12 Park and to provide guidance for the future treatment and use of these landscapes. The
13 document informs preservation of significant cultural and natural resources while providing
14 opportunities and facilities for visitor education and use. Since the Keweenaw National
15 Historical Park is a partnership park, the document is meant to help inform the Keweenaw
16 Heritage Site Partners (KHSP) that are involved with properties within the Quincy Unit, namely
17 the Quincy Mine Hoist Association and the A.E. Seaman Mineral Museum, operated by
18 Michigan Technological University. The document may also be useful to potential KHSP
19 within and adjacent to the Quincy Unit; these include the Michigan Department of
20 Transportation, Franklin Township and the City of Hancock.

21 Need

22 The combined CLR / EA is needed to guide treatment and use of the above-ground
23 resources associated with the significant historic landscapes within the Quincy Unit of
24 Keweenaw National Historical Park. The CLR is needed to provide a comprehensive
25 understanding of the historic development of these landscapes and to evaluate their
26 significance and provide treatment recommendations that respond appropriately to their

1 historic characteristics while accommodating current and future needs. This is particularly
2 necessary due to the makeup of land ownership/management within this partnership park.

3 **Project Objectives**

4 The objectives for the report include:

- 5 • Document the development of the historic landscapes within the Quincy Unit of
6 Keweenaw National Historical Park.
- 7 • Document the existing conditions of the historic landscapes within the Quincy Unit of
8 Keweenaw National Historical Park.
- 9 • Evaluate the significance and integrity of the historic landscapes within the Quincy Unit
10 of Keweenaw National Historical Park.
- 11 • Provide treatment recommendations for managing the historic landscape resources
12 within the Quincy Unit of the park.
- 13 • Recommend landscape treatments to address management needs identified by the NPS
14 and park partners in the Quincy Unit.
- 15 • Provide management recommendations and schematic designs for specific historic
16 landscapes within the park that accommodate current and future needs while
17 preserving the historic character and significant features present.
- 18 • Streamline planning and compliance processes for the historic landscapes within the
19 Quincy Unit of Keweenaw National Historical Park.
- 20 • Enhance visitor experience through providing information about the history of the
21 development of the park, to interpreters and site managers.
- 22 • Provide recommendations for efficiently managing the historic landscapes within the
23 Quincy Unit of the park while taking into consideration budget constraints.

1 **Park Purpose/Significance**

2 Keweenaw National Historical Park was established by Public Law 102-543 in October
3 1992 to commemorate the rich and complex story of copper mining on the Keweenaw
4 Peninsula. The purposes of the park are four-fold:

- 5 • *Tell the story of the role of copper in the development of an American*
6 *industrial society and the effects on the Keweenaw Peninsula of*
7 *providing that copper.*
- 8 • *Identify, study, and preserve the nationally significant historical and*
9 *cultural sites, structures, districts, landscapes, and other resources of the*
10 *Keweenaw Peninsula for the education, benefit, and inspiration of*
11 *present and future generations.*
- 12 • *Interpret the historic synergism among the geological, aboriginal,*
13 *sociological, cultural, technological, economic, and corporate influences*
14 *that relate the stories of copper on the Keweenaw Peninsula.*
- 15 • *Develop and sustain into the 21st century the park and the community*
16 *through a blend of private, local, state, and federal management,*
17 *investment, and ownership.*¹

18 **Description of the Study Area**

19 Keweenaw National Historical Park is located in the western portion of
20 Michigan’s Upper Peninsula (see Figure 1-1). The Keweenaw Peninsula extends approximately
21 100 miles north into Lake Superior and includes the Lake Superior Copper Range, a “highland
22 that forms a spine along the length of the peninsula and beyond.”² The Copper Range held vast
23 deposits of copper, attracting mining companies and workers who came to extract the copper.
24 Keweenaw National Historical Park is located along the Copper Range spine, near the center of
25 the peninsula. The park is made up of two units (Quincy and Calumet) that include extensive
26 heritage resources associated with the copper mining industry (see Figure 1-1a).³ The current
27 project is focused on the Quincy Unit of the park (see Figure 1 -3).

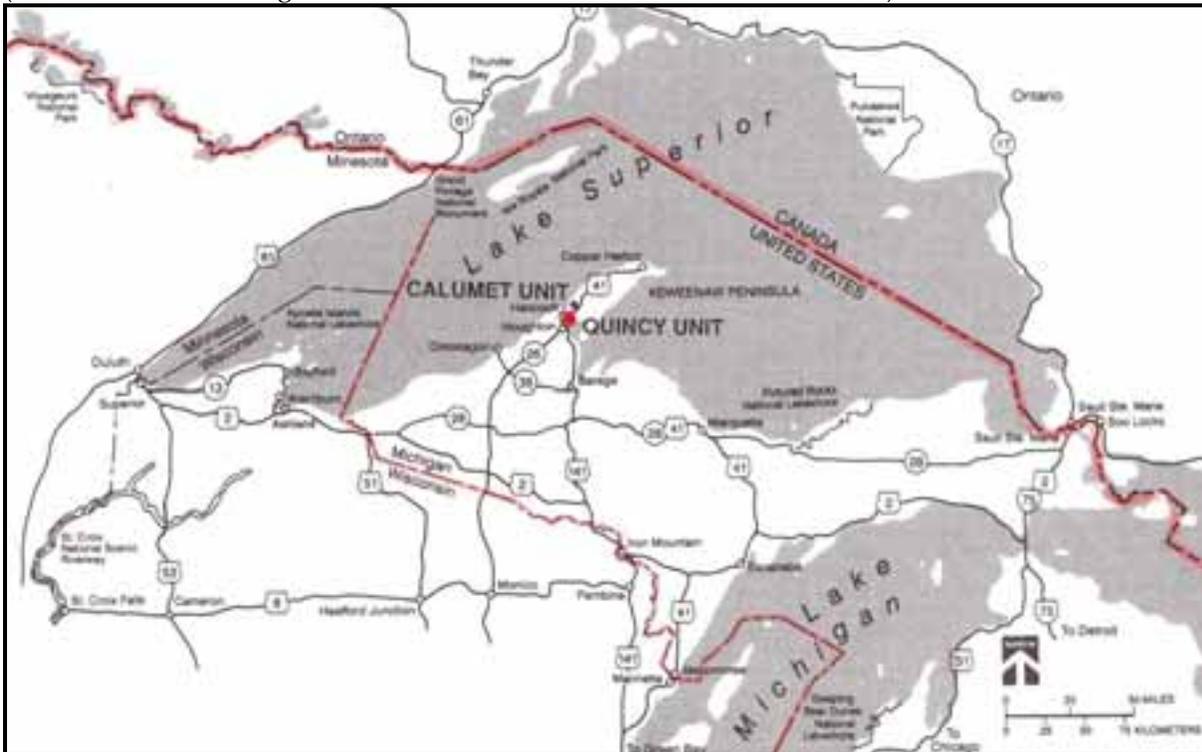
¹ United States Department of the Interior, National Park Service, *Final General Management Plan and Environmental Impact Statement, Keweenaw National Historical Park*, 13-14.

