014509
SAJH

HISTORIC LANDSCAPE REPORT:

AMERICAN CAMP & BRITISH CAMP 1987

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

CULTURAL RESOURCE DIVISION PACIFIC NORTHWEST REGION SEATTLE, WASHINGTON

This document has been prepared in accordance with National Park Service guidelines for Cultural Landscape Reports. It is a technical report that collects, presents and evaluates documentary and field survey findings and proposes appropriate management options for the historic landscapes at American Camp and British Camp, San Juan Island National Historical Park. It is not a decision document. The options presented in the report will be considered within the prescribed procedures for review and consultation for all proposed National Park Service projects impacting cultural and natural resources before final development guidelines for these sites are adopted by the Service.

HISTORIC LANDSCAPE REPORT :
AMERICAN CAMP AND BRITISH CAMP
SAN JUAN ISLAND NATIONAL HISTORICAL PARK
WASHINGTON

Cathy A. Gilbert
Historical Landscape Architect

Cultural Resource Division
Pacific Northwest Region
National Park Service
Department of the Interior

1987

TABLE OF CONTENTS

I Introduction

Background 3
Purpose 5
Process and Scope 5
Geographic and Physiographic Setting 6
Site Boundaries 6
Endnotes 15

II American Camp

RESEARCH

Current Conditions 21
Historical Overview 25
Archeological Summary 39

ANALYSIS AND EVALUATION

Evaluation Summary 47
Landscape Components 49
Design Recommendations 59

DESIGN ALTERNATIVES

Introduction 65
Alternative I 66
Alternative II 69
Alternative III 73
Alternative IV 79

ENDNOTES 83

III British Camp

RESEARCH

Current Conditions 89
Historical Overview 93
Archeological Summary 109
Structural Inventory of Remnant Features
on Officers' Hill 115

ANALYSIS AND EVALUATION

Evaluation Summary 137
Landscape Components 139
Design Recommendations 149

DESIGN ALTERNATIVES

Introduction 155
Alternative I 155
Alternative II 159
Alternative III 165

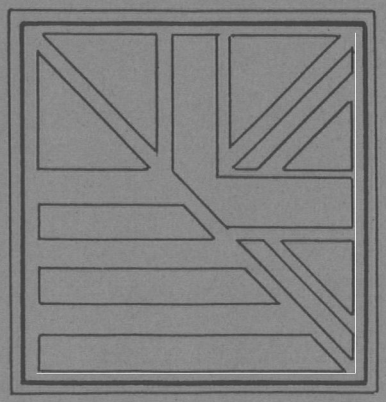
ENDNOTES 169

IV Appendices and Bibliography

BIBLIOGRAPHY 173

Appendix A. Historic Roads,
San Juan Island (Circa 1875) 178
Appendix B. Considerations for Management of Grassland
Vegetation at San Juan Island National Historical Park . 181.
Appendix C. Pilot Planting Project, American Camp 197
Appendix D. Report of Test Excavations of the Rock
Features at the Second Terrace on the Officers'
Quarters' Hillside British Camp, San Juan Island
National Historical Park 223
Appendix E. Trip Report, May 28, 1987,
re: Dating trees on Officers Hill 235
Appendix F. Vegetation Management, Stone Retaining Walls,
British Camp, San Juan Island National Historical Park . 239
Appendix G. Reconstruction of the Historic Formal Garden
at English Camp, San Juan Island, National Historical Park 241
Appendix H. Program Planning 259

PART ONE
INTRODUCTION



Background [1]

After the War of 1812, territorial jurisdiction of western lands including the Pacific Northwest became the subject of negotiations between Great Britain and the United States. In 1818, the two countries agreed that territories west of the Rocky Mountains would remain "free and open," allowing joint access and use of the resources by both countries. Over several years, American settlers, traders and missionaries increased their presence in the region while the British continued to establish trading posts and agricultural stations throughout the northwest. The vast area known as the Oregon Territory, generally fell under the domain of the British-owned Hudson's Bay Company.

Negotiations between Great Britain and the United States over sovereignty of the western territory continued until 1846, when both countries settled on the 49th North Parallel as the boundary between British possessions and the United States. All of Vancouver Island would remain British and through the San Juan Islands, the boundary between the two countries followed the "middle of the channel" between Vancouver Island and the mainland.[2]

Language in the treaty, however, made it unclear as to which of two major channels -- Canal de Haro or Rosario -- was "the" channel, demarcating the boundary. Between these two straits were the San Juan Islands. Both the British colonial government, through the Hudson's Bay Company, and the newly-established U.S. Territory of Washington laid claim to the islands. The British believed the boundary followed the channel through Rosario Strait, east of San Juan Island. The Americans believed the correct boundary was along Haro Strait on the west side of the island. The previous year, in 1845, two years after establishing Fort Victoria on Vancouver Island, Hudson's Bay officials had formally made claim to the San Juan Islands. Five years later the company began operation of a seasonal fishing station on San Juan Island, and in 1853, officials sent Charles Griffin to establish an agricultural station on the island's south end. Griffin named the station Bellevue Farm.

The discovery of gold on Canada's Fraser River in 1857 brought an influx of adventurers to the area. By 1859, about 25 American citizens were living on San Juan Island. The issue of which country actually owned the islands became a major dispute when an American settler living on the south end of San Juan shot and killed a pig belonging to the Hudson's Bay Company. Disagreement between British and American authorities over replacement costs and exaggerated accounts of the incident led American settlers on the island to petition the government for protection. Two months after the incident, American troops landed on San Juan Island near Bellevue Farm and established a camp. In response, the British Government sent three naval ships to Griffin Bay, and formal protests were exchanged. An uneasy peace was maintained while negotiations between the two countries continued. Finally, in October 1859, Great Britain and the United States agreed to joint occupation of San Juan Island until the boundary dispute could be settled, thus

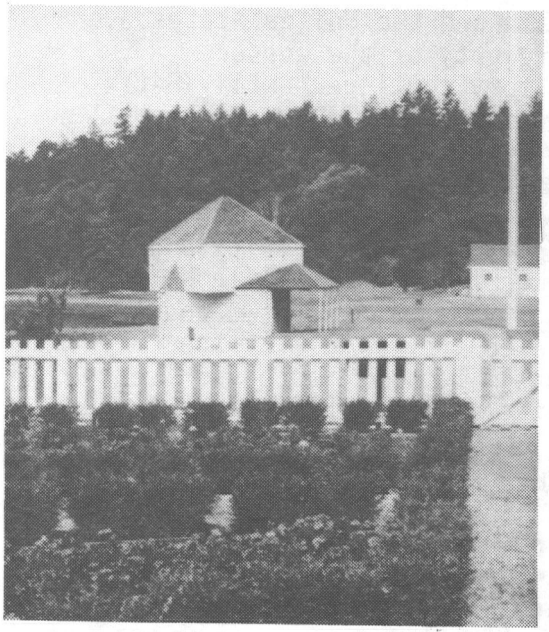
concluding what has become known as "the Pig War." [3] In March 1860 the Royal Marines were sent to the north end of the island with supplies and provisions for construction of a British camp.

Over the next 12 years, both the British Camp site and the American Camp site on San Juan Island developed into substantial structural complexes with officers' quarters and barracks, parade grounds, hospitals and service buildings, fortifications, gardens, extensive roads, and communication systems linking both posts and the community at large.

San Juan Town on Griffin Bay also flourished during this period, providing goods and services to the American soldiers and settlers. Arbitration over the boundary and joint occupation of the island lasted until 1872 when the San Juan Islands were awarded to the United States.

After the British and American troops withdrew, buildings and structures at both camp sites were auctioned or moved, and the land subdivided. Homesteaders, taking claim to the former camp sites, settled into a rural, self-sustaining existence. Over several years, farming and cultivation of the land around American Camp, establishment of orchards at British Camp, and grazing at both sites had a significant impact on the historic landscape. In an effort to preserve both historic sites, the State of Washington purchased over one hundred acres at British Camp, and just under five acres at American Camp. As tourism increased on the island, development pressures and construction of vacation homes continued to impact the historic landscape at both sites. By 1964, in order to assure long-term preservation of the sites, the State was favoring federal ownership and administration of American Camp and British Camp. Two years later, in 1966, Congress established San Juan Island National Historical Park "for the purpose of interpreting and preserving the sites of American and English Camps on the island and commemorating the historic events that occurred from 1853 to 1871 on the island."[4] The following year the Washington State Parks and Recreation Commission transferred jurisdiction of its holdings to the National Park Service.

The National Park Service has restored and currently maintains four historic buildings at British Camp and two at American Camp. Archeological investigations have been conducted at both sites and several remnant features and structures have been stabilized. Interpretive exhibits and trails route visitors to the primary resources at both sites.



The Blockhouse at British Camp is one of four remaining buildings at the site.

Although several significant features and historic patterns of land use are still discernable at both sites, they remain ill-defined and unarticulated. Further, much original fabric at British Camp and American Camp is missing or has been impacted by use of the land subsequent to the historic period, hampering visitor understanding of the historic scene and primary resources.

Purpose

The purpose of this study is to identify significant historic features and landscape patterns at American Camp and British Camp and incorporate those components into design proposals for both sites. The goal of the study is to develop a range of appropriate designs that protect significant historic landscape resources and enhance visitor understanding and access to those resources.

Process and Scope

In this study, American Camp and British Camp were regarded as two individual sites with a common historic link and fixed period of historic significance. A comprehensive review of all National Park Service (NPS) planning reports, administrative materials and historic documents on file in the park and the regional office was undertaken prior to intensive work at both sites. Collectively, these documents helped clarify the existing data base, programmatic needs and directions for additional research. The historic landscape study for San Juan Island was divided into three phases: research, analysis and evaluation, and design development.

In addition to park and regional office files, historical research was conducted at the Northwest Collection, University of Washington; the Department of Natural Resources in Olympia, Washington; and the Provincial Archives in Victoria, British Columbia. Correspondence with the National Archives in Washington, D.C. also yielded important documents and information. Concurrent with historical research, fieldwork was conducted at each site and documentation of the existing conditions was completed. The third task during the research phase of the project involved a review and assessment of archeological work done at both sites in the 1970s. With the assistance of the Regional Archeologist, a large amount of data was synthesized and significant new investigations were incorporated into this landscape report.

Analysis and evaluation of the historic landscape of American Camp and British Camp involved organization and synthesis of historic documentation, archeological data and contemporary site features and conditions. Two types of analysis were used. The first technique involved an evaluation of individual artifacts and remnant features at each site. Historic base maps, archeological base maps, and maps depicting the location of existing individual structures and landscape components were combined in a series of map overlays. From this process it was possible to assess the physical integrity of the remaining individual features. The second technique incorporated this information and documented five significant landscape systems at each site. Because British Camp and American Camp have a fixed period of significance (1859-1872), this analysis included relevant data from

the historic period for each system evaluated. This technique greatly enhanced understanding of complex land uses and existing landscape systems within a historic context. From this analysis, significant landscape features and patterns were identified and their historic significance and integrity assessed according to National Register criteria. Design recommendations were then developed that address preservation and enhancement of each historic site.

The findings from all three phases of the study are included in this report, which has four sections: I. INTRODUCTION; II AMERICAN CAMP; III. BRITISH CAMP; and IV. APPENDICES AND BIBLIOGRAPHY. Endnotes are included at the end of each section. Written portions of the report are repeated in sections II and III because both American Camp and British Camp, while considered individual sites, share common base information.

The intent of this study is to develop a range of appropriate design alternatives for American Camp and British Camp, based on the historic record and on programmatic needs of the park. It is not within the scope of this study to develop construction drawings or cost estimates for proposed work. A list of future planning options for implementation of proposals made in this report are included in the appendix of this report. A comprehensive collection of design details for the park can be found in the Visual Compatibility Guidelines for San Juan Island National Historical Park.

Geographical and Physiographic Setting [5]

The San Juan Islands are located in Puget Sound between Victoria, British Columbia and Seattle, Washington. The archipelago includes 172 individual islands that vary in size and terrain from small barren rock outcrops to large forested land masses over fifty square miles in size. San Juan Island is the second largest island in the group, measuring fourteen miles in length and approximately six and one half miles at its widest point.

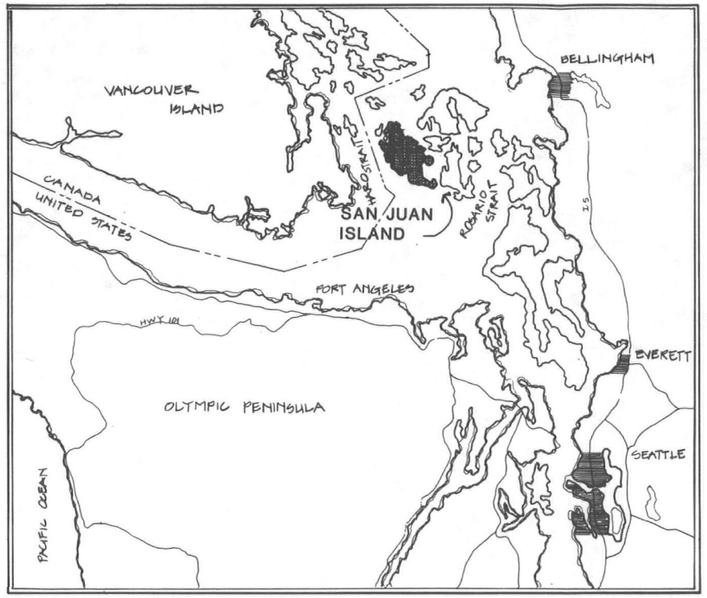
The island terrain is gently rolling between three prominent land features: Mount Dallas, rising 1,036 feet; Mount Young at 650 feet on the north end of the island; and Mount Finlayson, a gravel morraine, rising 290 feet above the open prairies on the south end of the island. The shorelines are irregular and rugged with many protected bays and coves. Sandy, gravelly beaches are common. The northern two-thirds of San Juan Island is heavily forested with douglas fir, cedar, alder and maple. The southern portion of the island is generally open and windswept, primarily composed of annual and perennial grasses.

San Juan Island National Historical Park is comprised of two physically separate and individual sites: British Camp, on Garrison Bay at the north end of the island, and American Camp on the south end. These two historic sites are the focus of this study.

Site Boundaries

American Camp

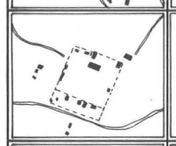
During the American military occupation of San Juan Island, the government reservation included the



REGIONAL MAP

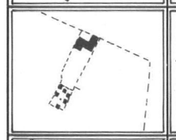
BRITISH CAMP

SITE OF THE BRITISH ENCAMPMENT ON SAN JUAN ISLAND BETWEEN 1860 AND 1872. THE CAMP INCLUDED FOUR OFFICERS' QUARTERS, TWO LARGE BARRACKS, A PARADE GROUND, SERVICE BUILDINGS AND FORMAL GARDENS.



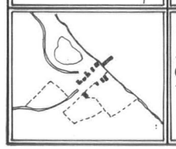
AMERICAN CAMP

SITE OF THE AMERICAN MILITARY POST ON THE ISLAND BETWEEN 1859 AND 1872. THE CAMP INCLUDED FOUR OFFICERS' QUARTERS, A FENCED PARADE GROUND, BARRACKS, SERVICE BUILDINGS AND A LARGE EARTHEN REDOUBT EAST OF THE COMPLEX.



BELLEVUE FARM

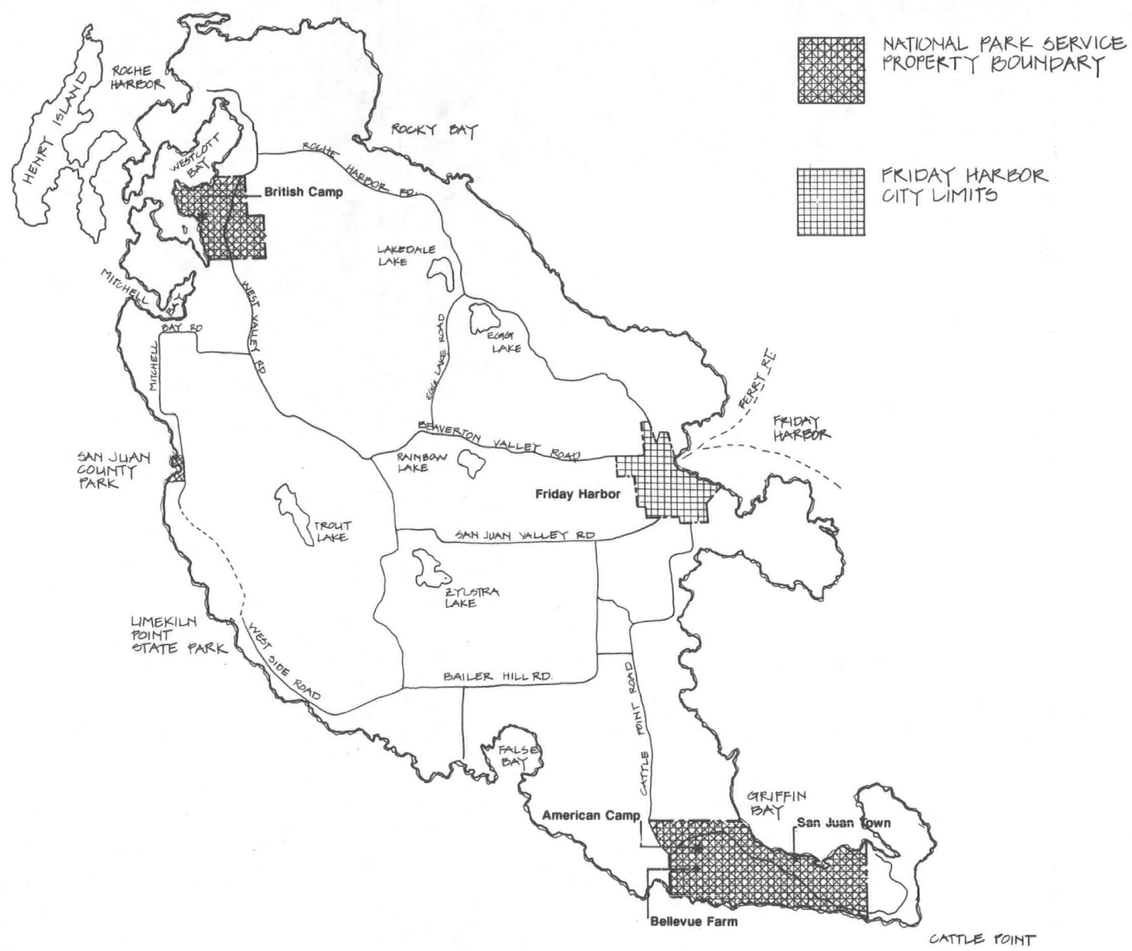
ESTABLISHED BY THE HUDSON'S BAY COMPANY IN 1853, THIS EARLY AGRICULTURAL STATION INCLUDED FIVE PRIMARY BUILDINGS, EXTENSIVE CROP LANDS AND FENCED PASTURE LAND FOR 1900 HEAD OF LIVESTOCK.



SAN JUAN TOWN

A "BOOM" TOWN THAT DEVELOPED AS THE AMERICAN CAMP GREW, THE TOWN HAD ONE MAIN ROAD AND TWELVE BUILDINGS, INCLUDING A HOTEL. ABANDONED IN FAVOR OF FRIDAY HARBOR, THE TOWN WAS BURNED TO THE GROUND IN 1890.

KEY HISTORIC SITES



SAN JUAN ISLAND

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

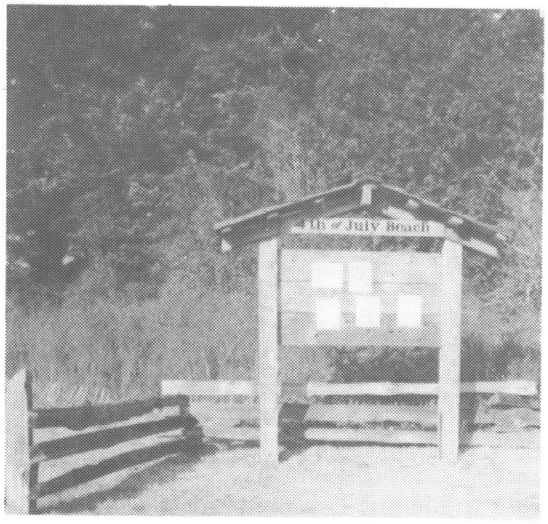
NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

DRAWING NO. 438 - 80018

SHEET 1 OF 13

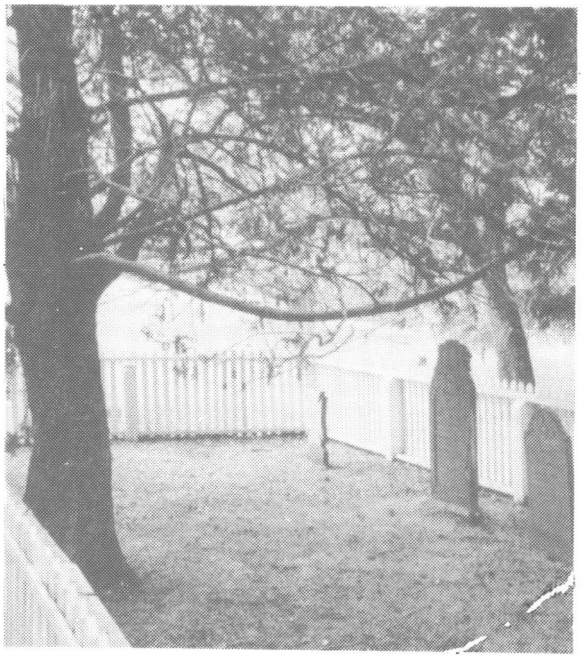
structural complex of the camp and the entire southeast end of the island. As required by Congressional mandate, in 1875 the military boundary was reduced to 640 acres. Most of the land originally held under military jurisdiction during the occupation is within the current National Park Service boundary. This area -- approximately 1,223 acres -- is considered the historic zone for the American Camp site, providing an envelope of land uses and landscape patterns that relate to the historic setting. Within this historic zone are several additional core areas including Bellevue Farm, San Juan Town and the Spring Camp Site. These areas have historic significance independent of American Camp yet contribute directly to the historic context and development of the site. The specific area addressed in part I of this study encompasses the fifty acres that supported the structural complex of the American Camp. This area includes the Redoubt, remaining structures, and acreage directly adjacent to the camp, and is considered the historic site for the study.



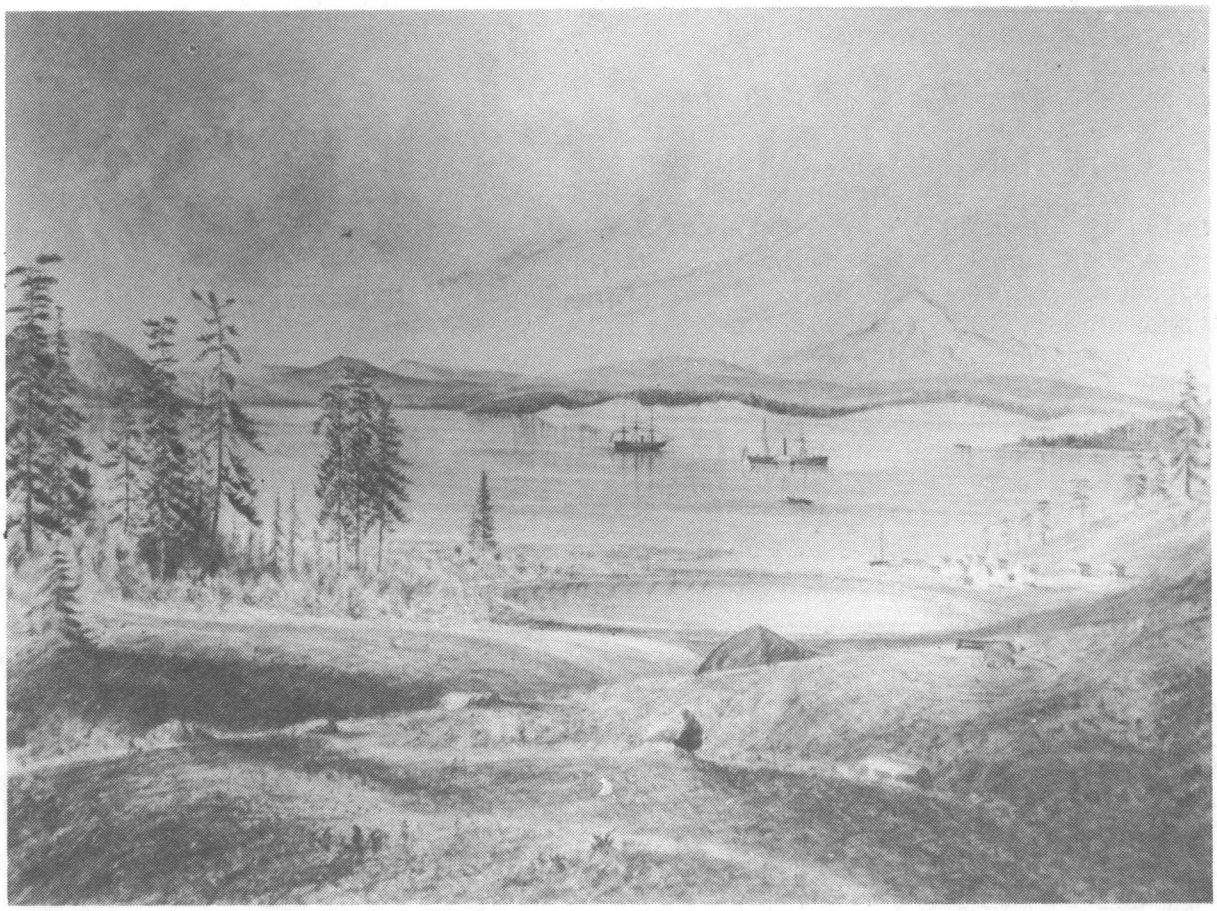
4th of July Beach is a recreational site within the historic zone at American Camp. (Photo by C. Gilbert, NPS, 1986)

British Camp

In 1860, the British Camp site at the north end of San Juan Island extended inland from the shore of Garrison Bay to Bell Point on the north and Young Hill to the east. Most of this land falls within the current National Park Service boundary (529 acres) and is considered the historic zone for part II of this study. Young Hill, the site of the British Camp cemetery, is a core area within this zone. The specific site addressed in part II of this study focuses on the 20 acres that supported the structural complex of the British Camp. This area is considered the historic site for the study.



The cemetery on the slope of Young Hill is a core area associated with the main historic site at British Camp. (Photo by C. Gilbert, NPS, 1987)



San Juan Town as depicted in an 1859 sketch by James Alden with the U.S. Boundry Commission. (National Archives, Washington D.C.: SAJH photo file)



Bellevue Farm, Hudson's Bay Company. 1859 watercolor by James Alden, U.S. Boundry Commission. (Washington State Historical Society: SAJH photo file)

SOURCES

- USGS TOPOGRAPHIC MAPS - FALSE BAY, WASHINGTON AND RICHARDSON, WASHINGTON QUADRANGLES, 7.5 MINUTE SERIES
- AERIAL PHOTOGRAPHS 26C-4-78-ON FILE, PNR
- FIELD OBSERVATIONS - 1986-87

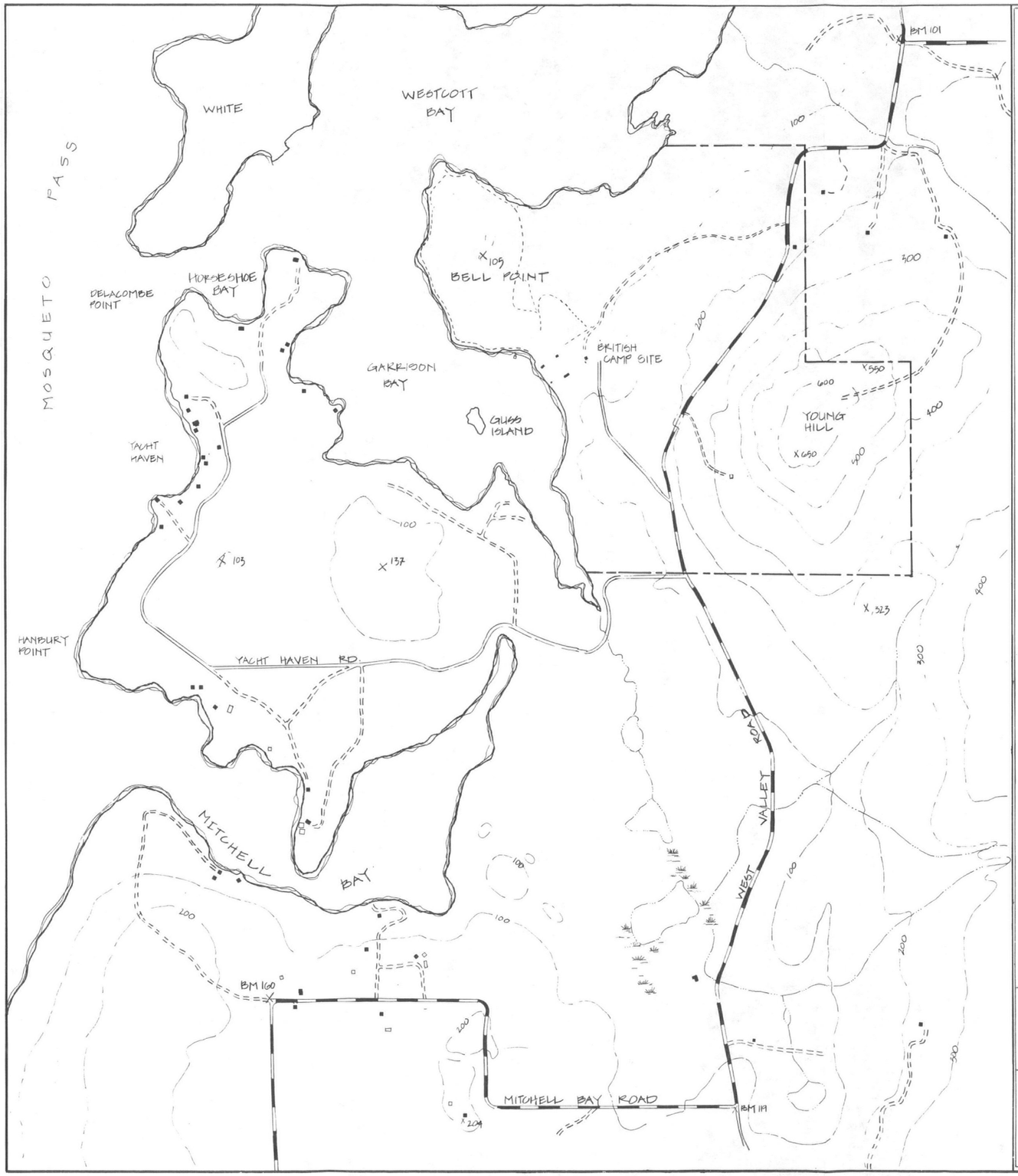
LEGEND

- MAIN ROAD
- SECONDARY ROAD
- TRAIL
- STRUCTURE
- PARK BOUNDARY
- SPOT ELEVATION (x249)

CONTOUR INTERVAL 100 '

CATTLE POINT ROAD
190 X
AMERICAN CAMP ROAD
4TH OF JULY BEACH
GRIFFIN BAY
AMERICAN CAMP VISITOR CENTER
CATTLE POINT ROAD
REDOUBT
100
EAGLE COVE
BELLEVUE FARM
PICKET LANE
SOUTH BEACH
61 X
X 295
MT. FINLAYSON
285 X
200
CATTLE POINT

SAN JUAN ISLAND NATIONAL HISTORICAL PARK HISTORIC LANDSCAPE STUDY	NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCE DIVISION DRAWN BY: GILBERT DATE: 10/87	1/8 0 1/8 1/4 3/8 mile SCALE': 1"=1/8 mile	NORTH	SITE CONTEXT AMERICAN CAMP	DRAWING NO. 438 - 80018 SHEET 2 OF 13



LEGEND

- MAIN ROAD
- SECONDARY ROAD
- ACCESS ROAD
- TRAIL
- STRUCTURE
- DRAINAGE
- WET AREA
- PARK BOUNDARY
- SPOT ELEVATION (X 550)
- BENCH MARK (X BM)

SOURCES
- USGS TOPOGRAPHIC MAP - ROCHE HARBOR QUADRANGLE - 7.5 MIN. SERIES
- AERIAL PHOTOGRAPH 19C-13-78 - PARK FILES - SAJH NHP
- FIELD OBSERVATIONS 1986-87

CONTOUR INTERVAL 100 '

NORTH

1/8 0 1/8 1/4 3/8 mile

SCALE 1"-1/8 MILE

BRITISH CAMP SITE CONTEXT

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 10/87

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

DRAWING NO. 438 - 80018

SHEET 3 OF 13

ENDNOTES: PART ONE - INTRODUCTION

1. Comprehensive histories of the events associated with the joint occupation of San Juan Island are documented in numerous other places (see Bibliography). Specific information used in this section of the report is taken from Patricia Erigero and Barry Schnoll, Historic Structures Report, Crook House (National Park Service, Seattle Washington, 1984), pgs 18-21.

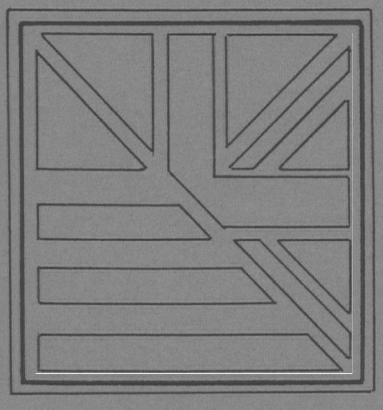
2. Erwin Thompson, Historic Resource Study, San Juan Island National Historical Park, Washington (Denver Service Center: National Park Service, U.S. Department of the Interior, 1972), page 1.

3. A good account of the Pig War can be found in Keith Murray's, The Pig War (Pacific Northwest Historical Pamphlet No. 6. Tacoma, Washington: Washington State Historical Society, 1968).

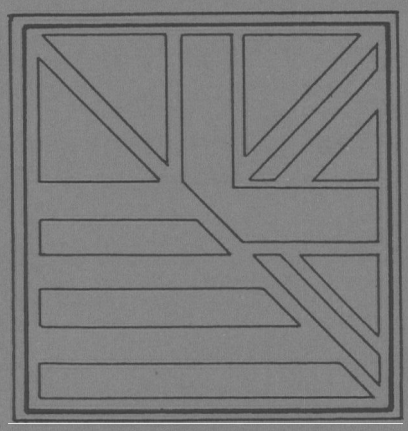
4. Public Law number 80 Statute 737

5. Wessen, Gary, An Overview and Assessment of the Prehistoric Archeology of the San Juan Islands (Draft report prepared for the National Park Service, Pacific Northwest Region, [1987]). See Chapter two in Wesson's report for an indepth discussion of the geological and physiographic context of the island.

PART TWO
AMERICAN CAMP



RESEARCH



Current Conditions ■ Historical Overview ■ Archeological Summary

Current Conditions

Access and Circulation

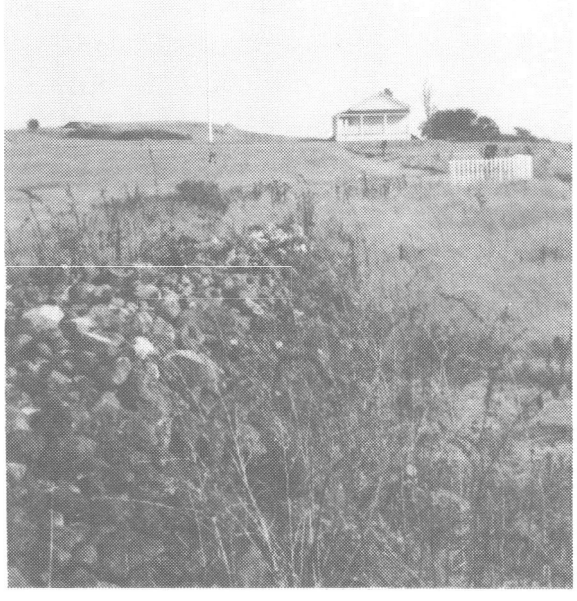
Primary access to American Camp is along Cattle Point Road, six miles south of Friday Harbor. Approximately 1/8 mile from the American Camp visitor center, the paved road changes to a gravel surface and continues through the historic site, providing vehicular access to the redoubt and National Park Service (NPS) facilities, including exhibits, parking, visitor services and picnic areas. Other roads within the historic zone, including American Camp Road north of the site and Pickett Lane east of the site provide vehicular access to 4th of July Beach, Jakle's Lagoon, South Beach , the Jackson Overlook and Cattle Point.

A trailhead located at the visitor center parking lot directs visitors to an interpretive walk--a mown trail--leading to the camp site, the redoubt and the site of Bellevue Farm before circling back to the visitor center.

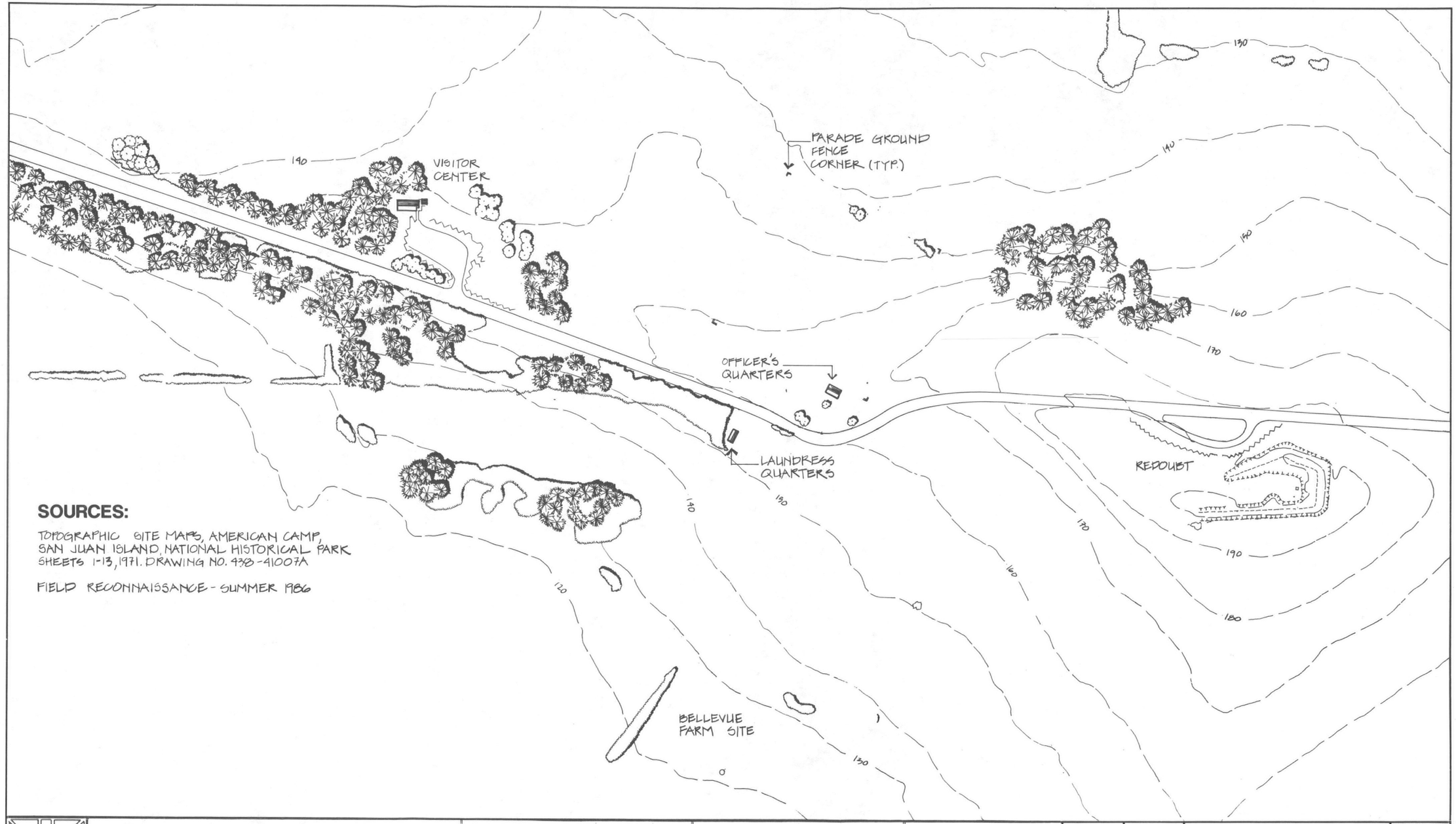
Structures

Of the original twenty-eight primary buildings constructed by the American military, two have been restored and remain on site: an officer's quarters and a laundresses' quarters. The earthen redoubt also remains, although paths on top of the mound and erosion have had an impact on the structural integrity of this feature.

As documented by Agee and others, damage to the historic landscape by European rabbits since their introduction in the late 19th century has been considerable.[1] Archeological investigation at the site, however, indicates some material from the historic camp remains, particularly along Officers' Row. In an effort to help visitors better understand the historic scene at American Camp, the foundation of one of these buildings has been outlined and the fence corners around the parade ground have been reestablished. Based on archeological data, the camp flag pole has also been reconstructed. In addition, remnant structures remain in some form (above and/or below ground) at Bellevue Farm and San Juan Town. No structural remains have been documented at the Spring Camp site or the cemetery. Large piles of field stones are scattered throughout the historic zone. Two of these rock piles are located near the American Camp site; one just west of the parade ground and one northeast of the redoubt.



The officer's quarters, flag pole and the parade ground at American Camp. Stack of field stones in the foreground. View from the NW. (Photo by C. Gilbert, NPS, 1987)



SOURCES:

TOPOGRAPHIC SITE MAPS, AMERICAN CAMP, SAN JUAN ISLAND, NATIONAL HISTORICAL PARK SHEETS 1-13, 1971. DRAWING NO. 438-41007A

FIELD RECONNAISSANCE - SUMMER 1986

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

100 50 0 100 200 300
SCALE 1" - 100'

NORTH

DESIGNED:
DRAWN: GILBERT
TECH. REVIEW:
DATE: 9/86

SUB SHEET NO.

TITLE OF SHEET
EXISTING CONDITIONS AMERICAN CAMP

DRAWING NO. 80018 438 -
PKG. NO.
SHEET 4 OF 13

Historical Overview

Site Selection

On July 18, 1859, Captain George Pickett, in command at Fort Bellingham in the newly established Washington Territory, received orders from U.S. Army District of Columbia headquarters to assemble provisions and building materials, and to move his company to San Juan Island where he was to establish a new post "...in some suitable position near the harbor on the southeastern extremity [of the island]... ."[2] Less than two weeks after receiving his orders, Pickett and his men were on board the Massachusetts, anchored in Griffin Bay near the Hudson's Bay Company wharf on the south end of San Juan Island. The next morning, July 28, 1859, the Americans disembarked and established their camp on the slope of an open prairie approximately 200 feet from the beach. By nightfall,several tents were pitched, two mounted guns were placed nearby, and an American flag was erected. Although the American encampment displayed a settled presence, Captain Pickett was uneasy about the site and bothered by the open exposure and proximity of his new camp to the British guns on board the Tribune, anchored in the harbor.[3]

Within the week, Captain Pickett informed his commanding officer of his intention to move the camp to another, more strategic location. By August 9, 1859, the troops had dismantled their tents, and moved south over a ridge crossing the narrow neck of the island to the new camp site. Located near a natural spring and oriented with a view over the south harbor, this site was, in Pickett's mind, a more suitable location for a permanent camp. Shortly after the move, construction of two wooden structures - a barracks and a hospital - was undertaken using salvaged material from Fort Bellingham. The day after construction began, Colonel Silas Casey arrived with three companies of infantry from Fort Steilacoom to assume command of the American forces on San Juan Island.

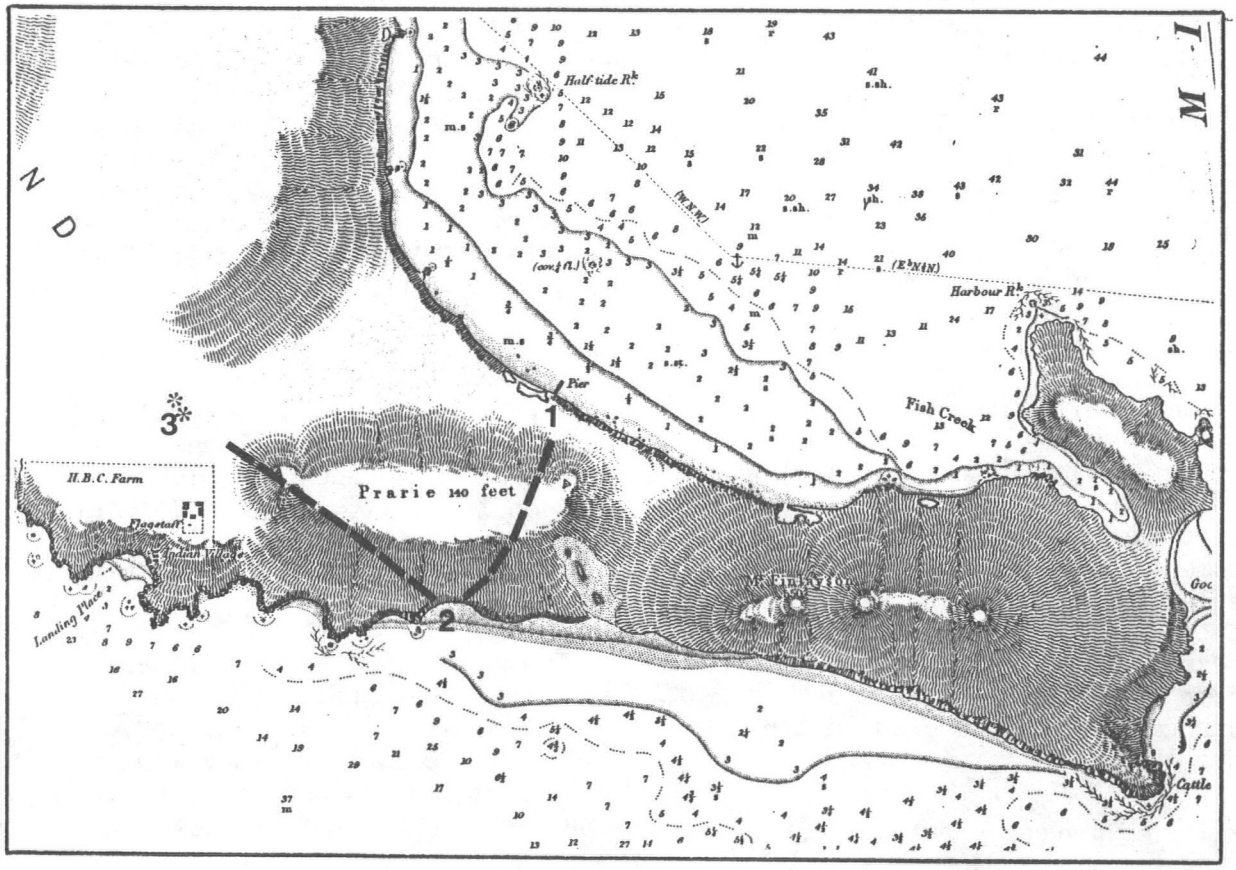
Landing on the south side of the Island, not far from Pickett's camp, Casey also brought additional provisions, supplies and equipment, including as much as three-hundred thousand board feet of lumber.[4] The week after Colonel Casey arrived, a detachment of engineers and four additional companies of the third artillery landed and joined the camp. By the end of August the American garrison on San Juan Island had grown to include fifteen officers, 424 enlisted men and a number of civilian laborers. This dramatic influx in the number of soldiers stationed at the small camp, in addition to the generally exposed location and relentless winds on the hill, prompted Colonel Casey to request permission to move to yet another site before erecting a permanent camp.

The prairie behind the Spring Camp site stretched east to west several miles. The land sloped gently to the southern shoreline of the island and was broken by narrow embankments, forested areas and large isolated boulders on the open prairie. Composed primarily of low grasses, portions of the prairie had been used for several years as pasture land for livestock owned by the Hudson's Bay Company at Bellevue Farm. North of Bellevue Farm, the

vegetation cover changed to forest and, along an embankment on the northwest edge of the prairie, a thin belt of conifers created a protected pocket of land.[5] After an inspection of the area, Colonel Casey decided this site was the ideal location for a military camp. Sheltered from the wind, with a commanding view to both harbors, this new site became the permanent location for the American military forces on San Juan Island. Captain Provost, commander of the boundary survey for Great Britain, reported that the new American camp site was "...very strongly placed in the most commanding position in this end of the island, well sheltered in the rear and on one side by the forest and on the other by a commanding emminence." [6]

Shortly after the site was chosen, the move from the Spring Camp began. For the second time in less than one month, tents were taken down, supplies repacked, and equipment assembled by the American troops for a move that would relocate them less than two miles away.

The new camp site initially developed with two "zones" or company areas. Captain L. Hunt (who had joined the Americans earlier that month) and the 4th Infantry



Superimposed on an 1858 navigational map of Griffin Bay are the three early American Camp sites: No.1--Pickett's first camp--near the Hudson's Bay Company wharf on Griffin Bay; No.2--known as the Spring Camp site-- on the south coast, near a natural spring; and No.3--the permanent camp site-- located on a ridge above Bellevue Farm.



Early view of the American Camp site on the south end of San Juan Island. (Provincial Archives, Victoria, B.C.: SAJH-photo file)

occupied one zone directly north of the Hudson's Bay Company. Captain Pickett's company was a short distance north of Hunt's company, at the edge of the forest on a shallow depression of land. The size of the combined garrison and the early development of the camp created a significant impact on the surrounding lands. Governor Gholson visited the site in August 1859 and a newspaper account describing the camp appeared in the August 24, 1859 Gazette:

> "It's hard to conceive a more romantic spot; the white tents peeping up and out from among green foliage...the glittering arms of the sentinels...and line of artillery which faces upon a small, clear, sward-covered square." [7]

On September 2, 1859, Colonel Casey was informed that the American troops were to remain on San Juan Island at least another six months while arbitration of the boundary issue continued. To accommodate this longer occupation, Casey was ordered to erect a suitable encampment as soon as possible. Structural development at American Camp took place, on and off, over the next twelve years. In general, construction of the camp can be divided into two major periods; the years between 1859 and 1865 when the primary structural framework of the site evolved; and



Early construction at American Camp ca.1859. Note frame buildings. (SAJH-photo file)

a second period, between 1866 and 1872, when improvements and additions established the camp as a major island settlement.

Structural Development 1859-1865

Through the summer months and early fall of 1859, most of the soldiers at American Camp on San Juan Island lived in tents as construction of permanent buildings began in earnest. Soldiers were put to work clearing the surrounding forests and harvesting trees to provide supplementary timber for construction. Fortification of the camp was considered essential and, concurrent with construction of permanent buildings, the Americans undertook the rigorous task of building a large earthen redoubt. The engineers who had arrived on the island two weeks earlier with Colonel Casey, under the leadership of Lt. Henry Roberts, surveyed the area around the camp and selected a site less than a half-mile east of the new camp site. Building on a small natural mound, hundreds of soldiers and many civilian laborers worked for over a month, trenching around the base of the mound, reshaping and fortifying its embankments.

The length of the entire earthen structure measured approximately 700 feet. The longest side along the south measured 300 feet; the east and northeast sides, 100 feet each; and the northwest side, 150 feet. The west side of the redoubt, facing the camp site, was open and level, providing access. A massive structure, the fortified embankment was twenty-five feet wide at the base and eight feet wide at the top. The interior slope measured approximately fifteen feet and the exterior slope dropped twenty-five feet in places until it met the natural grade. Five earthen gun platforms were built across the south side, each measuring 12 x 18 feet. This impressive landscape structure, although not physically connected to the developing American Camp to the west, formed the easternmost edge of the overall camp site.

While the redoubt was under construction, and into the winter of 1859, several permanent buildings were erected at the main camp site. One of the first structures built at the camp was a barracks for the enlisted men.[8] Like several early structures at American Camp, portions of the barracks were constructed of materials salvaged from Fort Bellingham.[9] A large single-story building, the barracks faced south and had a narrow porch extending across the front facade. When initially constructed, this building also contained a kitchen and messroom for the enlisted men. Two smaller quarters were built to supplement housing in the main barracks. Located northwest and northeast of the main barracks building, both of the new quarters were single story structures, constructed of logs harvested from the nearby forests.[10]

Approximately 300 feet south of the barracks, two houses were built for officers at the camp. The smaller of the two was constructed of logs and measured 30' x 25', with a porch on the front (north side) and a kitchen in the rear (south). The other house, approximately 100 feet east, was built by Captain Pickett and was one of the more "finished" of the early buildings at American Camp. A rather substantial building, the entire house was weatherboarded with a porch in front (north) wrapping around both sides of the structure. A kitchen and dining

room were located in the back of the building. Two outbuildings were set back on the south side of each house forming an edge and back yard.

Two quarters for the company laundresses were also built before the end of the year. Portions of these structures were constructed using lumber from Fort Bellingham and lumber purchased by the laundresses themselves.[11] Most of the women who worked at the post as laundresses were the wives of noncommissioned officers stationed at the camp.[12] Both of the quarters for the company laundresses were sturdy, frame and weatherboarded structures with two to four rooms, including a kitchen. One of these structures (26' x 12') was sited southwest of the officers' quarters, the other building (approximately 30' x 20') was some distance west and north of the officers' quarters. Near this second laundress quarters the camp hospital was erected. Portions of this structure were also comprised of materials from Fort Bellingham.[13] The hospital measured approximately 35' X 27', contained four rooms and had a porch across the north facade. East of the hospital, a small two-room building served as the "orderly room." Built by Pickett's company, the structure measured 25' x 14'.

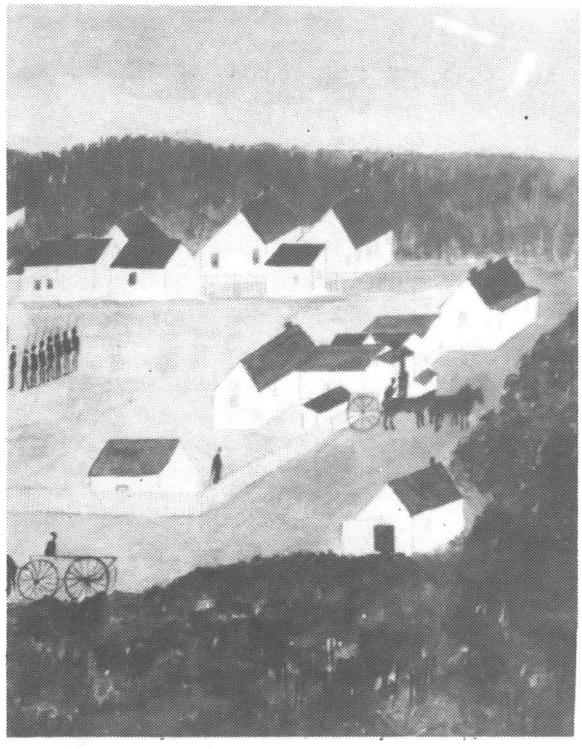
The camp guardhouse was erected during this early phase of development, across the compound and west of the orderly room. At least portions of this structure came from Fort Bellingham and evidence suggests the entire building may have been moved when Pickett was transferred.[14] A two-story blockhouse made of logs was located next to the main gate (see below). The lower floor of this building measured approximately seventeen feet square and the upper "cap," which was turned 45° to the base, measured fifteen feet square.[15]

This building, along with the officers' quarters, barracks, orderly room and other quarters, created the built edges of the structural encampment. With the exception of the hospital and laundress quarters outside of the compound, all of the structures were oriented inward, toward a central, open area that served as the parade ground.

In the midst of this new construction at American Camp, Great Britain and the United States successfully negotiated an agreement in 1859 calling for the joint occupation of San Juan Island. Because of this agreement, General Scott ordered a reduction in the number of American troops stationed on San Juan Island. This action greatly consolidated the structural development of American Camp. Captain Hunt, who had initially established his company south of Pickett's company, was ordered to move his men north into the site developed by Pickett, and concentrate any new development in this area where, as General Scott suggested, his men would have better shelter during the winter and be further away from the Hudson's Bay Company farm.[16] By the spring of 1860, Captain Hunt reported:

> "My men are all comfortably housed and I am established in as neat and snug a cottage as you would wish to see. It is built of hewn logs, closely fitting and lined within a piazza in front, the columns of which are decidely rustic, being cut from the forest, peeled and the knots left some inches long." [17]

Although most new construction stopped when Hunt took command of American Camp, two other buildings were added to the camp in the early 1860s. A new, much-needed kitchen and messroom replaced the existing facilities in the barracks building. Sited north of the barracks, this log structure was large enough to accommodate sixty-four soldiers. The other new building -- a bakehouse -- was sited close to the kitchen and measured 20' X 12'.



Detail from a watercolor of American Camp showing the newly constructed kitchen, messroom and bakehouse along the north edge of the encampment. Date and artist unknown. (Provincial Archives, Victoria, B.C.: SAJH photo file)

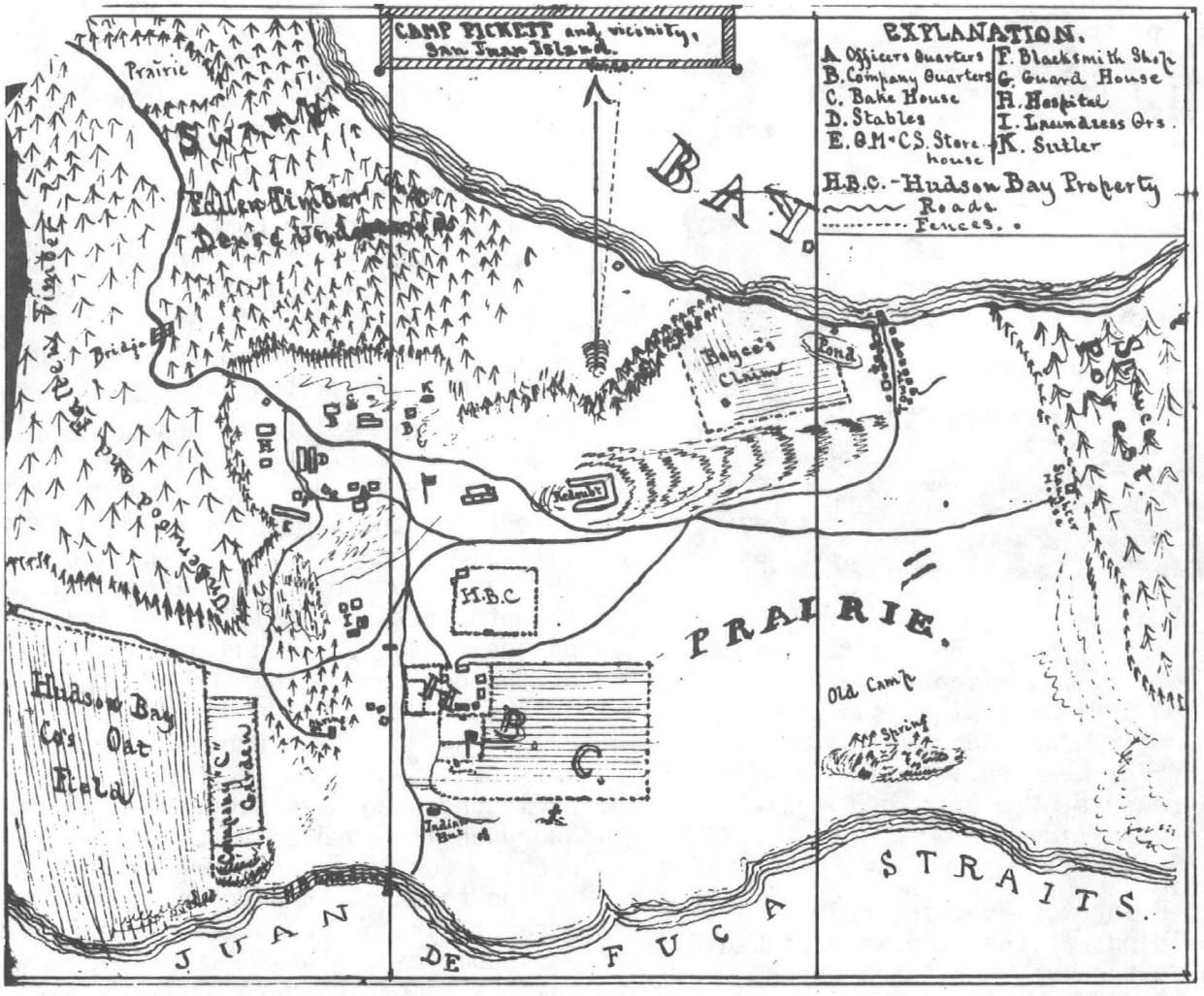
Prior to 1865, the primary buildings at the camp were linked by an extensive wood fence which circled and enclosed the parade ground. Along the southeast section of the fence, near the blockhouse, an arched gateway served as the main entry for foot traffic. Access to the complex for supply wagons was limited to unloading areas behind the kitchen and along the northwest edge of the parade ground fence, near the company storeroom. A boundary demarcating the greater military reservation was also laid-out in the early 1860s and initially included most of the land on the southeast end of the island.[18] Evidence also suggests that, as was typical of other military posts, American Camp had a rather large vegetable garden located "near the barracks and contained enough esculents [sic] to keep them until this time next year." [19]

By the mid-1860s, these twelve buildings, the parade ground, the fences, outbuildings and the redoubt were the primary structures comprising American Camp. A flagstaff was erected near the guardhouse, towering high above the complex. With the outbreak of the Civil War, construction at American Camp came to a virtual stop.

