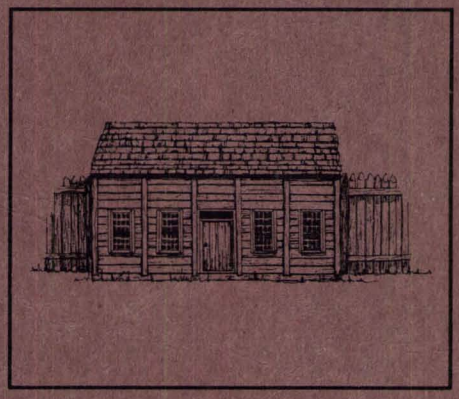
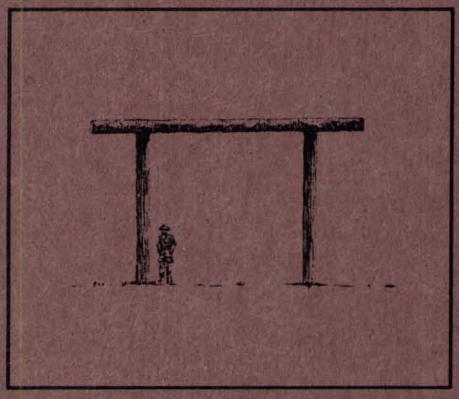
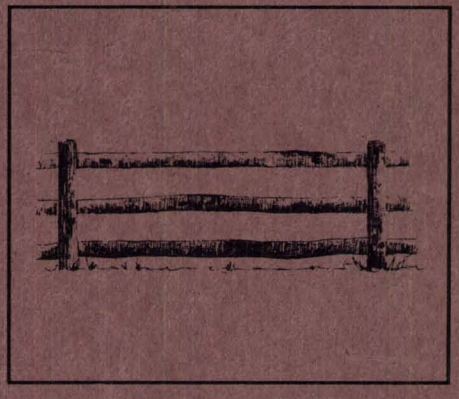
CULTURAL LANDSCAPE REPORT
VOLUME I







FORT VANCOUVER
NATIONAL HISTORIC SITE

NATIONAL PARK SERVICE PACIFIC NORTHWEST REGION CULTURAL RESOURCES

CULTURAL LANDSCAPE REPORT:
FORT VANCOUVER NATIONAL HISTORIC SITE
Volume I
VANCOUVER, WASHINGTON

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NATIONAL PARK SERVICE * DEPARTMENT OF THE INTERIOR
CULTURAL RESOURCES DIVISION * PACIFIC NORTHWEST REGION
SEATTLE, WASHINGTON
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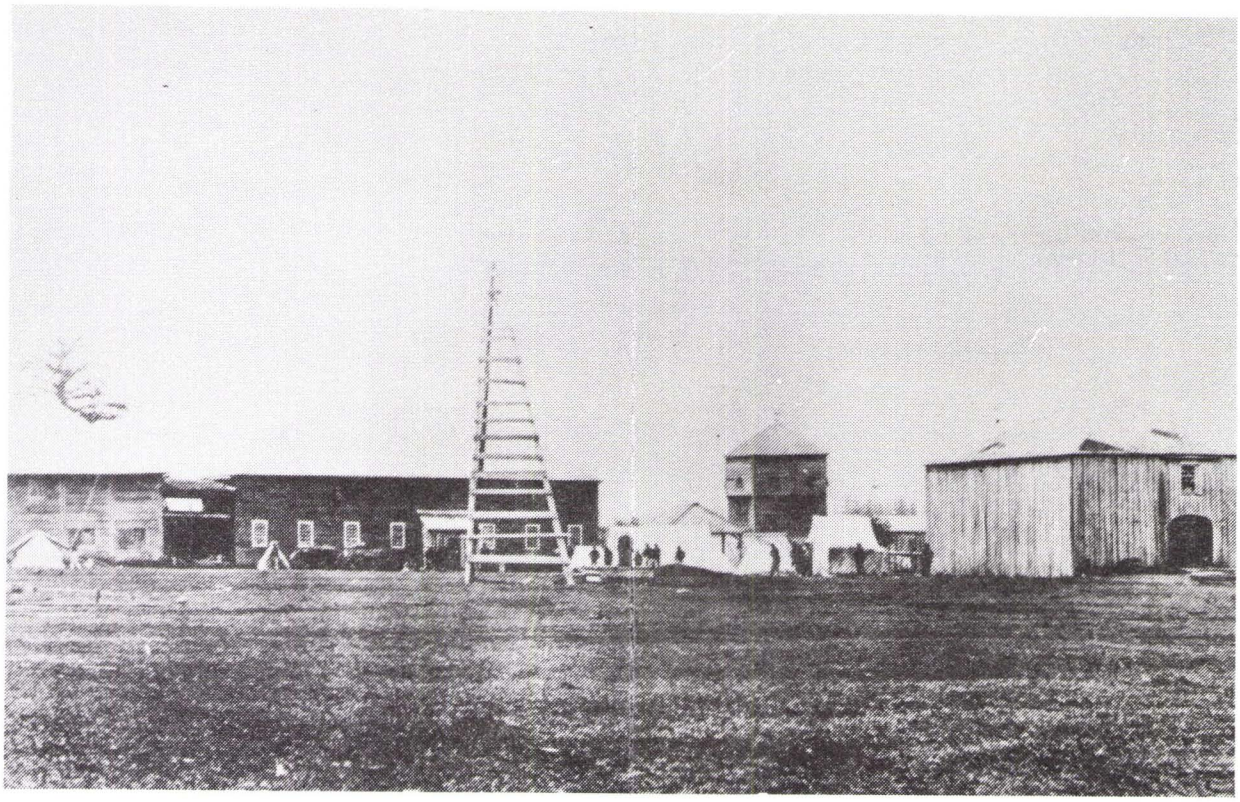


1860 British Boundary Commission photograph of the west side of the stockade interior. Fort Vancouver N.H.S. photo file.

I. MANAGEMENT SUMMARY

PROJECT BACKGROUND

Fort Vancouver National Monument was established in 1948 to protect and maintain "the site of the original Hudson's Bay stockade and sufficient surrounding land to preserve the historical features of the area. . .", and preserve "the historic parade ground of the later U.S. Army post." The purpose of preserving the site was to interpret its role as a primary center of economic, social, cultural, and military development in the Pacific Northwest, and the part it played in our nation's westward expansion.[1] To fulfill these interpretive objectives, the National Park Service (NPS) initiated archeological investigations in the late 1940s and early 1950s to relocate and outline the fort stockade and major buildings inside the stockade. In 1961, the park's importance was further recognized through a Congressional Act that authorized enlarging the park and redesignating the monument as a historic site.

Following this expansion, the park embarked on a plan to go beyond interpreting the site as an on-going archeological excavation and begin to interpret the site through accurate historical reconstructions. In 1966, the north wall and a portion of the east wall were reconstructed. Beginning in 1972, and continuing to the present, another period of reconstruction ensued that led to the completion of the stockade, eight key buildings inside the stockade, and some small-scale features. In addition to these reconstructions, the historic scene was enhanced by reestablishing landscape features such as the historic north gate road, an interpretive orchard and garden, and post and rail fences.

These stockade reconstructions have done much to advance the interpretation of the site as a major Hudson's Bay Company (HBC) fur-trading center, but have been limited in terms of interpreting the fort's vast agricultural and industrial operations. The 1978 Master Plan recognized the need to expand the historic scene through general proposals that included restoring the cultivated fields, garden, and orchard; restoring East Fifth Street to its historic appearance; continuing land acquisition of key historic property; and providing interpretive facilities at the Columbia River waterfront area. While reconstructions of buildings within

the stockade proceeded, few of the Master Plan's other proposals were implemented.

In recent years, the need for an updated Master Plan has arisen due to changes in park policy, contemporary program needs, and through on-going research which has led to a better understanding of the fort's history. This project will serve as a technical document that will supplement the Master Plan development process. The intent of this project is to identify and evaluate all significant cultural landscape resources and provide management recommendations for the preservation and enhancement of the historic scene at Fort Vancouver ca. 1844/46. The study investigates and documents a range of treatments for reestablishing key landscape components and features that contribute to interpreting a full spectrum of HBC operations and activities.

The scope of work for this report did not include any preliminary findings associated with the congressionally mandated study addressing the possible establishment of Vancouver National Historical Reserve. The purpose of the Commission study is to examine the historic, cultural, natural, and recreational significance of resources in the Vancouver, Washington area, and to determine the feasibility of a historical reserve.[2] Historic resources considered in the study include Fort Vancouver N.H.S., Vancouver Barracks, Pearson Airpark, and the W.W.I. Kaiser Shipyards. The Vancouver Historical Study Commission was in progress when the cultural landscape report was completed. Because it was impossible to surmise when or if Congress would approve of the historical reserve and what form the reserve would take, this report does not address the idea of a Historical Reserve, but concentrates on preservation treatment for Fort Vancouver's HBC cultural landscape resources. If at a future date, the Vancouver National Historical Reserve becomes a reality, recommendations and/or concepts of the cultural landscape plan described in this report may require additional review and/or revision.

One outcome of not including the Vancouver Historical Study Commission issues concerns NPS property in the eastern portion of the Fort Vancouver N.H.S. that is currently part of the municipal airport, Pearson Airpark. The Cultural Landscape Report utilizes the existing legal

agreement concerning Pearson Airpark. The Statutory Warranty Deed, signed April 4, 1972, authorized the NPS to purchase 72.57 acres from the city of Vancouver to the NPS, with a "reservation" clause allowing the City to use the property for thirty years (until 2002). The final design recommendations and cultural landscape plan for the Cultural Landscape Report are based on NPS resources after the year 2002, when the City has vacated the Pearson Airpark property. Again, if the Historical Reserve is recommended and approved by Congress, this plan will have to be revised to accommodate any Congressionally recognized Pearson Airpark historic resources.

HISTORICAL CONTEXT[3]

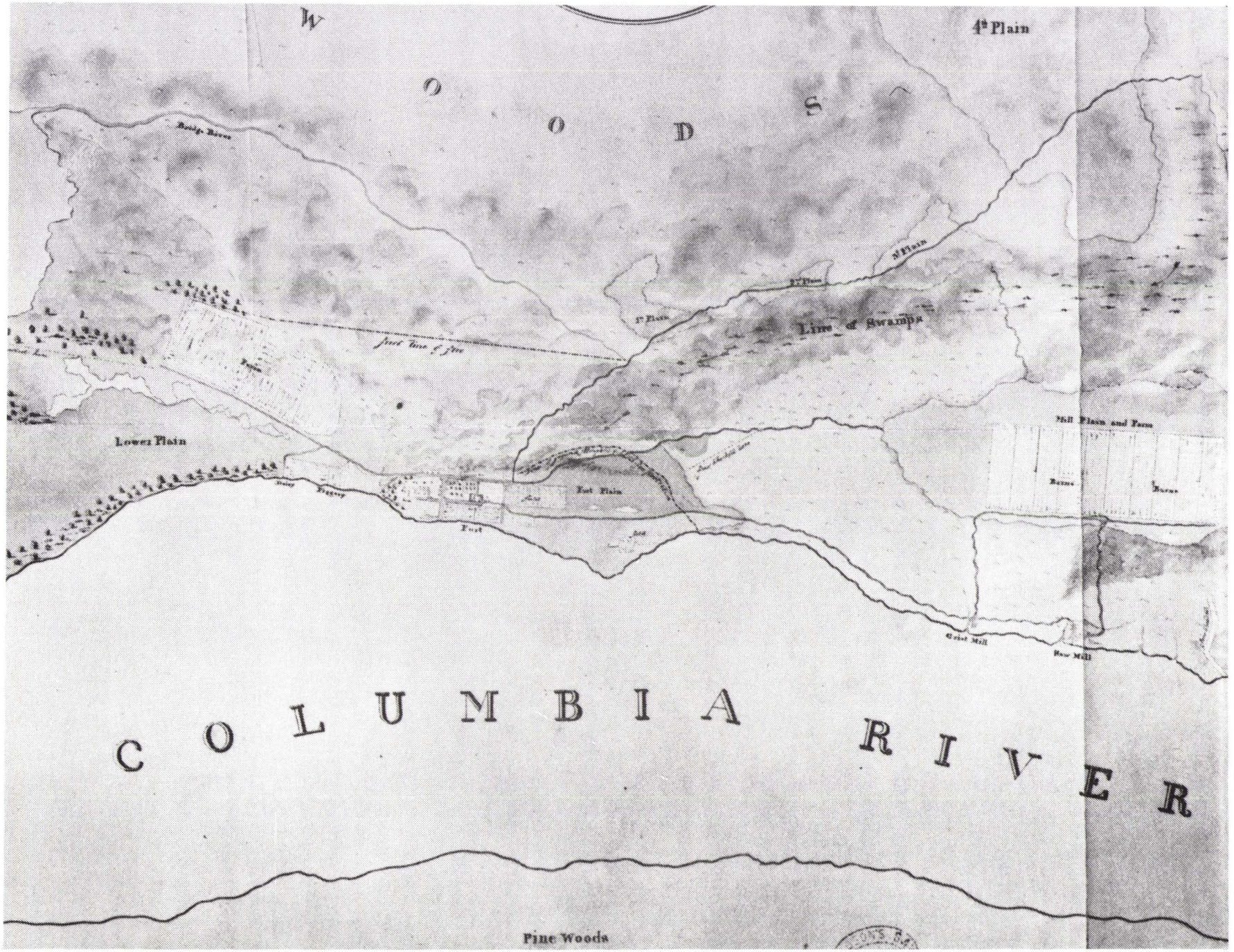
Fort Vancouver National Historic Site has a rich and varied history, from its beginning as the most important Hudson's Bay Company post in the Pacific Northwest, through its development as the primary U.S. Military post in the region, to the present, as an important archeological and interpretive unit in the National Park Service. The site's development as chronicled in the landscape history identifies six periods of landscape development including: Fort Vancouver: Establishment 1824-1828; Fort Vancouver: Principal Development 1829-1846; Fort Vancouver: Transition 1847-1860; Fort Vancouver: Vancouver Barracks 1861-1918; Fort Vancouver: Vancouver Barracks 1919-1947; and Fort Vancouver: National Park Service 1948-Present. The focus of the Cultural Landscape Report is on the Hudson's Bay Company occupation from 1824-1860.

In 1824, George Simpson, the governor of the Hudson's Bay Company's Northern Department, ordered the establishment of a new fur-trading post on the north side of the Columbia River. This post was named Fort Vancouver. During its existence between 1824 and 1860, Fort Vancouver became the most important settlement west of the Rocky Mountains. As administrative headquarters and principal supply depot for the Hudson's Bay Company's Columbia District, Fort Vancouver developed into the economic, political, social, and agricultural center of present day Washington, Oregon, western Montana, and Idaho states, and British Columbia, Canada.

The fur resources of the Pacific Northwest began sparking the interest of American and British traders in the late 1780s when British explorers reported rich supplies of fur pelts. Soon, fur traders from North America and Europe began competing for these valuable resources. The 1804-1806 Lewis and Clark Expedition across the continent to the mouth of the Columbia River, increased interest in fur-trading profits in the Columbia River area. Beginning in 1811, John Jacob Astor from New York organized the Pacific Fur Company and established several fur-trading posts in the Columbia Basin, including Fort Astoria, on the south side of the mouth of the Columbia River. In the meantime, the powerful British fur-trading company from Montreal, the North West Company, had established posts in present day British Columbia and had expanded into the Columbia basin. The two companies competed with each other until the war of 1812, between America and Great Britain, disrupted supplies for the Pacific Fur Company. In 1813, the Pacific Fur Company was forced to sell out to the North West Company. The Canadian company took control of Fort Astoria, renaming it Fort George. The North West Company controlled the fur-trading industry in the Pacific Northwest until 1821 when it merged with its principal rival, the British Hudson's Bay Company (HBC). The reorganized Hudson's Bay Company divided North America into two departments, the Northern Department, which included the Columbia District and New Caledonia District, and the Southern Department. In 1824, the Hudson's Bay Company decided to move the headquarters of the Columbia District from Fort George to a more strategic location one hundred miles upstream to the north side of the Columbia River.

The decision to move the headquarters was primarily based on the desire to strengthen British claims to the land north of the Columbia River, and to find land suitable for large-scale subsistence farming. Starting with the Treaty of Ghent, after the war of 1812, the United States and Great Britain tried unsuccessfully to resolve boundary issues concerning the territory west of the Rocky Mountains, from Spanish settlements in the south, to Russian posts in the north. In 1818, a joint occupation treaty was negotiated that left this territory open to both countries for a period of ten years. In 1824, boundary negotiations were suspended leaving the HBC in a position to exploit the trade potential of the area

Facing page:
"Sketch of the Environs of Fort Vancouver..." by H.N. Peers, (post 1844) showing Lower Plain, Fort Plain, Mill Plain and the Back Plains. Credit: Hudson's Bay Company Archives Provincial Archives of Manitoba.


W
O O D S
4th Plain
Ridge Road
3d Plain
2d Plain
1st Plain
Line of Swamps
Lower Plain
East Plain
Saw Mill
Grist Mill
COLUMBIA RIVER
Pine Woods

between the forty-ninth parallel and the lower Columbia River. Establishing a fur-trading post on the north shore of the Columbia River supported the British campaign for dominion over the region.

In the winter of 1824-1825, Fort Vancouver was constructed on a bluff sixty feet above a low-lying river plain. In addition to its strategic political location, the site was chosen for its agricultural potential. During the next four years, 1824-1828, the foundations were laid for international trade and a vast agricultural enterprise. In 1829, Fort Vancouver became the chief administrative headquarters of the Columbia Department. The decision to make the fort the principal Hudson's Bay Company establishment in the Pacific Northwest, and the stockade's inconvenient distance from the Columbia River, precipitated rebuilding the stockade at a new site lower down on the river plain, about one mile southwest of the first stockade site. It is the site of the second fort that is preserved at Fort Vancouver National Historic Site.

The principal period of development for Fort Vancouver was between 1829 and 1846. During this time, Fort Vancouver's influence in the Pacific Northwest reached its peak and the site was developed to its fullest extent. Under the leadership of Chief Factor Dr. John McLoughlin, Fort Vancouver dominated the fur-trade industry and became the administrative and producing hub of an important agricultural and manufacturing establishment. The agricultural operations at the fort extended for miles along the north shore of the Columbia River, with farming operations located on several large plains surrounded by extensive forests. Agricultural features included cultivated fields, livestock pastures, dairies, and piggeries, as well as the fort's garden and orchard. Agricultural operations also extended beyond Fort Vancouver to outlying areas such as Cowlitz Farm and Fort Nisqually, as part of the Puget's Sound Agricultural Company, a subsidiary of the Hudson's Bay Company. In addition, Fort Vancouver's influence and control spread south into the fertile Willamette Valley, to a large island in the Columbia River now known as Sauvie Island, and to other areas of the region.

Manufacturing operations also contributed to the fort's prominent lead in Pacific Coast trade, including trade with California, Hawaii and Alaska. Industrial operations included large-scale timber milling, grain milling, and salmon fishing. Industrial activities that supported the fort's operations included coopering (barrel making), boat building, hide tanning, and blacksmithing.

Fort Vancouver was also the social and cultural center of the region. The first schools and churches were established at the fort, and social activities enjoyed by employees, visitors, and settlers included plays, balls, dinners, and picnics. Also, as the only source of emergency shelter and transportation, and the only dependable supply of food and clothing, Fort Vancouver became a destination point for American missionaries during the 1830s, and American settlers in the 1840s. Although Hudson's Bay Company policy did not encourage American settlers in the region, Dr. McLoughlin, through necessity and kindness, helped most settlers by supplying them with material necessary to start a farm including seed, livestock and agricultural implements.

The HBC policy on and treatment of Native Americans in the region was directed to maintaining a peaceful coexistence. The predominant group of Native Americans in the region were speakers of several closely related Chinookan languages. They occupied an area that was concentrated along the bank of the Columbia River from the mouth of the river at Astoria, to the Dalles east of the Cascade mountains. Those Chinookan speakers who had villages near Fort Vancouver spoke the Multnomah dialect of Upper Chinookan.[4] Their economy was based primarily on fishing, hunting and gathering. Although the HBC defended its property and employees, and exacted retribution for damage, Chief Factor McLoughlin noted that as traders, it was in the best interest of the Company and more profitable to treat the Indians fairly and avoid hostilities.[5] The local Multnomah Chinookans and other Indians interacted in Fort Vancouver's social and economic network through trading, as HBC "engage" or "servant" class employees, and through liaisons or marriages between Indian women and non-Indian HBC male employees. The most dramatic and far-reaching consequence of contact period history for Chinookans in the region was severe population decline due to smallpox, measles, malaria,

and other diseases. In the early 1830s, an estimated ninety-eight percent of the Chinook population in the Portland Basin, including both Multnomah Chinookans and the more easterly Clackamas Chinookans died. The entire population of a Multnomah Chinook village in the vicinity of Fort Vancouver was exterminated by disease during this epidemic.[6] In the 1850s, the few Multnomah that survived diseases moved onto reservations (located away from the Columbia River) in exchange for residual fishing rights.[7]

In the early 1840s, as the American population in the region grew and the boundary dispute between Great Britain and the United States escalated, the Hudson's Bay Company began to transfer some of its operations from Fort Vancouver to Fort Victoria, in present day British Columbia. This administrative shift was accelerated by two events in 1846; the Treaty of 1846 which established the boundary at the forty-ninth parallel, and the termination of McLoughlin's superintendency of Fort Vancouver. During the following decade, the fort's influence declined as it was reduced to a subordinate trading and supply post, and Fort Victoria became the principle HBC center. In 1849, the U.S. Army established a military post on the hill above the fort's stockade. Although the HBC and the army co-existed somewhat peacefully for several years, political, economic and social pressure by increasing numbers of Americans led to losses of thousands of acres of HBC land to American squatters and increasing hostility towards the HBC. In 1860, Fort Vancouver was abandoned and the remaining HBC land around the stockade was encompassed by the 640 acre military reservation, claimed by the U.S. Army in 1850.

In 1848, the U.S. Secretary of War ordered the establishment of a ten square mile military reservation on the Columbia River, part of a series of military posts authorized to protect settlers traveling from the Mississippi to the Columbia. In May of 1849, a column of riflemen and two artillery companies arrived at the HBC's Fort Vancouver where they established a camp, called Camp Vancouver, on the hill above the stockade. By 1850, more soldiers had arrived, twenty-six buildings had been constructed, and the army had formally proclaimed the establishment of a military reservation called Columbia Barracks. In 1865, the army's Department of Columbia was established with Columbia

Barracks as its headquarters until 1867 when it moved to Portland. The Columbia Department included Oregon, Washington and Idaho territories. In 1878, the headquarters for the Columbia Department was returned to Columbia Barracks and a period of expansion ensued. The post was renamed Vancouver Barracks in 1879, a name that continues to the present.

From its establishment in 1849 until World War I, Vancouver Barracks was the principal military site in the Pacific Northwest. Throughout the 1860s and 1870s, the soldiers of Columbia Barracks primarily engaged in enforcing domestic policies in the Pacific Northwest including actions to control periodic Indian uprisings with the Nez Perce, Modoc and Bannock Indians. The post also served as headquarters for organizing survey and exploration expeditions to Alaska in the 1870s and 1880s. In the late 1880s and 1890s, forces at Vancouver Barracks served as a police force during civil unrest in the region including anti-Chinese riots in Seattle and Tacoma, Washington, mine union strikes in Coeur d' Alene, Idaho, and railroad union strikes that occurred across twenty-seven states and territories. During World War I, the Spruce Production Division, part of the U.S. Army Signal Corps, was formed at Vancouver Barracks to provide milled spruce for Allied demands. It became the site of the Cut-up Plant, the largest spruce mill in the Division. While the post served an important role in the war, with the construction of Camp Lewis which became a major training and assembly point for overseas bound soldiers, Vancouver Barracks was no longer the most important military site in the region.

Between World War I and World War II, military activity at Vancouver Barracks was low. During this time the post served as a Citizen's Military Training Center, and a branch of the newly formed U.S. Army Air Service began operations at Vancouver Barracks which led to the establishment of an army airfield in 1925. The post also served as a headquarters and dispersing agency for the Civilian Conservation Corps program in the Pacific Northwest during the 1930s. During World War II, Vancouver Barracks was revitalized when it served as a staging area for the Portland Subport of Embarkation under the control of the Ninth Service Command. It also served as a training center for some units. In 1946, Vancouver Barracks was declared surplus by the

army. The reservation was slated for disposal but in 1947 about sixty-four acres of the post were reactivated to serve as headquarters for reserve training in the Pacific Northwest. Today, Vancouver Barracks occupies fifty-two acres of the original reservation and is under the command of Fort Lewis, Washington. A portion of Vancouver Barracks lies within the authorized boundary of Fort Vancouver National Historic Site.

1859 map by Richard Covington showing the overall organization of Fort Plain. Fort Vancouver N.H.S. photo file.

METHODOLOGY AND SCOPE

The Cultural Landscape Report for Fort Vancouver consists of two main parts: 1) **research, analysis and evaluation**, and 2) **design development.** A wide range of primary and secondary sources were reviewed for the research portion of the report. The park's extensive historical files and archives were reviewed including historic photos, maps, illustrations, journals, diaries, and the records associated with numerous archeological investigations. In addition, a large body of existing historical material was also reevaluated including periodicals, special studies, U.S. Army records, and primary research books such as John Hussey's The History of Fort Vancouver and its Physical Structure (1957) and Fort Vancouver Farm (n.d.). In addition to the National Park Service files, historical research was conducted at the National Archives in Washington, D.C.; the Hudson's Bay Company Archives in Winnipeg, Canada; the Royal Provincial Archives in Victoria, British Columbia; the Bancroft Library, University of California, Berkeley; and the archives of several key historical societies in the Pacific Northwest. The extensive collection of archeological records, reports, and maps also played a key role in the research phase of the study. This included two new archeological projects that were completed for this report. The first project involved development of a comprehensive archeological base map for Fort Vancouver and Vancouver Barracks, based on a reconciliation of all existing archeological excavation maps. The second project utilized remote sensing, a non-invasive archeological technology, to investigate the conjectural location of several historic structures and features. Both of these projects were critical for accurately mapping confirmed and conjectural locations of non-extant historic structures and features. Based on this research, a detailed landscape history and historic base maps were prepared for six historic periods of landscape development. The landscape history and base maps are found in Volume II of this report.

In addition to historical research, all park resource and planning documents were reviewed and an inventory of existing conditions was conducted. Documentation of existing conditions included the preparation of an accurate 1:200 scale site map that was used as the primary base map for the project. In the analysis portion of the project, an evaluation

of the historical research and existing conditions led to identification of key character-defining features, significant historic resources, and contemporary site impacts. This evaluation set the framework for design development.

Based on the analysis and evaluation, seven cultural landscape character areas, and five management zones were identified providing a framework for the development of a landscape design. A series of design recommendations and alternatives were developed according to the general management philosophy of the park which is to preserve, restore, and reconstruct (when appropriate) key landscape patterns and features that are critical to the park's interpretive mandate. These design alternatives were reviewed by park and regional staff. Based on this review, a preferred alternative combining elements from several plans was selected and refined. Finally, a three phase plan was developed to facilitate both short and long-term implementation of the plan.

The scope of this report was influenced by several factors. In addition to issues associated with the Vancouver Historical Commission Study and Pearson airpark, a significant portion of the cultural landscape historically associated with Fort Vancouver is outside of current park boundaries. In keeping with NPS management policy, design recommendations have been developed only for property in which the NPS has current legal interest. The portions of Vancouver Barracks within the authorized park boundaries but owned by the U.S. Army will be addressed in the research section but, with few exceptions will not be addressed in the design recommendations. Prior to any action impacting these resources, however, an evaluation of their significance and integrity should be completed.

The focus of the Cultural Landscape Report is based on the park's primary mandate, to interpret the role of the Hudson's Bay Company in the development of the Pacific Northwest. Although the historical research covers the landscape development at Fort Vancouver up to the present--including an extensive discussion of Vancouver Barracks--the primary focus of the analysis and evaluation, and design development is on the cultural landscape of the HBC occupation, specifically the principal development period, 1829-1844/46.

This report concentrates on the physical development of the fort rather than social development, therefore, the impact of the Hudson's Bay Company on Native Americans in the Pacific Northwest and at Fort Vancouver is not detailed. Additional research should be conducted for inclusion in the interpretive program.

ADMINISTRATIVE CONTEXT FOR THE PROJECT

As part of the planning process, all approved park documents and policies were reviewed and included, as appropriate, in the report's recommendations. The administrative basis of this project stems from the park's enabling legislation as well as several park planning and management documents. These documents included the Master Plan (1969 & 1978), Statement for Management (1976, 83-85), Interpretive Prospectus (1985), and the Resource Management Plan and Environmental Assessment (1986).

The following management objectives for the historic landscape were approved in the 1978 Master Plan and Statement for Management (1976, 83-85):

1) "Secure a land base through acquisition or other means that facilitates preservation of the historic scene and interpretation of the cultural resources within the historic site's authorized boundary;

2) Include a greenbelt plan for the Columbia River waterfront as an integral part of the Fort Vancouver site and strive for a physical access connection with the main fort site unit;

3) Restore the fort scene on its original location to its historic appearance insofar as is possible by planting fields, pastures, and the orchard and by reconstructing fences and roads;

4) Reconstruct . . . additional buildings outside the stockade as is necessary to enable visitors to visualize the historic fort's full range of structures and activities;

5) Ensure that visitor-use facilities and developments are compatible with the historic scene and maintained in a manner consistent with the purpose for which this historic site was established; and

6) Interpret, as the primary theme, the story of the fur trade and the important role played by the Hudson's Bay Company in the exploration, settlement, and development of the Pacific Northwest. As a second theme, interpret the story of Vancouver Barracks and the part played by the United States Army in opening the Northwest to American settlement."[8]

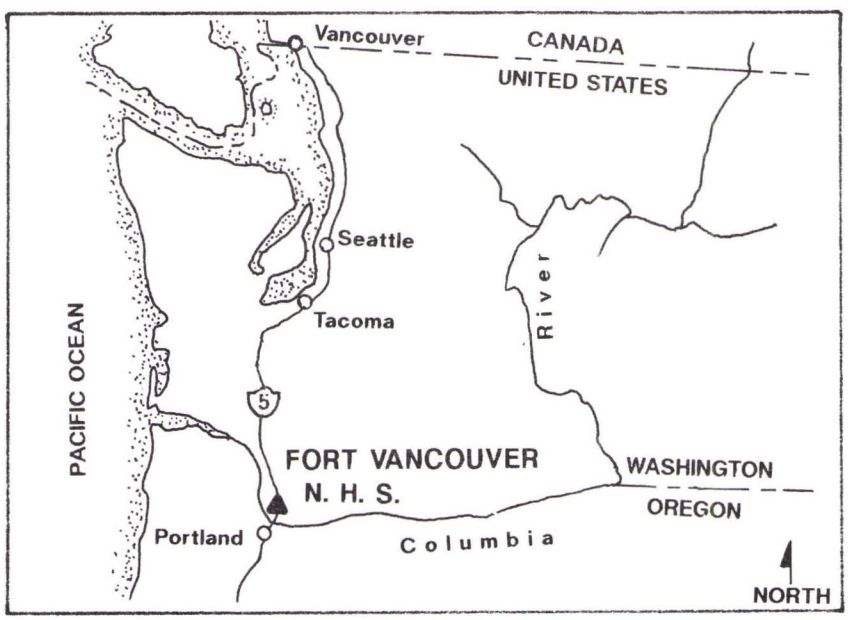
ENDNOTES

1. National Park Service, Fort Vancouver N.H.S. Master Plan, February, 1978.
2. Memorandum, Stephanie Toothman, Chief, Cultural Resources Division, Pacific Northwest Region, to Director, Pacific Northwest Region, October 29, 1990, Planning Division files, Pearson Correspondence 1990, PNRO.
3. A complete landscape history can be found in Volume II of this report. Cultural Landscape Report: Fort Vancouver National Historic Site, Volume II.
4. Silverstein, Micheal, "Chinookans of the Lower Columbia" in Handbook of North American Indians, William C. Sturtevant general editor, Smithsonian Institution, Washington D.C., 1990, Volume 7: Northwest Coast, pp. 533-535.
5. Carley, Caroline D., HBC Kanaka Village/Vancouver Barracks 1977, Office of Public Archeology, Institute for Environmental Studies, University of Washington, Seattle, WA. p.3, 1982.
6. Thomas, Bryn, An Archeological Overview of Fort Vancouver, Vancouver Barracks, House of Providence, and the World War II Shipyard, Clark County, Washington, Archeological and Historical Services Eastern Washington University, submitted to: National Park Service, Pacific Northwest Region, Cultural Resource Division, CA 9000-8-0008, pp. 1-2, March 1992.
7. Silverstein, "Chinookans of the Lower Columbia", p. 535.
8. National Park Service, Resource Management Plan and Environmental Assessment, 1986, pg. 1-2.

II. EXISTING CONDITIONS

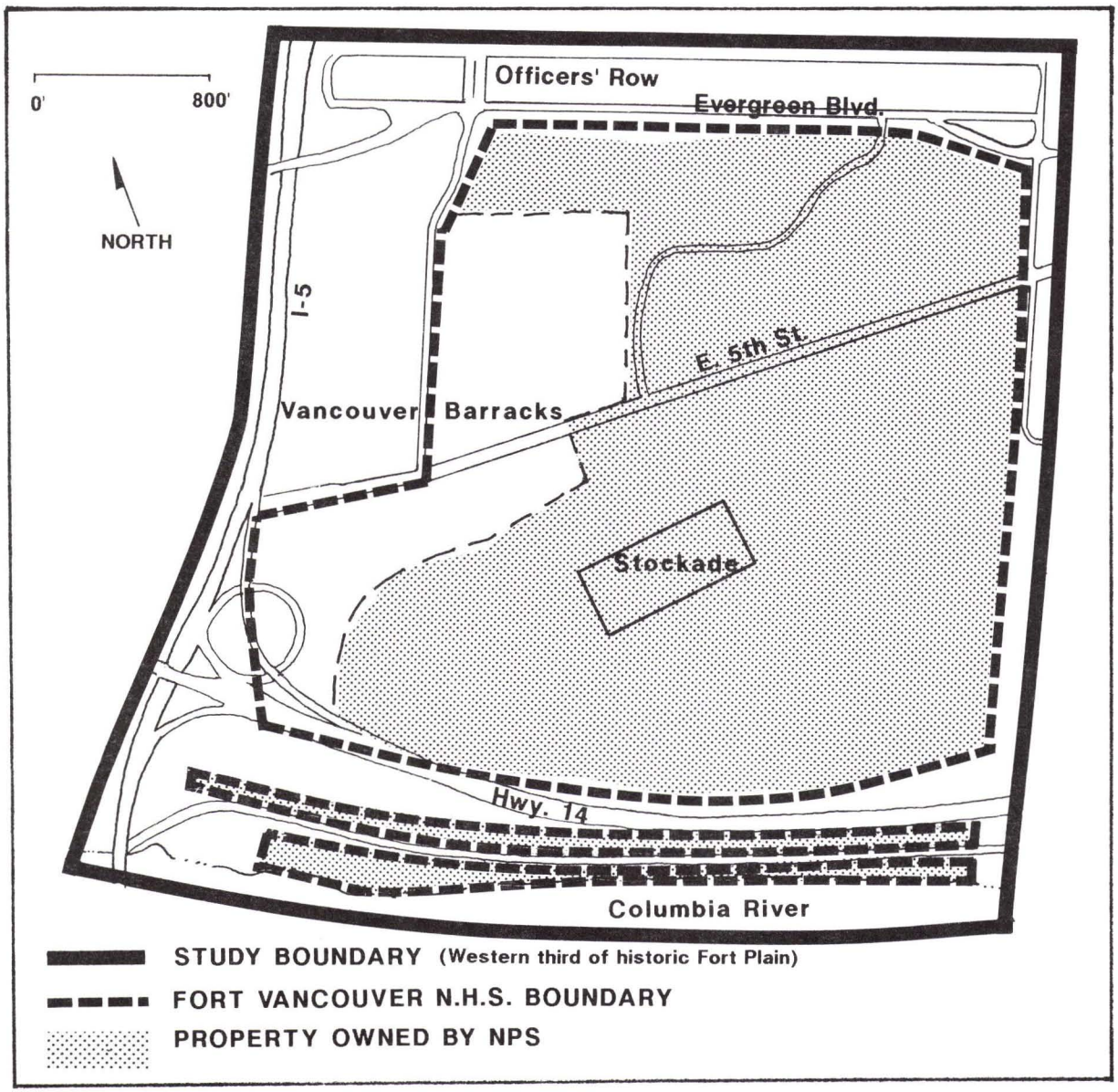
ENVIRONMENTAL CONTEXT AND SETTING

Fort Vancouver National Historic Site is located on the north bank of the Columbia River in Vancouver, Washington. Historically, the natural landscape of Columbia River's north shore was a mosaic of plains, coniferous forests, streams and lakes, with the Cascade Mountains visible in the distance. The fort stockade, the heart of the Hudson's Bay Company (HBC) operations, was located on a low-lying river plain called Fort Plain, that was approximately six miles upriver from the confluence of the Columbia and Willamette Rivers. The abundant natural resources and strategic position on the Columbia River set the stage for the site's political and economic importance beginning with the British Hudson's Bay Company, and continuing with the U.S. Army's occupation and American settlement of the Pacific Northwest. Today, the park contains approximately 208 acres and includes resources that relate to both the HBC occupation and the U.S. Army's Vancouver Barracks.



STUDY BOUNDARIES

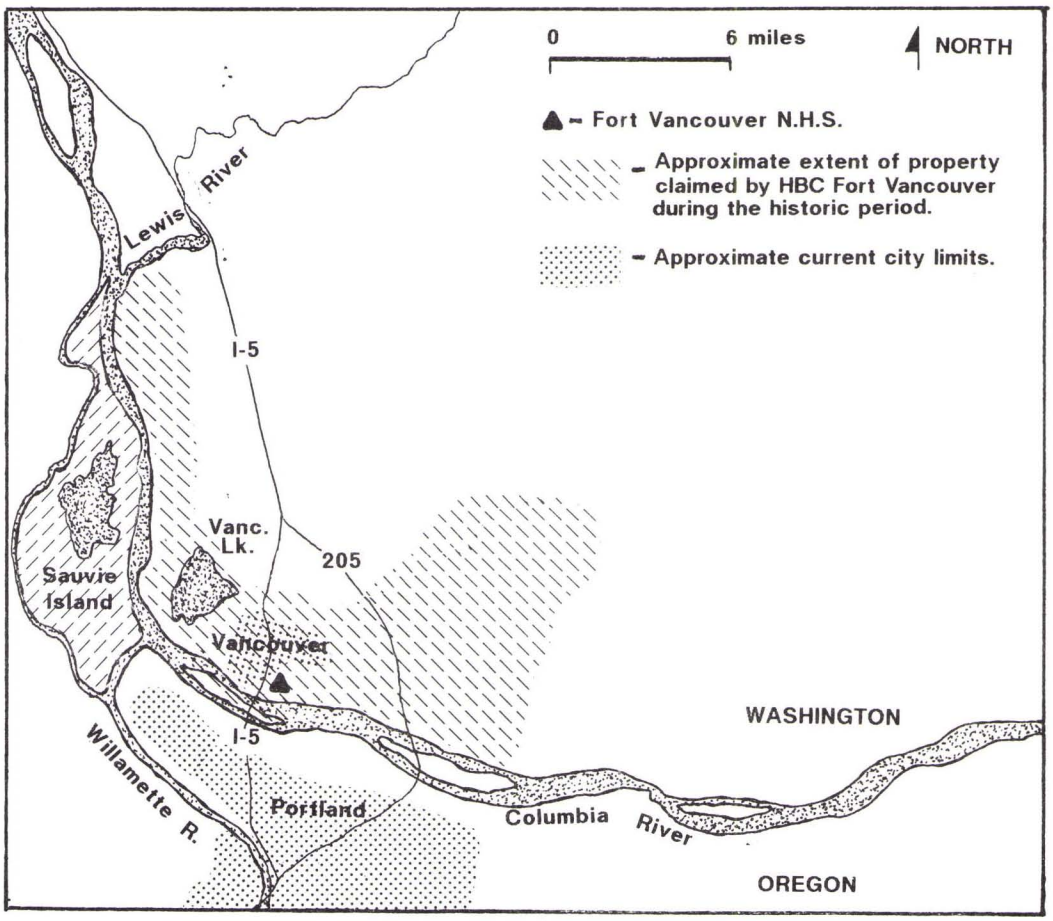
Fort Vancouver National Historic Site, located in Vancouver, Washington, was established in 1948 to protect and maintain the site of the Hudson's Bay Company stockade and sufficient surrounding land to preserve the historic scene. The park was established within the boundaries of the Vancouver Military Reservation and contains land owned by both the National Park Service (NPS) and the U.S. Army. The current park boundaries include only a portion of the once vast territory that was controlled by the Hudson's Bay Company.



