# APPENDIX G
# CULTURAL RESOURCES INVENTORY AND EVALUATION

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# SOUTHERN MONTANA ELECTRIC GENERATION AND TRANSMISSION COOPERATIVE'S HIGHWOOD GENERATING STATION CASCADE COUNTY, MONTANA

## CULTURAL RESOURCE INVENTORY AND EVALUATION

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***Southern Montana Electric Generation and Transmission Cooperative's Highwood Generating Station, Cascade County, Montana: Cultural Resource Inventory and Evaluation***

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# INTRODUCTION

Southern Montana Electric Generation and Transmission Cooperative (SME) has proposed to construct a coal-fired electric generating station and associated railroad, electric transmission, and water pipeline facilities in the vicinity of Great Falls in Cascade County, Montana. SME is preparing to submit environmental permit applications to the Montana Department of Environmental Quality (MDEQ) and other agencies seeking permission to construct and operate the Highwood Generating Station. The project triggers a Montana Environmental Policy Act (MEPA) review. Because federal funding will be provided through the US Department of Agriculture Rural Utilities Service (RUS), an environmental analysis under the National Environmental Policy Act (NEPA) is required as well. RUS and MDEQ are preparing a joint Environmental Impact Statement (EIS) that will address both NEPA and MEPA requirements.

Section 106 of the National Historic Preservation Act, as well as related federal and state regulations, requires SME to determine if significant cultural resources lie within the project area. Bison Engineering, Inc., the firm contracted by SME to coordinate the environmental compliance effort, subcontracted with RTI to complete all required cultural resource fieldwork and associated documentation. Portions of RTI's final report will be available for support of, and integration into, the project EIS. The purpose of this cultural resource inventory report is to provide baseline data regarding cultural resources that could potentially be impacted by the proposed project.

SME has identified two potential locations to construct its coal-fired generation plant. The preferred Highwood Generating Station plant site (referred to hereafter as the HGS) is located northeast of Great Falls in Sections 24 and 25, Township 21 North, Range 5 East. An alternate site is the Great Falls Industrial Park, located about 1 mile north of Black Eagle in Section 30, Township 21 North, Range 4 East. The former plant site is currently in use as a privately-owned dry-land wheat farm, while the latter is controlled by the Great Falls Development Authority.

Proposed developments at the plant site locations will encompass approximately 320 acres. Improvements will include construction of boilers and an accompanying turbine-generator, pollution control equipment, solid waste storage facilities, and associated infrastructure. In addition to the plant developments, SME proposes to construct limited transmission facilities necessary for interconnecting HGS to the NorthWestern Energy (NWE) network transmission system at NWE's Great Falls Substation. Contemplated transmission facilities include two sections of new transmission line of approximately 9.2 and 4.1 miles, respectively, a 1.6-mile-long raw water intake line, a 7.4-mile-long fresh- and waste-water pipeline, and a 6.1-mile-long rail spur (Figure 1).

This figure is a GIS generated 11x17 map.
See the PDF format version located in a separate file.

Figure 1. Project area location map.

Because the Great Falls Industrial Park is currently considered an alternate plant site, the specific locations and lengths of connections for that facility have not been formally identified. If SME chooses that site for development, the connections will presumably be slightly shorter in overall length than those for the HGS. That is due primarily to the Industrial Park's closer proximity to existing infrastructure at Great Falls.

RTI completed a cultural resource inventory encompassing 1180 acres in 2005. The inventoried acreage covers the proposed HGS plant site and 250-foot-wide corridors encompassing its rail spur, electric transmission lines, and water intake and discharge pipelines. Wood (2004) inventoried the Great Falls Industrial Park in its entirety in 2004 and RTI did not, therefore, resurvey that portion of the project area.

To date, ten cultural properties have been identified within SME's proposed project area. Five of those were documented during previous cultural resource projects and RTI revisited them in 2005 to gather additional information concerning their contents and integrity. The remainder are newly-identified sites that were recorded, or noted, by RTI in 2005. This report documents the results of RTI's cultural resource inventory. The environmental and cultural settings of the project area are presented in the next sections. Those are followed by discussions of RTI's research methods and the inventory results. A brief project summary is provided at the end of the report. All site forms, amendments, and a Cultural Resources Annotated Bibliography Systems (CRABS) form are included in attached appendices.

## ENVIRONMENTAL OVERVIEW

The project area lies near the Missouri River in the vicinity of Great Falls. Locally, the Missouri River and its tributaries have cut deep, narrow canyons within the surrounding uplands. The resulting landscape is characterized by broad, undulating uplands cross-cut by steep-sided canyons and coulees (Figure 2). Mean elevation at river-level is less than 3000 feet, while the prairie to the south slopes upward to over 3600 feet.

Sandstone and shale associated with the Cretaceous-age Kootenai Formation underlies the area (Alt and Hyndman 1997:305-306). Pleistocene glaciers did not extend as far south as the project area, however, they did back up the flow of the Missouri River forming a massive lake referred to as Glacial Lake Great Falls. It inundated a vast expanse of plains south of the present course of the Missouri River to depths up to 600 feet (Alt and Hyndman 1997:267-269). As the lake receded, extensive deposits of unconsolidated sediments were left behind. Those deposits mantle the local sandstone and shale bedrock creating the low, rolling landscape that characterizes the project area today.

The lacustrine sediments exposed within the project area are clay-dominated with few coarse fragments. They are moderately to poorly drained and have high shrink-swell characteristics. Weathering of the local sediments has formed soils which support a variety of native plant species. Regional native vegetation is characterized by shortgrass prairie plants including bunchgrass, prickly pear, yucca, creeping juniper, and widely scattered sagebrush and

Figure 2. The Missouri River canyon near Cochrane Dam. View to the east/northeast.

juniper trees. Localized bands of riparian vegetation occur along the margins of perennial watercourses. In those areas cottonwood, willow, wild rose, and chokecherry growth can be quite dense.

Native vegetation growth is largely restricted to those portions of the project area lying along the Missouri River and within steep canyons and coulees south of the river. Nearly all the prairie land within, and surrounding, the HGS is currently under cultivation, with the primary agricultural crop being wheat (Figure 3).

## CULTURAL CONTEXT

### Summary of Prehistoric Occupation

There are no previously recorded prehistoric cultural properties within the bounds of SME's proposed project and RTI did not identify any such sites as part of its 2005 inventory. A detailed prehistoric overview is, therefore, beyond the scope of this report. The following brief summary is presented to provide general information about prehistoric occupation in the Great Falls area. The reader may refer to the references provided below to obtain additional information on the subject.

Figure 3. Agricultural land within the proposed HGS plant site. View to the east.

The area surrounding the Great Falls of the Missouri River has been occupied by human populations almost continuously since the late Pleistocene/early Holocene transition and the retreat of Glacial Lake Great Falls (Hoffecker 1994:4). Buried cultural deposits representing the earliest periods of prehistoric occupation have yet to be discovered, however, artifacts found in surface contexts are diagnostic of Paleoindian Period occupations pre-dating 10,000 years before present (BP; Greiser 1989:7). Human populations appear to have expanded during the Middle Prehistoric (7,500 to 1,800 BP) and Late Prehistoric Periods (1,800 to 300 BP) and sites dating to those periods are common (Fredlund 1979:23; Deaver and Deaver 1986:86).

Prehistoric sites in the project vicinity take a range of forms. The most common are lithic scatters containing stone tools and/or reduction debris. Numerous lithic scatters have been documented south of the Missouri River near Great Falls and they are believed to represent the former locations of prehistoric camp sites or tool production workshops (O'Brien and Rechlin 1972:2; Aaberg 1978:1; Historical Research Associates 1988:10-14). Sites containing stone circles and stacked rock cairns are also common (Rossillon et al. 2003:5-8). Stone circles, also referred to as "tipi rings," are circular to ovoid cobble concentrations which many researchers believe mark the former locations of tipis (Kehoe 1960:463). A variety of stacked-rock cairn types occur in the area and they presumably served a range of functions. Cairns were reportedly constructed to mark trails and burials and they also served as components of drive lines for directing game animals toward kill locations (Rossillon et al. 2003:7).

## Historic Context

The 10 historic cultural properties within SME's project area include an early exploration route, two hydroelectric power transmission lines, a railroad and associated siding, a public works secondary road, and four farmsteads. The following discussion focuses specifically on providing historical context information for those sites. The reader may refer to numerous other documents (eg. Deaver 1990; Deaver 1991; Deaver and Peterson 1992; Rossillon 1992; Rossillon and Dickerson 2003; Rossillon et al. 2003) to obtain contextual information concerning other site types in the Great Falls area.

### *Early Exploration Route*

Euro-American presence in central Montana commenced at the beginning of the nineteenth century, however, the first incursions into the Great Falls area were largely transitory. Meriwether Lewis compiled the first written descriptions of the region when he, William Clark, and the Corps of Discovery traversed it during their westward voyage to the Pacific Ocean.