Because the American troops on San Juan Island were "regulars", the garrison remained on the Island throughout the war years.[20] With little military activity other than the camp routine of batallion drill, target practice, daily duties and parade, the insular and quiet nature of the post began to take its toll on the soldiers.[21] Boredom, drinking, desertion and suicide increased among the troops. Lawlessness and "whiskey-sellers" in San Juan Town proved a vexing problem for American commanders trying to maintain discipline and morale. There were other, more desirable diversions. Travelling theater companies gave performances for the soldiers periodically and

every holiday became an occasion for great celebration. The Fourth of July was a particularly festive time with the Royal Marines from British Camp invited for sporting games and festivities lasting well into the evening.

While arbitration of the boundary question dragged-on and the War Department was still consumed with the Civil War, little attention was given to the small American military camp on San Juan Island. The Army had not planned on a long-term occupation of the site and the structures at American Camp reflected the reluctance to invest in any permanent structural complex. As a result, over the years, many of the buildings at the camp fell into a severe state of disrepair. Inspection reports from visiting officers indicated that many of the buildings were unsuitable for housing the troops or providing a healthy environment. In 1865, the commanding officer of the American Camp requested new building materials and paint for general repair and improvement of the camp structures including a new gate for the post cemetery, a new flagstaff, and a new mess and kitchen. Finally in 1866, the War Department indicated it was prepared to make the necessary investment and approved the expenditure.



Early map illustrating the American encampment, Bellevue Farm, San Juan Town and significant landscape features in the early 1860s. (National Archives, Washington, D.C.: SAJH map file)

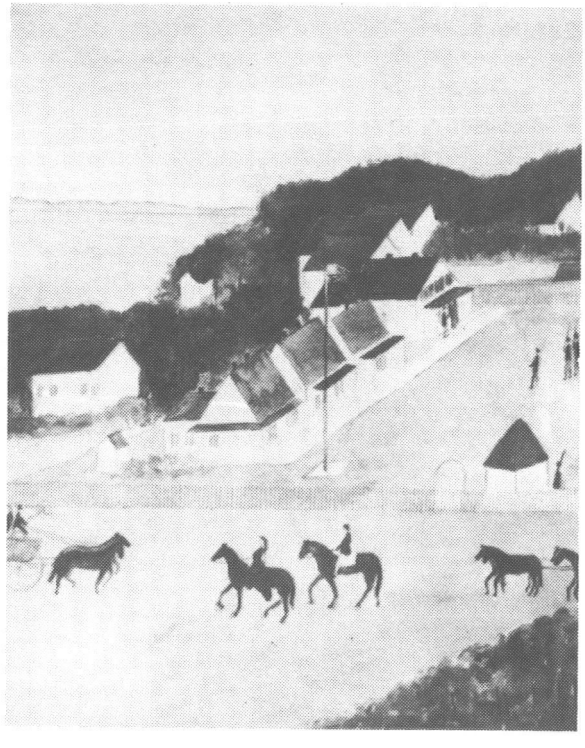
Structural Development 1866-1872

Repairs and new construction at American Camp accelerated dramatically between 1866 and 1868. Seven of the original buildings were repaired and converted to new uses; two received major additions and the remaining buildings received various types of repairs. In addition, the Americans doubled the number of permanent structures at the camp by erecting over a dozen new buildings, both within and adjacent to the main complex. More fencing was built, and roads and circulation systems were improved and expanded, linking the camp with the greater island community (see below).

Although soldiers were sent to Fort Bellingham to salvage any remaining building materials, a large quantity of raw materials for the repair and construction of new structures came from the island itself. A number of civilians were hired to help the soldiers harvest the nearby forests and some civilians were employed as carpenters, masons and blacksmiths to supplement the labor force during the construction "boom." [22] Remarkably, well over one-half of the new structures built at the American Camp between the years 1866 and 1874 were erected during 1867 alone.

Among the first structures added to the camp were new quarters for the officers. Sited adjacent to and between the existing structures, both buildings were weatherboarded, with a porch on the front and a kitchen in back of each residence. Although all four officers' quarters were different in size, shape and spacing, they were all materially very similar. The front facade of each structure created an even row facing the parade ground and, with a boardwalk extending across the front porches, there was not only a cohesiveness to Officers' Row, but a relative degree of formality. As with other officers' quarters, outbuildings were sited behind the new houses and whitewashed fences enclosed the backyards of each individual structure, providing a more private, residential character for the officers' families.

Directly west of Officers' Row and set back approximately fifty feet from the boardwalk, a small,



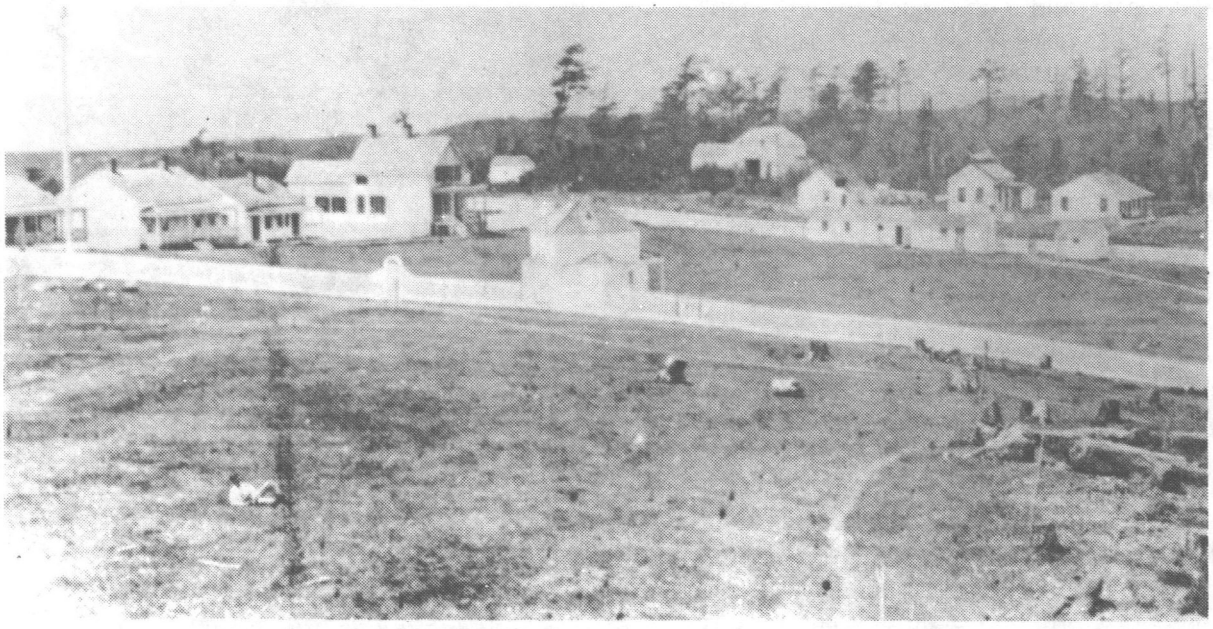
Detail from a watercolor of American Camp showing Officers' Row, the boardwalk, gardens and related outbuildings. Also note the blockhouse and gate along the northeast edge of the encampment. Date and artist unknown. (Provincial Archives, Victoria, B.C.: SAJH-photo file)

two-room structure was built to provide an administrative center for the camp and offices for the camp commander and adjutant officer. Historical documents indicate this building had a porch on all four sides.[23]

Outside of the fence surrounding the main encampment, a new hospital was built just thirty feet from the first hospital. A simple rectangular structure, it had six rooms and a front porch on the north side. The old hospital was repaired and adapted to provide office space, a dispensary, surgery room and a kitchen area. These two medical buildings were linked with a plank walkway and, along with a small outbuilding, comprised a discrete complex enclosed by a low wood fence. [24]

Although the American military on San Juan Island did not have a cavalry, they did construct a sizable barn and stable some distance west of the main compound. The two-story barn was large enough to accommodate fifteen animals on the ground level, while the upper area was used to store hay and commissary goods. Additional hay and feed was kept in the granary building which was attached to the barn. On the west side of this structure, a small area was enclosed by a wood fence creating a corral for pasturing livestock.[25]

A cluster of three service-related structures was built near the barn on the south side of the road, paralleling the property line of the Hudson's Bay Company farm. The westernmost building was a small, one-room structure used as a blacksmith shop. Directly east, another structure provided storage room for a year's supply of clothing and equipment for the garrison. The third building in this row was the commissary storehouse. Largest of the three structures, it could hold six months subsistence supplies for the entire camp.[26]



Photograph of American Camp ca. 1867 showing fenced encampment, Officers' Row to the left, the new hospital and the barn/stable in the background. View from the NE. (Provincial Archives, Victoria, B.C.: SAJH-photo file)

A second storeroom was built in the main compound along the northwest edge of the parade ground. From this location, goods were supplied to the bakery and kitchen across the parade ground. The former orderly room next to this building was converted to offices for the quartermaster and commissary officers.

Also during 1867 a much needed mess for non-commissioned officers was built next to the existing mess and kitchen facility behind the barracks. The barracks building itself was enlarged and repairs made, upgrading and stabilizing this large structure.

Other structures built during this second period of development at American Camp included an orderly room, reading room, a third laundress quarters, storerooms, washhouse, shoemaker shop and post traders' building. A telegraph office was located west of Officers Row but it is unclear when this building was erected.[27] In many cases, older buildings were converted and put to new uses. The old bakehouse became a barracks in 1871, one of the early quarters in the northeast corner of the complex became the carpenter shop, and another building in the northwest corner of the complex was fitted with an oven and became the camp bakehouse.

Roads and Other Structures

Access and Circulation

Because of early settlement and development on the southern end of San Juan Island, the road system in the vicinity of American Camp was relatively extensive. The primary road from the north end of the island passed Eagle's Cove on the south shore and turned east toward the encampment. Near the American Camp barn and granary the road jogged north again and followed the southwest edge of the main compound, abutting the backyards of the officers' quarters. Just past the compound, this same road branched in two directions; one route led north of the Redoubt toward San Juan Town, and the other continued east to the very tip of the island.[28] This second road also branched south, leading to the Spring Camp site near the shoreline. Although the camp did have some on-site water, historical evidence suggests that carts were used to bring water from "at least a mile distant" to supply fresh water.[29] Secondary roads led from the northern edge of the compound: one led travellers through the forest to Griffin Bay; the other road led north, connecting with the main road to British Camp. Other roads and trails around the camp evolved within this larger framework, dictated by need, use and changing settlement patterns over the years.

Within the fenced compound, circulation paths were minimal. A diagonal footpath ran between the barracks area and the orderly room along the northwest edge of the fence. Along that edge of the fence, an opening permitted access to the hospital and other structures southwest of the compound. The formal entry to the compound was along the northeast edge of the fence, near the flag and guardhouse.

Camp Cemetery

The American Camp cemetery was located approximately 500 yards southeast of the encampment below the redoubt. The small area (34' x 34') was enclosed by a picket fence with a wooden arch over the gate. In 1873, it was reported that the

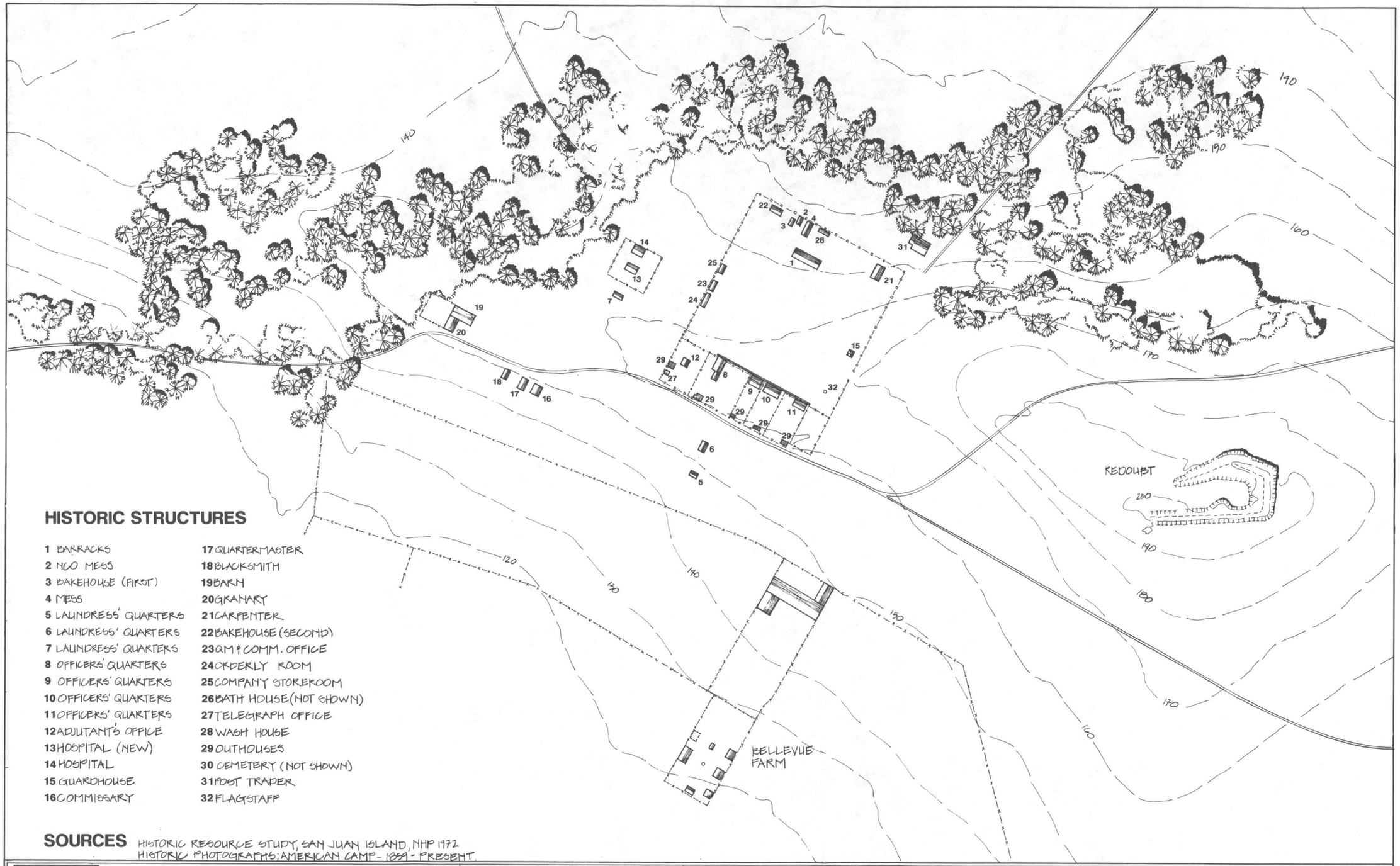
cemetery had fourteen graves, including some civilians.[30]

Gardens

Like other military posts, soldiers at American Camp kept a vegetable garden with crops supplementing their diet virtually year-round. The location of the garden remains unclear. One early report suggests the garden was near the barracks building, and a later report indicates it was southwest of the compound near the Hudson's Bay Company fields.[31] It appears quite possible that both locations, at one time, were garden sites. The earlier garden, by the barracks, would have been close to the camp, but certainly out of the way, with the camp itself undeveloped. Then, as construction accelerated in the mid-1860s, the garden site could have been moved outside of the main compound, closer to the service-related camp areas.

Functional gardens were not the only gardens at the camp. Historical evidence suggests that at least one ornamental garden was planted by an officer's family. Mrs. Allen, wife of Major H. Allen, wrote her sister in 1870: "...our place is looking lovely just now. The flowers are all in bloom and the vegetables, about ripe... ."[32]

Although no complete description of the garden exists, it is not surprising to find an ornamental garden on the military camp site. Especially associated with officers' quarters, yards were frequently embellished with roses, heliotrope, verbenia, and climbing vines, providing a home-like environment for the officers' families.



HISTORIC STRUCTURES

SOURCES

HISTORIC RESOURCE STUDY, SAN JUAN ISLAND, NHP 1972
HISTORIC PHOTOGRAPHS; AMERICAN CAMP - 1859 - PRESENT.

SAN JUAN ISLAND
NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 6/86

100 50 0 100 200 300

SCALE 1"-100'

NORTH

HISTORIC BASE MAP AMERICAN CAMP (CIRCA 1867)

DRAWING NO. 438 - 80018
SHEET 5
OF 13

Archeological Summary
Introduction

Archeological investigations conducted at San Juan Island between 1970 and 1977 by the University of Idaho Field School were reviewed during the research phase of this study. The purpose of the review was to clarify the location and integrity of historical resources identified on base maps with special attention directed to building sites, fences, roads and other structures associated with the encampment. Using field notes from the school in conjunction with the base maps, a synopsis of the findings was prepared for this report in November 1986 by archeologist Karl Gurcke. The structural references in the summary are keyed to the numbering system in the Historic Resource Study for San Juan Island National Historical Park. Additional notations in the text, such as "(op 21)" refer to the operation number given during the archeological investigation.



University of Idaho archeological field school on the south end of San Juan Island in the early 1970s. Photographer unknown. (On file-PNRO, Seattle, Washington)

Archeological Findings - Historic Structures

HS 1 BARRACKS (Op 24) Area was heavily damaged by rabbits and only partially excavated in 1976. No building corners were located and only a slight hint of some structural elements could be found. These included an earthen mound, two wooden posts (possible building supports), traces of wood in one of the north-south trenches (possible sill), and a scattering of brick (from a west end chimney ?).

HS 2 NCO MESS - unexcavated.

HS 3 BAKE HOUSE - unexcavated.

HS 4 MESSROOM and KITCHEN - unexcavated.

HS 5 LAUNDRESS' QUARTERS - unexcavated.

HS 6 LAUNDRESS' QUARTERS (Op 11) Almost fully excavated in 1974. Structural evidence includes a rough rectangular pattern of posts, post holes, and rocks that are believed to be the building's foundation. A scattering of brick, mortar, charcoal, and ash may indicate a chimney base. Note: Operation 18 was an architectural survey of an existing structure, thought to be the original Laundress' Quarters, which had been moved to American Camp after it was acquired by the Park Service.

HS 7 LAUNDRESS' QUARTERS - unexcavated.

HS 8 OFFICER'S QUARTERS (Op 10) Almost fully excavated in 1974 and 1975, surface collected in 1976 after the area had been disturbed. Structural evidence includes an almost complete foundation with wooden sills, posts, and postholes. A stone, brick, mortar, and plaster cellar was found at the southern end of this building. Of all the excavated structures at American Camp, we probably know most about this one. It was called the Commandant's House in 1974 and 1975.

HS 8 OFFICER'S QUARTERS (Op 4) Northern half partially excavated, southern half mostly unexcavated. Structural evidence vague but includes a rough alignment of posts and post holes running both east-west and north-south. Where these alignments "join" may indicate the northwest corner of the building. Other corners can not yet be determined. Also found, a small rectangular wooden feature with plaster and ash that may have once been the base of a chimney. Note: Operations 3, 5, and 6 were earlier attempts to find this structure.

HS 10 OFFICER'S QUARTERS (Op 7) Northern half partially excavated, southern half unexcavated. Structural evidence vague but includes a rough alignment of posts and post holes running both east-west and north-south. Where these alignments "join" may indicate the northeast corner of the building. Other corners can not yet be determined. In addition, there was a rectangular surface scatter of stones near the northeast that may have been the remains of a chimney or small structure. There was also a small scattering of other posts that do not seem to have any particular pattern to them.

HS 11 OFFICER'S QUARTERS (Op 15) The area around the McRae house, a standing structure (HS 11), was partially excavated in 1975 in order

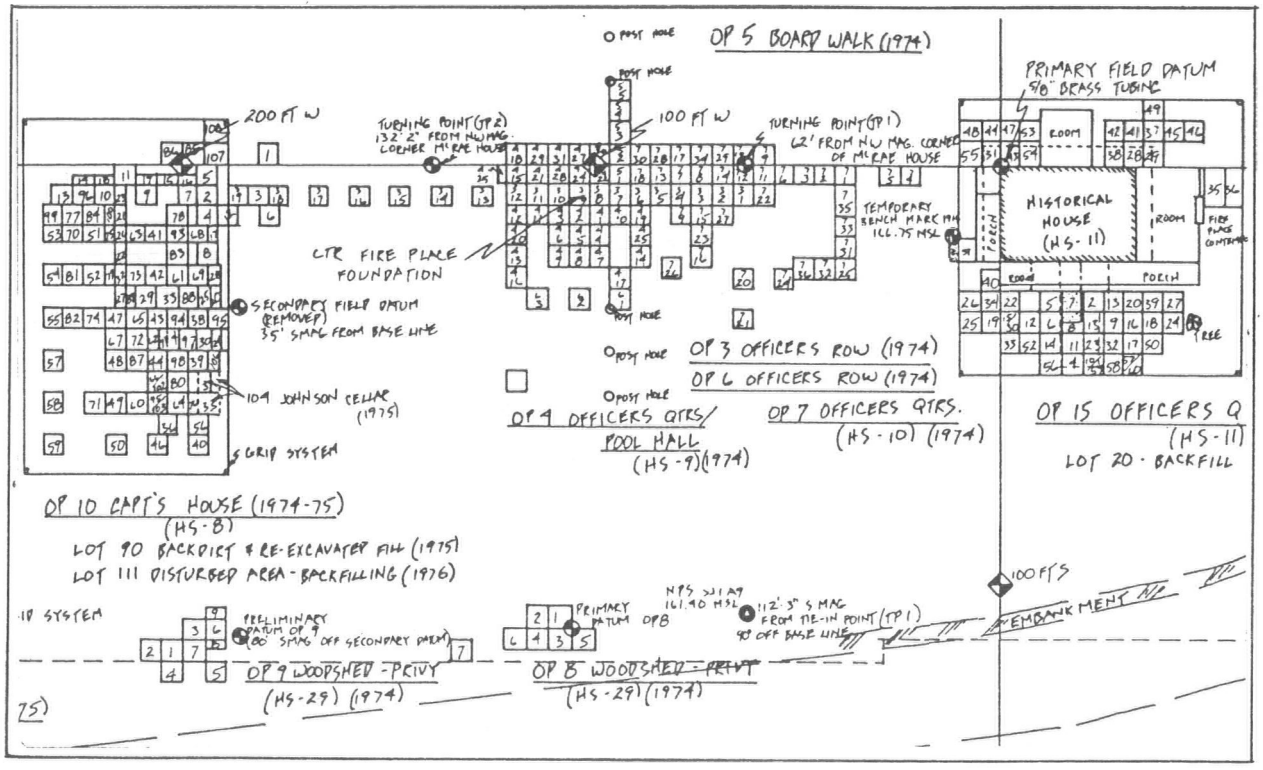
to locate any add on structures since removed. Structural evidence for these building(s) include a stone, brick, and mortar foundation wall fragment south of the present building. This may indicate that HS 11 was either larger than present (had add on structures) or has been moved north of its original location.

HS 12 ADJUTANT'S OFFICE (Op 14) An attempt was made to locate this building in 1975. Structural evidence includes wooden boards, possible post holes, and rocks. However, there does not appear to be any pattern to these features and, therefore, the building does not appear to have been located. Area only partly excavated.

HS 13 HOSPITAL (Op 22) The area was surveyed, and the structural features mapped in 1973 and almost fully excavated in 1976. Extensive structural remains include standing posts, wooden timbers, rock alignments, and brick and mortar scatters. Area was heavily damaged by rabbits. In addition, a barn was located on this spot up until the early 1960's. It is believed that the Hospital buildings (HS 13 and HS 14) were incorporated into this barn but to what extent is unknown. However, the site assistant in charge of this operation (Jones 1976: personal communication) felt this the first Hospital (HS 13) had been fully excavated while the second Hospital (HS 14) was only partly dug.

HS 14 HOSPITAL (Op 22) See HS 13.

HS 15 GUARDHOUSE - unexcavated.



Detail from the archeological base map of American Camp depicting the investigations along a portion of Officers' Row. (On file-PNRO, Seattle, Washington)

HS 16 COMMISSARY STOREHOUSE - unexcavated.

HS 17 QUARTERMASTER STOREHOUSE - unexcavated.

HS 18 BLACKSMITH SHOP - unexcavated.

HS 19 BARN (Op 23) Exploratory excavations in 1976 were prompted by the Park Service's plan to improve the interpretive center parking lot. Structural evidence recovered was vague and it appears that the building was not found and probably did not belong in the area tested.

HS 20 GRANARY - unexcavated.

HS 21 CARPENTER SHOP (Op 26) Exploratory excavations conducted here in 1976 in order to retrieve surface artifacts and test for subsurface remains. The structural evidence found was inconclusive although a stone foundation may have been partly exposed. However, no corners were discovered and the area was only minimally tested.

HS 22 BAKEHOUSE - unexcavated.

HS 23 QM and COMMISSARY OFFICE - unexcavated.

HS 24 READING ROOM and ORDERLY ROOM - unexcavated.

HS 25 COMPANY STOREROOM - unexcavated.

HS 26 BATH HOUSE - unexcavated.

HS 27 TELEGRAPH OFFICE (Op 14) See HS 12.

HS 28 WASH HOUSE and SHOEMAKER SHOP - unexcavated.

HS 29 WOODSHEDS AND OUTHOUSES. Operations were conducted in four separate areas in order to locate the privies for the following buildings: Op 8 (1974) located the privy for the Officers' Quarters (HS 9). Structural evidence includes two shallow privy pits and a line of posts running east-west that may belong to the southern camp fence line or be part of the outhouse structure. Privy fully excavated while surrounding area only partly excavated. Op 9 (1974) located the privy for the Commandant's House (HS 8). Structural evidence includes a deep privy pit. Also found was one post that may belong to the southern camp fence line or outhouse structure. Privy fully excavated while surrounding area only partly excavated. Op 13 (1974) is a collection of artifacts found on the surface near the probable location of the Officers' Quarters (HS 10) privy. Area was not excavated and no structural evidence was found. Op 14 (1975) was an attempt to locate the privy for the Adjutant's Office (HS 12) and the Telegraph Office (HS 27). Area only partly excavated and no privy discovered.

HS 30 MILITARY CEMETERY - unexcavated.

HS 31 POST TRADER and BILLIARD ROOM (Op 25) Exploratory excavations were conducted here in 1976 in an attempt to locate this building. Structural evidence vague; only a possible rock alignment, so the building was not firmly located. Area was only minimally tested.

HS 32 ROOT HOUSE - unexcavated.

Hs 33 FLAGSTAFF (Op 1) Exploratory excavations in 1972 resulted in the discovery of the flagpole. Very little information on this operation can be found in the student's notebooks.

HS 34 REDOUBT - unexcavated.

In addition, several exploratory excavations and general surface collections were undertaken but were not associated with any particular building. These include:

Op 2 GENERAL SURFACE COLLECTION (1974-1975) Artifacts collected from all undesignated or unassigned areas of the site. Much of what was collected came from the area around the McRae (HS 11) house. No structural evidence uncovered.

Op 3 EAST-WEST TRENCH, OFFICERS' ROW (1974) Early attempt to find foundations for structures along Officers' Row (See HS 9).

Op 5 NORTH-SIDE TRENCH, OFFICERS' ROW (1974) Early attempt to find foundations for structures and boardwalk along Officers' Row (See HS 9).

Op 6 SOUTH TRENCH, OFFICERS' ROW (1974) Early attempt to find southern edge of foundations for structures along Officers' Row (See HS 9).

Op 12 CAMP FENCE LINE - SE CORNER (1975) Attempt to locate southeast corner of camp fence. Several post holes were discovered that may belong to an army or later period fence line.

Op 16 CAMP FENCE LINE - NE CORNER (1975) Attempt to locate northeast corner of camp fence. No posts or post holes were discovered.

Op 17 CAMP FENCE LINE - NW CORNER (1975) Attempt to locate northwest corner of camp fence. No posts or post holes were discovered.

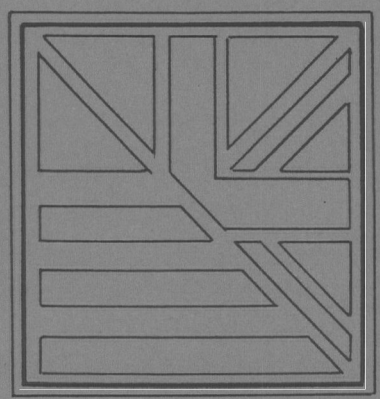
Op 17 WEST TRENCHES - OFFICERS' ROW (1975) Attempt to locate southwest corner of camp fence. One possible post hole discovered.

Op 20 STOLL HOUSE FOUNDATIONS (1974) Project involving the surface collection and study of an existing foundation located over the Commandant's House (HS 8). Structural evidence includes a rectangular alignment of rocks and bricks, wooden sills, and a possible chimney base. These surface features were removed prior to the excavation of Operation 10.

Op 21 SURFACE COLLECTION - EAST-WEST PATH (1975) Artifacts were collected to prevent visitor removal. Collection was along the path leading from the interpretive center to American Camp and specifically that segment that passes through the trees. No structural evidence was found.

ANALYSIS AND EVALUATION

Evaluation Summary ■ Landscape Components ■ Design Recommendations



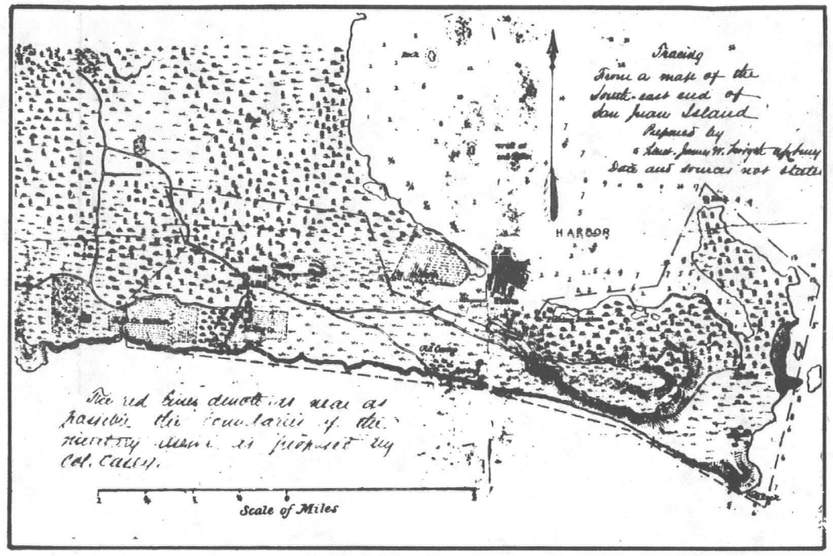
Introduction
Evaluation Summary

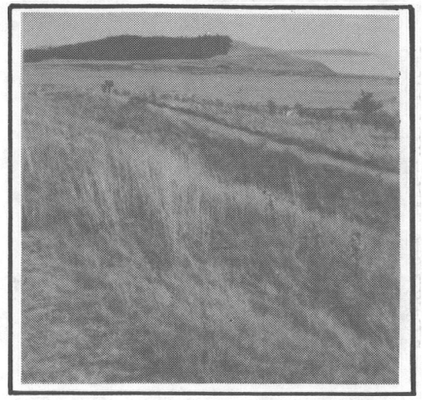


The earthen Redoubt at American Camp, perhaps the primary symbolic and structural resource at the site, remains intact and retains integrity. Of the twenty-six original buildings at American Camp, only two now stand on site. Although archeological evidence indicates additional building sites and landscape structures can be verified, a number of sites appear to have been disturbed and adversely impacted by rabbit populations and land use activity over several years. Vegetation at the site, particulary the forest cover and grassland communities, has changed considerably since the historic period. Also impacted by rabbit activity, "natural" regrowth of the forest has been slow.[33]

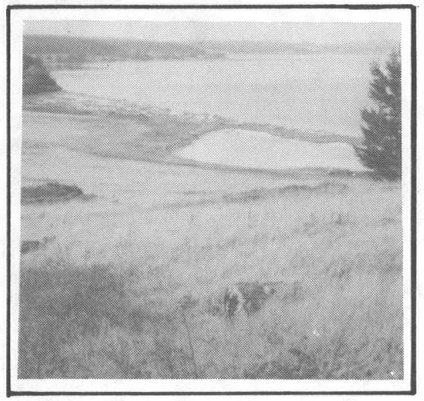
While a significant number of individual historic features no longer remain at American Camp, several of the landscape components and historic land use patterns that comprise the fundamental historic scene and historic context of the site do remain and retain integrity. For example, historic roads from the redoubt to San Juan Town and north from the camp site can still be read as depressions in the landscape. Further, the spatial relationships among core sites within the historic zone-- Bellevue Farm, San Juan Town, the Spring Camp site, the cemetery and the American Camp site itself -- remain intact from the significant historic period. From an archeological stand point, both Bellevue Farm and San Juan Town retain a high degree of integrity.

Overall, however, because few individual historic structures remain at American Camp, landscape patterns and relationships that do remain contribute to and define the historic scene were determined to have the greatest significance as historic landscape resources.

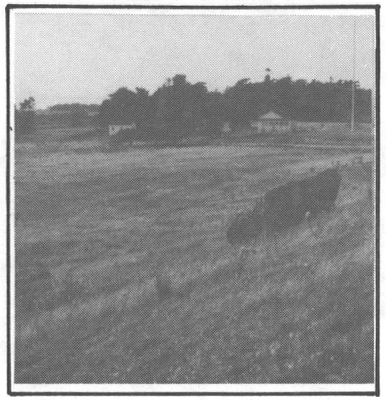




View of Mt. Finlayson from the Redoubt, looking east.



View of Griffin Bay from the Jakle's Lagoon pull-off. San Juan Town was located east of the lagoon.



American Camp looking west from the Redoubt. Bellevue Farm was located south of the Laundress quarters pictured here.



Historically, American Camp was located on the edge of a ridge above Bellevue Farm with coniferous forests north and west of the complex and grassland prairies extending east toward San Juan Town. Although much of the forest cover has changed, Existing landscape organization echoes these historic patterns. Access is from the west, off of Cattle Point Road. This road continues east through the site to the Redoubt and Pickett Lane with access to South Beach and Jakle's Lagoon. The land surrounding the camp site is open and gently sloping north to Griffin Bay and south to Haro Strait. Mt. Finlayson is the eastern edge of the site and the highest point on the south end of the island at 295'.

LEGEND/NOTES/SOURCES

Aerial photograph, Flight no. 26C, 5/78. On file, NPS, Pacific Northwest Regional Office, Seattle, Washington.

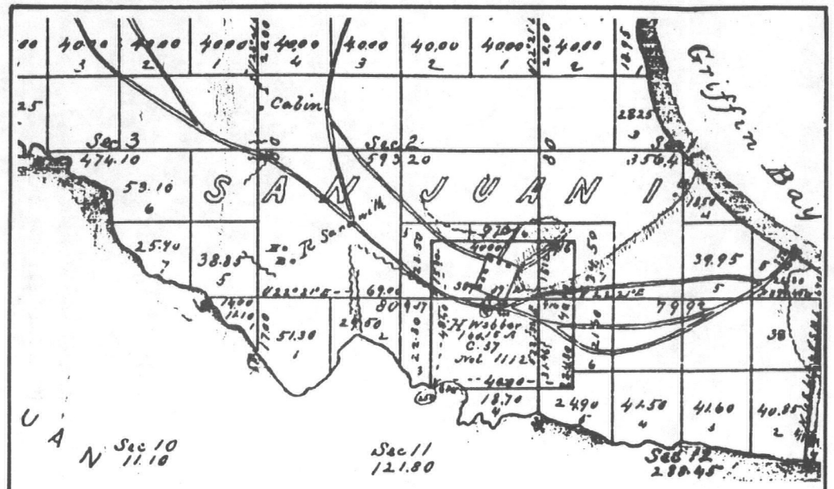
Map of the Southeast End of San Juan Island, traced in 1872 from a map drawn by Lt. James Forsyth ca.1860. (National Archives, Cartographic Branch, Washington, D.C.: SAJH map file)

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

LANDSCAPE ORGANIZATION

AMERICAN CAMP

San Juan Island National Historical Park



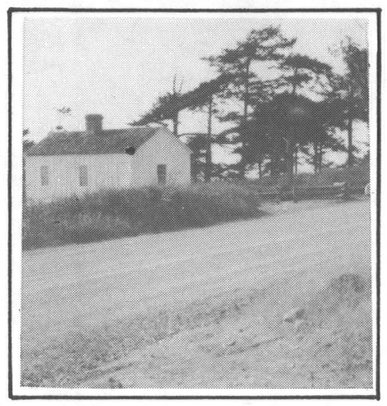
Historic roads in the vicinity of American Camp, 1874.



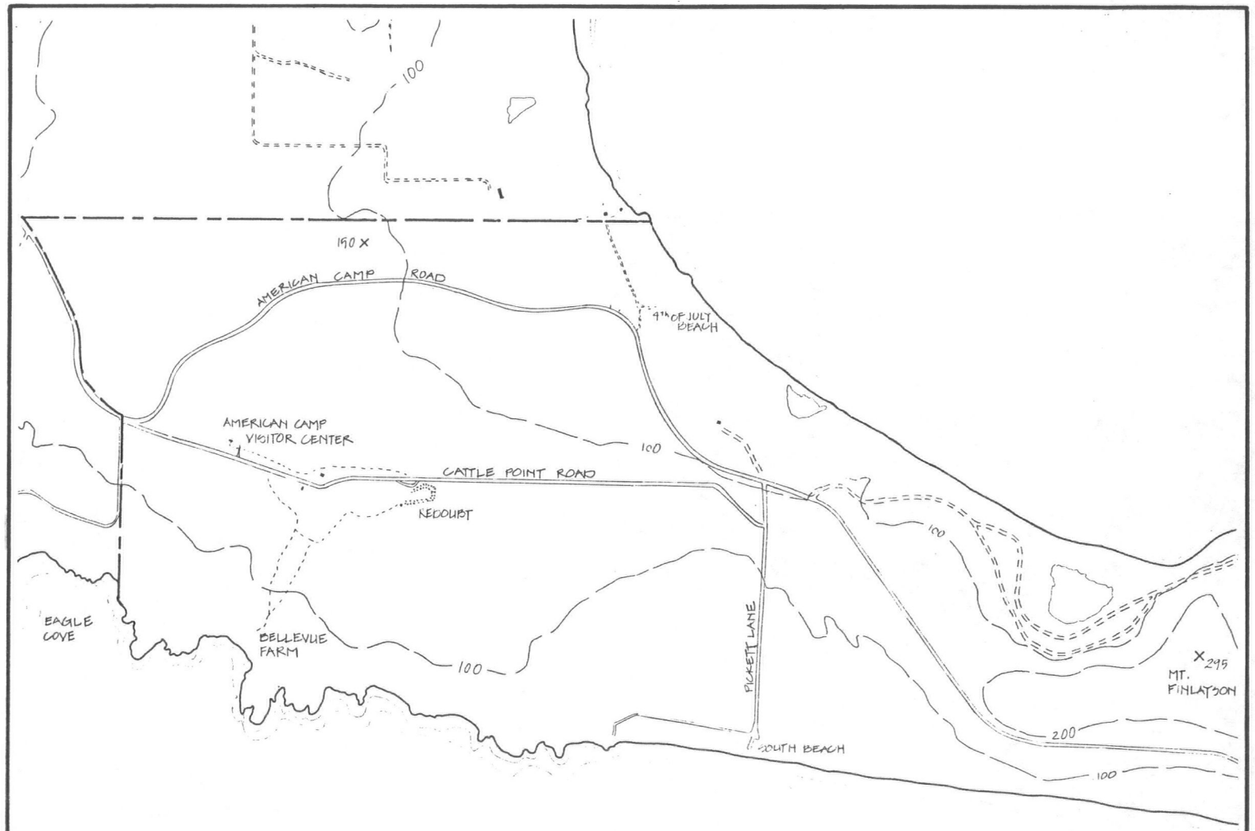
Mown interpretive trail near the camp site.View from the east.



Interpretive trail head at the visitor center parking lot.



Cattle Point Road in front of the laundress quarters as it cuts through the historic site. View from the east.



Existing circulation patterns in the vicinity of American Camp.

Historic roads in the vicinity of American Camp were relatively extensive,linking the north end of the island with the camp,San Juan Town and points east.These routes,established early by the Hudson's Bay Company and the American military,remained until 1900,when major land uses in the area changed.
Current access to the site is off of Cattle Point Road,six miles south of Friday Harbor.The road leads to a small parking area next to the visitor center,and slices east through the site to the Redoubt.An interpretive trail from the visitor center leads to the camp site,the Redoubt and Bellevue Farm before circling back to the visitor center.

LEGEND/NOTES/SOURCES

Aerial photograph, Flight no. 25C,5/13/78. On file, NPS, Pacific Northwest Regional Office, Seattle, Washington.

Photo file - San Juan Island National Historical Park
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

Washington State Department of Natural Resources. Government Land Office Map, Township 34 North, Range 3 West, Willamette Meridian, Washington Territory, 1874.

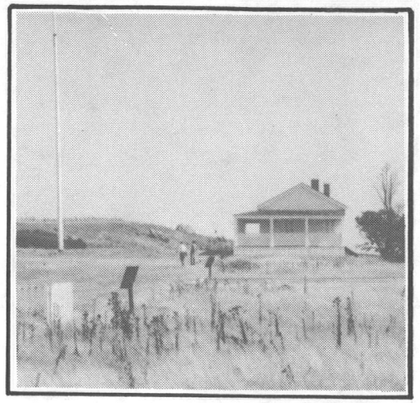
CIRCULATION PATTERNS

AMERICAN CAMP

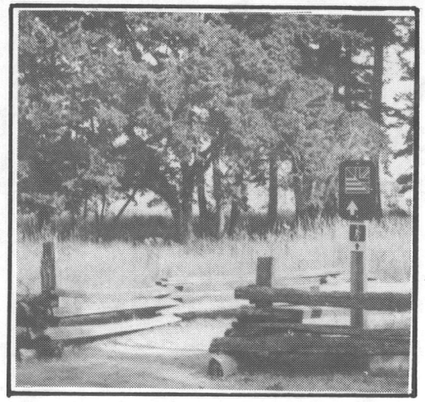
San Juan Island National Historical Park



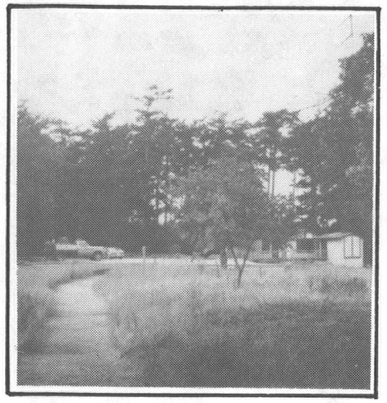
Agricultural land uses at American Camp ca. 1900. View looking west from the Redoubt.



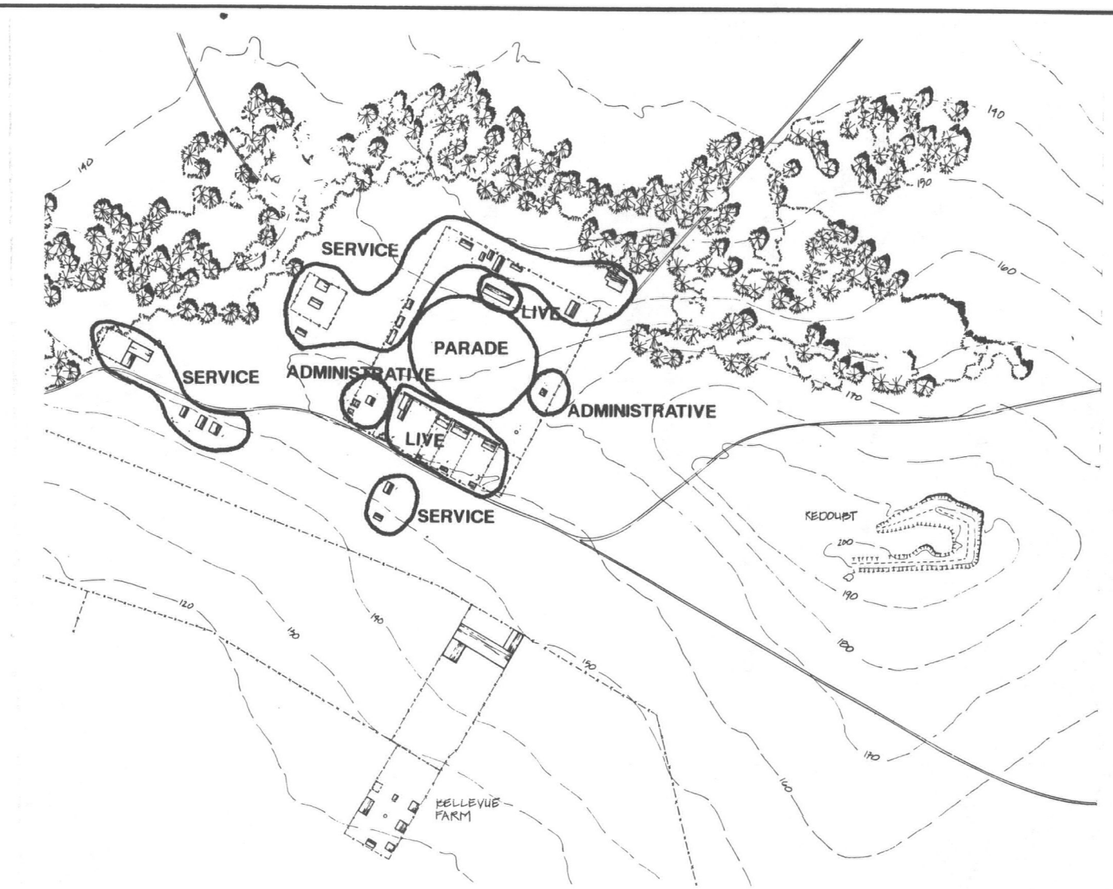
Current land uses at the American Camp site focus on interpretation of the historic scene.



Trails create the physical link among different sites and land use activities.



NPS offices and visitor facilities are located directly west of the historic camp site.



Historic land use patterns.

Land uses at American Camp during the historic period focussed on the area around the fenced complex. Officers and enlisted men lived within the enclosure and the majority of service facilities for the camp were close by. Off-site activities included target practice near the Spring Camp site, horseback riding and horse racing on the open prairie southeast of the camp, and various recreational activities in San Juan Town. Existing land uses at American Camp revolve around interpretation of the historic scene. Visitor services are located west of the site and an interpretive trail links the camp site, the Redoubt, Bellevue Farm and the visitor center.

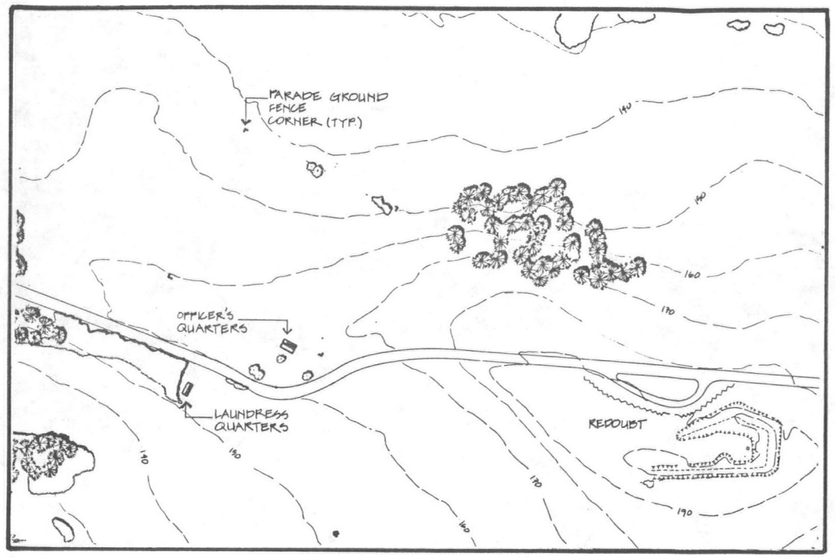
LEGEND/NOTES/SOURCES

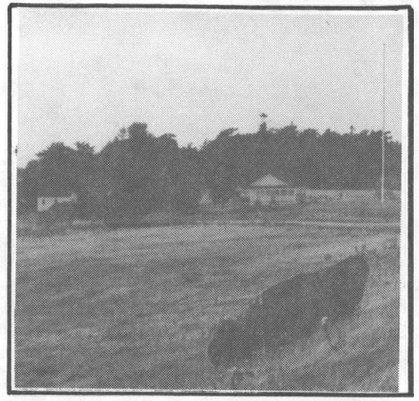
Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

LAND USE PATTERNS

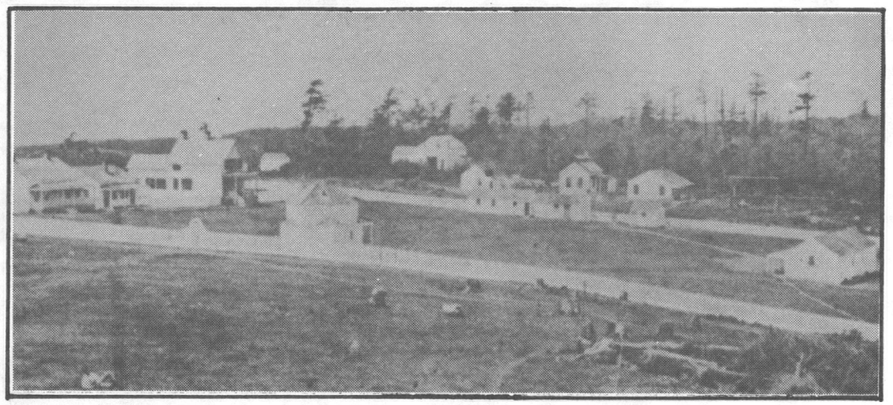
AMERICAN CAMP

San Juan Island National Historical Park

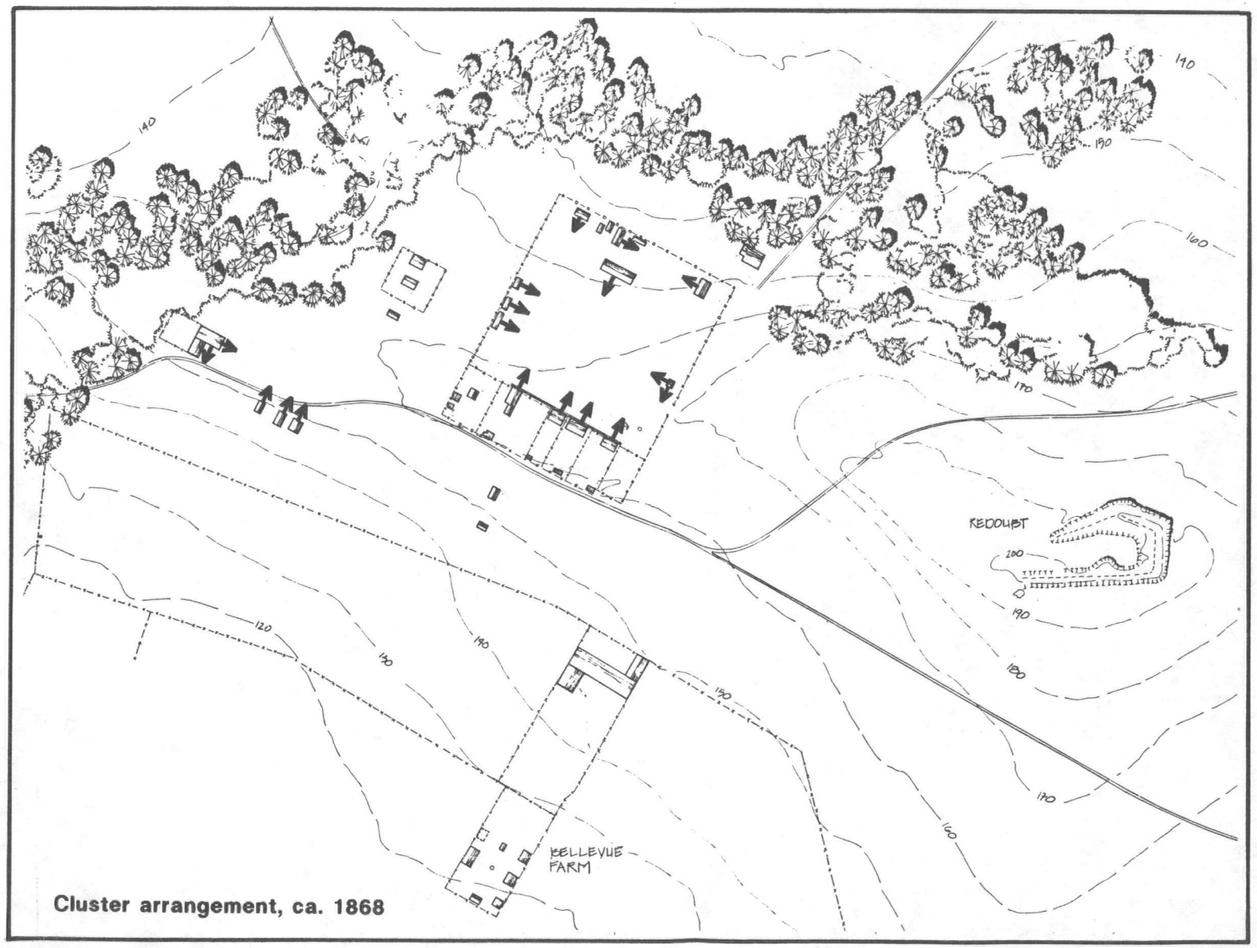




The officer's quarters and the laundresses quarters are the only buildings remaining from the historic period. View looking W from the Redoubt.



The American encampment ca. 1868.



Cluster arrangement, ca. 1868

Historically the officers' quarters at American Camp were sited in a single row facing the parade ground with barracks for the enlisted men across the parade, facing officers' row.The messroom and the bakery were clustered behind the barracks with administrative offices for the camp located on the edges of the parade ground. All of these structures were enclosed by an extensive fence that defined the primary encampment. Other service related buildings were oriented along roads or as discrete complexes. Because only two buildings and the Redoubt remain at the site today, these structural relationships are not evident.

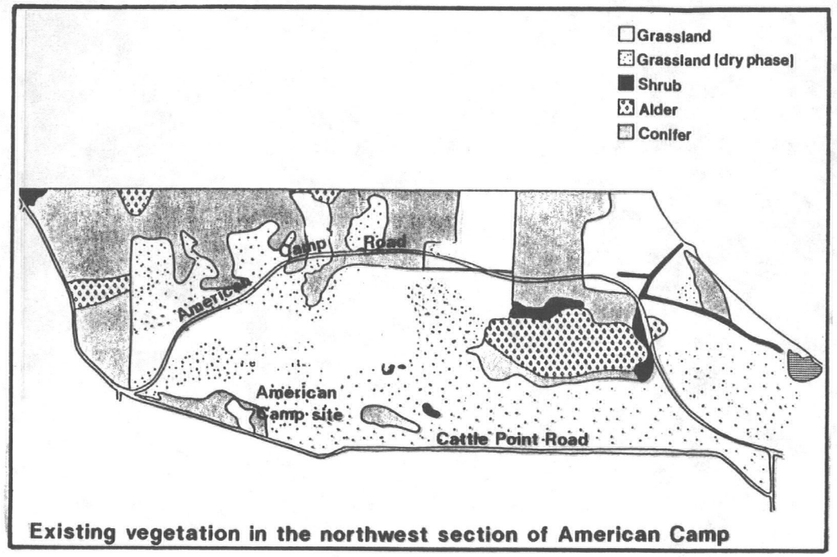
LEGEND/NOTES/SOURCES

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

CLUSTER ARRANGEMENT

AMERICAN CAMP

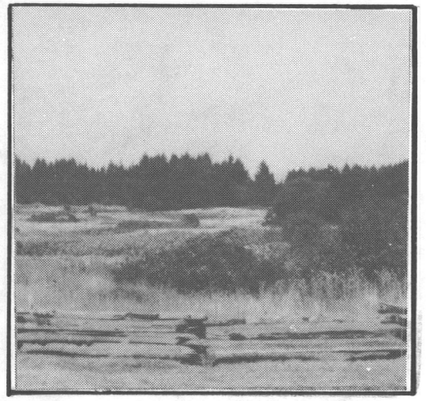
San Juan Island National Historical Park



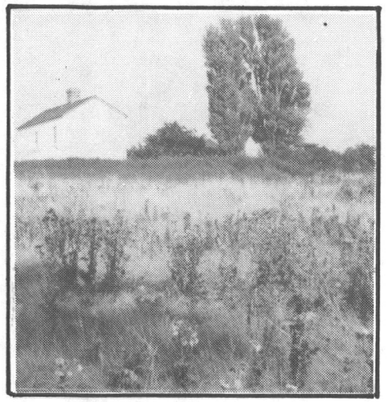
Existing vegetation in the northwest section of American Camp



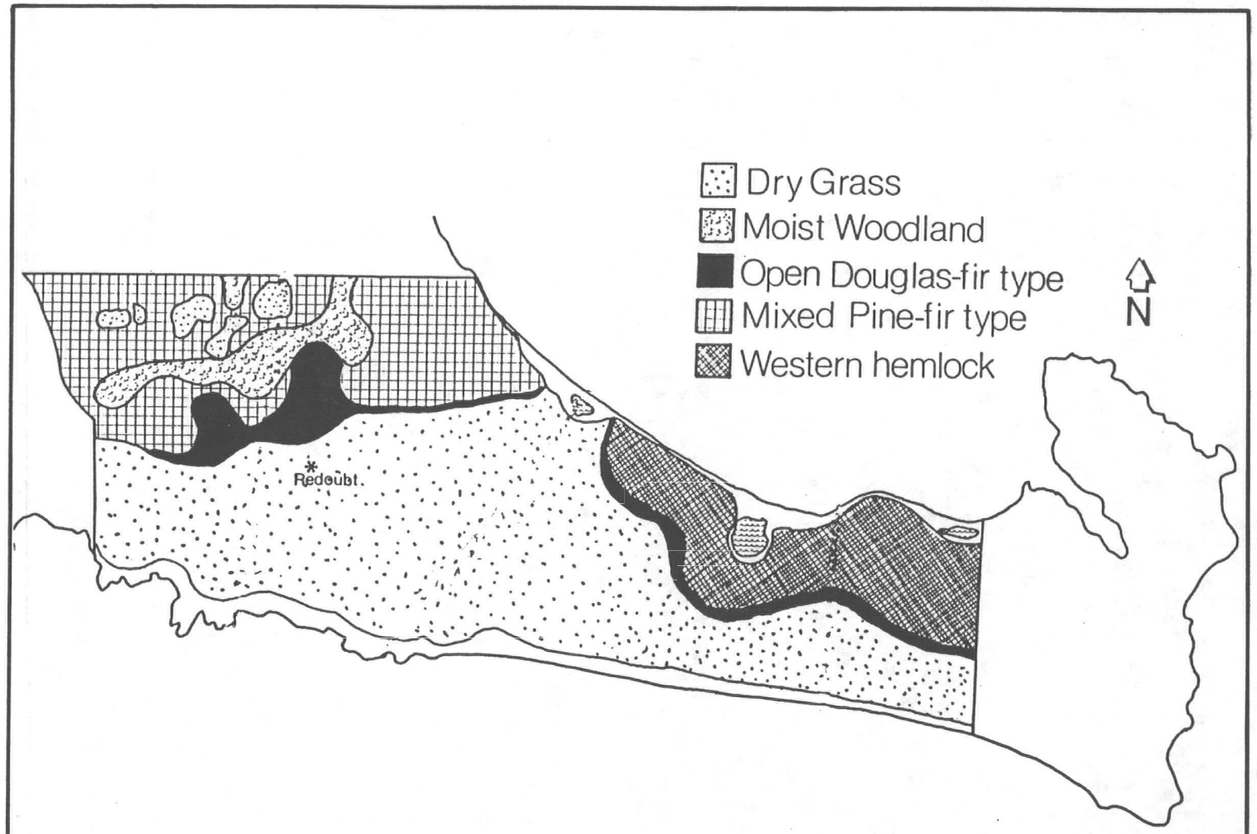
This stand of conifers near the visitor center is one of only two areas remaining from the large forest originally surrounding American Camp.