At its height in the 1840s, Fort Vancouver consisted of thousands of acres of forests and plains, extending for twenty-five miles along the Columbia River, and stretching north from the river for distances varying from four to fifteen miles. Principal operations took place on three large natural plains named Fort Plain, Lower Plain, and Mill Plain. Five additional plains, First Plain, Second Plain, Third Plain,

Map showing the extent of historic HBC Fort Vancouver development relative to existing development.

1992 CONTEXT MAP



Fourth Plain, and Camas Plain (referred to as the Back Plains), located north and east of the three large plains, were also periodically farmed. This area extended along the Columbia River from today's Vancouver Lake beyond

Interstate 205. Although Fort Vancouver ultimately expanded to this vast area, the initial development occurred on Fort Plain, which became the administrative and geographical center of Fort Vancouver. Today, Fort Vancouver National Historic Site encompasses what was historically the core developed area of Fort Plain (approximately the western third of the historic plain).

In order to set the appropriate historical context for all periods of development, this report includes several scales of resolution. The majority of the historical research and the analysis and evaluation focus on the historic Fort Plain, and more specifically, the western third of historic Fort Plain. This encompasses the area between Evergreen Boulevard and the Columbia River, and between Interstate 5 and East Reserve Street. The character areas and management zones narrow the focus of the report to the National Historic Site boundaries. The design recommendations are specific to property owned by the National Park Service.

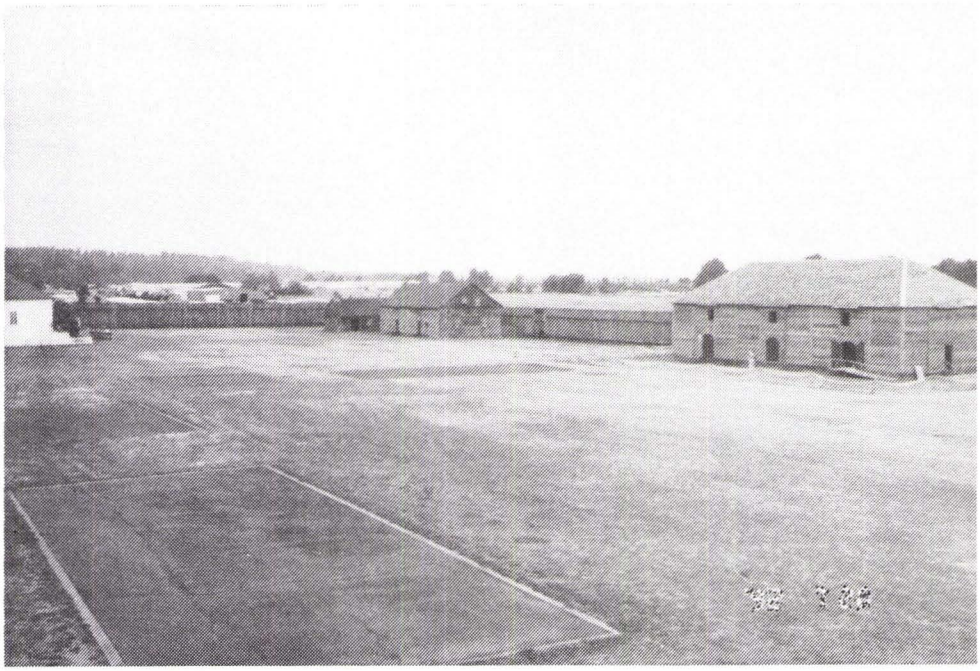
SITE DESCRIPTION

Fort Vancouver National Historic Site consists of National Park Service facilities, reconstructed Hudson's Bay Company features, U.S. Army Vancouver Barracks features, Pearson Airpark, and a riverfront park. The site was listed on the National Register of Historic Places in 1966. The park boundaries includes owned by both the National Park Service (NPS) and U.S. Army.

OVERALL ORGANIZATION AND STRUCTURES

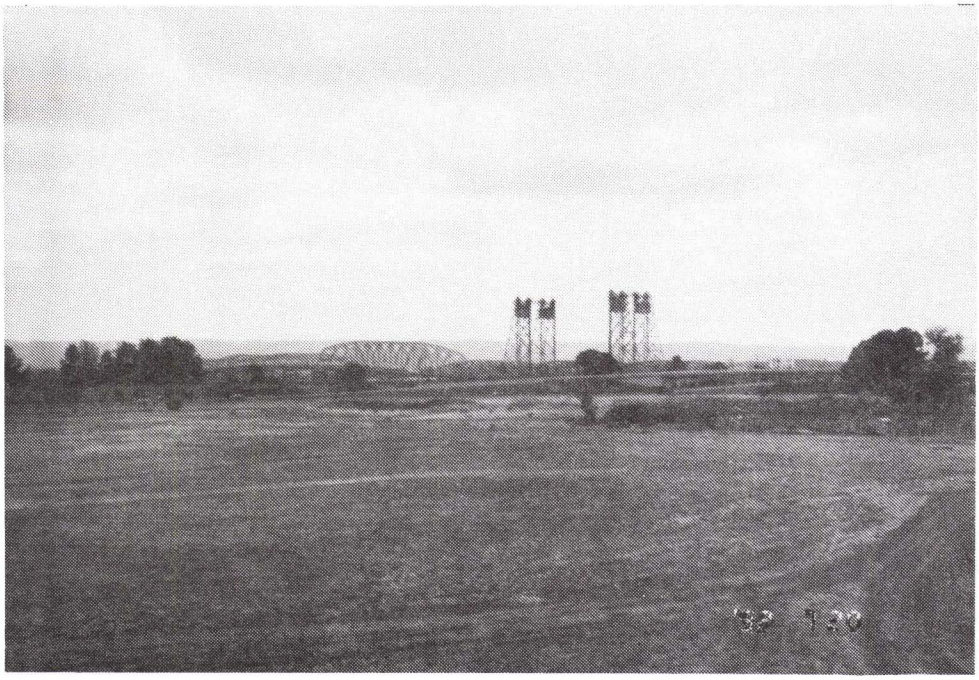
The majority of the site is owned by the NPS and generally lies north-south between Evergreen Boulevard and Highway 14, and east-west between East Reserve Street and Vancouver Barracks. The main administrative facilities and the visitor center are located on the northeast side of the park along with the main parking lot and a picnic shelter. West of the NPS administrative area is the Vancouver Barracks' parade ground and a reconstructed army bandstand.

The primary HBC interpretive resources are located south of East Fifth Street. This area consists of reconstructed buildings from Fort Vancouver at the height of its development in ca. 1846. Reconstructed buildings include the Chief Factor's House and kitchen, bake house, wash house, blacksmith's shop, Indian trade shop, bastion, and the fur store (warehouse IV). Other HBC features include an interpretative orchard and garden, located north of the stockade, and the restored historic north gate road. Wood post and rail fences, a style used during the historic period, are used to enclose most of the NPS property at the stockade and north of East Fifth Street.



View of the interior of the reconstructed HBC stockade, and reconstructed buildings. Asphalt pads mark the archeological locations of other key HBC buildings, 1992. Pacific Northwest Region photo file.

West and southwest of the stockade is an open field, NPS maintenance storage area, and the remainder of a Civilian Conservation Corps road developed at Vancouver Barracks in the mid-1930s. East and south of the stockade is Pearson Airpark, a municipal airport that is currently leased to the city of Vancouver, Washington. This extensive development consists of structures, runways, taxiways, roads, and large open spaces.



View southwest from the stockade towards the Interstate 5 bridge and interchange (historic location of the HBC river front and Kanaka Village), showing contemporary site impacts, 1992. Pacific Northwest Region photo file.

The park also includes two narrow bands of land near the river; a strip between the river and Columbia Way, and a band covering the Burlington Northern Railway embankment and Railway's right-of-way, south of Highway 14. At the west end of the riverfront strip is a small park which has been leased and developed by the city of Vancouver.

The western portion of the National Historic Site lies in the U.S. Army's Vancouver Barracks and is divided by East Fifth Street into two areas. The northern area lies between East Fifth Street and the parade ground, and between McLoughlin Road and the NPS boundary. This area lies in the eastern side of the Vancouver Barracks Historic District which was determined eligible for the National Register of Historic Places in 1986. The district includes fifteen contributing buildings, seven non-contributing structures, and numerous secondary roads.

The second Vancouver Barracks area is located between the Interstate 5/Highway 14 interchange and the NPS maintenance storage area, and between East Fifth Street and the Burlington Northern Railway embankment. This area includes several buildings from the 1930s and 1980s, roads, and parking areas.

Several areas outside the park boundaries are important because they were either historically part of HBC's Fort Vancouver, or the Vancouver Military Reservation, or both. Officer's Row, historically part of Vancouver Barracks but now owned by the city, is located north of the park, and the remainder of the Vancouver Barracks Historic District lies northwest and west of the park. Two areas southwest of the park include the City of Vancouver's Historic Apple Tree Park, and a small commercial area along the river. Pearson Airpark extends beyond the park boundaries to the east, and a city residential area lies northeast of the park.

CIRCULATION

The primary entry to the National Historic Site is near the northeast corner of the site along Evergreen Boulevard, where the NPS visitor center and visitor parking lot are located. Access to the reconstructed stockade and associated features is along a NPS road running southwest from the visitor center to East Fifth Street. A temporary parking lot is located northeast of the stockade, just off East Fifth Street. Currently, there is no access to the site from the river front.

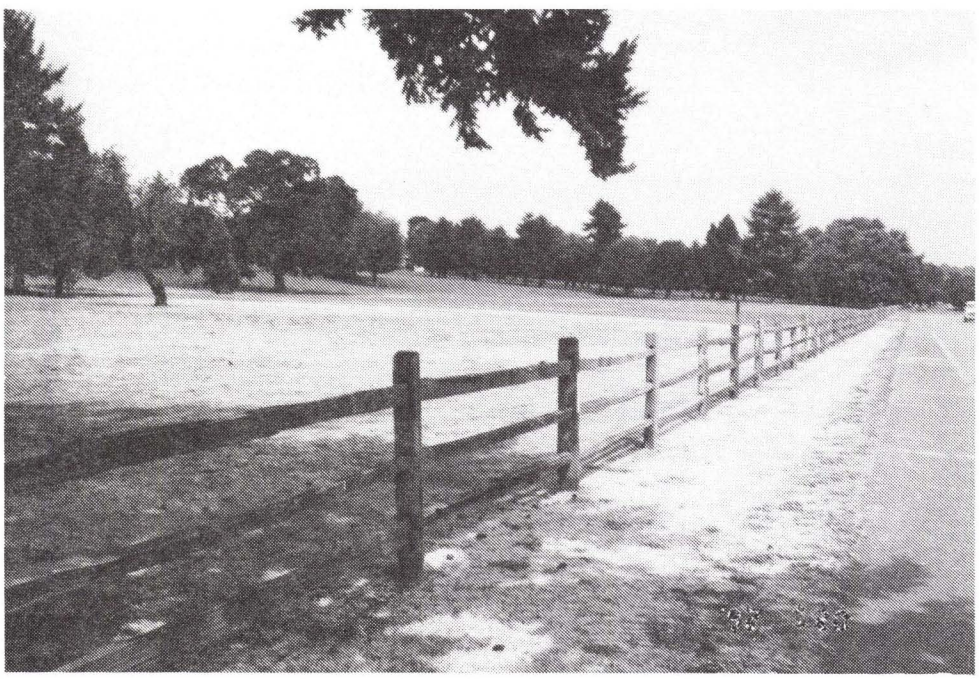
Several major roads surround or cross the site. Interstate 5 runs along the west boundary of Vancouver Barracks, and Highway 14 and Columbia Way cross the south edge of the site, near the Columbia River. Primary east-west access roads to the park are Evergreen Boulevard and East Fifth Street. East Reserve Street and McLoughlin Road provide primary north-south access. Several secondary roads are located in the Vancouver Barracks area.

Except for an accessible path in the interpretive garden and the historic stockade north gate road, there are no formal trails or paths for pedestrians in the park. Currently, to travel between the visitor center and the stockade, pedestrians walk along the paved road, or randomly cross the large park-like open space down to East Fifth Street. Pedestrian circulation within the stockade also occurs in a random fashion.

VEGETATION

The visitor center/administrative buildings were planted in 1962 with native and non-native deciduous and coniferous trees and shrubs. Species include mugo pines, Douglas-firs, maples, oaks, and a variety of ornamental shrubs.

Vegetation in area surrounding the NPS visitor center/administrative area consists of manicured lawn, and clusters of non-native and native deciduous and coniferous trees scattered across the gently sloping land. Most of the trees south of the NPS building complex were planted in 1962. Tree species include red maples, sugar maples, sequoias, blue spruces, Douglas-firs, cherries, pin oaks, pines, and horse chestnuts. Southwest of the visitor center there is a combination of trees planted in 1962 and trees associated with non-extant Vancouver Barracks structures. Trees in this



View northeast from East Fifth Street towards the park-like open space south of the NPS visitor center and administrative area, 1992. Pacific Northwest Region photo file.

area include American hollies, Lawson cypress, western red cedars, Oregon oaks, Douglas-firs, sequoias, cherries, crabapples, plums, Pacific dogwoods, and an old variety of pear tree of unknown origin. Several of these trees are in poor condition.

The Vancouver Barracks parade ground is an open area with a manicured lawn and a few large native Oregon oak and

Douglas-fir trees. Several of these trees date from the early Vancouver Barracks era and/or the Hudson's Bay Company era. Outside the park boundaries, the maple trees on both sides of Evergreen Boulevard were planted in front of Officers' Row in the 1880s, and create a strong visual edge to the north side of the parade ground.

A large number of Oregon oaks exist in Vancouver Barracks north of East Fifth Street; clumps and small groves of Oregon oaks were common in this area during the Hudson's Bay Company and Vancouver Barracks eras. The row of Douglas-fir trees in front of the barracks was likely planted in the 1930s. Other trees scattered through the area include cherries, dogwoods, maples, blue spruces, sycamores, and pines.

View south from East Fifth Street towards the stockade, historic north gate road, interpretive garden (left), and interpretive orchard (right), 1992. Pacific Northwest Region photo file.

In the vicinity of the stockade, vegetation consists of an interpretive orchard, planted in 1962 on the site of the HBC's garden, and an interpretive period garden, planted east of the north gate road. The 1962 Completion Report of construction projects at Fort Vancouver National Historic Site, lists thirteen species of fruit trees that were planted in the interpretive orchard: Stayman Winesap apple, red McIntosh dwarf apple, yellow Delicious dwarf apple, Elberta peach, J.H. Hale peach, Bartlett pear, Satsuma plum, peach

plum, Montmorency cherry, Bing cherry, black tarterian cherry and Boston nectarine. Currently, there are seventy-one fruit trees remaining in the orchard, some are in poor condition. The remaining area, east of the historic north gate road and west of Pearson Airpark, has been seeded with red clover.

The NPS area west of the stockade consists of unmowed grasses, weeds, vetches, and a few daffodils, with large masses of blackberries and scotch broom, and a few shrubs and trees. The trees include, black locusts, a sequoia, cherries, a western red cedar, Lawson cypresses, a pine, and an aspen. Shrubs include roses, leatherleaf viburnums, quinces, and elderberries. The trees and shrubs appear to be remnants of the plantings associated with the Civilian Conservation Corps development at Vancouver Barracks in the late 1930s and 1940s.

The Vancouver Barracks area west of the stockade contains ornamental trees and shrubs planted in association with contemporary buildings. There are also large deciduous trees, including oaks, planted in 1883 along an early 1850s Vancouver Barracks depot road (later named McLoughlin Road) that led from historic Upper Mill Road (current East Fifth Street) to the riverfront.

Except for ornamental trees and shrubs planted along East Fifth Street and East Reserve Street, Pearson Airpark is mainly an open space with grasses and weeds. Near the south property line there are blackberry clumps, and a few small willow and birch trees.

The park at the river is comprised of lawns and beds with ornamental trees and shrubs. The remainder of the waterfront consists of more naturalistic riparian vegetation including masses of black cottonwoods, willows and alders.

ARCHEOLOGICAL RESOURCES

Fort Vancouver possesses historic integrity due to the concentration and significance of its archeological resources. Extensive archeological excavations and studies have been conducted since the late 1940s. Today, 1.4 million artifacts, representing the largest Hudson's Bay Company collection in the world, have been recovered. Analysis of excavated features and artifacts provides knowledge of: the physical appearance of buildings; trading, agricultural and manufacturing technology and activities; and the ethnic hierarchy and social activities of Company employees. These investigations have contributed enormously to historical and architectural knowledge of Fort Vancouver and Hudson's Bay Company operations as a whole. The Fort Vancouver-Vancouver Barracks area also contains significant archeological resources associated with the U.S. Army's history. For a more in depth summary of archeological investigations and findings see, Archeological Overview of Fort Vancouver, Vancouver Barracks, House of Providence, the W.W.II. Shipyard, Clark County, Washington, Bryn Thomas, 1987.

Investigations have been conducted throughout the site, but, to date, most have been concentrated at the fort stockade and the Kanaka Village/riverfront area. Twenty-one principal investigations have been conducted at the stockade since 1947. Excavations have revealed archeological features and artifacts from throughout the stockade's history including, the location of the stockade walls and gates, buildings, privies, the north gate road, the southwest plank road, drainage system features, fence lines, wells, flagstaffs, smudge pits, and belfries. In situ structural remains and artifacts, both excavated and unexcavated, are significant resources that have yielded and will continue to yield a wealth of scientific data. These excavations were essential in accurately locating and reconstructing the stockade and several ca. 1844/46 stockade buildings, and in interpreting the historic site.

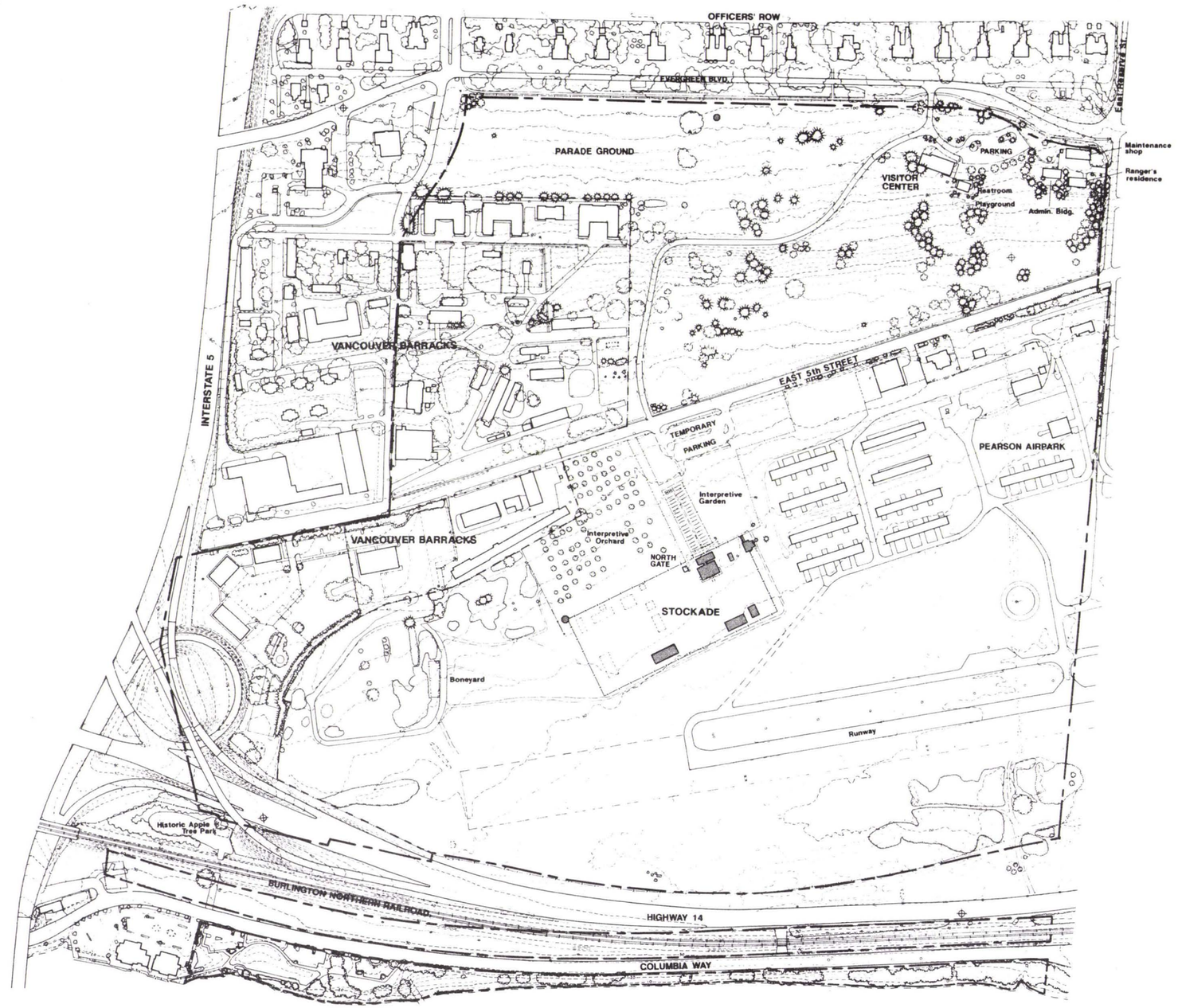
Several principal excavations were conducted in Kanaka Village (where HBC employees lived) and the river front area between 1968 and 1982; many were carried out on army property in conjunction with the Washington State

Department of Transportation's construction of the Interstate 5/Highway 14 interchange. Excavations in Kanaka Village have uncovered archeological remnants of HBC dwellings, structures, roads, the pond, fence posts, a small stockade, smudge pits, and an enormous collection of artifacts. Features and artifacts associated with Vancouver Barracks' history, dating back to 1849, include remnants of dwellings, buildings, fence posts, utility and sewage system features, water lines, refuse dumps, boardwalks (wooden sidewalks), a corral, drainage ditches, W.W.I. railroad features, and artifacts.[9] Many of these excavated areas have been disturbed or destroyed by highway and building construction in the early 1980s, but undisturbed excavations and unexcavated areas possess significant integrity.

Additional archeological investigations have also been carried out in scattered locations in the park and on adjacent army property that have exposed features and artifacts from several historic periods. A 1962 excavation conducted at the projected location of HBC agricultural barns revealed artifacts tentatively associated with the barns, and with later army features. A 1991 remote sensing study revealed several subsurface anomalies that may correspond to HBC barn features and several other hypothesized HBC building locations including the schoolhouses, root cellars, and structures in the garden and orchard. Some subsurface anomalies correlated with the hypothesized locations of a schoolhouse, well, and the summerhouse; however, only archeological excavations can confirm these findings. Several small-scale archeological excavations and monitoring projects have been conducted in response to park development, maintenance, and Section 106 compliance.

Archeological excavations and studies associated with Vancouver Barracks have been conducted in the parade ground, the Officers' Row area, the area southeast of McClelland Road, and the historic location of St. James Mission. Significant resources have been excavated in some of these areas.

Despite the large number of archeological studies in the park and in Vancouver Barracks, most of the HBC and army archeological resources have not been investigated and represent a wealth of untapped knowledge.



NOTES:

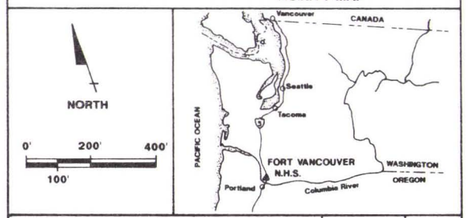
SOURCES:

BASE MAP: CITY OF VANCOUVER (1987)-110/1446, 112/1443, 112/1446, 114/1443, 114/1446, 114/1449.
PROJECT BOUNDARY: NPS 389/92001 (revised 1991).

LEGEND:

- PAVED ROAD
- UNPAVED ROAD
- UNPAVED PATH
- DECIDUOUS TREE
- CONIFEROUS TREES
- SHRUBS
- TREES - OUTSIDE PROJECT BOUNDARY
- PROJECT BOUNDARY
- HISTORIC RECONSTRUCTION
- EXISTING STRUCTURE

VICINITY MAP



TITLE OF SHEET	DRAWING NO.	SHEET
EXISTING CONDITIONS MAP 1991 FORT VANCOUVER NATIONAL HISTORIC SITE	389 / 80030	1 OF 5
CULTURAL LANDSCAPE REPORT: FORT VANCOUVER NATIONAL HISTORIC SITE	DESIGNED:	
	DRAWN: T. TAYLOR	
	DATE: 10/92	

ENDNOTES

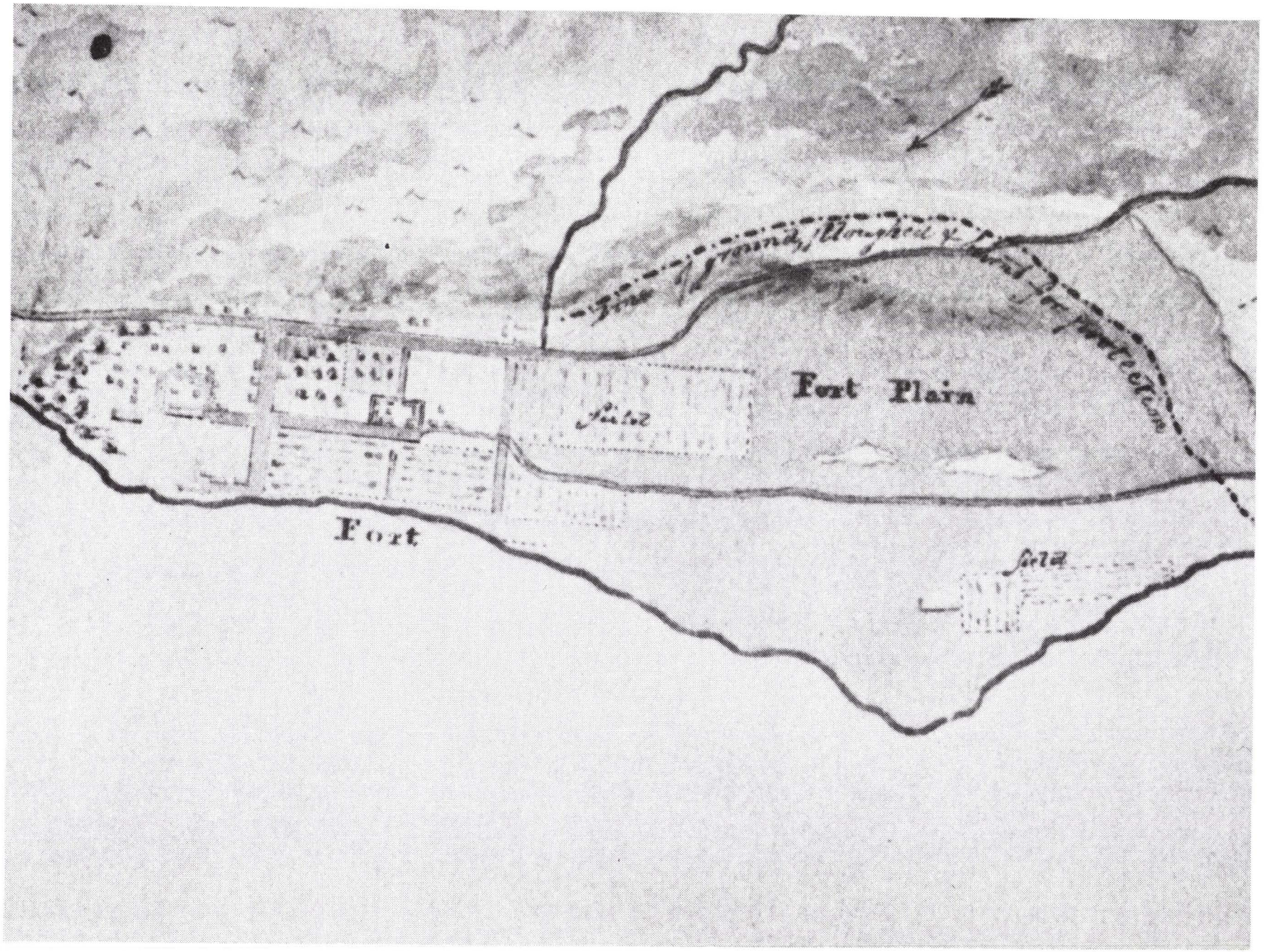
1. Thomas, Bryn, Archaeological Overview of Fort Vancouver, Vancouver Barracks, House of Providence, the World War II Shipyard, Clark County, Washington, NPS, Cultural Resources, Pacific Northwest Regional Office, Cooperative Agreement No. CA 9000-8-0008. Prepared by Archaeological and Historical Service, Eastern Washington University, March 1992, pp. 34-80.

III. ANALYSIS AND EVALUATION

INTRODUCTION

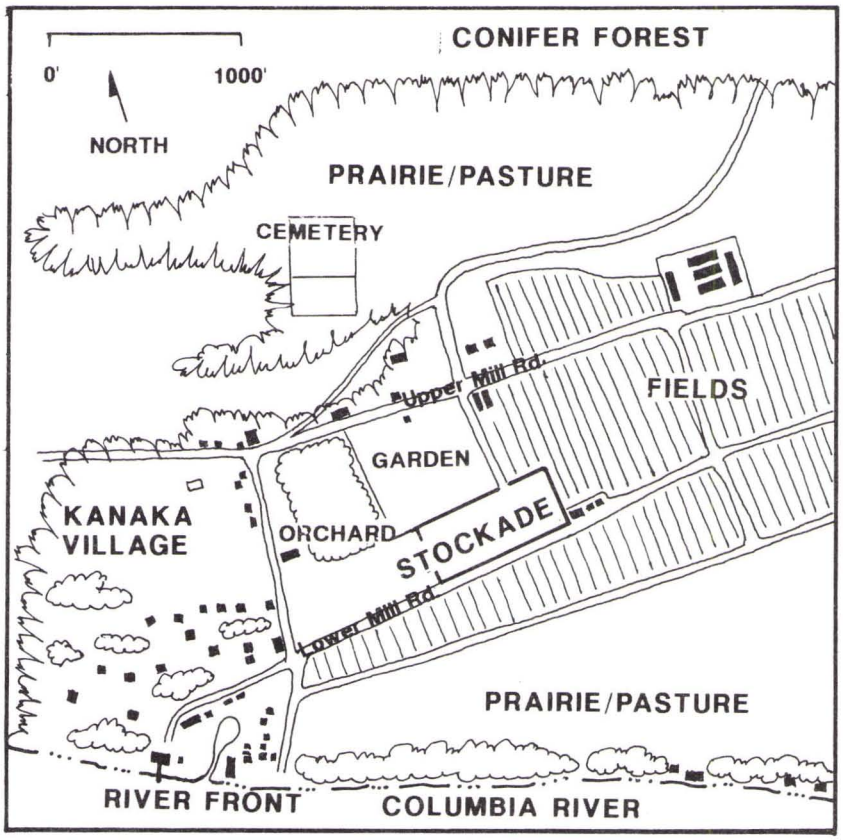
The analysis and evaluation of cultural landscape resources at Fort Vancouver is based on historical research and the documentation of the existing landscape. The purpose of the evaluation is to identify the significant landscape features, patterns, and relationships that define and comprise the cultural landscape at Fort Vancouver. These patterns and relationships are summarized and organized into seven **Character Areas** and four **Management Zones** which help set the framework for the development of Design Recommendations. The analysis and evaluation focuses on all three historic periods associated with the Hudson's Bay Company, especially highlighting the primary period of development, 1829-1844/46. While the site history for this report includes an overview of the historic development of Vancouver Barracks, it is not within the scope of the project to analyze the significance of the Vancouver Barracks landscape. In addition to focusing on the HBC occupation, the analysis and evaluation will narrow the study area to predominately address the historic 'heart' of the Fort Vancouver development, the western third of historic Fort Plain. This area today is made up of land both currently within park boundaries and immediately surrounding the park (primarily Vancouver Barracks).

It is important to note that the primary source of the analysis and evaluation is the Cultural Landscape Report: Fort Vancouver N.H.S. Volume II, Landscape History, therefore research citations are not repeated. Additional data not derived from the landscape history are cited in chapter endnotes.


Fort Plain
Fort

HISTORIC CHARACTER DEFINING FEATURES

RESPONSE TO NATURAL FEATURES



Schematic map of the western third of historic Fort Plain showing response to natural features.

In 1824, George Simpson, North American governor of the Hudson's Bay Company, ordered the abandonment of Ft. George and the search for a new post on the north side of the Columbia River. Criteria for locating the new post included the desire to strengthen British claims to the land north of the Columbia River, and for the HBC to render themselves ". . . independent of foreign aid in regard to Subsistence." The search for suitable terrain--land lacking steep banks or low, flood prone areas--ended at Jolie Prairie, about one hundred miles from the mouth of the Columbia River.

Facing page:
Overall organization of Fort Plain as shown on H.N. Peers' "Sketch of the Environs of Fort Vancouver..." (post 1844).
Credit: Hudson's Bay Company Archives Provincial Archives of Manitoba.

The landscape along the north shore of the Columbia River was a mosaic of natural prairies, coniferous forests, streams, and lakes. The prairies (plains) were flat, treeless expanses of land with a dense cover of grass, moss, lichens, and other low herbaceous plants. This prairie environment was self-maintaining as the dense vegetative cover was virtually impenetrable to other plants. An oak savannah transition zone often occurred between forest and plain where the topography shifted from level to sloping land. Here the landscape took on a park-like or open woodland character--prairies interspersed with widely spaced native Oregon oak and/or Douglas-fir trees--often described and noted in journals by early northwest explorers and Fort Vancouver occupants and visitors.[1] These plains and forests offered an abundant blend of natural resources that were suitable for both trade and subsistence activities. The development of Fort Vancouver was shaped by these natural features. At its height, development at Fort Vancouver was located in three large prairies called Fort Plain, Lower Plain and Mill Plain, and five smaller prairies to the northeast called the Back Plains (First Plain, Second Plain, Third Plain, Fourth Plain, Fifth Plain and Camas Plain).

The site of Fort Vancouver, called Jolie Prairie, was located near a Chinook Indian village named Ske-chew-twa that was located on the site of the W.W.I. Kaiser Shipyards. Jolie Prairie was later named Fort Plain by the Hudson's Bay Company, and became the core of Fort Vancouver. The first stockade, which operated between 1825 and 1828, was located about three quarters of a mile from the river on the edge of a terrace. This location, sixty feet above the low-lying river plain, offered protection from floods and served as a strategic defensive position from the undetermined threat of native Chinook Indians. The naturally occurring plain provided open land for agriculture, and grass for livestock pasture. The coniferous forests surrounding the plains provided a ready supply of timber for fuel and building materials. The streams on Mill Plain, six miles east of Fort Plain, provided a power source for both a grist mill and a saw mill.

In 1829, the initial stockade was abandoned and a new site for the stockade was selected on the river plain. The decision to move the fort was based on the long, difficult

route from the first stockade to the river, and George Simpson's decision to make Fort Vancouver the permanent headquarters for the HBC Columbia Department, which would cause an increase in river traffic and would necessitate a larger permanent work staff to support this expansion. Like the first site, development of the landscape surrounding the new stockade was also directly related to the natural features and resources. The plain provided open land with rich soils suitable for cultivated fields and pasture, with the stockade centrally located in the plain for access to the cultivated fields. It was also close to the river for access to fresh water, and transportation needs, but above the normal flood zone. The dense conifer forest lying to the west and north of Fort Plain created a physical boundary, and provided a ready supply of timber. The oak savannah transition zone between the forest and the plain was not suitable for cultivation, but was in close proximity to major work areas, and made a logical location for the houses built by the company's employees. An industrial area was developed on the shore of the Columbia River around a pond, providing a supply of fresh water for livestock, a protected area for boat building and other industrial activities, and a storage area for supplies being transported by boats and ships.

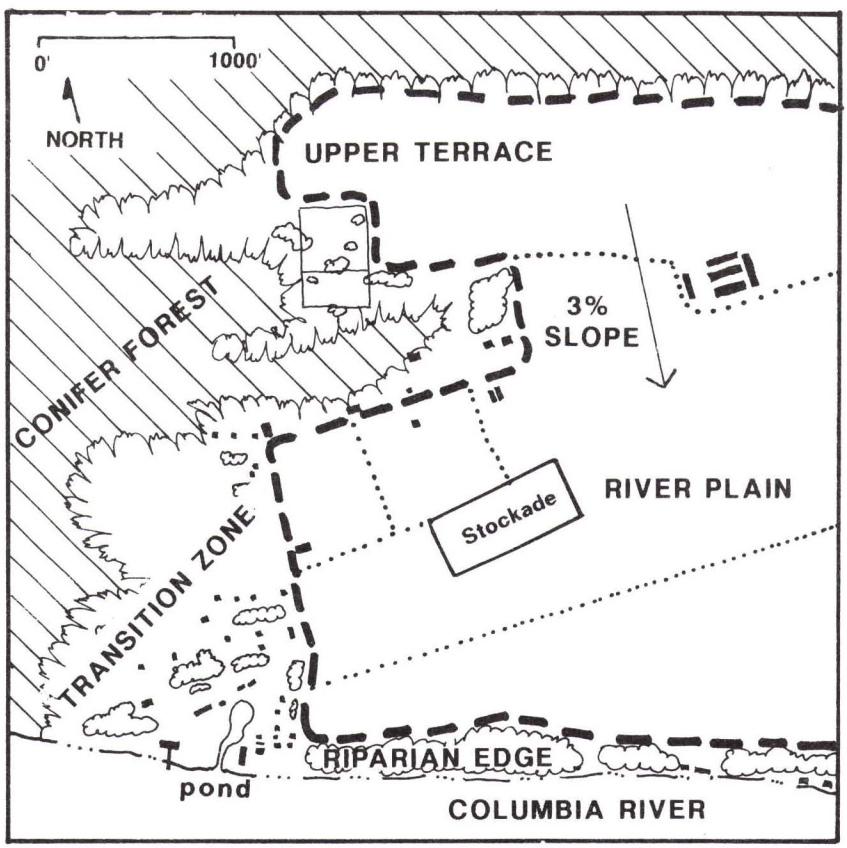
Response to Natural Features Summary and Analysis

Fort Plain possessed an abundant supply of natural resources required for a successful fur-trading and agricultural operation: a major river and streams for transportation, power, and fresh water; favorable climate and soil for farming; large areas of grasslands for livestock pasture; timber for building material; and plenty of open (non-forested) land for expansion of the fort as development proceeded. Overall, the development of Fort Vancouver was directly tied to the availability and location of natural resources on Fort Plain; the forests, prairies, topography, and river all playing a role in directing the location and character of both individual landscape features and overall site organization.