In 1804, while the Corps of Discovery was wintering at Fort Mandan in present day North Dakota, Lewis learned of a large waterfall that blocked navigation far upstream on the Missouri River. Based on the available information, he believed that the fall would be a single obstacle that could relatively easily be circumvented. The journey westward from Fort Mandan commenced immediately following the spring thaw in April 1805. Over the ensuing two months, the Corps negotiated its boats upstream on the Missouri River to the mouth of the Marias River and beyond. On June 13$^{th}$, Lewis and an advance party of four men came upon the largest of the Great Falls' cascades. After sending back word of his discovery to Clark and the main party, Lewis advanced upstream to survey the obstruction. Lewis' reconnaissance of the area revealed that there were multiple falls, at intervals, for several miles within the steep river canyon.

The Corps established a lower portage camp on the south bank of the Missouri River about 1 mile downstream from the mouth of Belt Creek on June 15$^{th}$. The following day, boats and equipment were moved up Belt Creek about 1.75 miles to a location where the uplands south of the Missouri River canyon could most readily be reached. During the period from June 17$^{th}$ to the 20$^{th}$, Clark and a detachment of five men surveyed an 18-mile-long portage route spanning from Belt Creek to an upper portage camp at White Bear Islands upstream from the westernmost fall. Meanwhile, Lewis directed the transfer of equipment from lower portage camp to Belt Creek.

The Corps of Discovery constructed two crude wagons to carry canoes and baggage overland to the upper camp. On June 20$^{th}$, the long overland portage commenced. The arduous journey involved crossing broad expanses of grassland dotted with prickly pear cactus and infested with rattlesnakes. Multiple steep-sided coulees, including Box Elder Creek, had to be traversed by individuals laden with extremely heavy loads. The last of the equipment did not

reach White Bear Islands until July 2nd. It took nearly two more weeks for the Corps to construct new boats and pack their remaining equipment. On July 14th, 1805, the Corps of Discovery continued its upstream voyage toward the headwaters of the Missouri (Appleman 1975:309-317).

### *Hydroelectric Power Transmission Lines*

Trappers, traders, ranchers, miners, and missionaries passed through the Great Falls area in the 75 years following Lewis and Clark's portage. Few of them remained long, however, until Paris Gibson established the Great Falls townsite in 1887 (Quivik and McCormick 1988:11). Gibson, and his associate James J. Hill, designed plans for development of an industrial center at Great Falls that would profit from the tremendous hydro power of the Missouri River falls. Their plans came to fruition in short order. By 1890, Great Falls had railroad connections to the north and south and a newly-constructed hydroelectric facility at Black Eagle Falls that powered a state-of-the-art silver smelter located at the eastern edge of town (Rossillon and Dickerson 2003:19-20).

Spurred largely by demands from Butte-area mine and smelter developers for inexpensive power, additional dams and hydroelectric power facilities were constructed. John D. Ryan's Rainbow Falls facility came on line in 1910. Soon thereafter, Ryan and his associates began negotiations to consolidate Montana's major power producers and in 1912 The Montana Power Company (MPC) was formed. Over the ensuing 50 years, MPC constructed the Ryan (1915), Morony (1930), and Cochrane (1958) hydroelectric facilities and it redeveloped and expanded the Black Eagle and Rainbow Falls developments.

Improvements in technology for electrical transmission facilitated expanded development of the Great Falls hydroelectric facilities. Prior to 1890, the technology required for high-voltage transmission was generally not yet developed. Advances in technology occurred after 1890, and by 1910 lines from the Rainbow plant were stepped up to 100 kilovolts (kV; Quivik and McCormick 1988:20, 37). The ability to transfer high energy loads over great distances ultimately allowed Great Falls electricity to be distributed throughout Montana.

In 1915, MPC constructed a 100 kV transmission line connecting the Rainbow and Ryan hydroelectric facilities. Fifteen years later, a similar line, running parallel to the Rainbow line, was constructed connecting the Morony and Rainbow power plants. Those high-voltage interplant lines permitted electric power generated by their respective hydroelectric facilities to be transmitted through MPC's network (Renewable Technologies 1991:Section 7, pp. 21, 24). The increase in available power played an integral part in establishing MPC as Montana's largest utility.

### *Railroad and Associated Siding*

The Milwaukee Road was an established mid-western rail carrier that built westward to the Pacific Ocean during the period from 1906 to 1909. The main line extended from the Great Lakes region to Washington's Puget Sound, entering eastern Montana at Baker and exiting the

state near Saltese. At Harlowton, in central Montana, a branch line was constructed northward. The North Montana Line reached Lewistown over existing track, and new track was laid from that point eastward to Great Falls.

Like other branch lines, the North Montana Line's purpose was to link peripheral areas of potential freight traffic with the main railroad. It primarily carried wheat and other grains, products of Great Falls flour mills, and mine products to and from copper and zinc refineries at Black Eagle. The North Montana Line had branches of its own, from Lewistown and northwest of Great Falls.

As with all historic railways, sidings were common along the Milwaukee Road and they served a variety of functions. Some, such as Cooper Siding located east of Great Falls, were ephemeral facilities consisting of little more than a short spur track and a telephone or other communication line (C,M,StP&P 1948). Others, however, had administrative buildings, water towers, and storage facilities. While all sidings served important functions, the latter were the most integral to rail line operations.

Despite high expectations and a relatively long operating history, the Milwaukee Road was plagued with financial difficulties and it endured repeated bankruptcies. In 1980, operations of the main line and its branches west of Miles City were terminated. That year witnessed the disappearance of Milwaukee trains, tracks, and corporate identity in central Montana (McCarter 1992; Martin 2005).

***Public Works Secondary Road***

Construction of an adequate road system in the Great Falls area lagged far behind hydroelectric and railroad development. As late as the early 1930s, vehicular travel was plagued by poorly-designed roads that received little or no maintenance and were virtually impassible for months. Although the Montana Highway Commission (MHC) had worked toward development of a state highway system for nearly two decades and had devised uniform standards for both road and bridge design, a chronic shortage of funds limited road construction and maintenance projects.

Development of an effective system of highways awaited the coming of the Great Depression in the early 1930s. In order to mitigate economic hardships, the Roosevelt Administration enacted legislation and organized a number of programs intended to put the nation's unemployed to work developing public property at federal expense. The Work Progress Administration provided the bulk of federal funding for MHC highway projects during the Depression era (Axline 1991:6-7; Wyss 1992:48-50). Better known as the WPA, this was a massive employment and economic recovery agency which operated from 1935 to 1943. Under the WPA program, the MHC received federal funds to cover approximately 90 percent of the total costs for road or bridge construction projects (Wyss 1992:51).

All roads developed by MHC during the era of Public Works funding were incorporated into the state highway system. This included primary highways considered essential links

between major population centers of the state. Primary highways were built to handle high volumes of traffic. All other roads built by the MHC at this time were deemed secondary roads.

Secondary roads built under the direction of the MHC with Public Works funds exhibit distinctive physical characteristics and design qualities. MHC specified essential features for secondary roads, and provided standards for their construction. In general, MHC recommended that a secondary road have a roadway at least 20 feet in width to accommodate two driving lanes, a graveled driving surface, shoulders at least 1 foot in width, a 1½:1 maximum fill slope, and that the design for the roadway's alignment provide for minimal lay and cut, low gradients, and wide curves. Drainage structures were to be made of durable and permanent materials and designs. Stonework was preferred for some components, such as retaining walls and headwalls for culverts and bridges, because it required labor-intensive work promoted by the Public Works programs (Johnson et al. 1992:67).

An example of a secondary road displaying characteristic public works improvements runs from Rainbow Dam to the Ryan hydroelectric facility. Originally constructed in 1923 to enhance access by Montana Power Company operators between the two power plants, the road was reconstructed as part of Montana's WPA-funded highway program in 1939. At that time, the Rainbow-Ryan Road was widened and surfaced with gravel. WPA forces installed permanent auxiliary structures, including concrete bridges and culverts with stone abutments and headwalls, as part of the reconstruction effort (Rossillon et al. 2003:32).

***Farmsteads***

Since the early 1870s, ranching and farming have been primary economic activities in the Great Falls area. The first cattle herds were brought into the region in 1872, and by 1879 the area experienced a large influx of livestock companies. After the "hard winter" of 1886-7, many of those companies diversified into cattle/sheep operations (Howard 1983:154). Improvements in dryland farming techniques during the early 1900s drastically altered the livestock-based regional agricultural economy. The Campbell system of dry farming, which involved water conservation through deep plowing and intensive cultivation, was adopted at that time with promising success. Former grazing lands were quickly put under cultivation (Toole 1988:26-27).

The vast tracts of land made available for homestead entry during the first two decades of the twentieth century instigated much of the early agricultural development of central Montana. During the "homestead boom," thousands of hopeful farmers settled in the region. The new immigrants were greeted with favorable weather conditions which provided ample rainfall for farming the dry upland plains. However, three years of drought beginning in 1917 brought economic depression and a majority of homesteads failed.

Following the drought, many individual homesteads were consolidated into larger, more economically viable farms. Development of a reliable inter-regional transportation network, comprised of rail lines such as the Milwaukee Road and MHC primary and secondary vehicle roads, provided ready access to local, and distant, markets. Mechanization of farm equipment further enhanced agricultural production by allowing fewer workers to cultivate more acreage.

