
ANNEX A
ARCHAEOLOGICAL OVERVIEW ASSESSMENT

Archaeological Overview Assessment Signal Hill National Historic Site – Upper Parking Lot Recapitalization and Replacement of Guiderail on Access Road to Tower

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Purpose

- To conduct an initial overview assessment of the Upper Parking Lot Recapitalization and Replacement of Guiderail on Access Road to Tower projects to evaluate the archaeological potential of the project locations and potential impacts to archaeological resources, if present.
- To provide archaeological requirements and/or mitigation measure(s), if required.

Introduction

Signal Hill National Historic Site of Canada (NHSC) is located in St. John's, Newfoundland and overlooks the Narrows, the entrance to St. John's harbour. Comprised of land on both the north and south sides of the Narrows, Signal Hill NHSC was the site of St. John's defence systems from the 17th century to World War II and where Guglielmo Marconi received the world's first transatlantic wireless signal in 1901. Surviving historic structures at Signal Hill NHSC include the Imperial Powder Magazine, Cabot Tower, Queen's Battery Barrack, the Quonset Hut, the World War II Magazine, and the Chain Rock Battery. Signal Hill NHSC also houses a Visitor Information Centre and affiliated annex, asphalt parking lots and drives, trails, and the remains of Fort Amherst NHSC.

In an effort to improve overall visitor experience and alleviate existing public safety issues, Parks Canada has proposed to recapitalize the parking lot and associated sidewalks/walkways, utilities and guiderail on Signal Hill NHS proper (Figure 1). The project will entail redesign and resurfacing of the main parking lot area located adjacent to Cabot Tower (1898-1900) and the Imperial Powder Magazine (ca. 1798), replacement and installation of new utilities and replacement of the existing guiderail that follows along the outside edge of the access road leading to Cabot Tower. The upper parking lot is bounded to the north and south by rock outcrops and steeply sloped grounds to the east and west.

Assessment Methodology

This assessment is based on a review of project documentation and information provided by the Field Unit, and existing documentation at Collections and Conservation, Parks Canada, Dartmouth, Nova Scotia. The documentation includes the archaeological site inventory, reports, artifact catalogues, and historical maps and photographs.

Historical Background

A formal military encampment was established on Signal Hill in the 1700s, with the early roadway following the same route as today, and gun batteries connected by a stockade situated along the western edge of the present-day parking lot (Ferguson 1986:31, 53). During the early 1800s, the project location housed a wooden officer's barracks, a stone Ordinance house, a storehouse and the Imperial Powder Magazine (Ferguson 1986: Figure 16). The wood and fuel yards were situated in front of the officer's