² General Management Plan, Keweenaw National Historical Park, 1998, 5.

³ Ibid.



1
2 **Regional Location of Keweenaw Peninsula park**
3 (Source: General Management Plan, Keweenaw National Historical Park, 9)



4
5 **Figure 1-1: Location of park**
6 (Source: General Management Plan, Keweenaw National Historical Park, 9)
7

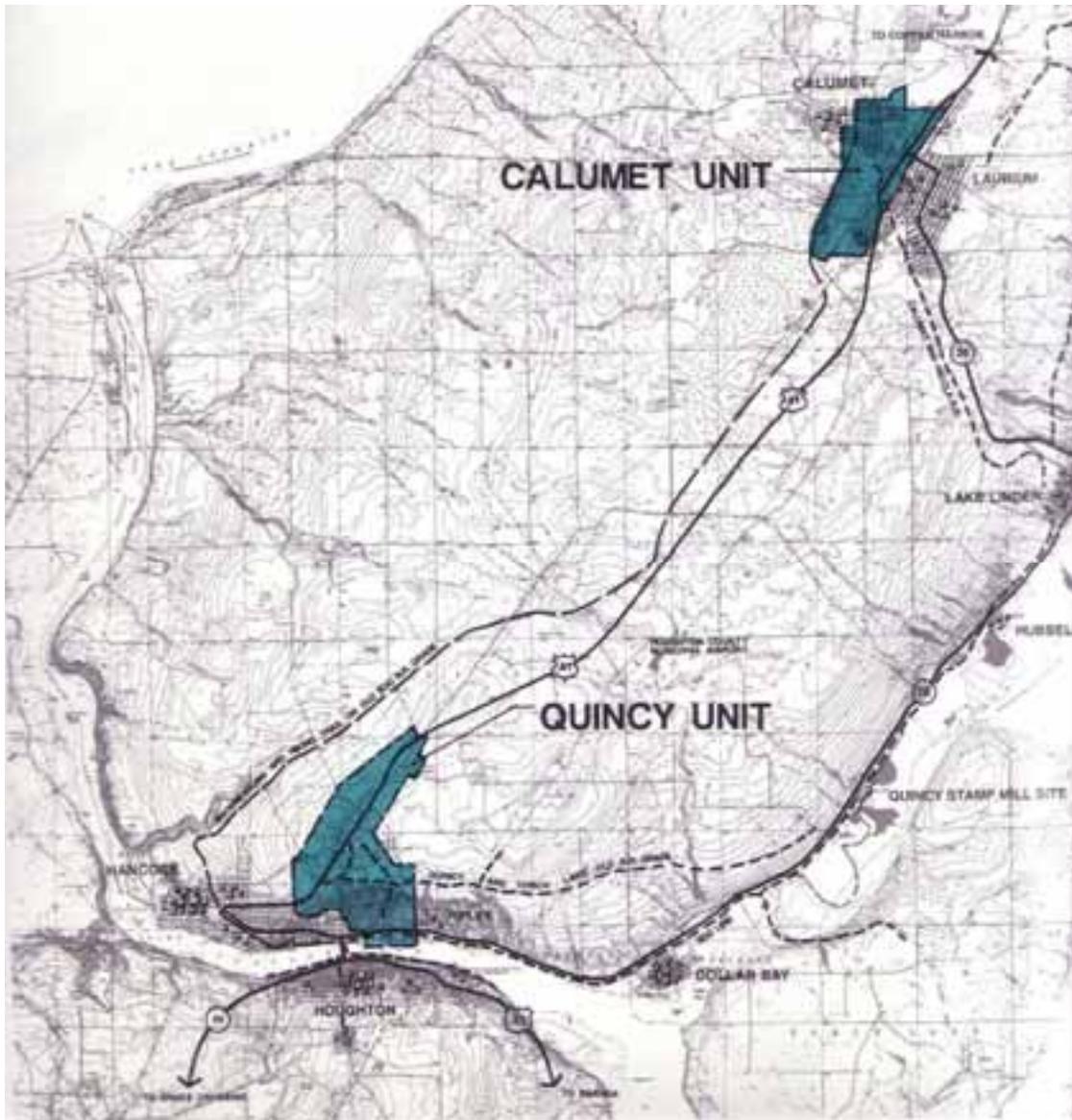
8 The Quincy Unit of Keweenaw National Historical Park includes about 1,120 acres
9 northeast of Hancock, Michigan, and adjacent to Portage Lake. The unit includes the remnant

1 structures and mines of the Quincy Mining Company and its associated historic landscape.
2 Quincy's operations stretched northeast to southwest along the hill above Portage Lake and the
3 City of Hancock.⁴ Of the 1,120 acres included in the unit, the National Park Service owns 136.56
4 acres. The remainder of the Unit is owned by public and private entities, some of whom
5 partner with the National Park Service in decision making and management of the sites.

6 When the park was established, the U.S. Congress legislated that the National Park
7 Service and the park's advisory commission partner with sites owned and operated by state and
8 local governments, private businesses and nonprofit organizations to achieve this goal. The
9 Keweenaw Heritage Sites program, administered by the Keweenaw National Historical Park
10 Advisory Commission, is one aspect of this partnership. Keweenaw Heritage Sites contain
11 significant cultural and/or natural resources and make a unique contribution to the copper
12 mining story. Embodying stories of hardship, ingenuity, struggle and success, each site allows
13 exploration of the role mining played in people's lives. Heritage sites operate independently of
14 the National Park Service.