Area north of the camp site has undergone the most significant change from forest to grassland.



Non-native grasses and noxious weeds have invaded the prairies east and south of the site.



Vegetation in the vicinity of American Camp, ca. 1859

Historically American Camp was located on a ridgeline and vegetative ecotone, with grassland south of the ridge and forest to the north and west. Douglas fir, grand fir and lodgepole pine dominate the ridge, with hardwoods and grasses filling out depressions and lower areas north of the site. Between 1859 and 1870 portions of the forest immediately around the camp were harvested and used in the construction of the camp buildings. Subsequent to the American military occupation, agricultural land uses on the south end of the island favored an increase in the grassland cover at the site which remains today. Two remnant groves of fir trees next to the camp site and the Redoubt date from the historic period.

LEGEND/NOTES/SOURCES

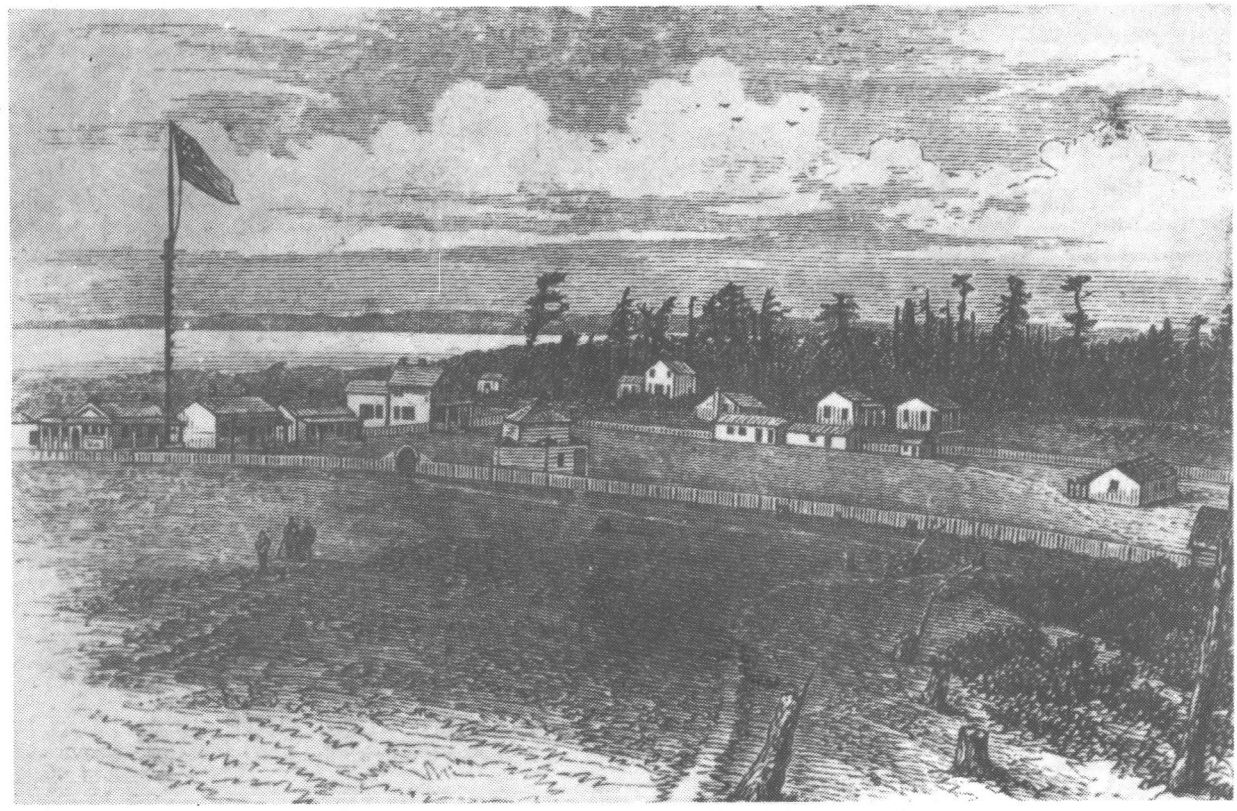
Historic Landscapes of San Juan Island National Historical Park, by James Agee. Seattle: National Park Service Cooperative Park Studies Unit, University of Washington, 1984.

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

VEGETATION PATTERNS

AMERICAN CAMP

San Juan Island National Historical Park



Introduction - Design Recommendations

Design recommendations for American Camp are based on an analysis and evaluation of significant historic landscape features and components discussed in this report. The purpose of the recommendations is to provide an appropriate design framework and programatic basis for the development of design alternatives for American Camp. The recommendations serve as guidelines and are organized into five program areas: Buildings and Foundations; Access and Circulation; Plant Materials; Special Features, Site Details and Materials; and Maintenance and Management Concepts. For each program area the recommendations address the following:

1. stabilization and preservation of existing significant historic resources;

2. removal of nonhistoric components that compromise the historic scene;

3. and enhancement or reestablishment of significant historic features that are ill-defined or can be verified archeologically.

Buildings and Foundations

1. Both historic buildings on site -- the officers' quarters and the laundress quarters -- should be maintained and included in a cyclic maintenance preservation program.

2. A stabilization program should be developed for the earthen redoubt that will minimize potential impact from human use and erosion.

3. Consideration should be given to rehabilitation of the interior finishes of these structures and the potential adaptive reuse of one or both.

4. Some way of visually "calling to mind" the amalgamation of buildings and their function should be part of the design.

5. The locations of building sites should be clearly identified and archeologically verified prior to any design treatment.

6. New structures and buildings that do not directly relate to the historic site should not be sited on the historic grounds or in view corridors surrounding the core area.

7. A building for NPS offices, exhibits, and visitor contact should be retained at the site.

Access and Circulation

Vehicular Systems

1. The access road from Cattle Point Road to the visitor center should be retained as the primary vehicular access to the site (see below).

2. Reduce the visual and structural impacts of the access road (as it cuts through the historic site) by changing it from a "through" road to a "limited access" road.

3. The layout and design of the existing parking lot at the visitor center should be reviewed and redeveloped, if necessary, and in conjunction with a review of the visitor center site in general.

4. New roads on the historic site, other than service roads around the visitor center or historic roads reestablished in association with interpretive walks, are discouraged (see 5 below).

5. Consideration should be given to selective reestablishment of historic roads and paths for interpretive use or in conjunction with the comprehensive design development for the historic landscape.

6. Parking for bicycles at the site should be provided.

Pedestrian Systems

7. Review and redevelopment of the existing interpretive route including the form of the path itself, materials, alignment, staging areas and visitor orientation, is strongly encouraged.

8. Consideration should be given to expansion of the existing interpretive trail to San Juan town and or/nearby picnic areas as a way to expand site use and create a stronger physical connection to adjacent park areas.

9. Consideration should be given to replacement or partial reestablishment of the historic boardwalk in front of officers row, both as part of the interpretive trail and as a historic feature associated with the site.

10. Random or haphazard footpaths

should be kept to a minimum in order to reduce impact on the historic scene and unnecessary stress on vegetation.

11. Handicap access to the primary exhibits should be provided in any new design treatment.

Plant Materials

1. Recommendations made in "Considerations for Management of Grassland Vegetation at San Juan Island National Historical Park" (Romo, 1985) should be incorporated into design proposals for American Camp, as part of natural resource planning for the park (see Appendix).

2. Comprehensive revegetation programs for American Camp should be considered and evaluated as appropriate to the historic scene and context of the site, and in regard to the overall resource management objectives of the park.

3. Consideration should be given to reestablishment of the camp vegetable garden or portions of it for interpretive purposes or as part of a management option (see below).

4. Use of non-native plant materials for screening, for creating visual boundaries or for ornamental purposes within the historic zone is strongly discouraged.

Special Features, Site Details and Materials

1. Some type of treatment such as replacement of the fence surrounding the historic encampment should be used as a way to define the site and give the visitor a better sense of scale and enclosure.

2. It is appropriate to selectively replace other historic fences including the fence around the hospital complex, the corral and the fences that enclosed the HBC fields.

3. The historic gate (by the flag pole) could be reestablished as a transition point between the encampment and other related historic features.

4. A list of appropriate plant materials and structural elements, including site furniture and detail features for the historic site, should be developed in conjunction with the Visual Compatability Guidelines for the park.

Maintenance and Management Concepts

1. It is important to maintain what remains of the spatial integrity of the historic site by protecting both existing ground patterns, such as the open parade ground, and the broader spatial relationships among primary historic features and sites within the historic zone as defined in this study. These areas and features create and embody the historic context and historic scene of the landscape as a whole.

2. Consideration should be given to enhancement of Bellevue Farm and San Juan Town as historic sites that contribute to the interpretive story of American Camp.

3. Maintain all view sheds in a manner that does not disrupt the historic scene. Using vegetation to "frame" views is appropriate but no plant materials or structures should obstruct views to the site or inhibit views out from the site.

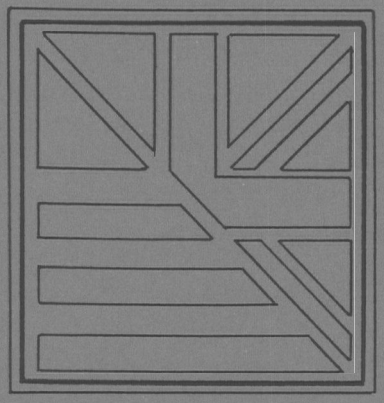
4. Keep all modern intrusions, such as above ground utility lines, maintenance structures, parking areas, and other elements, that

conflict with the historic scene, well screened or preferably off of the historic site altogether.

5. Further site work and archeological investigations are recommended for verifying the location of several buildings and the cemetery. Marking these sites in some way should be considered in development of a large-scale plan.

6. Consideration should be given in the design proposal for establishment of grazing (sheep) on a portion of the land, south of American Camp. This area was historically used by the Hudson's Bay Company for grazing livestock at Bellevue Farm. Historic property leasing is a viable option for this area.

DESIGN ALTERNATIVES



Introduction - Design Alternatives

To facilitate development of design alternatives, the Park has defined a series of operational and management goals for American Camp. In general, these goals focus on enhancement of the historic scene through identification and treatment of historic features. The primary goal expressed by the park is to create a better "interpretive environment." The role of the Cultural Resource Division in this study is to develop a range of appropriate design alternatives that respond to these goals, while preserving the integrity of historic resources. In this context, every alternative must fit within the parameters of historic landscape integrity (as discussed in this report), reflecting acceptable types of development and appropriate degrees of development, as outlined in NPS-28 and current NPS policies for management of historic and cultural landscapes. Guidelines for development of these alternatives are included in the design recommendations for American Camp, pages 59-62.

There are four individual alternatives for American Camp presented in this report, ranging from "no action" to highly designed proposals, with new structures and facilities. Although the alternatives have several design features in common and can be considered sequentially, each individual alternative is proposed as an end in itself, and reflects the site fully developed. It should be noted, however, that the alternatives also reflect "packages" of landscape features that were historically connected and function as a system. For example, roads and paths function as a system of movement through the landscape. Historically, as the structural complex of American Camp developed, circulation systems also developed. As a landscape feature in the design alternatives, circulation systems that echo historic patterns and degrees of development are scaled to fit with other historic landscape components. In this regard, careful consideration must be given when substituting or interchanging design features among alternatives. For example, the comprehensive trail system in alternative three can easily be incorporated into alternative two but would be overdeveloped and inappropriate in alternative one. It is important to maintain these "packages" as they relate to the larger interpretive concepts within each design alternative. The alternatives for American Camp include proposals for Bellevue Farm, San Juan Town, the American Camp cemetery, and the Spring Camp site near South Beach.



Alternative I (no action)

This alternative proposes that operations and management remain as they are. Existing facilities will continue to be used and maintained; interpretation of historic resources will remain unchanged. No new structures will be added to the site.

ELEMENTS OF THE PLAN

A. American Camp

-- No changes to the site are proposed.

B. Bellevue Farm

-- No changes to the site are proposed.

C. San Juan Town

-- No changes to the site are proposed.

D. American Camp Cemetery

-- No changes to the site are proposed.

E. Spring Camp Site

-- No changes to the site are proposed.

GENERAL IMPACTS

-- A rudimentary understanding of the significance of the site is, and will continue to be, obtained by visitors.

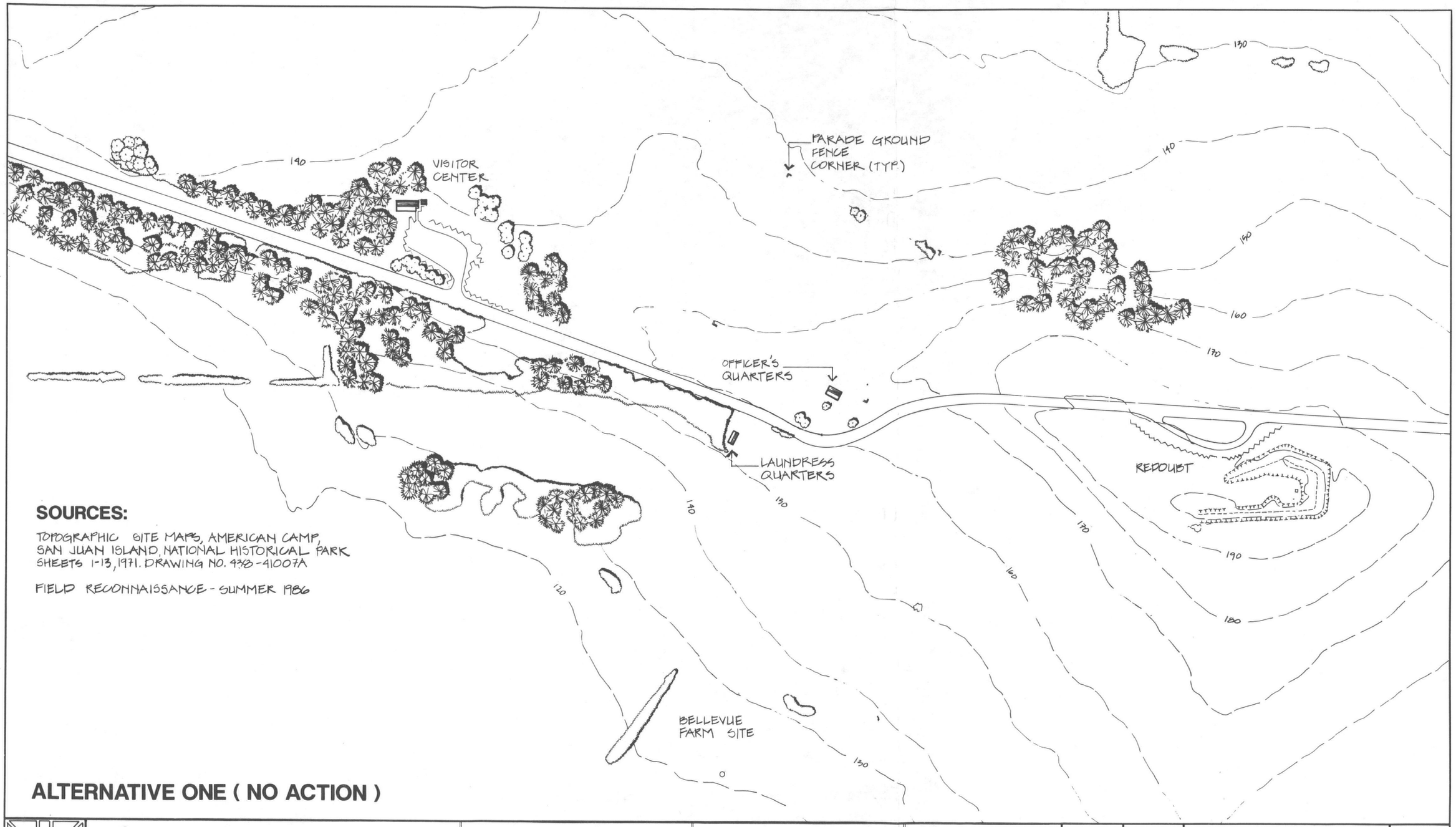
-- The location, scale and form of non-extant historic structures (buildings, fences, boardwalk, etc.) will remain unclear and the historic scene as a whole will remain "sketchy" at best.

-- The country road will continue to intrude on the historic scene.

-- The redoubt will continue to erode and be damaged by existing circulation patterns jeopardizing long-term structural integrity of the resource.

-- Regeneration of the (historic) forest as planted will be slow and, if allowed to continue, may or may not reflect an appropriate cover/pattern.

-- Bellevue Farm, San Juan Town and the Spring Camp site will remain isolated and their historic relationship to one another and the main encampment will be unclear.



SOURCES:

TOPOGRAPHIC SITE MAPS, AMERICAN CAMP, SAN JUAN ISLAND, NATIONAL HISTORICAL PARK SHEETS 1-13, 1971. DRAWING NO. 438-41007A

FIELD RECONNAISSANCE - SUMMER 1986

ALTERNATIVE ONE (NO ACTION)

SAN JUAN ISLAND NATIONAL HISTORICAL PARK **HISTORIC LANDSCAPE STUDY**	NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCE DIVISION	100 50 0 100 200 300 SCALE 1" - 100'	NORTH	DESIGNED: DRAWN: GILBERT TECH. REVIEW: DATE: 9/86	SUB SHEET NO.	TITLE OF SHEET **EXISTING CONDITIONS AMERICAN CAMP**	DRAWING NO. 80013 438 - PKG. NO. — SHEET 4 OF 13

Alternative II

This alternative is commemorative in nature and focuses on limited new structural development to enhance interpretation and identification of significant resources.

ELEMENTS OF THE PLAN

A. American Camp

-- The visitor center and related facilities continue to be used as they are until a new visitor center is funded. The existing site and two alternative sites are identified for locating a new visitor center (see drawing). Additional interpretive exhibits are located in the historic officers' quarters and the laundress quarters at the camp site.

-- The county road provides access to the site. If it remains, it will continue to be a significant intrusion; the preferred option is to remove it as indicated.

-- The interpretive route is redeveloped, providing the opportunity for a chronological interpretation of the historic story and setting the historic context. New waysides are developed.

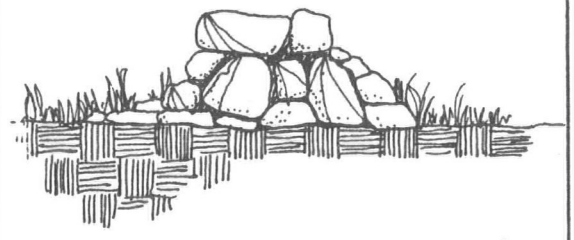
-- A portion of the historic picket fence surrounding the parade ground is reestablished.

-- The redoubt is restored and stabilized. If fencing is required for rabbit exclosures, it will be added to the design proposal.

-- All non-extant historic buildings are identified (archeologically) and marked. Proposed treatments for marking sites include:

   a. mowing the foundation footprint and signing.

   b. recreating the stone foundation footings in the building footprint (stones for the treatment exist throughout the site).



Stone foundation footings can be reintroduced to indicate the size and location of buildings throughout the encampment.

-- Portions of the forest north and west of the main camp are reestablished using data attained from current Resource Management test plots.

B. Bellevue Farm

-- Existing trail remains the primary access to the site.

-- All non-extant historic buildings are identified (archeologically) and marked. Proposed treatments for marking sites: see above.

C. San Juan Town

-- A trail from the Jakel's Lagoon wayside to the site is established. New waysides are developed.

-- All non-extant historic buildings are identified (archeologically) and marked. Proposed treatments for marking sites: see above.

D. American Camp Cemetery

-- Site is marked from the interpretive trail.

E. Spring Camp Site

-- Site is marked from the interpretive trail.

GENERAL IMPACTS

-- Identification and delineation of historic site features will greatly enhance and define the historic scene. The visitor will have a good understanding of the size, scale, and location of individual buildings and the relationship among adjacent historic sites.

-- Interpretive opportunities are increased by adaptive reuse of the existing historic structures for exhibits.

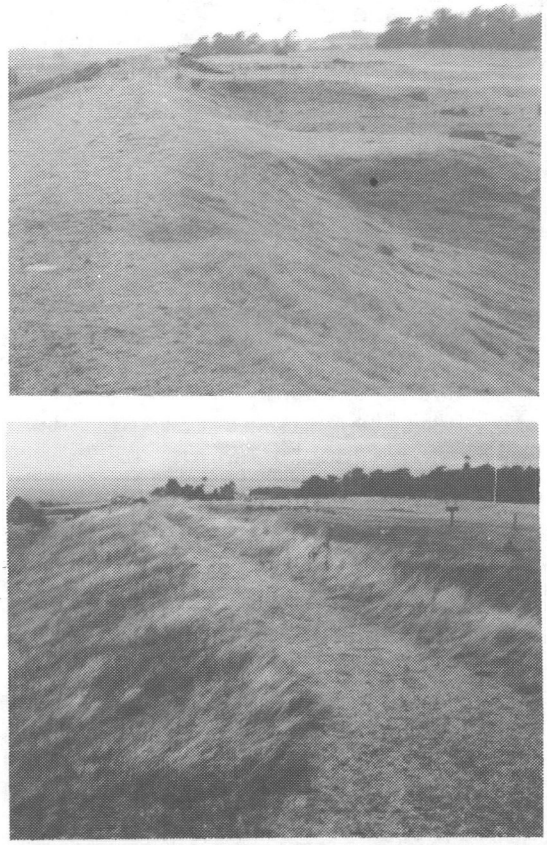
-- The county road will continue to intrude on the historic scene; the preferred option is to remove it as indicated.

-- The redoubt will be restored and stabilized. A historic structure report will be prepared, assuring long term preservation and maintenance of the resource.

-- Partial reestablishment of the historic forest will help define the historic scene and create a visual boundary framing the historic site, while maintaining views to Mt. Baker.

-- A greater emphasis on the chronological evolution of the area will help the visitor grasp the historical events leading up to joint occupation. This trail will also enhance ties between sites.

-- General park maintenance requirements will increase; an increase in staff and budget will be required.



The redoubt in 1975 (above) and in 1986 (below). Stabilization and preservation are required to mitigate impacts from visitor use and erosion. (On file PNRO, Seattle, Washington)

OPTIONAL VISITOR CENTER LOCATION

PROPOSED ROAD REMOVAL

MAIN GATE

OPTIONAL VISITOR CENTER LOCATION
JUNCTION OF COUNTY ROAD AND PICKET LANE

PROPOSED ROAD REMOVAL

130 140 150 160 170 180 190 200

LEGEND

BUILDING SITES

- EXISTING BUILDING - historic buildings - cyclic maintenance; adaptive reuse for interpretive exhibits
- NON-EXTANT HISTORIC BUILDING - size and location marked with stone foundation footings
- NON-EXTANT HISTORIC BUILDING - less significant structures, signed and mown to mark location

CIRCULATION

- COUNTY ROAD - existing
- COUNTY ROAD - segment eliminated to reduce impact on the historic scene
- INTERPRETIVE TRAIL - graded and mown surface

FENCES

- SPLIT RAIL FENCE - used for historic fences associated with the HBC and used in adjacent landscape areas as indicated for continuity and fit with the historic scene.
- PICKET FENCE - historic fence, reestablished around parade ground

VEGETATION

- FIR TREES - existing
- FIR TREES reestablished "historic forest"
- DECIDUOUS TREES - existing
- HEDGEROW - existing

stone foundation footing

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

100 50 0 100 200 300

SCALE 1"-100'

NORTH

ALTERNATIVE TWO AMERICAN CAMP

DRAWING NO. 438 - 80018
SHEET 6
OF 13

Alternative III

This alternative focuses on enhancement of the "interpretive environment" and historic scene, through reestablishment and delineation of historic building sites, historic land use patterns, circulation systems, vegetation patterns and large-scale relationships among adjacent historic sites.

ELEMENTS OF THE PLAN

A. American Camp

-- A new visitor facility and administrative offices are constructed on the site (3 possible locations).

-- New parking and picnic areas are developed in conjunction with the new facility.

-- Two historic buildings are used for interpretive exhibits.

-- A new trail head and parking area are developed at the redoubt.

-- The county road through the historic site is removed (between the existing visitor center and the redoubt).

-- A series of interpretive trails are developed (following historic roads) to provide different "levels" of circulation to and through the historic sites. Three levels of trail are proposed:

a. Level one: a hard surface trail from the parking areas to the visitor center and to the main camp site;

b. Level two: a path that is graded and mown, linking Bellevue Farm with American Camp and the redoubt;

c. Level three: a "primitive" trail, generally following the historic road alignment to San Juan Town and the Spring Camp site (South Beach).



As part of the design, all new trails should be marked in a consistant manner. (Photo by L. Hugie, NPS, 1987)

-- A trail following the historic road links the American Camp site with British Camp.

-- The historic picket fence is completely reestablished (including the gate) around American Camp.

-- The boardwalk in front of officers' row is reestablished.

-- All non-extant building sites are identified (archeologically) and marked. Proposed treatments for marking sites include:

  a. Mowing and signing (see ALTERNATIVE II);

  b. Placing stone foundation footings in the historic footprints (see ALTERNATIVE II);

  c. Constructing platforms to raise the level of the building to a more perceivable level. Platforms are constructed over foundation footprints (including porches). Floor plans, if available, are painted on the surface of the platform allowing the visitor to imagine the size and scale of the rooms;

  d. Ghosting structures, or framing the building (e.g. with no siding or roof) and reconstructing the structural outline only. Ghosted structures are highly visible and give the visitor a strong sense of building scale, shape and massing, without reconstructing the entire structure.

-- Portions of the forest north and west of the main camp are reestablished using data attained from current Resource Management test plots.

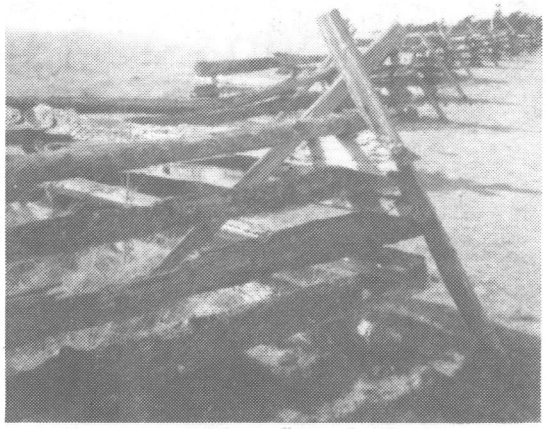
-- A camp garden is reestablished for interpretive purposes.

B. Bellevue Farm

-- The site is connected by a new loop trail as part of the larger trail system at American Camp. Paths within the complex are established for interpretive purposes.

-- Historic fencing (wood post and rail) is reestablished around the main complex of buildings.

-- Historic fencing (split rail with cross members) is reestablished to delineate HBC farm fields and to provide an enclosure for the possible/optional reintroduction of historic land uses (e.g. sheep grazing).

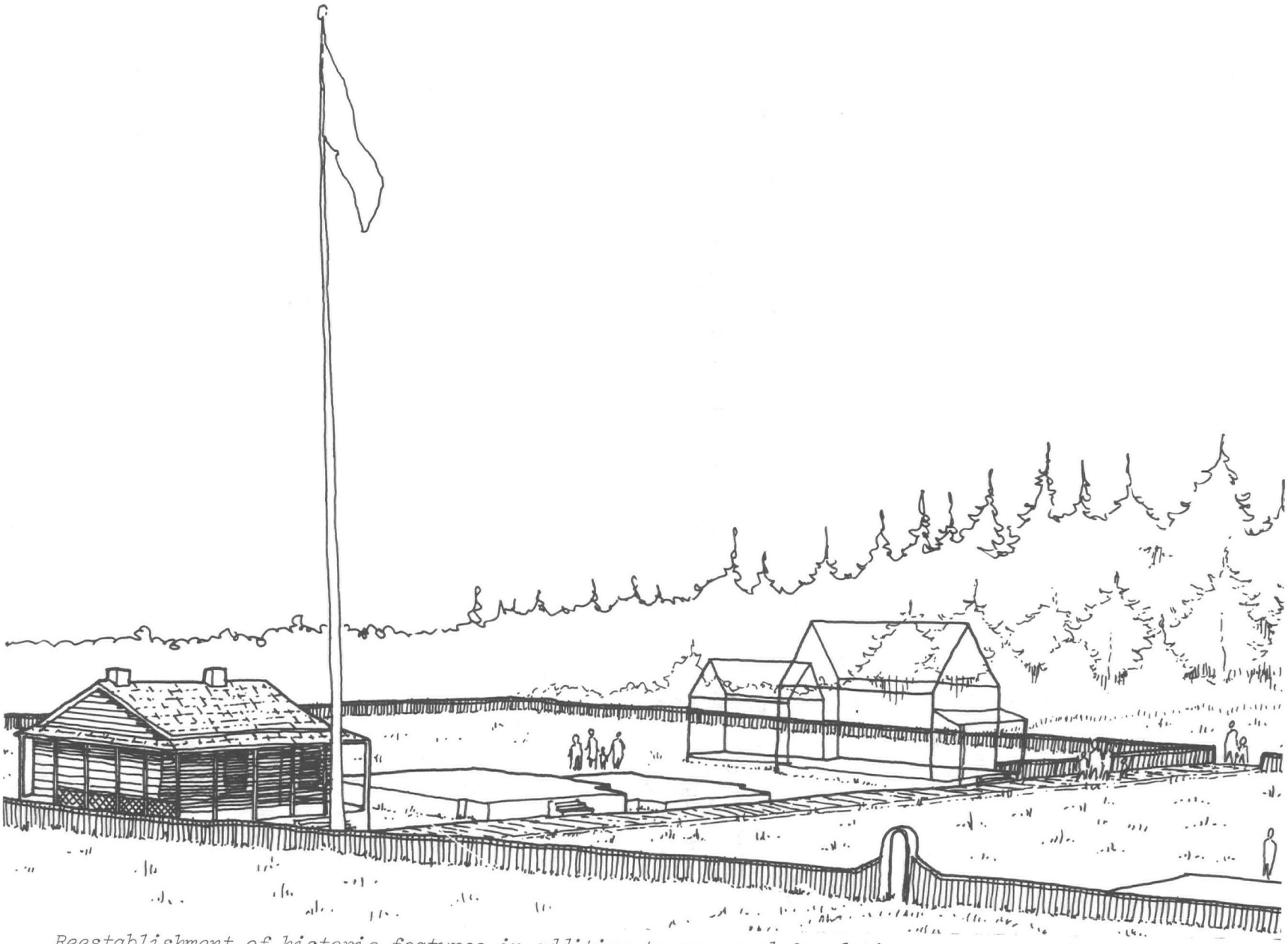


Additional fencing at Bellevue Farm should match the style pictured above. (Photo by L. Hugie, NPS, 1987)

-- All non-extant historic buildings will be identified (archeologically) and marked. Proposed treatments for marking sites includes:

  a. mowing and signing (see ALTERNATIVE II);

  b. Placing stone foundation footings in the historic footprints (see ALTERNATIVE II);



Reestablishment of historic features in addition to proposed foundation treatments will have a significant impact on the "readability" of the historic scene.

c. Reconstruction of the building chimneys (as per historic documentation).

C. San Juan Town

-- The site is physically connected to other historic sites by the trail system linking American Camp with adjacent historic sites. The trail to San Juan Town follows the historic military road (ca. 1860).

-- The wharf (historic) is reconstructed and adaptively used for contemporary boaters.

-- "sidewalks" through the town - informal in nature - are reestablished in conjunction with interpretive facilities.

-- All non-extant historic buildings are identified (archeologically) and marked. Proposed treatments for marking sites includes:

a. Signing building sites;

b. Constructing platforms (see above);

c. Laying out streets;

D. American Camp Cemetery

-- Signed/marked along interpretive trail

E. Spring Camp Site

-- Signed/marked along interpretive trail

-- integrated with loop trail using historic military road.

GENERAL IMPACTS

-- Reestablishment and marking of historic features and patterns throughout the site will enable the visitor to visualize the size, scale and dimension of the historic scene. The camp site and adjacent historic sites will "read" from a distance and the visitor will have a better understanding of key historic features and relationships.

-- The county road will no longer intrude on the historic scene.

-- The redoubt will be restored and stabilized and a historic structure report prepared, assuring long term protection of the resource.

-- A new trail head and parking area are located at the redoubt.

-- (partial) reestablishment of the historic forest will help define the historic scene and create a visual boundary framing the historic site.

-- The building locations and relationships among individual features at Bellevue Farm and San Juan Town will be visible and clearly understood.

-- Management opportunities are expanded by providing options for adaptive reuse of historic buildings and through reintroduction of appropriate historic land use.

-- With establishment of a comprehensive trail system, adjacent historic sites will be integrated into the American Camp story.

-- General Park maintenance requirements will increase; an increase in staff and budget will be required.

HISTORIC ROAD - TRAIL TO BRITISH CAMP

TRAIL HEAD AND STAGING AREA

OPTIONAL VISITOR CENTER LOCATION

MAIN GATE

RE-ESTABLISH BOARDWALK

INTERPRETIVE GARDEN

TRAIL HEAD AND STAGING AREA

HISTORIC ROAD - TRAIL TO SAN JUAN TOWN

OPTIONAL VISITOR CENTER LOCATION JUNCTION OF COUNTY ROAD AND PICKET LN.

HISTORIC ROAD - TRAIL TO SPRING CAMP SITE

150 140 130 120 110 160 190 180 170

officers' row

LEGEND

BUILDING SITES

- EXISTING BUILDING - historic buildings - cyclic maintenance, - adaptive reuse for interpretive exhibits
- NON-EXTANT HISTORIC BUILDINGS - ghosted frame
- NON-EXTANT HISTORIC BUILDING - raised platform

CIRCULATION

- INTERPRETIVE TRAIL - "level one" - hard surface
- INTERPRETIVE TRAIL - "level two" - graded and mown
- INTERPRETIVE TRAIL - "level three" - primitive

FENCES

- SPLIT RAIL FENCE - used on historic fence associated with the HBC and used in adjacent landscape areas as indicated
- PICKET FENCE - historic fence reestablished around parade ground (see ALTERNATIVE II)
- WOOD POST and RAIL FENCE - historic fence - reestablished around HBC farm complex.

VEGETATION

- FIR TREE - existing
- FIR TREE - reestablished historic forest
- HEDGEROW - existing

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

100 50 0 100 200 300

SCALE 1"-100'

NORTH

ALTERNATIVE THREE AMERICAN CAMP

DRAWING NO. 438 - 80018
SHEET 7
OF 13

Alternative IV

This alternative involves reestablishment of several historic features (as developed in other alternatives) and focuses specifically on expansion of visitor facilities at American Camp through new construction within the historic encampment.

ELEMENTS OF THE PLAN

A. American Camp

-- Eight new structures are built to provide additional visitor and administrative facilities (see below).

-- New parking and picnic areas are developed in conjunction with the new facilities.

-- New parking area and trail head at redoubt.

-- The county road through the historic core is removed.

-- Using historic roads, a series of interpretive trails are developed to provide different "levels" of circulation to and through the historic sites (see ALTERNATIVE III).

-- The historic picket fence is completely reestablished (including the gate) around American Camp.

-- The boardwalk in front of officers' row is reestablished.

-- All non-extant building sites are identified (archeologically) and marked. Proposed treatments for marking sites include:

  a. Mowing and signing (see ALTERNATIVE II);

  b. Ghosting structures (see ALTERNATIVE III);

  c. Constructing new buildings. Eight new structures are built similar in size and form to historic buildings, with representative facades. Each individual building will house one or more visitor facilities and/or administrative functions.

-- Portions of the forest north and west of the main camp are reestablished using data attained from current Resource Management test plots.

-- A camp garden is reestablished for interpretive purposes.

B. Bellevue Farm

-- Same as ALTERNATIVE III with the exception of proposed treatments for marking non-extant buildings. In this alternative, all identified building sites are ghosted.

C. San Juan Town

-- Same as ALTERNATIVE III with the exception of proposed treatments for marking non-extant buildings. In this alternative, all identified building sites in San Juan Town are ghosted.

D. Cemetery

-- Same as ALTERNATIVE III

E. Spring Camp site

-- Same as ALTERNATIVE III

GENERAL IMPACTS

-- Increasing the range of interpretive facilities sited throughout the American Camp will encourage visitor use and experience of the entire camp. If properly done, these new structures will further define the historic scene at American Camp. New facilities will provide much needed space for interpretive exhibits and visitor services at the site. Furthermore the park will have greater flexibility in development of their overall interpretive program. This new construction is in lieu of a single visitor center at another site. Additional staffing will be required.

-- Other impacts to the site are the same as those described in ALTERNATIVE III.

HISTORIC ROAD-TRAIL TO BRITISH CAMP

TRAIL HEAD AND STAGING AREA

WASHROOM

STORAGE

AUDIO-VISUAL RM. AND EXHIBITS

RANGER STATION-VISITOR CONTACT

WALK-IN INTERPRETATION

STORAGE

EXHIBITS

MAIN GATE

REESTABLISH BOARDWALK

INTERPRETIVE GARDEN

"WINDOW-BOX" EXHIBITS

TRAIL HEAD AND STAGING AREA

HISTORIC ROAD-TRAIL TO SAN JUAN TOWN

HISTORIC ROAD-TRAIL TO SPRING CAMP SITE

120 130 140 150 160 170 180 190

LEGEND

BUILDING SITES

- EXISTING BUILDING - historic buildings - cyclic maintenance - adaptive reuse for exhibits
- NEW BUILDING - similar to historic structure in size and form, with representative facades - used for interpretive and/or administrative facilities
- NON-EXTANT HISTORIC BUILDING - shooted frame (see ALTERNATIVE III)

CIRCULATION

- INTERPRETIVE TRAIL - "level one" - hard surface
- INTERPRETIVE TRAIL - "level two" - graded and mown
- INTERPRETIVE TRAIL - "level three" - primitive. trail follows historic road (ca. 1860) to San Juan town and the spring camp site.

FENCES

- SPLIT RAIL FENCE - used as historic fence associated with the HBC and used in adjacent landscape areas indicated
- PICKET FENCE (see ALTERNATIVE II)
- WOOD POST and RAIL FENCE - historic fence - reestablished around HBC farm complex.

VEGETATION

- FIR TREE - existing
- FIR TREE - proposed
- HEDGEROW - existing

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

100 50 0 100 200 300

SCALE 1"-100'

NORTH

ALTERNATIVE FOUR AMERICAN CAMP

DRAWING NO. 438 - 80018
SHEET 8
OF 13

ENDNOTES: PART TWO - AMERICAN CAMP

1. James K. Agee, Historic Landscapes of San Juan Island National Historical Park (National Park Service, Seattle, Washington 1984), pgs 26-27. Hereinafter cited as Agee 1984.

2. Erwin Thompson, Historic Resource Study: San Juan Island National Historical Park, Washington (Denver Service Center: National Park Service, 1972), page 37. Hereinafter cited as Thompson 1972.

3. Thompson 1972, 128

4. Thompson 1972, 131

5. Agee 1984, 16-26

6. Thompson 1972, 132

7. Thompson 1972, 133

8. Scholars believe that the two wooden structures from Pickett's early camp--the barracks and the hospital-- were dismantled, moved and reassembled at the new camp site. Evidence is inconclusive as to where these structures were sited or if they were used as originally intended.

9. Thompson 1972, 149

10. Agee 1984, 25

11. Thompson 1972, 150

12. Patricia Stallard, Glittering Misery, Dependents of the Indian Fighting Army (California: Presidio Press; Colorado: Old Army Press, 1978), page 13.
The Company laundress has been part of the American military since 1802, and although there was some variation from one post to another, the duties of a company laundress included nursing the sick, helping officers' families, and providing a homelife for their own families. In return they often received a small salary (for the wash), housing, a daily ration and the services of the post surgeon.

13. Thompson 1972, 153

14. Thompson 1972, 154

15. Thompson 1972, 154

16. Thompson 1972, 135

17. Thompson 1972, 138

18. This boundary was later surveyed and, as required by Congress in 1853, the official military reservation on the south end of the island was reduced from 760 acres to 640 acres in September 1875.

19. Thompson 1972, 139

20. Andrew Masich, "Military Life at American Camp," in San Juan Archeology Vol II, ed. Roderick Sprague (Moscow, Idaho: University of Idaho, 1983), pgs. 459-475

21. Although the garrision was largely confined to the vicinity immediately adjacent to the encampment, part of the regular military duty included traget practice at the range located on the beach below the spring camp site.

22 Thompson 1972, 141

23. Thompson 1972, 153

    The historical photograph that shows American Camp during this period is a view from the east. As a result this structure is not visible - blocked by the two-story officers' house.

24. Thompson 1972, 153

25. Thompson 1972, 155

26. Thompson 1972, 154

27. The telegraph reached San Juan island sometime prior to 1866.

28. U.S. National Archives, Map of the U.S. Military Reservation at the south easterly portion of San Juan island, Washington Territory, 1874. This road also lead to George Jakle's homestead.

29. Thompson 1972, 160

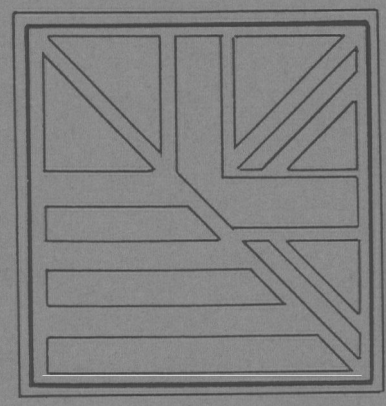
30. Thompson 1972, 158

31. Thompson 1972, 160

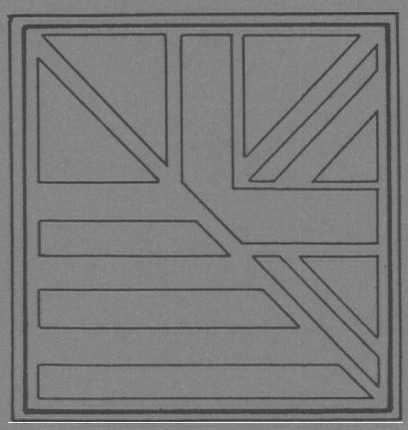
32. Mrs. H. A. Allen, Collected letters, 1868-1872 on file at San Juan Island National Historical Park.

33. Agee 1984, pgs. 31-36

PART THREE
BRITISH CAMP



RESEARCH



Current Conditions ■ Historical Overview ■ Archeological Summary

Current Conditions

Access and Circulation

Vehicular access to British Camp is off of West Valley Road, nine miles north of Friday Harbor. A park access road drops west from the main road, leading to a parking area. From this point, visitors can take a trail up to the British Camp Cemetery on Young Hill, or follow a dirt trail down to the camp site and primary exhibits. A visitor contact area is located in the historic barracks building. Unpaved service roads are located northeast of the site and on Young Hill.

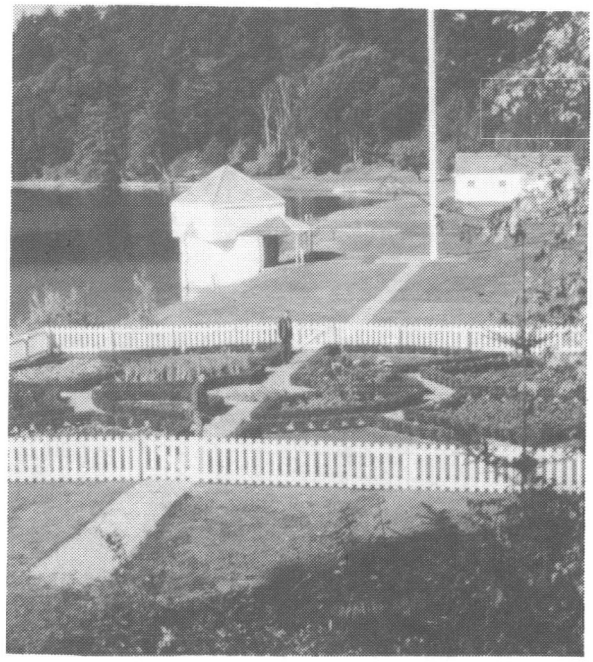
No formal interpretive trail exists, although exhibits and segments of trail are found on Officers' Hill and through the formal garden (see below).

Structures

Of the thirty primary buildings constructed by the Royal Marines between 1860 and 1870, four have been stabilized or restored, including the barracks, the blockhouse, the commissary storehouse and the hospital. The other primary building on site is the Crook house, which post-dates the historic period.

Several remnant historic structures remain at British Camp. Portions of the rock pilings that supported the large wharf, and portions of the wooden pier next to the commissary storehouse are evident at low tide along the shore of Garrison Bay. On Officers' Hill a number of rock walls, roads and pathways, building sites and vegetation from the historic period also remain. Wells which historically provided water to the wash houses behind the barracks remain, although they have been covered by the park for safety purposes. Remnant chimney foundations, fragments of several building foundations and a masonry wall associated with a bakery or forge can be found on the site.

In addition to these remnant structures, the formal garden at the base of Officers' Hill and the camp flagpole in front of the blockhouse have been reconstructed. The British Camp cemetery, a small plot with seven graves, enclosed by a picket fence, remains on the slope of Young Hill.



The reconstructed formal garden at British Camp, with the block-house and commissary storehouse in the background. (Photo by C. Gilbert, NPS, 1987)

Vegetation

British Camp is surrounded by an evergreen forest with maple and alder on the lower slopes, and fir and madrona trees on rock outcrops around Bell Point and Garrison Bay. Grass covers the parade ground and several individual trees from the historic period exist on the site, including several on Officers' Hill, the cedar trees in the middle of the parade ground and the large maple by the formal garden. Fourteen pear trees northwest of the commissary storehouse post-date the historic period. The reconstructed formal garden is planted with boxwood, dahlias, chrysanthemum and peony.

SOURCES

TOPOGRAPHIC SITE MAPS, ENGLISH CAMP, SAN JUAN ISLAND NATIONAL HISTORICAL PARK, SHEETS 1-4, WESTERN SERVICE CENTER, NPS, 1971. DRAWING NO. 438-41007A

TOPOGRAPHIC SITE MAPS, ENGLISH CAMP SAN JUAN ISLAND NATIONAL HISTORICAL PARK, SHEETS 1-7, NPS, 1987. DRAWING NO. 80017

FIELD RECONNAISSANCE - SUMMER - 1986

GARRISON BAY

GUSS ISLAND

POSSIBLY HOSPITAL

CROOK HOUSE

WELL

STOREHOUSE

BARRACKS

FLAGSTAFF

BLOCKHOUSE

PARKING AREA

GARDEN

	SAN JUAN ISLAND NATIONAL HISTORICAL PARK **HISTORIC LANDSCAPE STUDY**	NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCE DIVISION	100 50 0 100 200 300 SCALE 1" - 100'	NORTH	DESIGNED: DRAWN: GILBERT TECH. REVIEW: DATE: 9/86	SUB SHEET NO.	TITLE OF SHEET: **EXISTING CONDITIONS BRITISH CAMP**	DRAWING NO. 80018 438 - PKG. NO. SHEET 9 OF 13

Historical Overview

Site Selection

By the time the British and American governments successfully negotiated the joint occupation agreement in the fall of 1859, American troops had been on San Juan Island four months. Shortly after the agreement was signed, Captain Provost, in service with the British boundary commission and the Royal Navy, was dispatched to survey the island and select a suitable site for the British encampment. Primary requirements for the military camp included the availability of resources such as fresh water, timber, pasture land, and perhaps most important, access to a navigable harbor. Provost circumnavigated the island and identified seven potential sites, mapping and describing the attributes of each. Several of the sites Provost identified were on the south end of the island, near the American encampment; two were located further north along the west and east coasts of the island; and at least one site, number six, was on the northwest end of the island on the inland waters around Wescott Bay. Prehistorical evidence suggests that prior to the arrival of the British, the waters and land surrounding this particular bay had been used by Salish Indian tribes for several generations.[1] Indeed, the landscape at site No. 6 as described by the British survey party, was far from pristine. Lieutenant Roche, reporting from aboard Provost's ship, described the landscape along the northern shore of the island as an area "admirably adapted for an encampment.. ." The land, Roche continued, "... slopes gently to the S.W., is well sheltered, has a good supply of water and grass, and is capable of affording manoeuvering ground for any number of men that are likely to be required in that locality, there being a large extent of prairie land interspersed with some very fine oak Timber ".[2] In addition to all of these attributes, the site was located near the steamer route between Victoria and the Fraser River, providing a regular and reliable supply line.

The site itself was ideally suited for an encampment with several natural land boundaries. A broad level area extended back from the shore several hundred feet and a dense forest of fir, alder, cedar, and maple filled out this lower landscape. North of this area, a series of small plateaus gradually carried the land up in elevation. The same occurred to the east and south of the level area although the change in elevation and physical landforms was more dramatic. Southeast of the bay, rock outcrops on the lower slope of Young Hill, broke portions of the hillside into several land benches or natural terraces. Vegetative cover was not as dense on these drier slopes where douglas fir and madrona could dominate. Following this slope to its peak - 680 feet above the shore - one reached the top of Young Hill. Covered with a characteristically open oak-woodland, this landform provided a remarkable vantage point and created a physical boundary for the proposed campsite.

Shortly after Captain Provost filed his report in Victoria, the decision favoring site No.6 was confirmed, and on March 21, 1860,

eighty-six Royal Marines under the command of Captain George Bazalgette landed on the east shore of Garrison Bay.[3]

Because the British occupation of San Juan Island was, to a degree, planned, provisions from Victoria were ordered prior to departure and many building materials were brought ashore with the Marines when they landed. Tents were pitched along the shore, providing temporary shelter for the garrison as construction of the camp began.

The structural complex of the British Camp developed with a rich degree of order and hierarchy. Physically and symbolically the camp was divided into a series of "levels" according to rank and function. Officers' quarters were sited on the highest ground surrounding the camp while troops were housed in barracks located on the broad level grounds around the shore. Service buildings were clustered around the barracks and shoreline enclosing a parade ground. Most of these structures were oriented to the bay, which was the primary focus for the entire camp. Actual construction of the camp occurred in two periods of concentrated activity; an initial phase of development from 1860 to 1866; and a second period between 1867 and 1872, when several new buildings were added to the camp.

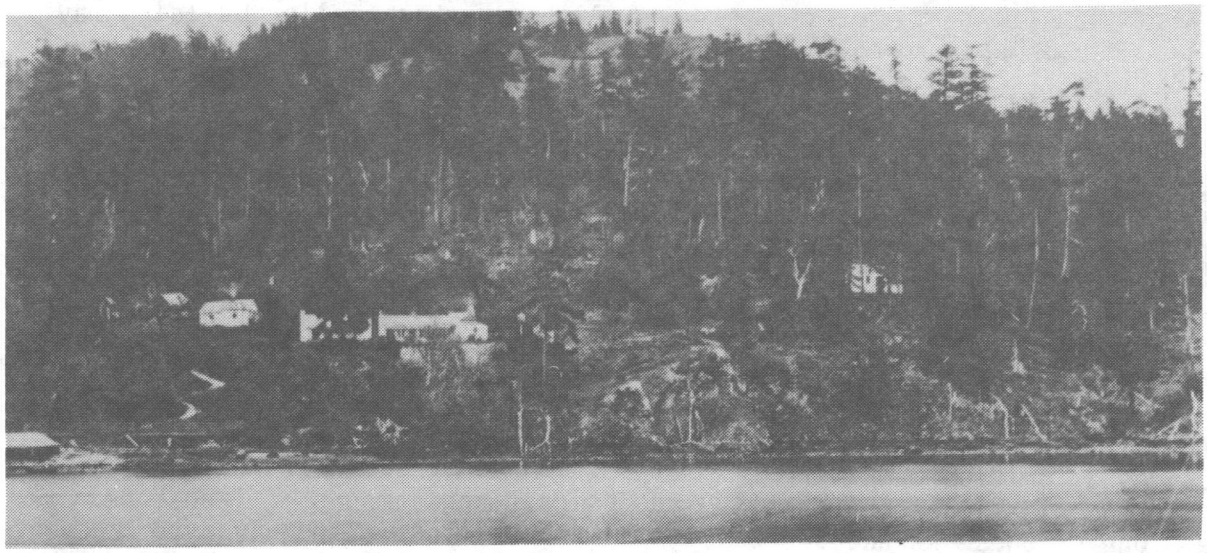


Earliest known photograph of the British Camp site on the shore of Garrison Bay. Note the early structures, the garden, dense vegetation and the earthen mound in the center. This mound and much of the landscape pictured here is the result of land use practices by prehistoric culture groups. (Provincial Archives, Victoria, B.C.: SAJH photo file)

Structural Development 1860-1866

Prior to the construction of permanent structures at the new camp site, a large amount of forest east and south of the shoreline had to be cleared. It was a slow process and as a result, the first permanent structures at British Camp were built in the clearing along the shore. One of these structures was a 20' x 40' wood-frame storehouse. Sited along the beach on the northern edge of the clearing and oriented east to west, it had a large door on the west facade, facing the bay. From the opening, a pier or "slip" extended into the water, facilitating the delivery and storage of provisions from supply ships. Also during this early period of development, time was taken to prepare and plant a vegetable garden on the southernmost edge of the clearing. Enclosed by a sapling fence, the rather sizable garden survived in one form or another throughout the British occupation of San Juan Island. As additional portions of the forest were cleared, barracks for the enlisted men were constructed. Set back from the shore approximately 300 feet, the first of several barracks buildings measured approximately 24' x 44' and could accommodate eighty soldiers. The building was wood-framed and oriented north to south with its long front facade facing west. A shingle roof extended over the front facade to form a narrow porch, and brick end chimneys were added to heat the structure. A second barracks was built and oriented in a northeast to southwest direction. Although this smaller building may have had another function when originally constructed (as the garrison grew during the early occupation), this structure was converted to serve as a barracks after 1866.[4] Two wells were dug behind the main barracks, providing fresh water for the camp. A wash house and "bath house" were sited nearby.

Quarters for the officers were built south of the barracks on the steep lower slope of Young Hill. A significant amount of landscape manipulation was required to accommodate and site the buildings. Large land cuts into the hill were made by the soldiers and soil from the excavations was used as fill material, expanding the buildable area of the natural terrace on the hill. During the initial period of construction at the camp, work on the hillside focused on three primary terraces. After expanding the level area of each, stone retaining walls were constructed to stabilize and reinforce each terrace. In addition to development of these building sites, a tremendous amount of forest on the hill was harvested and used in construction of other structures at the camp.[5] During the early occupation, three buildings were erected on the first terrace approximately seventy feet above the garden. Westernmost of these buildings was the surgeon's quarters. A relatively small frame structure, it had an entrance porch across the north facade overlooking the garden. One of the largest rock retaining walls constructed during this period was built against the slope directly west of this structure. (see pgs. 120-122) A large birdhouse, placed on a tall pole, was located just south of the surgeon's quarters. Two buildings



Photograph of Officers' Hill in the early 1860s showing landscape changes, new buildings, pathways, rock walls and the birdhouse on the first terrace. (Public Archives of Canada, Ottawa: SAJH photo file)

were sited on the same terrace directly east of the surgeon's house. Although historical evidence is inconclusive, it is believed that the structure next to the surgeon's quarters was the mess room.[6] Both buildings were 13 x 31 feet, and constructed of upright logs. Together, these three buildings created the primary complex of officers' quarters. Historical documentation regarding the location and description of Captain Bazalgette's house is scant. Available photographic records indicate the structure was sited on another terrace above the complex of officers' quarters.

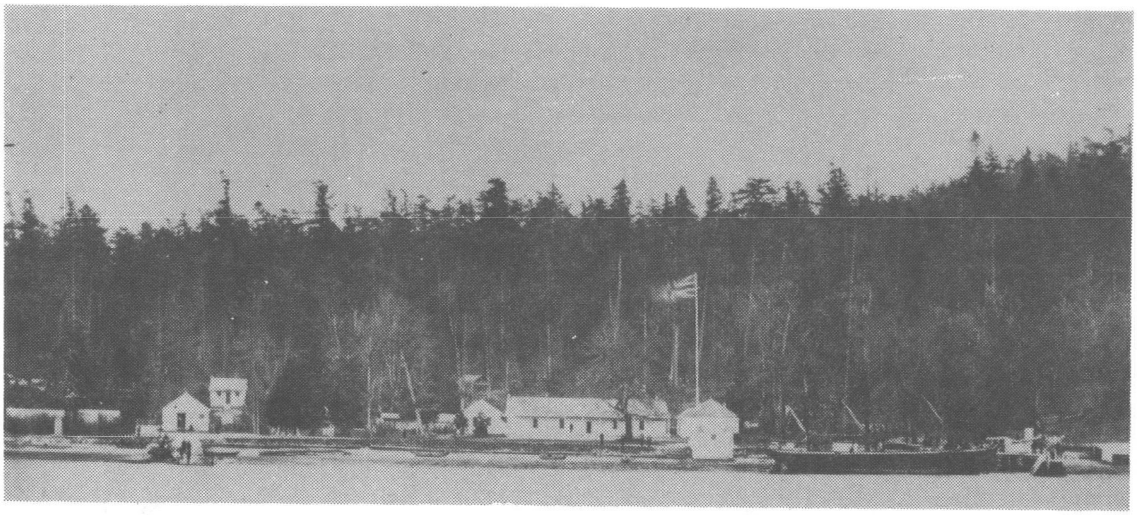
All of the officers' quarters and the messroom were linked to the main encampment and waterfront below by a serpentine path down the slope ending at the garden. The trail was approximately five feet wide with shell and cut stone steps along portions of the trail. This early collection of buildings, rock walls, and winding trail down the hill created the landscape structure of the officers' complex at the British Camp.