While few of the "homestead boom" farmsteads exist today, the remains of many later, post-1930 operations currently dot the landscape surrounding Great Falls. Some are long abandoned and little remains other than building remnants and scattered farm equipment. Others, such as those located along Salem Road east of Great Falls, are still occupied. They generally retain a scattering of historic elements intermixed with modern buildings and storage structures.

## RESEARCH METHODS

### Prefield Research

Prior to commencing its fieldwork, RTI queried the Montana State Historic Preservation Office's (SHPO) files to identify all cultural resource projects that have been previously undertaken in proximity to SME's project area. RTI then reviewed those project reports to determine the locations of all known cultural resources within, and near, the proposed plant sites and connection corridors. Additional information concerning specific cultural sites was obtained from the University of Montana's Archaeological Records office.

The file search and literature review revealed that 17 cultural resource projects have been undertaken within 1 mile of the HGS, its 28.4 miles of connections, and the Great Falls Industrial Park alternate plant site. Only two of those projects, however, encompass significant portions of SME's project area. In the early 1980s, Herbort (1981) inventoried lands encompassing the HGS, as well as adjoining property in Sections 24 and 25 of Township 21 North, Range 5 East, as part of the "Salem Plant Siting Resource 89" project. More recently, Wood (2004a) completed an intensive cultural resource inventory of 328 acres within Section 30 of Township 21 North, Range 4 East, encompassing all of the Great Falls Industrial Park alternate plant site.

The 15 remaining cultural resource projects overlap, or lie adjacent to, areas that SME proposes for development. Included are multiple inventory and subsurface testing projects completed for the Missouri-Madison Hydroelectric project (Greaser 1980; Bowers 1982; Deaver 1990, 1991; Deaver and Peterson 1992; Rossillon 1992; Rossillon et al. 1993, 2003; Dickerson 2000), cultural surveys near Giant Spring (Keim 1997; Wood 2004b) and Malmstrom Air Force Base (Greiser 1988; Hoffecker 1994), and documentation of the Great Northern Railway (Axline 1995a, 1995b).

Those cultural resource studies resulted in identification and documentation of 21 historic and prehistoric sites located within 1 mile of SME's proposed plant sites and connection corridors (Figure 4). The largest of those is the Great Falls Portage National Historic Landmark. Many of the remaining sites are associated with historic hydroelectric developments at the Rainbow, Ryan, and Morony facilities (sites 24CA214, 289, 291, 416, 422, 424, and 645). Other historic sites include the Giant Spring fish hatchery and access road (24CA617 and 627), the Great Northern (24CA604) and Chicago, Milwaukee, St. Paul, and Pacific (24CA264) railways, the Malmstrom Air Force Base Aircraft Alert Facility building (24CA979), and multiple small

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Figure 4. Previously-recorded cultural properties within 1 mile of SME's proposed developments.

trash dumps (24CA628 and 1278). Prehistoric cultural properties are few in number and broadly dispersed in the project vicinity. They consist primarily of lithic scatters (24CA112 and 278) and sites containing small numbers of stone circles or stacked-rock cairns (24CA305, 417, 418, and 423).

Only five of the above-referenced previously-recorded cultural properties lie within SME's project area. They include the Great Falls Portage National Historic Landmark (24CA238), the Chicago, Milwaukee, St. Paul, and Pacific Railroad (24CA264), historic transmission lines associated with the Morony (24CA289, Feature 2) and Rainbow (24CA291, Feature 34) hydroelectric facilities, and the Rainbow-Ryan Road (24CA416). The remaining 16 sites lie outside SME's project area as it is currently designed and they are not further discussed in this report.

**Fieldwork**

RTI's 2005 inventory area consists of 320-acre polygons encompassing the proposed HGS plant site and the alternate Great Falls Industrial Park location, as well as 250-foot-wide corridors centered on the HGS's 28.4 miles of connections. That portion of the project area encompassing the HGS had been previously inventoried in 1981, however, Montana SHPO personnel consider that work to be out-dated and they requested that the area be resurveyed (Warhank 2005). Wood (2004) completed an intensive cultural resource inventory of the alternate plant site at the Great Falls Industrial Park in 2004. That work meets currently-accepted standards, therefore, that portion of the project area was not resurveyed.

RTI's prehistoric archaeologist Ken Dickerson conducted his intensive pedestrian cultural resource inventory of the project area during the period from October 4 to October 13, 2005. The total area inventoried in 2005 covers 1180 acres. Fieldwork involved walking parallel transects spaced no more than 30 meters apart. Within the HGS plant site parcel, Mr. Dickerson traversed linear transects oriented east/west. Along the connection routes, his transects meandered to ensure that the corridors were intensively covered. At three locations along the proposed railroad spur route, the inventory corridor was broadened to cover areas where the line may be shifted east or west to facilitate road or transmission line crossings.

In general, ground surface visibility was fair to poor throughout the project area. Cultivated fields, which encompass approximately 75% of the total inventoried area, provided surface exposure ranging from 5% to 15%. The remainder of the project area consists of native grassland and localized riparian areas where dense vegetation limits surface visibility to 5% or less. In areas of poor surface exposure, Mr. Dickerson focused his attention on locations where the ground was open and exposed. Rodent burrows, livestock trails, roads, and cut banks provided good visibility in localized areas and they were closely inspected.

RTI's cultural resource field documentation generally consisted of marking exact site locations on appropriate topographic maps, measuring property dimensions, and describing the nature and extent of all historic remains. Additional information concerning the apparent depth and condition of cultural deposits was also recorded. Selected artifacts and features were

photographed and RTI produced maps of each site showing the relative locations of all documented remains. No subsurface testing was conducted, nor were any cultural materials collected.

### Historic Research

RTI consulted a variety of sources to gather information about the documented historic sites. Maps were reviewed that display the routes of historic roads and rail lines. During a brief informal interview, lifelong local resident Joseph Kantola provided a detailed description of his family's farmstead and an overview of local historical events. Numerous cultural resource reports and historic overviews were consulted for information directly pertaining to historic development of the Great Falls hydroelectric facilities and the Chicago, Milwaukee, St. Paul, and Pacific Railroad's North Montana Line. Dale Martin, a local authority on Montana railroad history, provided additional information on the Milwaukee Road and the historic Cooper Siding. Finally, RTI compiled partial title-chains for all recorded farmsteads using documents housed at the Cascade County Clerk and Recorder's Office.

## INVENTORY RESULTS

Ten cultural properties lie within SME's project area (Figure 5). RTI fully documented nine of those sites including five previously-recorded properties and four new ones. The previously recorded sites are the Great Falls Portage Route National Historic Landmark (24CA238), a section of the Chicago, Milwaukee, St. Paul, and Pacific Railroad's North Montana Line (24CA264), historic transmission lines associated with the Morony (24CA289, Feature 2) and Rainbow (24CA291, Feature 34) hydroelectric facilities, and the Rainbow-Ryan Road (24CA416).

The majority of newly-recorded sites are historic farmsteads. They include the Urquhart Farmstead (24CA986), a farmstead in the NE¼ of Section 26 (24CA987), and the Kantola Farmstead (24CA0988). The last newly-recorded site is the historic Cooper Siding (24CA989) located along the Chicago, Milwaukee, St. Paul, and Pacific Railroad's North Montana Line. A tenth site, consisting of an historic farmstead designated with the field number RTI-05025-04, was identified but not fully documented. The landowner denied access to his property and RTI noted, but did not formally record, that farmstead.

As stated in the previous-research section, Wood (2004) inventoried the Great Falls Industrial Park in 2004. He found no cultural resources within that portion of the park encompassing SME's alternate plant site, however, he did document a small historic dump (24CA1278) immediately to the northeast (refer to Figure 4 for the site's location). That site is outside of the project area and it is ineligible for National Register listing, therefore, it is not further discussed in this report.

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Figure 5. Cultural properties located within SME's project area.

Table 1 lists the nine sites RTI recorded, and the one site it noted, during its 2005 fieldwork. The table includes site descriptions, legal locations, and National Register eligibility determinations.

Table 1. Cultural Sites Documented Within SME's Project Area.

| Site Number | Description | Legal Location* | National Register Eligibility |
|---|---|---|---|
| 24CA238 | Great Falls Portage NHL | T20N, R5E, Secs 3-7; and<br>T21N, R5E, Secs 13-14, 23-27, and 33-35 | Listed |
| 24CA264 | Chicago, Milwaukee, St. Paul & Pacific Railroad | T20N, R4E, Sec 1;<br>T20N, R5E, Secs 5 and 6; and<br>T21N, R5E, Secs 32-35. | Eligible; that portion lying within SME's project are is a non-contributing element |
| 24CA289 Feature 2 | Morony Transmission Line | T21N, R4E, Secs 24-26 | Contributing Element of an Eligible District |
| 24CA291 Feature 34 | Rainbow Transmission Line | T21N, R4E, Secs 24-26 | Contributing Element of an Eligible District |
| 24CA416 | Rainbow-Ryan Road | T21N, R4E, Sec 25 and 26; and<br>T21N, R5E, Sec 19 | Eligible |
| 24CA986 | Historic Farmstead | T21N, R5E, Sec 23 | Ineligible |
| 24CA987 | Historic Farmstead | T21N, R5E, Sec 26 | Ineligible |
| 24CA988 | Historic Farmstead | T21N, R5E, Sec 26 | Ineligible |
| 24CA989 | Cooper Siding | T20N, R5E, Sec 6 | Ineligible |
| RTI-05025-4 | Historic Farmstead | T21N, R5E, Sec 35 | Unevaluated; presumed ineligible** |

* The legal locations listed above encompass only those portion of the sites lying within the SME's project area.
**Property RTI-05025-4 was noted in the field, but not formally recorded or evaluated for National Register listing.