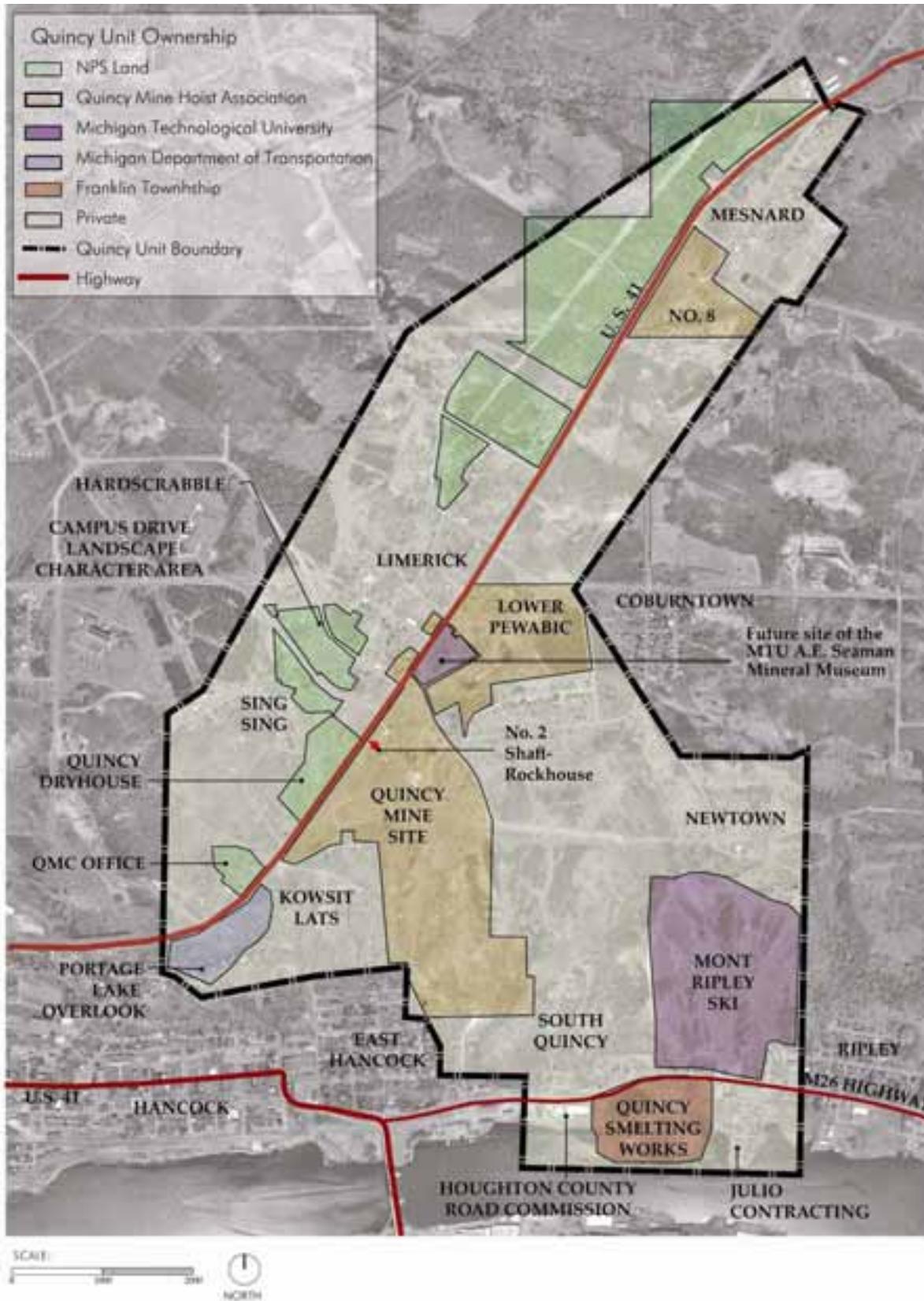
15 The Quincy Mine Hoist Association, a Keweenaw Heritage Site partner, is located
16 within the Quincy Unit; the A.E. Seaman Mineral Museum, also a Heritage Site that is operated
17 by Michigan Technological University, will be relocating from their main campus location in
18 Houghton to a site adjacent to the Quincy Mine and Hoist. Together, their holdings include
19 more than 110 acres on Quincy Hill. Other potential park partners with holdings in or adjacent
20 to the Quincy Unit include the Michigan Department of Transportation, Franklin Township and
21 the City of Hancock.

⁴ General Management Plan, Keweenaw National Historical Park, 1998, 5.



1
2
3
4
5
6

Figure 1- 2: Quincy and Calumet Units of Keweenaw National Historical Park (source: General Management Plan, Keweenaw National Historical Park, 9)



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

1 Historic resources included in the unit are: seven Quincy mine shafts, associated mining
2 and industrial surface works, features and ruins, several company housing locations, circulation
3 routes and paths, and remnant administrative and service buildings and managers' residences.
4 Of these the No. 2 shaft-rockhouse and the No. 2 hoist house are of particular significance. The
5 No. 2 shaft-rockhouse is built over a shaft that extends 9,300 feet on the incline. The No. 2 hoist
6 house contains the world's largest steam hoisting engine. The Quincy smelter, located on
7 Portage Lake, is the only remaining smelter associated with 19th century Michigan copper
8 mining.⁵ In addition to the historic resources, the unit includes numerous non-historic
9 developments.

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

11 The landscapes within the Quincy Unit are described herein as landscape character
12 areas that are defined by their physical qualities (such as landforms, vegetation, and
13 topography) and the cultural resources present.⁶ Given the variety and number of landscape
14 character areas, three *landscape character types* have been identified to group the landscape
15 character areas for purposes of inventory and analysis. The landscape character types include
16 1) character areas related to historic mining and industrial activities, 2) character areas that
17 including historic mine housing locations, and 3) character areas that contain non-historic and
18 adjacent land uses.

⁵ General Management Plan, Keweenaw National Historical Park, 1998, 6.

⁶ 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."

1 **Landscape Character Areas associated by Landscape Character Type**

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

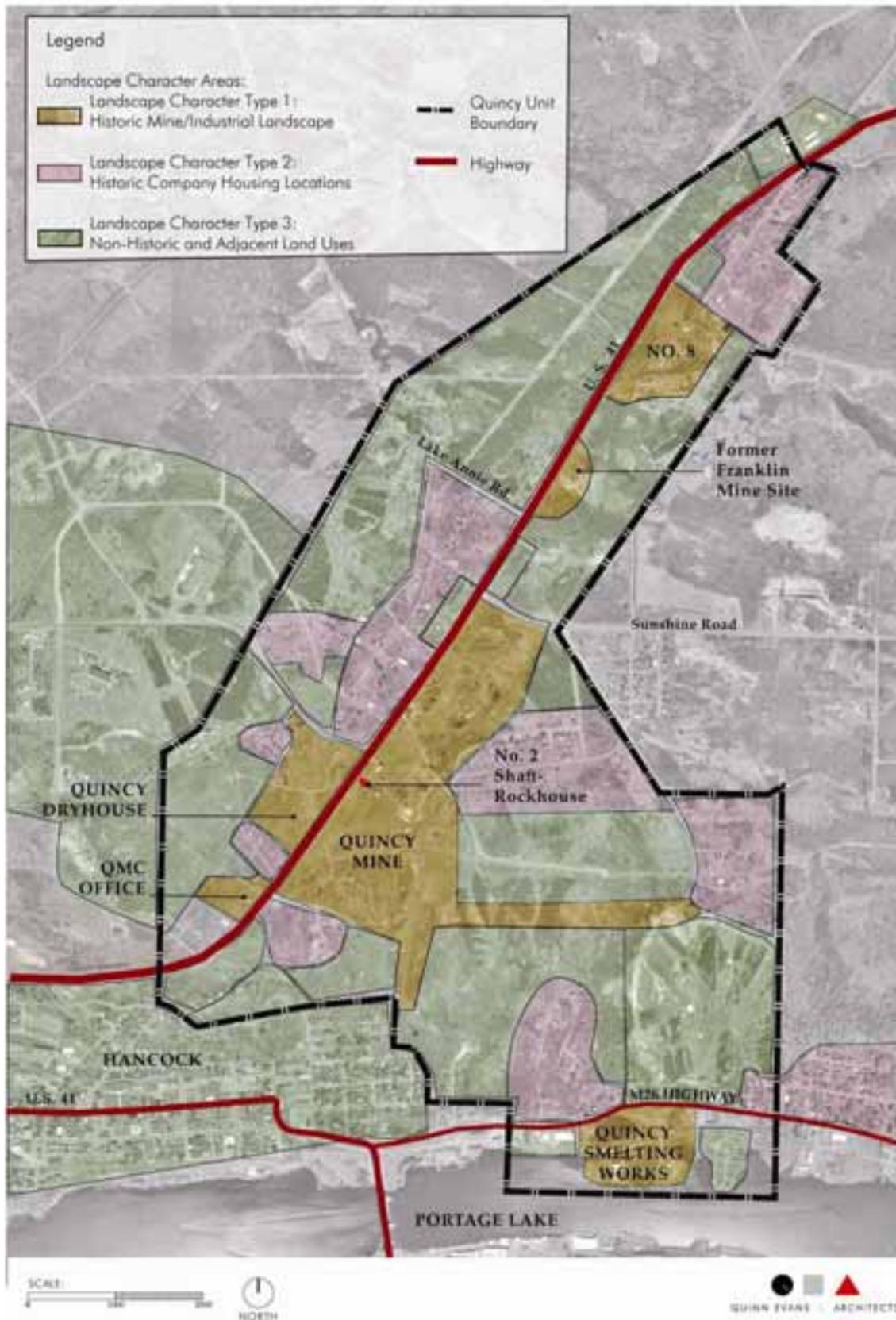
- 3 Quincy Mine Site landscape character area
- 4 Quincy Smelter landscape character area
- 5 Quincy Mine Office and Superintendent's Residence landscape character area
- 6 Quincy Dryhouse landscape character area
- 7 No.8 landscape character area