The everyday duties and business of the camp were largely reflected in the lay-out, organization, and functional relationships among several structures situated on the level ground extending back from the shoreline below the officers' quarters. From the beginning, the physical orientation of the entire British Camp was toward the water. The siting of the two barracks created a structural corner for the parade ground, which extended down to the shore. Adding symmetry to the site, directly in line with the barracks and across the parade ground, was the flagstaff. Sited in the center of the camp, it stood at least eighty feet tall. Two sentry boxes, north and south of the flag, balanced each other across the parade ground. The camp guardhouse was located on the shore next to the flagpole. Stylistically this structure was designed as a

blockhouse, similar in scale and form to the blockhouse at American Camp. Constructed of logs, it measured eighteen feet square, with the second-story "cap" turned 45 degrees on the base. The door faced the flagpole (landward) and an entrance portico extended from the roofline over a cobblestone surface.

Three other structures at the camp were built along the shore of Garrison Bay, facilitating the delivery of goods and providing storage for various provisions. A large wharf extending into the bay, between the guardhouse and the garden, allowed easy moorage for large ships, even at low tide. This wharf was the largest and primary one at the camp (the other "wharf" was connected to the storehouse north of this structure). At the end of this wharf, two sheds with large openings on the water side were built, providing storage for small boats and equipment. On the north end of the waterfront, near the commissary storehouse, a barn (or stable) was built and a corral erected to enclose a pasture area behind the complex. Other structures built during the first years of the British occupation included a cookhouse, a messroom for enlisted men, a sutler store and a small officers' quarters. Most of these early buildings at the British Camp were built by the Marines themselves and several of the main buildings were whitewashed using lime burned at Roche Harbor.[7]

Over the years, the military structures and evolving landscape at the British encampment began to embody a sense of permanence. The whitewashed buildings, rock terraces and residential scale of officers' quarters on the hillside, the garden, wharfs, and parade ground, portrayed a "picturesque" if not communal scene. A visit to the camp in 1866, on the occasion of the Queen's birthday, prompted a newspaper reporter to praise the



The main encampment at British Camp ca.1865. View from Garrison Bay. (Public Archives of Canada, Ottawa: SAJH photo file)



Storehouse and service area along the waterfront at British Camp, ca. 1865. Note the officers' quarters on the hillside and the sentry boxes on each end of the shore. View from the northwest. (Provincial Archives, Victoria, B.C.: SAJH photo file)

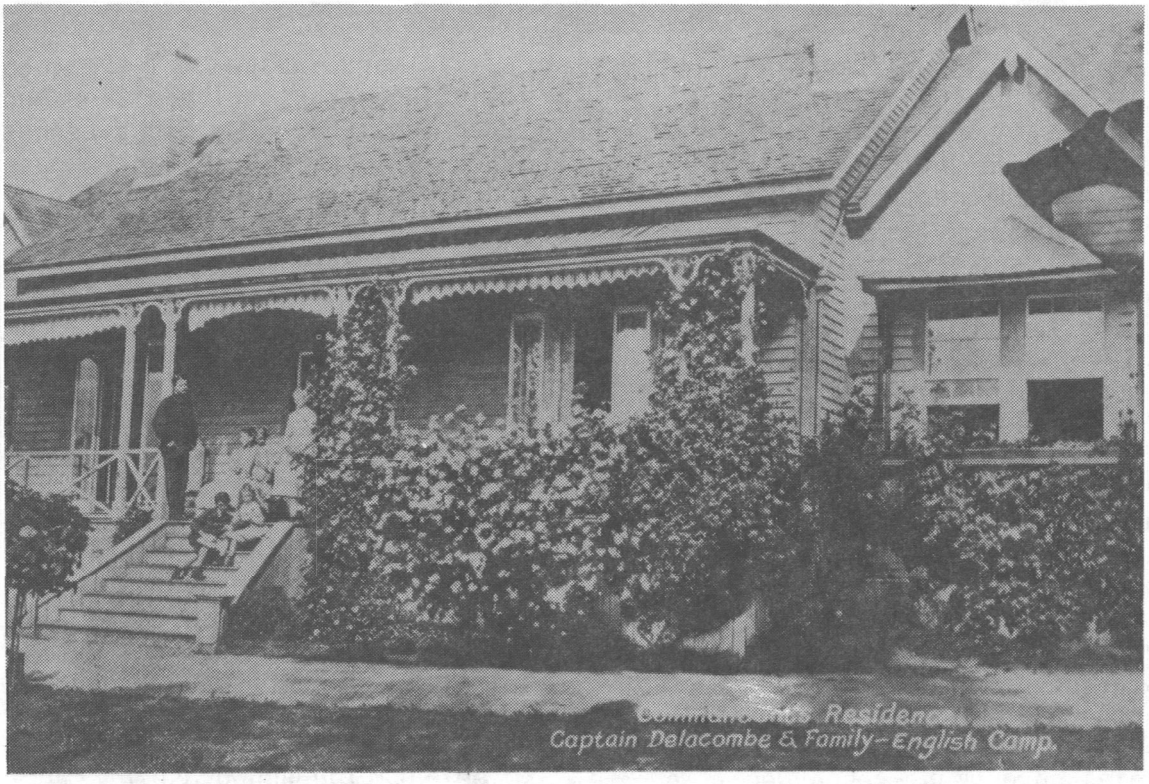
"beautiful and sequestered little spot... the neatness, cleanliness and general order observable throughout the entire camp... reflect the highest credit on both officers and men... ." [8]

The praise, however, could not mask the fact that many of the buildings were in poor repair. Captain Bazalgette wrote a letter to Colonial headquarters in Victoria in 1867, requesting that several buildings at the camp be surveyed, repaired or possibly replaced. Built early in the occupation as temporary housing, Captain Bazalgette reported most of camp structures were "unfit for habitation."[9] Others concurred with the Captain, but no immediate action was taken. By the time the Colonial government responded (two weeks after Captain Bazalgette's letter), Captain William Delacombe arrived with his family to replace Captain Bazalgette as commander of the British garrison.

Structural Development 1867-1872

With the boundary issue still unresolved through the mid-1860s, it was apparent that both the American troops and the British garrison were to remain on San Juan Island for an extended and undefined period. For the British this fact, in addition to the arrival of Captain Delacombe in the summer of 1867, marked a significant turning point in the structural development of the British Camp on Garrison Bay. Various requests for improvements prompted a general military inspection and survey of several camp buildings. Remarkably, most of the early and temporary buildings at the British Camp were in good condition and required only minor repair or supplemental furnishings. A few buildings did require and receive more substantial treatments, including structural additions and extensions (barracks, subaltern's quarters), new floors (guardhouse and storehouse), and various external improvements. In some cases, however, the estimates to repair the structures were greater than the costs to replace them and plans were made for construction of several new buildings.

One of the most elaborate of these structures was the new commanding officer's quarters. The site chosen for the new residence was on an upper terrace approximately 100 feet above behind the existing officers' quarters. Relative to other structures at the British camp, this structure was certainly the most elaborate, both in orientation and prospect, and in ornament and architectural detail. Plans for the structure, developed in part by Captain Delacombe, specified a frame "cottage dwelling house" that was "weatherboarded, plastered on the interior and covered with two coats of paint."[10] Structurally the building was comprised of one large central section (33' x 42'), two wings (12 1/2' x 31 1/2'), and a verandah in back and front.[11] In addition to the main residence, several outbuildings including a "bath house," a pantry, a carriage house, and a woodshed were planned and sited near the house as support structures. Care was taken in development of the grounds surrounding the house and was reflected in the interesting mixture of residential features and military formality, fitting the image of the commanding officer and his family. In front of the house, directly north of the verandah, the ground was level for at least one hundred feet and covered with grass. At the end of this level area, the land dropped over a series



Ornamental vines and climbing roses were planted to embellish the house and grounds surrounding the main residence. View from the W, ca. 1870. (Provincial Archives, Victoria, B.C.: SAJH photo file)

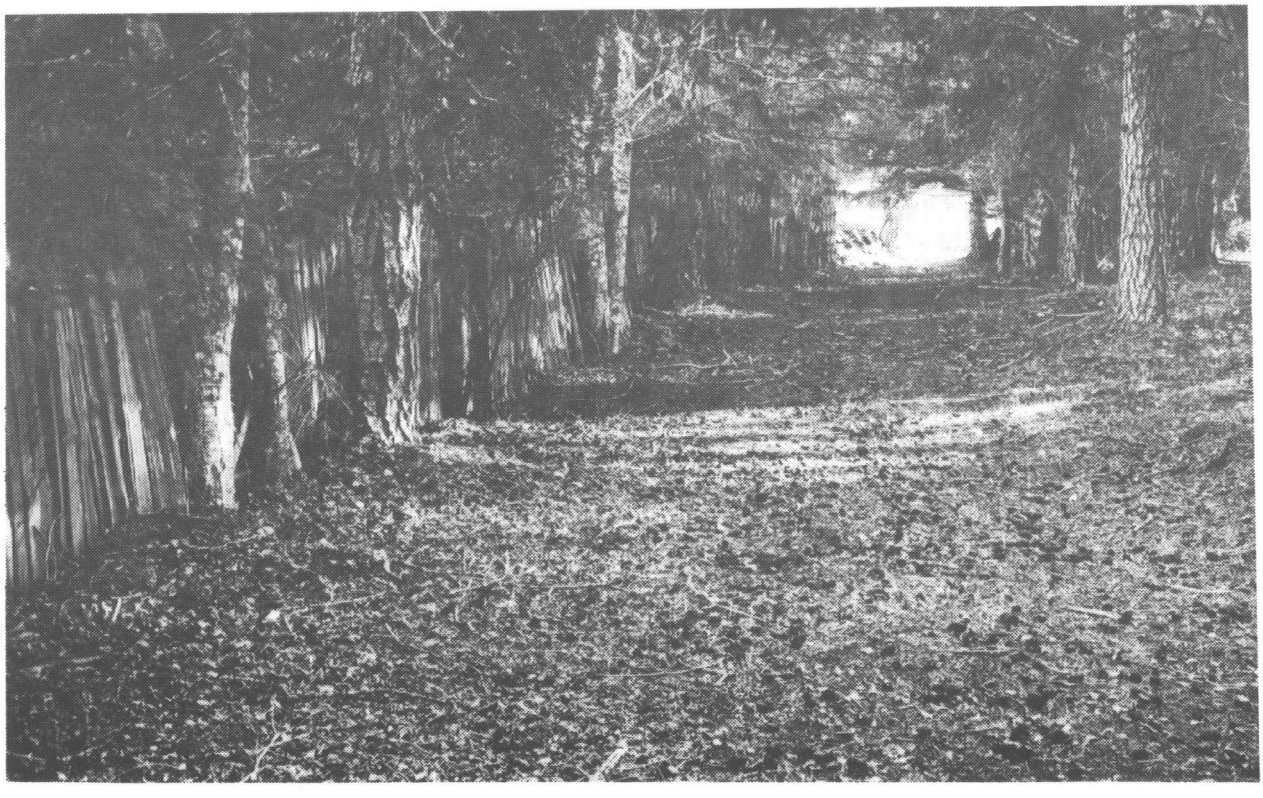


Captain Delacombe's family and staff in the late 1860s. Note the tree roses in the front yard. (Provincial Archives, Victoria, B.C.: SAJH photo file)

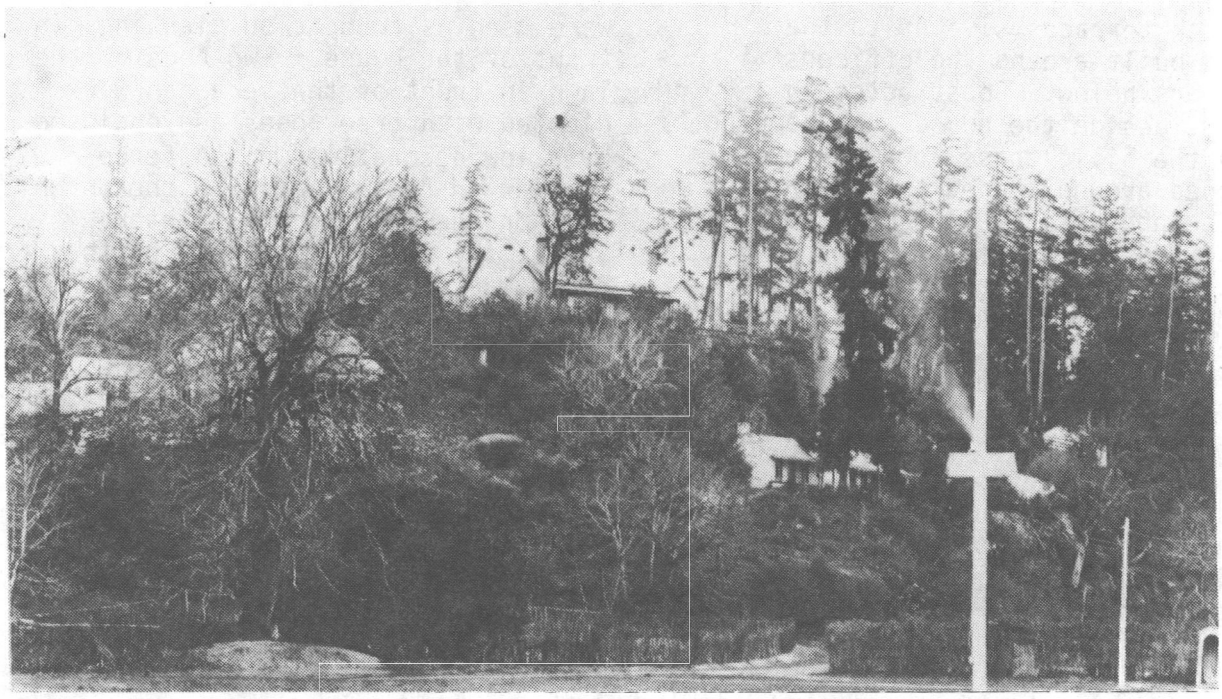
of rock terraces similar to the walls built around the officers' quarters below. Constructed in layers beside the house and stepping down the hill, these rock terraces wrapped around the earthen terraces of the house site. The main wall below the house was upright and angular, creating a formal edge. A wooden fence was build on top of this wall to enclose the yard. The other main wall, built near the carriage house, provided reinforcement and stabilization of the back terrace for the construction of other outbuildings. Although the size of the rock walls varied, the maximum height of any single section was eight feet.[12]

A variety of ornamental plants and features embellished the grounds around the Captain's house. Roses and various types of climbing vines were used as foundation plantings in front of the house. Two beds on the lawn in front of the verandah were planted with tree roses and enclosed by a low decorative wooden fence, similar in design motif to the porch rail on the verandah. In later years, the walkway in front of the house was decorated with a border of small whitewashed stones. Similar stones were also placed on the grassy level in front of the house where officers occasionally played lawn tennis.[13]

Access to the Captain's house from the main camp road led two hundred feet across the slope of the hill. The road was approximately 15 feet wide, with fir trees planted on both sides of the road, creating a rather rustic, if not somewhat formal, entryway. The road ended at the carriage house.[14]



Tree-lined road that led to Captain Delacombe's residence on the top of Officers' Hill. View from the E, ca. 1875. (SAJH photo file)



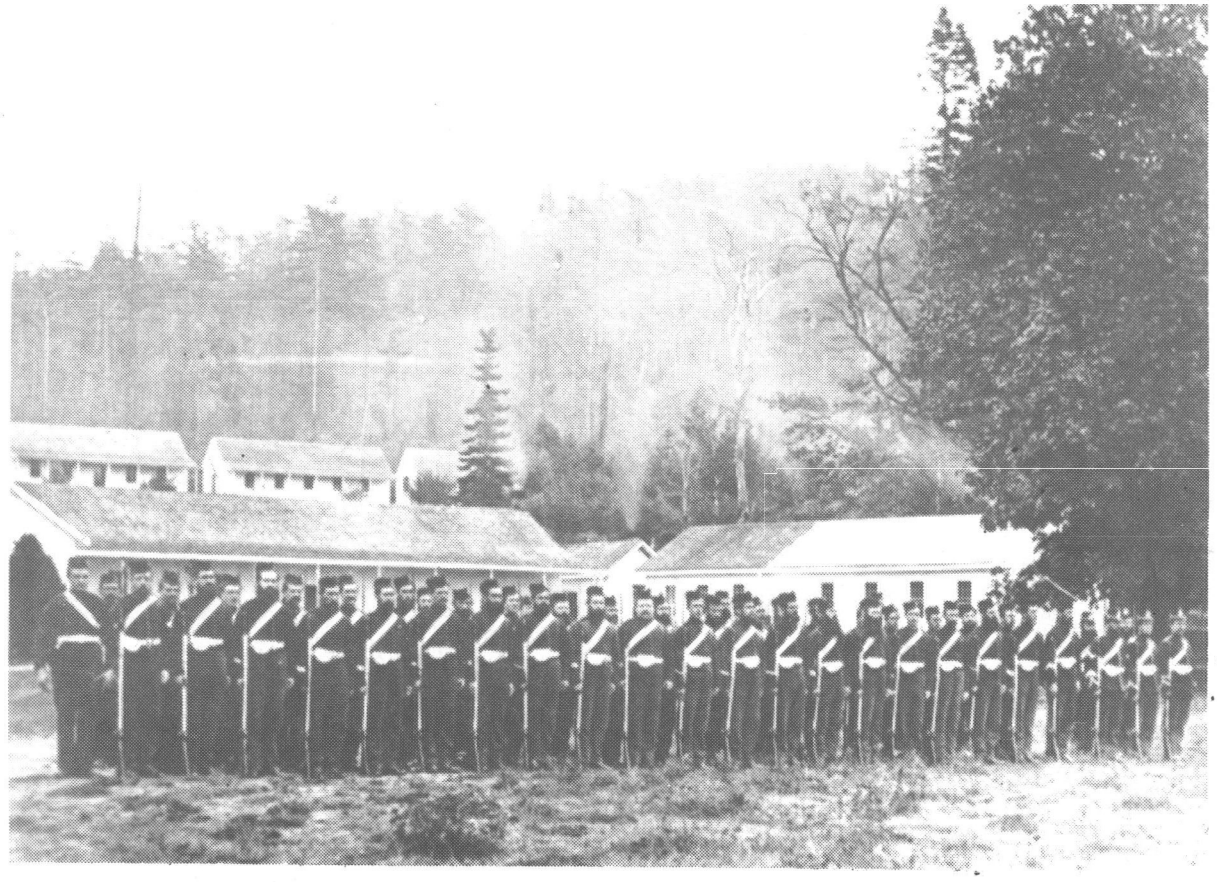
View of Officers' Hill, ca. 1868, showing new rock walls, Married Subaltern's residence and new Captain's house on the third terrace. Also note a second garden has been added next to the existing one. View from the NW. (Provincial Archives, Victoria B.C.: SAJH photo file)

Although the commander's residence was the primary new structure built at British Camp after 1866, it was not the only new building. Construction of a residence for a junior officer (subaltern) and his family began toward the end of 1867. As was the case with the officers' quarters built on the first terrace, a substantial rock retaining wall was constructed to stabilize a large extended fill terrace for the new building site. The new structure was located east of the existing officers' quarters on a terrace directly below the Captain's house. Somewhat smaller, but in the same style as the Captain's house, this structure measured 32' x 36' and contained six rooms, a kitchen, and pantry.[15] Access to the Married Subaltern's house branched off of the trail that lead up from the main encampment to the first terrace.[16]

In addition to these structures, at least three other new buildings were constructed during this period. One of these was a small frame building, 30' x 18', located off the northwest corner of the barracks, creating a structural enclosure at the end of the parade ground. Believed to be the Sargent's quarters, it is possible other uses were made of this structure over the years.[17] North of this building, at the edge of the fence enclosing the pasture, a new hospital was erected. This hospital was the second hospital constructed at the camp (location of the first hospital is unknown) and measured 28' x 16'. Like most buildings at the British camp, it was a one-story, gable roofed structure, sheathed with vertical planks.

Finally, on the hill east of the barracks, a row of service-related buildings formed the structural boundary of the entire camp. Considering the hierachical organization and relationship between building site and function at British Camp, it is somewhat unusual that four work-related structures were located on such a lofty perch. Historical evidence suggests that a sawmill (roof structure and pit) was constructed sometime prior to 1866. A carpenter's shop was built next to the sawmill and measured 30' x 18'. Historic documentation suggests that the carpenter shop and the sawmill were a single structure, but most scholars believe there were two separate buildings.[18] The camp library (26' x 20'), was next to the carpenter's shop. This building was also used during the occupation as a reading room and school. On historic maps of the camp, the building north of the library is the largest of the four buildings on the hill.

This structure most likely was the company mess room. Like other structures on the hill, it was oriented toward the bay. Photographs indicate it had a porch across the west facade and was whitewashed. The final structure on the hill above the barracks was the blacksmith's shop. The masonry ruin standing today is believed to be the forge. [19]

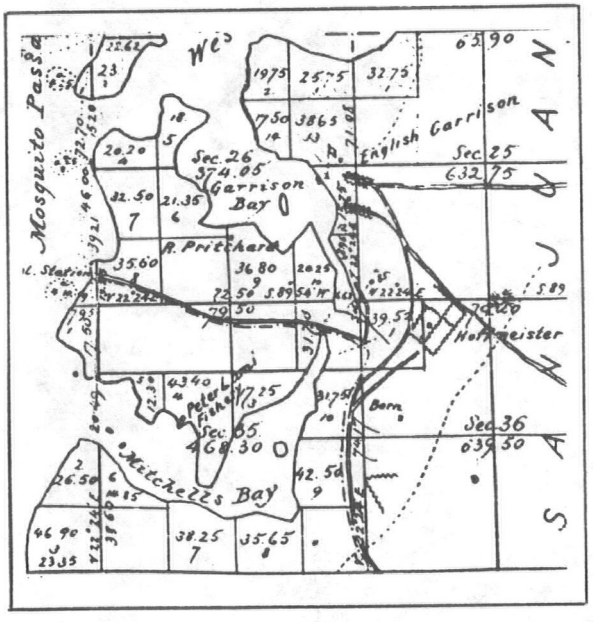


Photograph of the new service buildings on the hill behind the barracks. Also note the extension of the barracks on the right. View from the NW, ca. 1869. (Provincial Archives, Victoria, B.C.: SAJH photo file)

Roads and Other Structures

Access and Circulation

The primary road to British Camp branched off of a main road which ran the length of the island between Bellevue Farm and Roche Harbor. Evidence suggests that portions of this road were built by Indian labor in 1854 under the direction of the Hudson's Bay Company.[20] The road angled north from Bellevue Farm across the island toward Young Hill, and continued around the base of the landform. At a point above the British encampment, the road cut down through the forest toward the camp, linking the site to points both north and south. Historic documentation also indicates another road followed the western shoreline, leading south from the complex of officers' quarters.[21]



Roads in the vicinity of British Camp as documented on an 1875 Government Land Office map of the island.

Within the camp, circulation was somewhat random around the barracks, work areas, and along the waterfront. Structured pathways and walks occurred from the company messroom on the hill down to the barracks, in front of the guardhouse, through the garden (see below), and up to the officers' quarters and captain's house.

Camp Cemetery and "Summer House"

Another road led up the west side of Young Hill from the camp. On the slope approximately half way up the hill was the camp cemetery. The small rectangular plot was surrounded by a wood picket fence. Historical evidence also suggests a "summer house" or gazebo was sited on Young Hill although the exact location is uncertain.[22]

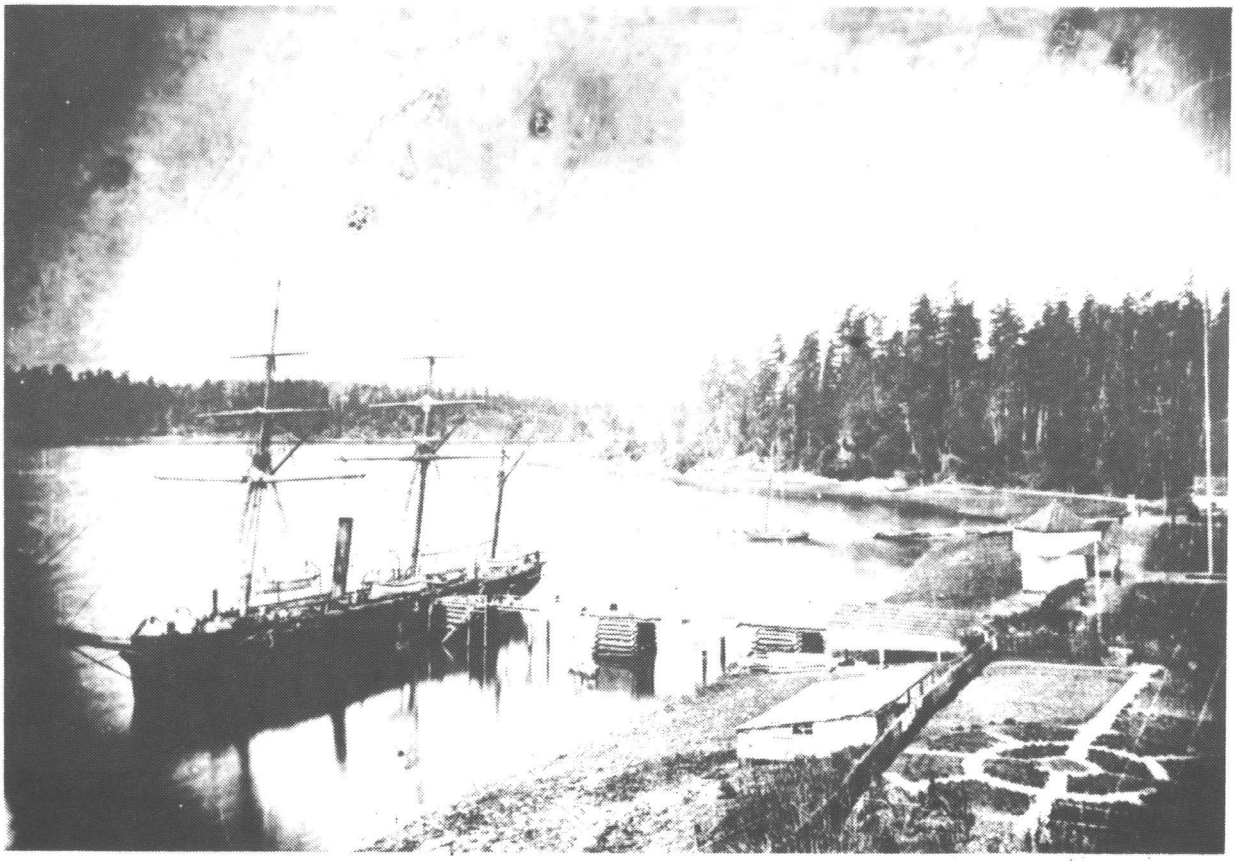
Fences

A considerable amount of fencing was erected at the British encampment. A large fence around the pasture behind the barn created a sizable corral for livestock. Connected to the corral, another fence wrapped around the eastern edge of the camp, abutting the forest and creating a structural boundary. Smaller fences occurred around the hillside below the officers' quarters.

Camp Gardens

As indicated above, during the early British occupation a vegetable garden was planted on the south corner of the parade ground and enclosed with a sapling fence. Later, during Captain Delacombe's command, the vegetable garden was moved and the garden site at the base of the hill, below the officers' quarters, was transformed into a formal floral garden.

Designed in the gardenesque style popular in the mid-nineteenth century, the garden was laid out to reflect a geometric order in a natural landscape. A large circular bed was broken into smaller quadrants by paths and walkways, radiating out to a tall wooden fence enclosing the entire garden. Plants used in the garden included verbena, heliotrope, geraniums, cineraria, peonies and calceolaria. Typical of the gardenesque style, flowers were massed in each individual bed, one type of flowering plant per section. Unlike the Victorian flower gardens which came later, this style did not stress the pattern or repetition of color. Rather, the garden at the British Camp offered a display of several brightly colored species, each individual variety massed together and highlighting the effect of the overall garden. Tall plants were used in the interior beds while shorter species were planted in the outer beds.[23] Although it is likely the plant materials used in the garden varied over the years, the basic style of the garden remained throughout the British occupation, enhancing the "picturesque" character of the British encampment.



The waterfront at British Camp ca. 1870, showing the large wharf, blockhouse, service buildings and formal garden. (Provincial Archives, Victoria, B.C.: SAJH photo file)

SOURCES

TOPOGRAPHIC SITE SURVEY, ENGLISH CAMP, SAN JUAN ISLAND, NATIONAL HISTORICAL PARK, 1987. DRAWING NO. 80017, SHEETS 1-7.

HISTORIC PHOTOGRAPHS; BRITISH CAMP 1860 - PRESENT. ON FILE, SAN JUAN ISLAND NATIONAL HISTORICAL PARK.

HISTORIC RESOURCE STUDY, SAN JUAN ISLAND NATIONAL HISTORICAL PARK, WASHINGTON, BY ERWIN THOMPSON. DENVER SERVICE CENTER, NATIONAL PARK SERVICE, 1972.

HISTORIC STRUCTURES

1 BLOCKHOUSE
2 BARRACKS
3 STOREHOUSE
4 BAKERY OR BLACKSMITH
5 CAPTAIN'S QUARTERS
6 MARRIED SUBALTERN
7 SURGEON
8 SINGLE SUBALTERN
9 OFFICERS' MESS
10 BARRACKS
11 WASH & BATH HOUSE
12 WASH & BATH HOUSE
13 WELL
14 WELL
15 UNIDENTIFIED
16 UNIDENTIFIED
17 UNIDENTIFIED
18 POSSIBLY HOSPITAL
19, 20 STABLE & STOREHOUSE
21 MESSHOUSE
22 SCHOOL & LIBRARY
23 CARPENTER & SAWMILL
24 WHARF
25 PIER
26 POSSIBLY STORAGE
27 POSSIBLY BOAT HOUSE
28 FORMAL GARDEN
29 SENTRY BOX
30 SENTRY BOX
31 UNIDENTIFIED
32 UNIDENTIFIED
33 UNIDENTIFIED
34 UNIDENTIFIED
35 FLAGSTAFF
36 CEMETERY (NOT SHOWN)
37 BIRDHOUSE



SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 6/86

100 50 0 100 200 300
SCALE 1"-100'

NORTH

HISTORIC BASE MAP BRITISH CAMP (CIRCA 1868)

DRAWING NO. 438 - 80018
SHEET 10 OF 13

Archeological Summary
Introduction

Archeological investigations at British Camp have involved both historic and prehistoric site surveys. Early work in the 1950s by Treganza and subsequent work by Carlson, Kenedy, Stein and others has focused primarily on prehistoric resources at the site. While these studies are valuable, an in-depth discussion of them is beyond the scope of this report.[24]

In the 1970s, archeological work undertaken by the University of Idaho focused more specifically on the historical resources at both American Camp and British Camp. In conjunction with the review of archeological data for American Camp (see pg. 39), materials pertaining to British Camp were reviewed and an effort was made to "ground truth" specific structural information. Because datum points established by the University field school were no longer in place at British Camp when the present study commenced, maps were used only as general orientation to the resource, while written field notes from the school were used to prepare a summary. The summary was written in November 1986 by archeologist Karl Gurcke. Structural references in the summary are keyed to the numbering system used in the Historic Resource Study for San Juan Island National Historical Park.

Also during this phase of the project, additional archeological investigations were conducted on the hill where the British officers were housed during the occupation. In the course of general field work at British Camp, reconnaissance of this hillside indicated a significant number of historic features and remnants from the historic period were still evident in the landscape. The primary features identified in the survey are a series of large rock retaining walls, constructed by the British to create level planes and stabilized the slopes of the hill as building sites for the officers' quarters. In addition to these primary walls, a comprehensive landscape system of roads, pathways, ornamental structures, small "yards" and building sites designed by the British between 1860 and 1870 are still largely intact, either as remnant features or as structural



Archeological field school from the University of Washington, conducting investigations at the British Camp site in 1984. (On file, PNRO Seattle, Washington)

fragments on the ground plane. Collectively, these features comprise the structural framework of the historic landscape on Officers' Hill.

A measured survey of the hillside at 1:20 and a preliminary inventory of these features was completed in conjunction with field documentation at the site (see below). Preliminary archeological investigations on the hillside were conducted in the summer of 1987. Findings from this work can be found in the appendix of this report.

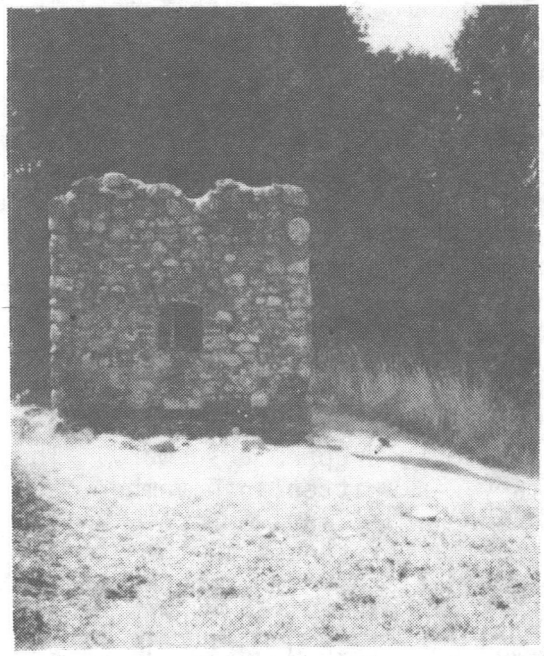
Archeological Findings - Historic Structures

HS 1 BLOCKHOUSE (op 18) Trenches were dug in 1971 along the north, south, and east walls of the blockhouse. In addition, there was some excavation inside the building. Structural evidence includes a cobblestone "porch" in front of the building, log cribbing, and at least one post. Excavations were taking place when the building was being restored and the area surrounding the building was almost totally excavated by archaeologists or destroyed during reconstruction.

HS 2 BARRACKS (op 11) Approximately one quarter of the barracks building was excavated in 1971. Structural evidence includes the base of a fireplace (bricks, rocks, mortar, and ash), wooden sills fragments, postholes, plaster, and a "French" drain. The northeast corner of the building may have been located but other corners were not.

HS 3 STOREHOUSE (op 1) This building, called the Commissary by students, was almost fully excavated in 1970. Structural evidence includes a series of posts forming a rectangle (the building's foundation), wooden sill fragments, and a pile of rocks and bricks (a chimney base). In addition there was evidence of an aboriginal "long house" beneath the historic structure.

HS 4 BLACKSMITH SHOP (op 12) Several trenches were dug in front, in back, and to the side of the "forge" in 1971. Evidence for blacksmithing includes slag, charcoal, metal tongs, coal, remnants of a wooden coal bin, and a large post (anvil support). Structural evidence includes several other posts and, of course, the standing ruins of the forge. It appears that while much of the building was excavated, the outline of the structure's foundation is not yet clear.



Masonry ruin believed to have been the forge for the blacksmith. (Photo by C. Gilbert, NPS, 1987)

HS 5 CAPTAIN'S HOUSE (op 6) Almost completely excavated in 1970 although the excavation may not have gone deep enough considering the lack of structural evidence. This evidence includes at least one fireplace base (rocks and bricks), remnants of one stone foundation wall, and a heavy ash layer indicating the building had burned. This ash layer apparently abruptly ends near the hypothetical end of the building and may be an indication of it. However, the building's foundation outline is not yet clear. A stone and wood lined water cistern was found some 35 feet north of the structure but apparently not excavated.

HS 6 MARRIED SUBALTERN'S QUARTERS (op 39) A single trench, cutting through the building, was excavated in 1977. Structural evidence includes several wood fragments, a possible post hole, an extensive plaster layer, an ash layer, and a shell pathway with rock border. Non-excavated features include at least two chimney bases and several rock alignments. The location of the building's foundation, however, is not definite.

HS 7 SURGEON'S QUARTERS - unexcavated.

HS 8 UNMARRIED SUBALTERN'S QUARTERS - unexcavated.

HS 9 OFFICERS' MESS ROOM - unexcavated.

HS 10 BARRACKS (op 2) Area fully excavated in 1970 just after the building was torn down for reconstruction. Structural evidence includes the bases of several fireplaces (rocks, bricks, mortar, and wooden plants), numerous posts forming an outline of the building, wooden sill fragments, possible wooden siding, a "French" drain, a rain barrel, and a rock foundation for part of the building. Of all the buildings excavated at English Camp, we probably know most about this one.

HS 11 and HS 12 WASH and BATH HOUSES? (op 14, 15, 21, 28) This area was partially excavated in 1971 in a complex series of operations. At first a series of trenches were dug in search of these buildings but later a grid was imposed over the area and 62 lots (5 ft by 5 ft) were excavated out of a total of 178 laid out. Structural evidence includes a complex drainage system apparently composed of two separate systems; a "French" drain and a wooden drain "pipe" with a clay floor, a cobblestone pathway, stone piles (possible building corners), posts, bricks, and a well (see HS 14). This area seems badly disturbed and that, coupled with some poor recording. makes it difficult to determine exactly where the buildings were and what was found.

HS 13 and HS 14 WELLS HS 14 was apparently discovered in 1971 during excavation of the combined operation noted above (operations 14, 15, 21, 28). However, this well does not appear to have been excavated and HS13 was not found.

HS 15 UNIDENTIFIED STRUCTURES (op 20) In 1971 several test pits and trenches were excavated in this area in search of this building. Structural evidence includes brick, mortar, stone, and wood fragments but nothing was found that conclusively indicated a building's foundation. Considering the small size of this excavation, this is not surprising.

HS 16 UNIDENTIFIED STRUCTURE (op 25) Students dug several small trenches and test pits in this area ·

in 1971. Structural evidence includes the base of a fireplace (bricks, stone, mortar) and supposedly the four corner posts of the building. In addition, a rain barrel was found full of artificats. Because of the building's small size, perhaps as much as a half to two/thirds of the structure was excavated, yet the building's foundation was never fully documented.

HS 17 UNIDENTIFIED STRUCTURE (op 19 and op 36) This was called the "Sergeant's house" when it was tested in 1971. Structural evidence includes what may be the base of a chimney (rocks, bricks, and mortar) and fragments of wood. However, not enough was done to determine the building's corners, dimensions, etc., and operation 36 (a second attempt at locating this structure) apparently found nothing structural.

HS 18 HOSPITAL (op 31) Eight test pits and several trenches were sunk in this area in 1971. Structural evidence includes postholes (two were stone lined), posts, and a scattering of rock including limestone. The posts and post holes did not seem to form any pattern and some students thought at the time that they might belong to some type of prehistoric structure. It is possible that the hospital was completely missed.

HS 19 STABLE (op 32) Area was partly excavated in 1971. Structural evidence includes three possible corner posts and a brick, mortar, and concrete (?) fireplace foundation. Based on the artifacts recovered, there were some doubts raised during the excavation about whether this was, in fact, the stables.

HS 20 STOREHOUSE (op 30) Area was partly excavated in 1971. Structural evidence includes two brick doorsteps (?), wooden singles (?), stone piles (corners ?), and possible corner posts. Also an "iron door" was discovered. The "interior" of the building was not excavated and the outline of the building's foundation is unclear.

HS 21 MESS HOUSE (op 13) A single trench with several side trenches was cut through this area in 1971 in order to find the foundations for this building (called the Hospital in 1971) and the Library (HS 22). No foundations were found with the possible exception of a single post and some scattered wood. However, portions of a brick-lined drain leading to a brick-lined septic tank or cesspit, were found. Based on the age of the artifacts coming from the drain, it was thought, at the time of excavation, the drain was constructed by Crook.

HS 22 LIBRARY (op 13) see HS 21.

HS 23 CARPENTER SHOP and SAWMILL (op 26) This area was partly excavated in 1971 but the results were inconclusive. Structural evidence includes wooden beams, planks, post holes, posts, and a rock pile. Also "farm" machinery and wooden planks were removed from the surface of the site before excavation. It is interesting to note that no sawdust was mentioned in the students' notebooks.

HS 24 WHARF This area was surface collected for artifacts as part of a larger beach survey (op 35) conducted in 1970 and 1971. Several rock piles were noted as being in the wharf's vicinity in 1971. However, this structure does not appear to have been formally investigated. The survey took place at extreme low tide.

HS 25 PIER (op 38) The beach survey mentioned above (HS 24) apparently also covered this area. In 1970 two small test pits were dug near the pier in order to recover bottles visible on the surface. In 1971 an underwater survey of the bay had, as its starting point, the last piling of the pier. Apparently little was found in that survey. In 1975 a single small trench was dug in this area but above the shoreline in order to find out how the ramp (to the pier?) was constructed. No structural evidence was found in the trench but the remnants of the pier in the bay were mapped in.



Remnants of the pier by the commissary storehouse can still be seen at low tide. (Photo by H. LaFleur, NPS, 1975)

HS 26 SHED The beach survey mentioned above (HS 24) presumably would have covered this area but nothing of a structural nature was found or reported on.

HS 27 SHED See HS 26.

HS 28 FORMAL GARDEN and PATHS (op 27) This area was examined in 1971 using a resistivity probe, a density gauge, a hand probe, and a series of small test trenches. Structural evidence includes at least one post (thought to be prehistoric) and rocks scattered about in no apparent pattern. The results of the various probes is unclear.

HS 29 and HS 30 SENTRY BOXES - unexcavated.

HS 31 UNIDENTIFIED STRUCTURE (op 17 and op 24) This area was partly excavated in 1971 with inconclusive results. Structural evidence includes a scattering of stone and brick (in no apparent pattern), a post and posthole, and several possible fire pits made of stone (prehistoric ?). Excavations in operation 24 resulted in the discovery of a wooden drain "intersection" that may be associated with the structure. Students called this building a Canteen in 1971.

HS 32 UNIDENTIFIED STRUCTURES (op 29 and op 34) This area was explored in 1971 with a series of small test pits and trenches. Structural evidence includes bricks, mortar, rocks, and wood fragments, however, no pattern appears evident. Student notes also briefly describe a rock wall, a rock-lined well, and a road, but the results of the excavation are inclusive and poorly documented.

HS 33 AND HS 34 UNIDENTIFIED STRUCTURES (op 2, subop C) This area was briefly tested in 1970 in an effort that had nothing to do with the search for historic buildings but was rather an attempt to discover the connection between the "disturbed" portion of the field and "undisturbed" midden. This effort was not very successful as the area dug was apparently also

"disturbed." A "crumbled" brick scatter seems to be the only thing found of structural significance.

HS 35 FLAGSTAFF (op 3) The flagpole was almost totally excavated in 1970. Excavations revealed a complex wooden support structure below the ground.

HS 36 CEMETERY - unexcavated.

HS 37 BIRDHOUSE - unexcavated.

In addition, several exploratory excavations and general surface collections were undertaken but were not associated with any particular building. These include:

op 4 OFFICERS' DUMP In 1970 a concentration of surface artifacts was discovered here during the beach survey. The dump, at the base of the hill southwest of the barracks, was partly underwater at high tide during the excavation. Twenty-nine (5 ft by 5 ft) lots were excavated in order to recover artifacts. Although large quantities of artifacts were found including bricks and wood, no structural evidence was uncovered.

op 5 GENERAL SURFACE This operation was originally the officers' dump and op 4 was the well. When the well did not produce, that number was reassigned to the officers' dump and op 5 was left blank. After the excavation, all general surface material collected from English Camp was assigned to operation 5. There is practically no mention of this well in the notebooks and it is uncertain exactly where it was located.

op 7 EXPLORATORY TRENCH In 1970 a small trench was excavated in this area in order to search for a possible structure near the Captain's house (HS 5). No structural evidence or artifacts were found.

op 8 EXPLORATORY TRENCH In 1970 a small trench was excavated in this area presumably in order to search for another possible structure near the Captain's house (HS 5). No structural evidence was uncountered except for a couple of bricks and they did not seem to fit into any particular pattern.

op 9 EXPLORATORY TRENCH In 1970 a small trench was excavated in this area in order to explore the front of the Captain's house (HS 5). Structural evidence includes bricks, rocks, and burned wood but these artifacts fit into no particular pattern.

op 10 EXPLORATORY PIT This was a small test pit dug in 1970 on the terrace above the officer's dump (op 4). In addition, there was some work that involved "scraping off [the] surface of [the] second highest terrace" (Weatherford 1970b: 7). Apparently this was an attempt to discover if there was a second dump just above operation 4. Although some artifacts were found, students came to the conclusion that this was not a dump and therefore, the British must have thrown the trash over the edge rather than dump it here and have it roll off the edge by itself. No structural evidence was found.

op 16 "SMUGGLER'S HOUSE" This 1971 operation was not a British camp proper but "on the other side of the island." There is no mention of this operation in any of the student's notebooks nor is there any mention of it in the site assistant's notebook other than noting its existence.



Structural Inventory of Remnant Features on Officers' Hill

The following data is based on a preliminary survey and reconnaissance of the hillside south of the main encampment at British Camp. The primary features on the hill are a series of substantial rock retaining walls, constructed by the British to create and stabilize the slopes of the hill as building sites for the officers' quarters. Evidence also indicates a significant number of walls that appear to have been constructed in association with roadways and other circulation systems, including two historic roads (ca. 1855 and 1865), and a series of walls that are termed "yard walls" because they appear to delineate the yard next to a building site.

Inventory Process

In this inventory the hill itself is considered as a single system within which several discrete sites exist. The hill is divided into six conceptual zones. Each zone contains one or more walls and structures that have either a functional relationship (circulation system, building site) or physical relationship (proximity) to each other.

Although there was a great variation in the extent and condition of individual walls as well as some overlap in function, three different types or categories of walls are identified:

1. Structural Walls - These walls are considered the primary structures on the hillside. Occasionally battered and often vertical along a fill or a cut, they were designed to reinforce the hillside for a building site on the expanded level area created by the

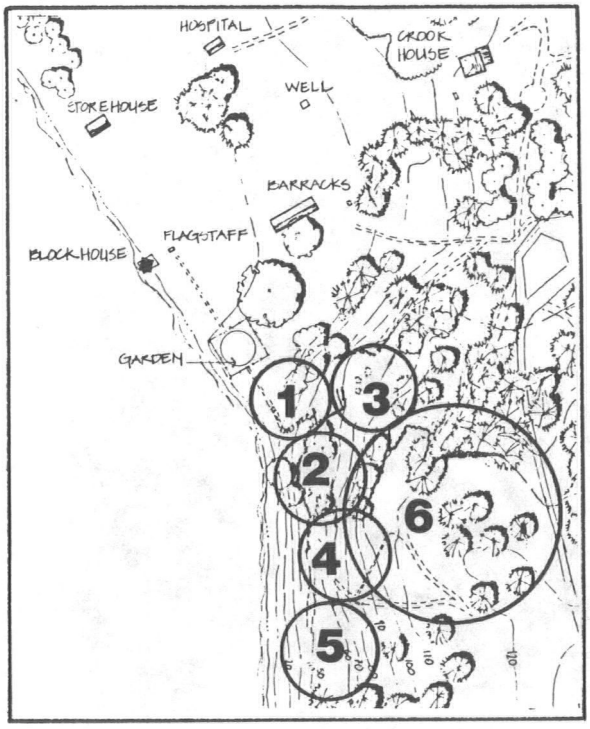


Diagram and location of the six conceptual zones on Officers' Hill.

fill. Commonly, they are quite extensive and range from 0' to 15' in height;

2. Circulation Walls - These walls reinforce a cut or fill or a natural bank and define a path or roadway of some kind (as indicated by the land form). These structures are commonly less than 18" in vertical height;

3. Yard Walls - There is evidence of several wall fragments that do not have the primary function of taking up grade. They may be ornamental walls or may have had both functions; they are designated in the inventory simply as "yard walls." They are low structures, commonly less than 18 inches high and often abut another structural wall.

For each remnant feature that could be identified as a structural wall (more than two stones in a contrived or designed pattern), the following items were noted:

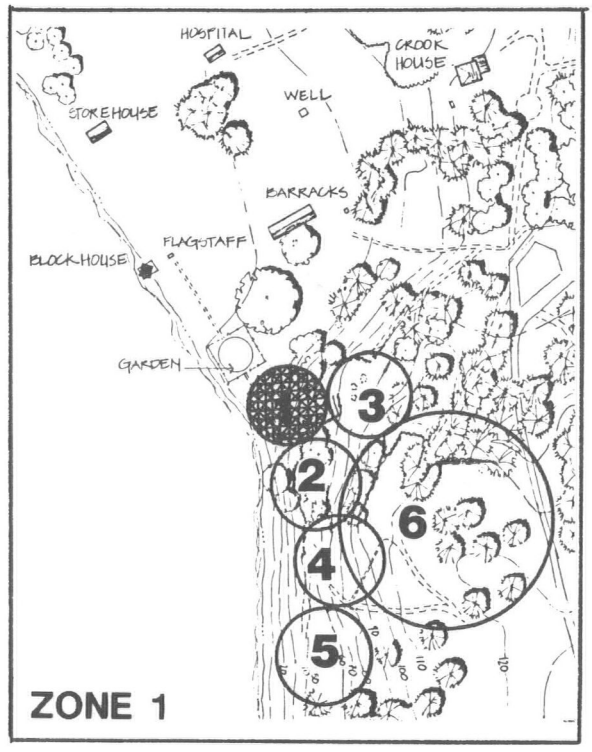
A. DESCRIPTION: A physical description of the wall, including the location of the structure on the hillside; a site specific sketch map; the rough dimensions (vertical and horizontal); the type and size of stone comprising the wall; and, any salient features or historical references;

B. INTEGRITY: A brief analysis of condition and current stability of the wall as well as identification of potential and actual threats to that stability;

C. PRESERVATION AND DATA RECOVERY: An outline of preliminary steps that can be taken to reduce or eliminate threats to integrity and general guidelines for intermediate stabilization technologies. Also included in this section is a brief statement regarding the possibility of future investigations and the type of information such investigation could yield.

ZONE 1: Lower Slope of Hill. Trail to terraces.
Approximate Area: 1,500 sq. ft.

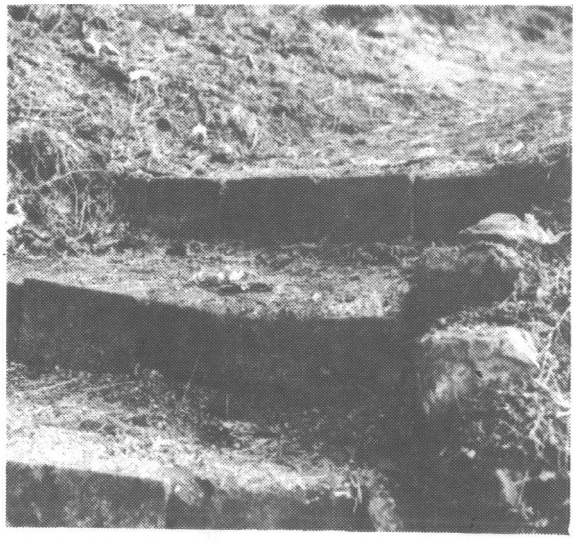
This zone is located on the west slope of the hill and includes an area from the level of the main encampment to the first and second terraces, approximately sixty feet above Garrison Bay. It is a narrow area following a serpentine pathway up the hill. The primary features in this zone are cut stone steps and one long circulation wall leading to the second terrace. Historic documentation indicates a path in the same location with steps leading all the way to the first terrace. Photographs also indicate a surface treatment along the path (possibly shell midden) and a sapling rail fence along portions of that trail.



1.1 STEPS

A. DESCRIPTION:

- Twelve composite stone steps follow an S-curve pathway, from the main compound to the first terrace. The stone steps end approximately halfway up the path.



Detail showing cut stone steps on the trail to the first terrace. (Photo by C. Gilbert, NPS, 1987)

- There are six individual stones per step and, on the average, four of the six stones are dressed. Tooth and crosshatched chisel marks are evident on several individual stones. Other stones are natural basalt stone.
- Individual steps are five feet long.
- Steps are edged and braced with a single wood riser four to six inches high.
- A large amount of shell midden is evident along the pathway.
- These twelve steps may be original fabric.

B. INTEGRITY:

- Nine of the twelve steps are in good condition.

- Counting from the bottom:

  * Step #3 is missing one stone.
  * Step #9 is missing two to four stones.
  * Step #12 has one stone that is slipping.

- Moss and duff obscure portions of the steps.

C. PRESERVATION and DATA RECOVERY:

- Keep steps clear of intrusive vegetation.

- Replace wood edge/brace as needed.

- Additional investigation will indicate:

  * Source of stone (use existing loose stone for sample).
  * Construction techniques.
  * Reconstruction techniques.
  * Correlation with historic photographs.

1.2 CIRCULATION WALL #1

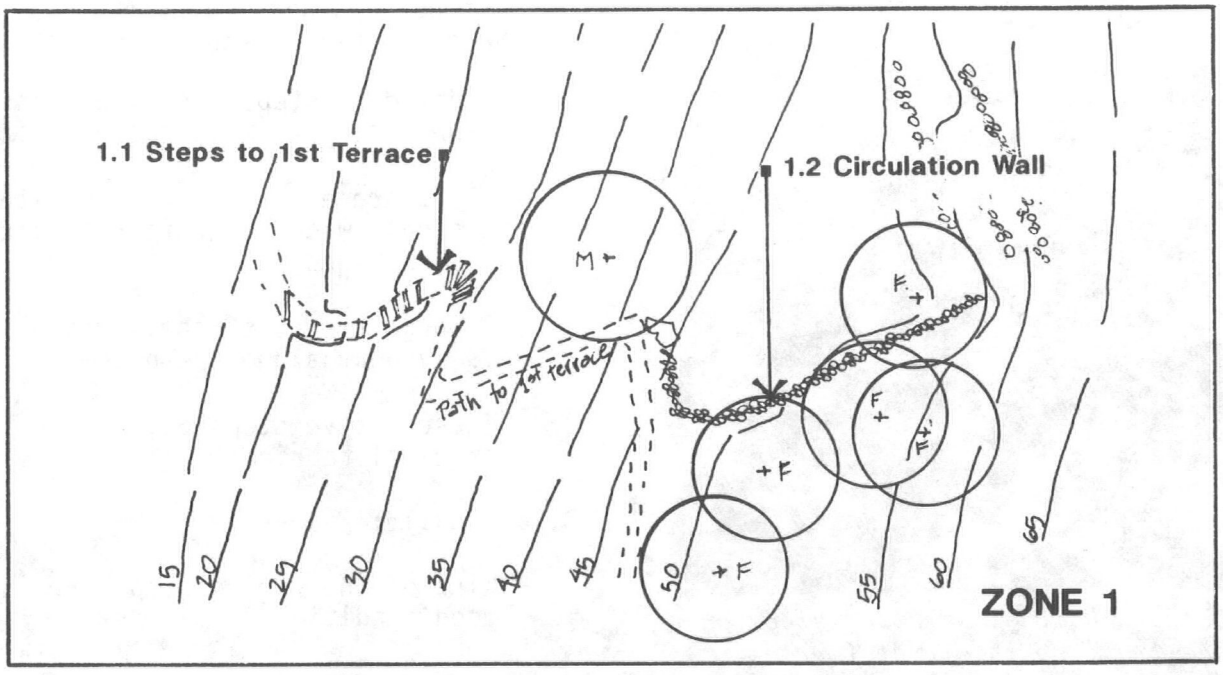
A. DESCRIPTION:

- This wall has two segments. The first segment begins approximately 25 feet down slope from the first terrace on the southeast side of the path. The wall follows the path up the hill retaining a cut slope in a N-S direction. The north end of the wall abuts a natural basalt outcrop.

- This portion of the wall is approximately seven feet long (linear length) and approximately 18 inches high (vertical).

- The wall is comprised of native basalt (angular and rounded stones) that range is size from 8" x 10" to 1.5' x 2'.

- The second segment of this wall abuts the south end of the first segment at a 90°± angle, leading generally east toward the second terrace.



- This portion of the wall can be tracked for approximately 50 feet and ranges in height between zero and four feet.

- The second segment of wall is composed of basalt and granite with rounded and blocky stones approximately .5' X 1'.

- Mortar is evident in the cracks and interior portions of the wall.

- The land forms associated with this segment of the wall suggests that the width of the road (or path) to the second terrace may have been over eight feet wide - from the top of the wall into the hillside.

B. INTEGRITY:

- 70% of the surface of the wall is covered by vegetation, including scrub, duff and moss.

- The first segment of the wall is stable. Along the second segment, 80% ± of the wall is intact but in a generally unstable condition because of intrusive vegetation.

C. PRESERVATION and DATA RECOVERY:

- Remove intrusive scrub vegetation from top and bottom of wall

- Additional investigation will indicate:

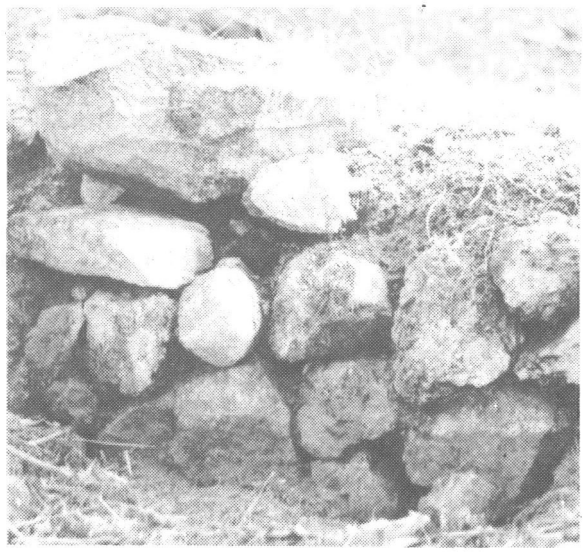
  * Extent and exact location of wall.
  * Construction techniques.
  * Reconstruction technologies.
  * Correlation with historic photographs.

1.3 MISCELLANEOUS STRUCTURES and FEATURES

- Opposite the first segment of Circulation Wall 1.2 near the top of the S-curve path, there may be another wall retaining the path. The existing structural evidence is inconclusive.

- Clusters of native basalt stone (less than five inches squared) are embedded in the dirt path leading to the first terrace. The general arrangement and pattern of these clusters suggest they may have been deliberately placed to facilitate traction or as back fill for stone steps in a rather steep portion of the path.

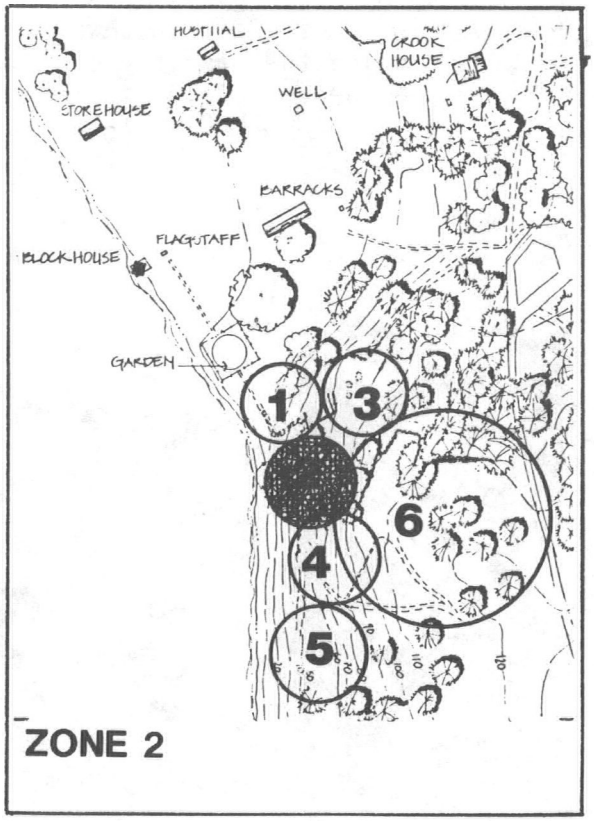
- Two additional rock groupings may indicate remnants of an early wall along the lower portion of the dirt pathway - just below the basalt rock outcrop described in association with Circulation Wall 1.2.