In the following section, each cultural site lying within SME's project area is described and its National Register eligibility status is discussed.

## Early Exploration Route

### *24CA238: Great Falls Portage National Historic Landmark.*

This previously-recorded National Historic Landmark encompasses two sections of the 18-mile-long portage route traversed by Lewis and Clark's Corps of Discovery to by-pass the Great Falls of the Missouri in 1805. The site was first recorded in 1976, but the National Register nomination form was revised in 1984 (Witherell 1984).

As proposed, the western half of the HGS plant site will lie within the Landmark corridor. Sections of water intake and wastewater lines, overhead electric transmission lines, and the rail spur are also proposed to be constructed within the Landmark boundaries.

History. As stated in the historic context section, William Clark surveyed the 18-mile-long Great Falls Portage route across the prairie south of the Missouri River in mid-June 1805. The Corps carried their boats and equipment over the route during the ensuing three weeks, ultimately depositing its provisions at White Bear Islands upstream from the westernmost fall. The upstream journey on the Missouri River did not resume until July 14th, 1805 (Appleman 1975:309-317). The Great Falls were one of the most substantial obstructions the Corps of Discovery encountered during its journey to the Pacific Ocean. The portage also resulted in one of the longest unscheduled delays of the trip, requiring a month to travel less than 20 miles.

Description. The Great Falls Portage National Historic Landmark is an approximately 1-mile-wide discontinuous corridor that spans from the lower portage camp, located just north of the mouth of Belt Creek, to White Bear Island at the southern outskirts of Great Falls. Developments at Malmstrom Air Force Base and within the Great Falls city limits have significantly altered the central 5 miles of the portage route and that section is not part of the Landmark. The 10-mile-long section extending northwest from Malmstrom and the short portion of the route located southwest of Mount Olivet Cemetery have not been extensively developed and they are the primary historic elements of the site (Figure 6).

RTI's 2005 cultural resource inventory encompassed portions of the northern section of the Landmark corridor extending northeast from the eastern boundary of Malmstrom Air Force Base. Within that inventory area, RTI found no physical evidence of the Corps of Discovery's portage activities in the form of camp features, artifacts, or the like. It was noted, however, that the Historic Landmark is essentially unchanged since 1984 when it was nominated for National Register listing.

There is a small portage route interpretive display located about 1 mile north of the HGS plant site. This modern feature was brought to RTI's attention by SME representatives. The display, which consists of a vehicle pull-off area and information placards, is located adjacent to Salem Road at the point where it begins to descend into Belt Creek Canyon. Because it is outside of the project boundaries and it is not an historic component of the Great Falls Portage National Historic Landmark, the display was not visited during RTI's 2005 cultural resource inventory.

Figure 6. View of the Great Falls Portage National Historic Landmark's (24CA238) northern end with Morony Dam in the center and Belt Creek Canyon in the distance. View to the north/northeast.

Integrity. According to the revised National Register nomination form, "no evidence of the portage route is discernible today, but documentary and cartographic research, combined with study of the local terrain . . . has resulted in the delineation of the approximate route . . ." (Witherell 1984:2). A primary factor used to determine the landmark's eligibility for National Register listing is the undeveloped nature of the view shed within the defined corridor. Witherell (1984:8-9) states that the Landmark retains historic integrity because, other than scattered modern developments, the "portage [route] can be seen largely as Lewis and Clark observed it."

The 10-mile-long section of the Great Falls Portage National Historic Landmark extending from Malmstrom Air Force Base to lower portage camp has undergone varying degrees of modern development. Little development has occurred, however, since the site was nominated for National Register listing in 1984. At its extreme northern end, in the vicinity of Belt Creek, the corridor encompasses the steep Missouri River canyon. There, few modern intrusions are visible and the view shed remains largely unaltered (see Figure 6). The prairies to the southwest have been converted to agricultural lands. Farmsteads, roads, and overhead transmission lines that generally pre-date 1984 occupy portions of the corridor (Figure 7). Malmstrom Air Force Base lies immediately beyond the southwest end of this section and historic and recent developments there are visible from many areas within the Landmark.

Figure 7. Typical view of the Landmark corridor showing cultivated fields and widely scattered development. View to the north/northeast.

Despite those intrusions, lands within the corridor remain open and relatively undeveloped. The Landmark retains the same degree of integrity that it did when it was nominated for National Register listing.

National Register Evaluation. The Great Falls Portage National Historic Landmark is currently listed on the National Register of Historic Places. The site remains essentially unchanged from when it was nominated for National Register listing in 1984.

## Electric Transmission Lines

### *24CA289 Feature 2 and 24CA291 Feature 34: Morony and Rainbow Transmission Lines*

These two parallel historic electric transmission lines associated with the Morony (24CA289) and Rainbow (24CA291) hydroelectric facilities were recorded in the early 1990s. The features are described in a Multiple Property Documentation Form that describes various hydroelectric facilities on the Missouri and Madison Rivers and evaluates their National Register eligibility statuses (Renewable Technologies 1991:Section 7, page 21, 24).

The Morony transmission line (24CA289 Feature 2) begins at the Morony facility and extends about 7.5 miles to the Rainbow plant switchyard. Spanning between Rainbow and Ryan Dams, the Rainbow transmission line (24CA291 Feature 34) runs parallel to 24CA289 Feature 2 for most of its length. The two adjacent lines lie north of the Missouri River (Figure 8).

Figure 8. The Morony (24CA289 Feature 2) and Rainbow (24CA291 Feature 34) transmission lines. View to the northeast.

SME proposes to construct a new overhead transmission line (referred to hereafter as Transmission Line 1) that will span from the HGS to the Great Falls Switchyard. Transmission Line 1 will cross the historic Morony and Rainbow lines in the SE¼ of Section 24, Township 21 North, Range 4 East. From that point, the new line will run parallel to the historic features for 1.6 miles before branching off to the east toward the Great Falls Switchyard.

History. John D. Ryan's Great Falls Power Company completed construction of a 25,000-kilowatt hydroelectric facility at Rainbow Falls on the Missouri River in 1910 (Renewable Technologies 1991:Section E, page 2). Five years later The Montana Power Company (MPC), which had gained control of all of the Great Falls hydroelectric developments, completed the 60,000 kilowatt Ryan facility (Renewable Technologies 1991:Section E, page 29). A 100 kV interplant transmission line (24CA291 Feature 34), connecting the Rainbow and Ryan facilities, was constructed in 1915 (Renewable Technologies 1991:Section 7, page 21). MPC completed its 45,000 kilowatt Morony hydroelectric facility in 1930. As the facility neared completion, a 7.4-mile-long 100 kV transmission line (24CA289 Feature 2) was constructed connecting the Morony facility to the Rainbow Plant Switchyard. The southwestern 4.3 miles of

the Morony transmission line runs parallel to the Rainbow line and both permitted electric power generated by their respective hydroelectric facilities to be transmitted through MPC's network (Renewable Technologies 1991:Section 7, page 24).

Description. RTI revisited only the 1.6-mile-long section of the Rainbow/Morony transmission line corridor that lies adjacent to the proposed route of SME's Transmission Line 1. RTI's 2005 inventory identified that within that section the lines remain essentially as they were recorded in 1991. The two historic transmission lines stand in their original locations and they exhibit the same form that they did when they were constructed. The Rainbow line has double wood poles standing 10.5 feet apart, while the Morony line has single poles. On both lines, ceramic suspension insulators hang from the center and the ends of wooden cross arms.

Integrity. Based on the condition of the poles on the Rainbow and Morony transmission lines, some have been replaced. Pole spacing is maintained, however, and the replacement poles replicate the design and materials of the original ones. Likewise, the replacement insulators are of the same form as the originals. The lines retain integrity of location, design, and materials. They also retain integrity of feeling and association because the rural setting remains intact (Renewable Technologies 1991:Section 7, page 24).

National Register Evaluation. The historic electric transmission lines are contributing elements to the National Register-eligible Great Falls Historic Hydroelectric District (Renewable Technologies 1991:Section 7, page 30; Rossillon et al. 2003: 28-30). The inter-plant transmission lines played integral roles in the early twentieth century development of the Missouri-Madison hydroelectric system.