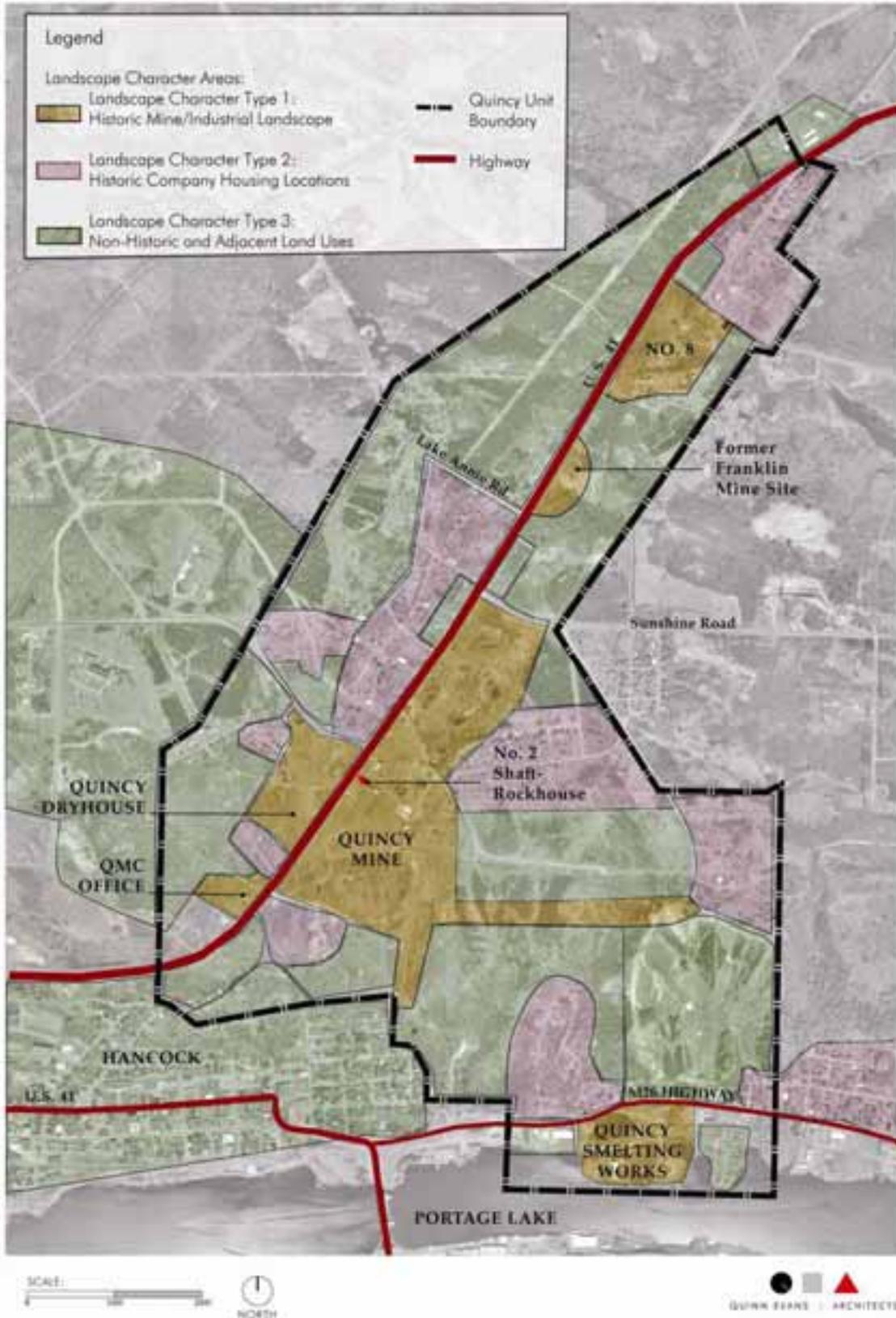
8 **Landscape Character Type 2 - Historic Company Housing Locations**

- 9 Limerick landscape character area
- 10 Hardscrabble landscape character area
- 11 Kowsit Lats landscape character area
- 12 Lower Pewabic landscape character area
- 13 Sing-Sing landscape character area
- 14 Coburntown landscape character area (adjacent to unit boundary)
- 15 Frenchtown landscape character area
- 16 Ripley landscape character area (adjacent to unit boundary)
- 17 Mesnard landscape character area
- 18 Newtown landscape character area
- 19 South Quincy landscape character area