Today, many of the natural features of the site have been greatly impacted by development; some have disappeared entirely. The large coniferous forest that defined the western

and northern boundary of Fort Plain, and the pond located in the riverfront area, no longer exist. The overall spatial relationship and connection between the reconstructed stockade and the river, which is critical to understanding the historical context for Fort Vancouver, has been degraded by the Burlington Northern railroad berm, Interstate 5, Highway 14, and Columbia Way. Despite these physical intrusions, some of the historic character of the site still exists. For example, the overall topography of the site, a gentle slope from the parade ground to the river, remains essentially the same. In addition, although the development surrounding today's stockade has eroded the quality of the historic open plain, the open spaces of both the Vancouver Barracks parade ground, and the southern half of Pearson Airpark, help retain the open space character of the historic fields and prairies.

OVERALL ORGANIZATION



Schematic map of the western third of historic Fort Plain showing overall organization.

Fort Plain was historically defined by a dense stand of conifers to the west, north, and east, and by the Columbia River on the south. This forest acted as a natural boundary, separating the site spatially and functionally from other areas of development. The developed area on Fort Plain consisted of the stockade, which acted as the core of the fort, with other landscape features radiating out from this center. Cultivated fields, pastures, the garden, and the orchard were adjacent to the stockade. West of the stockade was Kanaka Village where HBC employees lived, and to the southwest along the river was an industrial area. A scattered collection of service/civic buildings was located north of Upper Mill Road.

Stockade and Vicinity

On Fort Plain, the fort stockade served as the administrative core of the site with other features spreading out from this center. The stockade included a major living area for higher-graded Company employees, and a storage and service area for many aspects of fur-trading, industrial, and agricultural activities. In ca. 1846, there were twenty-five structures located within the stockade. In addition, there were a few buildings located outside the southeast corner of the stockade and additional structures located southeast of the stockade along the Columbia River. Roads radiated outward from the stockade, accessing features on Fort Plain as well as the river and outlying plains.

Development of the area in the vicinity of the stockade coincided with the new stockade's construction in 1828-29. Generally, the area was organized in response to functional needs, which also related to the existing physical landscape. Agricultural activities were located on cultivable land near the stockade for easy access. These agricultural features included: the garden and orchard to the north and northwest; cultivated fields to the northeast and south; and the prairies along the river and north of Upper Mill Road that periodically served as livestock pasture. Features established ca. 1829 included the garden, cultivated fields, the grist mill, and at least one barn. As the Fort's trading and agricultural influence increased, the physical development of this area also expanded. Between 1829 and 1846, the stockade doubled in size, more fields were cultivated, agricultural

structures were added including a barn complex, the orchard (as distinct from the garden) was established, and more roads were constructed.

After 1846, Fort Vancouver's influence began to decline due to a variety of circumstances including the 1846 boundary treaty between the United States and Great Britain, Chief Factor McLoughlin's departure in 1846, the transfer of HBC administrative duties to Fort Victoria, and the arrival of the U.S. Army in 1849. By the mid-1850s, stockade buildings were poorly maintained and by 1860, most of the remaining twenty-two buildings were described as in "ruinous condition". In 1860, Fort Vancouver was abandoned by the HBC.

While the outlying plains of Fort Vancouver farm began to be etched away by pressure from American settlers and the army, an effort was made to maintain the area immediately outside the stockade. Documentation suggests that activities in the fields, garden, and orchard continued by the HBC, if only at a reduced level, until 1860.

Area North of Upper Mill Road

Documentation indicates the area above Upper Mill Road evolved gradually. In addition to the agricultural development that began in 1829, non-agricultural development began in the 1830s and included the construction of residential buildings associated with Kanaka Village. In the mid-1840s several civic buildings were constructed including a church and schoolhouses, along with a couple of privately owned structures. Most of the development occurred in close proximity to the north side of Upper Mill Road.

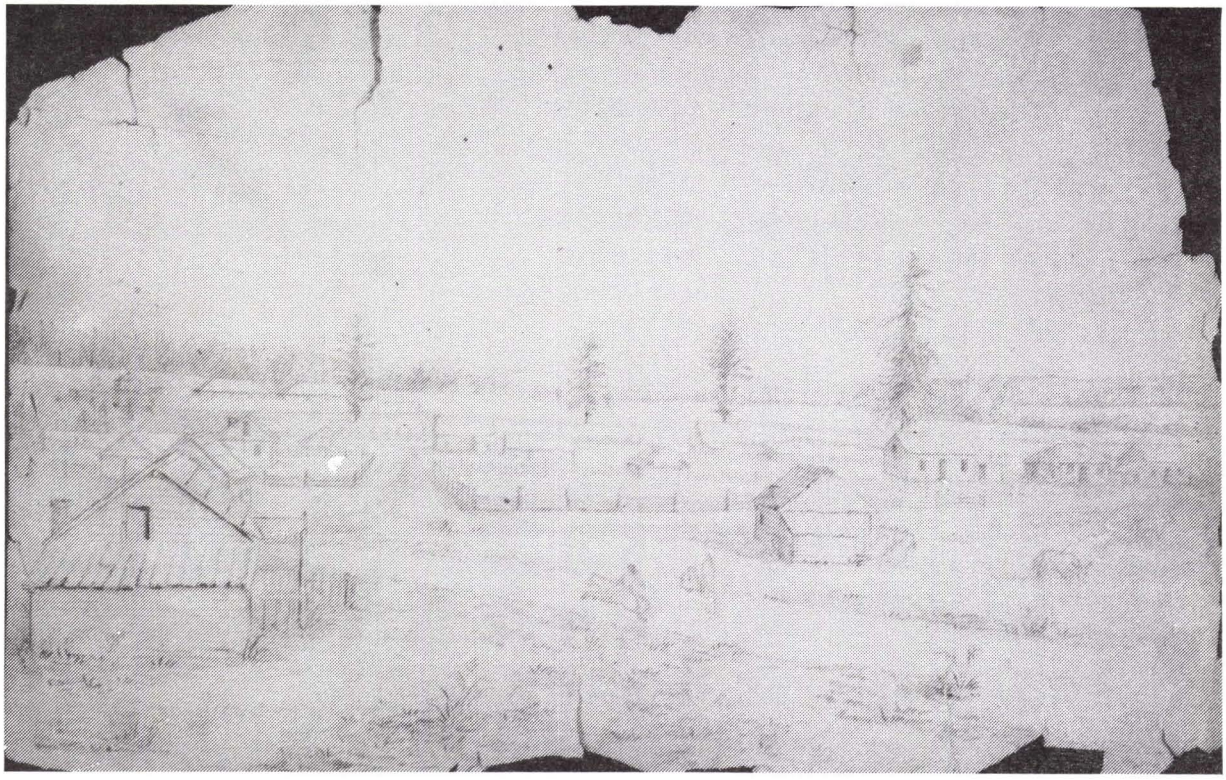
By 1846, the area north of Upper Mill Road contained scattered Hudson's Bay Company structures including the St. James Mission, two schoolhouses, a barn complex and employee dwellings; privately owned structures, Ryan's house and a stable; and a large cultivated field. The prairie north of the developed area was used periodically for livestock pasture. A cemetery was located on the west side of this prairie. The development was accessible from Upper Mill Road and the road to the Back Plains, which had a spur connecting it to the river road.

Between 1846 and 1860, this area experienced significant changes as the Hudson's Bay Company influence waned and the U.S. Army's presence began to dominate development. By 1860, the army had created a new settlement north of Upper Mill Road in the form of army barracks and associated structures, a large parade ground, and new roads. This area would remain the core area for Vancouver Barracks for many decades, with remnant features from its early development still in existence today.

1851 illustration by George Gibbs of view northeast from Kanaka Village towards remnants of the HBC developed area north of Upper Mill Road including St. James Mission, employee dwellings, and the schoolhouses. The U.S. Army development is in the distance. Fort Vancouver N.H.S. photo file.

Kanaka Village

West of the stockade and the river road, and south of Upper Mill Road, was the main portion of Kanaka Village, the Company's employee residential area. Much of the village was located on the relatively flat terrain that sloped slightly from Upper Mill Road to the river. The western boundary of the village was defined by the conifer forest. By 1846, the majority of the dwellings associated with Kanaka Village lay south of Upper Mill Road, and north of Lower Mill Road. In addition to this core developed area, a few dwellings were located north of Upper Mill Road, and a few in the river front area.

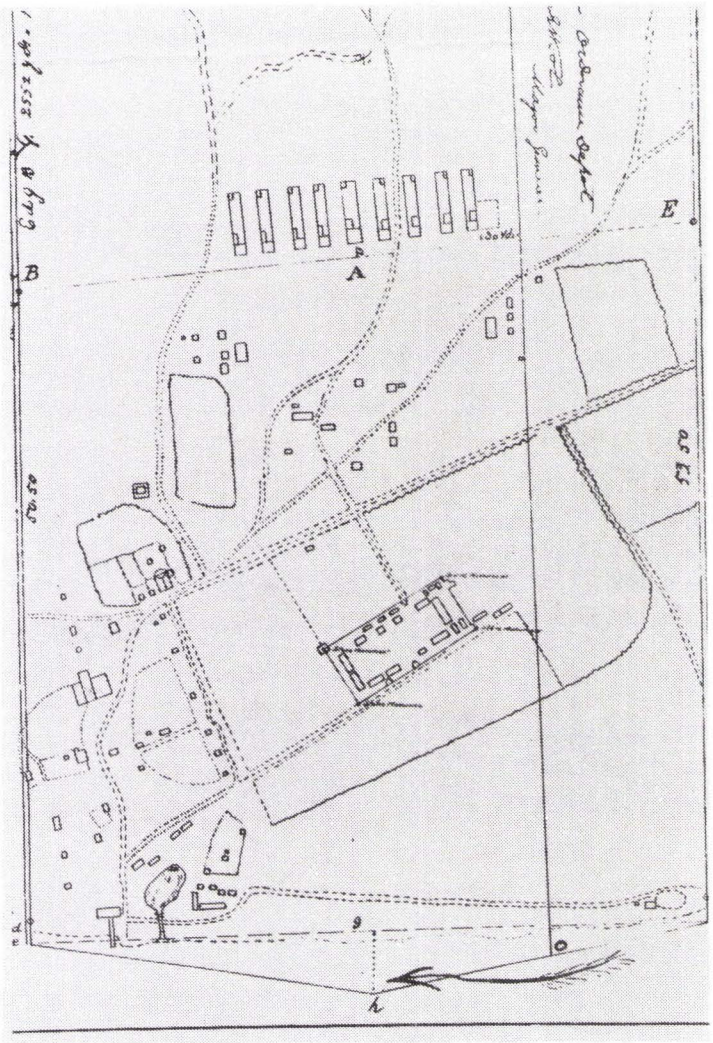


1851 George Gibbs illustration. View east from Kanaka Village towards the stockade. Fort Vancouver N.H.S. photo file.

Detailed information about Kanaka Village remains unclear. Its development probably coincided with the stockade's move to Fort Plain in 1829, and possibly preceded this move. The number of dwellings reported in the 1830s and 1840s varied between thirty to fifty structures. From 1849 to 1860, the area was transformed from an active HBC residential area to the U.S. Army's quartermaster depot. The decline of Kanaka Village began in the late 1840s as employees left the fort in search of gold in California, and by 1850, much of the population had dispersed. This decline was hastened by the arrival of the U.S. Army in 1849 and the beginning of the quartermaster depot. The army development included dwellings, shops, stables, roads, and several buildings rented from the HBC. By 1860, virtually nothing remained of the HBC Kanaka Village, due to both the decline of the Company and the aggressive clearing and demolition of HBC property by the U.S. Army.

River Front area

In this report, the river front area refers to the historical complex of structures sited around a pond between Lower Mill Road, the lower portion of the river road, and the Columbia River. These two roads and the river were the primary circulation routes for the area.



Detail of the 1854 map of the Military Reservation of Fort Vancouver by Lt. Col. B.L.E. Bonneville, showing changes to the HBC landscape as the U.S. Army development grew. Fort Vancouver N.H.S. map file.

The evolution of the river front area is understood only generally. Early development was probably related to transportation activities which changed with the relocation of the stockade in 1829. By 1846, industrial activities included shipping and storing goods, shipbuilding and repair,

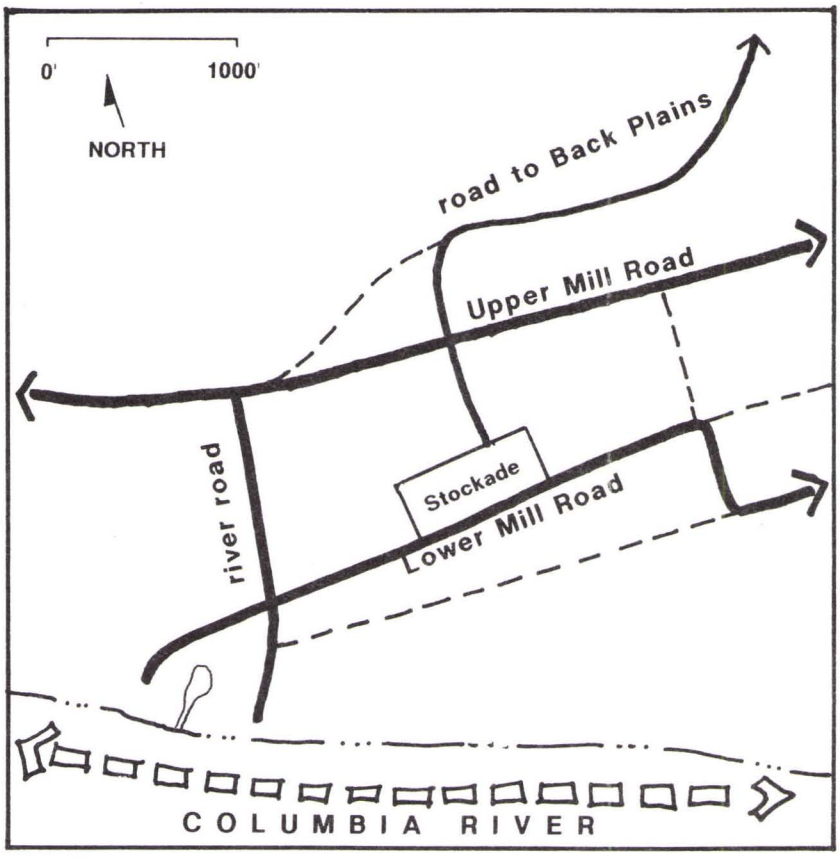
coopering, tanning, and for a time, distilling. Employee dwellings, sheds, and stables were also located in the area. The exact number and location of structures in this area remains unclear. The river front area, as with Fort Vancouver as a whole, gradually declined between 1846/47 and 1860. Documentation suggests several structures survived during this period including three dwellings rented by the army; a house used as a hospital; boat sheds; a bridge (possibly a second bridge built by the army); a distillery; and the salmon store and wharf. By May 1860, these remaining structures were also gone. The army was apparently responsible for much of this later clearing, beginning in 1857-58 and ending with a major demolition effort in March 1860. At that time, the river front became part of the U.S. Army's quartermaster depot development serving, much like the Hudson's Bay Company period, as a shipping and storehouse area.

Overall Organization Summary and Analysis

The landscape features of Fort Plain served as the core or "heart", both functionally and geographically, of the extensive Hudson's Bay Company operations at Fort Vancouver. Fort Plain was organized according to function and natural features. The stockade served as the hub with other landscape features expanding out from it. The garden and orchard were adjacent to the stockade for close access, the fields were located on easily cultivated land, pastures were located on the part of the prairies that were not as useful for growing crops, industrial activities were located at the river for easy river access, and employee quarters were sited to provide proximity to work areas.

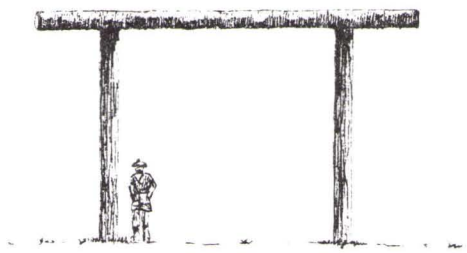
Today, while the reconstructed stockade serves as the core of the interpretive site, there are no extant historic built features and few interpretive or reconstructed landscape features that lend an understanding to the historic site organization. East Fifth Street (historic Upper Mill Road) still acts as a strong organizing feature, and open spaces of the parade ground and Pearson Airpark can serve as a reminder of the spatial relationship of the stockade to the fields and pastures. The river and reconstructed stockade reflect their historic locations; however, physical and visual barriers greatly impact their relationship.[2]

CIRCULATION



Schematic map of the western third of historic Fort Plain showing circulation patterns.

The development of roads, paths, and water routes at Fort Vancouver was driven by the fort's function as a fur-trading post and agricultural supply depot. The initial focus of circulation centered on the Columbia River which provided a major transportation route for trading and supply vessels. Ocean-going trade included supply ships from London, the Company's coastal trading ships, and occassional Royal Naval vessels and American trading vessels. Downriver traffic traveled from the Dalles, via canoes and other river vessels, carrying passengers, goods, and the annual express from York Factory in Canada. Although the river served as the primary system for moving goods and supplies for the fort, as Fort Vancouver developed, land access within Fort Plain to outlying plains and inland waterways--the Little River and the Big Lake (today Vancouver Lake)--became increasingly more important.



Little is known about the earliest roads and paths surrounding the fort between 1824 and 1828. An 1825 map, the only map from this period, generally shows a single road extending from the river to the stockade in a straight line.[3] The exact location of this road in relation to the second stockade is uncertain, as are the existence or locations of other roads and paths.

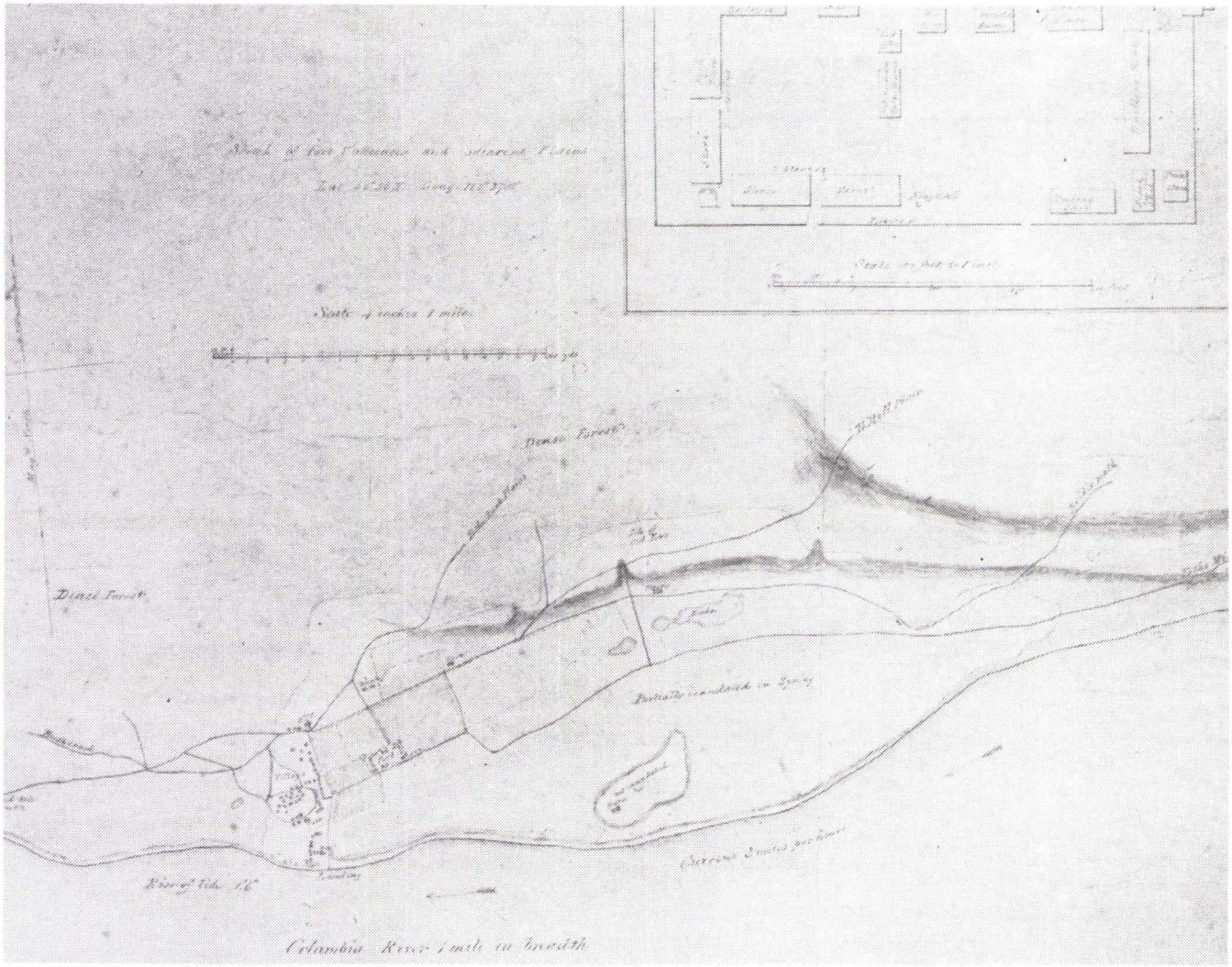
During the historic period, 1829-1846, the early sequence of road and path development is ill-defined. Generally, however, documentation suggests circulation initially focused on access from the stockade to the river. Then it gradually expanded outward from the stockade as the need for traveling to developed areas within Fort Plain and to outlying plains increased.

By 1844, principal land access consisted of paths and roads which radiated outward from the Fort stockade. The arrangement of roads around fields and pastures, created a grid-like pattern. While these dirt roads followed fairly well defined routes, due to wet, muddy conditions, their widths and exact locations probably varied slightly both seasonally and over time.[4]

In 1846, primary roads consisted of the north/south running river road; the Lower Mill and the Upper Mill Roads (east/west roads which connected the stockade to other plains); and a road leading northeast to the Back Plains. The river road began at the river below the salt house where ships usually anchored, intersected with Lower Mill Road and continued north between the orchard and Kanaka Village, terminating at the Upper Mill Road. The main entrance gates to the stockade were on the south side. On Lower Mill Road, at the intersection of the river road, a tall wood post and beam gate appeared to have been built as the "formal" entry to the stockade area.

The Back Plains road began at the intersection of Upper Mill Road and the road from the north gate of the stockade, ran north past the school houses then curved northeast across the prairie before entering the forest and continuing northeast to the Back Plains.

By 1846, secondary roads included: a short spur from St. James Mission to the Back Plains road; a road south of, and parallel to, Lower Mill Road (which provided a more direct route between Mill Plain and the riverfront area); and a road running south from the Upper Mill Road barn complex, between fields, and extending past Lower Mill Road.



Stockade interior

Most details about the circulation patterns in the stockade remain unclear. The two gates on the south side of the stockade served as the main entry between the river and the stockade. At the southwest gate there was a wooden plank road running between the second fur store and the provisions store that ended in the center of the yard. The plank road

"Sketch of Fort Vancouver and Adjacent Plains", by Lt. M. Vavasour, 1845, showing the physiographic features and circulation patterns of Fort Plain. Fort Vancouver N.H.S. photo file.

was eight to ten feet wide and approximately seventy feet long and appeared to be associated with a drainage system. Access from the north side of the stockade was through a gate between the Chief Factor's House and the Priest's house.

Documentation on paths within the stockade is scarce. In the 1846-47 Coode watercolor, it is possible to make out a well-worn dirt path encircling the stockade yard, lying a few yards from the building entries. A U.S. Army map from 1854 shows a network of paths, but it is unknown if they were in use during the historic period. If this network of paths is correct, it is likely they were worn dirt routes rather than formally constructed paths. Except for the plank road, no paths or other circulation features are evident in photographs from 1860.

Kanaka Village

The main access to and from Kanaka Village, traveling north-south, was along the river road, and from the river to the stockade, along Lower Mill Road. Circulation inside the area is unclear. Employee dwellings were apparently organized along roads, but historic maps offer few details on where these roads were located. It is probable some roads ran east-west. For example, in an 1851 sketch, there is a road running from the river road, west past structures identified as "Billy's and Kanaka's" houses. Also, while few roads are delineated on the historic maps, most dwellings are generally sited in an east-west orientation.

Circulation Summary and Analysis

The road system at Fort Vancouver was functional in character and related to the transportation needs of a fur-trading post and a large agricultural establishment. The circulation system began with primary access, which was from the river to the stockade, and expanded to roads within Fort Plain, and to distant farm plains and overland trade routes. Providing access was critical to the success of a remote trading establishment and these early roads and the river front access point became significant landscape features.

Although most of these routes changed somewhat after the HBC occupation, many early roads were used by American settlers and contributed to development of the area by the U.S. Army.

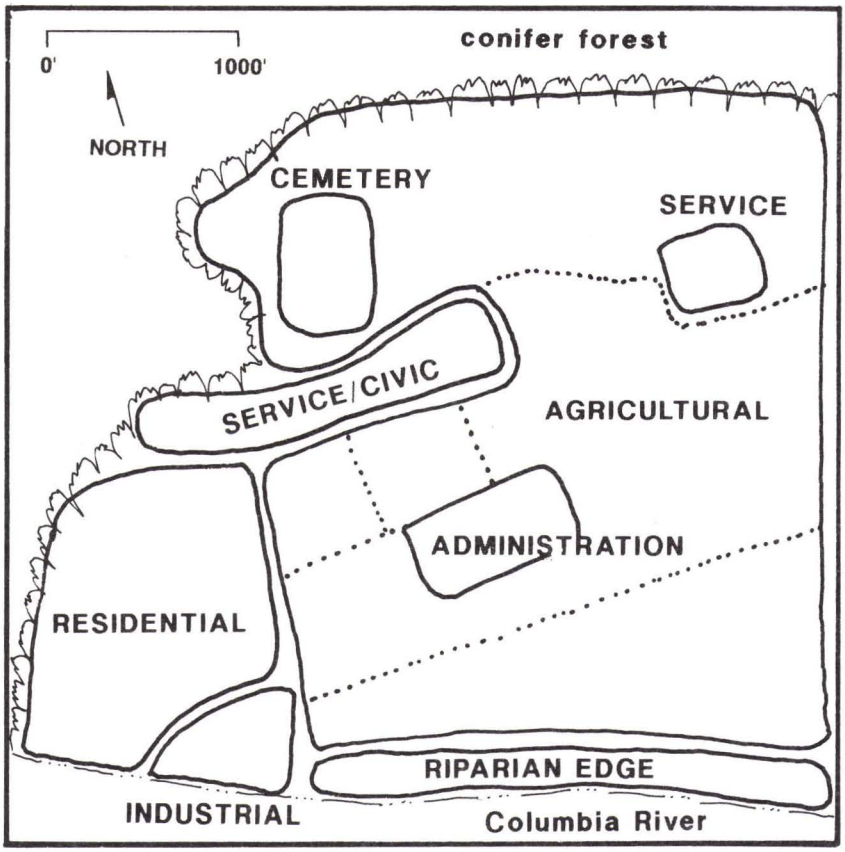
Today, some important portions of the historic circulation pattern are still extant. With few modifications, East Fifth Street is in the same alignment as the historic Upper Mill Road, and has been in continuous use since the historic period. The historic road running north from the stockade's northern gate has been reestablished by the National Park Service. Although the north gate was not the main entrance to the stockade historically, it currently serves as the main pedestrian entrance to the stockade.

In the Vancouver Barracks area of the park, portions of several historic roads still exist. For example, part of McLoughlin Road north of East Fifth Street is still intact. The southern portion of McLoughlin road is no longer intact, but the general alignment is discernible because of the existence of a few remaining large deciduous trees that were planted along the road in 1883. While this road was essentially established by the army in the early 1850s (the northern half may have existed as crude HBC road or path to the cemetery by the late 1840s), it was in existence during the last decade of the HBC period, and is significant to both the late history of the fort and to Vancouver Barracks' history. Research also suggests the southwest part of the Vancouver Barracks road currently named Alvord Road, was probably the beginning portion of the HBC diagonal spur that connected St. James Mission to the road to the Back Plains.[5]

Although most of the above roads reflect important access routes north of the stockade, understanding the circulation related to the overall historic landscape is more difficult since many other roads existing in 1844-46 are no longer extant, and/or have not been reestablished. The most important missing historic routes are the primary access roads from the river to the stockade. Today there is no pedestrian or road access from the river to the stockade due to the significant alteration of the landscape by major highways and the railroad embankment. The lack of connection between the

river and the stockade, and the use of an inaccurate main entry to the stockade, compromise the historic scene and neglect the critical relationship between the Columbia River and Fort Vancouver.

LAND USES AND ACTIVITIES



Schematic map of the western third of historic Fort Plain showing land uses and activities.

From its inception, a wide variety of land uses occurred at Fort Vancouver reflecting both the fur-trade industry and agricultural operations. Land use activities included administration, domestic activities, trading, social/recreational activities, agricultural activities (large-scale cultivation, livestock, and local subsistence), industry, and service-related activities.

Administrative/Working and Residential Hub

The fort stockade served as the center of Fort Vancouver operations and internally supported many land uses including administrative activities (offices), trade activities (open space

for trading and stores for selling supplies), warehouses, living and societal uses (dwellings, kitchens, privies, wash house, church, schoolhouse, jail), and industry-related activities (blacksmith shop, harness shop, iron store).

Employee Residences

Kanaka Village served as the major residential area for Hudson's Bay Company employees. There were also dwellings in the river front area, and a few other scattered dwellings, located southeast of the stockade along the river, belonging to employees and possibly officers of the ship *Modeste*.

Agriculture

There were three land-use activities related to agricultural operations at Fort Vancouver; raising produce for large-scale cultivation, large-scale livestock breeding, and local subsistence. For detailed discussions of these agricultural practices refer to the individual topics addressed in the section on Vegetation, pages 57 to 78.

Large-scale cultivation

The goal of creating a self-subsistent HBC fur-trading operations in the Pacific Northwest was achieved at Fort Vancouver through large-scale crop cultivation. Cultivated fields on Fort Plain were located northeast, east, and south of the stockade. Related structures such as barns and root houses were sited within or adjacent to fields.

Livestock Breeding

In addition to raising produce to become self-subsistent, large-scale livestock breeding was also undertaken at Fort Vancouver. The prairie adjacent to the river was sown with timothy and clover and used periodically for pasture. This pasture was also occasionally used for horse racing between the crew or officers of the ship *Modeste*, and Company employees. The prairie on the north edge of Fort Plain, above Upper Mill Road, was also probably used as livestock pasture.

Local Subsistence

Raising produce for local consumption primarily took place in the fort's garden and orchard. These two areas supplied fresh fruit and vegetables for HBC employees at Fort Vancouver. Evidence indicates most produce was served only at the mess table of HBC officers, clerks, guests, and to select employees and visitors in the Chief Factor's kitchen.

Industry-Related Activities

The river front area consisted of a cluster of buildings surrounding a pond. While individual structures came and went during the historic period, over time the use of the area remained fairly consistent. It supported many industrial activities, including ship building and repair, barrel making (coopering), shipping, storing, hide tanning, and, for a time, distilling. A few employee dwellings and a hospital were also located here. In addition, horses (probably used for pulling carts and wagons), working oxen, and pigs were housed in sheds and stables in the area. Generally, by 1846, industrial structures and activities were located closest to the river, stables were along the west or northwest edge of the pond, and dwellings were along the east side of the pond.

Service/Civic activities

North of Upper Mill Road there were two service/civic areas located in close proximity to the road. In the western area, buildings included a grist mill, stable, church (St. James Mission), and schoolhouses. The east service/civic area was the barn complex that was located east of the cultivated field.

Cemetery

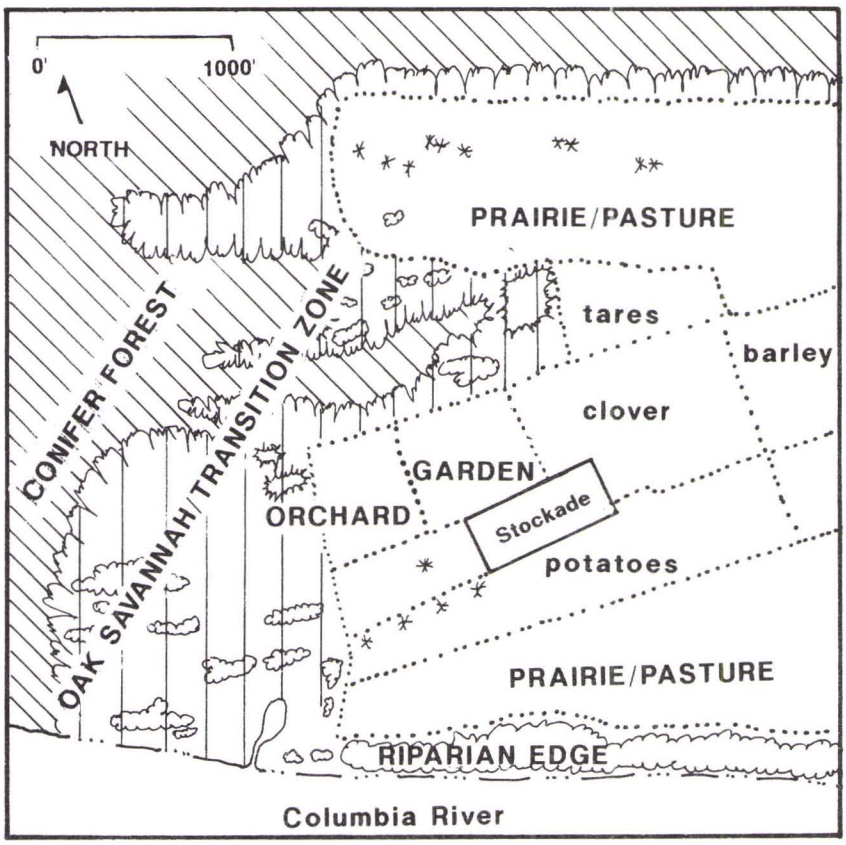
In 1846, a cemetery containing the graves of Company employees was located north of St. James Mission on the west edge of the prairie.

Land Use Summary and Analysis

The landscape of Fort Plain functioned according to land uses appropriate to a fur-trading and agricultural

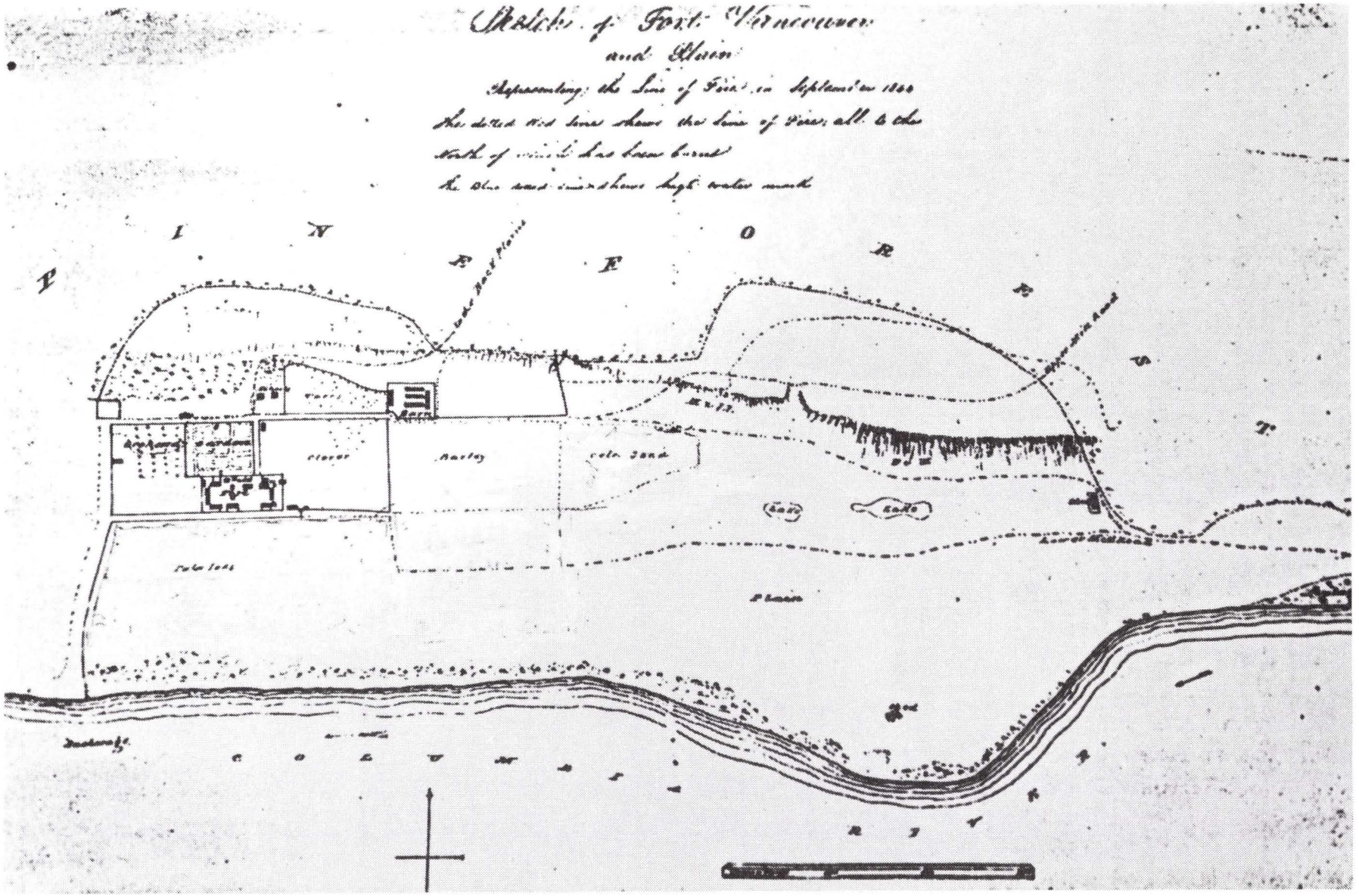
establishment. Administrative areas, residential areas, industrial areas, and agricultural areas were all part of this large and complex operation. Presently, the reconstructed landscape features of Fort Vancouver represent only a portion of the historic land use practices. Existing reconstructed features such as the stockade focus on the administration of the fort, fur-trade and other work activities, and the chief factor's house. Additional interpretation of agricultural operations is represented through the interpretive orchard and garden.

VEGETATION



Schematic map of the western third of historic Fort Plain showing vegetation.

The physiographic features of Fort Plain, including vegetation, set the framework for the trading and agricultural activities that were introduced to the region by the Hudson's Bay Company. As development at Fort Vancouver proceeded, native vegetation gave way to introduced vegetation in the form of cultivated fields, pastures, a garden, and an orchard. The expansive agricultural operations developed at Fort Vancouver represented the first large-scale agricultural establishment in the Pacific Northwest.


Sketch of Fort Vancouver
and Plain
shewing the Line of Pickets in September 1846
the dotted line shews the line of Pickets all to the
North of which has been burned
the other marks shew high water mark
N
E
E
R
Clover
Barley
Potatoes
Potatoes
Plain

Native Vegetation

Before the establishment of Fort Vancouver, the natural landscape was a mosaic of prairies (plains), coniferous forests, streams, and lakes. Early visitors and Company employees often commented on the natural beauty of the country, noting the lush, dense forests with magnificent trees, carpets of wild flowers, extensive prairies with their groves and clumps of trees, lakes, and views of the Columbia River with snow-capped Mount Hood in the distance.

Fort Vancouver lies in the northern tip of the Willamette Valley vegetation community, part of the major vegetation zone "Interior Valleys of Western Oregon".[6] Historically, this area consisted of grasslands or prairies, Oregon oak savannahs, coniferous forests (mainly Douglas-fir), and riparian forests. A partial list of native plant species was developed from both contemporary plant community descriptions and historic references (see Appendix A).