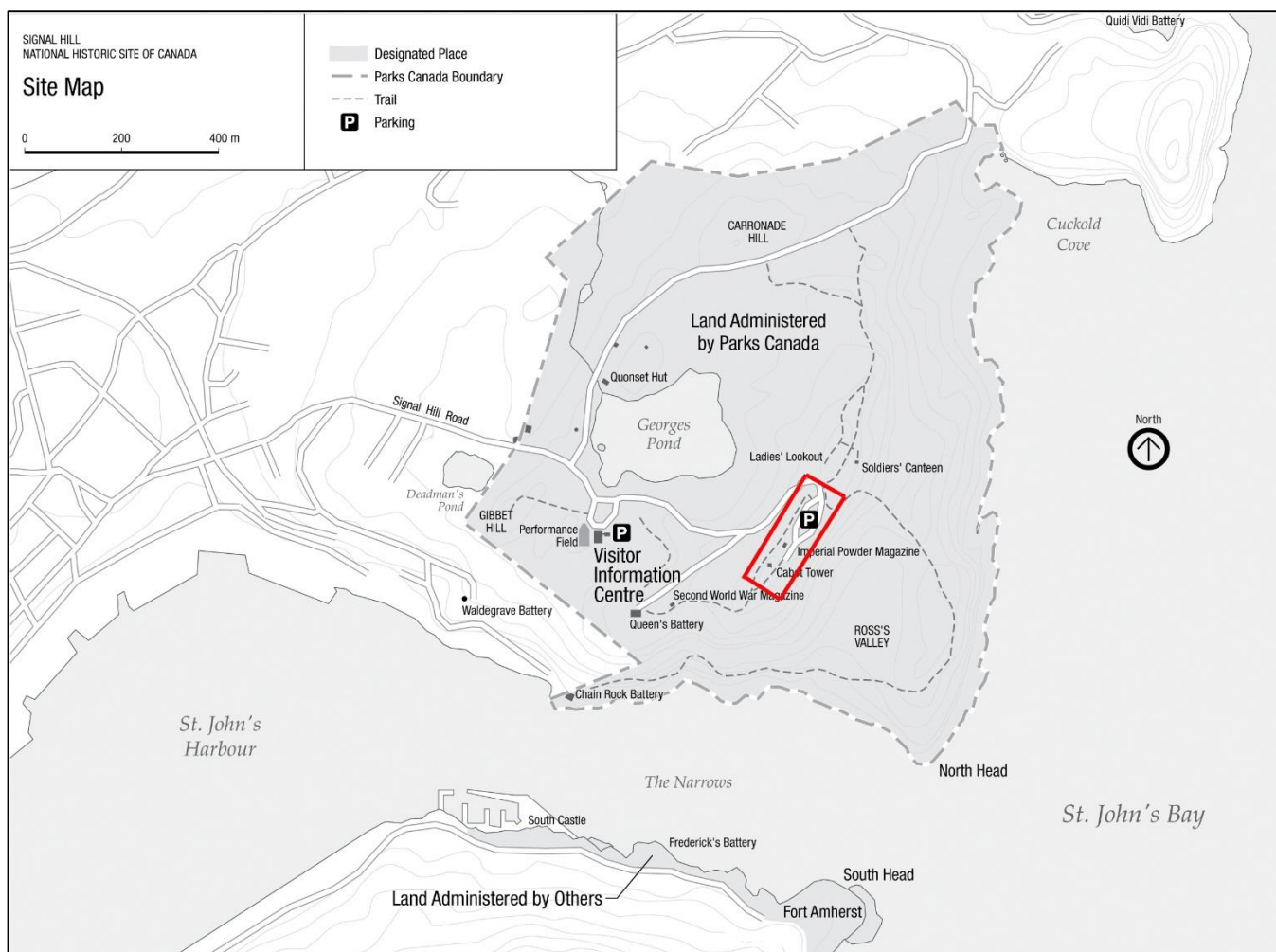


Figure 1. Project Location, Signal Hill NHSC, St. John's, Newfoundland.

Barracks, and privies were erected on the east slope (Ferguson 1986:53). By the 1840s, two major barrack structures were built along the east slope: an officer's barracks (1836) and a soldiers' barracks (1837). Several of the earlier ancillary structures were demolished around the powder magazine making way for a shifting room and cooperage (ca. 1835) and a carriage shed and engine room (1835-36). Guardhouses (1797 and 1813) and a blockhouse, utilized as a signal station, were erected in the vicinity of present-day Cabot Tower (Figure 2). Following the withdrawal of the garrison in 1870, the 1837 soldier's barracks was employed occasionally as a public quarantine hospital, and became known as George's Hospital (Ferguson 1986:35). With the destruction by fire of St. George's Hospital in 1892, the quarantine facilities became permanently established in the barracks and the building underwent repairs (Figure 3). The 1837 soldier's barracks was destroyed by fire in 1920.

Cabot Tower was constructed between 1898 and 1900 and served as a flag signaling tower until 1958. On 12 December 1901, Guglielmo Marconi received the first transatlantic wireless signal on Signal Hill, with his equipment set up in the 1837 soldier's barracks. On 23 July 1902, the Marconi Company successfully transmitted the human voice across the Atlantic Ocean from Cabot Tower.