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

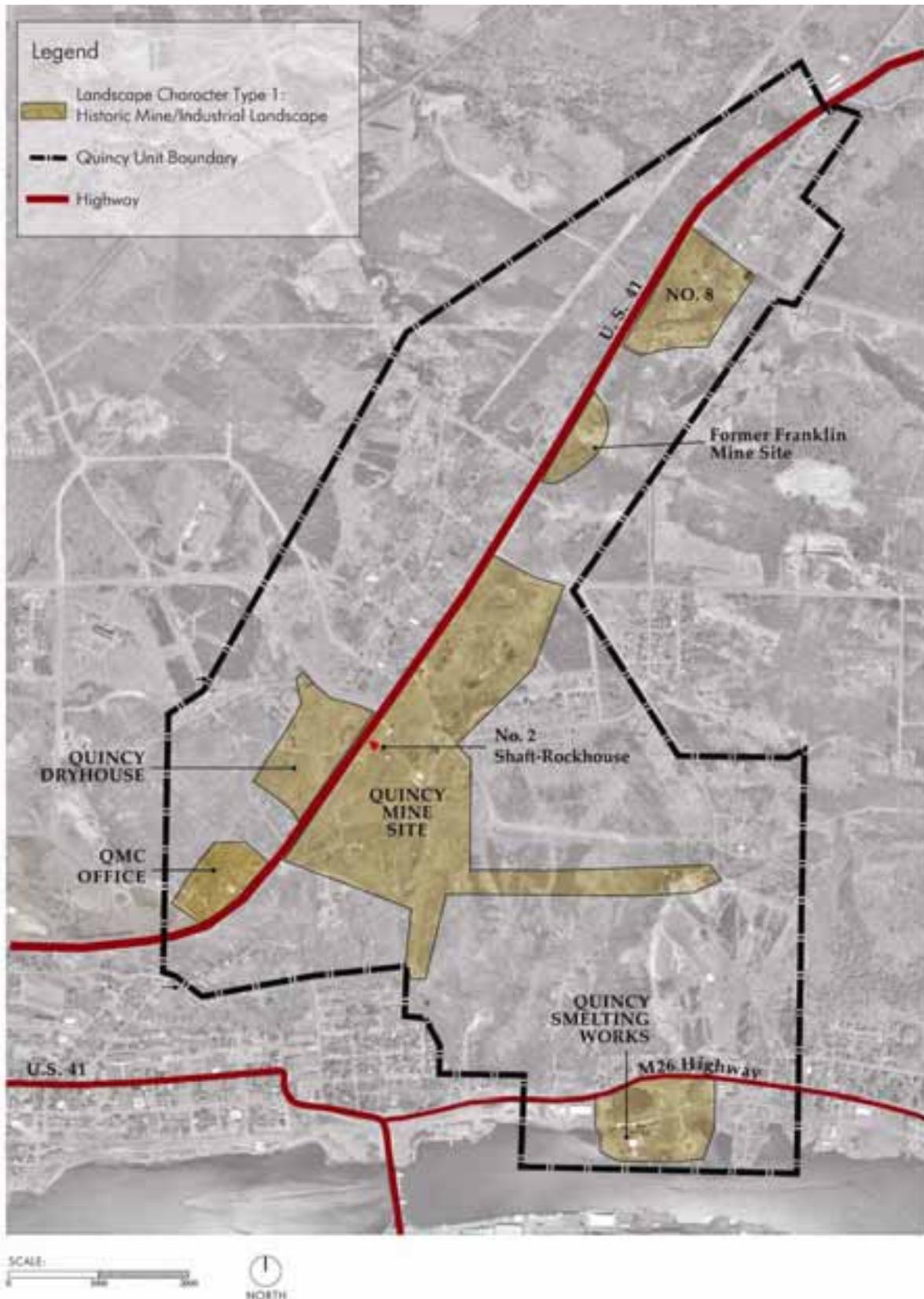
- 21 Hancock landscape character area (adjacent to unit boundary)
- 22 Portage Lake Overlook landscape character area
- 23 Highway 41 landscape character area
- 24 Community: Campus Drive landscape character area (adjacent to unit boundary)
- 25 Houghton County Road Commission Service Facility landscape character area
- 26 Julio Contracting landscape character area
- 27 Mont Ripley Ski Area landscape character area
- 28 Wooded landscape character area
- 29