As Fort Vancouver developed, the native vegetation was replaced by introduced species. On Fort Plain, the prairie and some forested areas were cleared for cultivated fields, livestock pastures, the garden, orchard, buildings, and roads. By 1844/46 little of the immediate fort site remained unmanipulated. Remnants of the natural landscape included the coniferous forest lying at the north edge of Fort Plain, which had probably been reduced along the perimeter by clearing for cultivated fields. On the west part of the plain, the forest edge and prairie north of Upper Mill Road consisted of individual specimens and clumps of Douglas-fir and Oregon oak trees. In 1833, Dr. William Tolmie, a HBC employee, described this prairie and the cemetery, noting that the cemetery was reached by traveling through "a pretty grove of young oaks & other trees", situated "...in a fertile upland meadow greatly beautified by wild flowers & trees in flower..."

Other native vegetation that remained after the site was developed included: individual trees or clumps of trees in Kanaka Village which were part of the oak savannah transition vegetation zone; several individual trees including five large Douglas-fir trees near the stockade along Lower Mill Road; and a band of riparian vegetation which bordered

Facing page:
"Sketch of Fort Vancouver Plain, Representing the Line of Fire in September 1844". Agricultural development on Fort Plain.
Fort Vancouver N.H.S. map file.

the Columbia River east of the river front development. William Tolmie described the river bank as "... a nice pebbly beach, well suited for bathing & edged with verdant trees & elegant wild flowers of various species."

As development progressed during the Hudson's Bay Company era and later during the Army's occupation, the remaining forests and prairies continued to be cleared for fields, buildings, roads, and timber, leaving few of the native plant communities intact.

Cultivated Fields

The Fort Vancouver farm, the first large-scale agricultural establishment in the Pacific Northwest, was created for economic and political reasons. In order for the Hudson's Bay Company fur-trading operations west of the Rockies to succeed, it was necessary to reduce the huge transportation expenses associated with importing food. Creating a self-subsistent operation was critical for supplying Fort Vancouver's needs, and the needs of outlying fur trading posts. As the farming operations expanded it was soon realized that in addition to fur trading, profits could be created through exporting surplus produce. Food exportation further diversified the Company's west coast operations. Politically, it was assumed Great Britain's claim to the territory would be enhanced by eventually attracting British immigrants through this agricultural development.

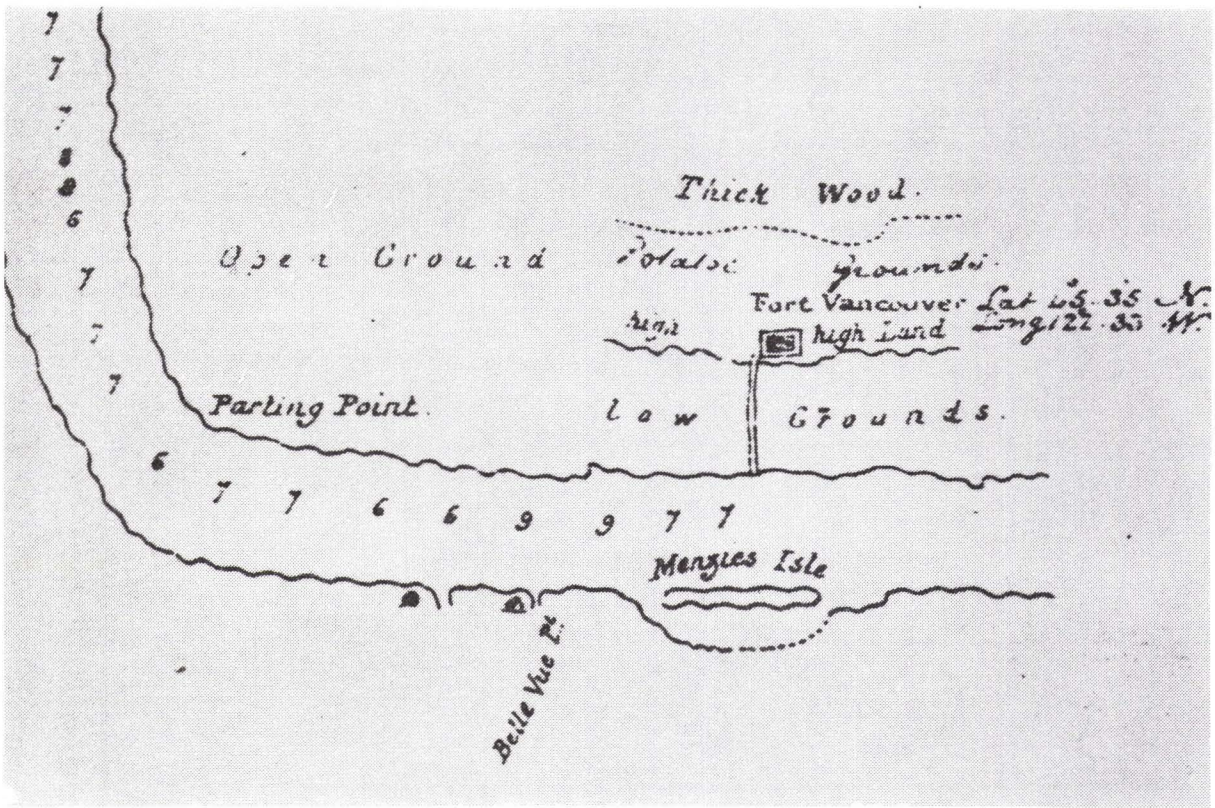
Agricultural activities began in 1825 with the planting of potatoes, beans, and peas, and slowly expanded to include a wide variety of grains and vegetables which covered extensive tracts of land. By 1846, the Fort Vancouver farm had 1420 acres under cultivation and was made up of several operating units which included Fort Plain, West Plain, Lower Plain, the Back Plains, and Mill Plain. At its height, a wide variety of crops were raised at Fort Vancouver farm including great quantities of wheat (the most important cash-barter crop), peas, barley, oats, buckwheat, some Indian corn, and potatoes. In addition, turnips, pumpkins, tares, and colewort were raised for livestock, and timothy and clover were raised for soil enrichment and livestock food. A list of crops cultivated on Fort Plain can be found in Appendix B.

As McLoughlin became aware of the limitations of the soil at Fort Vancouver, Cowlitz farm and Nisqually farm were established nearby. In addition, both Fort Langley on the Lower Fraser River, and Fort Colvile on the upper Snake, received their agricultural supplies from Fort Vancouver. The creation of the Puget Sound Agricultural Company in 1839 further expanded crop production by increasing the Company's commitment to agricultural exports. Throughout this agricultural expansion, Fort Vancouver remained the operational hub and main production post for all the Columbia Department's farming operations west of the Rockies; operations that were noted by one visitor as being conducted on a "stupendous" scale. After 1846 the farm began to decline, suffering from squatters, a reduced labor force, increased costs from territorial taxes and duties, and competition from crop production by settlers.

The first fields, planted in spring 1825, were located on the upper river terrace where the first stockade was built. An 1825 map of the Columbia River shows "potatoe grounds" located behind (north) of the Fort Vancouver stockade.[7] It is not clear when the first crops were grown on Fort Plain. Some crops may have been planted there between 1825 and 1828 or planting may not have begun until 1828-29 when an increase in production was noted after the new stockade was constructed. However, by 1831, planting on Fort Plain was confirmed by an employee who noted, "On the east side of the Fort [1828-29 fort] there is a beautiful plain, great part of which is under cultivation. . . ". By 1838, Fort Plain was reported to have 70 acres of good land, 178 acres of "poor shingly land" that never flooded, and 203 acres of good land subject to flooding--at most a total of 457 acres of cultivable land.

The 1844 "Line of Fire Map", the 1844 Henry Peers map, and 1846 Covington maps provide some details about the type, acreage, and locations of crops cultivated ca. 1844-46 on Fort Plain. While there are discrepancies among these maps, they generally indicate that there were from 150 acres to 220 acres of land fenced and cultivated on Fort Plain at the height of the fort in ca. 1844/46.

In 1844, the stockade was surrounded by fields laid out to the northeast, south, and southeast. Across Upper Mill Road between the schoolhouses and the barn complex was a six acre field of tares planted as livestock food; adjacent to the stockade was a twenty acre clover field used as livestock food or as soil enrichment; a twenty-five acre barley field east of the clover field; and east of the barley, an eighteen to twenty acre cole seed (or rape) field, used as either a forage crop, a cover crop, or to produce rape oil. South of the stockade was a twenty acre potato field, and east of the potato field was a sixteen acre barley field. The 1844 Peers map also shows an irregularly shaped field of about forty acres in the southeast area of the plain (outside the current park boundaries); it is not known what was planted there.



1825 Map of the Columbia River showing the first stockade at Fort Vancouver. Photograph of map on file in the Washington State Historical Society Special Collections.

In addition to these fenced fields, documentation indicates that timothy and clover were planted as pasture for horses and cattle. On Fort Plain, this practice applied to the land between the cultivated fields and the Columbia River. The prairie north of the tare field and barn complex was probably also used as pasture and may have been planted with timothy and clover, or left in native grasses. Fences were used to enclose cultivated fields in order to keep livestock out during the growing season, and to contain them when manure was folded onto fallow land.

Administration of a farm of this scale required a great deal of knowledge and skill. The overall management of the farm was directed by Chief Factor McLoughlin, although as the farm expanded, London sent agricultural experts such as dairy operators, general farmers, and shepherds to assist with operations. Some information about farming methods exist in the historic literature and more detailed information can probably be obtained from the two books found in McLoughlin's library, Cattle Doctors, and John C. Loudon's Encyclopedia of Agriculture: Comprising the Theory and Practice of the Valuation, Transfer, Laying Out, Improvement, and Management of Landed Property. For example, in Loudon's Encyclopedia of Agriculture... under the heading "General Processes common to Farm Lands", the merits of crop rotation, "working of fallows, and the management of manures" are discussed.[8]

At Fort Vancouver, soil improvement was a major management concern, especially when it was realized that the soil, initially proclaimed as being exceedingly fertile, was found to be poor in many areas. Strategies to improve the soil mirrored those presented in Loudon's work including crop rotation, fertilizing with manure, and allowing fields to lie fallow. For example, in 1842, Chief Trader James Douglas, stationed at Fort Vancouver, recommended that the manager at Fort Nisqually sow the wheat field at the dairy with timothy and clover. Clover, timothy, and probably rye grass (listed on the 1831 seed list) were raised at Fort Vancouver, presumably both for soil enrichment and livestock forage.

Periodically fields were allowed to lie fallow for a year; the Back Plains fields rested for four years after a crop was harvested. In addition, fallow fields often had manure applied to them. James Douglas said that in addition to rotation, the farm methods at the post consisted of "...keeping the soil in good heart, by fallowing and manures, the latter operation being most commonly performed by folding the cattle upon the impoverished land." Cattle and sheep were apparently also penned at night on the fields at Fort Vancouver and Fort Nisqually to help the soil produce. At Cowlitz Farm, and probably at Fort Vancouver, Indians carted manure from the barns to the fields and also fertilized the land with "muck from the pig sties."

To maximize production, McLoughlin instituted several strategies including selective land use, in effect matching crops or uses with soil conditions and field locations. For example, land subject to annual flooding was taken out of cultivation completely, or planted with timothy and clover and used as livestock pasture. Land flooded only in unusually high water was occasionally replanted for a second late crop, after the water receded. Also, early in the farm's history, McLoughlin matched crops and soil fertility, determining that Indian corn required the best soils, followed by barley, wheat, and then oats or peas.

The planting process at Fort Vancouver consisted of plowing the soil, sowing the seed, and then using a harrow to cover the seeds. Plowing and sowing times depended on the weather and crop. Documentation indicates that plowing was commonly carried out all winter, except when frost was on the ground. Oats, peas, potatoes, barley and buckwheat, turnips, and fall wheat were sown in early spring. Potatoes were usually planted by hand in spring, at least once in June, and harvested in late fall for seed and post rations. Garden peas were planted in early spring harvested in May: field peas harvested in mid-summer. Fall crops at Fort Vancouver included some potatoes and winter wheat, while at Fort Nisqually, December and January plantings included timothy and clover, in addition to turnips and colewort for seed.

At least two cast iron plows drawn by oxen and horses were used in the 1840s. At Cowlitz farm, a "2 Wheel Plough" and a "big Norfolk Plough" were used, and at Fort Vancouver a

new "draining plough" for light soils arrived in 1841. By 1843, a seed drill had been requisitioned by McLoughlin for sowing (probably for grains). Originally, sowing was likely done by hand, although since drills were available from agricultural warehouses in England by 1821, they may have been in use at the farm prior to 1843.

Harvesting grain at the farm was similar to practices common in the British Isles in the first half of the nineteenth century. The majority of the grain at Fort Vancouver was harvested in the summer and fall. Grains or hay crops were cut using hand-held scythes and reaping cradles that were attached to the scythe handle to catch and stack cut stalks. Sickles were also used for hand cutting grains or weeds. In 1836, McLoughlin inquired about the potential of ordering a new type of reaping machine discussed in Loudon's Encyclopedia of Agriculture. . ., but there is no indication it was sent to the post.

After cutting and binding the grain, the sheaves were stored in the barns until they could be threshed and winnowed. Until 1839 there were no granaries for storage, and improper storage in barns often led to a great deal of spoilage. Contributing to this problem was the limited labor supply which often delayed threshing until winter months when post activities slowed. Threshing methods progressed over the years at the farm. In 1829, threshing was done with horses, "in the circus", probably a wood or dirt treading floor in a barn. By 1834 a stationary, horse-powered threshing mill was used to operate a sweep or lever-type of power, with horses walking in a circle. By the early 1840s, portable threshing machines were in use and by 1844 the fort had two, four horse-powered machines imported from England, and one "country made" at Fort Vancouver.

After threshing, seeds from grains, peas, and grasses had to be cleaned by winnowing. Performed by hand initially, by 1844 fanning mills, a pair of "English Fanners" and another, "country made", were used to chaff dust and dirt away. Other crops such as peas, clover, flax, and timothy were also processed this way at Cowlitz and presumably at Fort Vancouver.

Farming tools, as noted above, were both imported and "country made". British suppliers included Bryan Corcoran & Co.; John Davis; Ransomes & Sims; Mary & Thomas Wedlake; and Evans & Lascelles (specifically for dairy implements). A list of agricultural tools used at Fort Vancouver can be found in Appendix C.

Livestock Pastures

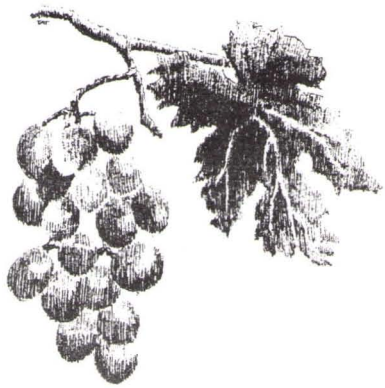
Initially, livestock was raised at Fort Vancouver to supply the Company's posts and Columbia Department coastal vessels, with salted beef, pork, and dairy products. Over time, however, livestock operations grew to such a large-scale that it dominated the region's supply. In addition to raising cattle and hogs, raising horses was later instituted to support the large-scale farming and fur-trading needs. Due to the demands of the Puget Sound Agricultural Company, sheep eventually became the most dominant livestock raised at Fort Vancouver and in the region. Cattle, hogs, horses, sheep, goats, and oxen were also raised at Fort Vancouver farm, although a majority of these operations were carried out in locations other than Fort Plain.

In 1825, horses and cattle were pastured on Fort Plain in the area below the fort, presumably roaming freely among any fenced cultivated fields that existed at the time. Hogs were also allowed to range freely on both the upper prairie or the plain below. By 1828, goats were kept at the farm, although it is not known where.

Between 1829 and 1846, as cattle, horses, and sheep numbers increased, most were moved to Lower Plain and Mill Plain. However, livestock was never completely absent from Fort Plain. Sporadic references during this period, note that livestock were located in the vicinity of the stockade and along the river. The location of a pasture in the vicinity of the stockade probably refers to the prairie north of Upper Mill Road. In 1838, it was noted that the land near the fort was not adapted for large-scale herding. However, documentation suggests it was used periodically because it was also noted that, when the only "tolerable pasture" near the river was flooded, the cattle were moved into the barns on Fort Plain, Mill Plain, and Lower Plain.

In the 1840s, the land along the river was sown with timothy and clover and used for pasturing cattle and horses. Dairy cattle, horses, and oxen, used for work at Fort Plain, were kept at the stable and ox-byre near the river front. In addition to roaming freely on the plain, cattle were sometimes penned on cultivated fields at night to manure soil and sometimes in movable pens on areas destined for cultivation.

Garden



A garden at Fort Vancouver probably dated back to as early as 1825, coinciding with the old stockade which existed between 1824 and 1828. During this period, garden seeds were supplied by a variety of sources including Gordon, Forsythe & Co.; the Horticultural Society of London; and individuals such as Lt. AEmilius Simpson who planted apple and grape seeds in 1827 (his story of how some grape and apple seeds arrived at the fort is one of several versions). References to "extensive gardens" leave no doubt to its existence, however, it is not known if it was located on the bluff near the old stockade, on Fort Plain near to where the new stockade would be built, or elsewhere on Fort Plain. Wherever the original garden was located, it appears that after the new stockade was constructed in 1829, a new garden was laid out directly behind it (north).

The new garden appears to have reached the height of its development ca. 1844 when it reached eight acres in size, and continued to be tended on some level until the HBC departed in 1860. Due to the overall decline in Fort Vancouver activities during later years, and the death of William Bruce, the garden's primary gardener, the intensity of planting in the garden and the care it received also declined between 1847 and 1860. By 1860, the garden, or "orchard" as it was called by then, had been reduced to four acres.

The general development of the size and location of the new garden is also unclear. References from the 1830s and 1840s offer only general descriptions, and no known extant plans or planting schemes have been discovered. Early descriptions offer some sense of its size and substance yet no maps or descriptions indicate its size until 1844. For example, in 1836

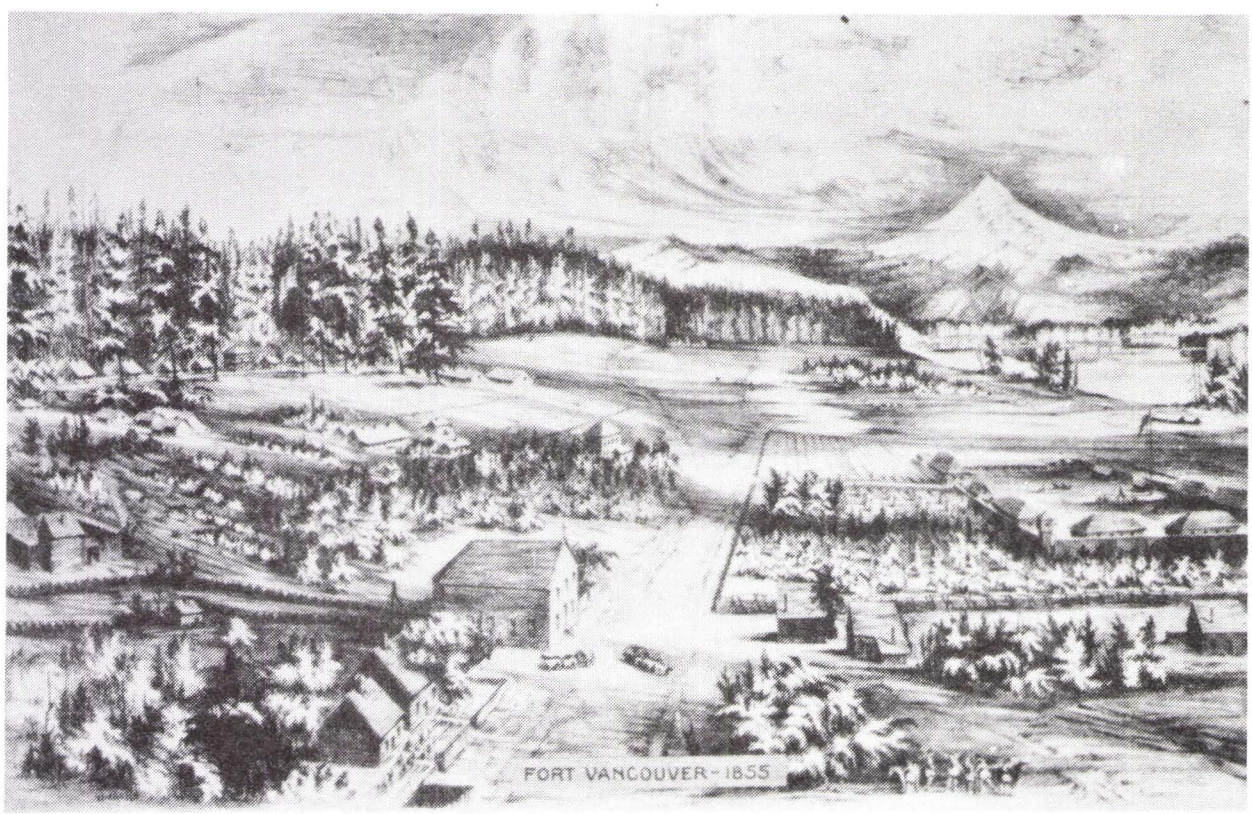
missionary Narcissa Whitman noted, "Every part [of the garden] is very neat and tastefully arranged fine walks, each side lined with strawberry vines. On the opposite end of the garden is a good Summer house covered with grape vines.". Also in 1836, missionary Henry Spalding wrote "We were soon conducted by the Doct. [doctor] to his Garden. . . where we did not expect to meet. . . such perfection in gardening. About 5 [five] acres laid out in good order, stored with almost every species of vegetables, fruit trees and flowers."

The original size of the garden may have coincided with the pre-1834 stockade size, approximately 320 feet, which then expanded along with the stockade, and reached its full development in 1844. The 1844 "Line of Fire Map" is the only map known to delineate both the size and some spatial organization to the garden.[9]

The 1844 fenced garden enclosed a large rectangular area approximately 570 by 625 feet (about eight acres) that was oriented east-west. It was located between the stockade and Upper Mill Road, and between the north gate road and a fence that extended about 140 feet beyond the west wall of the stockade. It was laid out in an irregular pattern of three by three rectangular beds enclosed by paths. Individual beds ranged in size from 85-140 feet long to 130-150 feet wide and were separated by paths twenty to thirty feet wide. In addition, two long narrow beds lay on the west and south sides of the garden: the south bed, adjacent to the stockade wall, was approximately five hundred feet long and fifty to sixty feet wide; and the other bed was approximately seventy to eighty feet wide and six hundred feet long and lay along the west boundary fence.

Structures in the garden included a summerhouse at the north end; four to five cold (or hot) frames on the east edge of the garden; and a well (based on preliminary archeological investigations, 1991) located near the south end of the garden. Although this layout provides some idea of the overall organization of the garden, due to the small scale of the drawing, it is likely that the 1844 "Line of Fire Map" excluded more detailed information, such as the location and character of paths and planting beds.

Richard Covington's 1855 sketch lends some detail to the larger grid pattern of the garden. For example, there are numerous deciduous trees, probably fruit trees, arranged in a regular pattern, and a large bed in the northwest corner of the garden, also depicted in the 1844 "Line of Fire Map", appears to contain a variety of trees, including several conifers, possibly Douglas-fir trees. The long north-south bed on the west edge of the garden appears to be densely planted with small trees, again, probably fruit trees. The east side of the garden contains fewer trees and there are more beds indicated than on the 1844 "Line of Fire Map".



1855 illustration of the HBC Fort Vancouver and Camp Vancouver (U. S. Army) by Richard Covington showing garden details. Fort Vancouver N.H.S. photo file.

In 1846, documentation indicates the garden was reduced when the west edge of the garden was aligned with the west stockade wall rather than extending beyond it (as in 1844). The size and location of the garden in 1846 would be maintained through the departure of the Company in 1860,

although details of the layout and type of planting undertaken during this period is unknown. The 1860 Boundary Commission photo shows a number of fruit trees planted in a loose grid pattern along the northeast corner of the garden. It is not known when these trees were planted or what kind of fruit trees they were.[10] The 1854 army list of Company's improvements includes eighty fruit trees that appear to have been located mainly in the garden; perhaps these were the trees in the 1860 photo.

1860 British Boundary Commission photograph. View north from the northeast corner of the HBC garden towards the U.S. Army's Camp Vancouver. Fort Vancouver N.H.S. photo file.

Little is known about the gardening techniques employed in the garden. It is generally understood that Chief Factor McLoughlin ultimately oversaw, if not directly participated in, the design and care of the garden, but no details of his gardening expertise have been discovered to date. Books owned by McLoughlin, such as John Claudius Loudon's Encyclopedia of Agriculture, may offer some insight into

common agricultural practices of the time. While McLoughlin appears to have been actively involved in the garden, the principal gardener, William Bruce, also played a major role in its development and care.

William Bruce, originally from Scotland, was listed as a laborer in 1826 for Fort Vancouver and was first mentioned as being the principal gardener there in 1833. He returned briefly to England in October of 1838 at the end of his first term, but "begged" McLoughlin to reemploy him. McLoughlin agreed but first sent Bruce to the gardens of Chiswick House, according to Charles Wilkes, "to get a little more knowledge of his duties". After spending a few days at Chiswick, Bruce set sail for Fort Vancouver, arriving in September of 1839, where he served as gardener until his death in 1849. Wilkes' comparisons of Fort Vancouver's garden to Chiswick, and plants sent to Fort Vancouver by Joseph Paxton, Chiswick's gardener, suggest a high level of expertise was employed in the development and maintenance of the garden. Chiswick was the seat of the Duke of Devonshire and at the time his garden, operated by the Horticultural Society of London, was one of the most important gardens in England. Joseph Paxton was a noted horticulturalist and publisher of two horticulture magazines.

Agricultural tools were both imported and "country made". British suppliers included Bryan Corcoran & Co.; John Davis; Ransomes & Sims; and Mary & Thomas Wedlake. The garden probably used similar tools to those used in other agricultural activities, presumably with the exception of tools used for large-scale grain cultivation. Agricultural tools listed in Company inventories and likely to have been used for the garden are listed in Appendix C.

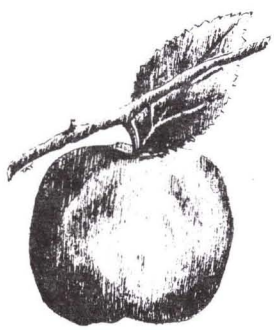
The garden at Fort Vancouver served several purposes. First and foremost was creating a supply of fresh produce for the Company employees. Most of the produce was served at the mess table for officers, clerks, and selected guests, in addition to selected employees and visitors in the Big House kitchen. The second purpose of the garden was to serve as a social outing and pleasure ground where special guests were invited by Chief Factor McLoughlin to walk in the garden and sample the garden fares. Third, the garden provided a supply of plants for visitors planning to the settle the region, seeds

for local Indians to cultivate in gardens near their camps, and seeds and cuttings for generating more plants for the garden and orchard. Producing a ready supply of seeds and plants was essential for maintaining a self-reliant post and was critical to settlers who had no other local sources to draw upon during this time. In addition to collecting seeds and plants from the garden, a portion of the garden was set aside as a nursery. The location of the nursery is unknown.

There are numerous references to the types of plants (common names) grown at Fort Vancouver, however, detailed lists of plant varieties are limited. Fruit trees included pears, nectarines, apricots, cherries, plums, figs, lemons, oranges, citrons, and pomegranates. Vegetables included carrots, turnips, cabbage, potatoes, squashes, parsnips, cucumber, peas, tomatoes, and beets. Fruits and flowers included strawberries, gooseberries, musk and water melon, raspberries, currants, quinces, grapes, roses, and dahlias.

A list of plants grown in the garden based on visitor and Company employee descriptions and HBC records is provided in Appendix D. Documentation on plant varieties specifically grown at Fort Vancouver are limited, therefore, available seed lists purchased for the Columbia Department, in general, and for York Factory, have been included to lend some understanding of the probable vegetable, fruit, and flower species grown at Fort Vancouver.

Orchard



The history of the orchard as a distinct unit (separate from the garden) is complicated because many of the records and descriptions of the orchard are intermixed with the history of the garden. This is due largely to the fact that the first fruit trees established at Fort Vancouver were planted in the garden (and continued to exist in the garden throughout its development), and most visitors did not distinguish between the garden and orchard in their observations. Fruit trees were first observed in 1828 by American fur trader Jedediah Smith who reported seeing a fine garden with small apple trees and vines, which suggests they were planted at least by spring of 1828, if not sooner. The date of his observation correlates well with the multiple variations of a story of a

gentleman or gentlemen (Lt. Aemilius Simpson was the featured gentleman in several versions), who arrived from London carrying apple and grape seeds in a vest pocket, which were probably planted in 1827 at Fort Vancouver. The seeds were reportedly first planted in "little" boxes which were placed in the store (warehouse) and covered with glass until the trees were large enough to plant outside.[11]

Since the location of the garden referred to in 1828 is unknown, it is also not known if these apple trees were planted in or relocated to the 1828-29 stockade garden. Wherever their location, by 1829 it is known that three peach trees were planted in the 1828-29 stockade garden, and from that time on, a wide variety of fruit trees, including pear, apricot, cherry, plum, fig, lemon, orange, citron, and pomegranate trees, were observed in the garden. A list of fruit trees grown in the garden/orchard can be found in Appendix E.

The development of the orchard as a distinct feature, separate from the garden, can only be approximated from existing research. Documentation suggests the orchard became distinct from the garden between 1836 and 1839, although it was not until 1844, the date of the first map of the site, that the orchard, in relation to the garden, was illustrated for the first time.

The area planted with trees on the 1844 "Line of Fire Map" is approximately 380-400 by 600 feet, or 5.2 acres. This area extends from Upper Mill Road south to a line parallel to the stockade's north wall, and east from a point near the river road to the west edge of the garden (120' feet west of the bastion), and continues north back to Upper Mill Road. Some illustrations from the 1850s suggest the area south of the stockade may have been planted as an orchard in the 1850s. However, as of 1844, the orchard was confined to the area northwest of the stockade.

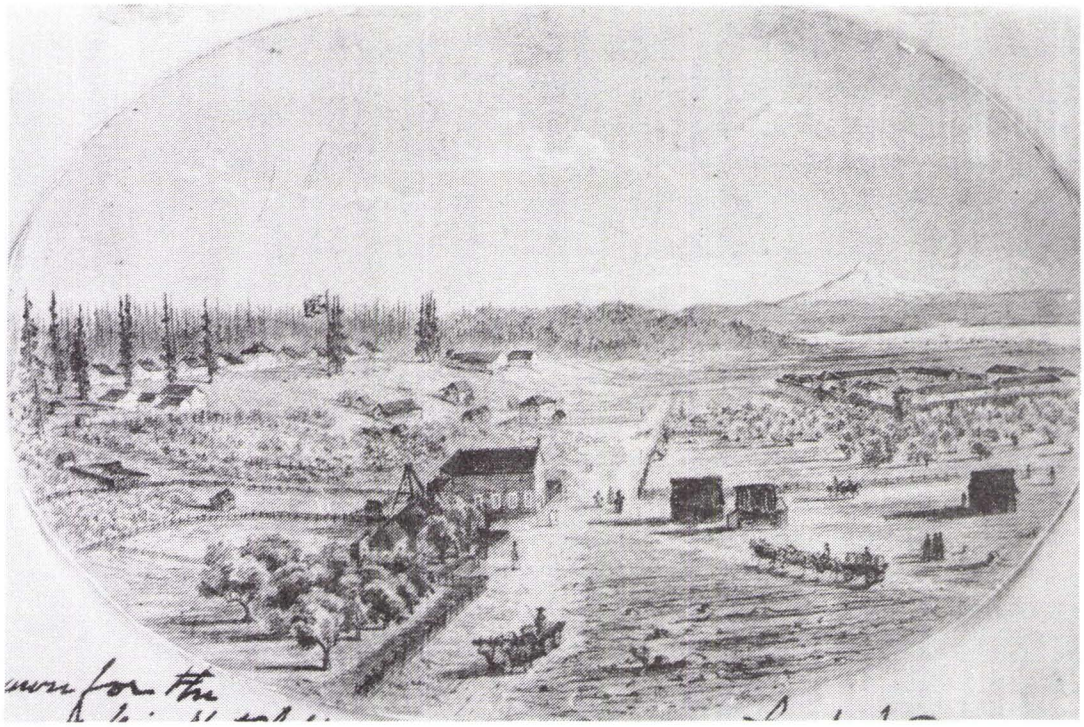
The orchard was enclosed by a fence that extended beyond the planted area. The fence extended west from the southwest corner of the stockade along Lower Mill Road to the river road where it continued north to Upper Mill Road, then east to the west edge of the garden.

As with the garden, and Fort Vancouver as a whole, after 1844/46 the orchard declined in size and upkeep. An extensive fire in September 1844 had a dramatic affect on the orchard, burning the north half of the orchard, the fence along Upper Mill Road, and the upper portion of the fence separating the garden and orchard. The fence was rebuilt but it appears that the trees were never replanted.

Detailed information about the orchard, such as tree spacing, the number of trees, and types of trees planted, is vague at best. The only mention of the number of trees was in 1841 when horticulturalist William D. Brackenridge observed four hundred to five hundred apple trees in bearing state. Some confusion arises because Brackenridge did not say these trees were specifically in the orchard, rather that he saw them when McLoughlin ". . . showed me round his gardens. . .". If these trees were confined just to the orchard which was approximately 380-400 by 600 feet, then in order for four hundred to five hundred trees to 'fit', the trees would need to be spaced around twenty-two to twenty-four feet on center. The 1846/47 Stanley drawing shows a total of about fifty-two trees in the garden and part of the orchard. The only other specific reference to the number of trees was in 1854 when eighty fruit trees were listed by the U.S. Army as part of the HBC improvements. Research suggests these trees were planted in the garden and not the orchard.

Another approach to estimating the number of trees in the orchard, and the tree spacing is from 1850s illustrations that depict the orchard. While there were some discrepancies, the Covington, Sohon, and Hodges drawings suggested a spacing of about thirty feet on center. This spacing agrees with J.C. Loudon who also recommends in The Encyclopedia of Gardening. . . that standard trees should be planted thirty to forty feet on center.[12]

With a thirty foot spacing in the 380-400 by 600 foot orchard area, there would be a grid pattern of about fourteen trees along Upper Mill Road and about twenty trees running perpendicular to the road equaling approximately 280 trees. This does not equal the 400-500 apple trees noted by Brackenridge, if his observation was correct, but perhaps the other trees were in the garden.



1855 illustration by Lt. H.C. Hodges (U.S. Army). View east from Kanaka Village towards the HBC stockade and U.S. Army Camp Vancouver. Fort Vancouver N.H.S. photo file.

The question of what types of fruit trees were in the orchard is also difficult to determine. While most references suggest the orchard was composed of apple trees, or at least a majority were apple trees, there is some indication that there were other fruit trees as well. For example, George Roberts' 1838 Thermometric Register for Fort Vancouver noted apple, pear, and peach trees but not any of the many other varieties of fruit trees known to be growing at Fort Vancouver at that time. It is possible that Roberts, who was in charge of the fort's "Outdoor Work", tended only the orchard and field crops, while others administered the garden (while William Bruce was in England). This might suggest that peaches and pears, in addition to apples, were found in the orchard.

There is also the question of whether the trees were seedlings or grafted, and if they were grated onto standard, semi-dwarf, or dwarf rootstock. Most sources agreed that the trees were seedlings and not grafted. For example, Brackenridge noted the apple trees were ". . . with the exception of a few approved varieties imported from England the whole stock has been raised from Seeds at Vancouver, and to my taste the majority were better adapted for baking than for a dessert. . .." Likewise George Gibbs noted the apple trees

were "natural and not grafted trees". Henry A. Tuzo, a HBC doctor at Fort Vancouver from 1853-1857, responded to a question of whether the orchard consisted of seedlings that were not as valuable as cultivated varieties, that he presumed ". . . there was no grafted fruit in the country at the time the orchard was laid out; the fruit was the best of its kind, but not so valuable as the cultivated varieties."

While the use of some dwarf trees during the historic period is possible, to date, only one reference to their use has been documented. John Dunn, a postmaster at the fort from 1836-1838 noted that the apple trees at Fort Vancouver were dwarfs. It is not known if his description is based on personal observation or not, some of his accounts were based on the observations of others. If his report is accurate, the most likely source of dwarf rootstock in the 1830s was the Horticultural Society of London. To date, the only documented arrival of trees of any kind from the Horticultural Society was in 1839. In September, the gardener William Bruce brought back fruit trees from Chiswick "under glass", but this post-dates Dunn's stay and also does not indicate if the trees were grafted or grafted onto dwarf rootstock.[13] Captain Nathaniel J. Wyeth may have been a source for grafted trees. In a 1847 letter, he noted improvements made in 1835 at Fort William on Sauvie Island as follows, "At this post we...planted wheat, corn, potatoes,...grafted & planted apples and other fruits...)."[14] However, the reference to grafted trees, still does not indicate what kind of rootstock (standard, semi-dwarf, or dwarf) was used.

A number of illustrations of Fort Vancouver provide the only other site-specific clues about the character and extent of the trees in the orchard. Based on the height of the trees depicted in the drawings, twelve to twenty-five feet, they appear to be standard or possibly semi-dwarf trees (dwarf trees usually only grow to a height of six to nine feet).[15] Finally, although dwarf fruit trees were common in England and Europe at the time, they were most often recommended for the garden, while standard trees were commonly recommended for the orchard.[16] Until further evidence related to the trees in the Fort Vancouver orchard is discovered, it is probable to assume that during the historic

period 1829-1844/46, the majority of apple trees in the orchard, were standard size seedling trees.

Other Ornamental Plants

Other than the garden and the orchard, the only other references to areas planted with ornamental species at Fort Vancouver were the plants at Chief Factor McLoughlin's house. It was noted that the house had a piazza and balustrade with grape and other vines growing on it, and small flower beds in front. The flower beds were presumably located inside the white picket fences in front of the house, on both sides of the entrance. In the 1860 Boundary Commission photo, grape vines are growing from the base of the house, climbing up the top railing and continuing up to the roof, supported by vertical poles along the front of the porch, and arched poles over the front entrance and at each end of the porch.

Vegetation Summary and Analysis

Vegetation is a critical component of the Fort Vancouver landscape because of the prominent role agricultural and subsistence activities played in the fort's success and influence in the Pacific Northwest. The cultivated fields, garden, orchard and livestock pastures were all significant landscape features.

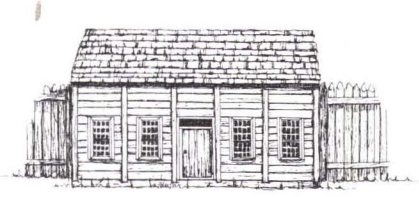
Today there are no known vegetative remnants or features introduced by the Hudson's Bay Company, within the National Historic Site boundary. An interpretive orchard, planted in 1962, exists on the site of the historic garden. There is also an interpretive period garden located northeast of the stockade on the site of what was historically a cultivated field.

The only documented vegetation existing from the HBC period includes two Douglas-fir trees at the east end of the parade ground, and the apple tree in the city's Historic Apple Tree Park. Two large Oregon oak trees on the parade ground may date from the 1850s, and a pear tree located north of East Fifth Street appears to be an old variety, although its location does not correspond to the known development by the HBC.

While, to date, no other vegetation dating from the historic period exists in the park today, the landscape character of some areas surrounding the stockade is still indicative of the vegetation associated with the historic period. For example, during the HBC period, the undeveloped area north of Upper Mill Road consisted of Oregon oaks and Douglas-fir trees scattered across a natural prairie. Today, the Douglas-fir and Oregon oak trees scattered across the manicured lawn of the parade ground retain the general character of the historic period. Several of the trees on the parade ground date from early in Vancouver Barracks' history. Clumps of Oregon oaks that are spread across the Vancouver Barracks portion of the park, were also common in this area during the HBC and Vancouver Barracks periods as part of the oak savannah transition zone between the conifer forest and the plain.[17]

The vegetation along the river historically consisted of native riparian trees and shrubs. Today, the majority of the waterfront also consists of riparian vegetation, masses of black cottonwoods, willows, and alders. The open fields north of Highway 14 are similar to the open-space character of the pasture and fields of the HBC period. However, the overall visual character of the area lacks historic detail and diversity, due to the lack of crops and the associated grids and patterns created by fields and rows of crops. The structures and features associated with the Pearson Airpark development significantly impact the open character of the historic cultivated fields.