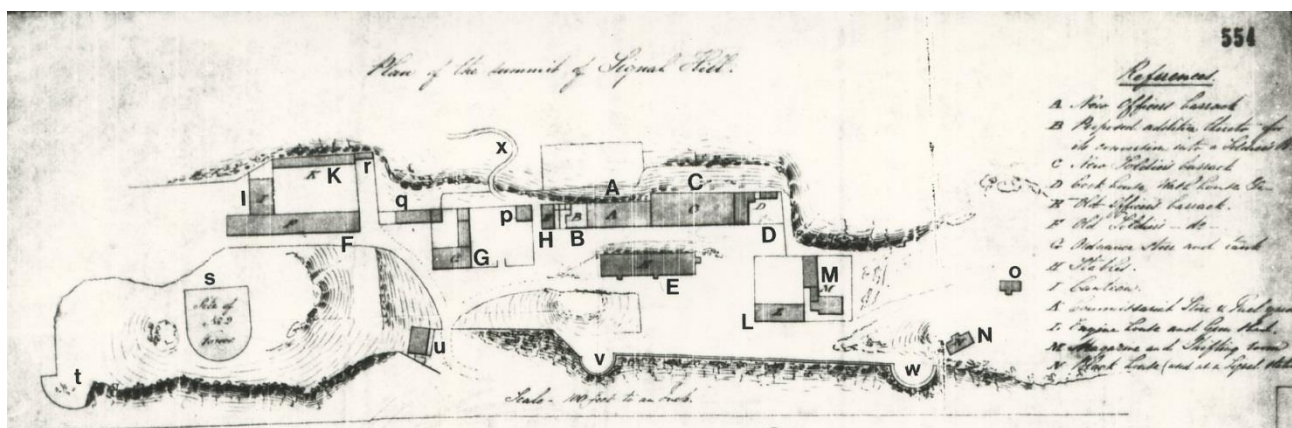


Figure 2. Plan of the Summit of Signal Hill, 1841. A: New officer's barrack (1836). C: New soldier's barrack (1837). D: Cookhouse. E: Old officer's barrack (1806). L: Engine house and gun shed. M: Imperial Powder Magazine (ca. 1798) and shifting room. N: Blockhouse.



Figure 3. Signal Hill Quarantine Hospital, 1901. The work yard to the south of the hospital contained a cookhouse, wash-house and privies. Structures in foreground could be the Imperial Powder Magazine and carriage shed and engine house.



Figure 4. Summit of Signal Hill, 10 October 1941. 1: Imperial Powder Magazine. 2: Carriage shed and engine room. 3, 5, 6: Gun position. 4: Wireless telegraphy tower. 7: North circular battery. 8: South circular battery. 9: Cabot Tower. 10: Signal Hill hospital (formerly 1837 soldier's barracks). 11: Barracks yard.

During World War II, the U.S. Army used Signal Hill proper for anti-aircraft batteries and thus commenced demolition of the earlier structures. By 1841, the Imperial Powder Magazine was the only complete extant British structure remaining; however, two walls of the carriage shed and engine room were still standing (Figure 4). Early photographs indicate that several gun positions were erected on the summit and the irregular ground surface was unmodified at this time. In 1951, Signal Hill was designated as a national historic site for the important role it played in Canada's defences and communications history, and by 1955, the summit had been built up and levelled with gravel fill for parking, and paved shortly thereafter (Figures 5). In 1963, the telegraphy tower was removed and the parking lot expanded and paved. Fill was added to the periphery of the parking lot and filled in the void left by the removal of the tower (Figures 6 and 7).



Figure 5. Parking lot, *circa* 1955 to 1963.



Figure 6. Early stages of new parking lot, 1963.



Figure 7. Dumping fill along edge of new parking lot for sidewalks, 1963.



Figure 8. 20th-century wooden platform and ceramic drain on bedrock below parking lot.

Previous Archaeological Work

Archaeological investigations on Signal Hill NHSC commenced in 1965-1966, under the supervision of Edward B. Jelks of Southern Methodist University, Dallas, Texas. Parks Canada undertook excavations in 1969 and 1984, under the direction of Karlis Karklins and Robert Ferguson respectively. Additional investigations were conducted by various archaeological consultants and Memorial University of Newfoundland in the 1990s and early 2000s.

The earlier investigations conducted by Jelks and Karklins were restricted to areas of immediate development, therefore, the 1984 Parks Canada excavations focused on all areas of known occupation to gain a comprehensive understanding of archaeological resources and their state of preservation (Ferguson 1986). A 4 m² test unit was excavated in the parking lot to assess the 1806 officer's barracks. The test unit revealed a 13 cm thick asphalt surface overlying a gravel sub-base approximately 100 cm in thickness, over the 1950s parking lot and sub-base. The latter fill, roughly 110 cm in thickness, comprised a compact matrix of brown silty sand and gravel containing fragments of brick, charcoal and iron. Beneath this fill, a 20th-century, squared-beam wooden platform and a ceramic drain were uncovered resting on bedrock (Figure 8). The function of this platform is unknown. No evidence of the 1806 officer's barracks or an intact 19th-century horizon was observed suggesting that portions of the parking lot were considerably disturbed during the 20th century.