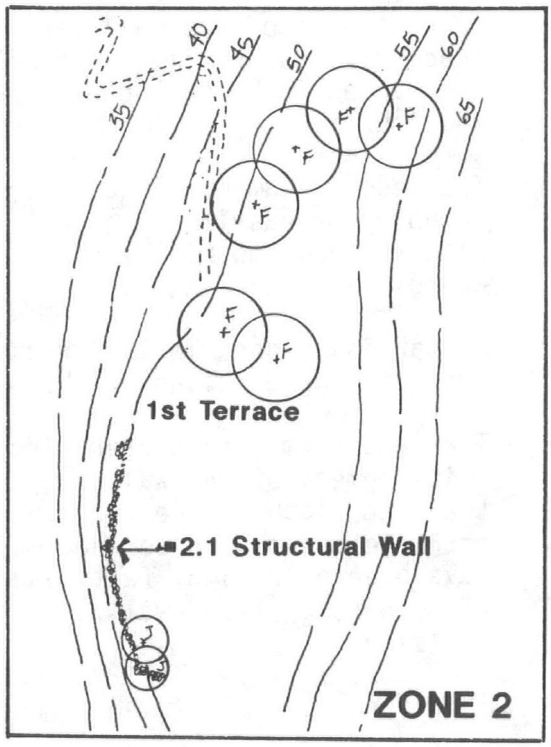


Segment of circulation wall 1.2. (Photo by C. Gilbert, NPS, 1986)

ZONE 2: The First Terrace
Approximate Area: 6,000 sq. ft.

This zone is located on the west slope of the hill approximately 50 feet above Garrison Bay. The primary land form in this zone is a large land bench or terrace, a portion of which is natural and approximately one-third of which is composed of fill material. Evidence suggests that at least some of the fill material came from the slope of the hill against the east edge of the terrace where the land form indicates a 17 foot cut into the hill. This material was used to expand (westward) the level area and natural bench. The primary historic feature in this zone is a structural wall which retains this expanded area. There is good historical documentation for this wall showing three individual buildings sited on this terrace and the wall in relation to these buildings.





2.1 STRUCTURAL WALL

A. DESCRIPTION:

- This wall begins at the south end of the terrace where it tucks into the hill, meeting grade and extends west, approximately four feet before angling in a northerly direction across the fill of the bench.
- The wall is approximately 60 feet long and ranges in height from zero to fifteen feet.
- Although visible as a single unit, the wall has three distinct sections (see map).
- The first section includes the first 18 linear feet of wall, beginning at the south corner of the entire wall and moving north.

- Individual stones are difficult to see because of moss cover (see below).

- The north end of this wall abuts and incorporates a natural basalt rock outcrop.

- The height of the wall along this section ranges between six and ten feet.

- This section of the wall is composed of blocky basalt stones that range in size from 1/2' x 1' to 1' x 1'. Small stones (less than 3" x 5") are evident and appear to have been used almost like chinking.

- Mortar is evident intermittently between stones and deep inside the wall.

- The middle (or second) section of the wall includes the next 20 linear feet of wall, continuing north along the face of the wall.

- The height of the wall along this section ranges between 10 and 12 feet.

- This portion of the wall is composed of angular cobbles (four inches squared and larger).

- Mortar is also evident in this portion of the wall.

- The last section of wall includes the northernmost 22 feet from the north end of the middle section to a bedrock outcrop marking the end of the entire wall.

- The height of the slope along this section ranges between 12 and 15 feet.

B. INTEGRITY:

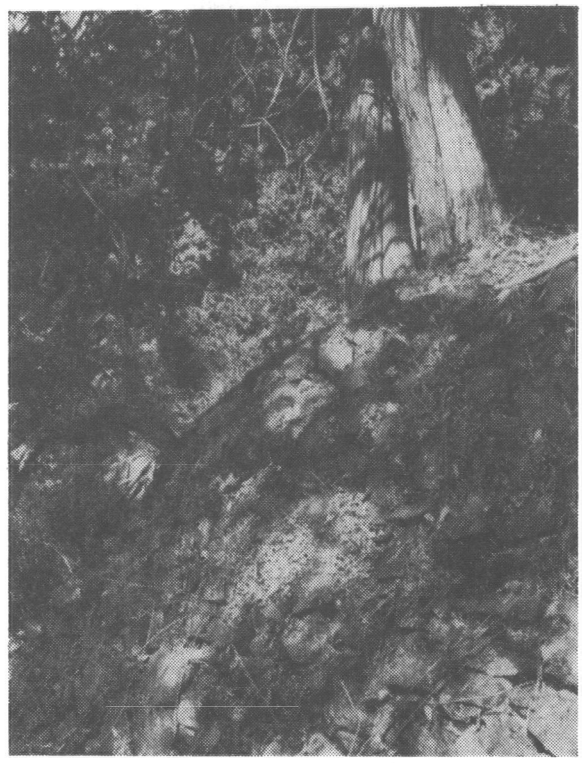
- The first section of the wall, as described, has a high degree of integrity and is very stable.

- Moss and ferns are present on the face of the wall but do not adversely impact stability.

- Vegetation at the toe of the wall covers a minimum of one rock along the base of the wall.

- The middle section of the wall has slumped and some material from this section is evident further down the hillside.

- Where the wall has fallen, a section view into the wall indicates that at a point, five feet from the toe of the wall, the horizontal section measures approximately two and one half feet deep (into the fill).



Portion of structural wall 2.1 on the first terrace. (Photo by C. Gilbert, NPS, 1986)

- On either side of the caved in portion of this wall, the wall is relatively stable.

- Some intrusive vegetation is evident including two large juniper trees at the top of the wall and one at the base.

- On the third segment of the wall (northernmost section), approximately 95% of the surface is covered with moss and fern.

- A large amount of scrub is also evident.

- This last segment of the wall retains the area of greatest fill on this terrace. Approximately nine feet of soil behind this wall appears to be fill soil. The top of the wall is rounded which suggests that the fill is settling and physically taking the wall with it. So, while this segment of the wall as a unit appears intact, it is somewhat unstable and being undermined by soil movement.

C. PRESERVATION and DATA RECOVERY:

- The first segment of wall is stable and not in need of immediate treatment.

- The second segment of wall has three juniper trees that are intrusive. Before removing them, however, verification of their possible contribution to the historic site (e.g., marker trees) must be made.

- Stones from the wall that have fallen down the hillside should be recovered and stockpiled.

- All intrusive scrub should be removed.

- Stabilization of the northernmost segment of wall primarily involves the removal of scrub vegetation.

- Removal of moss and fern covering the face of the wall is suggested - only if the wall is to be reclaimed to its historic presence. The moss cover does not constitute a direct structural threat at this time.

- Consideration will need to be given to "shoring up" portions of the wall that are slumping due to settlement.

- The northernmost corner of the wall should be verified.

- Additional investigation on this wall (as a whole) will indicate:

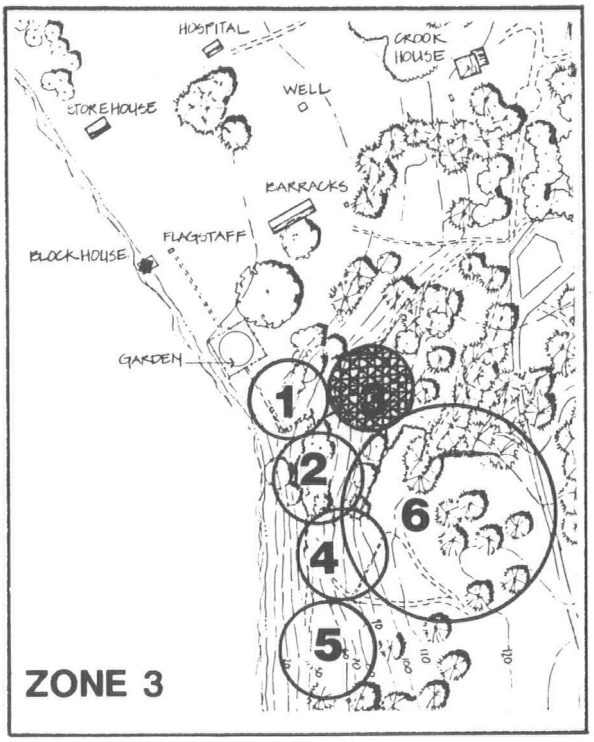
  * The extent of the wall (since the toe of the wall is covered with duff).
  * Construction techniques. At the point where the wall has slumped, a section can be analyzed.
  * Reconstruction technologies.
  * Correlation with historic photographs.

2.2 MISCELLANEOUS STRUCTURES AND FEATURES

- One privy is located in this zone.

ZONE 3: The Second Terrace
Approximate Area: 7,500 sq. ft.

This terrace is on the northwest face of the hill, approximately 65 feet above Garrison Bay. This broad level area reflects both a natural land bench and a cut-fill bank expanding the level area northward. This terrace was the site of the Married Subaltern's residence (1867), along with associated outbuildings - remnants of which are evident. Primary walls in this zone include a large structural wall, retaining the expanded terrace; two yard walls, stepping up to the large wall; at least one circulation wall; smaller structural walls; building sites; and paths/roads that may be historic. Historical documentation of the primary structural wall is good, showing relative location and proximity to other structures.



3.1 STRUCTURAL WALL

A. DESCRIPTION:

- This wall begins at the western edge of the terrace where it meets grade at the end of Circulation Wall 1.2. This segment of the wall is parallel to the yard walls (see below) running generally N-S. The wall curves around the bench and angles east for a short distance before tying into the bank on the NE corner of the terrace. It should be noted that significant portions of this wall are missing and a degree of interpolation is included in the calculations and descriptions.

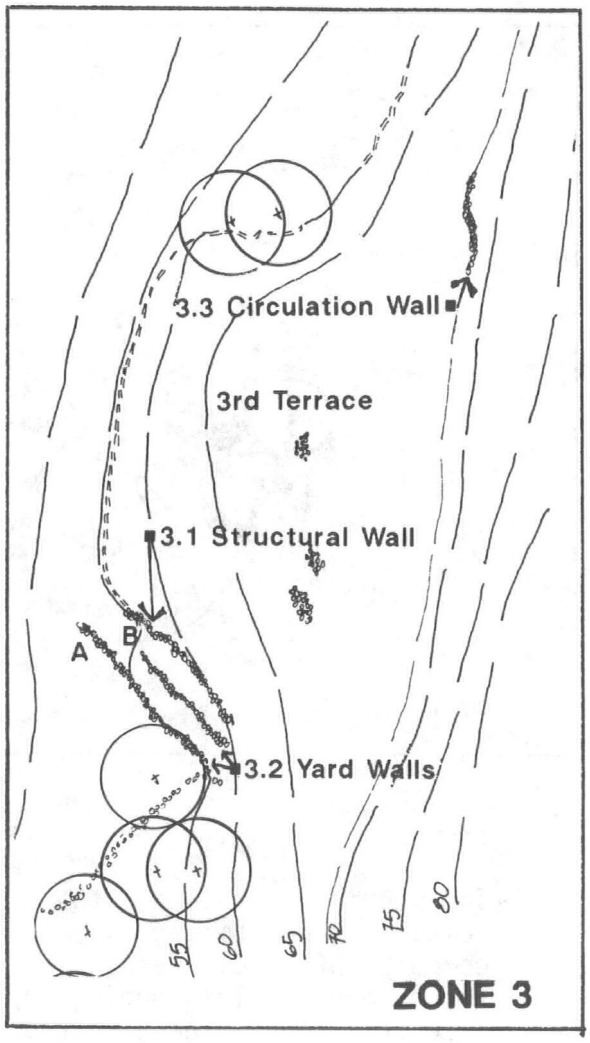
- As a whole, the wall unit extends (can be interpolated) approximately 150 feet (linear length) and ranges in height from zero to twelve feet.

- The portion of the wall that remains is predominantly composed of blocky basalt stones and cobbles ranging in size from four inches squared to large boulders (1' x 2'). Larger stones are most evident on that portion of the wall next to the large cave-in and may reflect the interior portion of the wall rather than a finished face.

B. INTEGRITY:

- The west face and east face of this wall are relatively intact and stable. Some slumping is evident and may be due to the settlement of fill material behind the wall.

- A primary loss of integrity for this wall is due to the physical loss of the north face. Seventy percent of the



wall (as a whole) is missing, due to mining, erosion or other removal.

- Stones and cobbles from the wall are also evident in areas down the hillside.

- Scrub vegetation is evident, primarily on the western portion of the wall above the yard walls.

C. PRESERVATION and DATA RECOVERY:

- Scrub should be selectively removed from the west and northeast sides of the wall.

- An evaluation of trees over one foot in caliper that potentially impact the wall should be made prior to removal of any individual tree. These trees may be historic.

- Stones from the wall that have fallen down the hillside should be recovered and stockpiled.

- Additional investigations will indicate:

  * The extent of the wall.
  * Construction techniques.
  * Reconstruction technologies.
  * Correlation with the historic record.

3.2 YARD WALLS (A & B)

A. DESCRIPTION:

- Two yard walls are located on the west slope of the second terrace - directly below the west section of the primary structural wall.

- Both walls are approximately 20 feet long and range in height from zero to two feet.

- The south end of each wall abuts the edge of Circulation Wall 1.2 as it angles across the hill (see map).

- The lower of the two walls (Wall A) is composed of basalt stone and blocky cobbles.

- The level area or "step" behind Wall A is approximately six feet deep (horizontal distance).

- The second wall (Wall B) is composed of massive cobbles, 1' x 2' blocky stones, some rounded stones and angular

stones approximately .5'xl'. The stone is a mix of basalt and granite.

- The level area behind Wall B is approximately four feet deep.

B. INTEGRITY:

- Wall A is 95% covered with vegetation (moss, fern, scrub) and is unstable.

- Wall B is in fair condition and relatively intact.

- 40% of Wall B is covered with vegetation.

C. PRESERVATION and DATA RECOVERY:

- Intrusive vegetation should be removed.

- Stone that can be identified as having fallen from the wall and down the slope should be stockpiled.

- More intensive investigation on these walls will indicate:

  * The extent of the structures.
  * Construction techniques.
  * Correlation with the historic record.

3.3 CIRCULATION WALL

A. DESCRIPTION:

- On the north end of the second terrace, a roadway or path is evident - leading from the terrace (on a west to east axis along the contour) - to an existing NPS trail. A wall is sited on the SE side of the road, against a cut slope, retaining the NE edge of the second terrace.

- The wall is 25 feet long and approximately 3.5 feet high.

- The wall is composed of blocky, basalt cobbles and boulders ranging in size from six inches squared to 2.5 feet squared.

- No mortar was observed.

B. INTEGRITY:

- The wall is clear of vegetation.

- The wall is intact and very stable.

C. PRESERVATION and DATA RECOVERY:

- Keep intrusive vegetation away from wall.

3.4 MISCELLANEOUS STRUCTURES and FEATURES

- Opposite Circulation Wall 3.3 there may be a second retaining wall holding the road bed on the north side (down slope). Wood cribbing is evident.

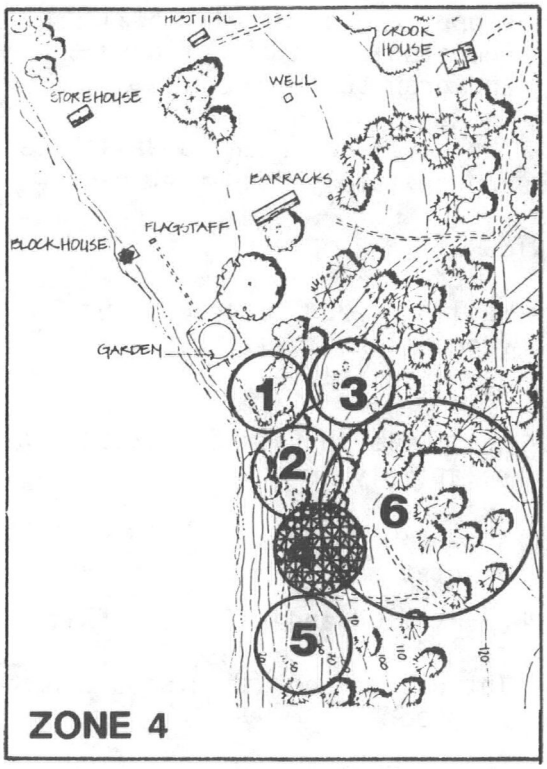
- On the east side of the second terrace against a large cut bank there is evidence of walls (intermittently sited) along the cut slope. One wall located above Circulation Wall 3.3 is intact.

- One privy is located in this zone.



ZONE 4: Pathways and Roads to Third Terrace
Approximate Area: 8,100 sq. ft.

A portion of this zone follows the natural contour south along the west face of the hill generally following the NPS trail leading to the Captain's house site. Approximately 50 feet along this trail, the path angles southeast and then north up the hill to the site of the Captain's house. The other portion of this zone carries over the hill in an easterly direction from the point where the NPS trail angles north. Primary walls in this zone include three primary circulation walls. There is also evidence of a remnant (structural?) wall that may have been associated with a building (first Captain's house site). Historic base maps indicate two roads located in the vicinity of these features. One road (ca. 1855) followed the shore for some distance and led to the telegraph station. The other road carried over the hill and connected with the main road to the American Camp on the south side of the island. The paths and roads as they exist are also regarded as significant features within this zone.



4.1 CIRCULATION WALL

A. DESCRIPTION:

- The first wall is located directly south of the first terrace (Zone 2) and is broken into two segments that run generally N-S. The wall is dish-shaped along the contour, concave relative to the shoreline.

- The wall, as a whole, is approximately 50 feet long and ranges in height from 0 to 4 feet.

- The wall is composed of angular cobbles of basalt and granite stones, ranging from .5' x 1'± to 2' x 2'.

B. INTEGRITY:

- The middle segment of the wall (and possibly a portion on the south end of the wall) is missing. Altogether, approximately 50% of the wall is visible.

- The portions of the wall that do remain are intact and relatively stable.

- At the north end of the wall two large juniper trees and madrona trees are intrusive elements on the wall.

- Footpaths also undermine the stability of the wall (in the

center portion) as people leave the main trail to get to the shoreline.

C. PRESERVATION and DATA RECOVERY:

- An evaluation of the historic significance, extent of damage or potential damage from vegetation intrusions should be conducted prior to removal of the juniper trees and the madrona trees.

- Development of techniques for mitigating structural damage resulting from haphazard foot traffic is necessary.

- Further investigations will indicate:

  * Extent of wall.
  * Correlation with historic base map.

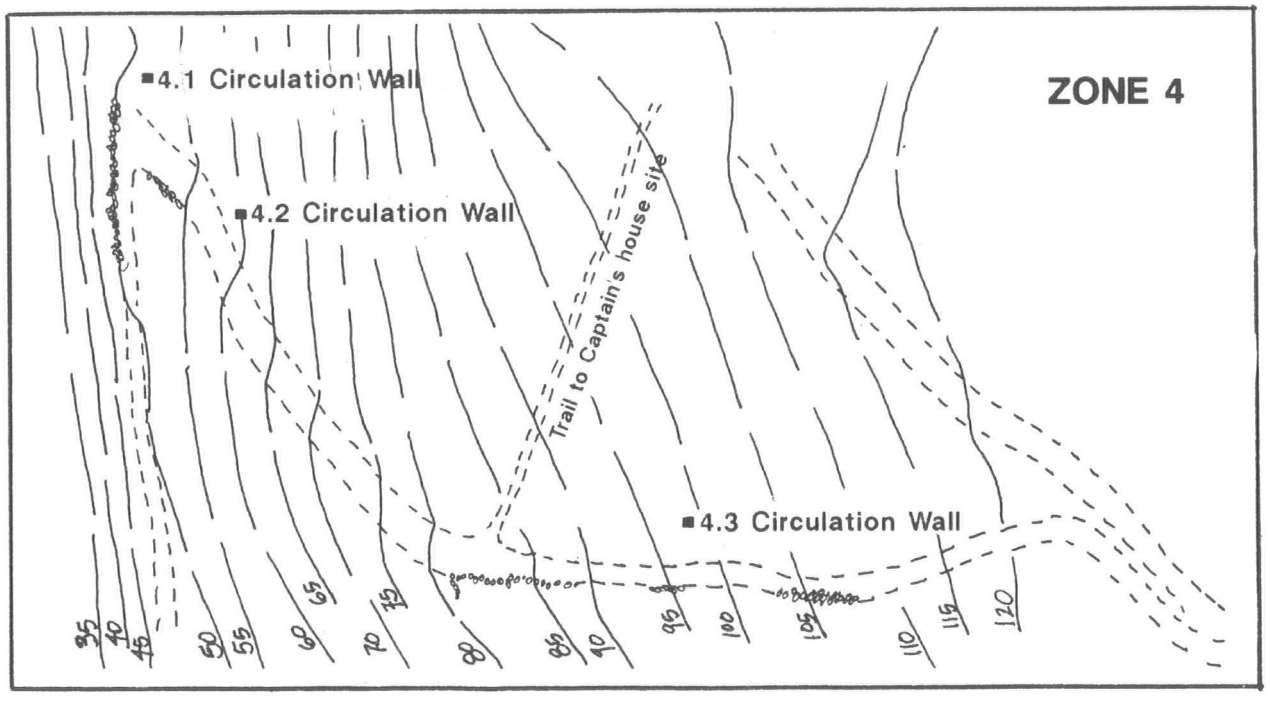
4.2 CIRCULATION WALL

A. DESCRIPTION:

- At a point along the west face of the hill (approximately 30 feet south of the first terrace) the NPS path to the Captain's house site branches. One path leads SE up the hill and the other, more or less, follows the shoreline south. At this junction, a wall (remnant) is located on the cut slope (west edge of path). It is unclear whether this wall was associated with the route which historically followed the shoreline or the road that carried over the hill.

- The portion of wall that is visible is 1 to 2 stones high (± 2 feet vertical).

- The wall is composed of basalt stones .5' x 1'±.



B. INTEGRITY:

- Only approximately 10% of the wall remains intact.

- Tallis is evident at the toe of the hill and several loose stones are evident around the fir trees.

C. PRESERVATION and DATA RECOVERY:

- Further investigations will indicate:

  * Extent of wall.
  * Correlation with historic documentation.

4.3 CIRCULATION WALL

A. DESCRIPTION:

- This "wall" is represented by a series of disconnected remnant wall sections that, more or less, are in line and lead from the large depression (supposed building site - see Zone 5), over the hill in a generally easterly direction to the current NPS access road to English Camp.

- The walls are evident all the way up the hillside and range in height from 0" to 18".

- The walls are composed of blocky, basalt cobbles approximately .5 x 1'±.

B. INTEGRITY:

- Vegetation is intrusive on all portions of the wall segments.

- Those walls that remain are unstable, due to encroachment from vegetation.

C. PRESERVATION and DATA RECOVERY:

- Intrusive vegetation should be selectively removed around walls.

- Additional investigations will indicate:

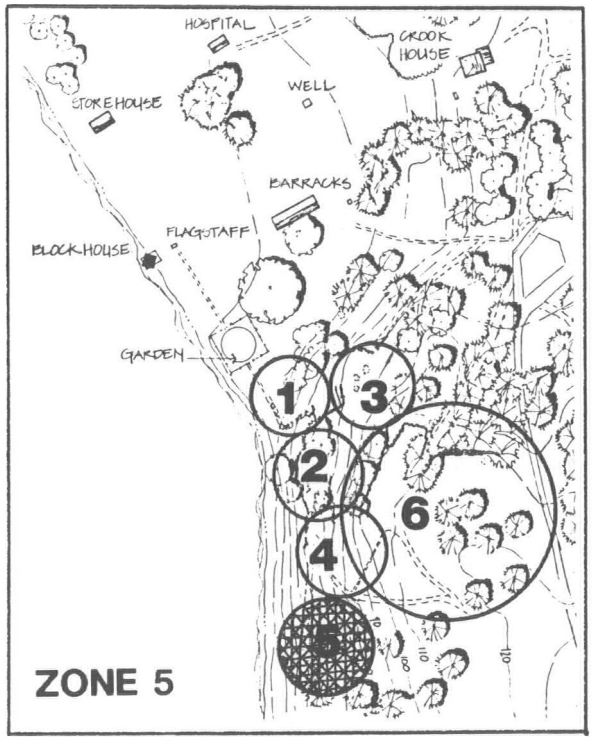
  * Extent of walls.
  * Construction techniques.
  * Association with historic road and correlation with historic documentation.

4.4 MISCELLANEOUS STRUCTURES and FEATURES

- Depressions and swales along circulation routes.

ZONE 5: Possible Building Sites
Approximate Area: 11,600 sq. ft.

This zone includes two areas stepped on the west side of the hill, fifty to eighty feet above Garrison Bay. Both areas appear to have significant cut and fill slopes. Primary features include the two building sites and a few remnant walls. Historic photographs depict one structure in this zone (first Captain's house?). The written record suggests a barn or stable was also located in this general vicinity.



5.1 SITE #1

A. DESCRIPTION:

- This site is located on the edge of the path/road described in Section 4.3 between the 75' and 85' contour.

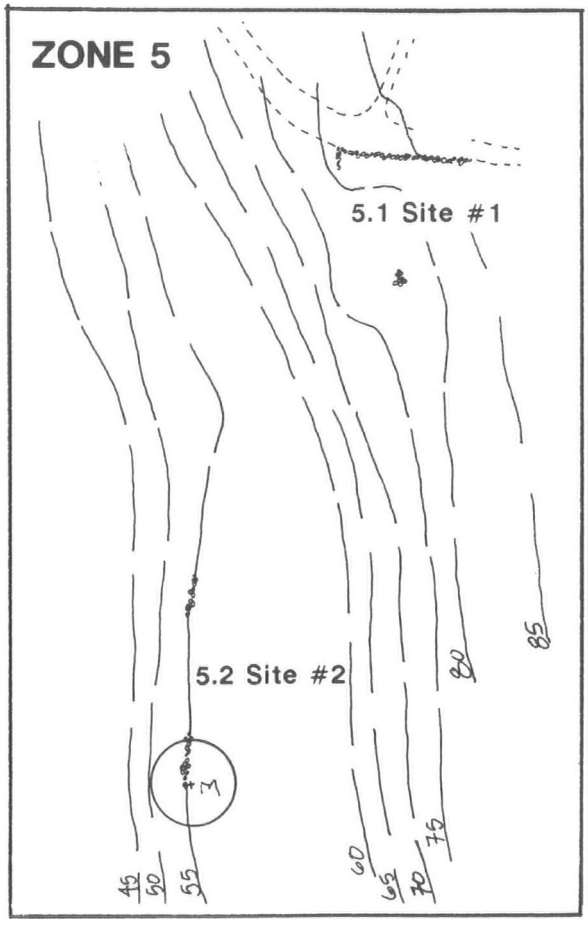
- The site is U-shaped, with the significant cut slope against the east (closed portion of the "U") edge of the site. The west edge of the level area meets grade at the path on the NW corner.

- Orientation of the site is west to the water.

- Two wall remnants located along the north side of the site may be associated with the cut slope of the roadway (see Section 4.3) or with retaining the slope in order to create a suitable building site.

B. INTEGRITY:

- The cut slope (for the most part) is stable with some loss of integrity along the north edge.



- Encroachment by vegetation is evident.

C. PRESERVATION and DATA RECOVERY:

- Intrusive vegetation should be selectively removed to keep the site open.

- Additional investigations will indicate:

  * If this is an actual building site.
  * Extent of site.
  * Resources associated with the site that are not evident at this time.

5.2 SITE #2

A. DESCRIPTION:

- This site is located on a land bench directly south and below site 5.1, between the 55' and 60' contour.

- Wall remnants are evident on the west edge of the site, retaining portions of the broad level bench.

B. INTEGRITY:

- The cut edge of the slope is slumping in places, due in large part to intrusion by vegetation.

C. PRESERVATION and DATA RECOVERY:

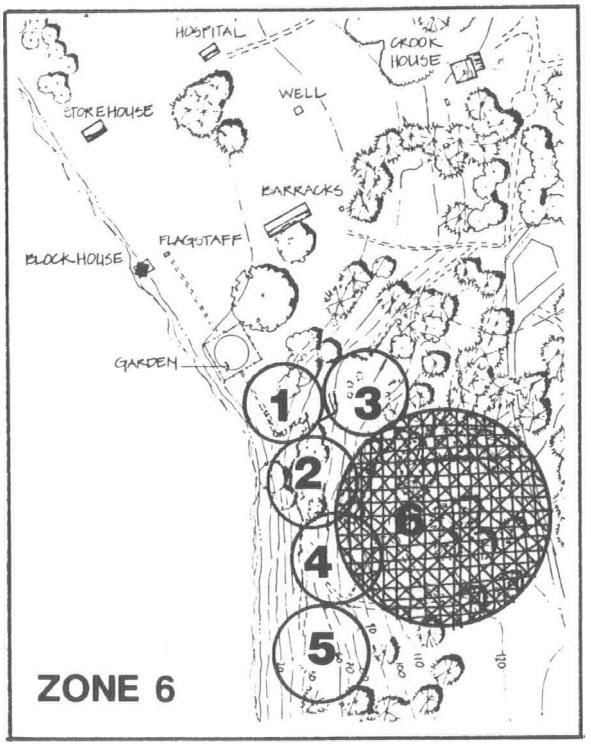
- Intrusive vegetation should be removed to keep site open.

- Additional investigations will indicate:

  * If this is an actual building site.
  * Extent of site.
  * Resources associated with the site that are not evident at this time.

ZONE 6: The Third Terrace - Captain's House Site
Approximate Area: 16,000 sq. ft.

This zone includes all of the third terrace, access trails, and land around the uppermost level bench which was the site of the Captain's house, built in 1865. The terrace is on the NW face of the hill approximately 100 feet above Garrison Bay. Like other terraces on the hillside, a portion of the level area constituting this bench is composed of fill material taken from the hill directly SE of the natural bench, and a significant portion of fill is comprised of shell midden. Primary walls include three structural walls, miscellaneous yard walls and circulation walls. Historic documentation is good for several of these structures indicating location, proximity and, in some cases, details of construction.



6.1 STRUCTURAL WALL

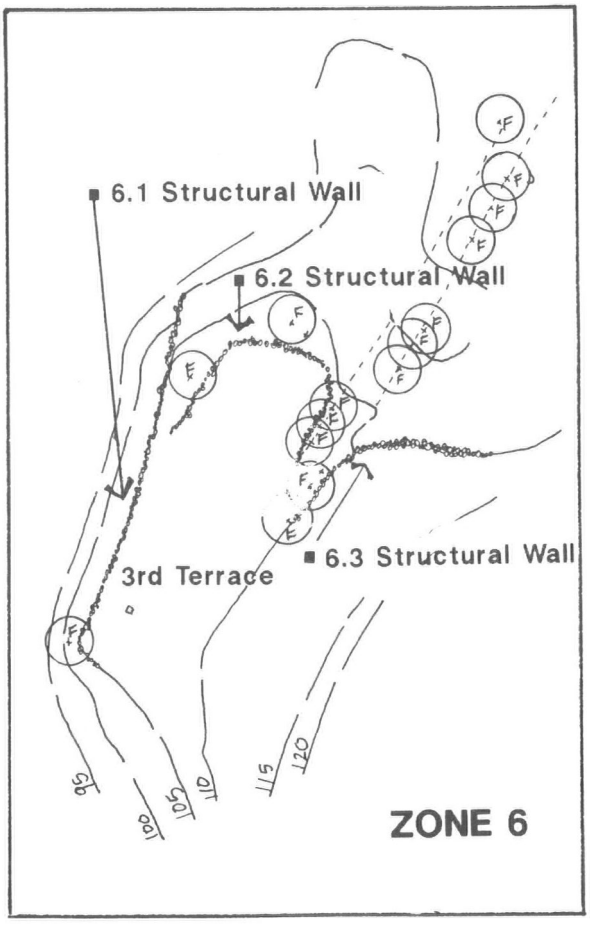
A. DESCRIPTION:

- This wall begins at the western edge of the terrace where it meets grade. The wall runs northwest for fifteen feet before angling northeast along the contour of the hill.

- The wall is approximately 180 feet long (linear length) and ranges in height between zero and eight feet.

- The northern end of this wall tapers to meet grade, angling down slope. It is possible that this wall is associated with a path, road or purpose other than supporting a building site (see 6.4 below).

- The wall is composed of basalt



and granite. Stones are round and blocky, ranging in size from .5' x 1' to 2' x 2.5'. The granite is evident only in the south portion of the wall and basalt is the dominate material in the northern portion of the structure.

- No mortar is visible.

- Shell midden is evident and may have been used as fill in addition to the fill from the cut hill.

B. INTEGRITY:

- Scrub vegetation wall, including ivy, rose and some morning glory (introduced), are evident. The rose is native, and grows in thickets.

- Some loose stones at toe of hill.

- Wall is vertical and stable.

C. PRESERVATION and DATA RECOVERY:

- Intrusive scrub vegetation should be selectively removed.

- Stones from the wall that are evident at the toe of the hill should be stockpiled.

6.2 STRUCTURAL WALL

A. DESCRIPTION:

- This wall is U-shaped (vertical and squared) beginning at the west edge of the terrace approximately at the center, and wraps around the north end of the bench.

- The wall begins at grade and carries on this axis (SW-NE) approximately 55 feet to a corner point, then turns E-SE for approximately 45 feet to a second corner and then cuts back S-SW, approximately 40 feet to create the U-shaped wall.

- The total linear length is approximately 135 feet, and the height of the wall varies between zero and four feet.

- The wall is 100% basalt (no granite) blocky stones, ranging in size from .3' x .5' to 1' x 2'.

- No mortar was observed.

B. INTEGRITY:

- Animal burrows are evident along the wall.

- Scrub is invasive above and below wall on the west face and northeast side.

- 60% of this wall is covered with moss.

- The west face of the wall is stable and squared.

- The east corner of the wall (along the treelined road) is starting to crumble.

- Along the southeast wall, four fir trees (approximately three feet caliper) are growing into the wall and may be causing some disturbance.

C. PRESERVATION and DATA RECOVERY:

- Scrub and other material impacting or undermining structural stability should be carefully removed.

- An evaluation of the damage caused by the large fir trees

should be done prior to any treatment. These trees are historic fabric and should not be removed until all other possibilities are considered.

- Additional investigations will indicate:

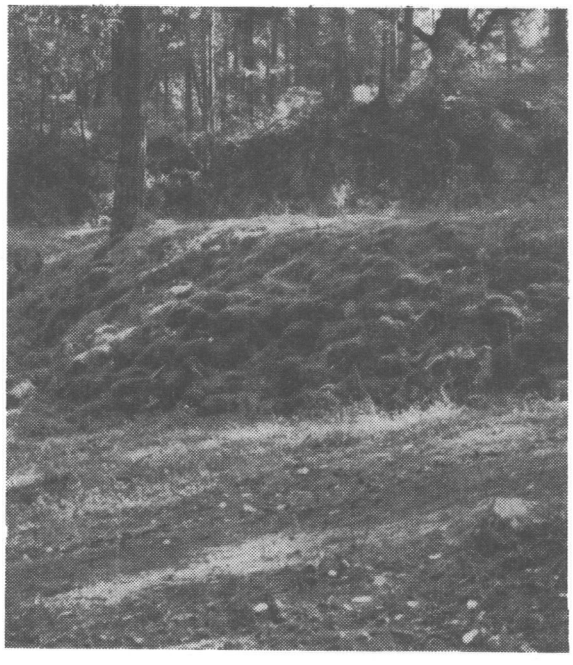
  * Extent of wall.
  * Construction techniques.
  * Correlation with historic record.

6.3 STRUCTURAL WALL

A. DESCRIPTION:

- This wall is a large curving structure that is located on the northern edge of the terrace.

- Portions of this wall retain fill material from the cut slope (shell midden evident).



Structural wall 6.3. View from the NW. (Photo by C. Gilbert, NPS, 1987)

- Portions of the wall are vertical but as the wall curves east around the fill bench, it is significantly battered.

- The wall is approximately 105 feet long and ranges between three and nine feet tall (slope height).

- Shell midden is evident throughout the interior portions of the wall.

B. INTEGRITY:

- There is evidence of considerable erosion, to the degree that the face of the existing structure may be the interior portion of the original wall.

- The middle section of the wall is 80% covered with moss.

- Possibility that this wall was mined.

C. PRESERVATION and DATA RECOVERY:

- Additional investigation will indicate:

  * Extent of wall.
  * Construction techniques.
  * Correlation with the historic record.

6.4 MISCELLANEOUS STRUCTURES AND FEATURES

- Where Wall #1 (6.1) and Wall #2 (6.2) overlap on the slope of the hill, there is a level space between them that appears to have been a road or pathway between a lower terrace and the Captain's house. This segment of Wall #1 may not be a structural wall and more appropriately may be considered

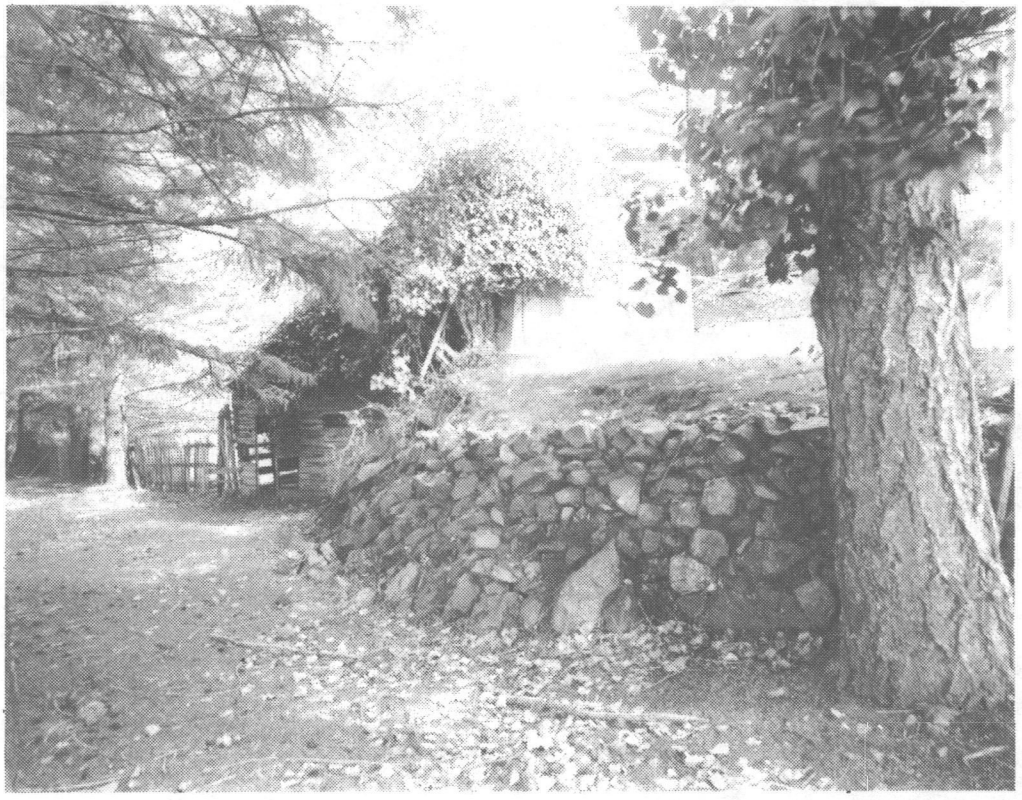
as a circulation wall, retaining a road or path.

- A dirt "roadway" from the existing NPS parking lot to the third terrace is also considered part of this zone. Remnants of an alley of fir trees line the road. This feature is currently on the LCS and well documented. It does not appear on maps from the historic period but does appear in several historic photographs.

- Remnants of yard walls are evident above Wall #2 (6.2).

- A state monument is located in this zone.

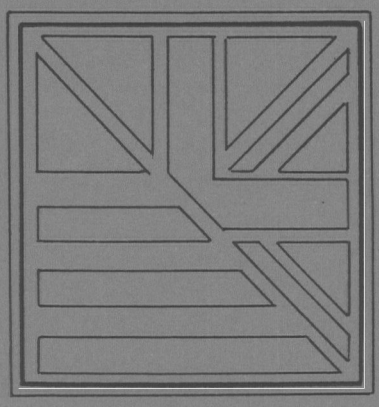
- A rock wall and possible building site are located 100 feet north of this terrace.



Structural wall 6.3, ca. 1900. Compare the condition of the wall with the existing feature pictured on the previous page. (SAJH photo file)

ANALYSIS AND EVALUATION

Evaluation Summary ■ Landscape Components ■ Design Recommendations



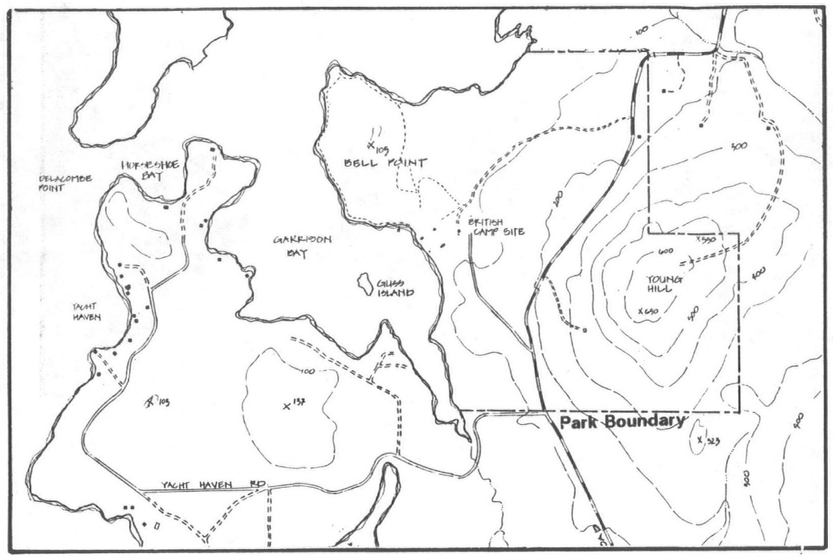
Introduction
Evaluation Summary

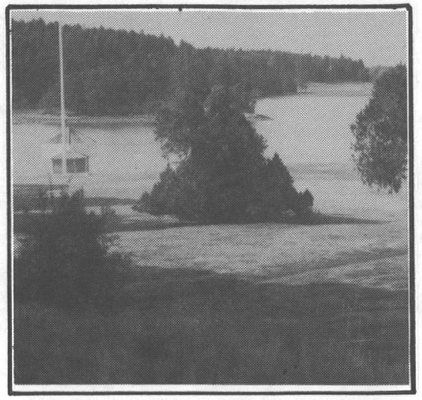
A significant number of historic structures and features remain at British Camp, contributing to the historic scene and overall intregrity of the historic landscape. Although only four historic buildings remain on the site -- the barracks, the blockhouse, the commissary storehouse and the hospital -- they are key structures and are located at the corners of the historic encampment, defining the scale and extent of the main structural complex. The reconstructed formal garden at the base of Officers' Hill and the flagstaff near the blockhouse contribute to the historic symmetry and landscape organization along the waterfront.



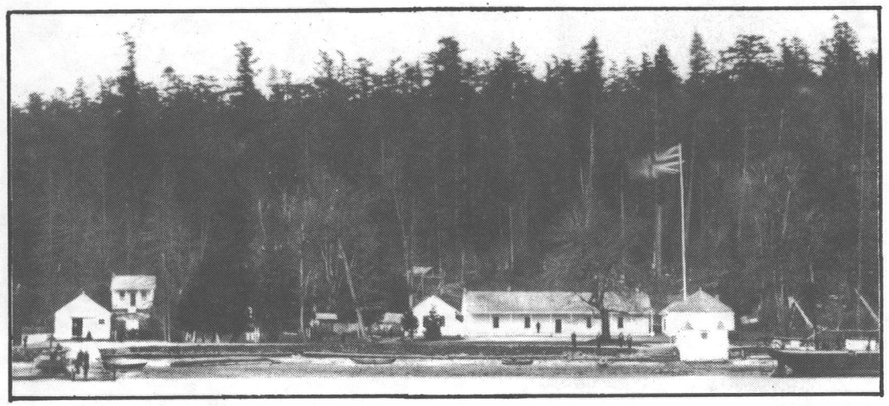


Several individual trees and herbaceous plants from the historic period also remain and are valuable "marker" points in correlation with historic maps and photographs of the site. In addition to the plant materials, a variety of structural remnants remain on the site, including the masonry ruin; cut stone steps on the trail to Officers Hill; rock pilings from the wharf; chimney foundations; historic roads and trails; remnant building foundations; building sites and several substantial rock retaining walls. Collectively these artifacts and features are significant landscape resources and contribute to the overall integrity of the historic landscape.





View of parade ground and Blockhouse, looking southwest.



Waterfront and forest backdrop surrounding the parade ground and enclosing the site. Photograph ca. 1866.



Historically British Camp was located on a broad level area extending inland from the shores of Garrison Bay. Land surrounding the main encampment was densely forested and stepped-up in elevation, creating natural site boundaries to the north, south and east. Garrison Bay created the western edge of the site, and provided access to the camp. Land routes south of the camp provided additional access. These broad organizational patterns remain today. Current access is from the south off of West Valley Road. A parking area east of the site provides an area for visitor information and trailheads to Young Hill and the camp. Although the forest has changed since 1872, the landforms and physical enclosure have remained.

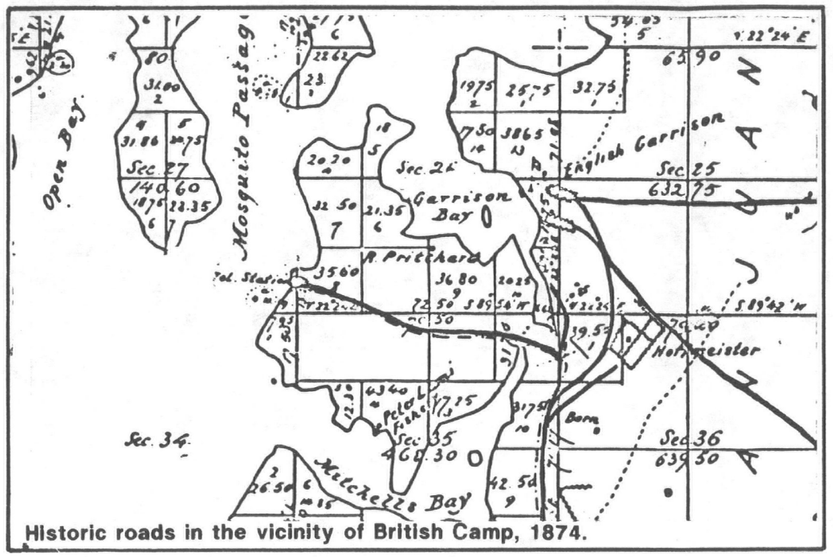
LEGEND/NOTES/SOURCES

Aerial photograph, Flight no. 19C-13, 5/78. On file, NPS, Pacific Northwest Regional Office, Seattle, Washington.

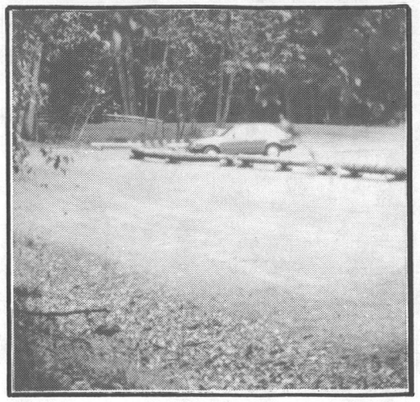
Photc file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

LANDSCAPE ORGANIZATION

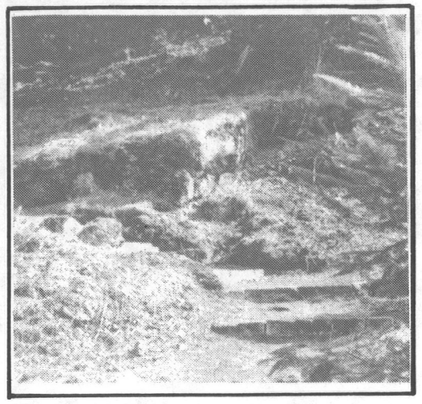
BRITISH CAMP
San Juan Island National Historical Park



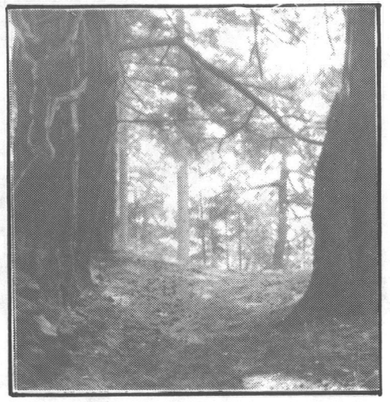
Historic roads in the vicinity of British Camp, 1874.



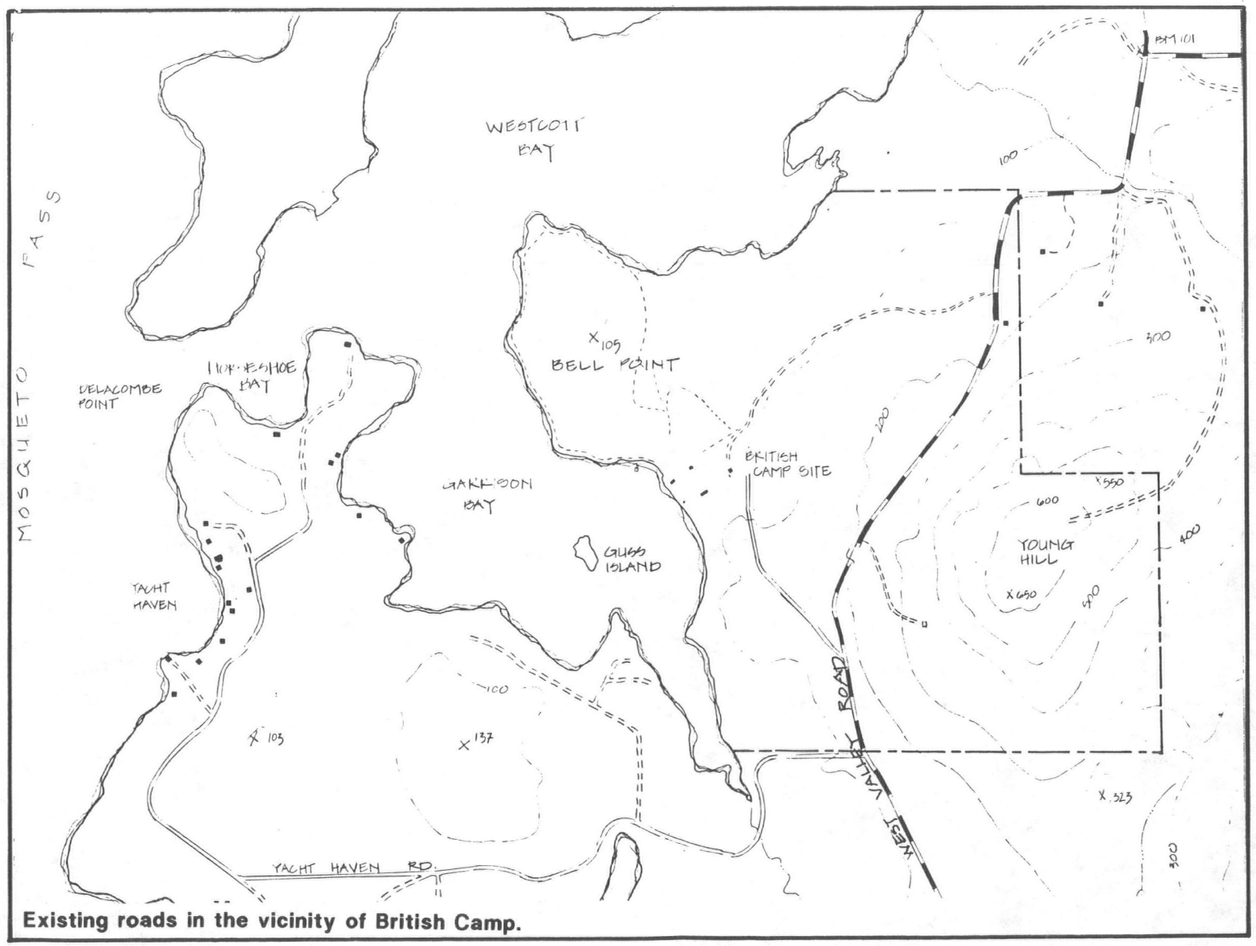
Parking area sited in a clearing east of the main camp site.



Cut stone steps and historic trail connecting the main camp and Officers' Hill. View from the northwest.



Historic road to the Captain's House. View from the east.



Existing roads in the vicinity of British Camp.

The primary historic road to British Camp branched off of the main island road between Bellevue Farm and Roche Harbor, and continued down through the forest to the barracks area. Additional roads on Officers' Hill and south along the shore provided access to the officers' quarters and to the telegraph station located near the camp.
Current access to the site is off of West Valley Road, nine miles north of Friday Harbor. This road ends in a parking lot located east of the site. Circulation on the site is confined to pedestrian trails which extend up Young Hill, through Officers' Hill, to the camp and to Bell Point.

LEGEND/NOTES/SOURCES

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

Washington State Department of Natural Resources. Government Land Office Map, Township 34 North, Range 3 West, Willamette Meridian, Washington Territory, 1874.

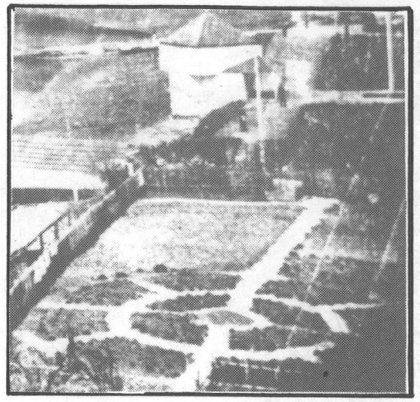
CIRCULATION PATTERNS

BRITISH CAMP

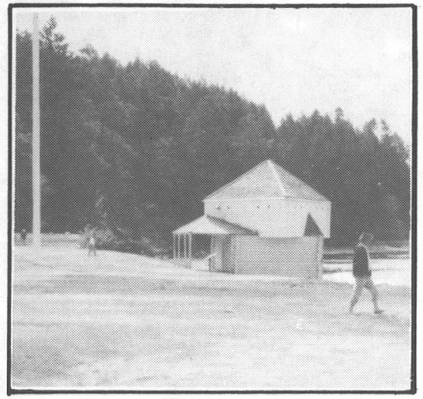
San Juan Island National Historical Park



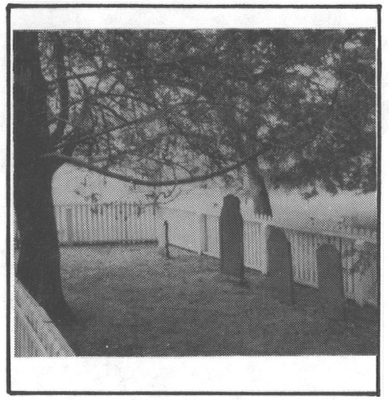
Agricultural use of the parade ground, ca. 1915.



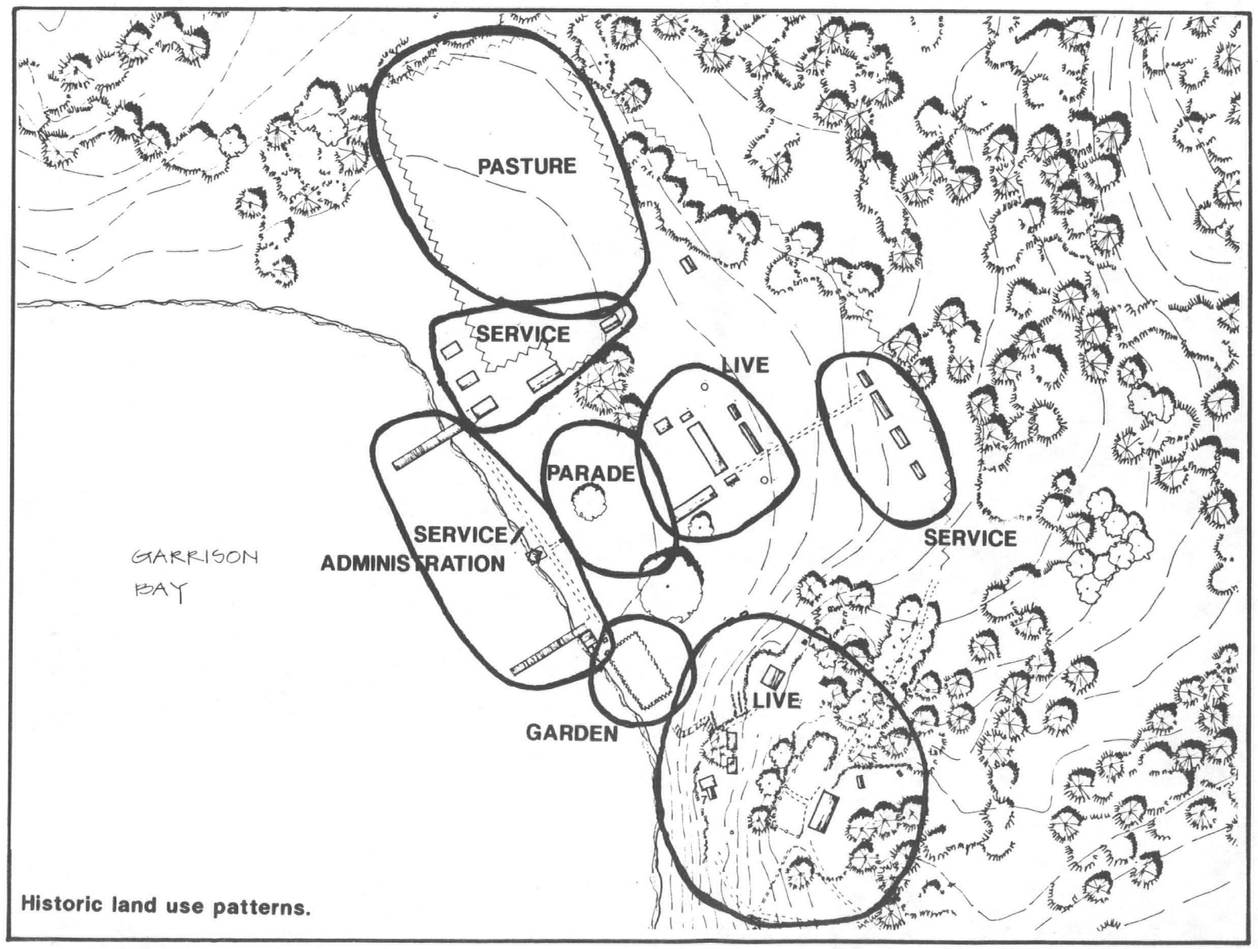
Garden and service area along the waterfront at British Camp, ca. 1870. View from the south.



Current land use activities focus on interpretation of the historic site.



The British Camp cemetery on Young Hill.



Historic land use patterns.

Land uses at British Camp included living areas, administrative facilities, service and support activities. The majority of marines lived in barracks at the edge of the parade and in quarters on the hill south of the camp. The waterfront was a contained district of administrative and service structures(wharf and storehouse). Most of the service buildings wrapped around the edge of the complex defining the north and east edges of the encampment. Pasture areas north of the site and forest to the east and south provided additional land for support services. Current land uses focus on interpretation of the historic scene, using exhibits and trails.