## Railroad and Associated Siding

### *24CA264: Chicago, Milwaukee, St. Paul, and Pacific Railroad's North Montana Line*

Discontinuous sections of the Chicago, Milwaukee, St. Paul, and Pacific Railroad (referred to hereafter as the Milwaukee Road) and its spur lines have been documented by various researchers (see McCarter 1992 for an overview of the railroad within Montana). Near Great Falls, only short sections of the North Montana Line have been formally recorded. Wood (1986:2) determined that an abandoned section lying west of town lacks integrity and it is not a contributing element of the National Register eligible site. The National Register eligibility status of an intact section lying within Malmstrom Air Force base was not formally evaluated (Greiser 1987:4).

A 5.5-mile-long section of the Milwaukee Road's North Montana Line east of Malmstrom Air Force Base lies within the current project area. SME proposes to bury fresh- and waste-water discharge lines within a section of the railroad grade extending from the HGS to the Great Falls treatment plant.

History. As discussed in the historic context section, the Milwaukee Road's North Montana Line, running from its junction with the mainline at Harlowton northeast to Great Falls, was completed in 1914. It ran almost continuously, hauling agricultural and mining products, passengers, and other freight, from that date to the early 1980s when operations in Montana were terminated. Soon thereafter, many improvements associated with the line were demolished, salvaged, or otherwise altered.

Description. Within the project area, all rails and ties have been removed from the railroad grade. Fully 2 miles of the former grade has been plowed under, leaving only a dense scatter of cobbles to mark its former route (Figure 9). Much of the remaining 3.5 miles has been leveled and surfaced with gravel to accommodate automobile and farm machinery traffic (Figure 10). The few remaining intact elements include a large two-barrel concrete arched-culvert at the Box Elder Creek crossing and a smaller single-barrel culvert of similar design at a unnamed creek crossing in Section 6, Township 20 North, Range 5 East (Figure 11). Both culverts are in extremely poor condition and their historic design details are obscured. Nearly all utility poles along the line have been cut, leaving only stumps behind to mark their former locations. Other observed remains include a broad scatter of rail spikes, skid plates, and steel brackets.

Figure 9. A plowed section of the North Montana Line (24CA264) east of Malmstrom Air Force Base. View to the west/northwest.

Figure 10. Typical graded and gravel-surfaced section of 24CA264.
View to the east/northeast.

Integrity. The 5.5 mile section of historic railroad grade located within SME's project area lacks historic integrity and it is not a contributing element of the National Register-eligible Milwaukee Road. The rails, ties, and most associated hardware has been removed from the section, thus it no longer retains integrity of design, materials, and workmanship. The eastern portion of the rail bed has been graded and surfaced with gravel for use as a field access road. To the west, the bed has been plowed under and it is no longer clearly discernible. Those alterations severely diminish the site's ability to convey its original function. As a result, the site has lost integrity of feeling and association.

National Register Evaluation. The Milwaukee Road, as a whole, is eligible for National Register listing because of its significance to Montana's history. Portions of the line also retain unique and distinctive design attributes. The 5.5-mile-long section of the North Montana Line lying within SME's project area lacks integrity, however, because the track, ties, and associated hardware have been removed and the railroad grade has been extensively altered. The section is not, therefore, a contributing element of the National Register eligible site.

Figure 11. Concrete culvert ruin at the North Montana Line's Box Elder Creek crossing. View to the south/southwest.

### *24CA989: Cooper Siding*

Cooper is a previously-unrecorded historic siding along the Milwaukee Road's North Montana Line. The documented features lie immediately south of the abandoned railroad about 1.5 mile east of Malmstrom Air Force Base. SME proposes to bury its fresh and wastewater pipelines within the railroad bed.

History. Cooper was one of many sidings along the North Montana Line. There were few, if any, improvements to the siding before the 1940s. A Milwaukee Road time table indicates that in 1948 the siding consisted of a 21 freight car capacity spur and a telephone in a metal box from which train crews could call railroad offices, train dispatchers, and station agents. There was no depot, telegraph office, or other railway features (C,M,StP&P 1948). An historic map indicates that a grain elevator had been constructed at Cooper by 1954 (US Geological Survey 1954). A more recent map identifies multiple "storage bins" on site (US Geological Survey 1965). After the North Montana Line was abandoned in 1980, the rails and ties along this section of the line were removed and the railroad right-of-way eventually reverted to the adjacent landowners. The storage facilities and associated buildings at Cooper Siding likely were abandoned by 1980.

Description. There are nine historic and modern features on-site (Figure 12). Feature 1 consists of concrete foundation remnants and associated construction materials that presumably mark the former location of a building. The remains have been graded into a low, linear mound using heavy equipment. Nearly all of the building's superstructure had been removed before the heavy equipment work. All that currently remains are broken concrete slabs and a scatter of construction hardware, fencing remains, and associated materials. At the northwest margin of the feature there is a pile of cut brush that may be the remains of ornamental shrubbery. The brush pile has been partially burned and most of the building remains are charred.

Figure 12. Overview of Cooper Siding (24CA989) with the plowed remnants of the Milwaukee Road in the foreground and Features 4-8 (right to left) beyond. View to the southeast.

Feature 2 is a mounded pile of cobbles and small boulders that lies immediately east of Feature 1. The material constitutes remnants of the abandoned Milwaukee Road bed that has been graded as part of recent agricultural development activities. The mound measures about 50 feet long x 8 feet wide and it is 5 feet tall.

Feature 3 is the abandoned, and largely obliterated, Milwaukee Road grade. The railroad originally ran in an east/west direction on the north side of Cooper Siding. Following abandonment of the line in 1980, all rails and ties were removed from this section of the grade. Recently, the rail bed has been graded and plowed, leaving only a broad linear swath of rounded cobbles and small boulders to mark its former location.

Features 4 and 5 are modern corrugated sheet metal grain bins that originally sat on a single concrete foundation. Both have fallen onto their sides and they are no longer functional. The bins were originally about 15 feet in diameter and stood 15 feet tall. Each had a cone-shaped roof and an auger-fed chute at its base. The numbers "196" followed by a fourth illegible number are incised in the foundation. Those numbers presumably specify the date that the concrete was poured, indicating that the foundation and the grain bins post-date 1960.

Feature 6 is an historic grain bin located immediately east of Features 4 and 5. Its concrete foundation is connected to the one that underlies Features 4 and 5, however, the slab beneath Feature 6 appears to be older and it may date to the 1950s. The bin is constructed from curved panels of 4x8-foot sheet metal that are bolted together at the seams. Unlike Feature 4 and 5, this one remains standing and it is about 20 feet tall. The roof is not visible, and it has either been removed or it has collapsed inside of the bin.

Feature 7 and 8 are modern galvanized corrugated sheet metal troughs or open bins. They lie on an historic concrete slab east of Feature 6 and presumably set where larger grain bins had once been. They are 15 feet in diameter, the walls are 3 feet tall, and there are no roofs or caps. Based on their materials and condition, these features are less than 20 years old.

Feature 9 is a concrete slab that lies near the center of the site area. This feature is similar in design to the concrete slabs beneath Features 4-8, suggesting that one or more grain bins originally rested atop it. The bins have been removed leaving only the slab, scattered concrete block fragments, and a loose scatter of steel brackets, metal sheeting, and other construction materials.

At the western margin of Feature 1 there is an artifact concentration containing about 30 fragments of window glass, numerous wire nails and threaded bolts, sections of metal fencing, a steel pipe gate, strap iron hinges, aqua glass electrical insulators, ceramic insulators, and lengths of angle iron (Figure 13). Features 4-8 are surrounded by a loose scatter of historic and modern remains including numerous wire nails, lengths of rebar, short sections of cable, a large steel I-beam, and portions of the undercarriage of a railcar. Farther east, near Feature 9, is a loose scatter of large-diameter ceramic pipe fragments.

Integrity. Cooper Siding lacks historic integrity. Nearly all original buildings and structures have been demolished and the remaining ones no longer clearly convey the site's historic function. In addition, several modern structures have been constructed within the site area and they further confuse the historic arrangement of constituent features. Due to those alterations, the site's integrity of design, materials, and workmanship are lost.

The landscape surrounding the site has changed very little since Cooper served as a storage and loading facility for the Milwaukee Road. The site, therefore, retains integrity of setting and feeling. Its integrity of association is severely diminished, however, due to extensive modern alterations to all historic features including the Milwaukee Road grade.

Figure 13. Artifact concentration at the western margin of Feature 1, 24CA989. View to the east.

National Register Evaluation. Cooper Siding is not eligible for listing in the National Register of Historic Places because it lacks integrity and significance. Nearly all of the site's historic features have been demolished or extensively altered and modern elements have been added. The site no longer clearly conveys its historic association with the Milwaukee Road.

Cooper was one of many small storage/loading facilities along the Milwaukee Road's North Montana Line. It is generally not described in railroad histories, suggesting that the siding did not play an important role in the development or maintenance of the line. The site is not directly associated with important historical figures and the few remaining structures are not distinctive of a specific architectural style or type. The property does not, therefore, meet established criteria for historic significance.