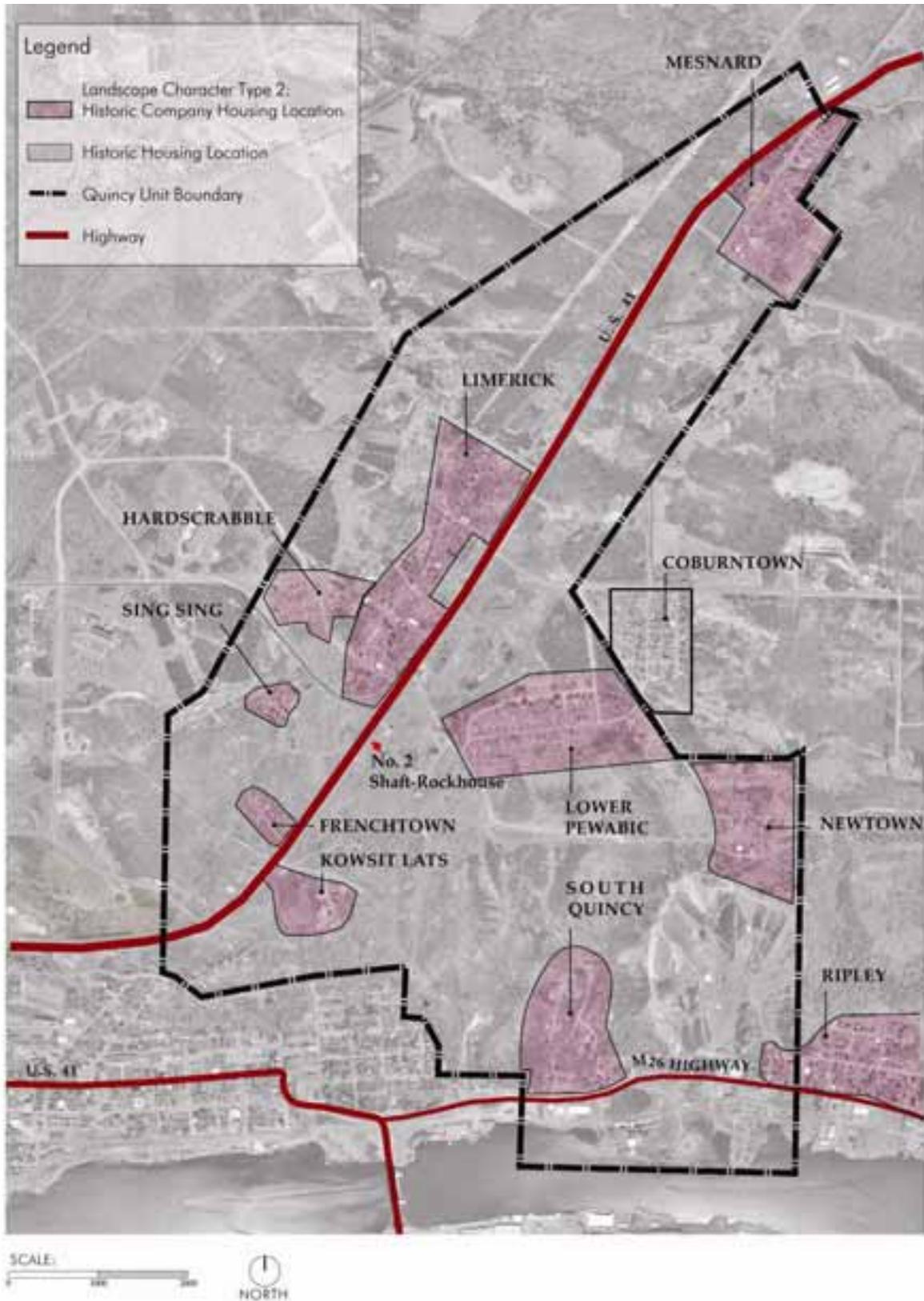


1

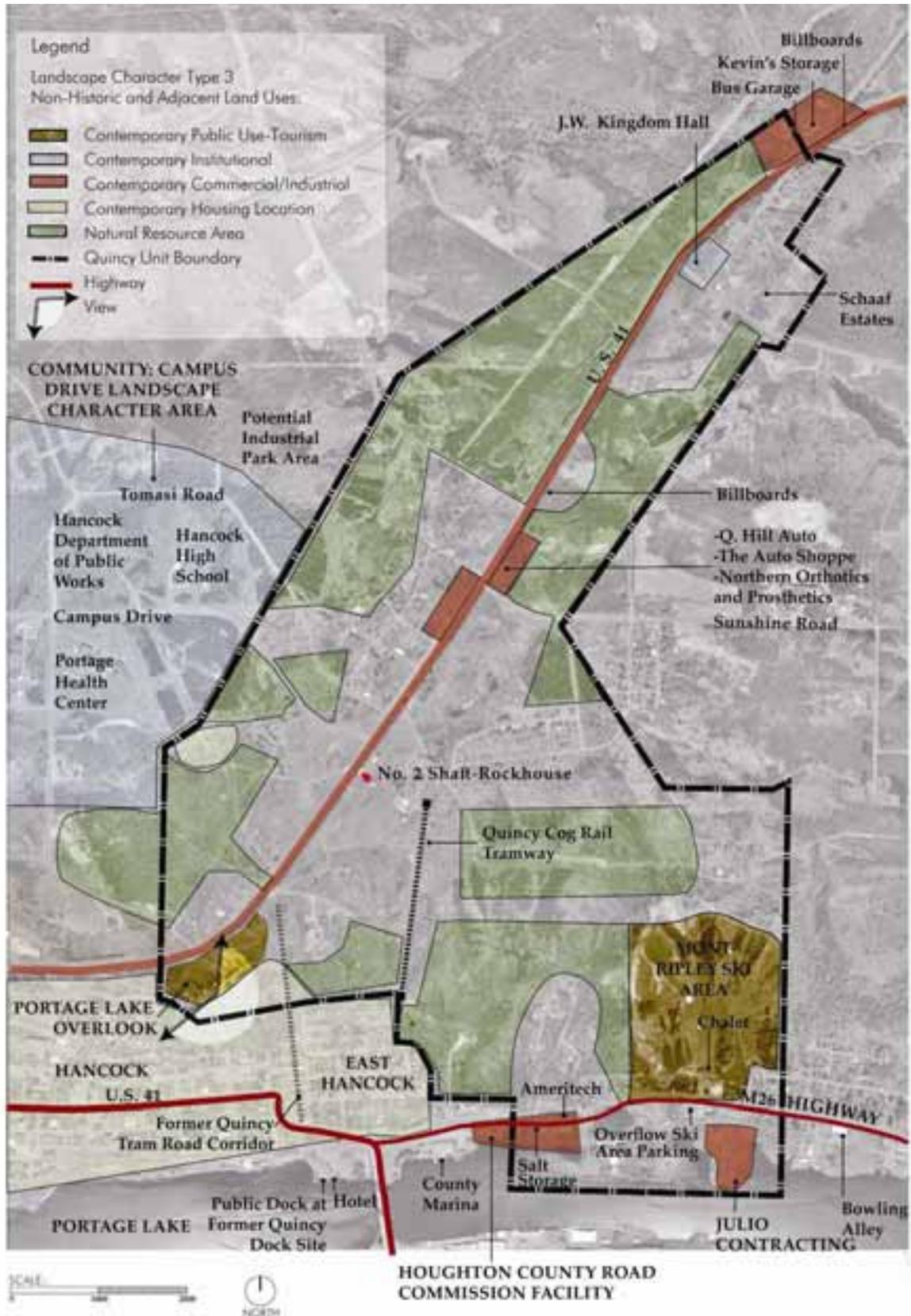
2 Figure 1- 4: Three Types of Landscape Character Areas



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



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



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

1 **Relation to Other Planning Projects**

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

10 Project initiation meetings were held at Keweenaw National Historical Park
11 headquarters in Calumet, Michigan in September 2006. Meeting attendees included Keweenaw
12 National Historical Park staff members Steve DeLong, Landscape Architect, Abby Sue Fisher,
13 Chief of Museum, Archives & Historical Services, Kathleen Harter, Chief of Interpretation and
14 Education, and Jo Urion, Historian. Also in attendance were Marla McEnaney, Historical
15 Landscape Architect, Midwest Regional Office of the National Park Service, and Brenda
16 Williams, Quinn Evans | Architects project manager. During the meetings park staff indicated
17 that the park General Management Plan (GMP) is out of date and not effective in providing
18 direction for the CLR/EA for the Quincy Unit. There is no DCP or Site Development Plan for
19 the park (to help address the gaps left by the current GMP which is very general). In order to
20 ensure the development of viable alternatives for the CLR/EA, the park is currently undergoing
21 an internal, informal planning process to determine where a visitor center will be developed.
22 This process will be completed in spring 2008, at which time the treatment alternatives for the
23 CLR will be developed.

1 Kathleen Harter, Chief of Interpretation and Education, is currently preparing a
2 Comprehensive Interpretive Plan for the park to provide an overall direction for interpretation
3 of the resources. Inclusion of Ms. Harter and other park staff in the development of treatment
4 alternatives and selection of a preferred alternative for the CLR/EA will ensure that the
5 CLR/EA and CIP processes are integrated.

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

11 **Environmental Assessment Impact Topics**

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

21 The CLR/EA only evaluates the treatment alternatives developed as part of the project.
22 At this time, impact topics have been selected for analysis or eliminated from further analysis
23 based on the anticipation that treatment alternatives developed for this project would not
24 impact certain resources. After developing the alternatives, the impact topics will be revisited.

1 If it appears that an alternative affects resources at an impact level of minor or greater, the
2 affected topic(s) will be added to those analyzed within the CLR/EA.

3 Specific impact topics are identified for analysis and to allow comparison of the
4 environmental consequences of each alternative. Impact topics that are analyzed for this project
5 are: cultural resources (cultural landscape and all appropriate elements of the landscape and
6 archeological resources); wetlands; special status species; socioeconomics; visitor experience;
7 and park operations.

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

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

15 *Impact Topics Selected for Analysis*

16 *Cultural Resources*

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

23 There is great potential for both prehistoric and historic archeological resources at this
24 unit as well as throughout the park. Although archeological resources have not been

1 comprehensively inventoried within the Quincy unit, a number of projects have been conducted
2 that indicate the area contains extensive archaeological resources.⁷ Implementation of any
3 treatment alternative could affect cultural resources at Keweenaw National Historical Park;
4 therefore this topic will require analysis in this document.