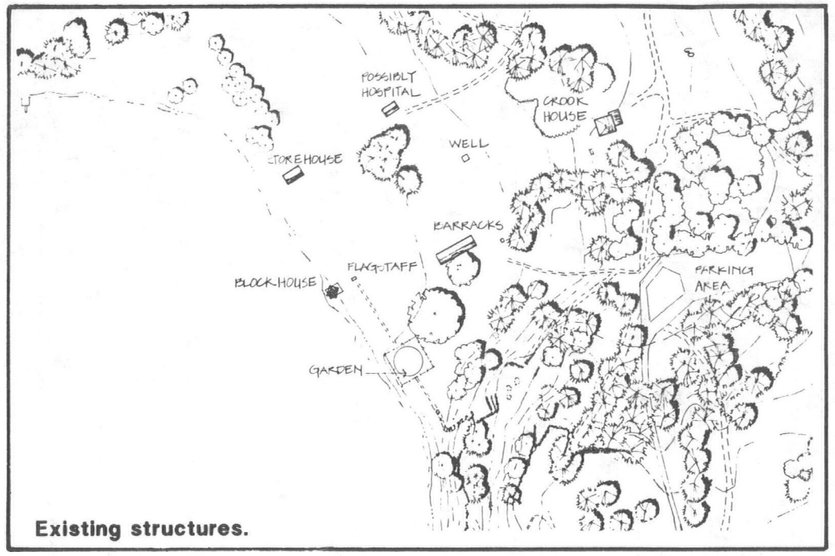
LEGEND/NOTES/SOURCES

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

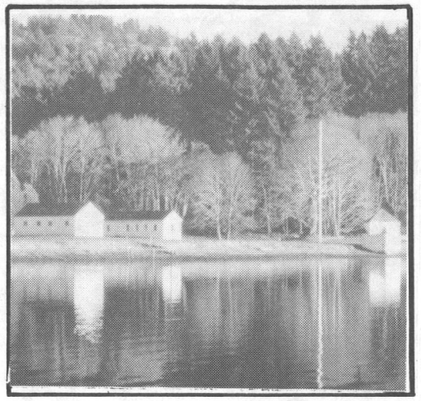
LAND USE PATTERNS

BRITISH CAMP

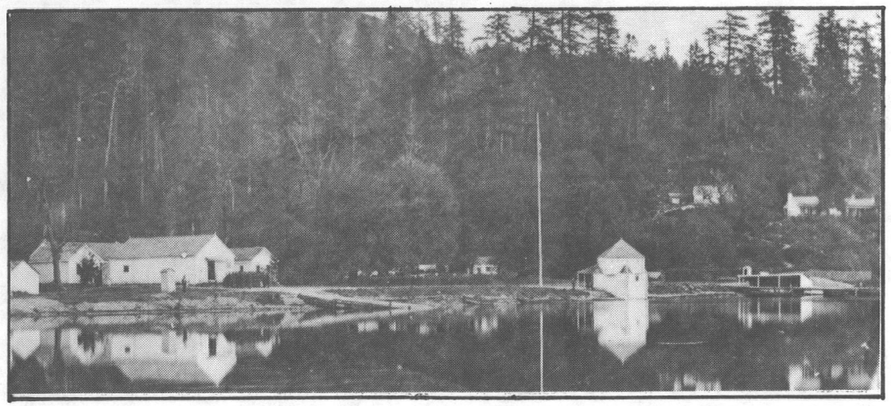
San Juan Island National Historical Park



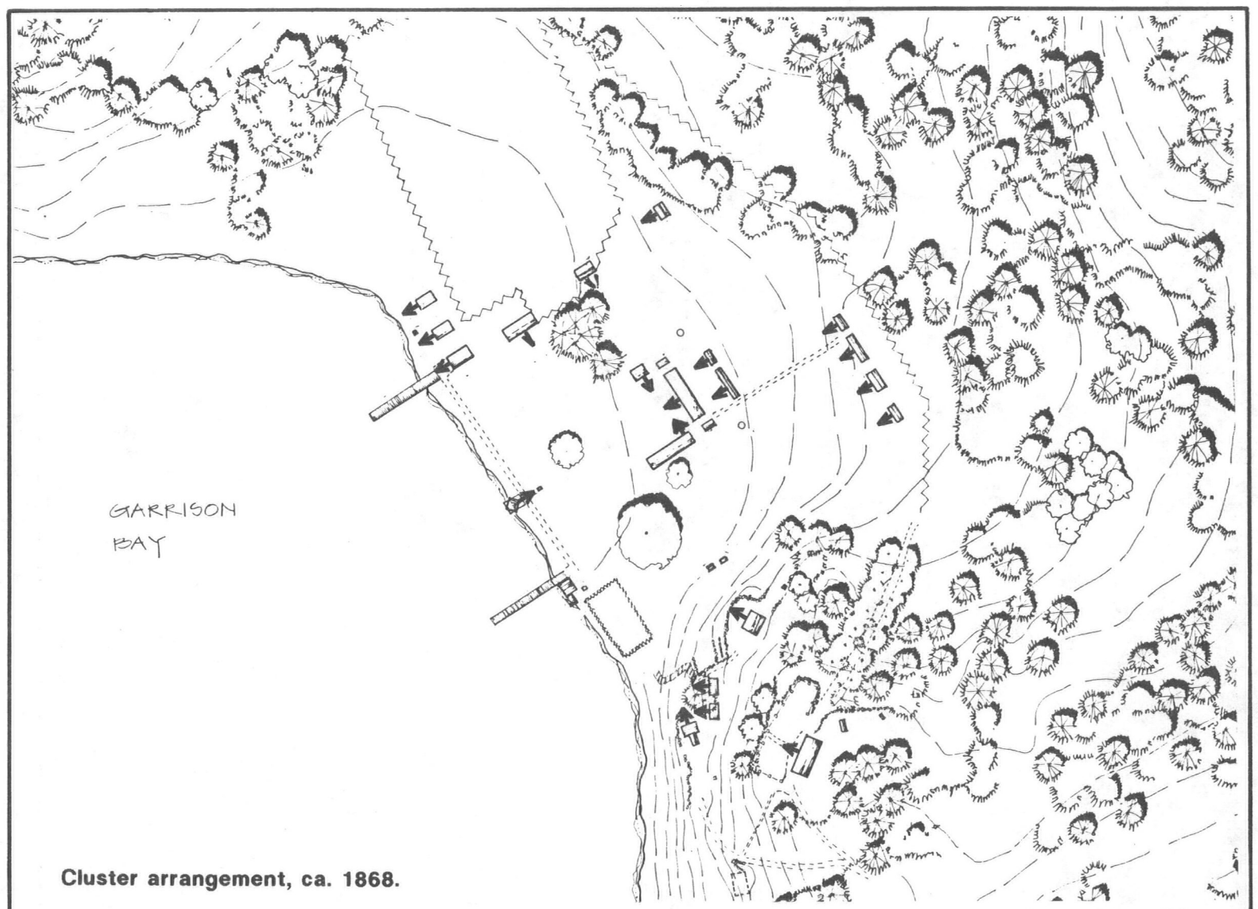
Existing structures.



Remaining buildings at British Camp. View from the northwest.



The building complex along the waterfront at British Camp ca. 1865.



Cluster arrangement, ca. 1868.

The structural complex at British Camp developed with an overall orientation to the waterfront. Early barracks buildings faced the bay with other structures clustered around the edges of the parade ground, enclosing and defining the space. Service buildings were grouped next to the shore and on the hill behind the barracks. Officers' quarters stepped up the hill south of the main encampment, overlooking the bay, with views to the straits and Vancouver Island.
Today only four buildings remain at the site and although they define the general extent of the historic encampment, they do not reflect the fuctional relationships among clusters of buildings.

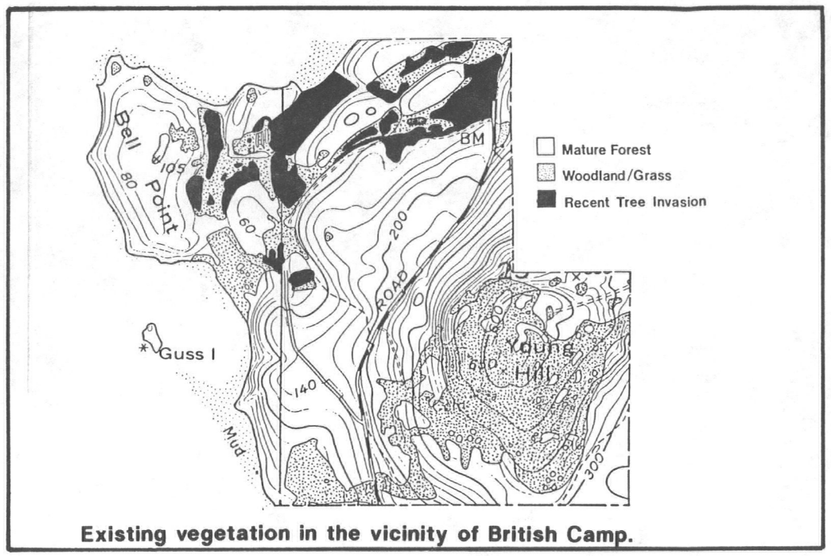
LEGEND/NOTES/SOURCES

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

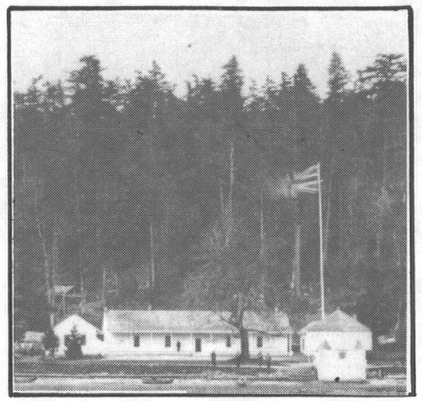
CLUSTER ARRANGEMENT

BRITISH CAMP

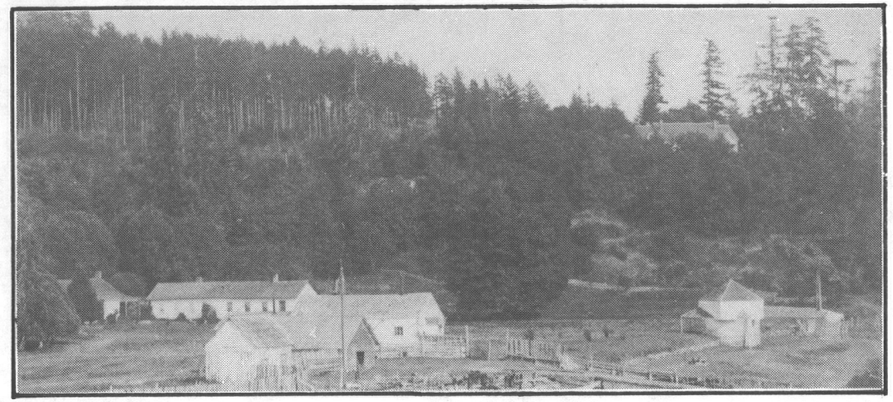
San Juan Island National Historical Park



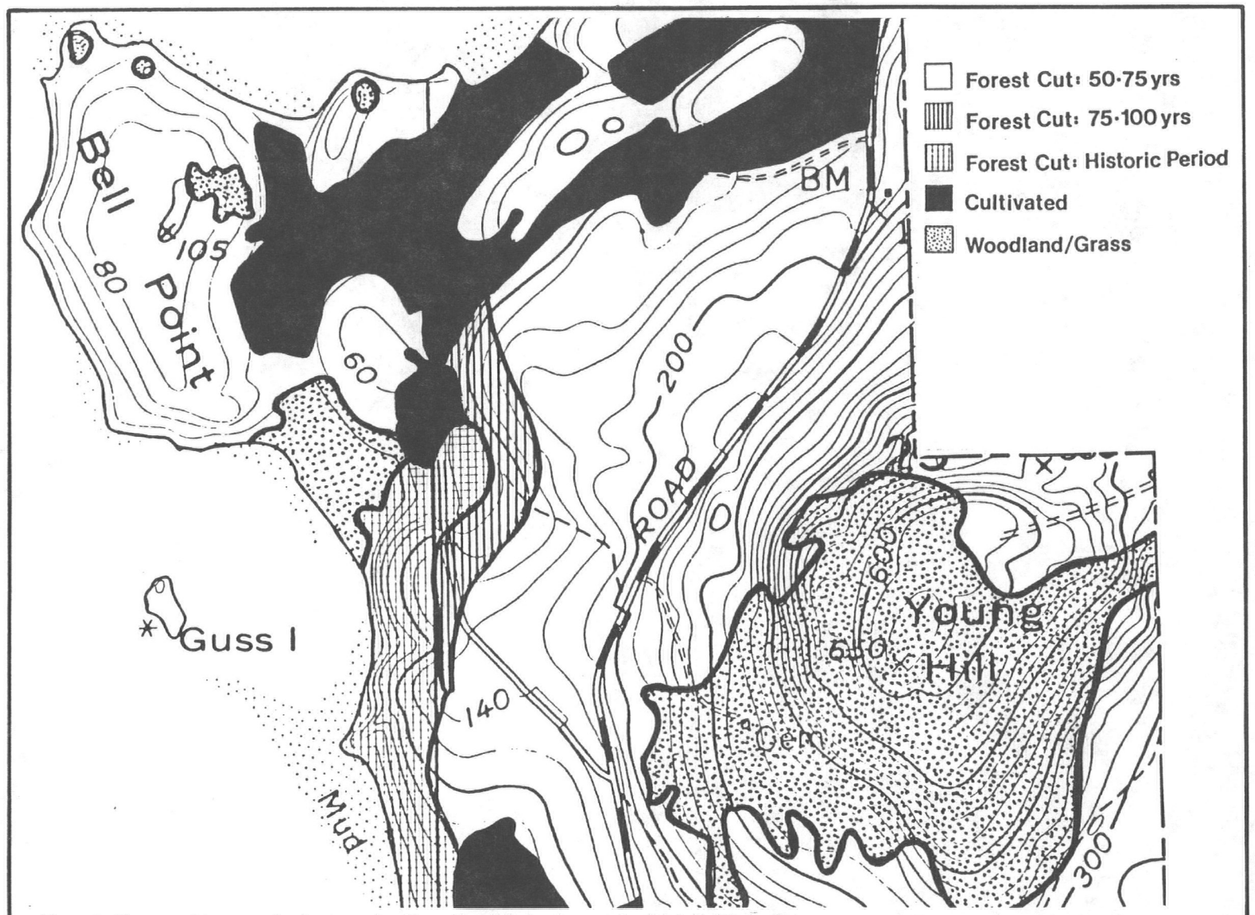
Existing vegetation in the vicinity of British Camp.



Level area of the camp cleared for construction of the main encampment. View from the west.



View of Officers' Hill after the occupation showing early revegetation of the forest. Photograph ca. 1880, view from the northwest.



Vegetation patterns during and after the historic period at British Camp

Manipulation of the vegetation at British Camp pre-dates the historic period as Indians practiced burning to maintain open lands. In 1860, when the British established their camp, the land around Garrison Bay consisted of a dense young-growth forest of maple, alder, redcedar and douglas fir with open oak-woodland around Young Hill. During the occupation extensive amounts of forest east and south of the encampment were cleared for fuel and housing material. The cutover areas became building sites for officers' quarters and other camp structures. Most recently there has been some natural recovery in abandoned fields, and considerable regeneration of the forest. The present scene at British Camp is not far removed from its appearance during the historic period.

LEGEND/NOTES/SOURCES

Historic Landscapes of San Juan Island National Historical Park, by James Agee. Seattle: National Park Service Cooperative Park Studies Unit, University of Washington, 1984.

Photo file - San Juan Island National Historical Park.
Photo file - NPS, Pacific Northwest Regional Office, Seattle, Washington.

VEGETATION PATTERNS

BRITISH CAMP

San Juan Island National Historical Park

Introduction
Design Recommendations

Design recommendations for British Camp are based on an analysis and evaluation of significant historic landscape features and components discussed in this report. The purpose of the recommendations is to provide an appropriate design framework and programmatic basis for the development of design alternatives for British Camp. The recommendations serve as guidelines and are organized into five program areas: Buildings and Foundation; Access and Circulation; Plant Materials; Special Features; Site Details and Materials; and Maintenance and Management Concepts. For each program area the recommendations address the following:

1. Stabilization and preservation of existing significant historic resources;

2. Removal of nonhistorical components that compromise the historic scene;

3. Enhancement or reestablishment of significant historic features that are ill-defined or can be verified archeologically.

Buildings and Foundations

1. All four historic buildings on site -- the hospital, the storehouse, the guardhouse and the barracks -- should be maintained and included in a cyclic maintenance preservation program.

2. All above-ground remnant structures, including the masonry ruin of the forge/bakery, the rock retaining walls and other structural walls identified on the hillside (where the officers were housed), should be stabilized and maintained to the degree that no further deterioration occurs. (See below, and see Plant Materials and Access and Circulation sections.)

3. A comprehensive evaluation and stabilization plan for the various structural features identified on the hillside should be developed with the assistance of the Regional Archeologist and the Regional Historical Architect in consultation with the State Historic Preservation Officer.

4. Based on archeological investigations or other historic documentation, consideration should be given to enhancing visitor understanding of the encampment by defining significant British Camp buildings no longer evident above ground.

5. The location of building sites should be clearly identified and archeologically verified prior to any design treatment.

6. The role of the Crook House at British Camp should be determined prior to or in conjunction with initial design work.

7. New or additional structures that do not directly relate to the

historic site should not be located on the historic grounds or in view corridors surrounding the core area.

8. A building for National Park Service (NPS) exhibits and visitor contact should be retained at the site.

Access and Circulation

Vehicular Systems

1. Historic roads and pathways identified on the hillside where the officers' houses were located should be stabilized and maintained to the degree that no further deterioration occurs. In some instances, preservation of the feature requires no intervention.

2. The existing parking lot should remain but additional design treatment is recommended. Plant materials, the treatment of edges, signage and pedestrian access to picnic areas and trails to the cemetery and the encampment, should be reviewed in the context of an overall design for the site. (see Visual Compatability Guidelines)

3. Consideration should be given to reestablishing the historic entry road to the campsite and incorporating it into the overall site design as the primary access road to the site.

4. New roads on the historic site are not appropriate. However, historic roads to the encampment could be reestablished and used as interpretive paths or as limited access routes.

5. Bicycle parking should be provided at the site.

Pedestrian Systems

6. A review and redevelopment of the existing interpretive route including the form of the path, materials, alignment, staging areas and visitor orientation is strongly encouraged.

7. Consideration should be given to expansion of the interpretive trail south along the historic road that followed the shoreline (to the telegraph station).

8. Consideration should be given to incorporating existing historic paths on Officers' Hill into the interpretive route.

9. Establishment of new paved paths in the historic core is discouraged. New paths that are not based on the historic patterns should be kept to a minimum.

10. Handicap access to the primary exhibits at the site should be provided in any new design treatment.

Plant Materials

1. A plan for selective and careful removal of vegetation undermining the structural stability of the remnant rock walls on the hillside is recommended (see 3. Buildings and Structures and see Appendix).

2. The formal garden should be retained and a long-term maintenance plan developed and incorporated in a cyclic maintenance preservation program for the landscape.

3. It is recommended that the remnant fruit trees associated with the Crook homestead be removed from the grounds north of the storage building.

4. It is recommended that a plan be developed for selective thinning of the forest on the hillside where the officers' quarters were located, and where the sawmill was sited. Vista clearing will strengthen the visual and perceptual connection between the officers' quarters and the encampment as well as site lines to Vancouver Island across the strait.

5. Replacement of some ornamental plant materials in conjunction with the structural delineation at selective building sites is appropriate. (see Special Features, Site Details and Materials)

Special Features, Site Details and Materials

1. Consideration should be given to replacement of the fence that historically enclosed the British encampment for design or interpretive purposes.

2. Several foot paths at the British Camp were covered with shell and lined with small rocks. These materials could be reintroduced and incorporated into the reclamation of historic paths in the design.

3. Reestablishment of some historic drainage systems may be appropriate for contemporary use and could be used as interpretive structures.

4. A comprehensive list of appropriate plant materials and structural elements, including site furniture and detail features, for the historic site should be developed as part of the Visual Compatability Guidelines for the park (Historical Landscape Architect will work with Design and Maintenance team).

Maintenance and Management Concepts

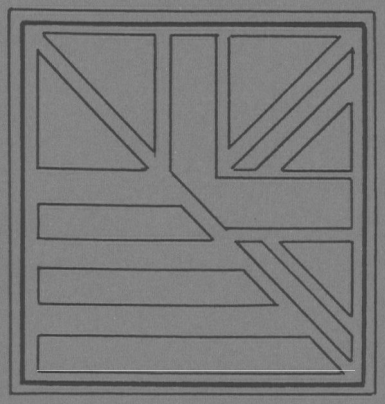
1. It is important to retain the high degree of landscape integrity at British Camp by protecting the sense of enclosure created by the forest, the open pasture area, the parade ground and the essential relationships among each individual landscape zone and the resources therein, as identified in this study.

2. Keep all modern intrusions, such as above ground utilities, maintenance structures, service areas and other elements that conflict with the historic scene, well screened or preferably off of the historic site altogether.

3. Further site work and archeological investigations are recommended for verifying the location of several structures and possibly the extent and function of features identified in this study. (see Appendix)

4. A general maintenance program for the historic landscape should be developed in conjunction with selection of a preferred design alternative.

DESIGN ALTERNATIVES



Introduction
Design Alternatives

There are three individual design alternatives for British Camp. The alternatives include a "no action" proposal, a proposal that focuses on adaptive reuse of the Crook House, and a proposal that focuses on restablishment of specific features at the camp site, circa 1866. For a discussion of the process used to develop the alternatives see pg. 65. Alternatives for British Camp include recommendations for adjacent land uses including the cemetery and roads to the camp site.

Alternative I (no action)

This alternative proposes that operations and management remain as they are. Existing facilities will continue to be used and maintained; interpretation of historic resources will remain unchanged. No new structures will be added to the site.

ELEMENTS OF THE PLAN

A. British Camp

-- No changes to the site are proposed.

B. Adjacent Lands

-- No changes are proposed.

-- Access to the historic site (from the parking lot to the parade) will remain difficult for many and inaccessible for some.

-- The existing parking lot will remain out-of-scale and visually intrusive.

GENERAL IMPACTS

-- Non-extant historic structures will remain unidentified and unmarked. With only four standing historic buildings, a masonry ruin and scattered remnant materials, visitor understanding of the historic scene will remain "sketchy".

-- The status of the Crook House will remain unresolved.

-- Unchecked growth of trees and understory plant materials on Officers' Hill will continue to undermine the historic rock walls and jeopardize the integrity of historic road beds and building sites. Historic views and vistas from the hill will also remain obscure.

-- Without comprehensive archeological investigations and stabilization, the extent of newly-identified resources on Officers' Hill will remain undocumented and the resources will continue to deteriorate and eventually be lost altogether.

SOURCES

TOPOGRAPHIC SITE MAPS, ENGLISH CAMP, SAN JUAN ISLAND NATIONAL HISTORICAL PARK, SHEETS 1-4, WESTERN SERVICE CENTER, NPS, 1971. DRAWING NO. 438-91007A

TOPOGRAPHIC SITE MAPS, ENGLISH CAMP SAN JUAN ISLAND NATIONAL HISTORICAL PARK, SHEETS 1-7, NPS, 1987. DRAWING NO. 80017

FIELD RECONNAISSANCE - SUMMER - 1986

GARRISON BAY

GUSS ISLAND

POSSIBLY HOSPITAL

CROOK HOUSE

WELL

STOREHOUSE

BARRACKS

FLAGSTAFF

BLOCKHOUSE

PARKING AREA

GARDEN

ALTERNATIVE ONE (NO ACTION)

SAN JUAN ISLAND NATIONAL HISTORICAL PARK **HISTORIC LANDSCAPE STUDY**	NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCE DIVISION	100 50 0 100 200 300 SCALE 1" - 100'	NORTH	DESIGNED: DRAWN: GILBERT TECH. REVIEW: DATE: 9/86	SUB SHEET NO.	TITLE OF SHEET **EXISTING CONDITIONS BRITISH CAMP**	DRAWING NO. 80018 438 - PKG. NO. — SHEET 9 OF 13

Alternative II

This alternative focuses on identification and enhancement of the historic scene through reestablishment of significant historic features and patterns. In this proposal the Crook House is adaptively reused as a visitor center.

ELEMENTS OF THE PLAN

A. British Camp

-- The Crook House is rehabilitated and used as the new visitor center for the site. Fir and cedar trees, along with appropriate understory plants are used to visually screen the Crook House, creating selected views to and from the main camp site.

-- The four standing historic buildings are adaptively reused for exhibit space and interpretive programs.

-- The masonry ruin and other remnant features from the historic period are stabilized and preserved.

-- A comprehensive archeological investigation is conducted on Officers' Hill to record historical resources (rock walls, historic roads, building sites) and to fully document the extent and complexity of each feature.

-- Selective clearing of the forest on Officers' Hill and on the NE slope of the camp site is conducted in order to reestablish historic vistas and viewsheds. Additional clearing on Officers' Hill is undertaken to expose and stabilize rock walls, historic roads, pathways and building sites identified in the Historic Landscape Report.

-- Vehicular access to the historic site is realigned to use the historic entry road (still evident).

-- The existing parking area is removed and a new lot is developed.

-- A new trail to the visitor center (Crook House) is developed. New hard surface trails are also developed from the visitor center to and through the main camp site. These trails are handicapped accessible, providing safe and comfortable access for everyone.

-- All non-extant building sites are identified (archeologically) and marked. Proposed treatments for marking sites include:

  a. mowing, signing and marking with stone foundation footings.

  b. Ghosting structures.

-- The large bird house on Officers' Hill is reconstructed.

-- The formal garden is maintained.

-- Historic fencing (wood post and rail) is partially reestablished along the NE edge of the camp to define the boundary of the historic site.

B. Adjacent Land uses

-- The trail from the main camp to British Camp Cemetery on Young Hill is retained.

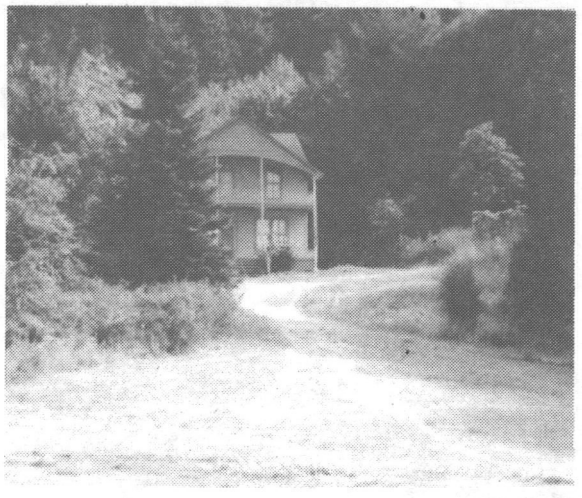
-- The cemetery is stabilized (drainage corrected) and maintained. Original headstones are recorded and left in place. When original headstones become

unsightly, they should be replaced in consultation with the Regional Curator and Regional Historical Architect.

-- The historic road (ca. 1855) along the shoreline leading south from British Camp to American Camp is reestablished and used as a hiking trail, linking both historic sites.

GENERAL IMPACTS

-- Adaptive reuse of the Crook House for a visitor center expands the interpretive facilities at the site and provides additional administrative space for the park. Screening the building to provide selective views to the camp heightens anticipation and provides optimum views to the historic site. Allowing visitors to see the Crook House first, and explaining it before they experience the primary historic site, eliminates questions about the structure and helps set the physical and historical context.



The Crook House on the hill above British Camp. Additional screening will help mitigate the visual impact of the structure on the historic scene. View from the W. (Photo by C. Gilbert, NPS, 1987)

The park also has the flexibility of interpreting the Crook era to the degree that it is part of the preservation story of British Camp and the location of the structure provides a neutral setting for interpreting the prehistoric and natural resources of the site. Pedestrian trails to the Crook House and from the Crook House to the main camp follows a gentle grade providing an accessible route for everyone. The primary drawbacks for using the Crook House for a visitor center are both structural and functional. The building as it exists is below code for visitor center use and will require considerable rehabilitation to upgrade it. In addition, opinion is divided on whether its small spaces and marginal utility systems can be adapted for visitor center use; a review of the HSR and park needs, and consultation with the SHPO and WASO would be required to determine what latitude is possible in adapting the interior space. The visual impact of the Crook House on the historic scene will be mitigated by vegetative screening.

-- Interpretive opportunities are increased by adapting the existing historic structures for exhibits.

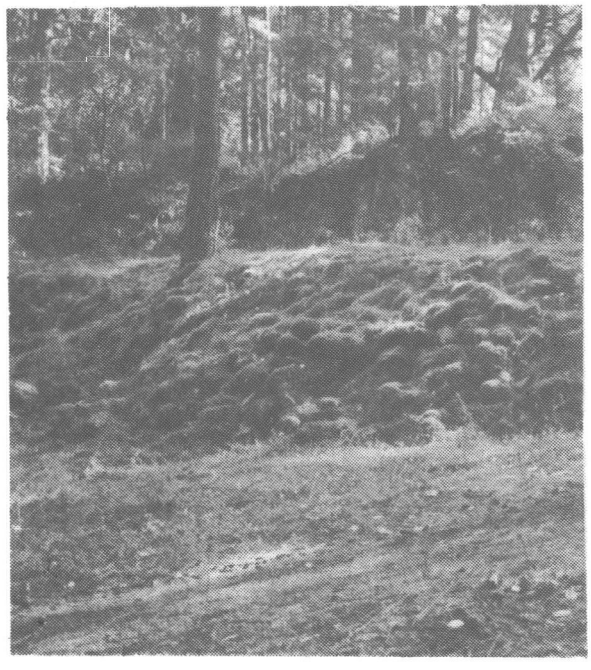
-- Historic remnants are stabilized assuring long-term preservation of significant resources.

-- The extent and value of "newly-discovered" resources on Officers' Hill are identified and documented. This will provide guidelines for the long-term planning and management of these significant resources.

-- Opening views from Officers' Hill helps the visitor understand/grasp more of the historic scene and the functioning of the British military system.

-- Redevelopment of the entry system to British Camp echos historic land use patterns and "fits" on the landscape, reducing the impact of a contemporary feature (parking lot) on the historic scene.

-- Marking non-extant historic features will allow visitors to obtain a better understanding of the size, scale and extent of the historic site.



Stabilization of remnant features on Officers' Hill is a component of design alternatives I & II.



The area currently used for bicycle parking can be incorporated into the redeveloped entry system for the site. In this alternative, vehicular parking would be located to the right (east) of the area pictured above. The main pedestrian trail to the Crook House (visitor center) would be located to the left (west) of the area, providing an accessible route to the main camp site. (Photo by C. Gilbert, NPS, 1987)

LEGEND

BUILDING SITES

- EXISTING BUILDING - historic buildings - cyclic maintenance; adaptive reuse for interpretive exhibits
- NON-EXTANT HISTORIC BUILDING - ghosted frame
- NON-EXTANT HISTORIC BUILDING - size and location marked with stone foundation footing

CIRCULATION

- ROAD - unpaved - existing
- INTERPRETIVE TRAIL - hard surface - handicapped accessible
- INTERPRETIVE TRAIL - unpaved

FENCES

- SPLIT RAIL FENCE - used as historic fence to mark camp boundary line
- WOOD POST and RAIL FENCE - historic fencing marking yard at Captain's house

VEGETATION

- FIR TREE
- DECIDUOUS TREE
- HEDGEROW

OTHER FEATURES

- ROCK WALL - historic remnant
- CUT STONE STEPS - historic remnant

BELL POINT TRAIL

GARRISON BAY

GUSS ISLAND

REESTABLISH PATH ALONG WATERFRONT

STABILIZE CUT STONE STEPS AND TRAIL

REESTABLISH HISTORIC ROAD TO AMERICAN CAMP AS HIKING TRAIL

MAINTAIN OPEN PASTURE AREA

REESTABLISH HISTORIC FENCE AS CAMP BOUNDARY

CROOK HOUSE - VISITOR CENTER

VISTA CLEARING

BICYCLE PARKING

TRAIL HEAD AND STAGING AREA

NEW PARKING AREA

MAINTAIN TRAIL TO CEMETERY

VISTA CLEARING ON OFFICERS' HILL

REESTABLISH HISTORIC ENTRY

STABILIZE EXPOSED ROCK WALLS

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

100 50 0 100 200 300

SCALE 1"-100'

NORTH

ALTERNATIVE TWO BRITISH CAMP

DRAWING NO. 438 - 80018
SHEET 11
OF 13

Alternative III

This alternative involves identification and enhancement of several historic features (as developed in ALTERNATIVE II). In this proposal the Crook House is removed from the historic site.

ELEMENTS OF THE PLAN

A. British Camp

-- The Crook House is removed from the historic site. Fir and cedar trees along with appropriate understory plants are used as an interim measure to mitigate the visual impact of the structure until it can be moved.

-- Planting areas are added to the existing parking lot to reduce the visual impact on the historic scene.

-- The fruit trees N of the parade ground are removed.

-- All other elements of the plan are the same as described in ALTERNATIVE II

B. Adjacent land uses

-- Same as ALTERNATIVE II

GENERAL IMPACTS

-- The Crook House will no longer intrude on the historic scene.

-- All other impacts are the same as described in ALTERNATIVE II.

LEGEND

BUILDING SITES

- EXISTING BUILDING - historic buildings - cyclic maintenance; adaptive reuse for interpretive exhibits
- NON-EXTANT HISTORIC BUILDING - ghosted frame
- NON-EXTANT HISTORIC BUILDING - size and location marked with stone foundation footing

CIRCULATION

- ROAD - unpaved, existing
- INTERPRETIVE TRAIL - hard surface, handicapped accessible
- INTERPRETIVE TRAIL - unpaved

FENCES

- SPLIT RAIL FENCE - used on historic fence to mark camp boundary line
- WOOD POST and RAIL FENCE - historic fencing marking yard of Captain's house

VEGETATION

- FIR TREE
- DECIDUOUS TREE
- HEDGEROW

OTHER FEATURES

- ROCK WALL - historic remnant
- CUT STONE STEPS - historic remnant

GUSS ISLAND

GARRISON BAY

BELL POINT TRAIL

REESTABLISH PATH ALONG WATERFRONT

STABILIZE CUT STONE STEPS AND TRAIL

REESTABLISH HISTORIC ROAD TO AMERICAN CAMP AS HIKING TRAIL

MAINTAIN OPEN PASTURE AREA

REESTABLISH HISTORIC FENCE AS CAMP BOUNDARY

VISTA CLEARING

BICYCLE PARKING

TRAIL HEAD AND STAGING AREA

REDEVELOPED PARKING LOT

MAINTAIN TRAIL TO CEMETERY

VISTA CLEARING ON OFFICERS HILL

REESTABLISH HISTORIC ENTRY

STABILIZE EXPOSED ROCK WALLS

SAN JUAN ISLAND NATIONAL HISTORICAL PARK

HISTORIC LANDSCAPE STUDY

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
CULTURAL RESOURCE DIVISION

DRAWN BY: GILBERT DATE: 9/87

100 50 0 100 200 300

SCALE 1"-100'

NORTH

ALTERNATIVE THREE BRITISH CAMP

DRAWING NO. 438 - 80018
SHEET 12
OF 13

ENDNOTES

1. Wayne Suttles, "Economic Life of the Coast Salish of Haro and Rosario Straits" (ph.D. diss., Department of Anthropology, University of Washington, 1951) p.36.

   Also see Stephen Kenady, "Environmental and Functional Change in Garrison Bay" in Miscellaneous San Juan Island Reports 1970-1972, (Moscow, Idaho: Department of Sociology/Anthropology, University of Idaho, 1973.)

2. Erwin Thompson, Historic Resource Study: San Juan Island National Historical Park, Washington (Denver Service Center: National Park Service, 1972), p.199. Hereinafter cited as Thompson 1972.

3. Thompson 1972, 200.
   Also see Bryce Wood, San Juan Island Coastal Place Names and Cartographic Nomenclature (Ann Arbor, Michigan: University Microfilms International, 1980), p.96.

4. Thompson 1972, 214.

5. James Agee, Historic Landscapes of San Juan Island National Historical Park (Seattle, Washington: National Park Service, 1984) Pgs. 4-7. Hereinafter cited as Agee 1984.

6. Thompson 1972, 217-218.
   As discussed by Thompson, the structure identified as the unmarried subaltern'ss quarters was remarkably similar in size and construction to the mess room, leading to confusion for these scholars attempting to locate each structure.

7. Thompson 1972, 203.

8. Thompson 1972, 204.

9. Thompson 1972, 204.

10. Thompson 1972, 205.

11. Thompson 1972, 204, 205, 215-217.
    A great deal is know about this building. Thompson's discussion is very thorough, especially when supplemented with the historic photographs, depicting the structure. See p. 100.

12. See RESEARCH: Archeological Summary p. 109.

13. Thompson 1972, 216
    As evident in the historic photographs of this building, the grounds and landscape features around the Captain's house changed over the years.

Although most of the photographs do not have dates, several include pictures of Captain Delacombe's family on the front verandah. These photographs depict the most articulated garden features and structural details. See p. 100.

14.Some individuals and experts on the British military system believe that a more formal foot path connected the Captain's house and the main encampment below. During the course of this study, no information was found that indicates the location or character of such a path.

15.Thompson 1972, 217.

16.Bryn Thomas "Report of the Test Excavations of the Rock Features at the second Terrace on the Officers' Quarters Hillside British Camp, San Juan Island National Historical Park (Report prepared for the National Park Service, Pacific Northwest Region, Seattle, Washington, 1987). See Appendix D.

17.Thompson 1972, 219.

18.Thompson 1972, 219.

19.There is considerable disagreement among experts regarding the masonry ruin and the historic function of the structure. Some believe that the architectural character of the ruin indicates the structure was a bakery, while others maintain the archeological evidence found at the site strongly supports the blacksmith shop. Both groups agree that additional archeological investigations at the site may help resolve the issue.

20.Thompson 1972, 228.

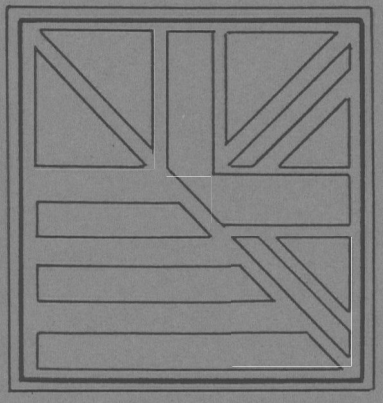
21.See RESEARCH: Archeological Summary, p. 109.

22.Thompson 1972, 224.

23.Carol Meadowcroft, "Reconstruction of the Historic Formal Garden at English Camp, San Juan Island National Historical Park, Washington." (Report prepared for the National Park Service, Pacific Northwest Region, 1982), p. 8. See Appendix G.

24.For a review of the literature see Gary Wessen, "An overview and Assessment of the Prehistoric Archeology of the San Juan Islands (Draft report prepared for the National Park Service, Pacific Northwest Region, 1987) See Appendix A.

PART FOUR
APPENDICES AND BIBLIOGRAPHY



BIBLIOGRAPHY

BOOKS AND MANUSCRIPTS

Atkinson, Scott and Fred Sharpe. Wild Plants of the San Juan Islands. Seattle, Washington: The Mountaineers, 1985.

Carlson, Roy. Archeological Investigations in the San Juan Islands. Seattle: University of Washington, 1954.

Franklin, J.F, and C.T. Dryness. Natural Vegetation of Oregon and Washington. Portland: U.S. Department of Agriculture, Forest Service General Technical Report PNW-8, 1973.

Haller, Granville O. San Juan and Secession. Washington: R.L. McCormick, 1896; reprint ed., Seattle, Washington: Shorey Book Store, 1967.

Hanford, C.H. San Juan Dispute. Seattle Washington: Dilettante Publishing Co., 1900; reprint ed., Seattle, Washington: Shorey Book Store, 1971.

Hart, Herbert M. Pioneer Forts of the West. Seattle, Washington: Superior Publishing Company, 1967.

Johansen, Dorothy. Empire of the Columbia: A History of the Pacific Northwest. 2nd ed. New York: Harper and Row, 1967.

Kenedy, Stephen, Susan Saastamo, and Roderick Sprague. Miscellaneous San Juan Island Reports 1970-1972. Moscow, Idaho: Department of Sociology and Anthropology, University of Idaho, 1973.

Murray, Keith. The Pig War. Pacific Northwest Historical Pamphlet No. 6. Tacoma, Washington: Washington State Historical Society, 1968.

Richardson, David. The Pig War Islands. Eastsound, Washington: Orcas Publishing Co., 1971.

Sprague, Roderick, ed. San Juan Archeology Volume I and II. Moscow, Idaho: University of Idaho, 1983.

Suttles, Wayne. "Economic Life of the Coast Salish of Haro and Rosario Straits." Ph.D. diss., Department of Anthropology, University of Washington, 1951.

Stallard, Patricia Y. Glittering Misery, Dependents of the Indian Fighting Army. California: Presidio Press; Colorado: Old Army Press, 1978.

Walsh, Sophie. History and Romance of the San Juan Islands. Anacortes, Washington: Anacortes American Press, 1932.

Wessen, Gary C. An Overview and Assessment of the Prehistoric Archeology of the San Juan Islands. Draft report prepared for the National Park Service, Pacific Northwest Region, 1987.

Wood, Bryce. San Juan Island Coastal Place Names and Cartographic Nomenclature. Ann Arbor, Michigan: University Microfilms International, 1980.

GOVERNMENT PUBLICATIONS - LISTED IN CHRONOLOGICAL ORDER

Senate Executive Documents, 36th Cong., 1st Sess., No. 10, also published as part of The Northwest Boundary Discussion of the Water Boundary Question: Geographical Memoir of the Islands in Dispute: and History of the Military Occupation of San Juan Island, Washington, GPO, 1868.

Senate Executive Documents, 40th Cong., 2d Sess., No. 29, "Message of the President of the United States . . . in relation to the occupation of the island of San Juan, in Puget Sound," 1868.

U.S. Department of the Interior, National Park Service. National Survey of Historic Sites and Buildings: American and English Camps (Pig War Site), San Juan Island, Washington, by Charles Snell. April 10, 1961.

U.S. Department of the Interior, National park Service. San Juan Island National Historical Park, Washington: A Proposal, by Charles Brown, John Doerr, John Hussey, et. al. San Francisco: Western Regional Office, National Park Service, March 1964.

U.S. Department of the Interior, National Park Service. San Juan Island National Historical Park, Washington: A Master Plan, by Richard W. Barnett, et. al. San Francisco: San Francisco Service Center, National Park Service, 1968.

U.S. Department of the Interior, National Park Service. English Camp, San Juan Island National Historical Park: Historic Structures Report, Part I, by A. Lewis Koue and Erwin Thompson. Washington, D.C.: National Park Service, Division of History, 1969.

U.S. Department of the Interior, National Park Service. Aerial Detection of Historical Features of San Juan Island, Washington, by Carl Strandberg Associates. Fremont, California, 1970.

U.S. Department of the Interior, National Park Service. Historic Resource Study, San Juan Island National Historical Park, Washington, by Erwin Thompson. Denver, Colorado: Denver Service Center, National Park Service, 1972.

U.S. Department of the Interior, National Park Service. Classified Structure Field Inventory Report, San Juan Island National Historical Park, by Harold LaFleur, 1975.

U.S. Department of the Interior, National Park Service. Statement for Management, San Juan Island National Historical Park, Washington. Seattle, Washington: Pacific Northwest Regional Office, National Park Service, 1976.

U.S. Department of the Interior, National Park Service. Environmental Assessment: Proposed General Management Plan, San Juan Island National Historical Park. Seattle, Washington: Pacific Northwest Regional Office, National Park Service, 1977.

U.S. Department of the Interior, National Park Service. Historic Structures Report, Officers' Quarters, Laundress Quarters, English Camp Hospital, San Juan Island National Historical Park, by Harold LaFleur, Jr. Denver, Colorado: Denver Service Center, National Park Service, 1978.

U.S. Department of the Interior, National Park Service. General Management Plan, San Juan Island National Historical Park, Washington, by Don Campbell, et. al. 1979.

U.S. Department of the Interior, National Park Service. Historic Landscapes of San Juan Island National Historical Park, by James Agee. Seattle, Washington: National Park Service Cooperative Park Studies Unit, College of Forest Resources, University of Washington, 1984.

U.S. Department of the Interior, National Park Service. Rabbits, Redoubts and Royal Marines: An Interdisciplinary Approach to Resources Management Problems at San Juan Island National Historical Park. Seattle, Washington: Pacific Northwest Regional Office, National Park Service, 1984.

U.S. Department of the Interior, National Park Service. San Juan Island National Historical Park Interpretive Prospectus. Harpers Ferry, West Virginia: Harpers Ferry Center, National Park Service, 1984.

U.S. Department of the Interior, National Park Service. Cultural Landscapes: Rural Historic Districts in the National Park System, by Robert Melnick, Daniel Sponn, Emma Jane Saxe. Washington D.C.: Park Historic Architecture Division, National Park Service, 1984.

U.S. Department of the Interior, National Park Service. Cultural Landscape Inventory, Buckner Homestead, Stehekin, Washington. Seattle, Washington: National Park Service, 1985.

U.S. Department of the Interior, National Park Service. The Historic Landscape of Fort Spokane: A Design Proposal, by Cathy Gilbert. Seattle, Washington: National Park Service, 1985.

U.S. Department of the Interior, National Park Service. Resource Management Plan and Environmental Assessment, San Juan Island National Historical Park. Seattle, Washington: National Park Service, 1986.

NEWSPAPERS

The British Colonist. Vol. 1, No. 1 was published December 11, 1858. Beginning on May 16, 1859, it changed from a weekly to a triweekly. This newspaper is still published at Victoria, British Columbia, under the name of Daily Colonist. The following articles were found in the Provincial Archives, Victoria, British Columbia.

"Celebration of 4th of July," The British Colonist, July 8, 1863, page 3.

"Neighborly Conduct," The British Colonist, August 28, 1863, page 3.

"Her Majesty's Birthday," The British Colonist, May 26, 1866. page 3.

"New Years Day - British Camp," The British Colonist, January 5, 1871, page 3.

San Juan Islander. A specific issue titled: The San Juan Islands Illustrated Supplement to the San Juan Islander, Friday Harbor, Washington: Historical, Commercial, Industrial, 1901, 42 pages.

The Seattle Times. Selected editions including: "San Juan Island Diary of 1860s," Nov. 6, 1960; Lucile McDonald, "The Pig War Man -- What Happened to Lyman Cutler," May 20, 1965; and Lucile McDonald, "Pioneer Kept Diary in Pig War Period," date lost.

MAPS AND RELATED DOCUMENTS

U.S. Department of the Interior, National Park Service. English Camp, San Juan Island National Historical Park, Topographic maps, sheets 1-4. Environmental Planning and Design, Western Service Center, 1971.

U.S. Department of the Interior, National Park Service. American Camp, San Juan Island National Historical Park Topographic Maps, sheets .1-13. Environmental Planning and Design, Western Service Center 1971.

U.S. Department of the Interior, National Park Service. Topographic Site Survey, English Camp, San Juan Island National Historical Park, Sheets 1-7, 1987.

U.S. National Archives. Map of San Juan Island, Washington, by Capt. Provost, Royal Navy, March 21, 1860. On file, University of Washington, Northwest Collection.

U.S. National Archives. Southeast End of San Juan Island, by 1st Lt. T.L. Casey, December 1860. "Record Group 77." Cartographic Branch, U.S. 324, No. 119.

U.S. National Archives. Southeast end of San Juan Island, (traced in 1872 from a map drawn by Lt. James Forsyth, ca. 1860). "Record Group 49." Cartographic Branch.

U.S. National Archives. "Record Group 77." Drawer 15, sheets 32-38, Army Corps of Engineers Map, April 23, 1875.

U.S. National Archives. English Camp on the Northwest Portion of San Juan Island, by Michler, April 23rd, 1875. U.S. Engineers Office.

U.S. National Archives. Southeast end of San Juan, Old and New Military Reservations, by Michler, 1875, "Record Group 77." Cartographic Branch.

U.S. National Archives. Camp Pickett and Vicinity, San Juan Island, ca. 1860. "Record Group 159." Inspector General Reports.

Washington State, Department of Natural Resources. General Land Office Maps, Township
34 North, Range 2 West: Plat A (1889), Plat B, Plat C, April 15 (1875).

Washington State , Department of Natural Resources. General Land Office Maps, Township 34 North, Range 4 West; April 15, 1875, July 1878.

OTHER SOURCES

Allen, Judith and Gerry Wright. San Juan Island National Historical Park, Resource Data Base: Structure and Contents. Moscow, Idaho: University of Idaho, CPSU, 1987. Draft report.

A variety of historical documents including drawings, correspondence, journals and military records from the occupation are catalogued in the park files. Most of this material has been collected from the National Archives in Washington D.C. and from the Provincial Archives in Victoria, British Columbia. A significant amount of valuable material has also been gathered from local residents. All of this resource material has been compiled in a single database for the park.

Historic Photographs, British Camp and American Camp, 1860 - present. On file at San Juan Island National Historical Park, Friday Harbor, Washington.

The park has compiled a very good collection of photographs from the Provincial Archives in Victoria, British Columbia, and from the National Archives, in Washington, D.C.

Field Documentation, American Camp and British Camp, 1986-1987.

General site survey and reconnaissance of structural remnants and site features

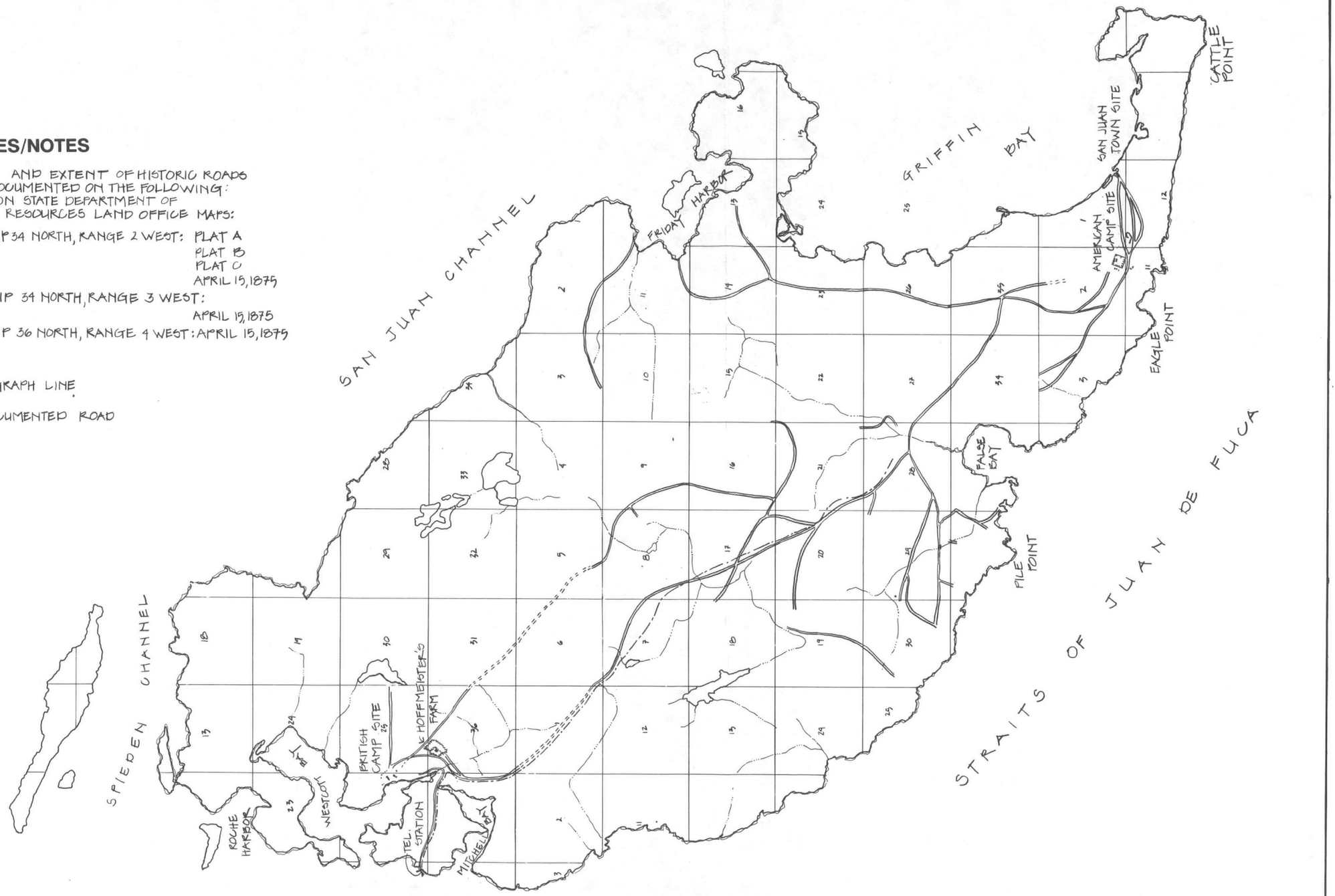
SOURCES/NOTES

LOCATION AND EXTENT OF HISTORIC ROADS ARE AS DOCUMENTED ON THE FOLLOWING: WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES LAND OFFICE MAPS:

1. TOWNSHIP 34 NORTH, RANGE 2 WEST: PLAT A
   PLAT B
   PLAT C
   APRIL 15, 1875
2. TOWNSHIP 34 NORTH, RANGE 3 WEST:
   APRIL 15, 1875
3. TOWNSHIP 36 NORTH, RANGE 4 WEST: APRIL 15, 1875

TELEGRAPH LINE

UNDOCUMENTED ROAD



SAN JUAN ISLAND NATIONAL HISTORICAL PARK **HISTORIC LANDSCAPE STUDY**	NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCE DIVISION DRAWN BY: GILBERT DATE: 9/87	1 1/2 0 1/2 1 SCALE 2" - 1 mile	NORTH	**HISTORIC ROADS SAN JUAN ISLAND (CIRCA 1875)**	DRAWING NO. 438 - 80018 SHEET 13 OF 13

APPENDIX A

CONSIDERATIONS FOR MANAGEMENT OF GRASSLAND VEGETATION AT SAN JUAN ISLAND NATIONAL HISTORICAL PARK

JIM ROMO

RESEARCH ASSOCIATE

DEPARTMENT OF RANGELAND RESOURCES

OREGON STATE UNIVERSITY

CORVALLIS, OREGON

JULY 20, 1985

APPENDIX B

PREFACE

This report is not intended as a vegetation management plan for San Juan National Historic Site. It is, however, intended to stimulate development of innovative management strategies for the grassland ecosystem at San Juan National Historic Site and arid grasslands in other National Parks in the Pacific Northwest Region. Causes and solutions for many of the problems in grassland mangement in parks in the Pacific Northwest are similar. Hopefully the perspectives in this report will assist in developing vegetation management objectives. Without refined management objectives, definitive management prescriptions can not be developed.

The grassland formation at American Camp on San Juan Island is the product of climate, soils, topography, time, and available organisms. The impacts of organisms on this grassland may be the most significant events that entered in the shaping of the present composition. Organisms, both plant and animal, have played significant roles in alteration of grasslands from pristine conditions, and they remain important factors in the development of vegetation. The poor ecological condition of this grassland, and many contemporary problems in vegetation management, are the product of past events and management.

Organismic impacts on grasslands have been expressed in several ways. In many cases, these impacts were severe and their affects on the ecosystem remain. Significant disturbance of the ecosystem began with settlement by whitemen, accompanied with grazing by domestic livestock, cultivation of land for crop production, and most recently grazing by high populations of rabbits and voles. Reduction in populations of native plants by these events, coupled with the introduction of exotic plants, resulted in permanent changes in the structure and function of this grassland. Changes will also occur in the future as new plants are introduced into the system and disturbance recurs.

The composition of this grassland is related to the type, frequency, intensity, and duration of disturbance, with the best adapted species dominating. Exotic plants have been best adapted to the disturbances in the grassland at San Juan Island and it is reasonable to assume that they will dominate disturbed areas in the future. Exotic plants may be better adapted to the site than native species because they are either

competitively superior to native species or they may occupy niches previously occupied by native species. Reducing niches for undesirable or weedy species by maximizing growth of desired perennial species is critical for management of this grassland.

Grassland vegetation at American Camp is a mosaic of communities dominated by exotic annual or perennial grasses. Most of the grassland resembles annual grasslands found in Washington, Oregon, and California. Presently most of the grassland is dominated by the exotic annual grasses Silver hairgrass (Aira caryophyllea), early hairgrass (Aira praecox), cheatgrass (Bromus tectorum), and several other annual brome grasses (Bromus sp.). Where perennial grasses are found, communities are dominated by the introduced perennial grasses Redtop (Agrostis alba), velvet grass (Holcus lanatus), and Kentucky bluegrass (Poa pratensis). The introduced forb, Canada thistle (Cirsium arvense) is widespread, and tansy ragwort (Senecio jacobacea) is locally abundant.

Native vegetation of the American Camp grassland was probably dominated by the perennial grasses Idaho fescue (Festuca idahoensis), California oatgrass (Danthonia californica), and Junegrass (Koeleria cristata). Native grasses have been nearly eliminated from the grassland and they will probably remain in low numbers unless they are artificially reintroduced. The probability of widespread natural reestablishment of native species in the ecosystem is low because only small and isolated areas support native prairie species.

Serious consideration must be given to reestablishing exotic or indigenous perennial grasses at American Camp. If perennial grasses are not released from competition or reestablished, the grassland will remain dominated by species that respond best to lack of management, primarily

exotic annual grasses and annual and perennial forbs. In some locations perennial grasses are present but they must be managed to stimulate their growth. In other areas, perennial grasses are lacking and it will be necessary to artificially reestablish them. Given the environmental conditions at San Juan Island, there are excellent opportunities for establishing perennial grasses without mechanical treatments such as disking and drill seeding. Seedbed preparation with prescribed fire coupled with properly timed broadcast seeding may work well for reestablishing grasses.

Currently the interest in vegetation management lies in controlling Canada thistle and tansy ragwort because they are classified as noxious weeds. "Noxious weed" is a plant that is arbitrarily defined by law as being undesirable, difficult to control, and restricting economic gain. On the other hand plants that are not classified as noxious are in many cases equally aggressive and they alter ecological relationships of the site. For example, although annual grasses are not classified as noxious, they are functioning as weeds and they should be managed as weeds.

Thought must also be given to the probability of new weeds being introduced into the ecosystem. Many weeds in the Pacific Northwest are adapted to the environment of San Juan Island. Although these weeds are not present on San Juan Island, it is a matter of time before they are introduced. With this awareness, vegetation management must be designed to reduce the opportunities for invasion of additional exotic species in the grassland. For example, if efforts are concentrated on directly controlling Canada thistle and tansy ragwort, they will be replaced by weedy species that can tolerate the control treatment. This presents us with two alternatives: 1) control weeds as they appear in the grassland, or

2) limit invasion of new weeds by managing for our desired plant composition while at the same time controlling the existing weeds.

Weed control can take three forms: direct control, indirect control, and the combined effects of direct and indirect control. 1) Direct control entails implementing techniques or technology for controlling the target species. In weed control programs the use of direct control alone is usually ineffective, providing short-term reductions in weed populations. 2) With indirect weed control, a predetermined desired vegetation is the target for management; competitive advantage is relegated to desired vegetation. By implementing long-term management prescriptions that favor the growth of desired vegetation, undesirable species will be limited by competition. 3) The combined effects of direct and indirect control requires implementation of both strategies and it gives the most effective long-term control.

TANSY RAGWORT CONTROL

Tansy ragwort (Senecio jacobaea), an introduced biennial to short-lived perennial, is locally abundant at American Camp. Tansy ragwort was first observed after the rabbit population declined. It is not known whether tansy ragwort has invaded since 1980 or wheather grazing by the high population of rabbits was suppressing it. At least two hypotheses explain its recent appearance. First, tansy ragwort may have been recently introduced into the Park, and second, since tansy ragwort is reportedly nontoxic to rabbits (P.R. Cheeke, Can. J. Animal Sci. 1984:64 (Suppl.):201-202) it may have been controlled by rabbit grazing. With cessation of grazing it is expressing its growth potential.

Regardless of which factor was more influential in its recent increase, tansy ragwort is present and it will spread because unmanaged perennial grasses are competitively inferior. Management must be designed to improve and maintain competitiveness of perennial grasses by increasing their growth and density. Most of the grassland at American Camp is in poor ecological condition and it is susceptible to invasion by tansy ragwort and other equally serious weeds. Presently tansy ragwort populations are localized, but control measures must be implemented immediately to limit its spread and development of severe infestations.