## Public Works Secondary Road

### *24CA416: Rainbow-Ryan Road*

The Rainbow-Ryan Road was recorded in 1994 as an historic public-works road (Figure 14). The site recorders documented nine road features in addition to the grade itself (Johnson et al. 1994:4-5). They considered the site to be eligible for National Register listing under Criterion C because it embodies significant design qualities and construction techniques used for

Figure 14. Section of the 24CA416 road located midway between the Rainbow and Ryan hydroelectric facilities. View to the Northeast.

secondary highways constructed with Public Works funds during the Depression era (Rossillon et al. 2003:34).

Approximately 0.75 mile of the road grade lies within SME's project area. The proposed route of Transmission Line 1 spans the Rainbow-Ryan Road immediately north of Cochrane Dam. Farther west, the line will overhang portions of the road within Sections 25 and 25, Township 21 North, Range 4 East.

History. Originally constructed in 1923 to enhance access by Montana Power Company operators between the Rainbow and Ryan plant, the road was reconstructed as part of Montana's WPA-funded highway program in 1939. At that time, the Rainbow-Ryan Road was widened and surfaced with gravel. WPA forces installed permanent auxiliary structures, including concrete bridges and culverts with stone abutments and headwalls, as part of the reconstruction effort (Rossillon et al. 2003:32).

Description. RTI only revisited those portions of the Rainbow-Ryan Road lying within SME's project area. In addition to the 22-foot-wide gravel surface road grade, RTI observed four historic crossing structures within the inventoried area. Three of the features are culverts with dry-laid fieldstone headwalls (Figure 15). The fourth is a small timber stringer bridge with stone abutments. All of those features had been previously-recorded and they are fully documented by Johnson et al. (1994:4-5).

Figure 15. A typical dry-laid fieldstone culvert headwall along the Rainbow-Ryan Road (24CA416). View to the southeast.

Integrity. RTI's 2005 inventory revealed that the Rainbow-Ryan Road remains essentially as it was recorded. The road bed, and the documented crossing structures, retain integrity of location, design, setting, materials, workmanship, feeling, and association.

National Register Evaluation. RTI concurs with the previous site recorders that this site is eligible for National Register listing. The road has not been extensively altered during the modern period and it remains an excellent example of an historic public-works road.

## Farmsteads

### *24CA986: Urquhart Farmstead*

The Urquhart Farmstead is a newly-recorded historic site that lies on the west side of Salem Road about 9 miles northeast of Great Falls (Figure 16). The site is about 0.5 mile northwest of the HGS. SME proposes to bury a raw water intake pipeline immediately north of the farmstead.

Figure 16. View of the Urquhart Farmstead (24CA986) from Salem Road. View to the west.

History. Charles Urquhart purchased the land on which the farmstead rests from Roy Goodbrand in 1929 (Cascade County Clerk and Recorder's Office 1929). All existing improvements appear to post-date the 1929 purchase date. The Feature 2 house and several outbuildings (Features 3 -5 and 9-12) presumably date to the early years of Mr. Urquhart's occupation. Major developments were undertaken beginning in 1950. The Urquharts added several new steel shop buildings and constructed a new house on the property. They presumably moved several original outbuildings to make room for the new ones. Finally, steel grain bins were installed in the 1960s and 1970s.

Description. There are 11 historic buildings (pre-1955) and six modern ones on-site. Feature 1 is a single story house that was constructed in 1954 and the building remains in use as a residence (Figure 17). The wood frame building rests on a poured concrete foundation and it has a full basement. The exterior walls are clad with modern vinyl siding. Windows include two- and three-pane fixed and casement units with wood sashes. A half-light wood person-door is positioned on the north wall, while there is a solid-core unit with three small glass panes on the east wall. The hipped roof is covered with new (within the last 10 years) asphalt shingles. An aluminum vent pipe and a cinder block chimney extend from the roof.

Feature 2 is an abandoned house that lies immediately south of Feature 1. This wood frame building currently rests on a hollow clay tile foundation enclosing a full basement. This does not appear to be the building's original foundation, suggesting that Feature 2 has been

Figure 17. The Feature 1 house at 24CA986. View to the southwest.

moved to its present location. Horizontal drop siding covers the exterior walls and there are multiple 2/2 double hung windows. The glass panes have been removed from most of the windows, leaving only the wood sashes. The lone person-door is a wood slab unit located near the west end of the building's north wall. A sliding garage door provides access to the basement. Wood shingles cover the gable roof. A galvanized metal ridge roll caps the gable and there are ball finials at its ends. A brick chimney extends from the center of the gable. There are no modern improvements to this building and it has not been occupied for many years. It is currently being used for storage and the feature is in an advanced state of deterioration.

Feature 3 is a small granary located adjacent to the gravel driveway that provides access to the farmstead. This single-story wood frame building's wood beam sills set directly on the earth. The walls are clad with horizontal drop siding and there are no windows. A vertical-board sliding door on metal rails is centered in the south wall. Wood shingles cover the roof and a galvanized metal ridge roll with ball finials caps the gable. This building remains essentially as-built, but it is currently used as a storage shed.

Feature 4 abuts the west wall of Feature 3. This wood frame shed appears to have been moved to its current location and its rests on railroad tie skids. The walls are clad with butt-jointed boards and there is a badly deteriorated board person-door located near the west end of the south wall. The shed roof is covered with wood shingles and there is no chimney or vent. The building is in very poor condition and it is leaning precariously.

Feature 5 is a wood-frame building positioned immediately northwest of Feature 4. This feature may have once served as a bunkhouse, but it is currently used as a storage shed. The building appears to have been moved to its current location and it rests on deteriorated wood beam skids. Horizontal lapped board siding covers the exterior walls and there are multiple 2/2 double hung windows. The glass panes have been removed from the windows, leaving only the wooden sashes. A wood slab person-door is centered in the north wall. The front gable roof was once covered with asphalt shingles, but most of the roofing is now gone. The building is in very poor condition and it exhibits extensive sagging and settling.

Feature 6, 7, and 8 are steel shop buildings (Figure 18). Feature 6, constructed in 1952, is a vertical-walled steel-frame building. Features 7 and 8 are quonset huts constructed in 1950 and 1957, respectively. All three are typical pre-fabricated buildings and each has a large sliding garage door on its eastern wall.

Figure 18. Post-1950 steel buildings (Features 6-8) at 24CA986.
View to the northwest.

Feature 9 is a former chicken house located at the extreme southwest corner of the site. The wood-frame building rests on a poured concrete foundation. The walls are clad with drop siding and there are multiple window ports. The glass panes and wood sashes have generally been removed from the windows, but they appear to have all been multiple pane fixed units. Five-panel wooden doors are positioned on the east and west walls. The shed roof is covered with new rolled-asphalt sheeting and a small steel vent pipe projects from its center.

Feature 10 is a small shed located immediately north of the Feature 11. The wood frame building's decaying wooden beam sills set directly on the earth. Horizontal lapped board siding covers the exterior walls and there is a single window port on the east wall. A person-door constructed from butt-jointed boards is centered in the south wall. Modern tin sheeting covers the low, sloping gable roof.

Feature 11 is a small barn that lies at the corner of a pole corral west of Feature 10. The wood frame building rests on a severely deteriorated concrete foundation. The walls are clad with lap board siding. There are multiple window ports, but the panes and sashes have been entirely removed. Two horizontal board sliding doors on the south wall provide access to the building. Wood shingles cover the gable roof and a galvanized metal ridge roll with ball finials caps the gable. There is a small gabled dormer near the northeast corner of the roof. The building is leaning severely and it is near collapse.

Feature 12 is a shed located immediately north of the Feature 11 barn. This wood frame building's large wooden sills set directly on the earth. The walls are clad with drop siding. There are two small window ports, but the panes and sashes have been entirely removed. Two vertical board swinging doors on the south wall provide access to the building. Wood shingles cover the gable roof and a galvanized metal ridge roll with ball finials caps the gable. The building remains essentially as-built and it is in fair overall condition.

Five galvanized sheet steel grain bins lie at the northwestern corner of the farmstead. The bins date to the period between 1960 and 1976. They are modern pre-fabricated cylindrical bins with cone-shaped roofs.

Integrity. The Urquhart Farmstead lacks integrity of materials, design, and workmanship. The Feature 1 house, which was constructed in 1954, has been altered and many of the outbuildings have been moved or reconstructed. Several large modern outbuildings have been added to the property. The new buildings are of materials and designs that are very different from the historic ones.

As it currently exists, the property represents three distinct periods of construction. Features 1, 3-5, and 9-12 were built during initial development of the farmstead in the 1930s. New buildings, including a second house (Feature 1) and three steel shops (Features 6-8) were added in the 1950s. Finally, five pre-fabricated grain bins were installed post-1960. The post-1950 buildings and structures visually dominate the property and the combination of historic and modern elements diminishes the site's overall integrity of setting, feeling, and association (Figure 19).