STRUCTURES



Information about building styles and construction techniques is generally derived from research and knowledge about the buildings in the stockade and some from structures in Kanaka Village. Two main building styles were used at Fort Vancouver, Canadian style and frame construction. Buildings constructed in the Canadian style were known as either "post-on-the-sill" or "pile-in-the-ground", depending on their foundation construction. Post-on-the-sill foundations consisted of sills resting on wooden blocks with walls created by placing grooved uprights on the sills, six to ten feet apart and fitting sawed (or hewn) horizontal timbers onto the

grooves. The roofs consisted of plates, placed on top of the uprights, with rafters attached to them. Roofs were either covered with one foot wide, by one inch thick sawed boards or shingles. For pile-in-the-ground foundations, the framing posts extended from the walls into prepared holes.

Frame structures apparently existed at the fort but seem to have been the exception. Also, they were probably not light "balloon frame" buildings, but instead buildings with superstructures similar to Canadian style, with heavy timbers for sills, upright posts, and plates. They differed from Canadian style by using nailed board siding or slab siding.

Squared timber and log houses noted in historic references also probably used the same construction technique, but differed in their treatment of wall material; using hand hewn (or sawed) square timbers, or unshaped, round timbers.[18]

Stockade and vicinity

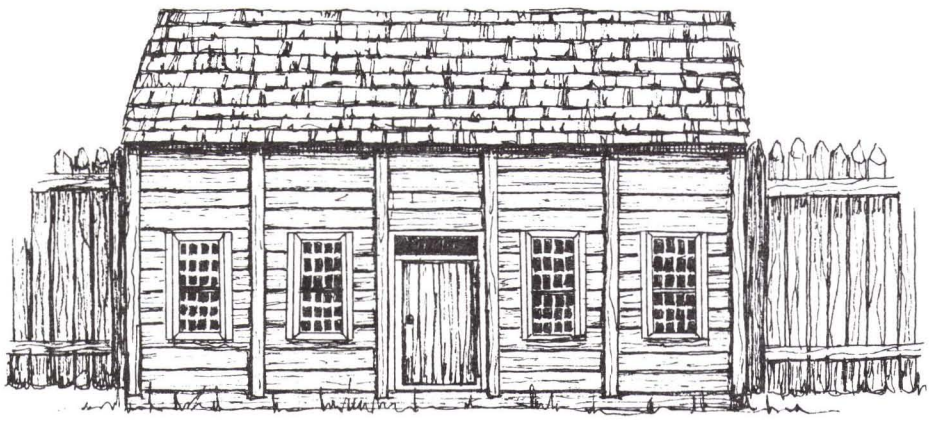
Stockade

The stockade itself was constructed of closely fitted vertical logs (mainly Douglas-fir) from five to thirteen inches in diameter, with the larger posts used in the corners. Around the inside stockade wall, horizontal cross pieces, pegged or notched into the logs, lay about four feet from the top. The cross pieces were about thirteen feet long and were mortised at the ends into larger posts called "king posts".

The height of the stockade until 1845 was estimated by visitors to be between eighteen and twenty-five feet above the ground. After 1845, estimates ranged between twelve to twenty feet, with fifteen feet cited most frequently. By 1841, when the stockade dimensions were 732-734 feet east-west, by 318 feet north-south, three gates existed; two on the south side and one on the north. The north gate was about 212 feet from the stockade's northeast corner and probably measured twelve feet wide. The southeast gate was 10.75 feet wide, while the southwest (original) gate, which was 164.5 feet east of the southwest corner, was thirteen feet wide.

Structures within the Stockade

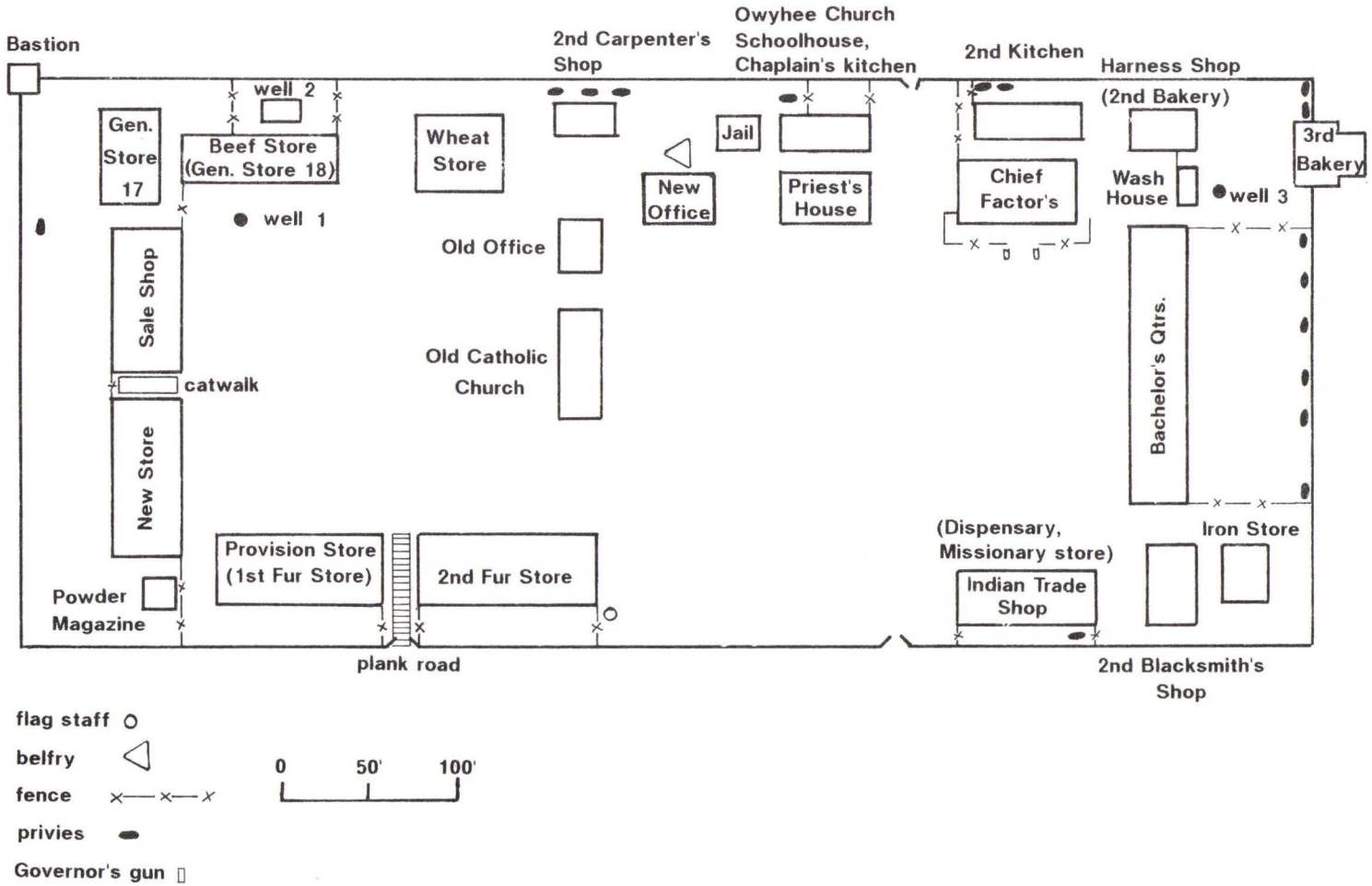
Most of buildings inside the stockade were built in the Canadian style with "post-on-the-sill" foundations. Until the mid-1840s, the roofs were covered with one-foot-wide, by one-inch-thick sawed boards. By 1845-46, most of these boards were replaced by shingles. Roofs appeared to have been simple gable roofs early in the stockade's history, but by 1846 eight of the principal buildings had hip roofs.



The third bakery, located in the stockade interior, was constructed in Canadian Style, a style typical of Fort Vancouver and the fur-trading industry.

In ca. 1844-46, there were twenty-five major structures in the stockade. Generally, the buildings were clustered into two courtyards, with storehouses on the west side and residences, administration, and service buildings on the east side. The west courtyard consisted of storehouses lining the north, west and south sides of the courtyard, with the old office and the old Catholic church located on the east side of the courtyard. In the northwest corner of the stockade was a bastion, constructed in 1845. The east courtyard contained residences and associated structures. Residences included the Chief Factor's House and kitchen, the Priest's house, and bachelor's quarters, and wash house. Administrative buildings included the new office and the jail, while support buildings or workshops included the Indian trade shop (and dispensary), bake house, harness shop, and blacksmith's shop. Buildings with social functions included the Owyhee church and

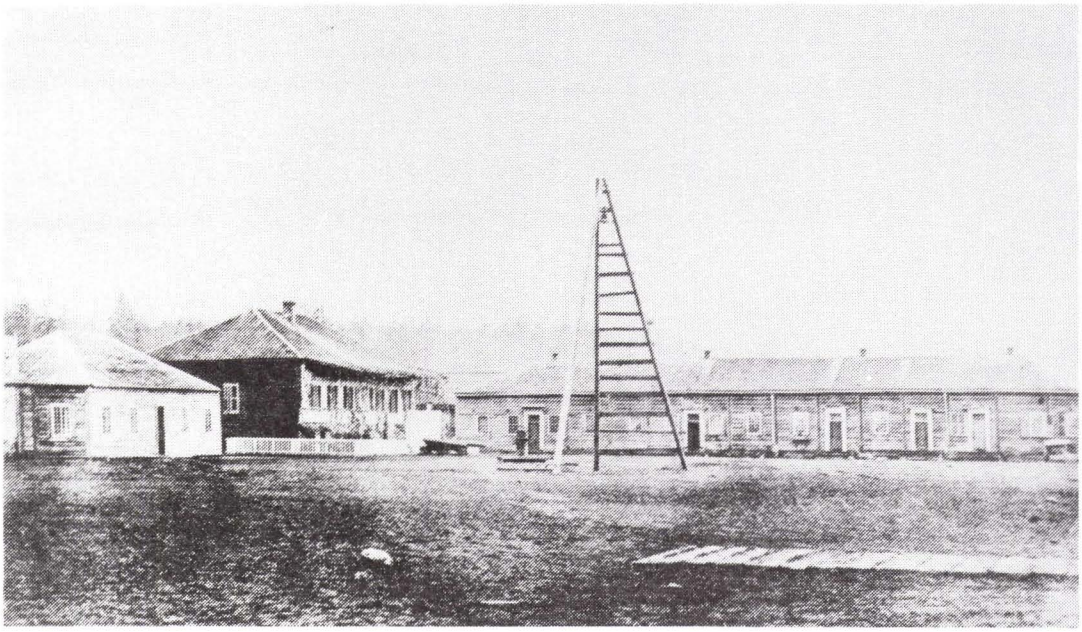
Facing page:
Structures and features in the Fort Vancouver stockade at the height of the site's development in 1844/46.



FORT VANCOUVER-Stockade Interior c.1844-1846

schoolhouse. Storehouses included the iron store. Due to the large amount of detailed information about stockade buildings already included in other documents, they will not be described separately in this report.

Detailed information about the exterior appearance and finish of structures is scarce. The Chief Factor's House, Priest's house, new office, European sales shop, and one other building, were weatherboarded and it appears that some buildings were white-washed. White-washed buildings included the Chief Factor's House, the new office, wheat store/granary and possibly the bake house. It is uncertain if the remainder of the buildings were white-washed or not.[19]



1860 British Boundary Commission photograph showing structures in the stockade including, from left to right, the Priest's house, Chief Factor's house, and Bachelors' quarters. Note small-scale features such as the third belfry, and the wood plank road. Fort Vancouver N.H.S. photo file.

In addition to the wheat store, there were several minor buildings within the stockade that were of frame construction rather than Canadian style construction. They were described by an 1841 visitor as being built of puncheons (split logs or heavy slabs) set in a frame.[20] A covered wooden catwalk connecting the upper floors of the new store and the sale shop appears to have existed between 1829 and 1860. The powder magazine was constructed of bricks imported from England.

Outlying structures

Several buildings were located immediately outside the southeast corner of the stockade. The number and location of buildings varies on historic illustrations; however, according to two reliable drawings, there are three gable-roof buildings sited parallel to the stockade wall. The closest building to the stockade is labeled "Cooper's shed" and was listed on the 1846/47 inventory as being seventy by thirty feet. The two eastern buildings may have been dwellings. Archaeological excavations have uncovered several structures in the area, including a building tentatively identified as the cooper's shed, a privy, a pre-1841 building within the pre-1841-44 expanded stockade wall, and possibly other structures outside the wall.[21]

There were also several structures related to agricultural operations in the vicinity of the stockade. Most of these structures, except the barn complex, were located south of Upper Mill Road, east of the river road, and along the river. These buildings are as follows:

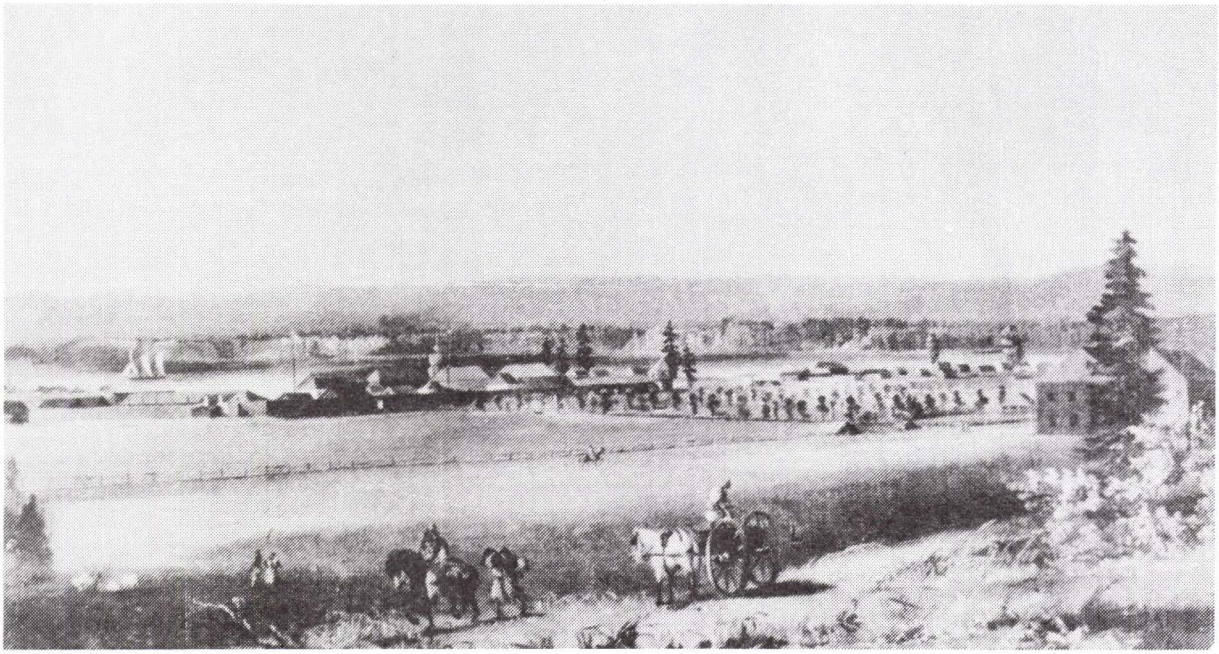
Summerhouse

While there is little doubt that the garden summerhouse, mentioned by Narcissa Whitman, and depicted in several illustrations, existed, details about its construction and location are incomplete and inconsistent. The Stanley drawing shows a hip-roofed structure, apparently open-sided, with vertical posts supporting the roof, braced by horizontal beams halfway between the ground and roof. The Hodges sketch also shows a hip-roofed structure, but the Kane sketch shows a gable or cross-gabled roofed structure. They all appear to be in approximately the same location, along the northern edge of the north, middle-garden bed.

Root Cellars

Two historic drawings indicate that between 1844 and 1847, there were two structures used to store potatoes and other root crops. These buildings were located in the northwest corner of the field north of the stockade. An 1844 reference to a new potato cellar constructed "at the upper end of the back road", was most likely the westernmost building. Three

root houses, sixty by twenty feet, were listed on the 1846/47 inventory. Two of these were most likely the two structures shown in the drawings. The location of the third root cellar is unknown. After 1847, none of these structures appear on any maps or drawings.



1846 Stanley painting showing outlying structures along Upper Mill Road including the root houses, the summerhouse, and schoolhouse. Also note cold (or hot) frames on the east (left) side of the garden. Fort Vancouver N.H.S. photo file.

Unidentified orchard structure

On the 1846 Covington map, west of the orchard and along the river road, there is a structure that measures approximately ninety by forty-five feet. To date, no other information is known about this structure.

Barn Complex

Barns used to store grains and livestock food were located adjacent to cultivated fields associated with the Fort Vancouver farms. Information remains unclear about a complex of buildings of the 1844 "Line of Fire Map "labeled "Barn", located on the north side of Upper Mill Road, northeast of the stockade.

The first reference to a barn was in 1829 and while its location is unknown, it is possible it was one of the barn

buildings in the 1844 complex. Since agricultural activities probably began close to the stockade and expanded out from it, it makes sense that agricultural implements, threshing mills, and storage space for large quantities of produce, needed to be located near the stockade. The location of the barn complex was logical because it provided access to fields, the stockade, roads and the early grist mill.

By 1844, the barn complex consisted of several buildings, although historic references do not agree on the number of structures. The 1844 "Line of Fire Map" shows five buildings, the 1844 Peers map shows three, and in 1838 it was reported that "Outside the fort there [was] "a large and commodious barn, and seven buildings attached thereto". It appears that the buildings in the complex were used to house a threshing machine, and to store grain and "... a number of iron screens and agricultural implements."

The complete complex burned during the September 1844 fire. Losses in the fire were reported as, "a large barn...the largest built was at least 100 by 40 or 50 feet wide two stories high, built in Canadian style... three threshing floors... [and] about 3000 bushels of oats, pease & other grain..." Apparently, a single barn was rebuilt in the same location in 1845. The new barn was probably demolished in 1853-54.

Dwellings and stable

Southeast of the stockade, along the Columbia River, there were three dwellings and a stable, depicted on the 1846 Covington maps. Two dwellings are labeled as "servant's house" and the third as "Drake's House"; they measure approximately thirty to forty feet long by thirty feet wide. The stable, is labeled as "Modeste stables", and was apparently built by the crew and/or officers of the ship *Modeste*. The dwellings may also have been constructed by the *Modeste* crew. The stables were rented by the U.S. Army for two years beginning in 1849.

There were also four other structures shown on the Covington map that were on the eastern half of Fort Plain, outside the current park boundary. The buildings included a piggery, a barn, and two unidentified structures near a cultivated field, probably also barns.

Upper Mill Road building corridor

In addition to the cultivated field and barn complex north of Upper Mill Road, there were several service-related structures and/or civic buildings constructed near the road. These included:

Schoolhouses

In 1844, construction began on two, two-story buildings designated as schoolhouses located west of a cultivated field. The buildings were forty by fifty feet and had hip roofs. Construction appears to have taken place over a number of years. As late as 1849, when the U.S. Army rented the buildings, they were noted as being unfinished. The building site was fenced by 1851. It appears that the HBC never put them into operation as schools.

The army used the easternmost building as a barracks from 1849-1852. In 1851, they altered the building by adding a shed with eaves that extended to the ground. By 1854 the entire building was gone. The western building was used by the army as a storehouse between 1849 and 1853/54, and as a combination hospital and ordnance storeroom in 1854. It was still rented by the army as late as 1860.

Ryan's

A structure located east of the old grist mill, and labeled "Ryan's" on an 1846 Covington map, was presumably a dwelling that was built ca. 1845-46. Little is known about the structure, which stood for less than a decade, or about Ryan. It is possible the reference to Ryan was to William Ryan, a naturalized American citizen, who made land claims on HBC property on Fort Plain late in the 1840s. Since there is no indication that he was a Company employee, it is not known why he was allowed to build or live there. The building on the 1846 map measures about thirty by twenty feet, and according to the 1851 Gibbs sketch, it had a gable roof.

Stable

Northeast of "Ryan's" on the 1846 Covington map, is another structure labeled as a "stable". It is not known if it was

originally a Company building, but in 1849, the U.S. Army rented the building from the HBC. The rental rolls listed it as a "private stable." According to the 1846 map, it measures about ninety by thirty feet. It may be the gable-roofed structure shown on the 1851 Gibbs sketch.

Grist Mill

One of the first buildings in the area above Upper Mill Road, was a horse and ox-powered grist mill constructed in 1828-1829. It was used to grind all the Company's grain into flour until 1838-39, when it was replaced by a water-powered mill located five miles east on the Columbia River. The "old" grist mill was still standing in 1846. Other than its size, which measures approximately thirty by ninety feet on the 1846 Covington stockade map, no other details about the building are known.

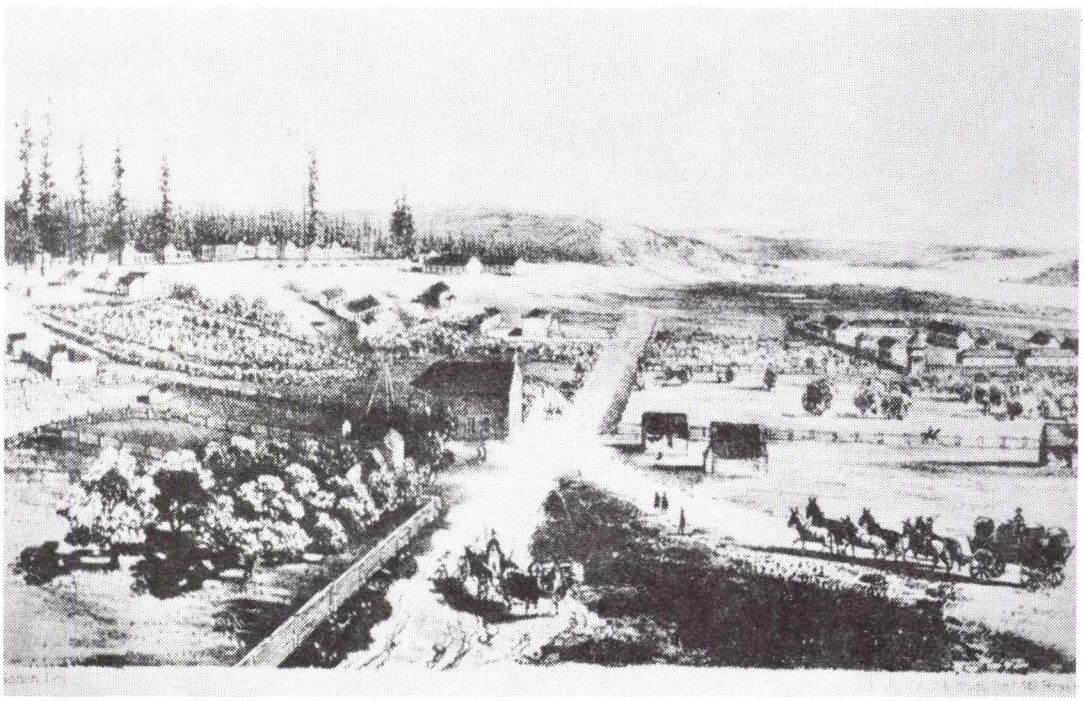
St. James Mission

In 1838, Fort Vancouver became the headquarters for Catholic priests serving as missionaries under a cooperative agreement between the Bishop of Juliopolis at Red River in Canada, and George Simpson of the HBC. Initially, services were held in the chaplain's kitchen/schoolhouse in the stockade, but by 1839, one of the original store buildings was set aside to be used as a church for Protestants and Catholics. By 1844 or 1845, Father Blanchet, a Catholic priest, was given permission by the Company to build a new church on land northwest of the stockade. The church, named St. James the Greater, was built at Company expense and was completed in the winter of 1845-46. In 1846/47, two structures were listed as associated with the Catholic Church, the New Catholic Church and an adjoining rectory.

The church was a two-story, gable-roofed structure, with a twelve-foot wide interior gallery and an angled apse at its north end, with a shed-roofed addition in the rear. The rectory, attached to the east side of the church, was a one-story structure, thirty by twenty-one feet, with a gable roof and a shed roofed addition on the north.

The church complex continued to expand during the remainder of the Company's occupancy at Fort Vancouver

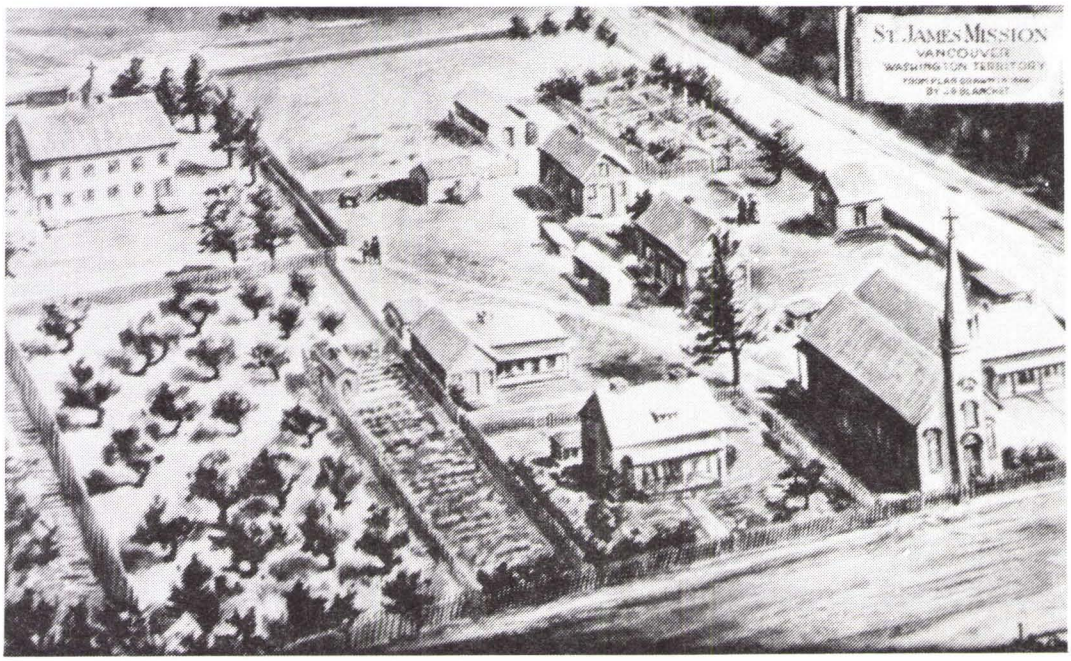
between 1847 and 1860. Although the Catholic church claimed 640 acres in 1853 under the donation land claim act, the HBC clearly considered the church and its land Company property. During 1849 and 1850, the U.S. Army rented space from the Company for its officers in the church rectory and in the nearby employee dwellings. By 1851, the structure and a portion of the adjoining grounds were enclosed with a zigzag fence. There was also a small lean-to, probably a bell ringer's hut or storeroom, located north of the church.



1854 G. Sohon illustration showing St. James Catholic church, and orchard (center), the U.S. Army's Camp Vancouver (left), and the HBC's Fort Vancouver (right). Fort Vancouver N.H.S. photo file.

Between 1852 and 1855, the church's enclosure, which appeared to be subdivided into several areas, increased to five acres. The enclosure, fenced with a zigzag or post and rail fence, included a field in the upper half which was planted with an unknown crop, a young orchard and two small structures (originally Company dwellings) west of the church, and one or two structures north of the church.

St. James Mission continued to expand and operate after the Company's departure, reaching its greatest extent in 1874. The church building burned in 1889, and in 1895, after years of legal battles with the army, the U.S. Supreme Court reduced the mission claim to 0.44 acres, which was the size of the property originally held by the church in August, 1848.[22]



Drawing of St. James Mission in 1866, by J.B. Blanchet. Fort Vancouver N.H.S. photo file.

Employee Dwellings

Three Company employee dwellings, part of Kanaka Village, were located north of Upper Mill Road. The date of their construction is unknown. They were first documented in 1844 and in 1846, and are labeled on the 1846 map, from west to east, "Duchenee's", "Lattie's", and "Proulx's". All three buildings appear to have been wood structures with gable-roofs, and Duchenee's and Lattie's had fenced gardens.

Documentation indicates that in the 1850s, these structures were incorporated into the St. James Mission property. The 1851 Gibbs sketch shows fences surrounding the front yards of the two western dwellings (Duchenee's and Lattie's). The fences were either picket or closely-set poles and contained

what appeared to be plants arranged in rows, probably a garden. Trees and shrubs were depicted behind both of these dwellings. A post and rail fence enclosed the front yard of the eastern dwelling (Proulx's).

Cemetery

The first reference to the Company cemetery was made in 1833 by William Tolmie. It was not until 1846, however, that a map shows the location of the Hudson's Bay cemetery, north of St. James Mission on the west edge of the prairie. Some of the graves were apparently surrounded with palisades, but most were "merely covered with stones & logs of wood".

While all maps and illustrations depicted the cemetery after 1846 in this location, a 1839 Catholic Church record, referring to "the new cemetery of Fort Vancouver", raises some questions about its initial location. One explanation may be that the "new" cemetery was an addition to the old. This hypothesis is supported by the 1846 map which shows the cemetery divided into two areas by a fence. In the mid-1850s, the cemetery consisted of a single fenced area. The cemetery remained until the mid-1860s when the U.S. Army ordered the graves to be moved to the army cemetery.

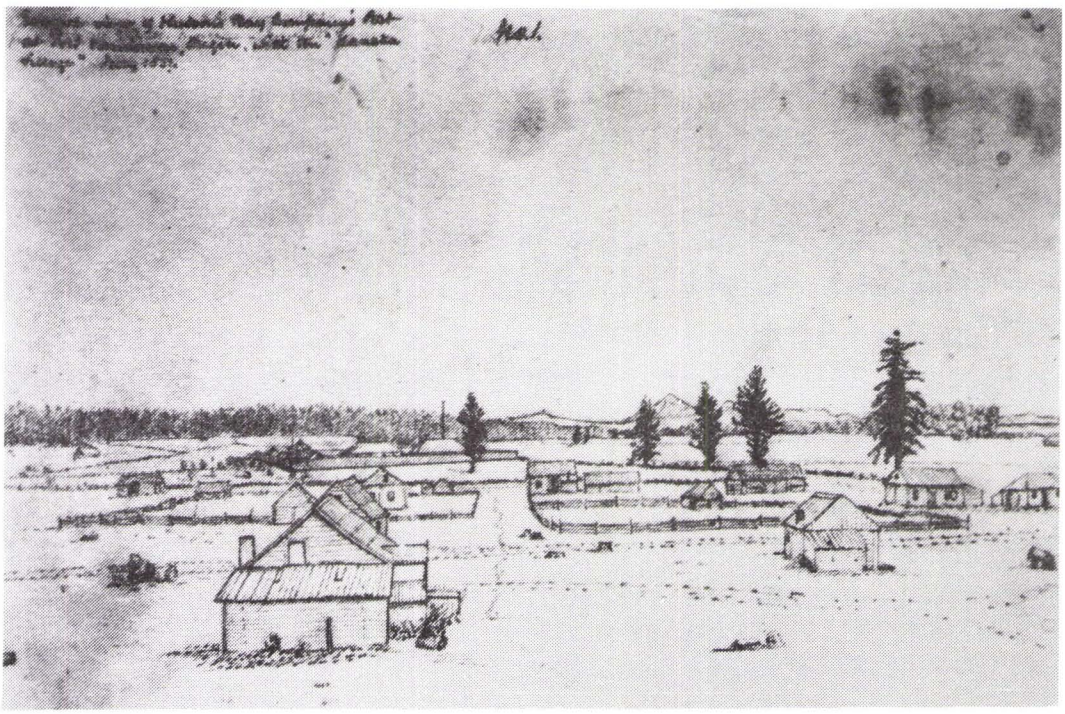
Kanaka Village

Buildings in the "village", where lower-ranking HBC employees lived, were probably constructed primarily in the Canadian style, although descriptions by early visitors mention a variety of styles. Visitors noted that the houses were "built of logs, boards, squared slabs from the mill, some of them neatly finished and ceiled". Other buildings were "Canadian fashion, American cottage fashion, framed and weather-boarded, some were of squared timber, and some very few of logs and some few of sawed slabs". Buildings were also reported to be plastered with clay, and usually only one story although some were one-and-one-half stories high.

According to George Gibbs's 1850s sketches, all but one dwelling was "Canadian fashion", and, with one exception, all had gable roofs. One dwelling remotely resembled a frame house. While the main house walls are not visible in the

sketches, horizontal and vertical boards or slabs can be seen in the shed, eaves, and front porch. Other features in Gibbs's sketches include sheds attached to one or more of the house walls, and some houses with chimneys.

Archeological excavations indicated the location of thirteen pre-1846 HBC structures. Several have been tentatively labeled using Covington's 1846 map as "Charlebois's", "Little Proulx's", "Billy's", "Kanaka's", "John Johnson's", and a corral.[23] One other building has been tentatively identified as being occupied by Joe Tayenta prior to 1850. Only a few of the existing investigations yielded enough information to identify construction details about the structures.



1851 illustration by George Gibbs. View east from Kanaka Village towards the stockade. Note the Canadian style buildings, the fences, and the four large Douglas-fir trees along Lower Mill Road and one west of the stockade. Fort Vancouver N.H.S. photo file.

John Johnson House

John Johnson's house, constructed between 1825 and 1835, was a twenty by thirteen foot rectangle with a compacted silt loam floor and pile-in-the-ground foundation. In 1846, the structure was enlarged to twenty by nineteen feet and a fence enclosed the yard. Additional outbuildings that were also excavated were probably associated with the 1846 building. Between 1846 and 1857, the structure was enlarged again to

thirty-three by twenty-one feet. It was apparently rented by the army in 1854 and described as a one-story log structure. It was demolished in 1857.[24]

Billy's House

The building labelled as Billy's belonged to William R. Kaulehelehe, a Hawaiian preacher. Documentation suggests the building was twenty-five by forty feet, one-and-one-half stories, covered with clapboard, and had an east-west oriented gable roof covered with shakes or shingles.[25]

Kanaka's House

According to the 1851 Gibbs sketch, Kanaka's house was a one-and-one-half story building with horizontal clapboards, a chimney, and multiple additions attached to the main structure. Additions included a shed on the west, a porch on the south, and possibly a root cellar attached to the porch. The dwelling was gone by 1855.

Corral

A corral, located off of Upper Mill Road, across from Lattie's, Duchenee's and Proulx's dwellings, is depicted on an 1846 map and 1851 illustration. It appears to be a three-rail zigzag fence, approximately eighty by forty feet in size.

River Front Area

As with the other structures located outside the stockade and Kanaka Village, little is known about the construction of buildings in the river front area. Based on the construction of other key stockade buildings, the buildings at the river front were probably also Canadian style buildings.

Sheds

Research indicates there were two sheds in the river front area. The 1846 map shows two sheds southeast of the pond, and the 1846-47 inventory lists a one hundred by twenty-four foot boat shed and a ninety by thirty foot building shed. Presumably the sheds on the inventory and map are the same; however, the boat shed on the map measures

approximately ninety by forty feet while the shed is about fifty by twenty-five feet. The boat shed on the 1846 map had a gable roof. The construction dates and building styles are presently unknown, although, in 1849, it was noted that the boat houses were "fir posts stuck in the ground, with slab roofs."

The sheds were apparently used for shipbuilding which began early in Fort Vancouver's history. The shipyards were used to build barges, "York boats", and other Columbia River transport boats, and some attempts were made to build ocean craft.

Salmon House and Wharf

Southwest of the pond, on the shore of the river, there was a salmon store or "fish house", used to store cured salmon. On the 1846 Covington map this building measures about one hundred by forty feet and had a hipped roof. The construction date and building style is unknown. The structure may have been more substantially constructed than other buildings in the area because, the army proposed the salmon house be moved rather than be demolished.

Attached to the salmon store was a wharf or jetty that measures about one hundred by twenty-five feet and extends into the water. It probably dated to the time of the construction of the new stockade in 1828-29. In the 1830s, it was noted there were two or three landings on the river, the one referred to as the "lower one" appeared to be the salmon store wharf.

Tan and saw pits

On the 1846 map, but not listed on the inventory, are two structures labeled "tan pits", and one structure labeled "saw pit". The tan pits measure about ten by fifteen feet and eight by eight feet on the 1846 map, and were located east of the pond. These pits were presumably used to process hides, probably mainly cattle hides, and were likely not in use until after 1836 when McLoughlin allowed the first cattle to be killed. The type of construction has not been identified.

South of the tan pits was a saw pit, which measures about forty by ten feet. The date of its construction and type of structure is unknown.

Hospital

A hospital, located east of the boat sheds near the river, was listed in the 1846-47 inventory as being thirty-two by twenty-two feet. The hospital on the 1846 map measures slightly larger at about forty by twenty feet. The hospital may have been built as early as 1833, and according to a couple of sources, existed at least by 1838-39. Other than a reference stating there was "a flimsy structure used as a hospital", little other information about the building exists. In 1841, it was noted that the hospital was stockaded and according to the 1846 map, the area north and northwest of the hospital is enclosed (for more details, see the discussion on fences in the "Small-scale Features" section).

Salt House

East of the hospital, near the termination of the river road, was a building used for storing salt imported from Hawaii and England, and used for pickling and curing the Company's salmon, beef, and pork. The building probably dated to the late 1820s. The building measures about thirty by twenty-five feet on the 1846 map, but was listed in the 1846-47 inventory as twenty-seven by twelve feet. Presently, no other information about the structure is available.

Cooper's Shop

Due west of the pond was a "Cooper's Shop" where the Company's barrels were made for shipping salted pork, beef, and salmon. The structure may have dated back to the early 1830s, but it was definitely in use by 1841. On the 1846 map it measures approximately twenty-five by twenty-five feet. The cooper's shop may not have been very substantial according to an 1846 reference which noted the shop was a shed through which the wind and rain blew. According to the 1846 map, the cooper's shop was enclosed on the south and east sides. Research suggests it may have been approximately in the center of a stockade-like enclosure,

excavated in 1975 and 1977, that extended down to the hospital (see section on "Small-scale Features").

Employee Dwellings

The 1846 map indicates five "servants" dwellings were located in the river front area. Two were located near the hospital and are labeled "Smith's" and "McLean's". They measure about forty by twenty feet, and twenty-five by fifteen feet, respectively. Northeast of the pond and north of the cooper's shop, were two more dwellings, both located within an enclosure. The northernmost, approximately forty by twenty feet, was occupied some time prior to 1849 by a HBC employee named Scarth. The other was about thirty by fifteen feet and was occupied by HBC employee Robert Johnson. The Scarth, Smith and Johnson houses were later rented to the U.S. Army. The fifth house was a smaller structure, about eighteen by eight feet, located east of the salmon store. The dates of construction for these dwellings are unknown, although at least one dwelling existed "on the bank of the river" in 1841. It is not known if these dwellings resembled the employee dwellings located in Kanaka Village.

Livestock Structures

In 1846, west of the pond and lining the south side of Lower Mill Road, there was a horse stable, an ox stable and two pig sheds. The 1846-47 inventory lists a 105 by 20 foot stable, but on the 1846 map, the stable only measures forty by twenty-five feet. The larger stable on the inventory may have referred to the *Modeste* stable farther east on Fort Plain. The ox stable, listed as the "ox byre" on the inventory, was forty by twenty-five feet. Two pig sheds on the 1846 map measure about one hundred by fifteen feet each; however, the inventory only lists one piggery at forty by twenty feet. The horse and ox stable appear to have housed working animals for the fort. Details about the dates of construction and the types of construction for these structures are unknown.