Tansy ragwort is a biennial or short lived perennial, relying on seed production for regeneration. Efforts to control tansy should be directed toward preventing seed production, reducing seedling establishment, and improving the competitiveness of perennial grasses. If seed production and seedling establishment are limited, and perennial grass cover is increased and maintained, the population will be reduced by mortality in established plants and lack of recruitment of new plants into the population. A long term integrated control program is necessary to shift the competitive relationship between tansy ragwort and perennial grasses.

Alternatives available for controlling tansy ragwort include: 1) biological control with cinnabar moths (Tyria jacobaeae) and/or flea beetle (Longitarsus jacobaeae); 2) manual or mechanical control including grubbing plants and removing flowers from plants; and, 3) control with herbicides. Indirect control measures include: enhancement of growth in perennial grasses by grazing, mowing, or implementing a prescribed fire management plan. Direct-indirect control measures include all combinations of direct and indirect control. An example of direct-indirect control of tansy ragwort, combined in one treatment, is sheep grazing.

One attempt to establish populations of the flea beetle or the Cinnabar moth failed at San Juan. However, one failure does not present adequate information to conclude that the insects are not adapted to the environment. These insects have been successfully introduced into other areas of the Pacific Northwest with similar environmental conditions. Lack of success in one year may simply indicate conditions were not favorable in that particular year. These insects, particularly Cinnabar moths, should be released on the island again.

Tansy ragwort can be controlled by applying 2,4-D, Picloram, or Dicamba. These are direct control methods and it may be necessary to use them to reduce populations until indirect control methods are implemented. 2,4-D should be applied at 2 pounds active ingredient per acre when plants are in rosette stage. Reapplication of 2,4-D may be necessary to kill plants that are not killed by the first treatment or develop from seed reserves in the soil. Picloram and Dicamba can be applied when plants are actively growing. These herbicides will kill established plants and the residual herbicide will kill new plants that develop from seed reserves. Picloram, a foliar active and soil active herbicide, will control tansy ragwort when applied at 1/4 pound active ingredient per acre. Dicamba, also is a foliar and soil active herbicide, should be applied at 1.0 pound active ingredient per acre.

Fire or mowing can also be used to improve the vigor of grasses and reduce tansy ragwort. This indirect control method requires a commitment to long term managment prescriptions since it may not give immediate results. Prescribed fire management plans must be designed to favor the growth of the key species defined in management objectives. The fire prescription needed to reach this objective should be verified with research. By

encouraging growth of perennial grasses, fewer resources will be available for tansy ragwort and their numbers will be limited.

Grazing by sheep may be the most effective and environmentally safe method for controlling tansy ragwort. Research has shown that domestic sheep selectivity graze and control tansy ragwort. When tansy ragwort infested perennial grasslands are judiciously grazed, grasses will increase and temporally and spatially exploit resources otherwise available to tansy ragwort. With an increase in grass cover, fewer sites are available for recruitment of tansy ragwort, and populations are limited.

If grazing by sheep is unacceptable or inconsistent with Park policies, an alternative includes controlling tansy ragwort with 2,4-D, Cinnabar moths, and prescribed fire. Use of 2,4-D will immediately reduce tansy ragwort populations; Cinnabar moths and prescribed fire will provide long term control. If this approach is used, herbicides may be required annually until perennial grass density is increased and it is limiting establishment of tansy ragwort. Management of these grasslands can not cease when the desired perennial species reach acceptable levels; perpetuation of the desired vegetation will require management that is designed to favor growth of the desired plants.

CONTROL OF CANADA THISTLE

Canada thistle is the most difficult weed to control at San Juan National Historic Site. It is a deep rooted perennial, reproducing by seeds, rhizomes, and root fragments. Complete eradication of this species is nearly impossible, but a long term control program must be established immediately for controlling Canada thistle. This program should include both direct approaches using herbicides and indirect methods that will

encourage establishment and growth of perennial grasses. Canada thistle can be controlled, but not eradicated, by maintaining competitive perennial grasses.

Selective herbicides available for controlling Canada thistle include 2,4-D, Dicamba, and Picloram. Roundup is a nonselective herbicide that can also be used. In most cases selective herbicides are preferred because they kill broadleaf plants and minimally affect grasses. Nonselective herbicides such as Roundup kill target and nontarget species.

2,4-D--2,4-D should be applied at 1.0 pound active ingredient per acre in the spring are in the rosette stage and again in the fall before plants enter dormancy. Fall applications are often more effective than spring applications because herbicides will be translocated along with photosynthates to the roots; herbicide translocation to the roots is less with spring application. Repeated treatments will be necessary for control.

Dicamba--Dicamba, a foliar and soil active herbicide should be applied at 2.0 pounds active ingredient per acre when plants are actively growing. Repeated applications will be necessary.

Picloram--Picloram, a foliar active and soil active herbicide, should be applied at 1.0 pound active ingredient per acre when plants are actively growing. Picloram applied in the fall will be absorbed and translocated to the roots and kill will be higher.

Roundup--Roundup must be applied when plants are in the rosette stage or developing buds and beginning to flower. It should be applied at a rate of 1 1/2 to 2 1/4 pounds acid equivalent per acre. The major disadvantage of using Roundup is its nonselectivity. Roundup will kill grasses and forbs and open more sites to invasion by Canada thistle.

The best method for controlling Canada thistle is to maintain vigorous stands of other perennial species. In many of areas where Canada thistle is most abundant, perennial grasses are poorly represented and annual grasses dominate. If left as annual grasslands Canada thistle will increase and replace the annual grasses. Increase in Canada thistle can be limited by establishing perennial grasses. Perennial grasses may be reestablished on these sites by instituting a herbicide, fire management, and reseeding program. A detailed management plan will need to be developed, but it would involve the following: 2,4-D can be used to reduce Canada thistle, and the area burned to reduce annual grasses. Perennial grasses could be seeded after burning. Once perennial grasses are established management prescriptions, such a fire, grazing, or mowing will be needed to maintain dense stands of perennial grasses.

Since there is a probabilty of an increase in the rabbit population, it may be best to reestablish species that have low palatability or are tolerant of severe defoliation. By selecting species with these characteristics, there will be a higher probability that perennial vegetation will not be decimated by heavy use.

SUMMARY

The grassland at San Juan National Historic Site is highly modified from its potential composition, structure and function. Because the ecosystem is highly modified, it is open to invasion by many competitive and undesirable plants. Vegetation responds to external forces and many of the problems faced in vegetation management are the effects of past and

present management. These modifications require that innovative management prescriptions are developed to perpetuate the desired vegetation. Some solutions will require verification by research.

The most important issue of vegetation management that must be resolved at San Juan National Historic Site is defining vegetation management objectives. Without specific objectives, resources will not be effectively managed. Effective management of the grassland will also require adjustments in the philosophy of managing vegetation. Presently the philosophy entails treating vegetation management problems as they occur rather than managing vegetation to prevent or minimize dilemmas. If management is continually designed to treat the effects of vegetation management, rather than identifying and remedying causes, problems will be recurrent. In short, cause-effect relationships must be scrutinized, and management designed to treat causes of problems in vegetation management and not the effects.

EXPERIMENTAL DESIGN FOR TANSY RAGWORT CONTROL

This study is designed to be statistically valid if replicated. A split plot in a randomized block design will be used. Spatial or temporal blocking can be used in this design.

When areas have been selected for study, use the following procedure:

1. Locate an area approximately 50 meters square and establish 4 permanent corner markers to deliniate the block. Steel rods, 3/8 to 1/2 inch in diameter, work good for permanent marking.

2. To deliniate plots, select opposite sides of the block and establish permanent markers 20 meters in from the corners.

3. Establish a transect in the center of each plot. At 5 meter intervals along the transect, establish 4 microplots that are 1 meter square. These microplots will be used through the study to evaluate plant responses to treatments.

4. Before applying herbicide, count the number of tansy plants and the number of tansy flower stalks in each microplot in each plot and block.

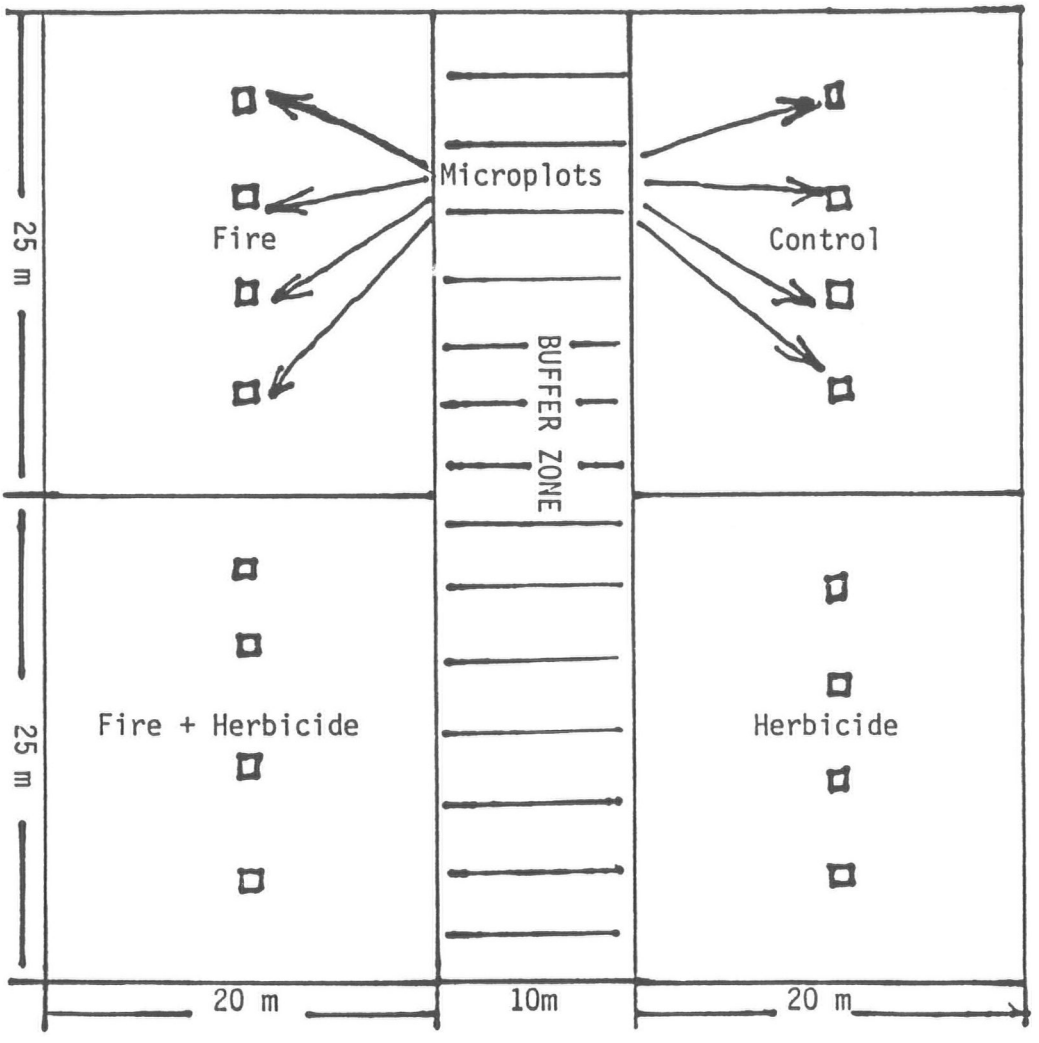
EXPERIMENTAL PROCEDURE

1. Randomly select and burn one half of each block in summer when perennial grasses are mature. Leave one half of the block unburned.

2. Within the burned and unburned halves of the block, randomly select 1 plot for herbicide application. Apply herbicide in the spring of the year following burning when tansy plants are in the rosette stage. Herbicide recommended is 2,4-D applied at 2 pounds of active ingredient per acre.

3. On alternate years reburn the "Burn" plots when perennial grasses are mature. Do not burn the half of the plot that was originally unburned.

4. Evaluate microplots in each treatment each year when perennial grasses are mature and tansy ragwort is growing and flowering.



Schematic of block, plot, and microplot layout for studying the effects of fire, fire and herbicides, and herbicides in controlling tansy ragwort.

SAN JUAN ISLAND
NATIONAL HISTORICAL PARK

PILOT PLANTING PROJECT

AMERICAN CAMP

BY

JAMES F. MILESTONE
NATURAL RESOURCE MANAGEMENT TRAINEE
PACIFIC NORTHWEST REGIONAL OFFICE

SEPTEMBER 25, 1986

APPENDIX C

SAN JUAN ISLAND NATIONAL HISTORICAL SITE
PILOT PLANTING PROJECT

Milestone, James F. Natural Resource Management Trainee, National Park Service, 83 South King Str., Seattle, Washington 98104

This project is designed to test the feasibility of reestablishing the historic forest and scene at American Camp on San Juan Island. The area was logged from the 1850's through the turn of the century. The greatest single ecological event to occur in the island's recent history has been the introduction of the European rabbit (Oryctolagus cuniculatus). By the 1920's and 1930's rabbits had gained numerical advantage over plant eating competitors. By the 1970s rabbit populations exceeded 15-20 per acre (Stevens, 1975). Grazing pressures prevented most tree species from reestablishing. Thus, prairie areas were maintained in grazing resistant grasses (Agee, 1984). In 1980 the rabbit population collapsed, and the Townsend's vole (Microtus townsendii) damage became a major problem to tree regeneration. Presently, conifers up to six inches in basal diameter are being girdled and killed by voles.

Six 1/2 acre quadrats, each with 100 Douglas fir (Pseudotsuga menziesii) were planted and are being monitored to determine the most cost-effective method to prevent small mammal damage. To compare plots without Microtus habitation, three plots were treated with herbicide and disced to eliminate grassland and the duff layer. The three remaining control plots had no soil treatment. In each plot, 25 trees were protected with reemay sleeve, 25 with galvanized half inch hardware cloth, and 25 trees with aluminum vole foil sheeting. The remaining 25 trees were planted without any protection as controls.

In the past eight months 116 trees died from a combination of water saturating tree roots, summer drought and a some vole predation. Ninety out of the 116 trees died in August from summer drought. This accounts for 18% of the 600 trees planted in the planting project. One hundred and eleven trees were attacked by voles; 86% of the vole attacks occurred to trees planted in untreated (grass covered) plots. A total of 18% of the 600 trees were attacked by voles. Trees planted with a hard protective device and had weeds and grass controlled from around the tree base suffered less than a 5% mortality. Future reforestation efforts should incorporate both weed/grass control and a hard protective device (Hardware Cloth or Vole Foil) to successfully reforest the American Camp prairie.

INTRODUCTION

The landscape of American Camp at San Juan Island National Historical Park has been modified significantly since the historic period of 1853 to 1871. One of the management objectives for the park is "...to restore historic areas to their original appearance..." From the end of the historic period in 1871 and the establishment of the park, American Camp was logged, burned, farmed and grazed. Field stones were collected and piled and farmers constructed drainage ditches throughout the agri cultural fields. American Camp, once well forested, is now largely prairie as a result of previous land-use practices and excessive rabbit grazing. Rabbit populations remained high until 1979-83, when reproduction failures in successive years resulted in roughly a 100-fold reduction in abundance (West, 1985). During this period of low rabbit reproduction, survivorship of tree seedlings increased along the edge of the mature forest. In addition to increase in tree seedling survivorship, annual grasses increased in height and cover. As a result, the Townsend's vole population increased in numbers to become a significant predator of tree seedlings. This small herbivore consumes small tree seedlings directly, and kills larger trees by girdling them, (i.e., removing cambial tissue from the stem near ground level, and removing the cambium from larger roots) [West,1985]. The Townsend's voles attacked and girdled a number of tree seedlings which regenerated along the forest edge during and

following the rabbit crash of 1979-83.

San Juan Island N.H.P. received regional and national priority in 1985 for funding the restoration of the historic scene. The proposed plan called for planting 35,000 seedlings of assorted indigenous species of conifers over 168 acres, primarily in the once forested area north of the Parade Ground. Site preparation, grass control and protection of seedlings would be key components of the project. Success of the reforestation program is contingent on protection of seedlings from rodent herbivory. These recomendations were from a Cooperative Park Studies Unit research report entitled "Historic Landscapes of San Juan Island Historical Park" (Agee, 1984). In addition, an interdisciplinary team of the National Park Service studying resources management problems at San Juan Island N.H.P. developed a report entitled "Rabbits, Redoubts, and Royal Marines" (N.P.S. 1984).

OBJECTIVES

The objectives of the pilot planting project were to (1) determine the feasibility of planting trees at American Camp considering the high population of small rodents and (2) to test the effectiveness of different protective devices and site treatments. The pilot planting project design targeted Townsend's vole as the foremost predator to the reforestation effort. The project design took into account vole habitat requirements developed at American Camp as described by West (1985). Data

resulting from the pilot planting project are important for developing management strategy to reforest the remaining 164 acre area north of the Parade Ground.

STUDY AREA AND METHODS

This study was conducted at American Camp on San Juan Island National Historical Park (SAJN), San Juan Island Archipelago in Washington State. American Camp is located on the southern end of the island near South Beach (Figure 1) and receives less than 20 inches of rain per year as it is in the rain shadow of the Olympic Mountains. The area is comprised of open prairie with gently rolling slopes and surrounded by second growth Douglas Fir, lodgepole pine and Sitka spruce

Six plots, each 1/2 acre in size were placed north of the Parade Ground at American Camp (Figure 2). The plots were arranged to form a screen of trees connecting two remnant stands of mature forest. Each plot measures 50 x437 feet to create a 1/2 acrequadrat. The three protective devices for the tree seedlings included: 1/2 inch hardware screen collar, aluminum vole foil, and reemay sleeve (polyester woven fabric) equally mixed and distributed throughout each quadrat with an equal amount of unprotected control trees. The specific tree layout was replicated in each of the six quadrats. One month prior to the planting, three of the six plots were sprayed with a Round-up

(glyphosate) and disced to remove the annual grass crop and duff layer. This was conducted to eliminate Townsend's vole habitat. Within the three sprayed/plowed plots a six foot diameter areas, centered on tree seedlings, was kept clear of vegetation through the spring and early summer growing season. Hoeing of grass and weeds was conducted on a monthly schedule to control weed growth. These plots are called the treated plots in contrast to unsprayed/unplowed "control plots".

The six hundred Douglas fir seedlings were planted in mid January 1986, over a period of three days. The trees were a 2-1 nursery bare root stock, from seed zone 601 of the Puget Sound. The tree stock was shipped via truck and ferry to American Camp. Reemay sleeves, vole foil, and hardware cloth were positioned to protect the root mass and the tree stem from both surface and sub-surface predation. Hardware cloth was buried 12 inches below the surface and extended 12 inches above the ground. Vole foil extended .6 inches below the ground and and 8 inches above the surface. Reemay sleeve extended down 6 inches below the ground surface and 12-16 inches above the ground. Each tree had an aluminum tag fastened to the stem with the tree number, plot designation, and the protective device code inscribed into the tag. Each tree was planted at a predetermined location, and this as replicated in each.

A monthly monitoring program was developed to inventory and evaluate the health of individual trees including; mortality, tree growth, soil moisture, protective device wear and maintenance, and small rodent damage. Health was determined by the color of the foilage with green being healthy and brown being stressed to dead. Tree growth was a measure of the height of the trees in March and again in July. Soil moisture was determined by visually observing standing water on the surface. Small rodent damage was noted as present or absent by examining the stem and branches to see if cambial tissue was removed. Such cambial tissue removal to the tree was defined as an "attack". Data sheets used in the field to collect information were transfered to a data base file on a small personal computer. Because this is an interim report no statistical anaylsis was done at this time.

RESULTS AND DISCUSSION

Townsend's Vole Attacks

After eight months, 111 trees out of 600 (18.5%), had been attacked by Townsend's vole. The style and manner of the cambial tissue removal, and the trees proximity to Microtus runways indicated that the Townsend's vole was the predator. Unprotected trees had the greatest probability of being attacked; reemay sleeve, hardware cloth, and vole foil trees, all received less damage, but no one protection seemed to work better than the

other (Figure 3).

Predation in Treated verses Untreated Plots

of the 72 control trees that were attacked by the voles, 62 (86%) were located in quadrats that were untreated and therefore, provided good vole habitat. Out of 75 contol trees located in treated plots, only 10 (13%), were attacked by the Townsend's vole. Of the 39 protected trees which were attacked by voles, 36 were in untreated plots (Figure 3). In these plots the voles climbed up the grass stems which leaned against the protective devices, and attacked the tree above the rims. The grass reached over 3.5 feet in some plots (Plots A and B) and presumably had a dense enough canopy to protect the rodents from predatory birds.

A difference in number of attacks occurs between the treated plots and the untreated plots. The monthly hoeing of grass around each of the 300 trees to maintain an area clear of vegetation in the treated plots apparently deterred vole attacks (Figure 4 and 5). Without adequate cover, the Townsend's vole is vulnerable to aerial predation.

Townsend's vole predation increased over time during the first six months reaching a high of 52 new trees attacked in June. New attacks declined during July and August. (Figure 6). Fluctuations in numbers of monthly attacks may correspond with the

vole's population dynamics and weather conditions at American Camp. During the month of April only one additional tree was attacked. However, the month of June with a new cohort of young voles having been born, vole attacks increased with 52 new trees damaged. Meanwhile, previously attacked trees received continued predation with several trees eventually girdled completely around the tree stem.

Distribution of Vole Attacks

Vole predation was higher in the western end of the field at Plot A, compared to Plot E (Figure 2). Herbaceous height and density associated with Plots A and B could be the contributing factor in determining vole predation. Increased vegetative cover would provide favored habitat for the Townsend's vole. The eastern portion of the study area (Plot E and F) did not support similiar dense cover as found in Plot A and Plot B. Vole attacks were also low in field sites that had poor drainage. At the same time, test trees in the wet sites had higher mortality rate.

Tree Mortality

One hundred and sixteen trees died during the first eight months of the monitoring season. Vole predation was not a significant factor in tree mortality. The problem centered around water. Forty five trees died that had water saturated soils from winter storms between February to April. These trees most likely died

from suffocated tree roots. Three trees died from either shock during transplanting or were inferior stock. Starting in July and continuing into September no measurable precipitation fell on San Juan Island. At the last monitoring trip, 90 new trees had died during the month of August. Some of these trees were already stressed from too much water during the winter and spring months (Figure 7).

Trees located in the treated plots did much better than the trees located in the untreated plots. Tree mortality was significantly higher in the untreated plots where the trees had to compete with weeds and grasses. There appear to be no dramatic difference in tree mortality among the three physical protective devices (Figure 8).

Trees protected with reemay sleeve, vole foil, and hardware cloth differ by only 1%, however, the unprotected control tree has an 11% higher mortality rate at 38%.

Tree Growth

Tree height of all 600 trees were recorded in March prior to the trees breaking bud. Measurements of tree height were taken again in July at the end of the growing season. The average size of the 600 nursery grown Douglas Fir (2-1 stock) in March was 51 cm. The average size of the 600 trees after the growing season was 56 cm. Many of the trees lost their leading tips from wind burn and the

their height was actually lower in July than when they were planted seven months earlier. However, of the trees that survived, nearly all exhibited some growth, either vertical or lateral. Maximum tree height was 90 cm (found in treated Plot B) and the minimum height was 34 cm (found in Plot A) at the end of the growing season.

CONCLUSION

Although conclusive test results will not be available until after January 1987 at the conclusion of the first phase of the monthly monitoring program, data collected thus far illustrates some interesting trends are developing:

1. Forty two % of the control trees in untreated plots have died from either loss of soil moisture by competition with grass and/or girdling from vole predation. Of the 116 trees have died throughout the six plots, 40 were attacked by voles. However, field observations at this point indicate that very few trees actually died from vole damage.

2. Eighty six % of the contol trees in untreated plots have been attacked. Only 13% of the control trees in treated plots were attacked by the Townsend's vole.

3. Townsend's vole predation to tree seedlings increased in the

late spring, and peaked in June with 52 new attacks. Based on the distribution of vole attacks in the six plots, vole populations appear to be concentrated in the western plots (Plots A and B) where the grasses reach 3.5 to 4 feet in height.

4. In treated plots where monthly hoeing maintained a weed free perimeter around each tree, very few trees died (<5%). Since competition with weeds was minimal and vole predation was very low, the trees were able to grow successfully.

5. Environmental factors such as poor drainage, drought and wind have caused more deaths to the tree seedlings than vole predation. Reforestation efforts in the future should include Douglas fir on the higher ridges and water tolerant species such as alder, lodgepole pine, Sitka spruce, and western red cedar in the low lying drainages. Planning must take into account the micro-topography of the site to increase tree survival.

6. Chemical spraying followed by mechanical plowing in the winter did little to keep rhizomatous roots and grass seeds from sprouting in the treated plots in April and May. Monthly hoeing was necessary to maintain the grass free perimeter. A landscape fabric around the tree base extending out 4 feet which prohibits grass and weed growth may replace the need for monthly hoeing.

7. Of the three physical protective devices (vole foil, reemay sleeve, and hardware cloth), vole foil was the most effective in preventing vole predation (7% attacked). Vole foil was also easy to handle over the hardware cloth (13% attacked) and less visible than the white reemay sleeve (14% attacked). Although reemay sleeve (14% attacked) is the least expensive of the three protective devices, rodents have damaged and removed the fabric from many trees for possible use as nesting material. Sixteen reemay sleeves were damaged by rodents in the untreated plots and although some of these trees were not attacked by voles, they are now vulnerable to future attack.

Based on the above findings and early trends that have developed over the past eight months of research, the author concludes that it is feasible to reestablish the forest at American Camp with relatively high success. In order to achieve a successful reforestation project it is necessary to control grass/weed growth immediately around individual trees for at least the first year. Installation of a physical barrier (vole foil or hardware cloth) around individual trees will provide protection from vole predation. Placement of Douglas fir on the higher and drier ground with alder, lodgepole and Sitka spruce in the lower drainages will benefit the reforestation effort.

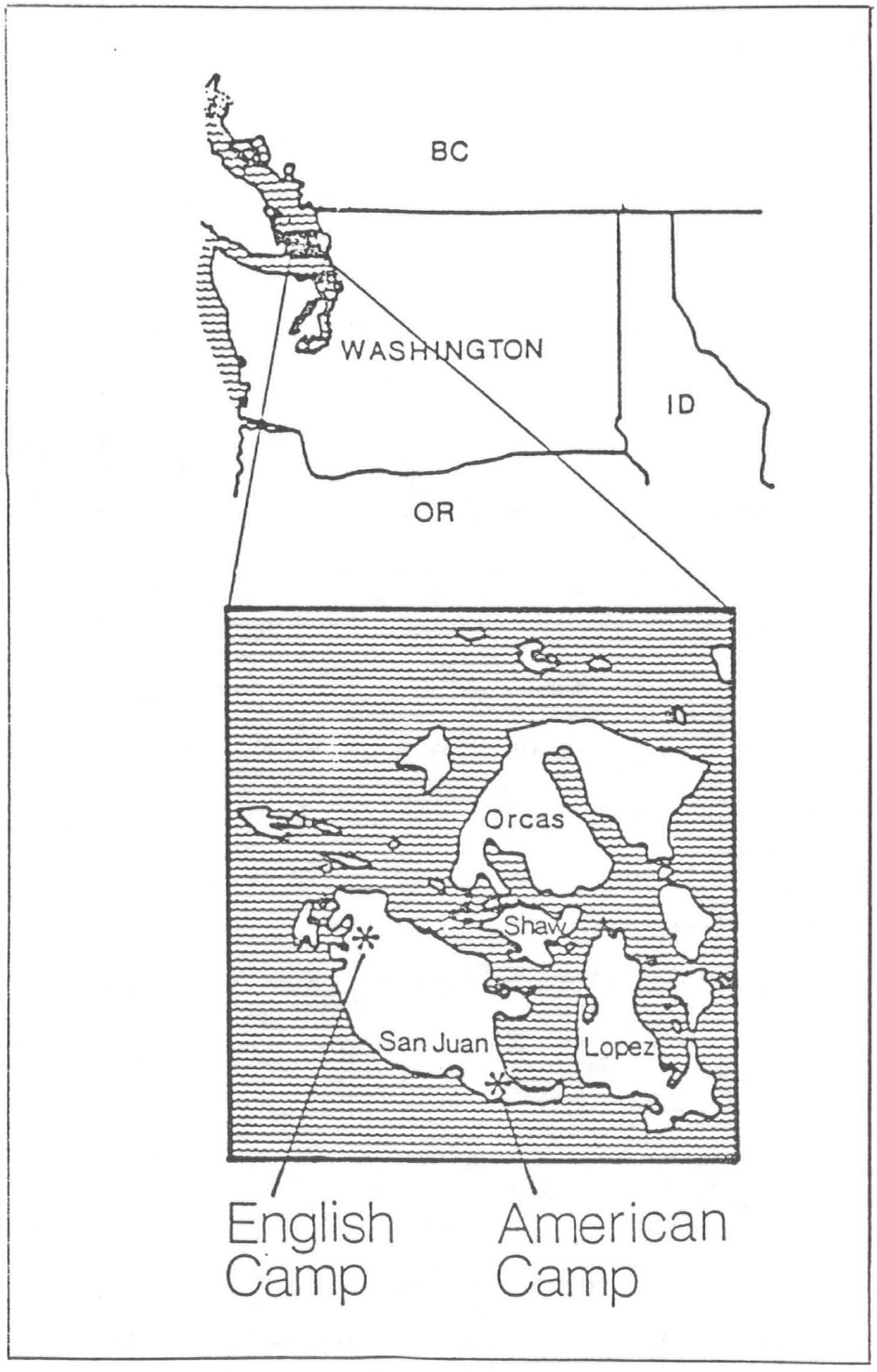


Figure 1. San Juan Island National Historical Park is comprised of two former military camps.

FIGURE 1

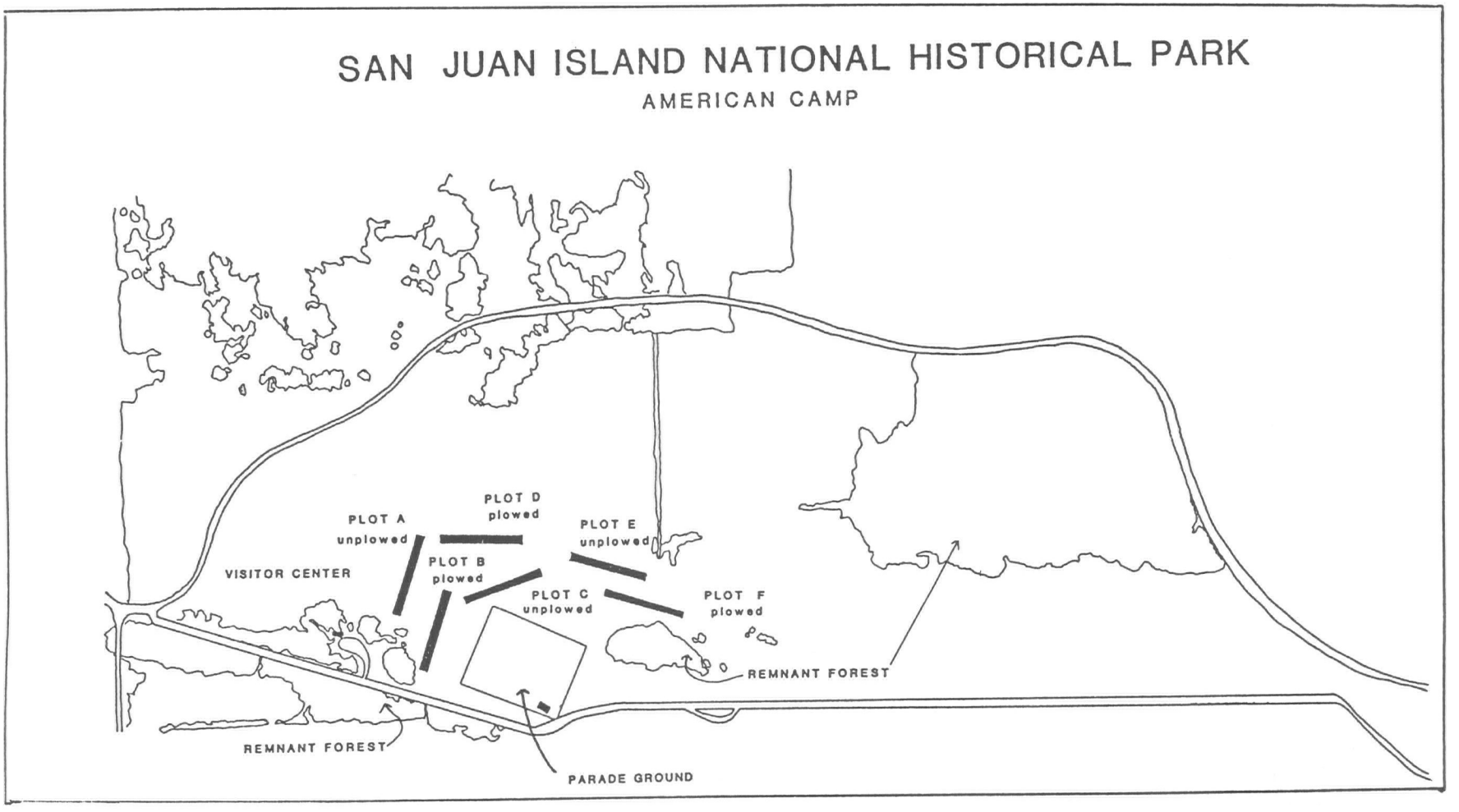

SAN JUAN ISLAND NATIONAL HISTORICAL PARK
AMERICAN CAMP
PLOT A
unplowed
PLOT D
plowed
PLOT E
unplowed
PLOT B
plowed
VISITOR CENTER
PLOT C
unplowed
PLOT F
plowed
REMNANT FOREST
REMNANT FOREST
PARADE GROUND

FIGURE 2

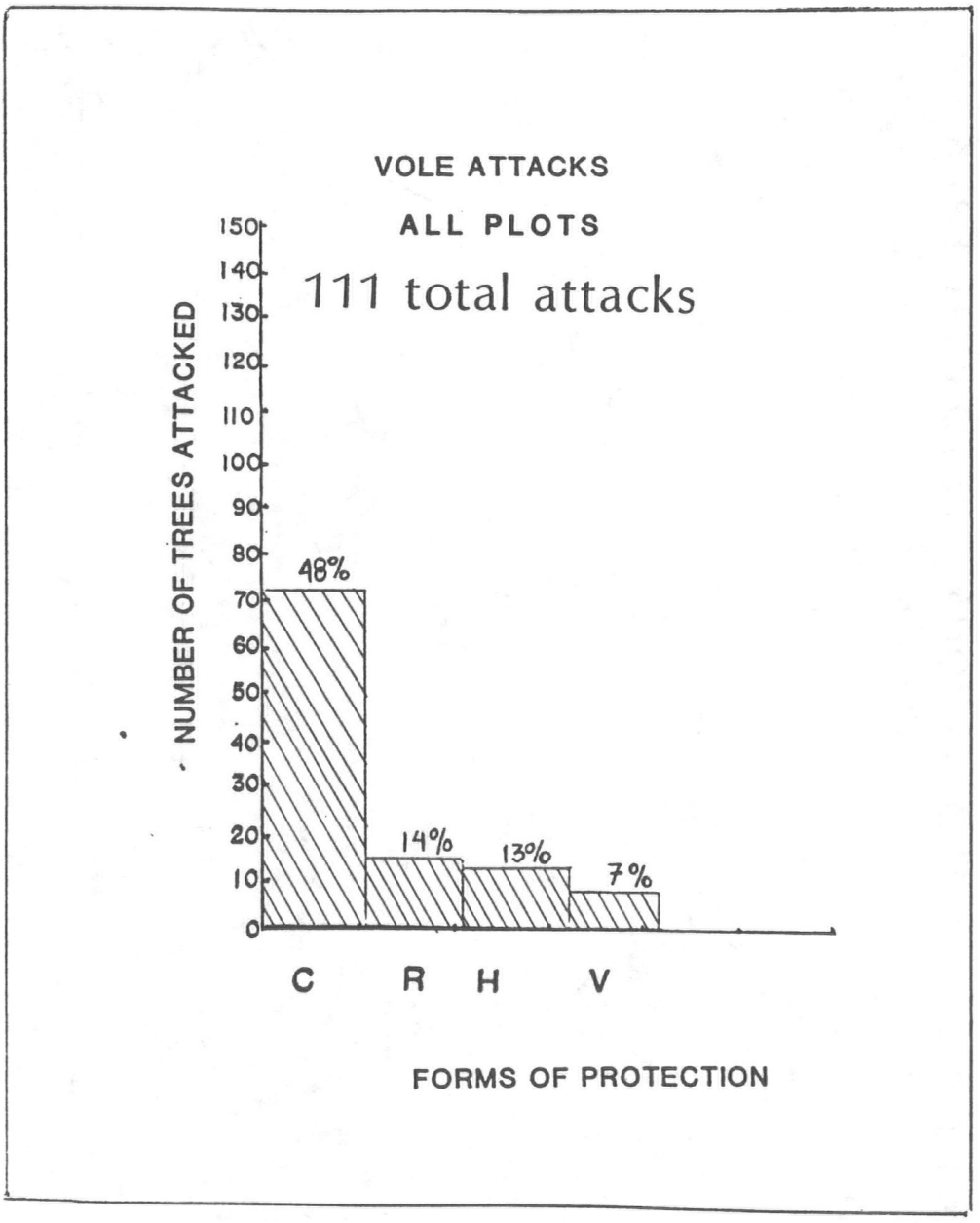


FIGURE 3

C....CONTROL

R.....REEMAY SLEEVE

H.....HARDWARE CLOTH

V.....VOLE FOIL

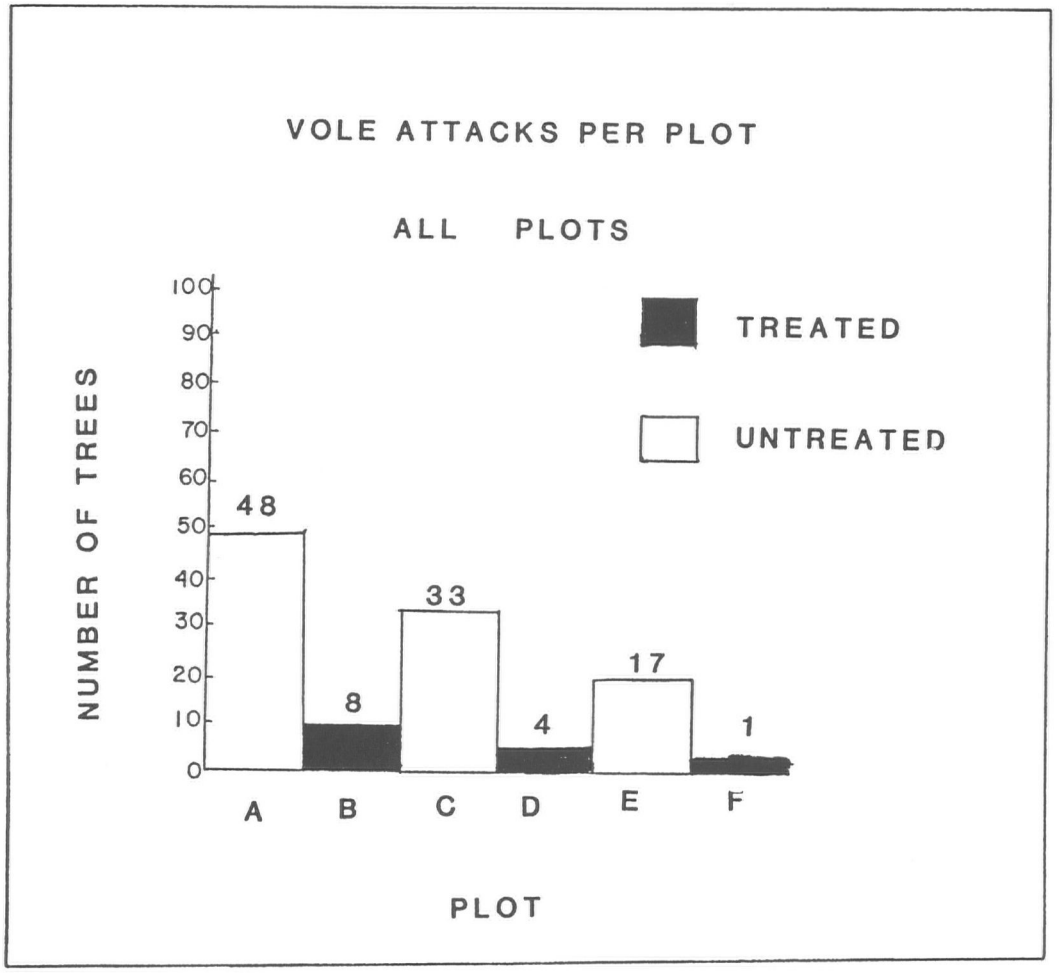

VOLE ATTACKS PER PLOT
ALL PLOTS
TREATED
UNTREATED
NUMBER OF TREES
100
90
80
70
60
50
40
30
20
10
0
48
8
33
4
17
1
A
B
C
D
E
F
PLOT

FIGURE 4

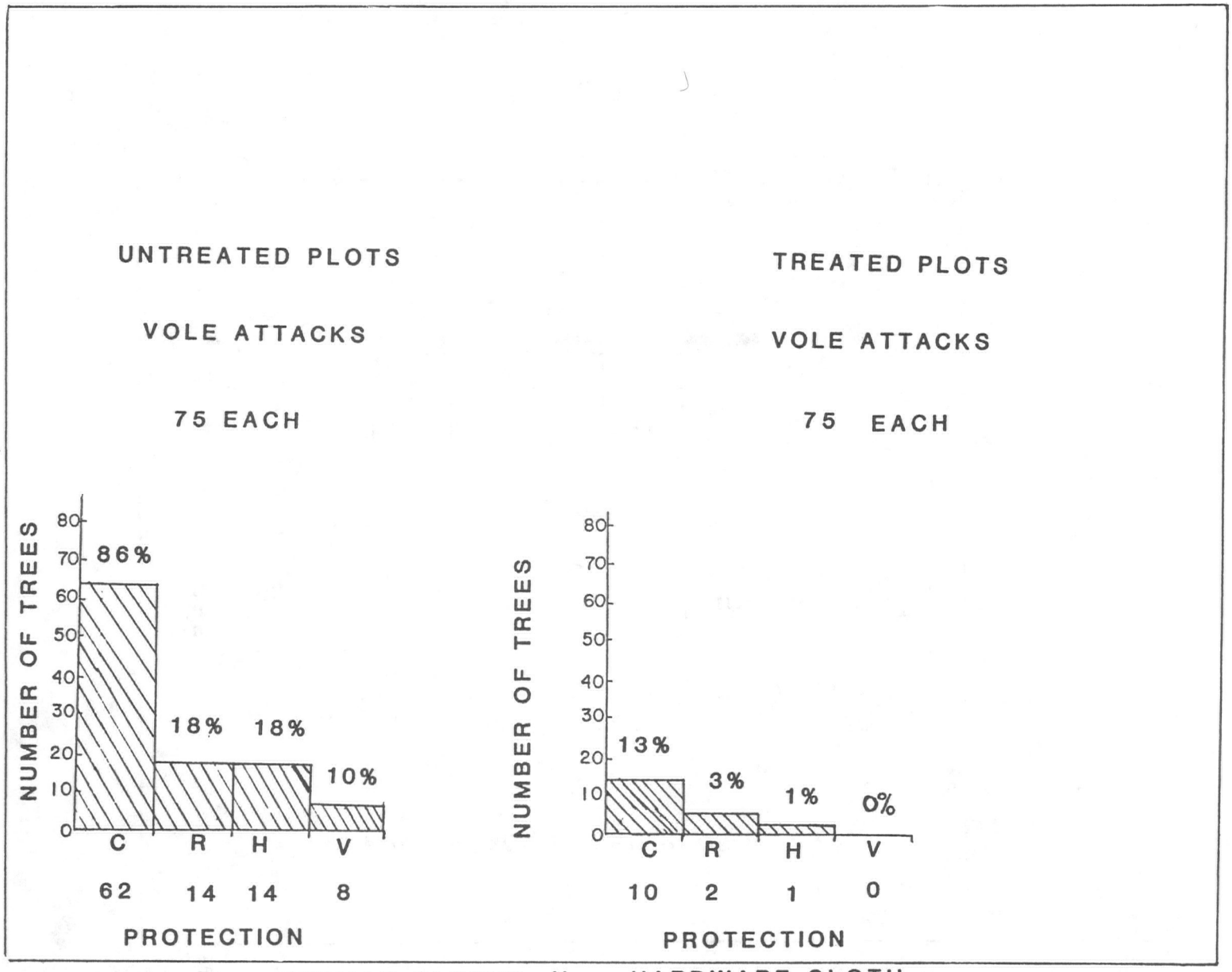

UNTREATED PLOTS
VOLE ATTACKS
75 EACH
NUMBER OF TREES
80
70
60
50
40
30
20
10
0
86%
18%
18%
10%
C
R
H
V
62
14
14
8
PROTECTION
TREATED PLOTS
VOLE ATTACKS
75 EACH
NUMBER OF TREES
13%
3%
1%
0%
C
R
H
V
10
2
1
0
PROTECTION
R.....REEMAY SLEEVE
H.....HARDWARE CLOTH
C.....CONTROL
V.....VOLE FOIL

FIGURE 5

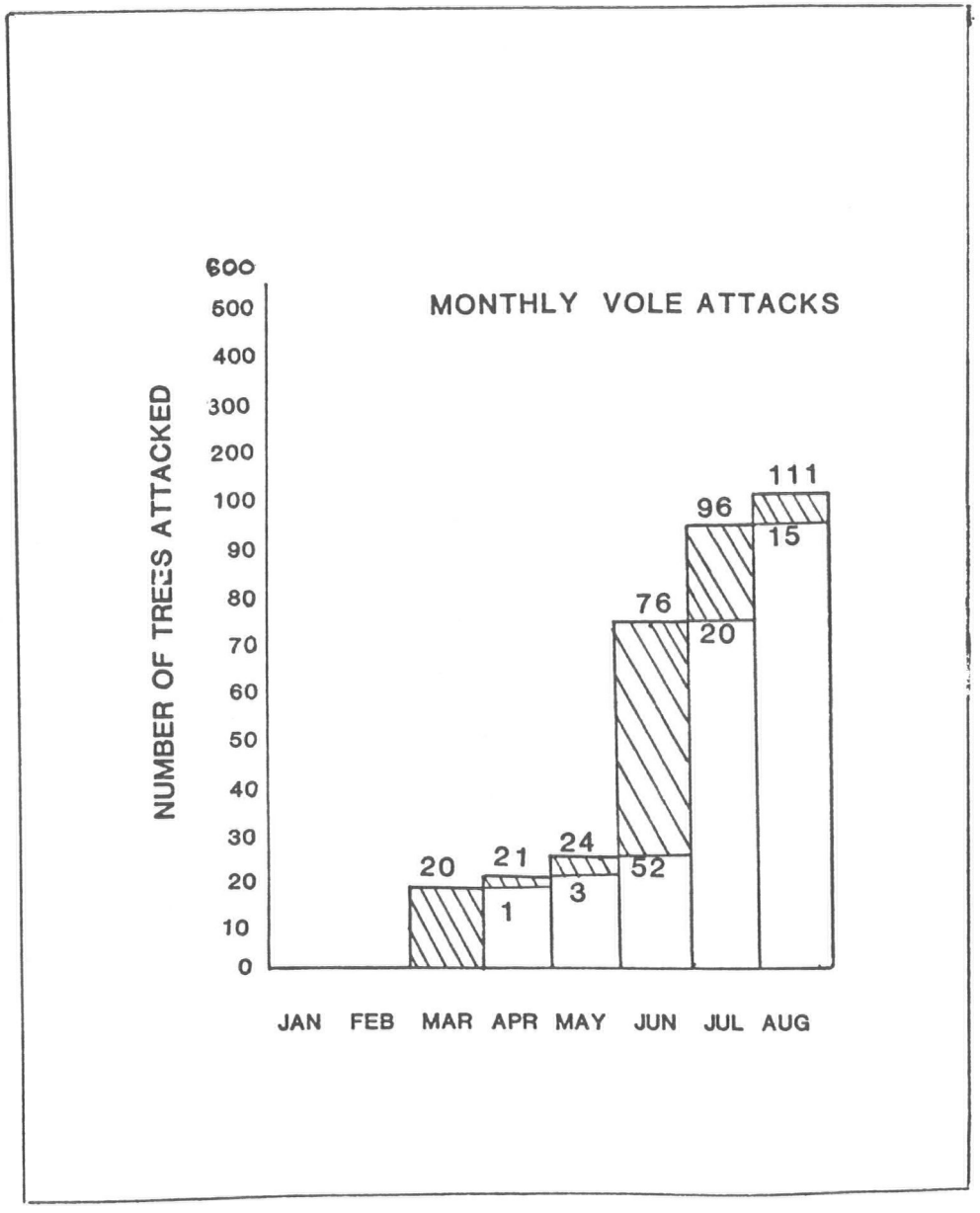


FIGURE 6

NEW PREDATION

CONTINUED PREDATION

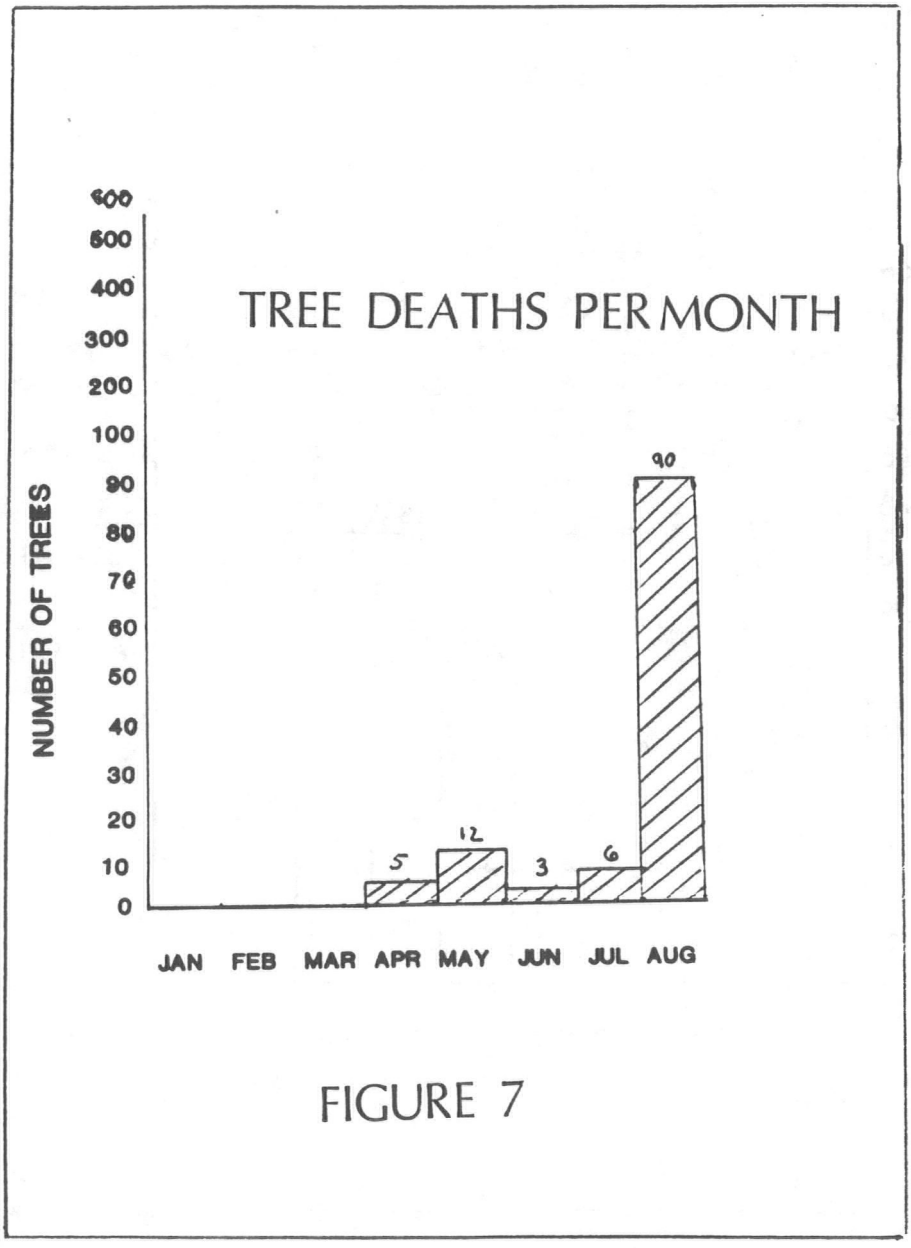

TREE DEATHS PER MONTH
NUMBER OF TREES
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
0
5
12
3
6
90
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG

FIGURE 7

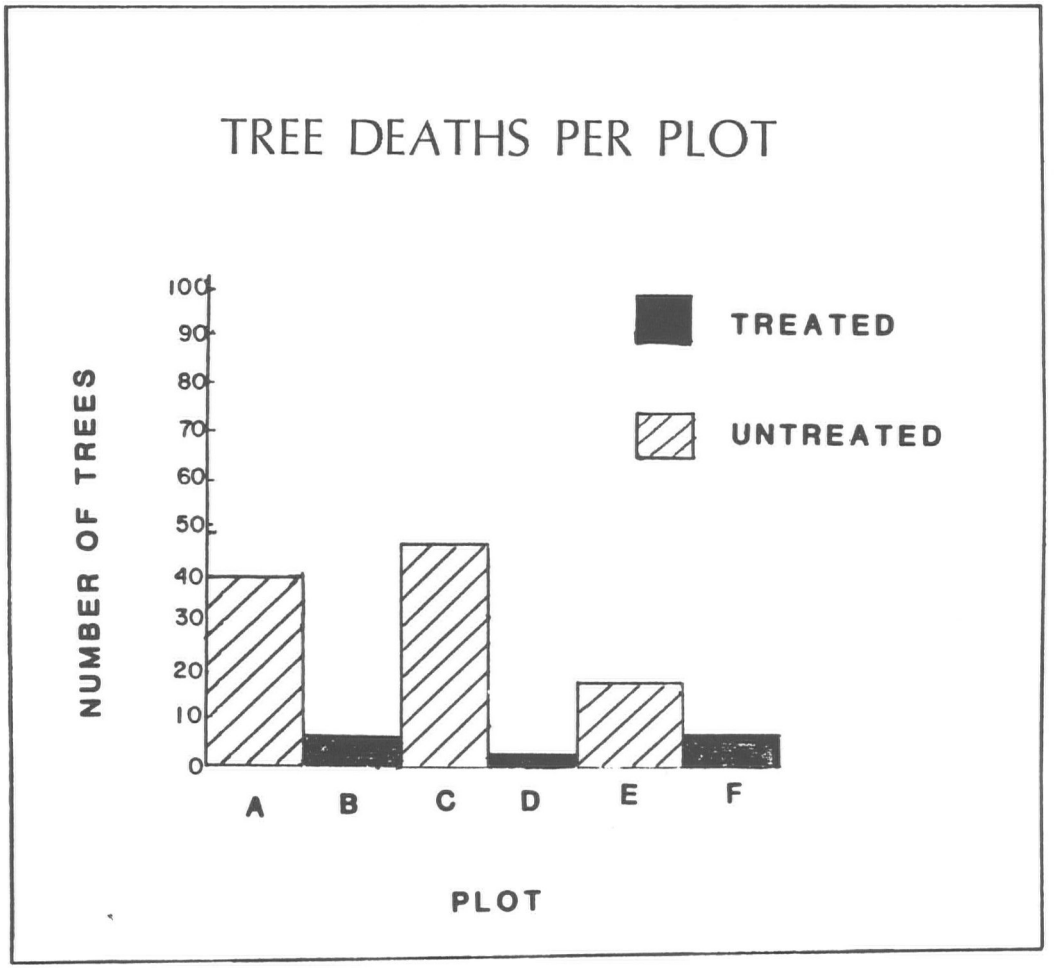

TREE DEATHS PER PLOT
NUMBER OF TREES
100
90
80
70
60
50
40
30
20
10
0
TREATED
UNTREATED
A
B
C
D
E
F
PLOT

FIGURE 8

LITERATURE CITED

Agee, J.K. 1984. Historic landscapes of San Juan Island National Historical Park. NPS CPSU/UW Report 84-2. College of Forest Resources, University of Washington.

National Park Service. 1984. Rabbits, Redoubts, and Royal Marines. Report from an interdisciplinary team from the Pacific Northwest Region, National Park Service. 42 pp.

National Park Service. 1986. San Juan Island N.H.P. Natural and Cultural Resource Management Plan. San Juan National Historical Park.

Stevens, D.F. and Simonetti, J.A. 1985. A Survey of Small Mammals at American Camp, San Juan Island National Historical Park. College of Forest Resources, University of Washington.

Stevens, D.F. 1982. Observations and analysis of European rabbit crash on San Juan Island National Historical Park, Washington. Final Report, Pacific Northwest Region, National Park Service. 15 pp.

West, S. Personal communications, University of Washington, School of Forestry. 1986.

MANAGEMENT RECOMMENDATIONS

1. To insure high survival rates of Douglas fir seedlings at American Camp, a grass free perimeter approximately six foot in diameter or greater needs to be maintained from the planting time, through the end of the growing season in July. Hoeing of the grass around the trees works well but is labor intensive. A black landscape fabric may be effective to keep weeds and grass from growing around the individual trees (see sample attached).

2. Trees planted at American Camp without a physical barrier to prevent vole predation will most likely be attacked and eventually die. A physical protective device placed around the stem of the tree reduces vole predation (Vole Foil).

3. The micro-topography of the field must be taken into consideration in the planting of tree species in relation to the drainage of the site. Douglas fir planted in areas that remained moist through April died during the summer months. Therefore, species tolerant to moisture should be planted in low lying areas, and Douglas fir on the drier slopes.

ACTION PLAN

The following is a prescription for implementing a full scale meadow reforestation project. The Superintendent needs to decide what areas of American Camp, as outlined by Dr.Agee, he would like to reforest. A partial screen of trees could be planted on the perimeter of the parade grounds or a larger area that would restore the entire 168 acre historic forest. This decision will have to be worked out between the regional landscape archictects and the Superintendent. The plan is based on the preliminary findings of the Pilot Planting Project.

1. Planning

   a. Develop a detailed planting plan.
   b. Contact the State Nursery in Olympia
      -Ken Curtis 206-753-5305
      Mr. Curtis can either give a limited amount of trees for SAJN 2-3000 or you can arrange for him to raise seedlings from seed stock you have collected professionally. He will also give names of companies that will collect SAJN seeds for the park. Mr. Curtis may also ask you to go to a private nursery, but one he would recommend.

   c. Contact the large timber companies and see if they would donate the proper seedlings for SAJN.

2. Field Check

a. It will take two years for any nursery to raise trees for SAJN unless you go out this winter and just purchase a cohort of 2-1 stock from a nursery.

b. Go out into the field around the Parade Ground and carefully inspect the topography. Keep plantings out of the low lying areas. Spend time in the field walking around, taking different perspectives. mark the site with wands and flagging. Be sure the Superintendent walks out in the field with you so that he/she understands exactly where the trees are being placed.

c. Place alder and willow in the wet low areas, with lodge pole and Stika spruce in the lower slope areas. Douglas fir should be planted on the mid, upper and ridge areas. A map should be prepared by a landscape architect to delineate exactly where the trees are going.