National Register Evaluation. The Urquhart Farmstead is not eligible for listing in the National Register of Historic Places because it lacks significance and integrity. The site is associated with an important episode of local history - namely early 20$^{th}$ century agricultural development in central Montana. It is debatable whether the Urquhart Farmstead made an important contribution to that development, however, as it was but one of many such farmsteads established at that time. The farmstead is not directly associated with any individual or group that is important to the period. Additionally, the property's key historic elements have been

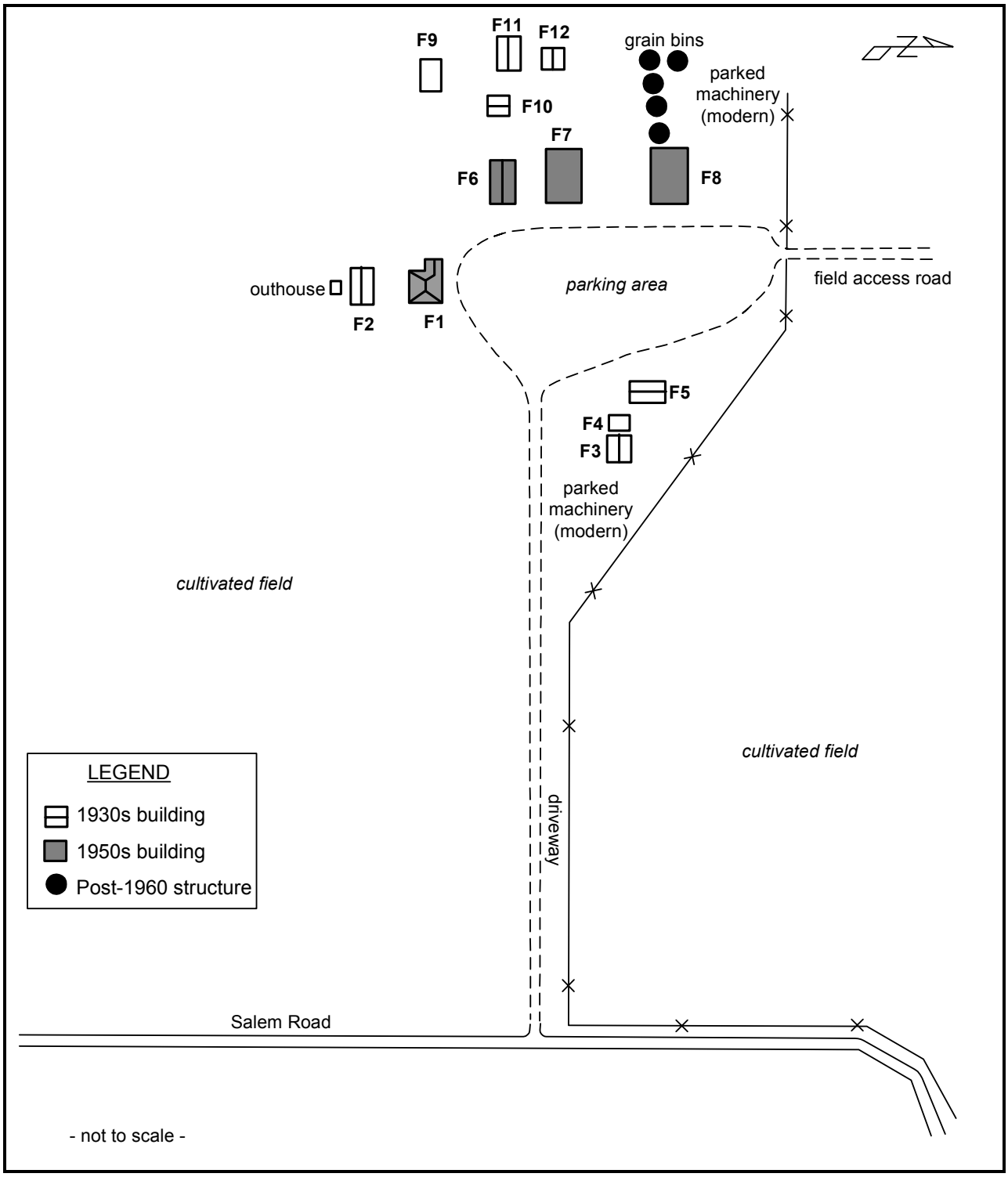


Figure 19. Detail map of the Urquhart Farmstead showing the arrangement of buildings representing each of the three construction periods

extensively modified, reconstructed, or moved. Modern buildings have been added to the farmstead and they dominate the property to the extent that it no longer conveys its historic design or feeling.

### *24CA987: Historic Farmstead*

Site 24CA987 is a newly-recorded historic farmstead located about 1 mile south of the previously-described Urquhart site (24CA986). It rests on a low hill on the west side of a dry coulee 0.25 mile west of Salem Road. The farmstead is 0.5 mile southwest of the HGS. SME proposes to construct two overhead electric transmission lines (Transmission Lines 1 and 2) immediately north of the site and to bury fresh- and waste-water pipelines to the southeast.

History. John Somppi acquired the property on which the documented buildings rest, as well as adjoining parcels, during the period from 1934 to 1946 (Cascade County Clerk and Recorder's Office 1934, 1946). The three buildings RTI documented appear to date to about the mid-1930s when Mr. Somppi owned the property. Charles Urquhart purchased the land from Mr. Somppi in 1966, and Duane Urquhart is the current owner (Cascade County Clerk and Recorder's Office 1966).

Description. There are three historic buildings on-site including a house, a granary, and a shed. All of the buildings have been abandoned for many years and they are in relatively poor overall condition.

The Feature 1 house is a wood frame building constructed in about the 1930s (Figure 20). The sill timbers set directly on low rubble-stone piles at the four corners of the building. Exterior walls are clad with drop siding and there are single 1/1 double hung windows on the south and west walls. A enclosed lap-sided porch addition is attached to the north side of the building. The addition post-dates the remainder of the building, but it is clearly historic in age. A wood slab person-door centered in the north wall of the addition provides the only access to the house. Wood shingles cover the front gable roof. A sheet metal stove pipe projects from the east roof slope.

Feature 2 is a granary located 100 feet south of the Feature 1 house. This building is of similar age to the house, but it has been moved to its current location from elsewhere. Its floor joists rest on wood beam skids that clearly post-date the building and they appear to be less than 20 years old. The building is reverse-framed, with the butt-jointed board walls on the inside of the framing. There is a wood slab door centered in the west wall, but there are no windows. The shed roof is partially covered with sheet metal.

Feature 3 is a small shed located immediately south of the granary (Figure 21). Like Feature 2, it was moved to its present location and the building rests on timber skids. The exterior walls of the wood frame structure are clad with vertical butt-jointed boards. There is a door port centered on the west wall, but the door has been removed. A small shuttered window is positioned above the door. The front gable roof is covered with metal sheeting and there is no chimney or vent.

Figure 20. The Feature 1 house at 24CA987. View to the northwest.

There is a loose scatter of building materials and domestic artifacts surrounding the Feature 1 house. Observed remains include about 200 window glass fragments, 100 wire nails, 10 sections of steel water pipe with threaded fittings, 50 whiteware fragments, 10 sanitary cans, and two bricks. There is a small dump in the coulee bottom southeast of the abandoned house. The 600 square-foot dump contains about 50 sanitary cans, 50 evaporated milk cans, 10 kerosene containers with screw-on caps, two 50-gallon drums, three 20-gallon drums, decorative sheet-metal ceiling material, an enameled washbasin, wood stove fragments, and a set of bed springs. The body of a 1930s-era automobile lies at the northern edge of the dump and there is a 1939 Montana license plate nearby. RTI did not collect any of the documented artifacts during its 2005 site visit.

Integrity. The farmstead lacks historic integrity. With the exception of the Feature 1 house, all existing buildings have been moved to their current locations from elsewhere. The historic arrangement of the small farmstead has been comprehensively altered due to the movement and/or removal of its constituent features. The property, therefore, has lost integrity of design and feeling and it has diminished integrity of workmanship.

National Register Evaluation. The farmstead is not eligible for listing in the National Register of Historic Places because it lacks significance and integrity. This small site is but one of many early 20$^{th}$-Century farmsteads in the area and it is not directly associated with any individual or group that is important to the period. The site, therefore, lacks significance.

Figure 21. The granary (Feature 2) and shed (Feature 3) at 24CA987.

Additionally, this property no longer maintains its historic appearance due to the loss of most original features and the movement of two buildings on site. The property does not convey its historic elements of design, workmanship, or feeling.

### *24CA988: Kantola Farmstead*

The newly-recorded Kantola Farmstead is about 8 miles east of Great Falls on the west side of Salem Road (Figure 22). The site lies over 0.5 mile southwest of the HGS. SME proposes to construct a railroad spur line within the Salem Road corridor immediately adjacent to the farmstead and to bury fresh- and waste-water pipelines just west the property.

History. The land on which the site rests was patented by Victor Kantola in 1913 and the property remains in Kantola family ownership at present (Cascade County Clerk and Recorder's Office 1913). All existing improvements post-date 1913, and most appear to have been constructed post-1920. According to Joseph Kantola (personal communication with Ken Dickerson, October 12, 2005), the school building and teacherage were moved to the property in the 1960s. Mr. Kantola also stated that the modern house was built in 1967. It was occupied by members of the Kantola family until recently, but the house is currently unoccupied.