Distillery

On the 1846-47 inventory, there was a 132 by 18 foot distillery listed. It was not, however, illustrated on the 1846

map. In fact, its location in the river front area cannot be confirmed until the 1850s when it was noted that a distillery was located near the boat houses and bridge. The distillery apparently was used to make beer and whiskey from barley.

Bridge

A bridge, crossing the narrow mouth of the pond connected to the Columbia River, was first depicted on the 1846 maps. There is no information available on its exact location, or on when and how it was constructed.

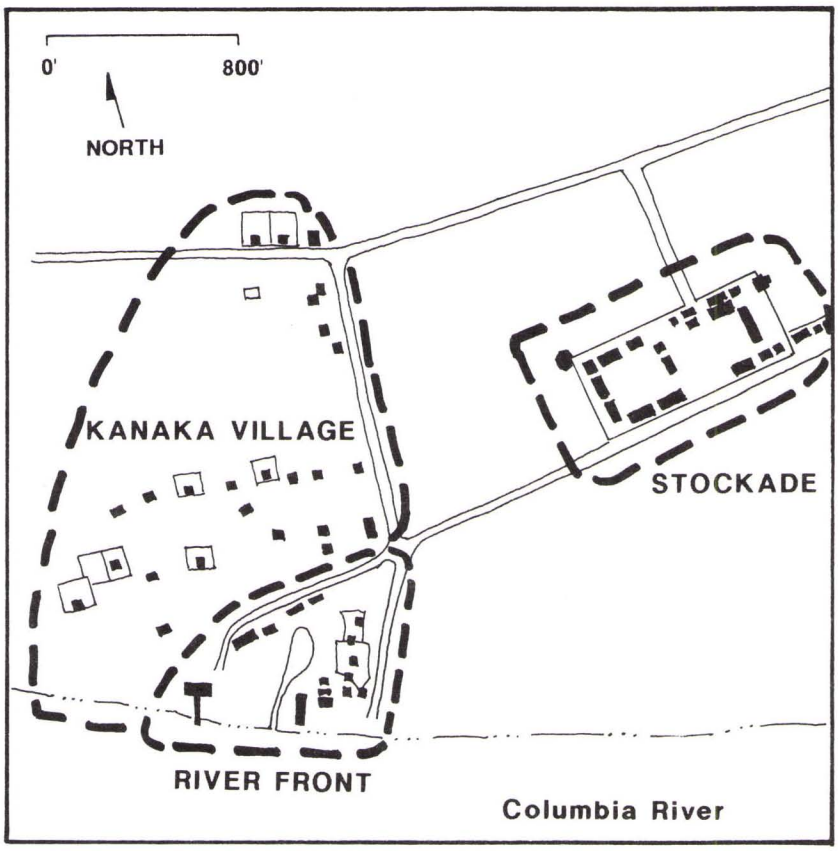
Structures Summary and Analysis

Historically, documentation suggests that most of the structures at Fort Vancouver were built in the Canadian style. This type of construction was used throughout Canada during this period and was common in the fur-trade industry. The large number of structures constructed by the HBC on Fort Plain were significant features of the Fort Vancouver landscape.

Today, there are no extant historic structures at Fort Vancouver. There are, however, several structures that were reconstructed in the 1960s and 1970s from extensive archeological, historical, and architectural investigations. Reconstructed structures include the fort stockade and eight buildings within the stockade. The fur store (or warehouse IV) is the latest stockade reconstruction (the eighth). It is currently under construction and will serve as a curatorial storage and exhibit space. These reconstructions are contributing features of the cultural landscape and are listed in the National Register of Historic Places.

Presently, in situ structural features, both excavated and undiscovered, constitute the most significant structural features of the cultural landscape. Numerous archeological excavations and studies have revealed a vast amount of historical and architectural information about fur-trading and agricultural operations related specifically to Fort Vancouver, and to the Hudson Bay Company operations as a whole.

CLUSTER ARRANGEMENTS



Schematic map of the western third of historic Fort Plain showing cluster arrangements.

Clusters of buildings at Fort Vancouver were characterized by groupings of individual features and structures defining land use activities and overall historic landscape organization. There were three distinct concentrations of features at Fort Plain, **the stockade**, **Kanaka Village,** and **the river front area.**

Stockade

From its beginning, the stockade served as the heart of Fort Vancouver, containing the primary cluster of structures that were essential to the wide variety of trading and farming operations. The stockade expanded several times during its existence. The new stockade, constructed on Fort Plain in 1829, was roughly a square enclosure, 320 by 318 feet, that contained nine to eleven structures during the period between 1829 and about 1836. Buildings were arranged along the interior edges of the stockade, generally in a U shape, with the open end of the U along the north wall (the Chief Factor's House may have been centered at this end).

The only gate in the stockade was located approximately in the center of the south wall. Other structures included privies, several fences, a well, a belfry, and a flagstaff.

Activities in the open space of the stockade were noted as "... all the indoor work of the establishment...", and included an assembly area for Indians with their various trade articles, a work area where Canadian employees beat the furs, and on at least one occasion, a round-up corral for horses.

Between 1834 and 1836, the stockade was enlarged to the east an additional 180 feet to an overall size of 660 by 318 feet. A new gate was added on the south and north side of the structure. The interior now consisted of two open spaces or courtyards; the original western courtyard, and the new eastern courtyard which was surrounded by new buildings. By 1841, there were at least twenty buildings and a number of new small-scale features, including cannons that were located in front of the Chief Factor's House.

Between 1841 and 1846, when Fort Vancouver had reached its maximum development and influence, the stockade measured approximately 734 by 318 feet. During this period several new structures were built including a bastion, bake house (third), iron store, and storehouse. In addition, the uses of some existing buildings changed. The spatial organization still essentially consisted of two courtyards, although there were only two buildings remaining on the east side of the west courtyard. In 1846, one of these remaining buildings, the old Catholic church, was demolished. After the old office was demolished, probably after May of 1847, the interior of the stockade became, and remained until 1860, one large, open courtyard.

Small-scale features in the stockade in 1844 included privies, a belfry, a flag staffs, three wells, two cannons, and numerous fences. Research suggests that the surface material in the stockade was primarily dirt and possibly some volunteer native grasses. Other than the small gardens and grapevines at the Chief Factor's, the interior was devoid of vegetation.

Between 1846 and 1860, more changes occurred at the stockade. The stockade reached its largest size, approximately 732 by 325 feet, old buildings were replaced

and some new ones added, and some building functions changed. Although research indicates some maintenance of the buildings continued in this period, lack of resources to maintain the fort as a whole, also affected the stockade. By 1853-54, the buildings were apparently old and decayed, with only minimal maintenance measures in force. When the fort was abandoned in 1860, twenty-two structures were still standing, but most were described as "uninhabitable" or in a "ruinous condition".

Kanaka Village

The overall organization of Kanaka Village remains sketchy. Historic maps, with their small scales and widely varying orientations, offer little consistency in determining any details about exact dwelling locations or road patterns. The village may have been organized along streets or lanes according to the occupants' nationalities. For example, in 1843 it was noted that "In the lower town was a street for Canadians, one for Kanakas, and one for English and Americans." Documentation indicates dwellings were located along the river road, and on other east-west oriented roads located west of the river road. Several of the dwellings had yards or gardens enclosed by fences, and a corral was located near the intersection of Upper Mill Road and the river road.

Archeological projects have excavated several structures that have been identified according to Covington's 1846 stockade map. "Charlebois's", and "Little Proulx's" dwellings are located along river road, near the intersection of Upper Mill Road. "Billy's", "Kanaka's", and three other structures are located west of the stockade along an east-west running line. Although none of the maps from the 1840s show a road in this area, their siting in an east-west oriented direction and the existence of a road in this location on the 1851 Gibbs's sketches, indicate a road was located south of the buildings. Other excavated dwellings south of the above structures include, one identified as "John Johnson's", and two unidentified structures. The unidentified structure between John Johnson's and Billy's may be, due to its relative position on the 1846 map, a dwelling occupied prior to 1850, by Joe Tayenta.

River Front

Southeast of Kanaka Village, along the river was another large cluster of buildings related to industrial activities such as, tanning, shipping and storing goods, shipbuilding and repair, coopering, and, for a time, distilling. Employee dwellings, sheds, and stables were also located in the area. The exact locations and number of structures in this area are unclear. According to the 1846 Covington map there were nineteen structures including a horse stable, an ox stable, two pig sheds, five "servants" dwellings, a cooper's shop, two tan pits, a hospital, a salt house, a saw pit, two sheds (at least one a boat shed), and a salmon house attached to a wharf or jetty which extended out over the river. The 1846-47 Company inventory generally agrees with the 1846 map, but does have some discrepancies in the number and sizes of the structures listed.

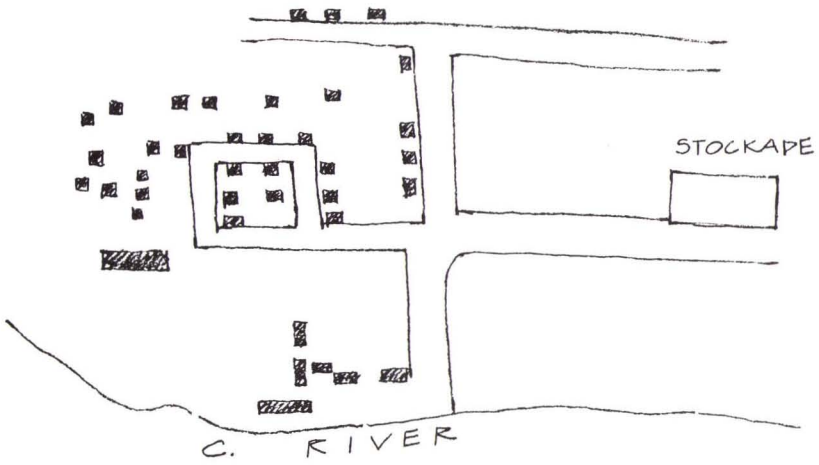
Overall, the industrial activities were located closest to the river, the stables were along the west and northwest side of the pond, and the dwellings east of the pond. Access to the area was from the river and two roads, Lower Mill Road and the river road. The size, configuration, and location of the pond remain unclear. In 1846, a bridge was shown crossing the narrow pond inlet. Differences in pond characteristics between historic maps may be due, in part, to changes inherent in the rise and fall of the Columbia River.

Cluster Arrangement Summary and Analysis

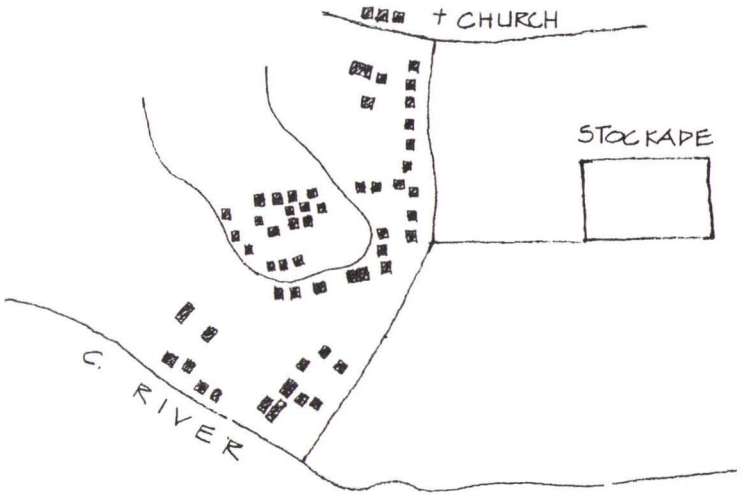
The three distinct building clusters at Fort Vancouver were characterized by the concentrations of features based primarily on land use activities, materials, circulation, and the overall landscape organization. The stockade, Kanaka Village, and the river front area represented administrative, residential, and industrial land uses. While the stockade cluster is fairly well documented, detailed information remains unclear about the number, type, arrangement, and locations of structures in Kanaka Village and the river front area.

Today, there are no extant historic features remaining from these clusters. The site of Kanaka Village and the river front development have been extensively altered by development

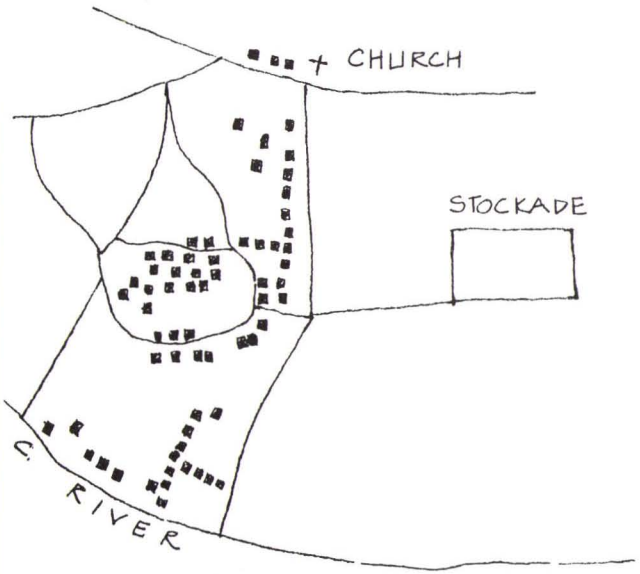
Facing page:
Schematic drawings of Kanaka Village showing the variety of layouts depicted on different historic maps.



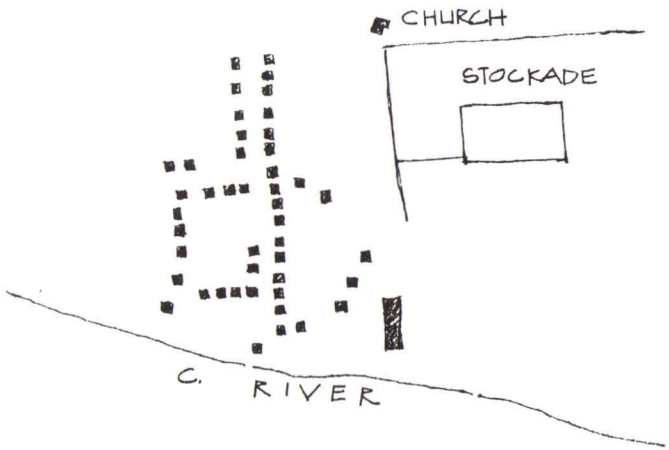
"Sketch of the Environs of Fort Vancouver" H.N. Peers 1844



"Sketch of Fort Vancouver and adjacent Plains"
M. Vavasour 1845 (original in British Foreign Office)



"Sketch of Fort Vancouver and adjacent Plains"
M. Vavasour Lieut. Royal Eng. 1845

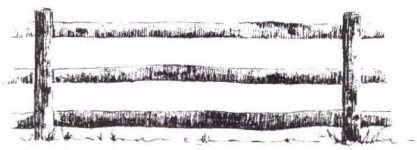


"Fort Vancouver and U.S. Military Post with Town Environs"
R. Covington 1859

including buildings, major roads and highways, and the railroad embankment. In addition, portions of Kanaka Village and the river front area are not within the National Historic Site boundaries. Reconstructions of the stockade and eight buildings provide some understanding of the stockade's internal arrangement, land use activities, and the extent of the stockade's development ca. 1846. Excavated and undiscovered 'in situ' features, in all three cluster arrangements, possess significant archeological integrity.

SMALL SCALE FEATURES

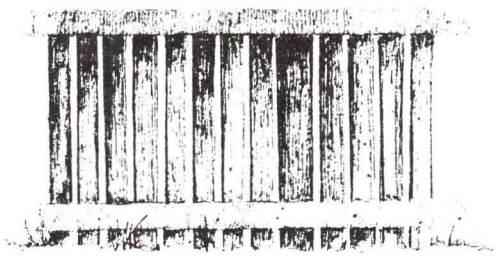
Numerous small-scale features such as fences, wells, gates, flagstaffs, and belfries were historically found within the stockade and in the surrounding developed landscape.



Fences

Stockade interior fences

Throughout the historic period, numerous fences associated with individual structures were constructed in the stockade. Research indicates there were twenty-one fence lines constructed in the stockade. Only two have been located archaeologically, one extending from the northwest corner of the Chief Factor's House to the stockade wall, and one in



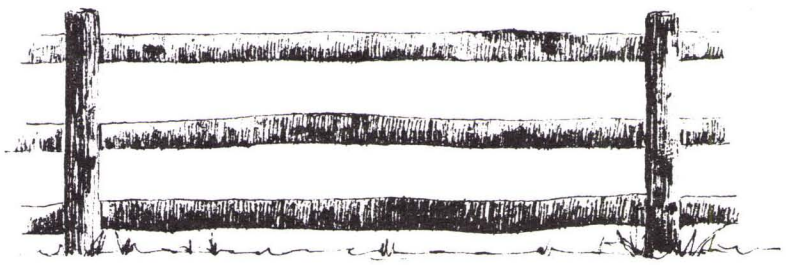
Sketch of the reconstructed historic white picket fence enclosing the garden beds in front of the Chief Factor's house.

front of the Chief Factor's House on the east side. Most of the fences were connected to the back of a building and extended to the stockade wall. The only historic depiction of a fence in the stockade is from an 1860 Boundary Commission photo. This photo shows a vertical board fence

extending from the Chief Factor's House to the north stockade wall. The fence is about six feet tall, with eight to ten inch wide boards. In front of the Chief Factor's House there was a low white, wood picket fence which enclosed flower beds.

Garden fences

The garden was enclosed by a wooden fence on all sides, but illustrations do not agree if the fences are zigzag (common rail, Virginia rail), post and rail (pole), or a combination of the two styles. The majority of the drawings show post and rail (pole) fences are constructed around the garden. Based on the historic illustrations, the fences have three or four rails, the posts are eight to ten feet apart on center, and the fences are four to five feet tall. These dimensions coincide with details for other nineteenth century American fences.[26]

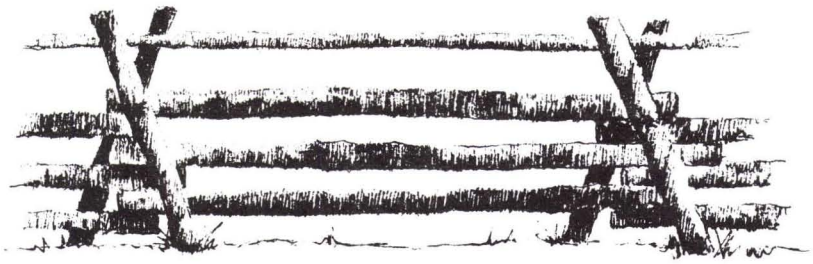


Sketch of the post and rail fence depicted in the 1846-47 Stanley painting.

Orchard fences

The fence around the orchard extended west from the southwest corner of the stockade, along Lower Mill Road to the river road, where it continued north to Upper Mill Road, then east to the west edge of the garden. The type of fence surrounding the orchard in 1844 is unknown. Illustrations and maps from the mid-1850s provide the only clues to what styles existed in the historic period. The majority of the maps and illustrations show the north and south fences as post and rail (pole) fences, and the west fence zigzag style.

It is also difficult to reach a consensus on details about the orchard fences. Illustrations suggest the posts are eight to ten feet apart on center, the fences are four to five feet tall, and there are three to four rails. Zigzag fences are depicted with either three or four rails per panel. The zigzag fence in the Covington drawing has four rails per panel plus a top rail resting between the diagonal members.



Sketch of the zigzag (or Virginia rail, or common rail) fence depicted in the 1855 Covington illustration.

Cultivated field fences

As with the garden and orchard, illustrations were not consistent in terms of fence styles used to enclose cultivated fields. Some illustrations show post and rail, some zigzag, and others a combination of the two.

The use of a combination of zigzag, post and rail, and picket fences, was an established pattern on the eastern seaboard that moved west in the nineteenth century. Generally, more ornamental fences were used around key structures, and less ornamental and more utilitarian fences used as you move away from the structure. For example, in nineteenth century Oregon, picket fences were used immediately around dwellings, post and rail fences around adjacent fields, and zigzag fences in outlying areas. This pattern, which was shown in illustrations of Fort Vancouver in the 1850s, may also have been used during the historic period.

Kanaka Village fences

According to the 1846 Covington maps, several of the dwellings in Kanaka Village are enclosed by fences. The

Gibbs sketches from 1851 show structures enclosed by post and rail fences. Fences were used as enclosures to keep livestock from wandering freely through the area. The corral near Upper Mill Road is shown as a zigzag fence in the Gibbs sketch (remnants of this structure were located during archeological excavations).

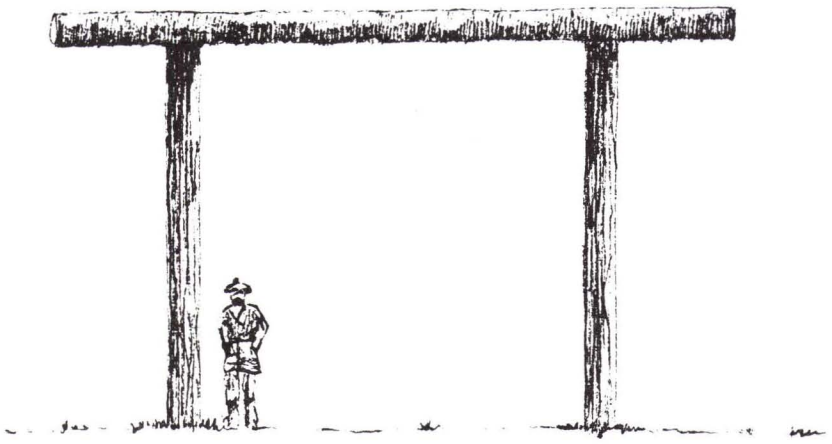
River front area fences

According to the 1846 Covington map, there are several connected enclosures in the area east of the pond. Two dwellings, Scarth's and Robert Johnson's were located in an enclosure. There is also a triangular shaped enclosure east of the tan pits, and a large enclosure extended from the cooper's shop, around McLean's house, to the hospital.

The type of enclosure or fence remains unclear. Archeological excavations from 1975 and 1977 uncovered a three sided enclosure near the projected location of the hospital and cooper's shop. The enclosure was a stockade-like structure with six to seven inch posts or pickets, and a gate located forty-seven feet from the northeast corner, along the east side. Research suggests that the configuration of this structure differed from the 1846 map by extending south of Robert Johnson's and enclosing the cooper's shop, rather than beginning at the cooper's shop. The excavated fence may have reflected a different time period than the 1846 map.

Gate

According to the 1846/47 Stanley painting and 1846/47 Kane sketch, there was a large gate, consisting of two vertical posts and a horizontal beam, located west of the stockade. It appears to be located near the intersection of Lower Mill Road and the river road, spanning Lower Mill Road from north to south. The location of a gate at this site is highly conceivable. It may have acted as a formal entry to the stockade from the river, the main access to the stockade, and possibly as a dividing point between the stockade and Kanaka Village. While not indicated on the two 1844 maps, or illustrations and maps after 1846/47, it probably existed in this location in the mid-1840s.



Conceptual drawing of the entry gate, based on the 1846 Stanley painting.

Garden cold frames

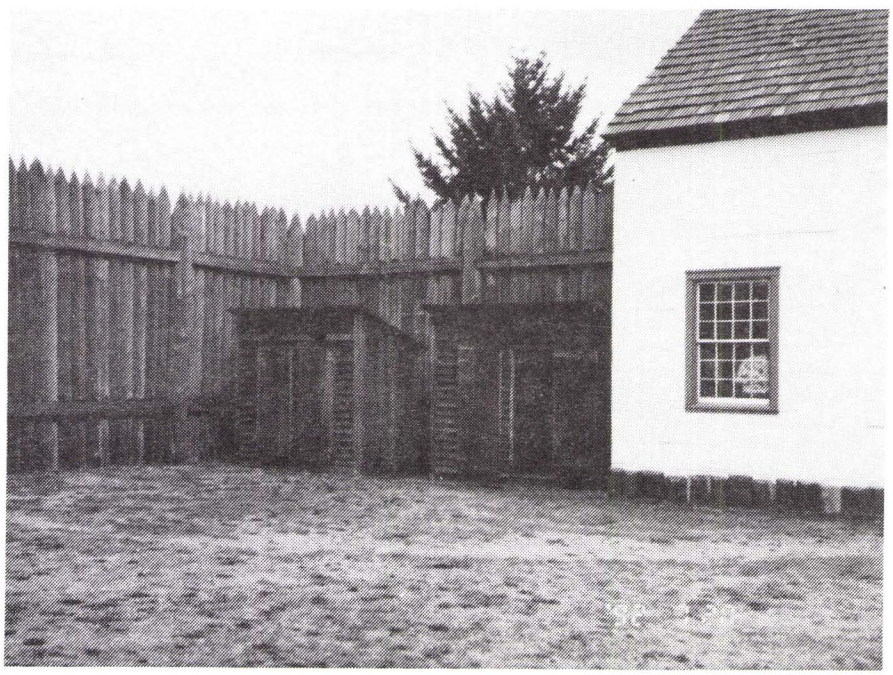
The four or five small, gable-roofed structures on the east edge of the garden, were probably the cold (or hot) frames referred to in the literature where dahlia seeds and melons were grown. It is likely other flowers, fruit, and vegetables, such as the early frame cucumber found on a HBC Columbia Department seed list, were also grown in these frames. The frames appear in both the 1846 Stanley and the 1855 Sohon illustrations, but details about the complete number of frames, sizes, and type of construction, is not known.

Privies

Archaeological studies have revealed that, throughout the stockade's history, privies were located between the back sides of buildings and the stockade walls. A total of thirty-three privies spanning the life of the stockade, have been found. Sixteen of these appear to have existed in 1844-46. An 1860 Boundary Commission photo, showing two privies, provides the only clues on the construction of these structures. The privies, built along the eastern wall of the stockade, were small wood structures with horizontal timbers on the front and vertical timbers on the sides, and shed roofs. The northernmost structure had two doors.

Wells

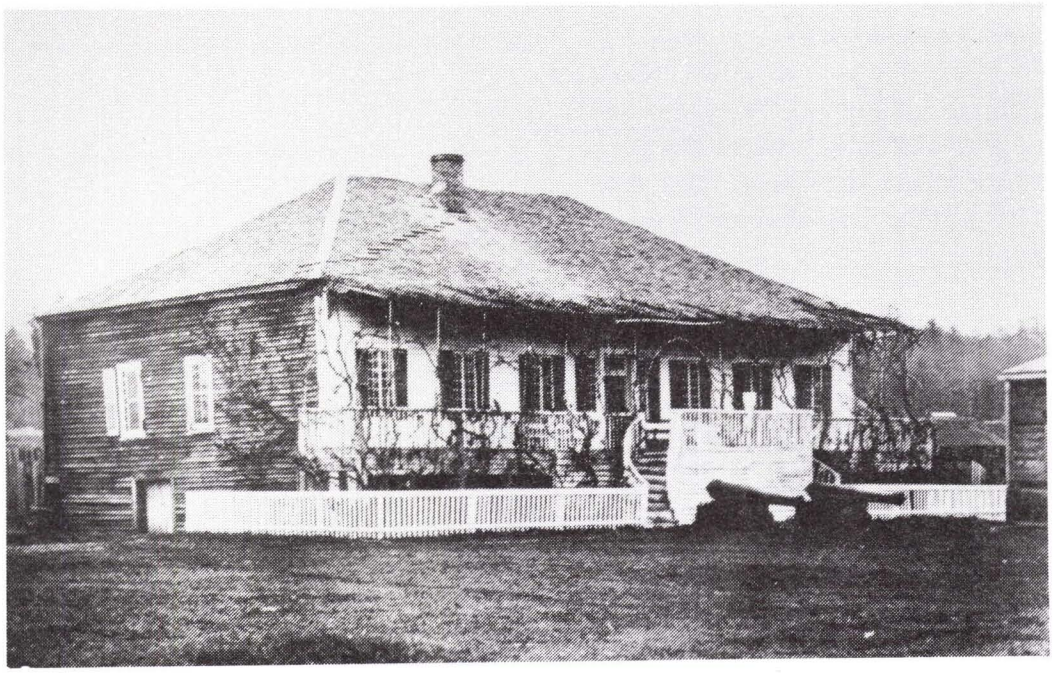
Presently, five wells have been discovered by archaeologists in or near the stockade. Of the four wells located in the stockade interior, the first, second, and third wells all existed in 1844/46. The first well was south of the beef store. The second well, north of the beef store, was apparently covered with a well house that measured twenty-four by eighteen feet. A 1952 excavation revealed a pit, fifteen feet deep by fifteen feet square, with rounded corners. There was no evidence of walls or other structural elements until the bottom of the pit where a well shaft, less than five feet square and cribbed with six inch by eight inch timbers, was discovered. The third well was in the northeast corner near the wash house, and was also excavated in 1952. It is a circular shaft, 5.2 feet in diameter, lined with boulders averaging 13 inches in thickness. The fourth well dated from between 1854 and 1860 and was located near the center of the stockade.[27] In 1991, a feature preliminarily identified as a fifth well, was discovered along the southern edge of the garden near the north stockade wall. The date of this well and type of construction is unknown.



Two reconstructed privies located north of the reconstructed third bakery, 1992. Pacific Northwest Region photo file.

Belfries

Three belfries existed during the stockade's history. The location of the first belfry, noted in the 1830s, is unknown. The second belfry existed from 1841 to about 1855, and was located due north of the new office. According to the Coode watercolor it was a tall pole, with short horizontal boards (probably foot supports) spaced at equal intervals, with a bell on top. It was rung by pulling a rope that was attached to a projection on the bell. The third belfry was located approximately in the center of the stockade and existed from about 1855 to 1860. The bell was used to signal work, church services, and other daily and weekly activities.[28]



1860 British Boundary Commission photograph of Chief Factor's house. Note small-scale features such as the vertical board fence, white picket fence, cannons, and privies. Fort Vancouver N.H.S. photo file.

Flagstaffs

There were three flagstaffs built in the stockade during its existence. The location of the first flagstaff is unknown. In 1844-46, a second flagstaff was located southeast of the second fur store. This flagstaff, according to 1840s sketches, was a simple one-piece mast. The third flagstaff was a hypothetical flagstaff possibly located under the porch of the Chief Factor's House.

Cannons

Two "Governors guns" or eighteen-pounder cannons and carriages, were located in front of the Chief Factors house from about 1837/38 to 1860.

Unidentified wooden structure

A wooden structure in an 1851 sketch, located in the vicinity of the stockade, has tentatively been identified as a hitching post. The structure consisted of a horizontal pole (or rail) on top of three wood posts. The center post was twice as tall as the other two posts, and twelve small wood vertical posts extended from the horizontal pole at regular intervals.

Small-scale Features Summary and Analysis

Historically, there were numerous small-scale features present in the cultural landscape that, served functional needs for the fort (wells, privies, belfries, cannons, and flagstaffs), aided in the overall organization of the landscape (fences and gates), and provided ornamentation (fences and cannons).

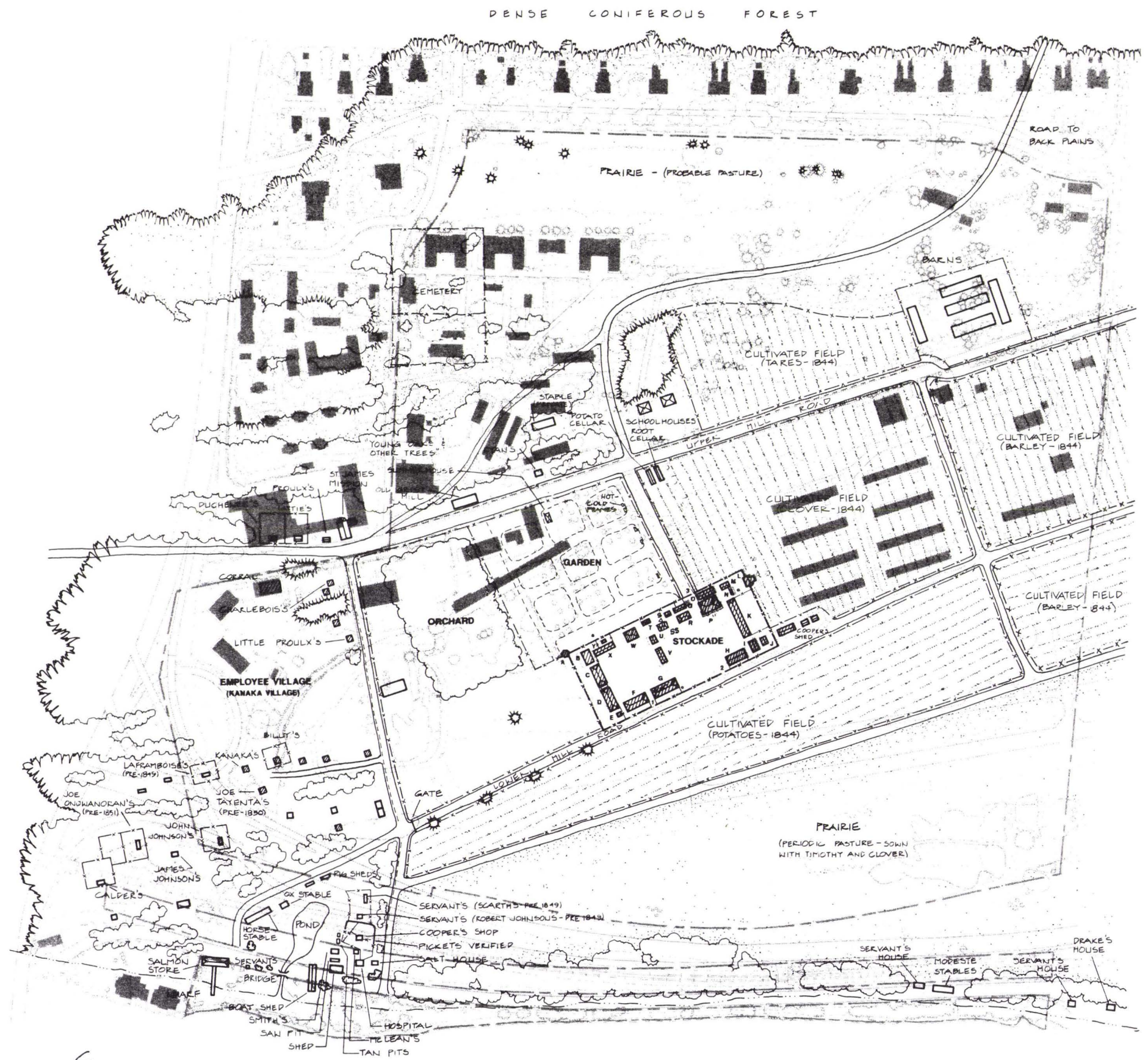
Today, other than the third well (1845-1860) in the northeast corner of the stockade, there are no extant historic small-scale features present at Fort Vancouver. However, in situ remnants of features such as the privies, wells, flagstaffs, belfry, smudge pits, and fences, as well as undiscovered features, are significant archeological resources.

Several small-scale features have been reconstructed for interpretive purposes such as wood post and rail fences enclosing various areas of the park, board fences inside the stockade, replicas of the two eighteen pounder cannons and carriages, and the white picket fence in front of the Chief Factor's House.

STOCKADE:

- A BASTION
- B GENERAL STORE IT
- C SALE SHOP
- D NEW STORE
- E POWDER MAGAZINE
- F PROVISION STORE (1ST FUR STORE)
- G 2ND FUR STORE
- H INDIAN TRADE STORE (DISPENSARY, MISSIONARY STORE)
- I 2ND BLACKSMITH'S STORE
- J IRON STORE
- K BACHELOR'S QUARTERS
- L 3RD BAKERY
- M HARNESS SHOP (2ND BAKERY)
- N WASH HOUSE
- O 2ND KITCHEN
- P CHIEF FACTOR'S HOUSE
- Q ONYHEE CHURCH, SCHOOLHOUSE, CHAPLAIN'S KITCHEN
- R PRIEST'S HOUSE
- S JAIL
- SS NEW OFFICE
- T 2ND CARPENTERS SHOP
- U OLD OFFICE
- V OLD CATHOLIC CHURCH
- W WHEAT STORE
- X BEEF STORE (GENERAL STORE IB)
- Y WELL
- 1 SOUTHWEST GATE
- 2 SOUTHEAST GATE
- 3 NORTH GATE

STOCKADE PICKETS VERIFIED



NOTES:

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- THIS MAP ILLUSTRATES THE WESTERN 1/3 (APPROX.) OF FORT PLAIN.

SOURCES:

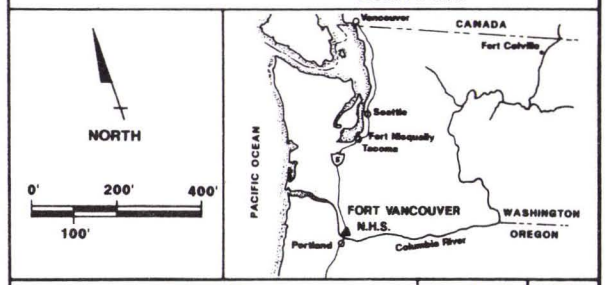
HISTORIC MAPS, DOCUMENTS AND PHOTOS ON FILE, FORT VANCOUVER N.H.S. ARCHEOLOGICAL REPORTS AND MAPS ON FILE, FORT VANCOUVER N.H.S. EXISTING CONDITIONS DOCUMENTATION AND FIELD INVENTORY (1991).

BASE MAP: CITY OF VANCOUVER (1990) AND [illegible]
PROJECT ENGINEERS: [illegible]

LEGEND:

- VERIFIED STUCTURE
- STRUCTURE
- VERIFIED DIRT ROAD
- DIRT ROAD
- VEGETATION (COMPOSITION UNVERIFIED)
- CONIFEROUS TREES
- CULTIVATED FIELD
- [illegible]
- [illegible]
- PRAIRIE (NATURAL)
- STOCKADE PICKETS
- WOOD FENCE
- FLAGSTAFF (STOCKADE)
- WELL (STOCKADE)
- BELFRY (STOCKADE)
- SHORELINE
- PATH

VICINITY MAP



TITLE OF SHEET
HISTORIC BASE MAP
HUDSON'S BAY COMPANY ca. 1844-1846
HISTORIC PERIOD

CULTURAL LANDSCAPE REPORT:
FORT VANCOUVER NATIONAL HISTORIC SITE

DRAWING NO.	SHEET
389 / 80030a	2 OF 5

DESIGNED:
DRAWN: T TAYLOR
DATE: 10/92

HISTORIC CHARACTER AREAS

Based on the historic research and landscape analysis, seven historic character areas were identified in the landscape evaluation. Character areas are defined by the historic land use patterns, the physiographic qualities of the landscape (topography, vegetation, natural features, etc.), the historical significance of the area, the type and concentration of cultural landscape resources, and visual character. These character areas define the overall historic landscape organization of Fort Vancouver.

ADMINISTRATIVE AREA
Stockade

The stockade served as the administrative headquarters and supply depot for all Fort Vancouver operations. It was located in the western third of Fort Plain, on gently sloping land above the normal flood zone. The stockade was a dense concentration of structures that included administrative buildings, dwellings, service and civic buildings, and industry-related structures. The primary architectural style of the buildings was Canadian style, a style common to Canada and the fur-trading industry. The buildings were sited along the perimeter of the stockade and the interior of the stockade was divided into two courtyards. Generally, service buildings were primarily located in the western courtyard (storehouses), and a variety of buildings were located in the eastern courtyard (dwellings, administration, industry). In addition to the structures, there were numerous small-scale features including fences, belfries, wells, flagstaffs, cannons, and privies. The stockade was the administrative and geographical core of the landscape.

AGRICULTURAL AREAS
Cultivated Fields, Pastures, the Garden, and the Orchard

In addition to fur-trading operations, Fort Vancouver also developed into a vast agricultural enterprise. Individual agricultural operations which consisted of cultivated fields, livestock pastures, the garden, and the orchard, developed into distinct character areas.