3. Preparation

a. Purchase enough landscape fabric to place a six to four foot diameter around each tree. Hoe the grass away initially and prepare the site for the planting day.

b. Purchase Vole Foils from Sorrel Aircraft Corp. Contact Chuck Henry to fabricate the Vole Foil. Each one cost about $ .50 each. The price is negotiable and the more one purchases the less expensive the Vole Foils will be. Call 8-206-264-2866.

c. Purchase aluminum forestry tags and pre-lable your tags so you can monitor the success of your project. This is very important to do. Having hard data will make a big difference for getting additional funding in the following years.

d. Organize a work crew of volunteers. To plant 1000 trees you should have about ten vip's. Plane on two days of work.

e. Get Dr. Agee and the landscape architect out into your planting site after you have it layed out and get their opinion. Like the Superintendent, you should have Dr. Agee's comments all through the planning and preparation stages.

4. Planting

a. Have labels and Vole Foils all labeled and assembled. Have all your tools (post hole diggers, tree poles, Mclouds and rakes).

b. Organize your VIPs and give them training on exactly how you want the trees planted. Give them detailed instruction. Be sure they understand how fragile the trees are and how the roots are to be kept moist. Be sure that all your planters are gentle with the tree stock. How the planters handle the trees on the planting day can determine success or failure on the planting.

c. Plan adequate time to plant. Set your planting up in stages or phases. Start out initially small and work into larger planting day parties as the bugs are worked out of the system. The ranger in charge of the planting should just coordinate and not do any planting necessarily. He or she should be the gopher for all the planters (moving supplies and quality control). If something about the planting doesn't look good then tear it out and have the VIPs do it over.

5. Monitor

a. Monitor your plantings on a monthly basis. Do a systematic inventory on a data sheet so that it can be used for analysis. This is very important, and the park will save time and money in the long run.

REPORT OF THE TEST EXCAVATIONS OF THE ROCK FEATURES AT THE SECOND TERRACE ON THE OFFICERS' QUARTERS HILLSIDE BRITISH CAMP, SAN JUAN ISLAND NATIONAL HISTORICAL PARK

BY

BRYN THOMAS

1987

APPENDIX D

During the week of July 13 through 17, 1987, I conducted archaeological test excavations at the Zone 3 (Second Terrace) masonry walls on the Officers' Quarters hillside at British Camp, San Juan Historical Park. The purpose of the testing was:

1. Zone 3, Yard Walls (A & B), Feature 3.2
   a. Provide information on the extant and material structure of each wall.

   b. Determine, if possible, the historic function and use of the walls, (e.g., circulation path/ramp or grade wall).

2. Zone 3, Circulation Wall, Feature 3.3
   a. Determine if possible, the historic function of the wall, (e.g., circulation or retaining terrace).

   b. Determine the historic relationship to the primary structural wall, Feature 3.1, if any.

3. With the Regional Archaeologist and Historical Landscape Architect, provide an estimate of effort needed to determine functions of structures on the second terrace.

The test excavations required to perform tasks 1 and 2 above entailed the removal of the forest duff and colluvial sediments to expose sections of the stone walls being investigated. This task was greatly aided by park personnel who were clearing the forest under-story vegetation. Vegetation removal was being done to enhance the view of the stone features and terrace vistas for the park visitors.

The feature labels, i.e., Zone 3, Yard walls 3.2 A and B, utilized in this report were assigned by the National Park Service (NPS) to identify the multiple stone walls and alignments on the officers' quarters hillside. These labels are continued

in this report to avoid confusing feature identities.

Zone 3, encompasses the terrace which is historically associated with the Married Subaltern's residence and related out-buildings. The terrace is evident on the earliest historical photographs of the camp and was occupied by buildings that predate the above residence.

Task # 1

Features 3.2 A & B have been identified as yard walls. There are located along the west slope of the second terrace and abut with Feature 1.2 and Feature 3.1 (Figure 1). The investigation was initiated by removing vegetation and duff from the immediate area of the stone feature network. A few miscellaneous artifacts were exposed during this work. Among these were a small tin can with a wire bale and a large circular and flat bottom ferrous alloy pan (see exposure 11, 12, and 13).

Two test units were opened. One was located at the toe of Feature 3.2B. The dimensions were 46 x 46 x 8 cm deep. The soil was a dry dark gray black loam characterized by a friable blocky structure. Excavation was terminated at the abrupt transition to a uneven compact buff color surface characterized by angular cobbles. An unidentified clear glass bottle sherd was found on this surface. The sherd was left in-situ. The second test excavation was more extensive. It was located at the intersection of Feature 3.2A and Feature 1.2. The dimensions of the unit were 1 x 1.83 m respectively. The soil was removed as a single arbitrary level to a depth of 30 cm below the existing

surface. The soil was described as dry dark gray black loam with a friable blocky structure. Shell midden, loose cobbles, and mortar chunks were part of the soil matrix. The origin of the shell midden and mortar was not clear. However, some explanations have been offered. Pam Ford, Director of the University of Washington 1987 Field School Excavations, examined the midden material, and was of the opinion that it may have been imported to this site from the in situ prehistoric midden below the hillside. Presumably, this chore done by the British while constructing the terrace and stone walls. The mortar chunks were presumably from the stone walls. Examinations of the interstices betweens stones indicate mortar utilized in the in the original construction. However, most of the mortar has eroded over the years. Samples of the mortar were given to NPS staff for identification. Other artifacts noted during the test excavation at feature 1.2 and 3.2A were: a transfer-printed ware "Willow" pattern sherd, a banded ware decorated vessel sherd, and small mammal (e.g., sheep, goat, deer) vertebrae, tarsal/carpel, femur/humerus. The bone was tentatively identified by Pam Ford. All of the artifacts were reburied on the floor of this test excavation.

In addition to the above units, the colluvium along the base of Feature 3.2A was removed to determine whether a basal course of stones remained. None were found although they have existed and were later removed.

The examination of the stone features in this section of

the terrace provided details concerning the wall rock alignments that were not recorded in previous surveys.

The closer inspection of approximately 2 meters the southeastern part of Feature 3.1 (Figure 1) indicated it was constructed by placing large rounded basalt boulders on top of flat stones. The later had been buried by colluvium. The interstices between boulders were filled with cobbles and perhaps mortar. Shell midden fill was evident where duff had been removed along the top of the wall. The previous interpretation of Feature 3.1 being structural wall facing a terrace constructed by the British remains valid. The wall can be likened to rip-rap that covers the downhill slope of fill material that was mined from the hillside to the east and the shell midden below the hillside.

The removal of ca. 1 cm of duff and colluvium at the feature 3.1 and 3.2B intersection, indicated both were connected by a previously unseen right angle stone alignment (Figure 1 and exposures 5-6). The alignment between features 3.1 and 3.2B was approximately 1.2 meters wide and one or two stones tall. The stones were consisted of basalt and granite (angular and rounded) boulders set side by side. The east-west leg of the alignment was about 6 meter long and constructed parallel to Feature 3.1. At this point the feature ended at an irregular stone pile that may be associated with the destroyed section and displaced stones of Feature 3.1. The ferrous alloy flat bottom pan was found at the base of stone pile (see exposure 13).

Feature 3.2B appears to have been constructed on the same compacted surface that was observed in the test pit described above and located at the toe of feature. The function of Feature 3.2B was not determined by this investigation. The feature does, however, appear to be associated with the British occupation of the site.

Feature 3.2A was connected at a right angle with Feature 1.2 but separated from Feature 3.2B by a ca. 2 meter hiatus at the eastern or uphill end of the feature (Figure 1). An examination of the east-west-oriented leg of Feature 3.2A was conducted. There was no evidence of aligned and staked stones seen in the other features. Instead it was an earthen feature constructed of dry brown gray clay loam, random basalt and granite angular cobbles, some mortar chunks and brick fragments. Artifacts associated with the fill were a tin can with wire bale (see exposure 11-12) and machine cut nail fragments. All of these items were reburied in situ. Unlike the other stone walls, there no shell midden material observed in the fill. The historical function of Feature 3.2A was not identified. It appears to be a ramp, constructed of packed earth. A stone wall may have delineated the south edge, but if so, it was completely and deliberately removed. The ramp may have been built to transport stones utilized in the construction of the walls or other British period structures on the hillside. It may also have be a ramp for traffic to an unidentified feature on the slope in front of the second terrace. Alternatively, the ramp might have been

constructed for an as yet unidentified purpose after the British abandoned the site. Data supporting the latter potentiality would be the existence of a buried section of Feature 1.2 below the earthen ramp.

A rock alignment that was undocumented in previous surveys of the hillside was found east of the above features (Figure 1). It was discovered by park personnel while removing vegetation and duff. The feature was characterized by a right angle alignment of angular basalt and granite boulders. The stones were set without mortar, stacked alongside one another and followed the contour of the hillside (see exposure 14-15). The function of the feature was not determined. However, its proximity and orientation to Feature 1.2 suggests a circulating wall delineating a road/path from the first to the second terrace.

Task # 2.

Feature 3.3 is located at the northeastern border of the second terrace on the uphill side of an existing visitor path leading toward the parking lot. Other features in the immediate vicinity are features 3.1 and 3.4 (Figure 2). The vegetation and duff were removed from all of these features in order to determine functions and asscciations between structures.

The condition of Feature 3.3 varied. The section that appears on NPS maps along the visitor path was intact and reasonably well preserved. However, the condition of the wall deteriorated to the south or near the crest of the second terrace. A inspection of this section of the feature revealed

soil and gravel fill with dispersed concentrations of angular basalt cobbles and shell midden. This was probably fill material that comprised a section of the terrace constructed during the British occupation. A row of rounded basalt stones found in situ at the toe of the slope were probably remnants of the wall which had been subsequently destroyed. Despite the fragmentary condition of the wall, there was no evidence that it was historically connected with features 3.1 or 3.4. On the basis of these observations, Feature 3.3 was probably a structural wall which defined a portion of the second terrace where the British had constructed a privy. The latter feature is recorded in the NPS survey and identified by a reburied square hole with lime fragments in the fill matrix. There is a strong possibility the privy has been vandalized.

Feature 3.1 terminates at the edge of the terrace and the beginning of the visitor path to the parking lot. From this point northward, the downhill side of the path has been designated Feature 3.4 and is characterized by scattered stone boulders (generally rounded basalt boulders) resting on and at the toe of the slope. Although, not conclusive, these stones appear to be remnants of a wall located on the west side of a historical road/path. Hence, the existing visitor path may duplicate a British traffic route from the second terrace northward. However, it is unlikely the logs located along the path were part of a British roadway and these are more likely a later repair of a slump along the road or path.

In addition to evidence of a stone wall along the west side of the visitor path, a number of artifacts were found when the forest duff was removed. The artifacts were scattered and broken but their large size and deposition along the slope suggests a refuse dump site. Artifacts that were identified during the field work included: a banded ware bowl body sherd, olive green glass liquor bottle necks, a iron saw, cast iron stove fragments, and window glass sherds (see exposures 1, 2, 3, and 4). Banded ware with a brown band and stripes were reported in the University of Idaho excavations at British Camp. Likewise, the bottle fragments were a type typically associated with mid-nineteenth century archaeological sites. Consequently, it is possible these items are components of a refuse dump dating from the British occupation. A similar dump was reported by the University of Idaho in front of the first terrace on the officers' quarters hillside. All of the artifacts from Feature 3.4 were left <u>in situ</u> and covered with duff.

<u>Task 3</u>.

Discussions with the Regional Archeologist and Historical Landscape Architect have resulted in the following estimates of effort needed to determine the functions of the structures on the second terrace.

1. Investigate potential data recovery from photo-enhancement of the historical photographs of British Camp.

2. Resume historical and historical landscape studies of British Camp and contemporaneous British military sites.

3. Prepare a request for proposals for inclusive test excavations of the structures located on the second terrace.

Data recovered from the above estimates of effort will provide comprehensive information and data recovery techniques for British Camp as well as American Camp, Bellevue Farms, and San Juan Town.

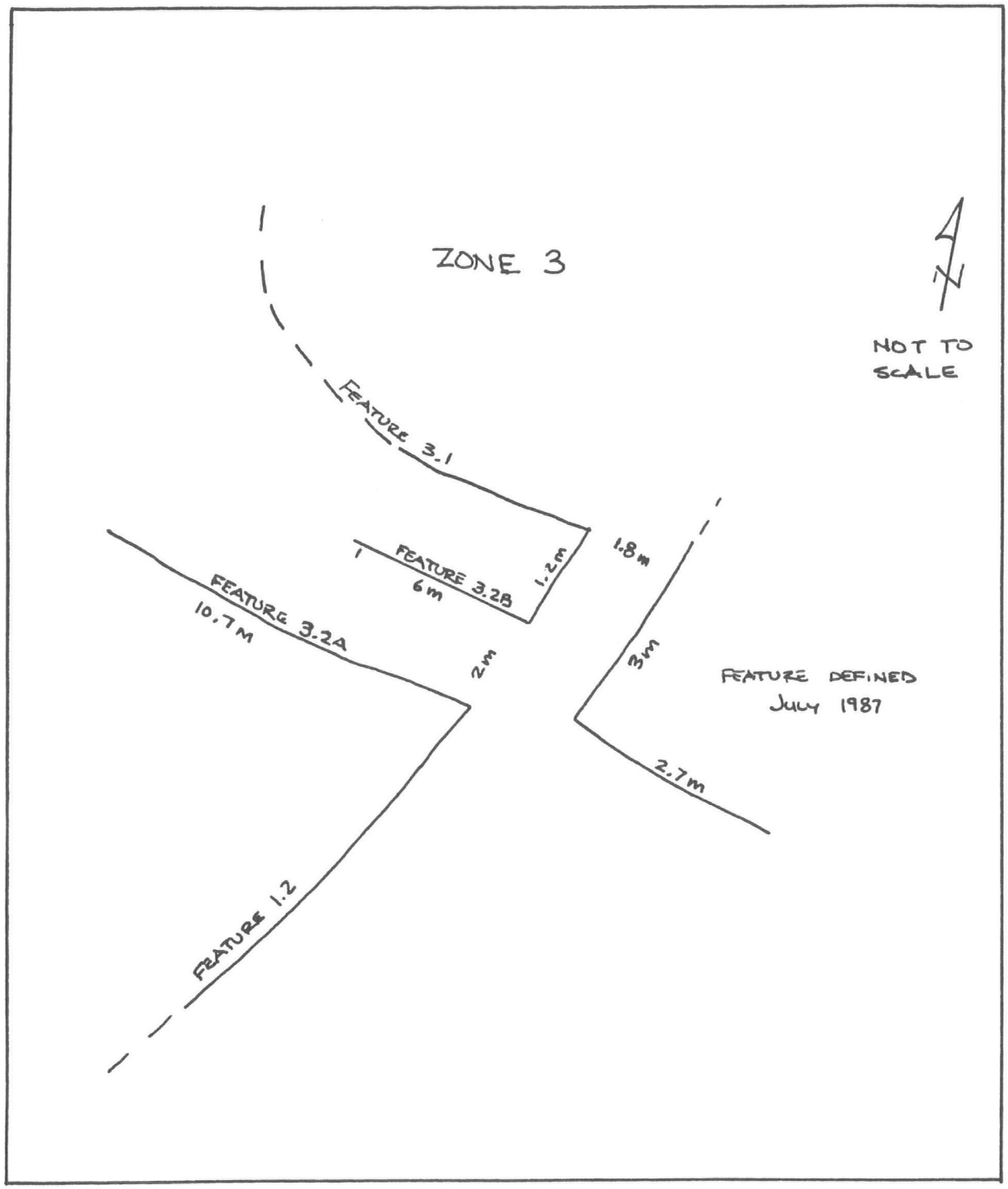


Figure 1. Diagram of stone features located at the southern end of the Second Terrace. British Camp, San Juan Historical Park.

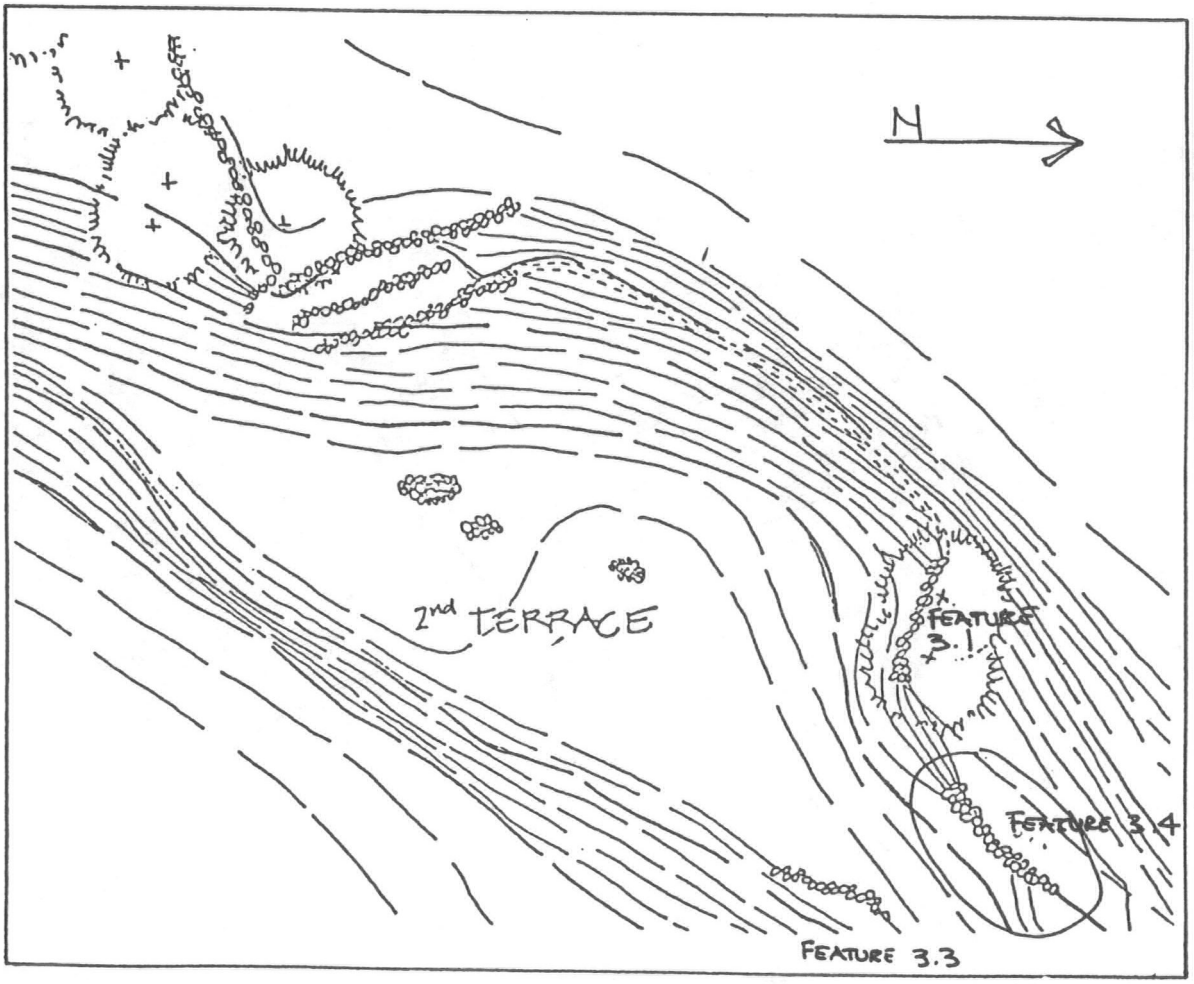


Figure 2. Map of stone features located at the northern end of the Second Terrace. British Camp, San Juan Historical Park.

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

U.S. National Park Service
Cooperative Park Studies Unit
College of Forest Resources

June 2, 1987

To: Regional Chief Scientist, Pacific Northwest Region

From: Research Biologist, University of Washington CPSU

Subject: Final Report, SAJH Forest/Fire Ecology
Trip Report, May 28, 1987

1. Final Report

I have received review comments from Ed Menning through you, and visited the park on May 20 to receive their comments. Based on this input, I will revise the final report and submit it sometime this summer.

2. Trip Report, May 28, 1987

I visited the park on May 28, in the company of Rich Winters, Stephanie Toothman, Cathy Gilbert, and Jim Thomson. We were accompanied by Steve Gobat from the park. I cored seven (7) trees in the vicinity of "Officers' Hill" at English Camp. The cores were mounted, sanded, and counted, with the following results:

Cores SAJU 87-1 and 87-2. These Douglas-fir trees are growing at the edge of a rock wall. Tree 87-1 has rot in its middle; both trees had a curved trunk near the base. Neither core reached the center of the tree. The earliest year on the actual cores was: 87-1: 1912, and 87-2: 1890. Based on tree diameter and the fact that tree centers on leaning trees are nearer the uphill side due to compression wood forming on the lower side, I estimated actual tree age at core height (1 m and 95 cm, respectively) to be 1873 and 1869. If they were "naturalized" (i.e., not planted) the respective germination dates are estimated to be 1866 and 1862. Further coring could possibly establish a better germination date for 87-2; because of rot in 87-1, no further coring would help. I suspect that, if any significant change in tree age were made for 87-2, it would show up slightly younger than 1862.

SAJU 87-3 and 87-4. These trees are Rocky Mountain junipers growing on the "first ledge" near the married subaltern's former quarters. Two such trees show up in the historic photographs in the 1860's. 87-3 has a core date of 1887; due to an early wound and subsequent eccentric growth over

the wound (plus rot), estimation of a pith date is too speculative. Based on the core length and present tree diameter, the tree diameter in 1887 was about 16 cm (6 inches) at 40 cm above the ground. It certainly was large enough at that date to have grown from a tree of the size in the historic photograph. Tree 87-4 has a core that passes through some wound tissue in the 1870's, and dates at least to 1865 at 35 cm core height (e.g., if it was planted in 1865, it would have been a 35 cm tall tree). Because several years may be missing due to the wound, it was probably a bit taller than that in 1865. I conclude that these two trees are the junipers shown in the historic photograph. Because of the substantial size of the rock wall on which they are growing in another photograph, I suspect these trees began growing on the site (possibly as transplants) during the historic period.

SAJU 87-5. This was a partial core into scar tissue on the Douglas-fir tree at the rock ledge west of the monument. The core was inconclusive, except it did establish the wounding at some date prior to 1915.

SAJU 87-6 and 87-7. These are cores from the large Douglas-firs that line the old road leading from the Captain's (?) house to the new parking lot. Actual core dates were 1871 and 1868, respectively; adding years to get to the actual pith at core height gives estimated pith dates of 1868 and 1866. Since the trees were likely planted to achieve the row effect, the planting date could have been any of several years from 1866 back to 1860. Those are the years I would bracket as the most likely period.

SAJU 87-8. This core is from the large Douglas-fir on the first ledge (the same one as the junipers) and is pictured as a large tree in the 1860's. The core attempted to establish this tree as older than 1860, and succeeded in doing so. It was approximately 20 cm smaller in diameter in 1865 than it is today.

SAJU 87-9. This core is from the same tree as SAJU 87-5, in the Douglas-fir near the monument. The intent of this core was to establish if this tree could have been large enough during the historic period to have served as a fencepost. This tree was about 25 cm smaller in diameter during the historic period, and is very likely the tree in the photo. Unfortunately, core 87-5 was not able to precisely establish the date of the wound.

Further work on any of the trees above could be done during the summer if more precise dates are desired. It will not be possible in any case to establish a date to the given year for tree establishment, planting, etc. However, dates on more of the row trees, more work on tree 87-3 or 87-4 could be done, or more trees in the area of the historic

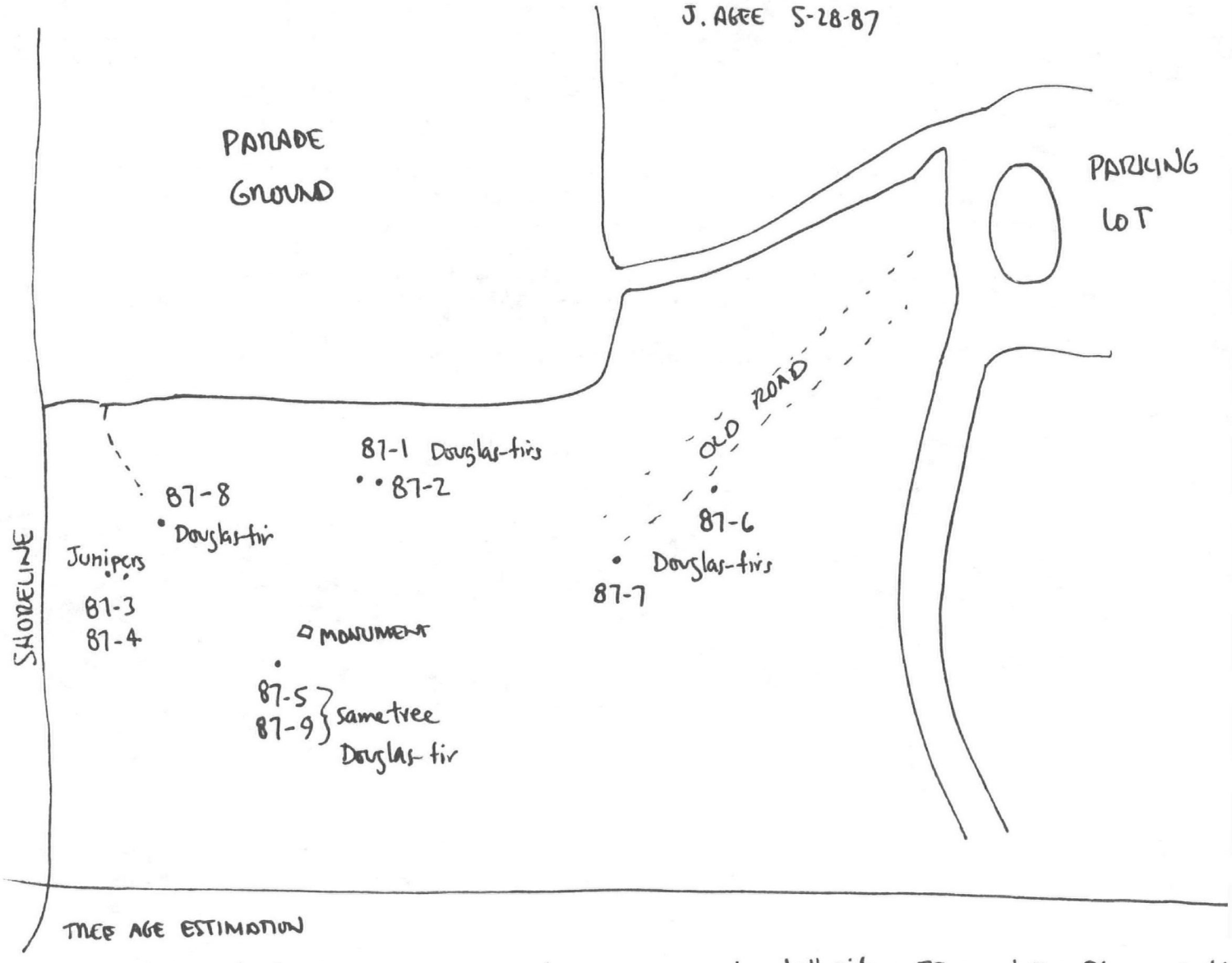
buildings could be aged. Please let me know if such work is desirable, and if so, I will schedule it for later in the summer.

A handdrawn sketch of the approximate tree locations is attached, as are calculations for estimations of tree ages.

cc: Cathy Gilbert, Cultural Resources

James K. Agee

SASH TRIP REPORT
J. AGEE 5-28-87



TREE AGE ESTIMATION

87-1. Wood diameter 82 cm; assume extra 10 cm on downhill side = 72 cm ÷ 2 = 36 cm radius. Core is 23 cm long, so 13 cm missing @ 3 rings/cm (assumed) = 39 yrs; 1912-39 = 1871 - 7 yrs. to reach core ht. = 1866.

87-2. Wood diameter 84 cm; assume 10 cm on downhill side = 74 ÷ 2 = 37 cm radius. Core is 30 cm so missing 7 cm x 3 rings/cm = 21 yrs. 1890-21 = 1869 - 7 yrs to reach core height = 1862.

Other trees: Very little estimation involved: see text.

VEGETATION MANAGEMENT
STONE RETAINING WALLS
BRITISH CAMP
SAN JUAN ISLAND NATIONAL HISTORICAL PARK

The retaining walls relating to roads and pathways and other structureal features on the hill at British Camp are dry laid masonry walls constructed almost entirely of hard non-absorbative igneous and metamorphic boulders. Because of their design, large sections of these walls have remained standing but they are presently concealed by vegetation. A lush growth of moss covers some sections of several walls while an understory tangle of vines, brambles, shrubs, small trees, and other miscellaneous vegetation conceals other portions.

The moss covering has a minimal deleterious effect on the stone and is not objectionable, but the growth of the larger vegetation and the penetration by its roots not only obscures the structure and thereby eliminates its interpretive value, but also displaces individual stone and localized wall segments and through the course of time, causes loss of integrity in the wall. This larger vegetation is undesirable and should be controlled.

Management of structure invasive vegetation in this instance can be fairly simple and straightforward technically, but will be labor intensive and must be performed with sensitivity and discretion. In situations where wall deterioration has progressed to the point where the remnants are close to undecipherable, interpretive and preservation considerations must be weighed together and input and guidance from the appropriate professionals must be sought.

Where historic trees intersect the wall, they should be maintained even when their growth has displaced stones or minor wall segments. Most of the growth and related displacement has already occurred. Where such trees are dead, decayed, or otherwise in danger of toppling and uprooting portions of the wall in the process, more aggressive intervention will have to be considered. Wherever possible, the historic landscape plan will identify all historic vegetation; if any major clearing is contemplated prior to report publication, Cathy and Jim can assist the park in locating historic trees, etc. should any doubts arise. Any other invasive trees may be carefully felled to avoid further stone displacement and sawed off flush with the remaining stones. Such removal is desirable because it not only halts growth displacement but also will prevent catastrophic movements and collapse when the tree falls. The best method of removal is felling by power saw. This method avoids the vibration of chopping and can be done with an initial deep undercut so that the tree will snap cleanly and quickly rather than pulling on the stump as it falls; this cutting should be done about 4 feet above the stone work and afterward the stump can be cut off flush with the rocks to make it less conspicuous.

If discretion is used, trees under three inches in diameter can be cut off right at the ground line in most instances. Young trees below 1 1/2" in diameter can be snapped off at stone level with loping shears. Smaller shrubbery and woody vegetation can be snipped with pruning shears'. Brush saws may also be considered but the hazard to the stones, the blades, and the operators should be carefully evaluated before this method is finally selected. Heavy duty string line trimmers can be used to cut off all of the smaller and grassier vegetation.

Removal of cut vegetation and debris must also be approached carefully. Pickup trucks and heavier equipment if operated insensitively or when the soils are moist can obliterate deteriorated historic features or obscure them by altering the terrain with new depressions and ruts. Around more delicate remains, chipping or bundling vegetation and packing it out by hand or in carts may be preferred.

Once a section is actually cleared, aggressive maintenance will be required to keep the wall vegetation free. To avoid stone displacement, no pulling has been recommended; therefore, all plant roots will remain in place and attempt regeneration. Because the stones are hard, dense, and non-absorbative, this regrowth can be controlled either with frequent string line trimming, with contact type herbicides, or with soil sterilants. A contact herbicide of the type that kills all vegetation but breaks down into nonreactive components upon contact with the soil would seem to be the preferred alternative; this treatment requires less labor and inflicts potentially less mechanical damage than the trimming while not leaving the more active and potentially more troublesome chemical residuals of the sterilants. Sprayer application of chemical solutions should be carefully performed and controlled and limited to still air days to avoid the browning of adjacent vegetation. Proper protective gear for applicators is a must. Herbicides application will have to be done diligently during the first two growth seasons to avoid regrowth; if this is not done, the browned out dead and dying plants on the wall will be obvious long after the chemical application.

Clearing the walls will require XXX clearance and may involve professional monitoring. The use of chemical methods will also require advance approval from natural resources management.

Laurin C. Huffman II

Laurin C. Huffman II

4628R

RECONSTRUCTION OF THE HISTORIC FORMAL GARDEN AT ENGLISH CAMP SAN JUAN ISLAND NATIONAL HISTORICAL PARK, WASHINGTON

CAROL MEADOWCROFT
LANDSCAPE ARCHITECT

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
MARCH 1982

APPENDIX G

RECONSTRUCTION OF THE HISTORIC FORMAL GARDEN AT ENGLISH CAMP, SAN JUAN ISLAND NATIONAL HISTORICAL PARK, WASHINGTON

While most people are familiar with preservation of historic buildings, a historic structure or community is not complete without it's historic landscape setting. Architectural restoration of several structures already has been accomplished at English Camp, San Juan Island National Historical Park. To further the restoration of English Camp and provide visitors with a wider experience of the cultural history of the site, the National Park Service will reconstruct the formal flower garden which was an integral part of the landscape setting during the latter part of the British occupation in the 1860's-1870's of the San Juan Islands. When reconstruction is completed, the garden will display a particular period of landscape gardening history unique to National Park Service areas in the Pacific Northwest.

The handsome but modest camp was developed on a gently sloping, well sheltered site on the east shore of picturesque Garrison Bay. "A large extent of prairie land, interspersed with some very fine oak timber," comprised the original landscape as seen by Lt. Roche of the ship Satellite (Historic Resources Study, San Juan Island National Historical Park by E.N. Thompson). Another and later account describes a noble tree in the midst of a greensward with a surrounding fringe of spreading maples. An article in the Victoria, Vancouver Island, newspaper The

4833A-0122A-3

Daily British Colonist of May 27, 1867 extols the beauty of the site as experienced by "excursionists" to English Camp on occasion of the Queen's Birthday:

> Nature and art have here combined to produce a scene calculated to delight and entrance the enthusiast, the snug little camp, fronted by a verdant lawn, while trellis-like walks ascend in mazelike meshes the hill in the background, forming a fit study for the lover of the picturesque. All having landed, many formed picnics in the ambrosial bowers of this favored spot.

The British established English Camp in 1860 during their joint occupation with the Americans of the San Juan Islands. The British and Americans were awaiting settlement of the boundary disagreement that had erupted into the infamous dispute called the "Pig War" between the United States and Great Britain. Two British Royal Marine captains were stationed at English Camp during the twelve-year occupation. While the first commandant, Captain George Bazalgette, apparently was not married or at least did not bring his wife with him, the second commandant Captain William Addis Delacombe brought his wife and family with him to San Juan Island when he came in 1867. Creating a familiar landscape in a distant outpost of the world helped people who were living in these remote situations feel like they were not really so far away from home. This would have been especially important to a man with a family.

4833A-0122A-4

Evidence points to the formal garden being established during Captain Delacombe's term as commandant. The only known photograph of the formal garden is dated 1866-71. A drawing in the University of Washington Special Collections dated 1866 does not show the formal garden. In late 1867 new captain's quarters were built for Captain Delacombe.

An old photograph of the home, and the captain and his family shows an extensive and well tended flower display around the front of the house. Relations between English Camp and American Camp had always been cordial and social, and Captain Delacombe had around 70 men stationed with him to keep occupied. The captain also enjoyed quite a social whirl. He was well liked and often invited the citizens of Victoria for picnicking, games, and dancing "The Light Fantastic Toe" on such occasions as the Queen's Birthday, which was celebrated around the third Monday in May.

Early during the occupation of English Camp, a vegetable garden surrounded with a lattice fence, apparently made of saplings, was located on the south corner of the parade ground. Later, the formal circular flower garden with a series of walks around and through it was laid out in the same general area, displacing the vegetable garden. Anyone passing from the main camp to the officer's area on the bench above the south end of the parade ground would have had to pass through the formal garden.

4833A-0122A-5

The formal garden has been described as Gardenesque, a transitional style following the "English Landscape Gardening School" and leading into Victorian garden design. John Claudius Louden, a horticulturist and prolific and influential writer on horticulture and landscape design in England in the early 1800's, developed and named the "Gardenesque School of Landscape." Louden is variously described by historians as "The man of genius, and of incredible industry, who linked the Pope-Brown-Repton era to the era of high gardening" (Edward Hyams in his book The English Garden), to creator of a school "indicative of the lamentable state of affairs into which matters had slumped after Repton's passing" (Norman T. Newton in his book Design on the Land). The Englishman Humphrey Repton, of the Landscape Gardening School, had seen the necessity for allowing the geometrical form of the previous French Baroque, Italian Renaissance and Dutch influences on the English landscape to come back into landscape garden design. However, he used it only near the house to establish a visual base for the structure to rest upon and as a transition between the geometry of the building and the softness of the landscape. With the Gardenesque, a new style was evolving incorporating the geometric, and integrating it into the landscape or natural style.

Louden espoused a mix of the formal and the informal, opposing the imitation of nature as Repton had advanced in the Landscape Gardening School. An eclectic in his thoughts, he restored horticulture as an emphasis in the English garden. Loudon combined both art and science in

his writings and garden-design ideas. Hyams portrays him as the man "who linked esthetics and technics," describing his style as "plantsmanship and garden design . . . growing together towards the accomplishment of the ideal."

George F. Chadwick in his book The Park and The Town gives us a good perspective on what happened. He writes "Loudon . . . took Repton's ideas over and developed them, and although his gardenesque style had botanical premises, it is as a style of ornamental complexity that we now view the Gardenesque." Subsequently, the original theory "became quite overlaid with garden ornament, summer bedding, rockwork, and the like, which is now regarded as the typical Victorian style, although it had started long before Victoria's reign had begun, and was waning well before her reign ended. It is important . . . to see in the original gardenesque idea of treating each plant as a specimen in its own right, not only the style which was to prevail for some sixty years or more, but also the basic importance of individual plant material . . . " to the Gardenesque style.

Botanical interest was high during the early and mid 1800's, plant explorations were being carried on world wide, and many new plants--termed "exotics"--were being introduced into England. Unfortunately, many took this idea of the importance of individual plant material and designed gardens with a spotty appearance which was far from Louden's stated desire for unity of composition. It is this spottiness for which

Louden and the Gardenesque style are unfairly criticized. In the Gardenesque style, flower gardens were laid out in relatively geometric shapes while shrubs and trees were planted in more natural forms, combining to create a unified design. This style--a geometric flower garden in a natural landscape setting--is what we see at English Camp. Gardenesque flower gardens displayed in mass in each bed, one individual, brightly colored, showy, plant material. These beds of brightly colored plants were not planted in any particular pattern of color in the total flower garden, and a plant typically was not repeated, or at least not repeated in patterns as seen in later Victorian carpet bedding. The formal garden at English Camp is a good example of a typical Gardenesque flower garden. It achieves a unity with the overall landscape of the camp by linking the parade ground with the officer's residential area.

To reconstruct the formal garden at English Camp, it was necessary to establish who the people were and where they came from, as they would have brought their traditions with them and would have attempted to create a familiar landscape. The upper middle class British military people who designed the garden had probably read J.C. Louden's Encyclopedia of Gardening as the 1800's were a period of high interest in gardening, and the many books written on gardening and horticulture were widely available to the public. The existing photograph of the garden establishes its overall circular design. For the 1976 Bicentennial celebration, a 70-foot diameter circular design matching that shown in

the photograph was laid out and planted in flowering plants and evergreen shrubs. Research to determine the plants used in the original garden and their arrangement in the design was not undertaken at that time. The beds in the photograph appear to have a low border plant and within the beds, planting of flowers was in semicircular rows. For the current reconstruction, research was undertaken to ascertain if more information was available on the garden itself, to establish plants that were available to these people, and to establish a sense of how these plants would have been used in the 1860's-1870's.

Our information on the formal garden remains scant. Several contacts were made with repositories of documents in Victoria. These were the British Columbia Provincial Archives, the Provincial Museum, and the Maltwood Art Museum and Gallery of the University of Victoria. Replies indicate more information may be available in the documents they have and in some material deposited with the City Archives in Victoria. A trip to study this data would be advised. The National Archives in Washington, D.C., did not have further information.

To establish flowering plants available to the British, sources revealing trade connections and local suppliers of plants were examined. Victoria was then the seat of the only newly established (1849) British Crown Colony of Vancouver's Island. Before the Pig War was settled, British Columbia became a Crown Colony and eventually Canada came to be a

separate Commonwealth. Washington State was still a territory. Trade connections for English Camp were primarily with Victoria which had a population of 4,000 by 1867. Shipping trade routes into Victoria were either by land crossing of the Panamian Isthmus or entirely by ship around the horn, then through San Francisco and/or Fort Vancouver, Washington Territory. Some overland routes across the United States were used also. Nurseries had been established in California and Oregon, and in 1866, The Daily British Colonist advertisements record a Moss Street Nursery in Victoria and a shipment of seeds received by Langley and Co. from James Carter and Co., seedsman to the Royal Gardens, St. Osyth, Essex, England. Further ads over the next few years indicate at least two nurseries in existence in Victoria and show seeds and plants were now being grown in Victoria. An advertisement on February 15, 1869 reads:

> Victoria Nursery and Seed Establishment
> Mitchell and Johnson
> Offer for Sale . . . .
> New seeds for farm and garden
> The bulk grown by themselves and harvested in prime condition . . .
> and of flower seeds only the most beautiful have been grown.

Another on May 14, 1868 records:

4833A-0122A-10

Auction: J.A. M'Crea will sell by order of J. Clayton, Moss Roses, yellow &c; Calceolavias, Cineravias, Heliotropes, Stocks, Scented Verbena, Peonies, Fushias, hardy Evergreens, Acacias &c &c. Choice blooming plants in pots.

Trade and contacts outside the Pacific Northwest increased rapidly during this time. Other advertisements and notices of interest indicate the start of an agricultural and horticultural society, an interest in flowers with a benefit awards show entitled "Floral Fete," and the services of a gardener and florist whose ad read:

Gardener and Florist
Fred Waters practical gardener and florist, offers his services to anyone requiring gardens laid out, planting or pruning, by the job or day. Orders left at Mitchell and Johnstons Seed Store, Fort Street will be promptly attended to.

The Daily British Colonist newspapers were scanned around the first and fifteenth of the month generally from February to July for the years 1866 to 1871. The Queen's Birthday and two later holidays were quite often the occasion of celebrations. Notices appeared in the newspaper before these events and sometimes articles about the events were written and printed. Two surviving nursery catalogs of the time are, one from Oregon of the St. Helena Nursery, Howell Prairie, Oregon, and one from Victoria of H. Mitchell, senior partner in the late firm of Mitchell and

Johnston, Grower, Importer, and Dealer in Seeds. A list of herbaceous flowering plants available, compiled from the advertisements in the Daily British Colonist and from the two catalogs is included in Appendix A of this report.

A sense of how flowering plants would have been used in the 1860's-1870's was gathered from the Gardenesque style utilizing brightly colored showy plants, and showing them off to their best advantage by massing a single variety in each bed. Strong support for this manner of arrrangement in English Camp's formal garden was found in the publication West Shore an illustrated monthly domestic journal published in Portland, Oregon. The March 1878 issue contained a plan for a flower garden similar in design to the circular plan at English Camp, and an article accompanying this plan named the flowers planted in each bed. Annuals, perennials, or bulbs were massed in each of these beds and surrounded with an edging. The article suggests for edging, dwarf pink and Oxalis Floribunda "unless a uniform edging of box or tiles is preferred." Analysis of the plant materials also shows a height arrangement utilized in the design. Taller plants were used in interior beds with lower growing plants used in the outer beds of the garden.

The reconstructed formal garden at English Camp will feature bright, showy plants massed in each bed, with taller plants in interior beds and lower growing plants in outer beds, and a very showy central planting. Interior and outer beds will be framed by a low border of boxwood;

4833A-0122A-12

the central planting will have a border of Caladiums. Design consideration was given to time of bloom during the spring, summer, and fall seasons in order to provide color for the longest period of time, with emphasis on the higher park visitation summer months. In the original historic Gardenesque flowerbeds, annuals and bulbs were generally planted. Because of the high cost of yearly replacement of annual bedding material, perennials have been added to the variety of annuals and bulbs selected for display in English Camp's formal garden.

The attached drawing, number 438/80,009, shows the proposal for the reconstruction of the English Camp formal flower garden. Historical evidence, plant material that was available in the Pacific Northwest, and the sense of English Gardenesque planting design in vogue at the time and brought with them by the British, have provided the basis for the design and plants selected for the garden. The overall design is in keeping with the photograph and the recommended plants were available in the area and in the time period. The original arrangement of plant materials in the garden could not be positively determined. The arrangement follows the Gardenesque style. Alternate plant choices for planting beds are indicated in Appendix E; these will maintain the integrity of the garden, but permit some changes over time. It is quite likely that the flowering plants displayed in the garden varied somewhat during Captain Delacombe's command of English Camp. Finally, maintenance suggestions and a cost estimate have also been included in this same appendix to this report.

4833A-0122A-13

APPENDIX A

PLANTS AVAILABLE IN THE PACIFIC NORTHWEST IN THE 1860's-1870's

Flowering plants available from the St. Helena Nursery, Howell Prairie, Oregon:

Double Tulips.

Crown Imperial--white and red, large and fine, each.
Crown Imperial--red, bordered white
Crown Imperial--purple, bordered white,
La Candeur--pure white, extra
Paonia Gold--yellow, variagated,
Gloria Solis--brown and yellow, extra,
Yellow Rose--yellow.

Double Hyacinth.

Bloom Early in Spring--Very Fragrant and Showy.

Bouquet Tender--dark crimson superior,
Prince of Waterloo, pure white, large,
Hersilia--dark red, early,
Panorama--red, green tips, extra fine,
Ne Plus Ultra--white, purple eye, early and superior,
Minerva--white, purple eye, fine,
Anna Maria--white, red eye, extra large
Madam Marmont--porcelain blue, extra,
Bouquet d'Orange--orange red, early-fine.

Green House Plants.

Geraniums--new varieties,
Geraniums--older varieties,
Sweet Viola,
Carnation Pink,
Picotees--Sweet William,
Fuchsias, a fine assortment,
Fuchsias, new choice varieties,
Geraniums,
Verbenas,
Peonies--eight varieties
Double Dahlias--41 finest varieties,
Dielytra Spectabilis--One of the most remarkable and beautiful hardy border plants in cultivation

Bulbous.

Hyacinths--Twenty-five varieties, double, fine named sorts;
Narcisuss--Twenty-four varieties, single, double and polanthus flowered,
Tulips--Double and single; sixty coice named varieties;
Crocus--Twelve distinct named sorts;
Crown Imperial--A superb assortment of named sorts;
Iris, English mixed,
Iris, Spanish mixed,
Anemone,
Gladiolus,
Lilies, Eight varieties,
Jonquils.

4833A-0122A-14

Flowering plants available from H. Mitchell, Victoria B.C.:

Flower Seeds. A choice collection of popular varieties and novelties, both imported and home grown, of Annuals, Biennials and Perennials in 10 cent and 25 cent packets or collections of 12 packets for $1.00

Hardy Herbaceous Plants, including a fine collection of fifty varieties of Chrysanthemums.
Dahlias, a fine collection from England.
Carnations, a great variety.
Bulbs, all hardy species, &c., &c., &c.

Flowering plants mentioned in the The British Daily Colonist's advertisements and notices:

Calceolaria
Cineraria
Heliotrope
Stock
Scented Verbena
Peonies
Fuchsias
Lemon Scented Verbena
Japan Lilies
Scarlet Geraniums
Pelargoniums
Hydrangea

4833A-0122A-15

APPENDIX E

SUGGESTIONS ON MAINTENANCE

I suggest acquiring several garden books. The books on flowering plants listed in the bibliography may be looked at for suitability. Planting directions, soils, watering requirements and other factors vary considerably for the plants. It is important to get a feel for the garden over time and to keep records. Note what was done, what worked, and what didn't work. If some plants don't do well, look at soils, watering, and plant diseases and preventive care.

There are four beds of annuals: The Verbena, Heliotrope, Sweet William, and Martha Washington Geranium. These may be changed from year to year if desired. Other annuals that would be appropriate to the time are: Annual Stock, Cineraria, Common Geranium, Coleus, Snapdragons, Phlox, Zinnia, and Portulaca. Plant in concentric rows using spacing shown on drawing No. 438/80,009 or in this appendix. Fill each bed with one kind of flowering plant only (unless they are following each other as in early Iris and late Chrysanthemum which both entirely fill the same bed). A mix of colors of the same plant is acceptable, but not a mix of plants.

If one of the bulbs or perennials does not do well, Delphinium or Canterbury Bells could be substituted or a successful bed could be repeated. If a plant is repeated, do not repeat it in any pattern such as opposite the existing bed as this was the later Victorian style of gardening. The design criteria are: one plant, massed per bed with taller plants in the inner beds. The bulbs and perennials will need replacement every few years depending on the particular plant.

The central bed is Calla Lily bordered with Fancy Leaved Caladiums, an annual. If this does not work well, Box Hedge can be substituted for the border and be planted in the area between the bender boards. Flax could be substituted for Calla Lilies.

All beds except the central bed are edged with clipped box hedging. This plant should be trimmed to a one foot height.

Anemones, Daffodills, and Tulips could be planted for bloom before the annual flowering plants are put in, if spring color is desired.

Common Name	Spacing	Common Name	Spacing
Annual Stock	18" O.C.	Portulaca	9" O.C.
Cineraria	18" O.C.	Delphinium	18" O.C.
Common Geranium	2' O.C.	Canterbury Bells	18" O.C.
Coleus	1' O.C.	Anemone	1' O.C.
Snapdragons	1' O.C.	Daffodill	1' O.C.
Phlox	18" O.C.	Tulip	1' O.C.
Zinnia	9" O.C.		

4833A-0122A-25

MARK ALL PACKAGES AND PAPERS WITH CONTRACT AND/OR ORDE

1. DATE OF ORDER	2. CONTRACT NO. (if any)	3. ORDER NO.
September 22, 1982	CM	PX 95

4. ISSUING OFFICE
San Juan Island National Historical Park

5. ACCOUNTING AND APPROPRIATION DATA
9530-105(2600) 4WC 589.50

6. SHIP TO (Consignee and Address, ZIP Code)
San Juan Island NHP, 300 Cattle Point Road,
Friday Harbor, WA 98250

7. TO CONTRACTOR (Name, Address, ZIP Code)
W. ATLEE BURPEE COMPANY
P.O. BOX 748
RIVERSIDE, CA 92502

8. TYPE OF O
☒ (a) Purchas

Please furnish
sides of this
cluding deliver
der authority o
Act, [41

☐ (b) Delivery
verse, this deli
on this side o
terms and con

9. REQUISITION OFFICE ▶

10. REQUISITI
DI-1 9

11. F.O.B. POINT	12. GOVERNMENT B/L NO.	13. DELIVERY POINT ON
Destination	N/A	12/22

15. SCHEDULE

(a)	Supplies or Services (b)	Quantity Ordered (c)	Unit (d)
1.	8953-2C/Pg 65, Special Gladiolus	1	Set
2.	1670-9/Pg 72, Chrysanthemum, Cortis Rice	5	Set
3.	1299-7/Pg 72, Chrysanthemum, Harvest Brnz	5	Set
4.	1649-3/Pg 72, Chrysanthemum, New Firebird	5	Set
5.	1648-5/Pg 72, Chrysanthemum, Purple Wtrs	5	Set
6.	1441-5C/Pg 76, Estate Peony Special	1	Set
7.	1434-0C/Pg 76, Peony Special	1	Set
8.	1369-8/Pg 76, Phillippe Rivoire Peony	4	Set
9.	8979-7C/Pg 68, Caladiums	1	Set
10.	8985-9C/Pg 66, Decorative Dahlias	2	Set
11.	7653-9/Pg 69, Giant Ranunculus	8	Set

16. CLASSIFICATION: ☐ SMALL BUSINESS ☒ OTHER THAN SMALL BUSINESS ☐ MINORITY BI ENTERPRISE

SEE
NG
JC-
ON
REVERSE

17. SHIPPING POINT	18. GROSS SHIPPING WEIGHT	19. INVOICE NO.

20. MAIL INVOICE TO (Include ZIP Code)
National Park Svc, Finance Divi
Westin Bldg, Room 1920, 2001 6th Av, Seattle, WA 98121

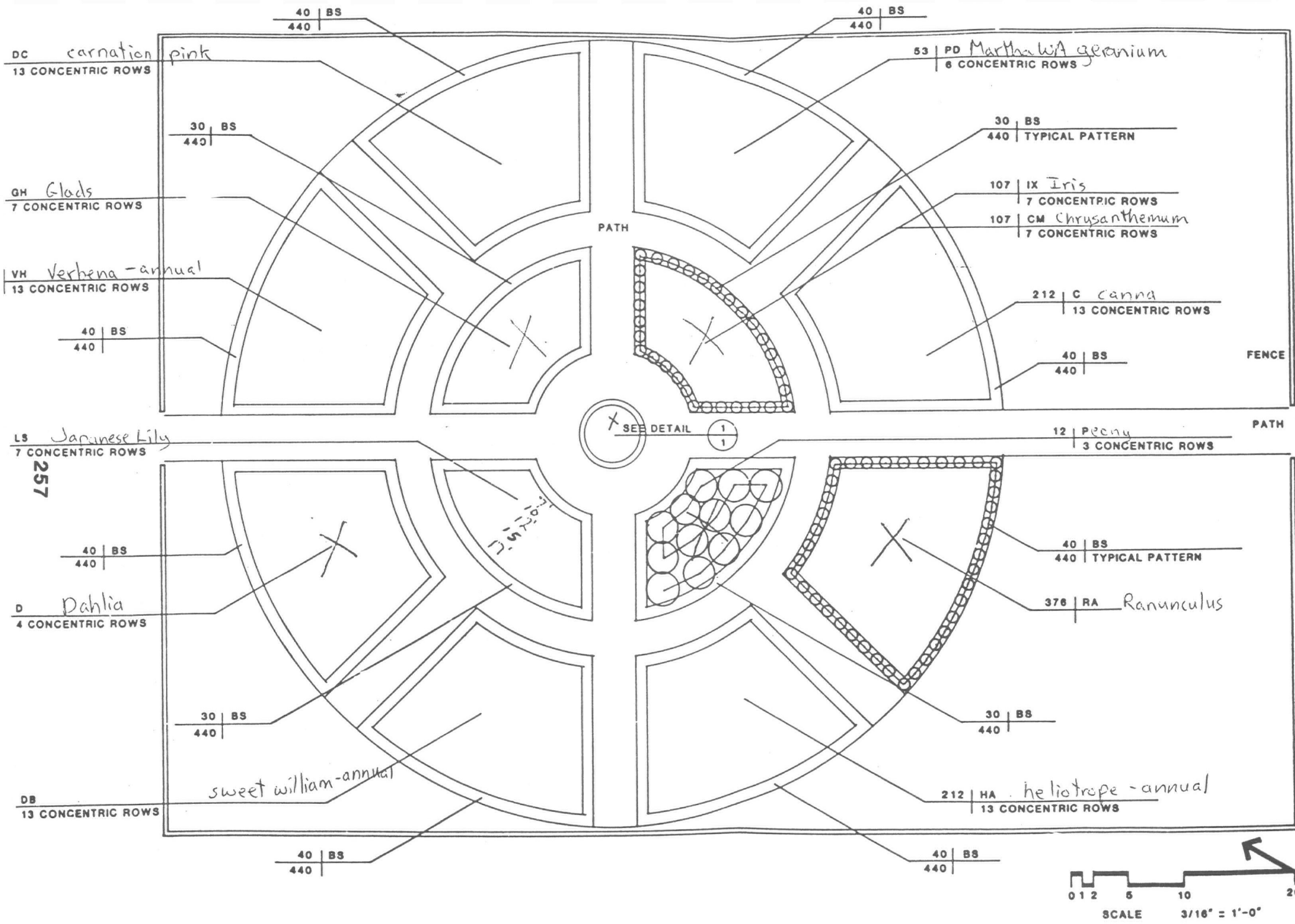
21. UNITED STATES OF AMERICA
By (Signature) ▶

256

22. NAME (Typed)
Frank E. Ha
TITLE: CO

ORDER FOR SUPPLIES OR SERVICES

147-107


40 | BS
440
DC carnation pink
13 CONCENTRIC ROWS
30 | BS
440
GH Glads
7 CONCENTRIC ROWS
VH Verbena - annual
13 CONCENTRIC ROWS
40 | BS
440
53 | PD Martha WA geranium
6 CONCENTRIC ROWS
30 | BS
440 | TYPICAL PATTERN
107 | IX Iris
7 CONCENTRIC ROWS
107 | CM Chrysanthemum
7 CONCENTRIC ROWS
212 | C canna
13 CONCENTRIC ROWS
40 | BS
440
FENCE
PATH
SEE DETAIL 1/1
LS Japanese Lily
7 CONCENTRIC ROWS
12 | Peony
3 CONCENTRIC ROWS
PATH
257
40 | BS
440
D Dahlia
4 CONCENTRIC ROWS
40 | BS
440 | TYPICAL PATTERN
376 | RA Ranunculus
30 | BS
440
30 | BS
440
DB
13 CONCENTRIC ROWS
sweet william - annual
212 | HA heliotrope - annual
13 CONCENTRIC ROWS
40 | BS
440
40 | BS
440
0 1 2 5 10
SCALE 3/16" = 1'-0"

NT LIST

PROGRAM
PLANNING

SAN JUAN ISLAND
NATIONAL HISTORICAL PARK
HISTORIC LANDSCAPE REPORT

1987

APPENDIX H

San Juan Island, National Historical Park
Historic Landscape Study

PROGRAM PLANNING

To facilitate future project planning, the following chart suggests possible programatic options for implementation of several design recommendations made in this report. See pages and

American Camp	Generate new 10-238	Incorporate In Cyclic Maintenance 10-577	Increase park Base Operational funds 10-237
Buildings and Foundations Recommendations	#2 (phase 1) #3 (phase 1) #4 (phase 1) #5	#1 (phase 1) #2 (phase 2)	#1 (phase 2) #2 (phase 3) #3 (phase 2) #4 (phase 2)
Access and Circulation Recommendations	#8 (phase 1) #9 (phase 1) #11(phase 1)	#8 (phase 2) #9 (phase 2) #11(phase 2)	
Plant Materials Recommendations	#2 (phase 1) #3 (phase 1)	#2 (phase 2) #3 (phase 2)	#2 (phase 3) #3 (phase 3)
Special Features Site Details and Materials Recommendations	#1 (phase 1) #2 (phase 1) #3 (phase 1) #4		#1 (phase 2) #2 (phase 2) #3 (phase 2)
Maintenance and Management Concepts Recommendation	#2 (phase 1) #5 (phase 1)	#4	#2 (phase 2) #5 (phase 2)

British Camp	Generate new 10-238	Incorporate In Cyclic Maintenance 10-577	Increase park Base Operational funds 10-237
Buildings and Foundations Recommendations	#2 (phase 1) #3 (phase 1) #4 (phase 1) #5	#1 (phase 1) #2 (phase 2)	#1 (phase 2) #2 (phase 3) #3 (phase 2) #4 (phase 2)
Access and Circulation Recommendations	#3 #4 #5 #6 (phase 1) #7 (phase 1) #8 (phase 1) #10(phase 1)	#1 #6 (phase 2) #7 (phase 2) #8 (phase 2) #10(phase 2)	
Plant Material Recommendations	#1 (phase 1) #5	#1 (phase 2) #2 (phase 1) #3 #4 (phase 2) #5 (phase 2)	#1 (phase 3) #2 (phase 2) #4 (phase 2) #5 (phase 3)
Special Features, Site Details and Materials Recommendations	#1 (phase 1) #3 (phase 1) #4	#1 (phase 2) #3 (phase 2)	
Maintenance and Management Concepts Recommendations	#2 #3		#2 (phase 1) #4

Notes:-- After selection of a preferred alternative for each site, individual 10-238s listed above may be consolidated into comprehensive packages for redevelopment of the historic landscapes at American Camp and British Camp.

-- The recommendations propsoed in this report can provide the basis for a Development Concept Plan for the park.