5 **Wetlands**

6 Section 404 of the Clean Water Act (CWA) and Executive Order 11990 requires federal
7 agencies to avoid impacts to wetlands where possible. The NPS *Management Policies 2006*,
8 section 4.6.5, *Wetlands* and DO-77-1 (Wetland Protection) provide guidelines on developments
9 proposed in wetlands. Furthermore, the state of Michigan Department of Environmental
10 Quality (DEQ) under the authority of the Wetland Protection Act, Part 303 of the Natural
11 Resources and Environmental Protection Act, MCL 324.30301 et seq., also regulates impacts to
12 wetlands within the state.

13 According to National Wetlands Inventory mapping by the United States Fish and
14 Wildlife Service (US FWS), extensive areas of wetlands occur within the Quincy Unit. Large
15 areas of palustrine forested and scrub-shrub wetlands are mapped west of US 41 at the north
16 end of the Quincy Unit while a large area of palustrine scrub-shrub and emergent marsh
17 wetlands is mapped between US 41 and Glass Road, north of Sunshine Road.⁸ A moderate size
18 palustrine forested wetland is mapped west of the intersection of Franklin Tram Road and Glass
19 Road, while a small palustrine emergent marsh is mapped along the north edge of Portage Lake

⁷ Mishkar, Land Use History and Archaeological Survey, 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.

⁸ United States Fish and Wildlife Service, National Wetlands Inventory website, <http://www.fws.gov/nwi/>, accessed 19 July 2007.

1 within an inlet east of the former salt storage site. Implementation of proposed treatment
2 alternatives could impact wetlands; therefore, wetlands will be addressed in this document.

3 *Special Status Species*

4 According to the Fire Management Plan EA, there are no federally listed threatened or
5 endangered species known to occur at the Quincy Unit of Keweenaw National Historical Park;
6 however, one state species of concern, Douglas’s hawthorn (*Crataegus douglasii*) may occur
7 within the Quincy Unit.⁹ Coordination with the Michigan Natural Features Inventory also
8 indicates that Douglas’s hawthorn occurs in the area. Furthermore, the US Fish and Wildlife
9 Service (USFWS) in a letter dated 17 July 2007, indicated that the federally threatened and state
10 endangered Canada lynx (*Lynx canadensis*) may occur in the area. Consequently, special status
11 species will be addressed in this document.

12 *Socioeconomics*

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

20 *Visitor Experience*

21 Keweenaw National Historic Park staff does provide some guided tours, however many
22 of the visitor contacts and services for Keweenaw National Historic Park are provided through

⁹ United States Department of the Interior, National Park Service, *Environmental Assessment and Finding of No Significant Impact for the Fire Management Plan for Keweenaw National Historic Park*.

1 the Keweenaw Heritage Sites, the park's partners. During summer, the National Park Service
2 operates a visitor information desk at the Quincy Mine Hoist Association Gift Shop, formerly
3 the historic Supply House.¹⁰ Keweenaw National Historical Park staff are involved in the
4 process of establishing a comprehensive interpretative / education program for the park.
5 Because implementation of any treatment alternatives could affect the visitor experience at the
6 Quincy Unit, as well as the rest of Keweenaw National Historical Park and heritage sites, this
7 topic will be addressed in this document.

8 *Park Operations*

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

16 *Impact Topics Considered But Eliminated from Further Analysis*

17 *Geology*

18 Surficial geology in the region underlying the Quincy Unit of Keweenaw National
19 Historical Park consists of basalt bedrock.¹¹ The bedrock is referred to as Portage Lake
20 Volcanics according to the 1987 Bedrock Geology of Michigan, and is composed of pre-

¹⁰ 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.

¹¹ 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*.

1 Cambrian andesites and felsites, as well as basalts.¹² There may also be sandstone bedrock,
2 which predominates eastward of the park. The Jacobsville Formation is composed of
3 sandstones, rare conglomerates, and shales and is of the Cambrian age.¹³ The Keweenaw Fault
4 runs southwest to northeast through the Quincy Unit. However, because the proposed action
5 would not disturb bedrock, there would be no impacts to geologic resources. Therefore, further
6 analysis of geology will be dismissed from this document.

7 *Soils*

8 According to the United States Department of Agriculture - Natural Resources
9 Conservation Service (USDA-NRCS), there are 15 soil types representing 10 soil series within
10 the Quincy Unit.¹⁴ The most dominant soils include Keweenaw-Kalkaska-Waiska complex,
11 dissected, on slopes of 15 to 70 percent; Trimountain-Paavola-Waiska complex on slopes of 1 to
12 8 percent; Udipsamments and Udorthents on nearly level slopes; and Urban lands. These soils
13 account for 75 percent of the Quincy Unit soils, and generally consist of well drained to
14 excessively well drained sandy loams and sand. None of the soil types within the Quincy Unit
15 meet the criteria of “prime farmland” as defined in the Farmland Protection Policy Act.

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

¹² Michigan Technological University website, <http://www.geo.mtu.edu/> accessed 20 July 2007.

¹³ Ibid.

¹⁴ United States Department of Agriculture website, <http://websoilsurvey.nrcs.usda.gov/app/>, accessed 20 July 2007.

1 ***Prime and Unique Farmlands***

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

7 Currently, however, active farmland (*i.e.*, row crops) does not occur within the park or
8 near the area of potential impacts by the proposed cultural landscape alternatives and
9 consequently this topic will not be analyzed further in this document. The proposed cultural
10 landscape alternatives are exempt from the requirements of the Farmland Protection Policy Act
11 because there are no prime farmlands associated with the cultural landscape project area, and
12 there are no potential impacts that would directly affect wetland areas associated with
13 agriculture. Therefore, this topic is dismissed from further consideration in this document.

14 ***Wildlife***

15 NEPA requires federal agencies to use all practicable means to restore and enhance the
16 quality of the human environment and to avoid or minimize all possible adverse effects of their
17 actions upon the environment. NPS policy is to protect the components and processes of
18 naturally occurring biotic communities, including the natural abundance, diversity, and
19 ecological integrity of plants and animals.¹⁵

20 Treatment actions are expected to result in loss of wildlife in an amount proportional to
21 the amount of habitat lost, which would be minimal. The project area has been previously
22 affected through years of disturbance, mining, and other development. These landscapes will
23 tend to feature species typical of forested and disturbed settings. Wildlife adapted to disturbed

¹⁵ National Park Service, *Management Policies* 2006.

1 and partially disturbed habitats that are likely to occur in the Quincy Unit include several
2 mammals; least chipmunk, house mouse, red squirrel, raccoon, coyote, and white-tailed deer,
3 and birds including mourning dove, northern flicker, American crow, black-capped chickadee,
4 American robin, European starling, chipping sparrow, song sparrow, and house sparrow.¹⁶

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

12 *Air Quality*

13 The 1970 Clean Air Act, as amended in 1990 (42 U.S.C. 7401 et seq.), requires federal
14 land managers to protect park air quality, while the 2006 NPS *Management Policies* address the
15 need to analyze air quality during park planning. The 1970 Clean Air Act provides that the
16 federal land manager (the Assistant Secretary for Fish and Wildlife and Parks and the Park
17 Superintendent) has an affirmative responsibility to protect the park's air quality related values
18 (including visibility, plants, animals, soils, water quality, cultural and historic resources and
19 objects, and visitor health) from adverse air pollution impacts. Section 118 of the 1970 Clean Air
20 Act requires the park to meet all federal, state, and local air pollution standards. Section 176(c)
21 of the 1970 Clean Air Act requires all federal activities and projects to conform to state air
22 quality implementation plans to attain and maintain national ambient air quality standards.