Agricultural fields were located on the gently sloping river plain (but above the normal flood zone), on open land that was easily cultivated. The fields were located north, east, and south of the stockade and were enclosed with fences to protect them from livestock. In 1844, cultivated crops in the fields adjacent to the stockade included barley, tares, potatoes, and clover.

Livestock pastures were located in the vicinity of the stockade but on land less suitable for cultivation such as land that frequently flooded, partially wooded land, or land located on steeper slopes. Pastures were located between the Columbia River and the stockade, and on the hill north of Upper Mill Road. The pastures were periodically seeded with timothy and clover. The pastures were not fenced and livestock were allowed to wander freely on the plain.

The garden was located directly behind (north) the stockade for easy access. It was primarily used for local subsistence by the officers of the HBC, and select visitors and guests. It also served as a pleasure garden for Chief Factor McLoughlin's guests, and as a nursery for the HBC and settlers in the region. The garden was fenced and contained about eight acres laid out in a grid pattern, with nine large beds divided by wide lanes or paths. There were a few structures and small-scale features in the garden including a summerhouse, a well, four to five cold (or hot) frames. A tremendous variety of fruit trees, vegetables, and flowers were cultivated in the garden.

The orchard was located due west of the garden and was easily accessible from the stockade. The fruit trees were planted in a grid pattern with trees planted about thirty to forty feet on center. In 1844, a fence enclosed an area between Upper Mill Road, the river road, Lower Mill Road and the garden. The planted area of the orchard was smaller than the fenced area; it extended from Upper Mill Road to a line parallel to the stockade's north wall. Documentation indicates the primary fruit trees planted in the orchard were apple trees with some peach and pear trees.

INDUSTRIAL AREA
River Front

The river front area consisted of a collection of industry-related structures located near the Columbia River shore, clustered around a pond. The buildings in the area supported mixed industrial uses including boat building, coopering, and storage facilities. In addition, there was a hospital, several dwellings, and livestock buildings. The area was defined by the Columbia River, two roads, and a coniferous forest. There was some riparian vegetation in the area.

RESIDENTIAL AREA
Kanaka Village

Kanaka Village, a cluster of HBC employee dwellings, was located west of the stockade in the oak savannah transition zone between the river plain and the conifer forest. Historically there were thirty to fifty structures in the area, arranged along streets or lanes. Documentation indicates most structures were small, wood buildings constructed in the Canadian Style. The yards of some houses were enclosed with fences. The north and east boundaries of the area were defined by Upper Mill Road and the river road, the south boundary by the river and river front development, and the west edge was loosely defined by the forest edge.

SERVICE/CIVIC AREAS
Building corridor north of Upper Mill Road, and barn complex.

There were two primary service and civic areas at Fort Vancouver, both were located north of Upper Mill Road. Structures included in these areas were barns, a stable, a grist mill, a church, schoolhouses, and a dwelling.

The west service/civic area was a loose arrangement of structures located in the oak savannah transition zone, on a gentle slope, north-northwest of the stockade. The area was located on land not as suitable for cultivation. The structures were located in close proximity to Upper Mill Road and were oriented towards stockade.

The second service area was the barn complex which was a cluster of agricultural structures located north of Upper Mill Road. It was located in close proximity to cultivated fields and the stockade for easy access. The number and specific type of structures in the area is unclear. The barn complex was sited in an open meadow with slightly steeper terrain located north of the structures.

RIPARIAN AREA

The riparian area was a lush band of deciduous riparian vegetation located along the Columbia River. This area was relatively undeveloped although the gravel beach was sometimes used informally for moorage, and a few structures were located at the east end, near the shore. The area acted as an edge between the fort's pastures and the river.

CEMETERY

The HBC cemetery was located on gently sloping land in the oak savannah transition zone northwest of the stockade. It was accessible to the stockade but separated from developed areas. The site was a partially wooded meadow with oaks, "trees in flower", and wild flowers. It was enclosed by a fence and some graves were marked by palisades or stones & logs.

LANDSCAPE CHARACTER AREAS

STOCKADE:

A BASTION
B GENERAL STORE IT
C SALE SHOP
D NEW STORE
E POWDER MAGAZINE
F PROVISION STORE (1ST FUR STORE)
G 2ND FUR STORE
H INDIAN TRADE STORE (DISPENSARY, MISSIONARY STORE)
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J IRON STORE
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L 3RD BAKERY
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O 2ND KITCHEN
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U OLD OFFICE
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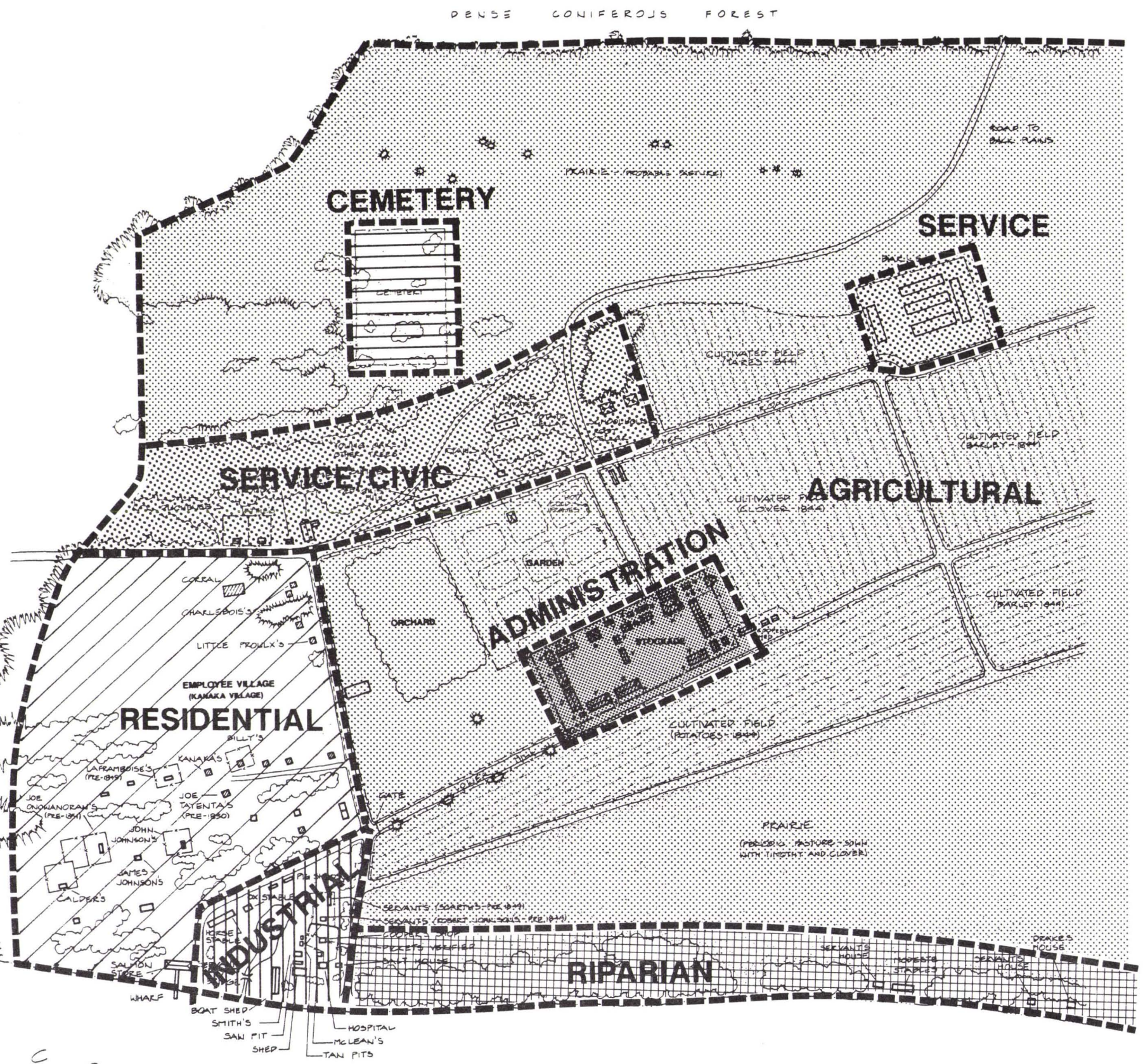
3 NORTH GATE

STOCKADE PICKETS VERIFIED



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LEGEND:

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- STRUCTURE
- VERIFIED DIRT ROAD
- DIRT ROAD
- VEGETATION (COMPOSITION UNVERIFIED)
- CONIFEROUS TREES
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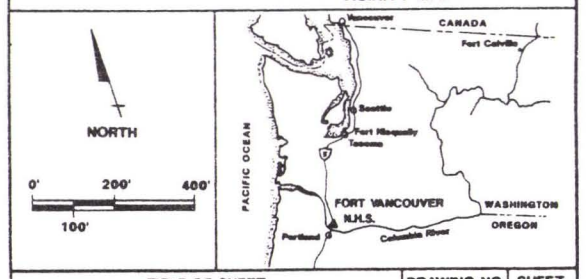
VICINITY MAP



TITLE OF SHEET

CHARACTER AREAS

CULTURAL LANDSCAPE REPORT:
FORT VANCOUVER NATIONAL HISTORIC SITE

DRAWING NO.	SHEET OF
DESIGNED:	
DRAWN: T. TAYLOR	
DATE: 12/91	

MANAGEMENT ZONES

Management zones are areas that have similar historical significance, degree of site disturbance or impact, ownership and management boundaries, and consistent land uses. Management zones are valuable as a tool to identify and establish appropriate types of preservation treatment for the landscape of Fort Vancouver.

ZONE I **Areas with historic significance relating to the HBC period with few site disturbances, the highest potential for interpretation, and are owned by the National Park Service. Reconstructed and interpretive features are included in these areas.**

ZONE II **Areas with historic significance relating to the HBC period, with more site disturbances than Zone I, a reduced interpretive potential, and are owned by NPS.**

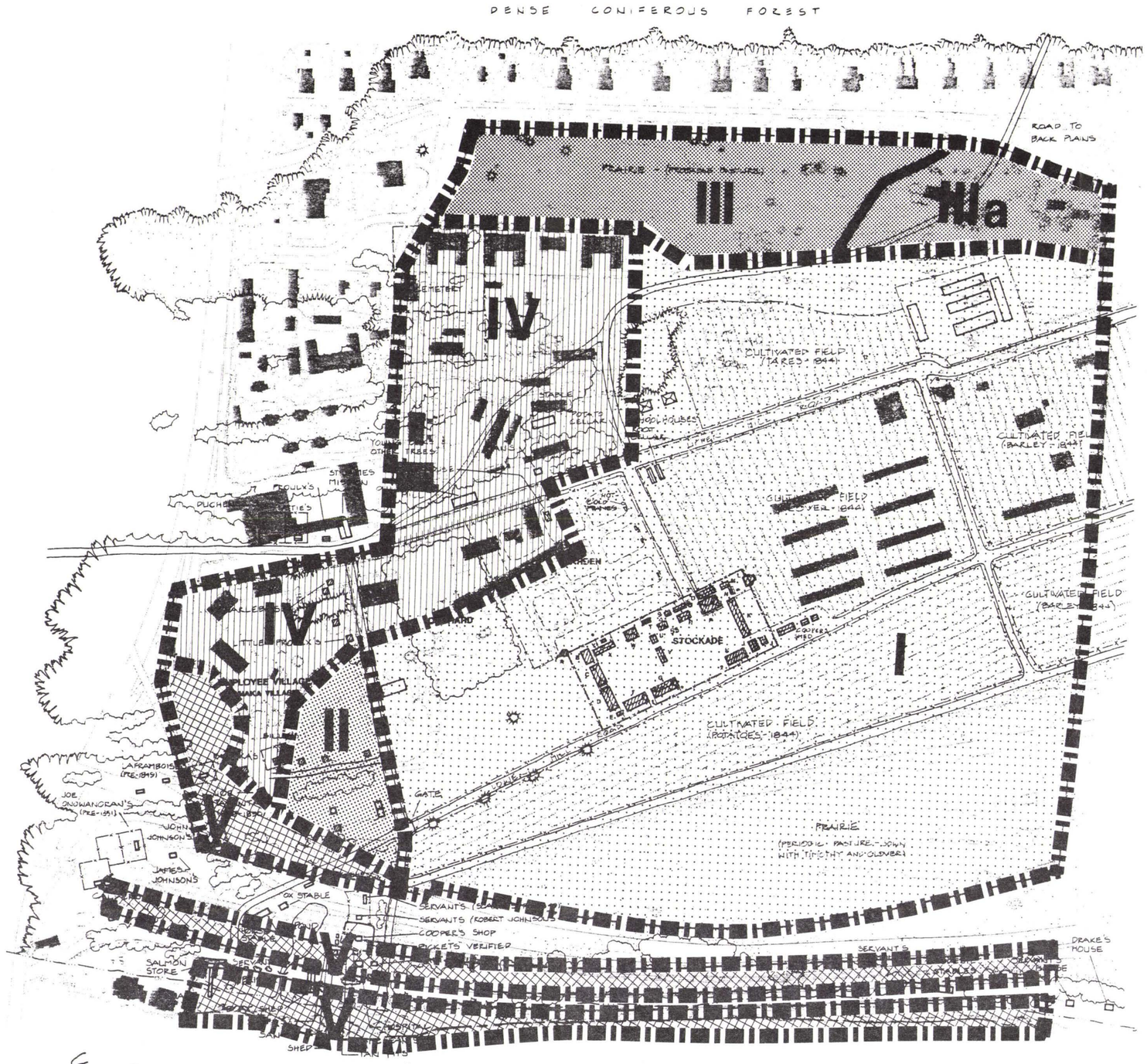
ZONE III **Areas with historic significance related to both the HBC period and Vancouver Barracks, but with potentially high historic integrity primarily associated with Vancouver Barracks, and owned by NPS.**

IIIa **Area that meets Zone III criteria and currently serves as the NPS administrative/visitor center.**

ZONE IV **Areas with historic significance related to both HBC period and Vancouver Barracks, but with potentially high historic integrity primarily associated with Vancouver Barracks, and currently owned and managed by the army.**

ZONE V **Areas with a high degree of historic significance related to the HBC period, but with little or no potential for interpretation due to extensive site disturbance. Areas are owned by NPS.**

MANAGEMENT ZONES



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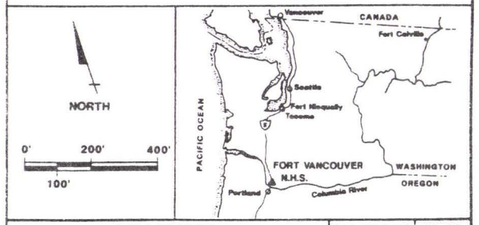
BASE MAP: CITY OF VANCOUVER (1987) 1:1000 (1" = 83.3'), 1:2400 (1" = 200'), 1:4800 (1" = 400'), 1:12000 (1" = 1000')
PROJECT BOUNDARY: UBS 3M 92001 (surveyed 1991)

LEGEND:

- VERIFIED STUCTURE
- STRUCTURE
- VERIFIED DIRT ROAD
- DIRT ROAD
- VEGETATION (COMPOSITION UNVERIFIED)
- CONIFEROUS TREES
- CULTIVATED FIELD
- PROJECT BOUNDARY
- HISTORIC RECONSTRUCTION
- EXISTING BUILDING
- PRAIRIE (NATURAL)
- STOCKADE PICKETS
- WOOD FENCE
- FLAGSTAFF (STOCKADE)
- WELL (STOCKADE)
- BELFRY (STOCKADE)
- SHORELINE
- PATH

VICINITY MAP



TITLE OF SHEET

MANAGEMENT ZONES

CULTURAL LANDSCAPE REPORT:
FORT VANCOUVER NATIONAL HISTORIC SITE

DRAWING NO.	SHEET
———	OF

DESIGNED:
DRAWN: T. TAYLOR
DATE: 12/91

ENDNOTES

1. Kruckeberg, Arthur R., The Natural History of Puget Sound Country, University of Washington Press, Seattle & London, pg. 284-286, 1991.

2. Preliminary research suggests that much of the contemporary spatial organization of the U.S. Army's Vancouver Barracks, within and outside the park boundaries, possesses significant historic integrity. Long-term planning for this area will require additional research and evaluation prior to any development or treatment of the existing complex.

3. Washington State Historical Society, Special Collections, 1825 map of the Columbia River, printed in London in 1826.

4. Garnett, Keith, Personal communication, July, 1991.

5. Preliminary documentation indicates that other existing army roads may be significant features in the Vancouver Barracks historic landscape.

6. Franklin, Jerry F. and C.T. Dyrness, Natural Vegetation of Oregon and Washington, USFS PNW Forest and Range Exp. Station, Dept. of Agriculture. Portland, Oregon, General Tech. Rep. PNW-8, 1973.

7. Washington State Historical Society, Special Collections, 1825 map of the Columbia River, printed in London in 1826.

8. The *Encyclopedia of Agriculture...* states:
"In general, beans and clover, with rye-grass, are interposed between corn crops on clayey soils; and turnips, potatoes, and clover with rye-grass in dry loams and sands, or what are technically known by the name of turnip soils. A variety of other plants, such as peas, tares, cabbages, and carrots, occupy a part, though commonly but a small part, of that division of a farm which is allotted to green crops. This order of succession is called the system of *alternate husbandry*; and on rich soils, or such as have access to abundance of putrescent manure, it is certainly the most productive of all others, both for food for man and for the inferior animals. One half of a farm is in this course always under some of the different species of cereal grasses [wheat, barley, oats and rye], and the other half under pulse [legumes-peas, tares, beans], roots [potatoes, turnips, parsnips, carrots], cultivated herbage [clover, lucern, saintfoin, sometimes-tares, sweet peas], or plain fallow. But the greater part of the arable land of Britain cannot be maintained in a fertile state under this management; and sandy soils, even though highly manured, soon become too incohesive under a course of constant tillage. It therefore becomes necessary to leave that division or *break* that carries cultivated herbage to be pastured for two years or more...; and all the fields of

a farm are treated thus in their turn if they require it. This is called the system of *convertible husbandry*, a regular change being constantly going on from aration to pasturage, and *vice versa*."

9. The garden layout of this map may have been inaccurate or schematic in quality, but the accuracy of the cartographer regarding the remainder of the map is relatively high, lending credibility to this garden depiction. In addition, several nineteenth century books recommended kitchen gardens be laid out along an east-west orientation to take advantage of more southern exposure, and that the garden be divided into beds separated by paths. These recommendations add credence to the 1844 garden layout. For example, J.C. Loudon states in his *"Encyclopedia of Agriculture"*, found in McLoughlin's library, that "The best form is a parallelogram, lying east and west, which may be intersected by walks, so as to divide it into four or six other parallelograms...".

10. One possible indication of the age of the trees is the 1846/47 Stanley drawing. This is the only illustration that shows the garden area east of the summerhouse and it does not show any trees there. If correct, this indicates the 1860 trees were, at most, thirteen to fourteen years old.

11. Hussey, John A., "Fort Vancouver Farm", prepared for the National Park Service, (Typewritten), n.d., pg. 25.

12. Loudon, J.C., An Encyclopedia of Gardening, Longman, Orme, Brown, Green, and Longmans, Paternoster-Row, London, 1834, pp. 745.

13. Other possible sources of 'grafted' trees, also post-date Dunn's stay: Tolmie may have brought back grafted fruit trees from Scotland in 1842; Henry Luelling who had the first nursery in the Pacific Northwest, and who stocked grafted trees, did not arrive in Oregon until 1847; and while there is no record of plants arriving from California, there were small areas of dwarf apple and pear trees planted there between 1852 and 1858. (Hedrick, U.P., A History of Horticulture in America To 1860, Reprint: Timber Press, Portland, Oregon, 1988, p.379.)

Previous to Henry Luelling, an attempt to transport grafted fruit trees to the Oregon territory was initiated by William Barlow, an 1845 immigrant. Barlow departed from Illinois with an assortment of Illinois' best grafted trees but abandoned the trees upon reaching Independence Rock after being advised his wagons would not survive the trip. He later recounted that his decision to forgo this endeavor probably cost him $50,000 as "there were no grafted apple trees in all the territory . . . and I could have made a full monopoly of all the apples and pears on the coast." (Carey, Charles Henry, History of Oregon, The Pioneer Historical Publishing Company, Chicagp-Portland, 1922, p. 800.)

14. The Journals of Captain Nathaniel J. Wyeth, Ye Galleon Press: p. 101, 1969.

15. Wynne, Peter, Apples: History, Folklore, Horticulture, and Gastronomy, Hawthorn Books, Inc., New York, pp. 66.

16. Loudon, J.C., An Encyclopedia of Gardening; .., Longman, Orme, Brown, Green, and Longmans, Paternoster-Row, London, 1834, pg. 742.

Even at the garden at Chiswick, in the early 1820s, a majority of the trees in the orchard were standard trees (2,000-3,000) and the remainder dwarf trees (500). In the kitchen garden a the majority of fruit trees were dwarf. Horticultural Society of London, Report of the Garden Committee..., William Nichol, Cleveland-Row, St. James, London, March 31, 1823, p. 4.

17. Preliminary research indicates other trees in the Vancouver Barracks portions of the park may have historic integrity, for example, the large deciduous trees, including oaks, located along the southwest side of the park. These trees were planted in 1883 along both sides of Dr. McLoughlin Road, a Vancouver Barracks depot road leading from E. Fifth St. to the riverfront, which dated from the early 1850s.

Significant vegetation outside the park boundaries includes the maple trees on both sides of Evergreen Blvd. that were planted in front of Officer's Row in the 1880s. These trees create a strong visual edge to the north side of the parade ground and the park's northern boundary.

18. Thomas, Bryn and Charles Hibbs, Jr., Report of Investigations of Excavations at Kanaka Village Vancouver Barracks Washington 1980/1981, Washington State Dept. of Transportation, 1984, Vol. 1., pp. 46-47.

19. Hussey, John A., The History of Fort Vancouver and its Physical Structure, Washington State Historical Society, published in cooperation with the National Park Service, Abbott, Kerns & Bell Company, Portland, Oregon, 1957, p. 162.

20. Hussey, John A., The History of Fort Vancouver and its Physical Structure, Washington State Historical Society, Abbott, Kerns & Bell Company, Portland, OR., pp. 139-161.

21. Thomas, Bryn, An Archaeological Overview of Fort Vancouver..., March, 1992, pg. 60.

22. Thomas, Bryn, An Archaeological Assessment of the St. James Mission Property, Vancouver, Washington, Archaeological and Historical Services, Report Number 100-37, Eastern Washington University Reports in Archaeology and History, Cheney, Washington, 1984, pp. 15-33.

23. Thomas, Bryn, and Charles Hibbs Jr., Report of the Excavations at Kanaka Village, Vancouver Barracks Washington 1980/1981, prepared for the Washington

State Department of Transportation, by Archaeological and Historical Services, Eastern Washington University, 1984, Vol.II, pg. 725.

24. Ibid., Vol. I, pp. 282-291.

25. Ibid., Vol. II, pg. 624.

26. Martin, George A., Fences, Gates, and Bridges, The Stephen Greene Press, Brattleboro, Vermont, 1909.

Dole, Philip, The Picket Fence in Oregon, Cultural Technical Booklet Number One, Historic Preservation Program, Univ. of Oregon, Eugene, Oregon., 1986.

27. Hoffman, J.J., and Lester Ross, Fort Vancouver Excavations-XIII, Structural Inventory, 1829-1860, U.S. Dept. of the Interior, NPS, Fort Vancouver N.H.S., May, 1976, pp. 68.

28. Ibid., pg. 60.

IV. DESIGN DEVELOPMENT

INTRODUCTION

Design development for the Fort Vancouver cultural landscape is based on the identification of significant cultural landscape resources documented in the research portion of this report and in the analysis and evaluation.

In order to develop appropriate design recommendations and a plan for management of cultural landscape resources, the park and regional staff developed design criteria based on the analysis and evaluation, existing park planning documents, and the programmatic and operational requirements of the park. Using these criteria, seven design alternatives were prepared by the regional office and reviewed by park and regional staff. Differences among alternatives centered primarily on circulation issues. Key among these issues was the management objective to restore the historic entry and choose an appropriate location for the visitor parking lot. These factors became the dominant influence in selecting a preferred landscape plan. Overall design criteria for the plan were as follows:

a. Interpret and/or reconstruct primary HBC features in order to enhance visitor understanding of all HBC operations and activities. Reconstructions must be based on the park's preservation philosophy: accurate historic documentation must be available and the feature should be critical to the interpretation of the cultural landscape.

b. Reestablish primary circulation routes whenever possible and feasible, particularly the historic arrival sequence from the historic river front area to the south side of the stockade. Provide visitor access from Highway 14. Provide visitor parking within comfortable walking distance of the stockade but out of the core historic zone (Zone I).

c. Protect primary HBC resources (Management Zone I) by not allowing any contemporary development.

d. Restore the historic character, provide visual continuity for the historic scene at Fort Vancouver, and create a stronger delineation between HBC and U.S. Army Vancouver Barracks resources.

e. The plan must meet all federal compliance, safety, and accessibility standards.

f. Screen contemporary impacts by restoring historic native vegetation whenever possible and feasible.

g. Establish a stronger interpretive link between the Columbia river front (NPS property) and the core historic area.

h. Relocate the visitor center to the stockade in order to reduce the confusion visitors currently experience between stopping at the visitor center and the seeing stockade,

After a preferred landscape plan was selected by the park and region, it was refined and an implementation plan was developed. Due to the complexity and interrelationships of individual recommendations, and the need for further research and planning, the implementation plan consists of three phases. The use of multiple phases also addresses the availability of historical information and specifies research projects that should be initiated before treatments can be implemented. Phase I addresses the expansion of the interpretive environment related to the cultural landscape, clarifies the boundaries of the historic landscape, and initiates major research projects. Phase II continues to expand the physical and visual interpretation of the landscape based on research from Phase I. If accurate and detailed documentation is not available, Phase II could act as the final implementation phase. Phase III represents the completed vision of the landscape plan, the full extent of historic landscape reconstruction and restoration.

As discussed earlier in the document, all designs for this project are based on current management and planning documents outlining long-term management objectives for the historic site. In this regard it was beyond the scope of this report to include any preliminary findings from the Vancouver Historical Commission Study or specific recommendations for the portion of Vancouver Barracks that is owned by the U.S. Army. This area was identified as a separate management zone, and while a few general design recommendations are suggested in this report, more research on the significance and integrity of the Vancouver Barracks

landscape must be initiated prior to any preservation treatment. In addition, the landscape plan for Fort Vancouver assumes current legal agreements will be in place including the relocation of Pearson Airpark off of the historic site.

GENERAL DESIGN RECOMMENDATIONS

One of the major objectives of the design recommendations for Fort Vancouver is to develop preservation treatments that support the park's general management objectives; to preserve, restore, and reconstruct (when appropriate) key cultural landscape features that are critical for interpreting the landscape at the height of the HBC historic period (1844/46). This objective also strengthens the goal of the park's Interpretive Prospectus to interpret two major historic themes. The primary interpretive theme is the role of the Hudson's Bay Company (HBC) in the exploration, settlement, and development (including agricultural development) of the Pacific Northwest. The secondary theme is the western military frontier and the role of Vancouver Barracks in opening the Northwest to American settlement. Expanding these interpretive themes can be accomplished through the implementation of the following management concepts and general recommendations, which constitute the framework of the landscape plan.

Two areas within the park boundaries are not addressed in the design recommendations; the army-owned portion of Vancouver Barracks, and the Burlington Northern Railway berm/right-of-way which is maintained by the railroad company. If the army-owned property south of East Fifth Street becomes Army surplus, it is recommended that this property be acquired by the National Park Service. Upon acquisition, historic resources at Vancouver Barracks should be documented and evaluated. If there is no historical significance or integrity associated with the Vancouver Barracks landscape, reconstruction of HBC historic features should be considered.

General design recommendations are organized into six program areas: Management Concepts, Interpretation, Circulation, Structures, Vegetation, and Small-scale features. The final landscape plan is implemented in three phases: more detailed recommendations are included within each phase.

MANAGEMENT CONCEPTS

1) Reestablish the overall organization of the cultural landscape illustrating the extent of the historic development by reestablishing boundary-defining features such as fences, gates, roads, and paths. Interpret or reconstruct key HBC landscape features such as the garden, orchard, cultivated fields, Kanaka Village, the stockade, the river front, native vegetation, and circulation systems.

2) Clarify interpretive objectives for the Vancouver Barracks Parade Ground and the relationship between Vancouver Barracks and Fort Vancouver.

3) Restore, when accurate documentation exists and when possible, historic land use patterns and relationships related to the cultural landscape.

4) Materials and designs should be compatible with the historic period but should allow for contemporary maintenance practices, accessibility, and visitor safety concerns. Remove, relocate or screen contemporary intrusions that interfere with the historic scene, such as the maintenance storage area.

5) Designs, materials, and landscape treatments should be compatible with historic practices and used consistently throughout the park to provide visual continuity, and enhance the overall historic character of the park (including the noncontiguous parcels).

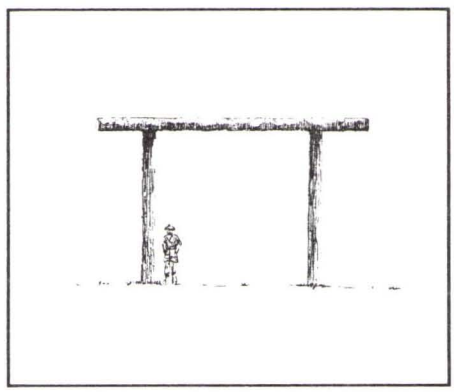
6) All reconstructions and restorations must be based on accurate documentation. Implementation of the final plan is contingent on additional research and planning as outlined on pages 139 to 163.

INTERPRETATION

1) In collaboration with park and regional staff, expand and implement the "Interpretive Prospectus" and incorporate the design recommendations outlined in the Cultural Landscape Report.

2) Expand the preservation and awareness of the park's archeological resources by undertaking additional archeological investigations and incorporating these ongoing projects into the park's interpretive programs.

CIRCULATION



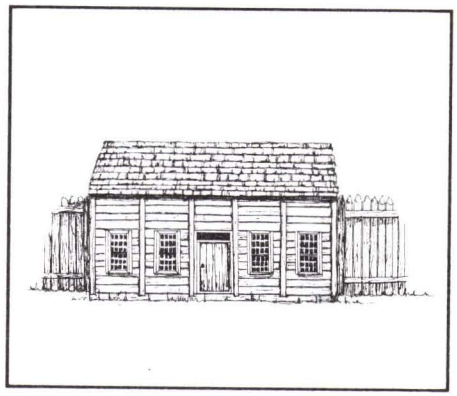
1) Reestablish historic circulation routes based on historic documentation while protecting archeological evidence. As appropriate, establish pedestrian routes that provide access to all major historic landscape features such as the stockade, Kanaka Village, the river front, the garden, orchard, fields, and pastures. Follow historic routes when possible.

2) Reestablish the historic entry to the stockade by relocating the primary entrance and parking lot south/southwest of the stockade. The proposed entry road is to be connected to a proposed Highway 14 frontage road. The parking lot should be located in Zone II. No parking should be allowed within the core historic area (management zone I).

3) All parking lots and trails should comply with current accessibility standards, and should be compatible with the historic scene by being informal in character. The surface material should be soil and/or a compacted, crushed aggregate surface, treated to control dust, and roads should not have curbs.

4) Restore East Fifth Street to its historic appearance in order to mitigate contemporary traffic problems (vehicle speed) and for visual continuity. Replace asphalt with the same surface material used for the above circulation features.

STRUCTURES



1) All historic reconstructions should be maintained and included in a cyclic maintenance preservation program that addresses long-term preservation requirements for individual buildings.

2) Initiate archeological investigations to accurately locate non-extant historic structures that are important in understanding the historic character and function of the landscape. Based on this research, three levels of preservation treatment are recommended:

A) If a structure is not located archaeologically but its general location has been depicted on the historic base map, interpret the building or cluster of buildings with appropriate wayside exhibits/panels.

B) If a structure is accurately located, visually delineate the location of structures by constructing "post-on-sill" foundations.

C) If a structure is accurately located, reconstruction may be considered. Reconstructions should not be undertaken unless accurate archeological and historical documentation is available. When considering a reconstruction the following criteria should be met before it is approved:

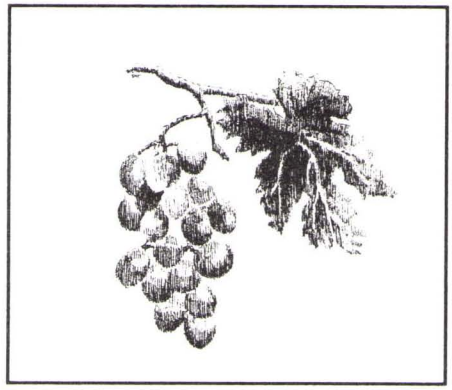
a) There must be enough artifacts excavated and historical documentation available to accurately develop architectural construction drawings. Base the level of research required on the type and degree of research used for the existing stockade reconstructions;

b) Reconstruction of a building must be critical to the interpretation of the site;

c) In situ archeological material must not be adversely affected by the reconstruction.

3) Contemporary structures, except wayside exhibits and a fee station, should not be located in the core area (management zone I). Whenever possible, reconstructed historic buildings should be adaptively used for contemporary functions.

VEGETATION



1) Reestablish key cultural and native vegetation from the historic period including the garden, the orchard, cultivated fields, the pasture/prairie, and native vegetation such as the coniferous forest edge, the riparian edge, and landmark specimens such as the five Douglas-fir trees along Lower Mill Road.

2) Any remnant historic vegetation, such as the two Douglas-fir and two Oregon oaks on the parade ground, should be evaluated by a tree specialist and placed on a cyclic maintenance schedule. The pear tree north of East Fifth Street, that has been identified as an old variety, should be evaluated to determine if it is a species that originated in the historic period and could be grafted for the garden and/or orchard. Seeds from historic vegetation should be gathered to use as replacements when the historic vegetation dies.

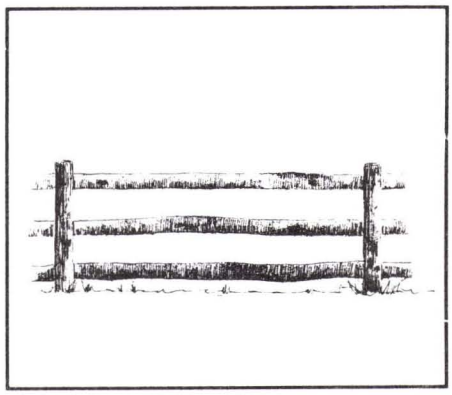
3) In collaboration with resource management staff, prepare a comprehensive Vegetation Management Plan which addresses reestablishing the historic vegetation (introduced and native).

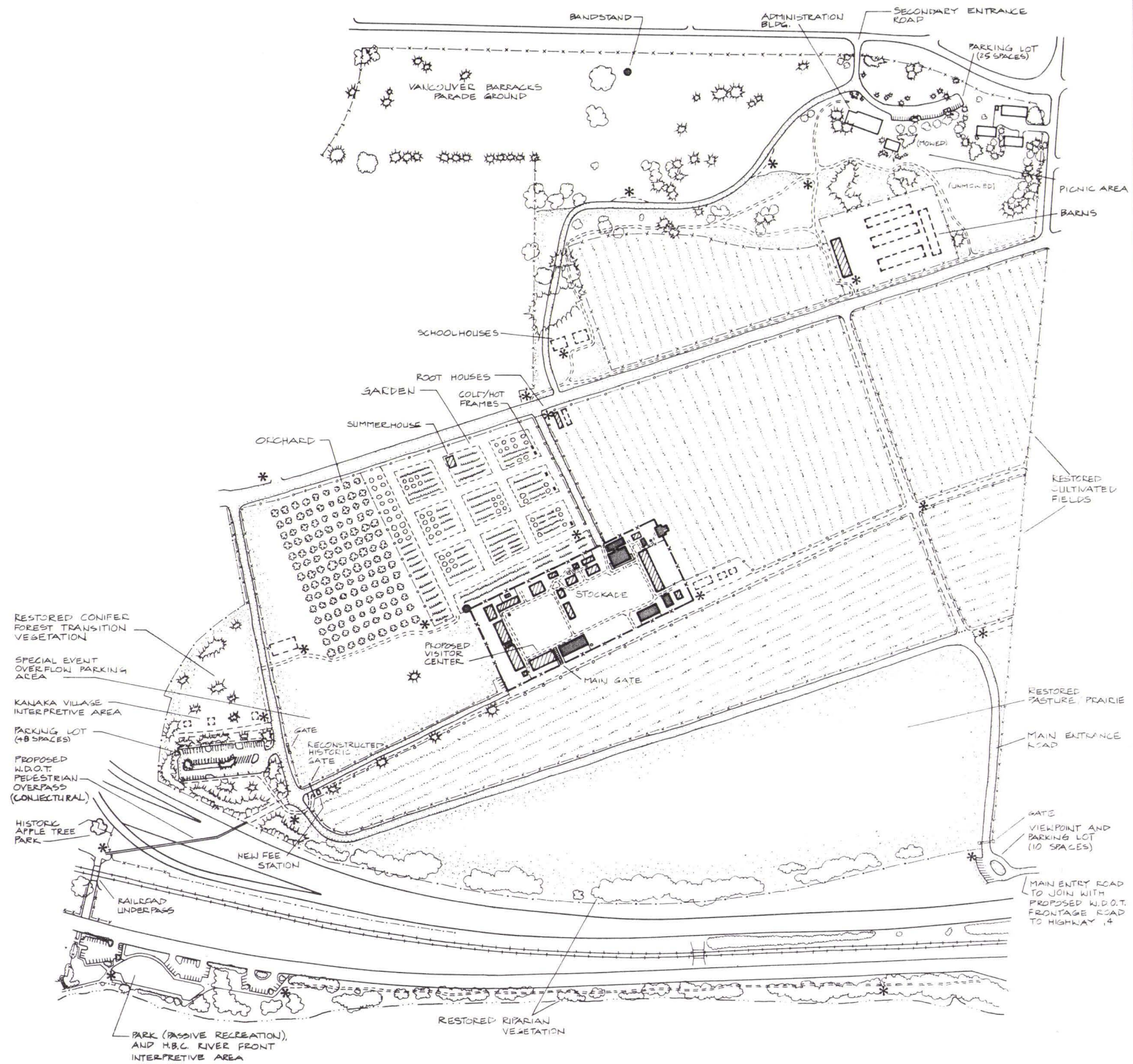
4) Whenever possible and as appropriate, mitigate the contemporary visual intrusions and create a visual boundary for the site by reestablishing the historic vegetation. For example, planting portions of the Douglas-fir forest west of Kanaka village serves two purposes, it screens the transportation corridor and reestablishes the historic scene.

5) Contemporary, non-native ornamental trees north of East Fifth Street should remain, unless there are safety concerns, until recommendations to reconstruct the historic vegetation are implemented. For aesthetic reasons, prior to implementation, a consultation with park staff and a historical landscape architect should occur to consider selective removal (rather than total removal) of trees.

SMALL-SCALE FEATURES

1) Determine the historic locations of small-scale features and when accurate documentation exists, reconstruct key features that enhance interpretation of the landscape, including fences, wells, belfry, gates, flagstaff, and cold (or hot) frames.





NOTES:

- VEGETATION SHOWN IN THE GARDEN IS FOR ILLUSTRATIVE PURPOSES ONLY.
- PROPOSED RECONSTRUCTIONS ARE CONTINGENT ON THE AVAILABILITY OF ACCURATE DOCUMENTATION.
- THE MAIN PARKING LOT WILL ACCOMMODATE 44 CARS, 5 R.V.s, AND 5-6 BUSES.
- 4-5 ACCESSIBLE PARKING SPACES AND PARK MAINTENANCE VEHICLE SPACES ARE LOCATED IN A SMALL LOT AT THE S.W. CORNER OF THE STOCKADE.
- ENLARGEMENTS OF THE STOCKADE AND PARKING AREA ARE PROVIDED IN THE CULTURAL LANDSCAPE REPORT.