The 1984 archaeological investigations exposed evidence of the 1837 soldier's barracks and suggest that approximately 2 m of the southwest corner of the barracks and a portion of the work yard are covered by the present-day parking lot (Ferguson 1986:39). Although excavations of the officer's barracks failed to expose structural remains the depth of rubble debris suggests that extant remains exist along the edge of the parking lot (Ferguson 1986:42). Modern fill is less extensive over the officers' barracks (approximately 1 m) and the area seems to have escaped any significant disturbance subsequent to its collapse.

Archaeological Potential

Cabot Tower Area

Historical mapping, modern aeriels and information provided by Brian Jordan indicate surficial bedrock outcrops by Cabot Tower in addition to a buried septic holding tank south of the building. Given the topography and presence of buried features in this area, the potential for archaeological resources in this area is low.

Parking Lot Area

Historical mapping and early photographs indicate the presence of numerous historic activities and structures within the project location. Archaeological investigations have indicated that portions of the parking lot have been impacted by 20th-century disturbance, however, evidence of the barracks may exist beneath the known fill zones along the eastern edge of the present-day parking lot.

Assessment of Proposed Development Impact on Potential Archaeological Resources

Ground disturbing activities related to the projects include:

- removal of the existing asphalt sidewalk, concrete curb, storm sewer and catch basins;
- milling or removal of asphalt within existing parking area (average depth of 50 cm);
- excavation for new storm sewer and catch basins (maximum depth of 2 m). The existing 15 cm diameter storm sewer will be replaced by a larger 20 cm diameter storm sewer;
- excavation for new electrical conduits connecting Cabot Tower and the Imperial Powder Magazine, and providing electrical facilities for parking lot. Width of trench will be approximately 1 m, with varying depths (maximum approximately 65 cm);
- excavation for new bollards (maximum depth of 1.2 m);
- application of new asphalt to parking area and service road to Cabot Tower;

- installation of new concrete curb, sidewalks and bollards;
- landscaping with sod and shrubs; and
- removal of existing guiderail and installation of new guiderail along access road to upper parking lot.

Guiderail Area

Impacts from the removal and installation of the guiderail are not deemed to be significant. No archaeological investigation related to the guiderail removal and installation is required.

Cabot Tower Area

The portion of the Project Area by Cabot Tower is deemed to have low archaeological potential due to surficial topography (i.e. bedrock outcrops) and previous disturbances. No archaeological investigation is required prior to the installation of the electrical conduit by Cabot Tower.

Parking Lot Area

The impacts from the activities related to the rehabilitation of the parking lot and installation of new utilities are deemed to be significant to adversely impact potential archaeological resources and archaeological mitigation measures are required for the Project Area.

Archaeological Requirements

The following mitigation measures are required for the project:

1. Vehicular traffic and staging areas will be restricted to present-day roadways, parking lots and disturbed areas.
2. No debris will be deposited on the eastern slope due to the presence of known archaeological resources.
3. As archaeological testing is by nature sampling (not 100 percent coverage), there could be a chance, however low, that features or artifact concentrations are encountered during construction activities. If significant features (i.e., structural remains and/or high artifact concentrations) are encountered, development work should cease in the immediate area, the work area in relation to the findings photo documented and geo-referenced, and the Parks Canada project manager informed. The project manager should then contact Parks Canada's Terrestrial Archaeology section for advice and assessment of significance that will in turn determine what will be required to mitigate the chance find.

In addition to the above listed mitigation measures, the following measures are also required for the parking lot area:

1. Archaeological excavations along the eastern end of the parking lot revealed evidence of the the 1837 soldier's barracks beneath the the parking lot fill layers. Archaeological monitoring is required for any soil excavation greater than 1 m in depth along the southern end of the parking lot, excluding areas previously disturbed or where bedrock is encountered. If archaeological resources with heritage value are uncovered during archaeological monitoring, additional archaeological testing may be required to properly investigate and record the resources.
2. Given that installation of the new sewer line will entailed excavation beyond the previously disturbed utility footprint due to a pipe diameter increase, archaeological monitoring of excavation(s) for the new storm sewer along the eastern end of the parking lot is required, for all

excavation greater than 1 m in depth. If archaeological resources with heritage value are uncovered during archaeological monitoring, additional archaeological testing may be required to properly investigate and record the resources.

References:

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