¹⁶ 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.

1 Keweenaw National Historical Park does not conduct air quality monitoring. The
2 effects of air pollution on the park's natural resources and historic structures are unknown. A
3 Fire Management Plan addresses air quality and various means to mitigate smoke impacts from
4 prescribed fires.¹⁷ If fires are prescribed as part of any treatment alternatives, the prescribed
5 burns will be conducted within the guidelines of the Fire Management Plan.

6 According to the US Environmental Protection Agency (EPA), Michigan has no non-
7 attainment areas for carbon monoxide, nitrogen dioxide, one-hour ozone, sulfur dioxide,
8 particulates (and <10 micrometers), and lead.¹⁸ As of June 2007, nine counties in the state are in
9 non-attainment for the eight-hour ozone and seven counties are in non-attainment for the < 2.5
10 micrometers particulates standards. However, Houghton County is not among the counties in
11 non-attainment for these two criteria. Consequently, Keweenaw National Historical Park does
12 not occur within any areas of non-attainment for criteria air pollutants, and therefore this
13 subject will not be further analyzed.

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

20 Fugitive dust plumes from equipment would intermittently increase airborne
21 particulates in the area near the construction sites, but loading rates are not expected to be

¹⁷ United States Department of the Interior, National Park Service, *Fire Management Plan for Keweenaw National Historic Park*, February 3, 2005.

¹⁸ United States Environmental Protection Agency website, <http://www.epa.gov/air/data/nonat.html?st~MI~Michigan>, accessed 23 July 2007.

1 significant. To partially mitigate these effects, project construction activity can be coupled with
2 water sprinkling to reduce dust.

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

7 *Water Resources*

8 *Floodplains*

9 Executive Order 11988 (Floodplain Management) directs Federal agencies and their
10 actions to avoid, to the extent possible, the long-term and short-term adverse impacts associated
11 with the occupancy and modification of floodplains, and to avoid direct and indirect support of
12 floodplain development wherever there is a practicable alternative. Although low-lying
13 portions of the Quincy Unit border Portage Lake, the cities of Hancock and Houghton have no
14 designated floodplains as defined by EO 11988.¹⁹ As floodplains do not occur within the project
15 area, floodplains will be dismissed as an impact topic in this document.

16 *Water Quality*

17 Section 404 of the CWA also requires federal agencies and their actions to avoid impacts
18 to other waters of the United States, which includes lakes, ponds, streams, and rivers.
19 According to the United States Geological Survey (USGS) topographic quadrangle of Hancock,
20 Michigan and the National Wetlands Inventory mapping by the USFWS, several small ponds

¹⁹ Houghton County, 2007. Personal communication by email (25 July 2007) with Tracy Smith of the Houghton County Building Department (building@houghtoncounty.net)

1 are depicted within the Quincy Unit, although there are no USGS-mapped streams or rivers,
2 with the exception of Portage Lake bordering the south edge of the Unit.²⁰

3 Michigan DEQ under the authority of the Shorelands Protection and Management Act,
4 Part 323 of the Natural Resources and Environmental Protection Act, MCL 324.30301 et seq.,
5 regulates impacts to coastal areas within the state. Coastal areas are defined as occurring within
6 1,000 feet landward from the ordinary high water mark of a Great Lake or a connecting
7 waterway. Within this zone, the Act places emphasis on areas at high risk for erosion and
8 flooding. Although ponded areas are mapped within the project area, any proposed treatment
9 alternative would have negligible adverse impacts ponds, lakes, streams, or rivers and
10 consequently water quality is dismissed as an impact topic in this document.

11 *Hazardous Materials*

12 A federal and state database search was conducted for the Quincy Unit and adjacent
13 areas within a 1.5-mile radius from the intersection of US 41 and 5th Street. A total of 80 records
14 were obtained within this search radius, although only three records occur within the Quincy
15 Unit.

- 16 • Lakeside Auto at 416 Royce Road, which is a RCRA Generator Site. The detailed
17 information indicates that this site is a Conditionally Exempt Small Quantity Generator of
18 less than 100 kg/month of hazardous materials/wastes.
- 19 • David J. Hanke and Superior Oil Company at 801 Royce Road. Under Mr. Hanke's file, five
20 underground storage tanks that held gasoline, diesel fuel, or kerosene were removed from
21 the ground in 1990 and 1997. Under Superior Oil Company, two underground storage

²⁰ 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.

1 tanks were removed from the ground, but no other information is available as of the report
2 revision dated 1 July 2001.

- 3 • Julio Contracting Company on Royce Road. In 1990 two underground storage tanks (one
4 gasoline, one diesel) were removed from the ground.

5 No National Priority List (NPL) or Superfund sites were found in this database search.
6 However, the Quincy Smelting Works site is part of the Torch Lake Area of Concern and
7 currently included on the National Priorities List. At this site the USEPA has conducted
8 asbestos abatement at the barn and garage in addition to removal of hazardous materials from
9 other buildings on site. Additional cleanup (*i.e.*, mitigation) will allow the site to be de-listed
10 from the NPL. Delisting is expected to provide access to state and federal Brownfield resources.

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

19 *Environmental Justice*

20 Under a policy established by the Secretary of the Interior, to comply with Executive
21 Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income*
22 *Populations*, departmental agencies should identify and evaluate, during the scoping and/or
23 planning processes any anticipated effects, direct or indirect, from the proposed project or
24 action on minority and low-income populations and communities, including the equity of the

1 distribution of the benefits and risks. Data from the U.S. Census Bureau reveals a very small
2 minority population within the census tract that includes the Quincy Unit, local communities
3 and Houghton County. All geographic areas evaluated in the socioeconomic section of this
4 report have a percentage of the overall population that exceeds the State of Michigan poverty
5 rate.

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

11 *Indian Trust Resources*

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

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

21 *Ethnographic Resources*

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

1 traditional, legendary, religious, subsistence or other significance in the cultural system of a
2 group. The Keweenaw Bay Indian Community has identified no sacred Indian sites on the
3 subject federal lands.²¹ At this time the NPS has no knowledge of any other traditionally
4 affiliated organizations or groups.

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

15 *Museum Collections*

16 Keweenaw National Historic Park has an extensive museum collection. As of
17 September 2007, there are 435,208 items in the collection and these items are stored in two
18 locations. All but one facility is owned by the park. The two facilities are owned by the park;
19 the Keweenaw History Center and Warehouse No. 1. The park is continually upgrading
20 collections facilities to meet NPS requirements for curation and storage. The ongoing upgrades
21 to collections facilities are required because the park's collections grow on an annual basis.

²¹ 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*.

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

7 ***Lightscape***

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

14 ***Soundscape***

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

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