Figure 22. Overview of the Kantola Farmstead (24CA988) from Salem Road.
View to the west/southwest.

Description. There are eight historic buildings on-site. Feature 1 is a house that was reportedly constructed in about the 1920s. A two car garage and an enclosed walkway were attached to the house in about the 1950s. The original 1½ story wood frame building rests on a concrete slab foundation. It has drop siding, while the newer additions are sheathed with T-111. The main house has multiple 1/1 double hung windows and single- and multiple-pane fixed units with wooden sashes. The historic person-door has been removed from main house, leaving only the modern aluminum screen door. The walkway addition has a single light, five panel wood door on its west wall, but the door on the east wall has been removed. Two modern overhead garage doors provide access to the garage addition. The gable roofs of the house and the additions are covered with modern asphalt shingles (Figure 23).

Feature 2 is a school house that was built around 1920 (Figure 24). It was moved from its original location to the Kantola Farmstead for use as a storage shed. The 1½ story wood frame building's wood sills currently rest on concrete blocks that are set at the corners of the building. Asbestos siding covers the walls. The windows are 1/1 double hungs set singly or in groups of five. The hip roof dormer has a multiple-pane fixed window. All of the windows are original and they have wood sashes. A two panel wood door is centered in the east wall. The hipped roof is covered with asphalt shingles and there is a small dormer on the east slope. The building remains in use as a storage shed and it is in fair overall condition.

Figure 23. East elevation of the Feature 1 house at 24CA988. View to the west.

Feature 3 is of similar age as Feature 2 and it was constructed for use as the teacherage for the school. It, too, was moved to the Kantola Farmstead. The 1½ story wood frame building has additions attached to the east and west walls. The building's floor sills set on large timber skids and there is no foundation. The walls are clad with lap siding. Historic 1/1 double hung windows are centered in the north and south walls of the main building and there is a similar unit on the south wall of the east addition. A half-light three panel wood door serves as the front (east) entryway, while there is a five-panel wood door in the north wall. The main building has a gable roof, while the east addition has a simple shed design and the west addition has a hipped roof. The roofs are covered with asphalt shingles. Like Feature 2, this building is currently being used for storage.

Feature 4 is the enclosed portal to an underground root cellar. Based on its materials and condition, the feature appears to have been constructed after World War II. The small wood frame structure's walls are covered with ½-inch plywood and there is rolled asphalt sheeting on the shed roof. A very narrow five-panel wood door provides access to the cellar, which has been abandoned for many years.

Feature 5 is a small granary. The reverse-framed building has horizontal butt-jointed boards attached to the insides of the framing. Its timber sills rest directly on the earth and there is no foundation. There are no windows and a vertical-board person-door centered in the east

Figure 24. The Feature 2 schoolhouse in its present location at 24CA988.
View to the southwest.

wall provides the only access to the interior. The northern slope of the gable roof is covered with modern plywood sheeting. All roofing has been removed from the southern slope. The building has been abandoned for many years and it is leaning precariously.

Feature 6 is a small shed located within the northwestern portion of the site. The wood frame building's wooden sills set directly on the earth and there is no foundation. Horizontal tongue-and-groove boards cover the exterior walls. There are three small window ports, but the windows have been entirely removed. The single door is on the south wall and it is constructed from vertical boards. Wood shingles cover the roof and remnants of a rolled-metal cap remain on the crest of the gable. This building has been long abandoned and it is in relatively poor overall condition.

Feature 7 is a second granary. It is of similar design to Feature 5, except that this building has a shed roof covered with modern rolled asphalt sheeting. The Feature 7 granary rests on modern wooden skids and it has been moved to its current location from elsewhere.

Feature 8 is a collection of three adjoining buildings used as a chicken house. The southernmost building appears to be in its original location, while the two others were moved to their current locations from elsewhere. The wood frame buildings rest on wood sills set directly

on the ground. The original building's walls are clad with drop siding, while the two additions have butt-jointed board siding. There are no windows and swinging wood doors provide access to each division of the building. Wood shingles cover the building's gable and arched roofs.

Seven new buildings/structures have been constructed within the site bounds in recent years. They include a single-story, gable roof house with an attached garage that lies at the extreme southwest corner of the site. This house, and two small gable roof sheds located immediately to the north, was constructed in 1967 (Figure 25). Four modern pre-fabricated sheet metal grain bins have been installed north of the modern house near the Feature 6 shed.

Figure 25. Modern (1967) house and sheds at 24CA988. View to the west.

Integrity. The Kantola Farmstead lacks historic integrity. The historic farm house has undergone substantial alterations that affect its original form, scale, massing, and materials. In about the 1950s, the owners added a garage and an enclosed walkway to the south end of the building. The additions are of materials and designs that are radically different from those of the historic portion of the building.

The Feature 2 school house, Feature 3 teacherage, Feature 7 granary, and portions of the Feature 8 chicken house are historic buildings that have been moved to their present locations from elsewhere. The buildings generally retain integrity of materials, design, and workmanship. Because the buildings have been moved, however, they have lost integrity of location, setting, feeling, and association.

Only the Feature 4 root cellar portal, Feature 5 granary, and Feature 6 shed retain most of their elements of historic integrity. Multiple modern buildings have been constructed in proximity to those historic features, however, and the new buildings visually dominate the property.

National Register Evaluation. The Kantola Farmstead is not eligible for listing in the National Register of Historic Places because it lacks integrity and significance. Although it is associated with late historic-era agriculture in the Great Falls area, RTI found no documentation that demonstrates that the site played an important role in the local rural economy (Criterion A). The site is not associated with persons of importance to history (Criterion B). The key historic elements have been moved or altered and the existing buildings are poor representations of local rural architectural types (Criterion C). Finally, there is little evidence that the site retains archaeological remains that would provide additional information not already available in the written record (Criterion D).

## Unrecorded Property

RTI noted a fourth historic farmstead within the project area about 1 mile south of the Kantola site. It is located immediately west of SME's proposed railroad spur and south of the fresh- and waste-water pipelines. The current landowner, Mr. Michael Hoy, did not grant RTI access to the property. The site was not, therefore, formally recorded but it is briefly described below.

### *RTI-05025-4: Farmstead*

The parcel on which the farmstead rests has changed owners on numerous occasions in recent years, but it was originally owned by the Bumgarner family. John Bumgarner owned the parcel prior to 1931 when he granted it to Glenn Bumgarner (Cascade County Clerk and Recorder's Office 1931). Most of the historic buildings on-site were presumably constructed either during John or Glen Bumgarner's tenure.

Based on a brief reconnaissance from Salem Road, the site contains at least seven historic buildings including a house, several outbuildings, and a wood-frame grain bin. The historic house has been extensively altered during the modern period. It has new roofing and siding, and a garage addition has been added to the rear of the building. Several of the historic outbuildings have also been remodeled.

Like the Urquhart (24CA986) and Kantola (24CA988) farmsteads, RTI-05025-4 has undergone extensive renovation and alteration of the existing historic buildings. RTI believes that this site, too, lacks integrity and significance and RTI-05025-4 is presumed to be ineligible for National Register listing.

## SUMMARY

Renewable Technologies, Inc. completed a cultural resource inventory of SME's proposed Highwood Generating Station project area during October, 2005. The inventory encompassed 1180 acres covering the proposed Highwood Generating Station plant site and its 28.4 miles of railroad, transmission line, and water pipeline connections. The Great Falls Industrial Park alternate plant site was intensively inventoried for cultural resources in 2004, and RTI did not resurvey that portion of the project area.

Ten cultural properties lie within SME's project area. They include the Great Falls Portage National Historic Landmark (24CA238), a section of the Chicago, Milwaukee, St. Paul, and Pacific Railroad's North Montana Line (24CA264) and the associated Cooper Siding (24CA989), historic transmission lines associated with the Morony (24CA289, Feature 2) and Rainbow (24CA291, Feature 34) hydroelectric facilities, the Rainbow-Ryan Road (24CA416), the Urquhart Farmstead (24CA986), an historic farmstead in the NE¼ of Section 26 (24CA987), and the Kantola Farmstead (24CA0988). An additional farmstead, designated with the field number RTI-05025-04, lies within the project area but RTI was unable to formally record it due to access issues.

To date, only the Great Falls Portage National Historic Landmark has been listed in the National Register of Historic Places. The Rainbow-Ryan Road (24CA416) was determined to be National Register eligible by SHPO consensus, while the Morony and Rainbow transmission lines (24CA289 Feature 2 and 24CA291 Feature 34) are contributing elements of National Register eligible hydroelectric facilities. Those sites are not, however, currently listed on the National Register. The Chicago, Milwaukee, St. Paul, and Pacific Railroad (24CA264), as a whole, is National Register eligible. That portion of the North Montana Line lying within SME's project area, however, is a non-contributing element. Finally, three historic farmsteads (24CA986-988) and Cooper Siding (24CA989) are not eligible for National Register listing because they lack significance and integrity. Site RTI-05025-4 is presumed to be ineligible for National Register listing, but the site's eligibility status has not been formally evaluated.

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