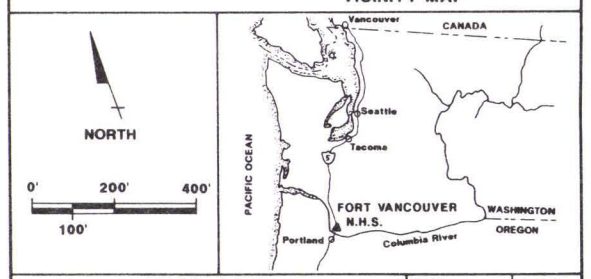
SOURCES:

HISTORIC MAPS, DOCUMENTS, AND PHOTOS ON FILE, FORT VANCOUVER N.H.S. ARCHEOLOGICAL REPORTS AND MAPS ON FILE, FORT VANCOUVER N.H.S. EXISTING CONDITIONS DOCUMENTATION AND FIELD INVENTORY (1991).

LEGEND:

- EXISTING STRUCTURE
- EXISTING RECONSTRUCTION
- PROPOSED RECONSTRUCTION
- PROPOSED FOUNDATION OUTLINE
- PAVED ROAD
- UNPAVED ROAD
- UNPAVED PEDESTRIAN ROUTE
- POST AND RAIL FENCE
- ZIG-ZAG FENCE
- CHAIN LINK FENCE
- CONIFEROUS TREES
- DECIDUOUS TREES
- PASTURE/PRAIRIE GRASSES
- CULTIVATED FIELDS
- INTERPRETIVE WAYSIDE
- WOOD BOLLARDS

VICINITY MAP



TITLE OF SHEET

LANDSCAPE PLAN

FORT VANCOUVER NATIONAL HISTORIC SITE

CULTURAL LANDSCAPE REPORT: FORT VANCOUVER NATIONAL HISTORIC SITE

DRAWING NO.	SHEET
389 / 80030	5 OF 5
DESIGNED:	T. TAYLOR
DRAWN:	T. TAYLOR
DATE:	10/92

IMPLEMENTATION

INTRODUCTION

The preferred alternative was selected because of its ability to satisfy the primary design criteria established by the park and region at the time of the report and within the context of the existing project parameters. If these project parameters change in the future, some changes may have to be made to the landscape plan, however, the changes should still comply with the park's preservation objectives and the management concepts developed in this report. The preferred landscape plan addresses and meets the design criteria as follows:

a. The plan enhances interpretation of the HBC cultural landscape by interpreting and reconstructing key historic features including circulation routes, vegetation, structures, and small-scale features. The park's preservation treatment philosophy is reinforced by recommendations that preserve, restore and reconstruct key landscape features. The recommendations emphasize that reconstructions should only occur when they can be supported by accurate documentation and research.

b. The plan addresses several major circulation issues identified by the park and region during the project. Visitors enter the site from the southwest to reestablish the historic entry from the historic river front area, they travel through the historic gate along the road, and reestablish the primary historic entries to the stockade by entering through the two gates on the south side of the stockade. Vehicle access is provided from Highway 14.

The visitor parking lot is relocated west of the stockade (outside Zone I), is within a reasonable walking distance from the stockade, and allows for overflow parking (across the historic river road for special events). This location acts as a boundary and buffer to contemporary development along the southwest corner of the park. A major advantage to this location is that the parking lot can be effectively screened and compliment the historic character by planting native trees and shrubs that were historically part of the conifer forest that extended into Kanaka Village. The parking lot location

also ties into the proposed pedestrian overpass from Historic Apple Tree Park so that all visitors enter the cultural landscape from the same area. Although the historic resources of this area (Zone II) have been heavily impacted by contemporary development, the area is still important in terms of interpretation and visitor access to Kanaka Village. With careful planning and design, archeological resources in Kanaka Village should not be disturbed by constructing a gravel parking lot in this area.

c. The resources of the core historic area receive maximum protection in the plan because, except for interpretive trails and the fee station, no contemporary features have been developed in Zone I, and inappropriate contemporary uses such as a picnic area and maintenance storage area will be consolidated in the NPS administrative zone.

d. The plan restores the historic scene, provides visual continuity and distinguishes between HBC and U.S. Army resources by using materials that are appropriate for distinct areas. For example, HBC resources, the Vancouver Barracks parade ground, and NPS administrative area are distinguished by reestablishing historic vegetation for Fort Vancouver, maintaining the lawn and native trees of the parade ground, and maintaining contemporary plantings for the administrative area. In addition, recommended maintenance practices enhance the appropriate character for each area.

e. The design specifies that Federal accessibility and safety standards are met, but also recommend surface materials that are historically correct or compatible in character. For example, while existing documentation suggests that there was no defined path within the stockade, for accessibility, safety, and comfort reasons, a path will be constructed to allow easy access to all stockade features.

f. Contemporary visual intrusions such as the railroad berm, highways, army development, and proposed visitor parking lot, are screened in the plan by the reestablishment of historic native vegetation.

g. The design establishes a stronger link between the Columbia River and the stockade by increasing interpretation at the river front, and connecting the proposed WDOT pedestrian overpass to the main visitor entry point.

h. In Phase II of the plan, the visitor center will be relocated to a reconstructed building in the stockade, to consolidate major interpretive resources.

The landscape plan for Fort Vancouver is described in the framework of three implementation phases. Each phase reflects the overall objectives of the plan by defining a sequence of tasks and goals leading toward full implementation of the landscape plan. For several aspects of the plan--specifically related to reconstruction or long-term management goals--additional research or planning documents will be required. These are detailed to the degree possible within the scope of this project.

Compliance with the National Historic Preservation Act of 1966 and with the National Environmental Policy Act (NEPA) of 1969, must be met prior to implementation of any design treatments described in this report.

PHASE I

Overview

The objective of Phase I is to expand the interpretation of the cultural landscape at Fort Vancouver. Implementation of Phase I will clarify the boundaries of the historic landscape, both visually and physically. During this phase, additional research is initiated to identify and direct the appropriate treatments for Phase II and Phase III of the plan.

By the end of Phase I, the framework of the circulation system is in place, major research projects have been identified and initiated, a vegetation management plan has been developed to guide reestablishment and management of vegetation throughout the site, and interpretation has been expanded.

Phase I Tasks

Interpretation

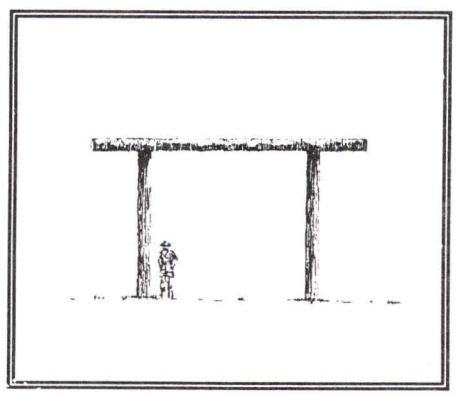
1) In cooperation with park and regional staff, establish wayside exhibits for key landscape features along the proposed roads and paths. Wayside exhibits should be created for key landscape features (the stockade, Kanaka Village, the river front area); overall HBC agricultural operations (the garden, the orchard, fields, and pastures), historic circulation routes; structures; and small-scale features. Wayside exhibits should address the importance and characteristics of the individual features themselves, and how these features contribute to our understanding of the historic themes interpreted at Fort Vancouver. See Appendix F for a list of suggested wayside exhibits and locations.

2) The location of wayside exhibits interpreting landscape features should be placed with consideration to archeological resources. If a feature cannot be located archaeologically, the wayside should be sited in proximity to the location of the feature as depicted on the historic base map.

3) Support planning efforts by the U.S. Army to prepare a cultural landscape report for Vancouver Barracks. This report could provide a basis for management and interpretation of the Vancouver Barracks cultural landscape.

Circulation

1) Maintain the current vehicular routes from the NPS Visitor Center to East Fifth Street.



2) Maintain the existing parking lots, and existing pedestrian routes at the river front area.

3) Remove the remnant asphalt loop road that is located in the Kanaka Village site.

4) Reestablish key historic circulation routes based on historic documentation. Circulation routes include the overall historic road system, and any other roads or paths that are necessary for connecting different areas of the site such as the stockade, Kanaka Village, the river front, the garden, the orchard, fields, pastures, and the visitor center.

For visual continuity, materials for all roads, paths, and parking lots should be compacted soil/crushed aggregate, or asphalt with a compacted surface material. The surface materials should match the existing soil in color and texture. Wood post bollards should be installed to control vehicular access across historic roads that are used solely for pedestrian circulation.

5) Work with the army to reestablish the historic road (river road) from East Fifth Street to the southwest edge of the park. In lieu of this access across Army property, construct a road from East Fifth Street along the north edge of NPS property that connects to the reconstructed historic river road.

6) Construct a permanent parking lot at the south end of the river road, on the west side of the road. The parking lot should accommodate approximately forty-five cars, five recreational vehicles (RVs), and five to six buses. Construct an accessible path from the parking lot across the river road to historic Upper Mill Road. Provide a small-scale shuttle system for handicap access. Screen the parking lot with appropriate historic vegetation (plant material from a conifer forest transition zone).

7) Provide two to three parking spaces in a small gravel lot adjacent to the stockade for maintenance and safety vehicles. If a shuttle system is not feasible for handicap access, provide two to three (additional) handicap spaces in this lot.

8) Allow parking across the road from the permanent parking lot, for special events when extra parking is required.

9) Construct an accessible path around the perimeter of the stockade providing access to all historic features.

10) Reconstruct the historic plank road between the southwest gate and the interior areas of the stockade.

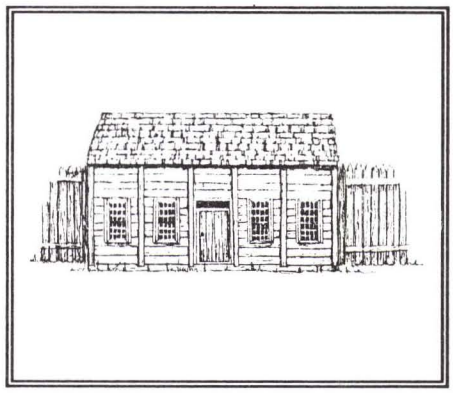
11) Provide pedestrian access through all three of the stockade's historic gates.

12) Construct an accessible path to the river's edge and a compacted soil/crushed aggregate interpretive trail along the river to the east end of the park. Coordinate planning this trail with any water front trails proposed by the City of Vancouver, WA.

13) Collaborate with the Washington Department of Transportation (WDOT) on plans to construct the pedestrian overpass (planned for during the Interstate 5/Highway 14 construction project during the 1980s). The overpass should provide access from Historic Apple Tree Park to the intersection of the historic river road and historic Upper Mill Road.

Structures

1) Maintain and preserve the existing historic reconstructions in the stockade as a part of a cyclic maintenance program.



2) Maintain and preserve the existing army bandstand (reconstructed) on the parade ground as a part of a cyclic maintenance program.

3) Maintain the use of the visitor center/administration building.

4) Remove the maintenance storage area that is located in the Kanaka Village Site.

5) Conduct archeological investigations, in consultation with the Regional Archeologist, to locate historic structures in the garden (summerhouse), orchard (unidentified structure), fields (barn complex, root houses, and the two HBC schoolhouses), and adjacent to the stockade (the Cooper's Shop and other potential structures outside the S. E. corner of the stockade).

6) Initiate archeological investigations to relocate the foundations of previously excavated historic structures inside the stockade. Remove the existing asphalt pads and delineate relocated building foundations by reconstructing the "post-on-the-sill" foundations. Work with historical architects and archeologist to determine the cost analysis for building foundation outlines for identification purposes versus

foundations that act as structural bases for future reconstructions. See Alternate Construction Systems and Alternatives to Total Reconstructions of Structures at Fort Vancouver National Historic Site, A. Lewis Koue, 1981.

7) Construct a fee station on historic Lower Mill Road just inside the proposed historic entry gate.

8) Provide storage for tools and equipment necessary to maintain the agricultural operations of the park in reconstructed structures.

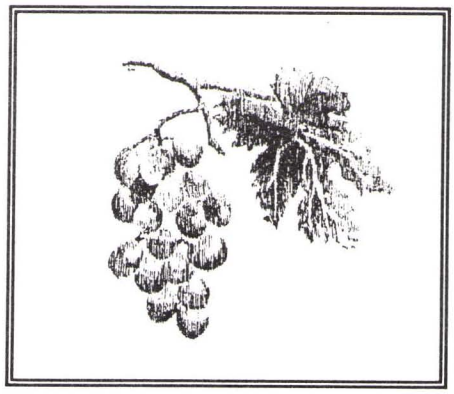
9) Any contemporary structures constructed in the NPS administrative area (Zone IIIa) should match the design character of the existing non-historic structures.

10) Contemporary structures, except for wayside exhibits, should not be constructed on the parade ground (Zone III).

11) Prepare a visual compatibility guideline for development at the river front area. Assess the existing park facilities, to determine what, or if, features should be compatible with the historic character. The designs and materials of interpretive displays, and contemporary small-scale features, and structures, should be consistent with the remainder of the park.

12) Construct facilities in the river front area to establish a visitor contact point for interpretation.

13) Delineating non-extant historic buildings, and/or reconstructing historic structures and small-scale features at the river front is not recommended due to a lack of historic documentation and severe impacts to this area. If site impacts are eliminated and accurate documentation of the historic physical development of this area becomes available, the park could consider expanding the development of the river front area.



Vegetation

1) In collaboration with a historical landscape architect and horticulturalists, retain selected fruit trees in the existing orchard to help spatially define the limits of the historic

garden. Some non-historic fruit trees should be retained to serve as interpretive plant material until further research on the orchard and garden is completed. Trees that are diseased, in poor condition, or fall within reconstructed historic garden paths should be removed.

2) Maintain the lawn, and existing Douglas-fir and Oregon oak trees on the parade ground. No new ornamental trees or shrubs should be planted on the parade ground.

3) Maintain the open field/meadow appearance of the field south of the stockade by retaining grasses, and removing any volunteer and/or non-native trees and shrubs.

4) Maintain the existing ornamental species and lawn around the NPS administrative area. The interpretive trail will act as a transition and border between the contemporary NPS area and the core historic area.

5) Maintain any existing riparian vegetation along the Columbia River.

6) Retain the existing open views to the Columbia river from the historic river front industrial area.

7) Support the passive recreational use of the river front area by maintaining the lawns and ornamental plantings around the parking lot.

8) In consultation with the Corps of Engineer's (in case of rip-rap features), remove debris and intrusive structures such as concrete and building ruins, from the Columbia River shoreline in preparation for restoration of the riparian environment.

9) Initiate research to complete an authentic and appropriate plant list for the historic garden, orchard, cultivated fields, livestock pasture, and native vegetation (conifer forest, riparian edges, prairie grasses, etc.). A list of nursery sources for the historic plant material should also be developed. See Appendix A for a preliminary list of native species and Appendix G for recommended primary and secondary plant material sources and the preliminary criteria for reconstructing historic agricultural features.

10) Initiate research to develop a detailed layout of the historic garden and orchard, based on specific documentation about Fort Vancouver if possible. If no primary sources are identified, use secondary sources (see Appendix G.).

11) Initiate research on the agricultural methods used at Fort Vancouver in the garden, orchard, fields and pastures, in order to incorporate these historic methods whenever possible or economically feasible. This should include planting and harvesting techniques, plant varieties and spacing, soil preparation, pest management, etc. For example, for the cultivated fields, management recommendations on crop rotation, manuring, and allowing fields to lie fallow, etc., should be investigated.

12) Relocate the existing interpretive garden to its historic location. Plant only a portion of the historic garden (one bed), until research identifying the appropriate historic species is completed, and the availability of those historic varieties is determined.

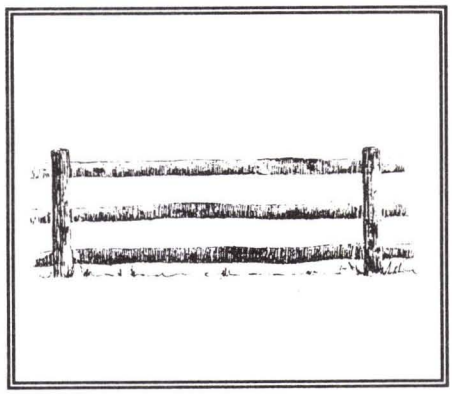
13) Plant a few historic apple trees in each corner of the historic orchard site (until all research is completed), to define the orchard boundaries. Plant standard rootstock and after obtaining permission from the City of Vancouver, use grafts from the Historic Apple Tree as one of the historic varieties for the orchard.

14) In collaboration with regional and park resource staff, develop a comprehensive Vegetation Management Plan to reconstruct the historic scene including the garden, orchard, fields, pastures, and native vegetation (prairies, riparian edge, and conifer forests). This plan should be based historic research developed in the Cultural Landscape Report and proposed research. It should be implemented in two parts, part one should be a partial reconstruction of the historic vegetation to serve as interpretive features. Part two should be a total reconstruction of historic vegetative features in order to function as a living history park and heirloom plant study center. Full reconstruction of the cultural landscape will entail the addition of new and/or supplementary infrastructure and administrative support from other interested organizations (agricultural leasing programs, horticultural research programs, garden clubs, and historical

societies). Agreements between the NPS and other organizations should be detailed in the Vegetation Management Plan and include long-term commitments from all involved parties.

The plan should include sections on:
Descriptions of current vegetative conditions and the historic vegetative scene; goals and objectives of the plan; a process to implement historic vegetative reconstructions for the garden, orchard, fields, pasture, riparian edge, conifer forest, prairie grasses; maintenance techniques (historic or modern as appropriate) to maintain the historic scene; and guidelines for managing and distributing harvested produce and crops.

Small-scale Features



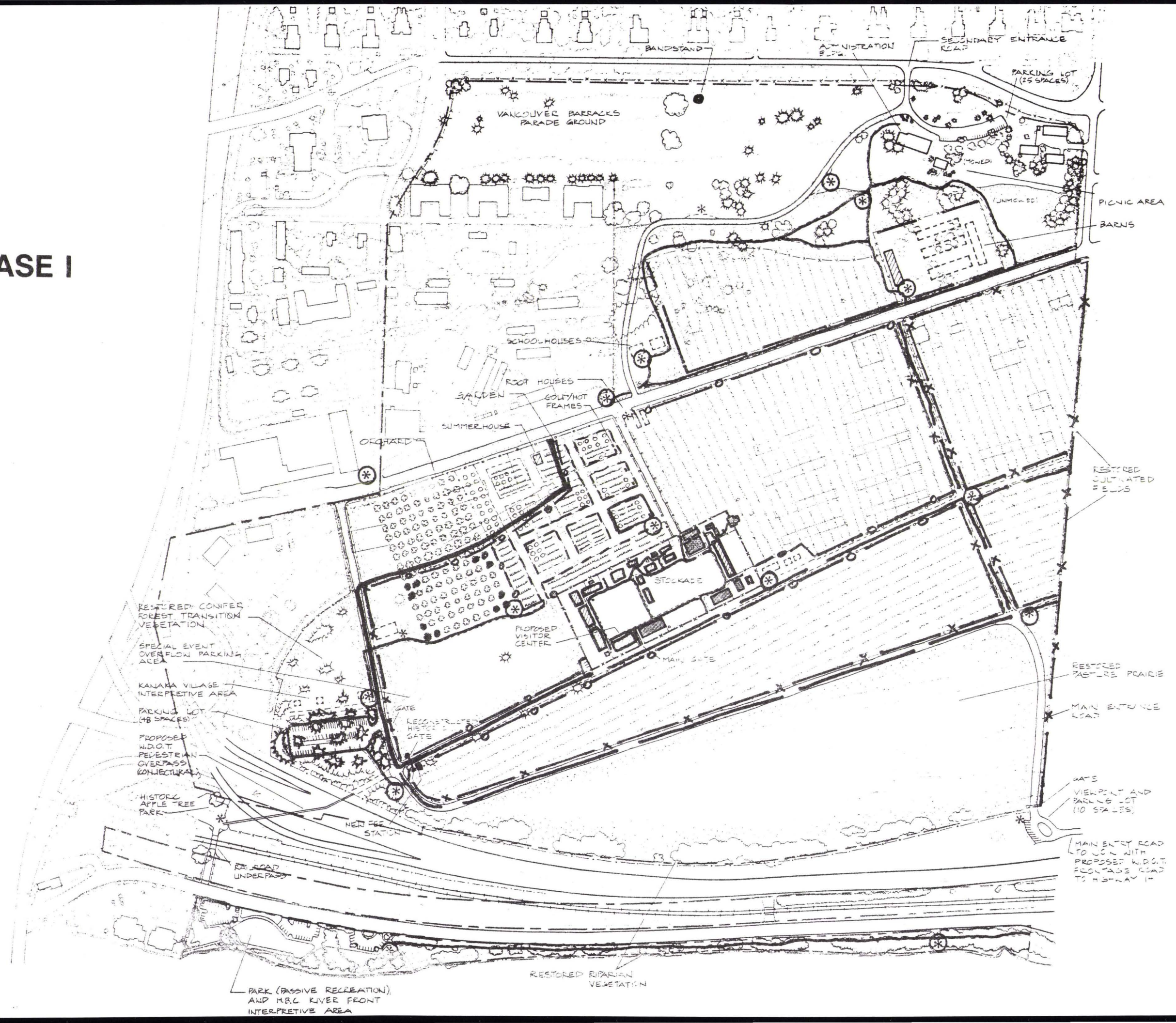
1) Maintain the existing post and rail boundary fences. For example, the fences around the Vancouver Barracks parade ground, the NPS administrative zone (residences and maintenance area).

2) Relocate existing picnic tables in the park to an area southeast of the visitor center.

3) Maintain benches, and picnic tables in the river front park area.

4) Reconstruct key small-scale historic features that help physically define more discrete areas within the landscape and add texture to the interpretive environment, including fences, the entry gate on Lower Mill Road, the flagstaff, belfry, wells, and cold/hot frames. Reconstructions should be based on accurate documentation. Initiate research for small-scale features with incomplete documentation (garden cold/hot frames and garden well). Two historic fence styles should be used as required throughout the site: post and rail, and zigzag (see Landscape Plan). Post and rail fences should be used around the garden, on the north and south sides of the orchard, and in fields adjacent to the stockade. Zigzag fences should be used along the west side of the orchard and around outlying fields.

PHASE I


BANDSTAND
ADMINISTRATION BLDG.
SECONDARY ENTRANCE
PARKING LOT (25 SPACES)
VANCOUVER BARRACKS PARADE GROUND
(MOVED)
(UNMOVED)
PICNIC AREA
BARNS
SCHOOLHOUSES
ROOT HOUSES
GARDEN
GOLFY/HOT FRAMES
SUMMERHOUSE
ORCHARD
RESTORED CULTIVATED FIELDS
STOCKADE
PROPOSED VISITOR CENTER
MAIN GATE
RESTORED CONIFER FOREST TRANSITION VEGETATION
SPECIAL EVENT OVERFLOW PARKING AREA
KANAKA VILLAGE INTERPRETIVE AREA
PARKING LOT (48 SPACES)
PROPOSED W.D.O.T. PEDESTRIAN OVERPASS (CONJECTURAL)
HISTORIC APPLE TREE PARK
GATE
RESTORED PASTURE PRAIRIE
MAIN ENTRANCE ROAD
GATE
VIEWPOINT AND PARKING LOT (10 STALLS)
MAIN ENTRY ROAD TO JCN WITH PROPOSED W.D.O.T. FRONTAGE ROAD TO HIGHWAY 1A
NEW C.P.R. STATION
C.P.R. ROAD UNDERPASS
RESTORED RIPARIAN VEGETATION
PARK (PASSIVE RECREATION) AND M.B.C. RIVER FRONT INTERPRETIVE AREA

PHASE II

Overview

The objective of Phase II is to expand the interpretation of the cultural landscape and begin implementation the vegetation management plan completed in Phase I. Additional research and planning necessary for the implementation of the final landscape plan in Phase III, will be continued in this phase.

By the end of Phase II, the final circulation system is in place, a layer of detail is added to the historic scene, and interpretation is expanded to a level that meets the objective of the park's interpretive mandate. If additional funding and documentation are a not available for implementing Phase III, Phase II may be considered the final phase for the landscape plan.

Phase II Tasks

Interpretation

1) Provide additional wayside exhibits and/or additional information for key features that were identified or investigated in Phase I research.

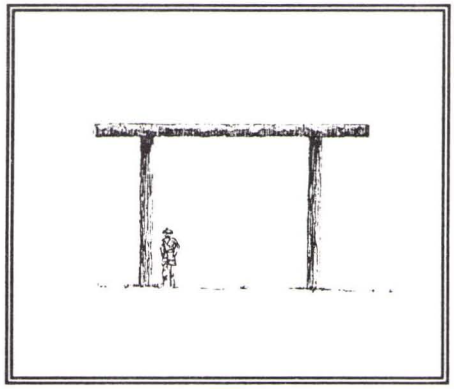
2) Implement design recommendations for the river front area from the Visual Compatibility Guidelines completed in Phase I.

Circulation

1) Maintain, or expand if necessary, the interpretive wayside and view point of the overall fort landscape located southwest of the visitor center that was constructed during Phase I.

2) Reduce the size of the existing visitor center parking lot (see suggested change on the Landscape Plan).

3) Construct the main entry road to the park by extending the Washington Department of Transportation's proposed Highway 14 frontage road, to the southeast edge of the park.



Provide a small parking lot, a viewpoint and wayside exhibit, and a vehicle turn around at the southeast corner of the park. The entry road should connect to the proposed historic road north of the prairie/pasture.

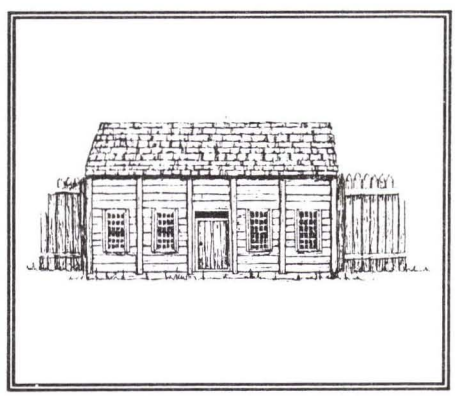
4) If the historic river road was not reestablished in Phase I, work with the army to reestablish this route. In lieu of access across army property, maintain the road constructed in Phase I, north of the garden and orchard, that connects East Fifth Street to the river road.

5) If the army property located south of East Fifth Street and east of the historic river road is purchased by the NPS, and if the Vancouver Barracks resources are determined to be historically insignificant, reestablish the remainder of the historic garden paths.

6) Work with the Washington State Department of Transportation in construction of the proposed pedestrian overpass from Historic Apple Tree Park to the southwest corner of NPS property.

Structures

1) Maintain the foundation outlines constructed for buildings in the stockade in Phase I.



2) Maintain the administrative offices in the original visitor center/administration building after the visitor facilities are relocated to the stockade.

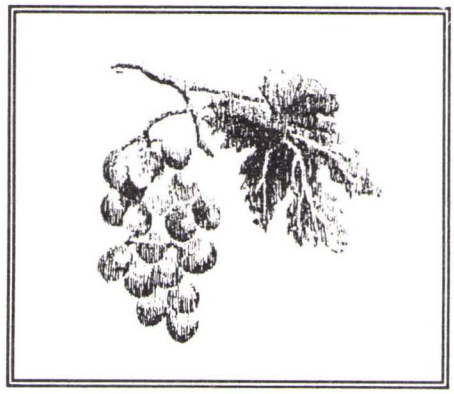
3) Relocate the visitor center to the stockade, in a historic building reconstructed near the main (southwest) gate, preferably the Provision Store (First Fur Store).

4) Based on building locations established in Phase I archeological investigations, construct post-on-the-sill foundation outlines, for all key historic buildings inside and outside the stockade. Work with historical architect to construct foundation outlines that serve as interpretative features rather than structural elements. See Alternate Construction Systems and Alternatives to Total Reconstructions of Structures at Fort Vancouver National Historic Site, A. Lewis Koue, 1981.

5) Initiate archeological investigations in Kanaka Village to relocate the structures excavated in previous investigations.

Vegetation

1) Obtain and evaluate soil samples in all planting areas and supplement/amend the soil as necessary for planting the garden, orchard, fields and pasture.



2) Begin implementation of the vegetation management plan by partially reconstructing historic vegetation for interpretive purposes.

A) Partially reconstruct the garden and orchard. Plant one to three of the historic garden beds and fifty to sixty fruit trees (for the entire historic orchard area) as depicted on the landscape plan. If the army owned portion of the historic orchard is not acquired by the NPS, plant approximately twenty to thirty trees in the orchard.

B) Partially reconstruct cultivated fields. Partial planting for fields with row crops should consist of planting the perimeter of the fields in a thirty to forty foot wide section. Fields with cover crops (tares, clover, etc.) could be planted entirely. The portions of cultivated fields that are not planted should be ploughed two to three times a year to maintain an agricultural appearance, if archeological resources can be protected. Implement agricultural leasing agreements, and/or initiate support by other agencies to actively cultivate and maintain fields as developed in the vegetation management plan.

C) Plant the historic pasture (open field south of the stockade) with appropriate native grasses, timothy and clover.

D) Reestablish a vegetative cover that is compatible with the historic character. For example, areas adjacent to fields and around structures that historically consisted of prairie species should be planted with native vegetative materials or materials that match native species in color, growth habit, and texture.

E) Reestablish portions of the Douglas-fir forest that was located historically west of the village extending to Kanaka Village. Vegetation should be planted in locations that will not adversely affect the archeological resources. In addition to reestablishing the historic scene (forest transition zone vegetation), restored vegetation should be sited to screen the contemporary army development, major highways, and the proposed NPS parking lot. Reestablished portions should include:

a) A screen of Douglas-fir trees planted along a portion of the western and southwestern edge of NPS property.
b) Individual and clusters of Douglas-fir trees planted in the historic Kanaka Village area.

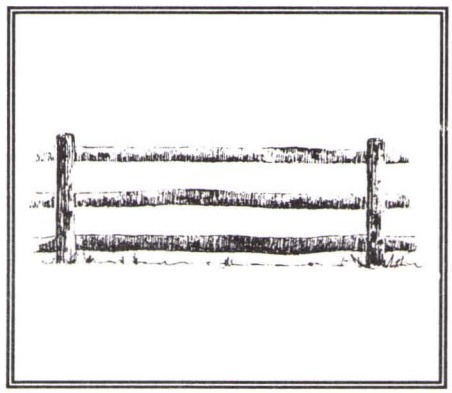
F) Establish a screen of riparian vegetation north of Highway 14. The vegetative screen should consist of a band or mass of trees and shrubs, with selected view corridors to provide vistas from the highway into the park.

G) Reestablish the four Douglas-fir trees historically located along Lower Mill Road and the single Douglas-fir that existed west of the stockade.

H) Plant the beds and vines associated with the Chief Factor's house.

3) If the army property, located south of East Fifth Street and east of the historic river road, is acquired by the NPS and if the Vancouver Barracks resources are determined to be historically insignificant, expand the garden and the orchard to their historic dimensions.

Small-Scale Features

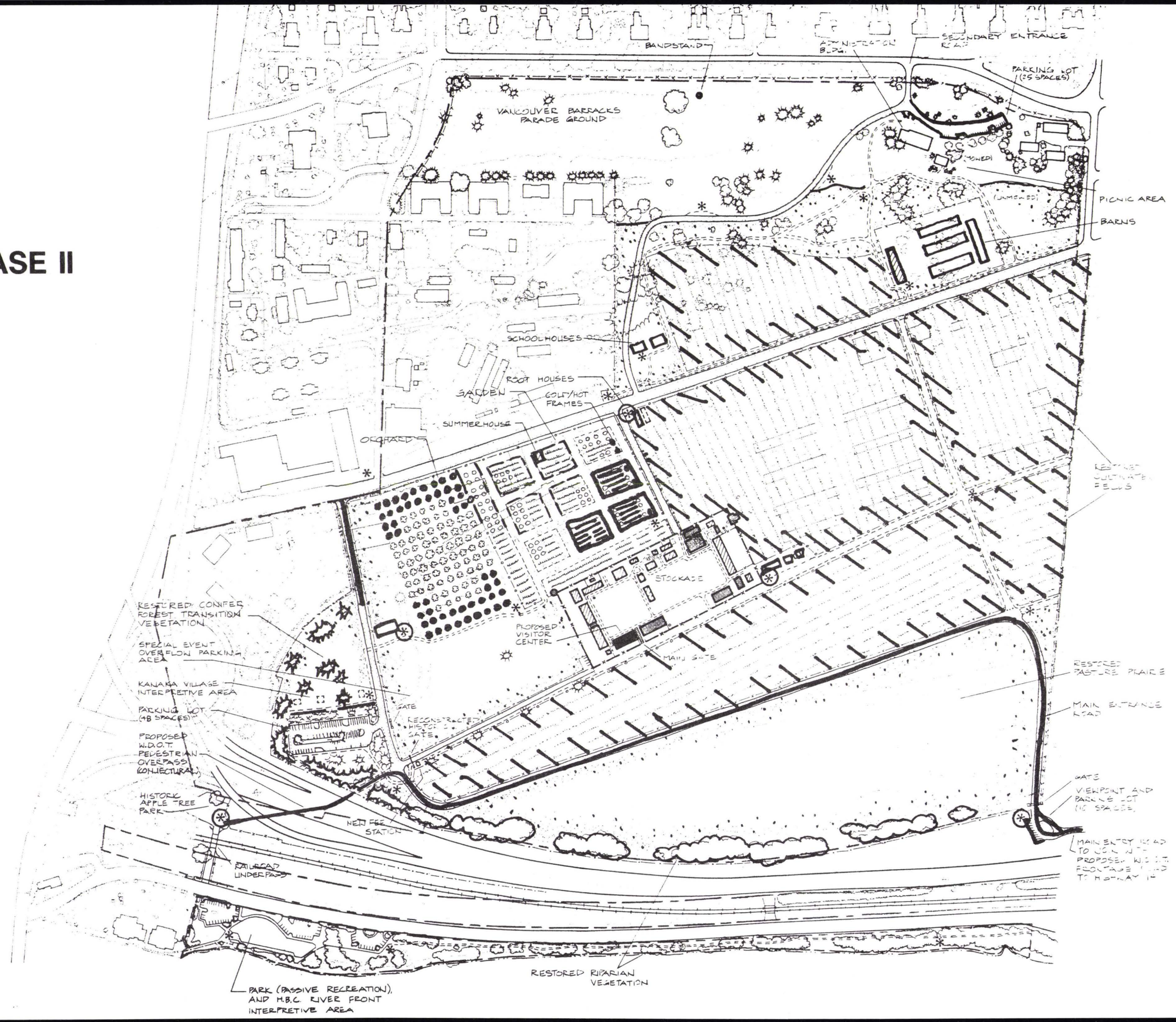


1) Replace the existing post and rail boundary fences with zigzag fences, except where safety and security are a concern and existing chain-link boundary fences should be maintained. For example, the chain-link fence north of Highway 14.

2) Identify and interpret, or reconstruct key small-scale features that were located during Phase I archeological investigations. Reconstructions must be based on accurate documentation and be necessary for interpreting the landscape. For example, if an appropriate design for cold and/or hot frames is identified, reconstruct one or two if they are necessary to interpret the garden. Reconstructed frames should be located along the east edge of the eastern historic garden beds. If reconstructions are not appropriate or feasible, provide wayside exhibits.

3) If the army property located south of East Fifth Street is purchased by the NPS, and if the Vancouver Barracks resources are determined to be historically insignificant, reconstruct the remainder of the historic fences associated with the garden, orchard and roads.

PHASE II


BANDSTAND
ADMINISTRATION BLDG.
SECONDARY ENTRANCE ROAD
PARKING LOT (25 SPACES)
VANCOUVER BARRACKS PARADE GROUND
(OWNED)
(UNOWNED)
PICNIC AREA
BARNS
SCHOOLHOUSES
ROOT HOUSES
GARDEN
COLD/HOT FRAMES
SUMMERHOUSE
ORCHARD
STOCKADE
RESTORED CONIFER FOREST TRANSITION VEGETATION
SPECIAL EVENT OVERFLOW PARKING AREA
KANAKA VILLAGE INTERPRETIVE AREA
PARKING LOT (48 SPACES)
PROPOSED W.D.O.T. PEDESTRIAN OVERPASS (CONJECTURAL)
HISTORIC APPLE TREE PARK
PROPOSED VISITOR CENTER
MAIN GATE
GATE
RECONSTRUCTED HISTORIC GATE
NEW FEE STATION
RAILROAD UNDERPASS
RESTORED PASTURE PLAINS
MAIN ENTRANCE ROAD
GATE
VIEWPOINT AND PARKING LOT (10 SPACES)
MAIN ENTRY ROAD TO JOIN WITH PROPOSED W.D.O.T. FRONTAGE ROAD TO HIGHWAY 14
PARK (PASSIVE RECREATION), AND H.B.C. RIVER FRONT INTERPRETIVE AREA
RESTORED RIPARIAN VEGETATION

PHASE III

Overview

The objective of Phase III is to fully expand the park's development and interpretation to function as a living history park, HBC research center, and heirloom plant study center. During Phase III, the vegetation management plan will be fully implemented. The final plan represents the full extent of reconstruction and should be carried if two major criteria are satisfied. It must be based on accurate documentation, and the infrastructure and administrative support necessary to support a living history park and heirloom plant study center must be secured before the phase is implemented.

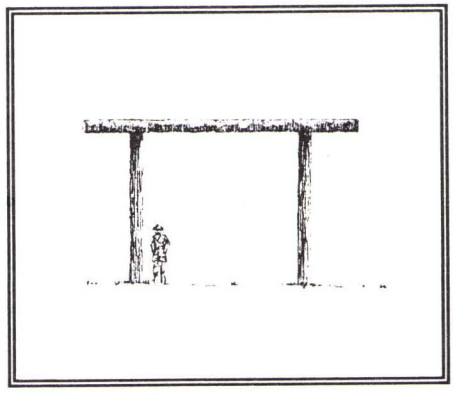
At the end of Phase III key accurately documented HBC structures will be reconstructed, accurately documented historic vegetation will be reconstructed, and interpretation will be further enhanced with the reconstruction of accurately documented small-scale features.

Phase III Tasks

Interpretation

1) Expand the park's interpretation to include additional research on features identified and/or restored in Phase I and II.

2) If the army property west of historic Kanaka Village is acquired, expand the interpretation of Kanaka Village and designate the area as a priority archeological excavation area for archeological field schools, with the potential to use the site as a demonstration area for the interpretation of the park's archeological resources.



Circulation

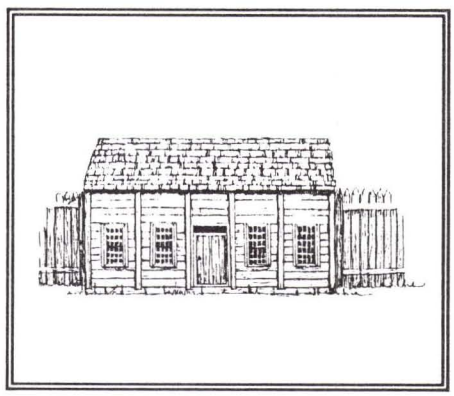
1) After the visitor center is relocated to the stockade (in Phase II), remove the asphalt surface of the existing road from the visitor center to East Fifth Street and replace it with the same material used for the other circulation routes. If the two HBC schoolhouses were accurately located in Phase

I, and the existing road runs across either building site, realign the road west of the buildings.

2) Replace the asphalt road and concrete sidewalks along East Fifth Street (within the park) with the same surface material used for other circulation routes.

Structures

1) Reconstruct all the historic buildings within the stockade, (if accurate documentation is available).

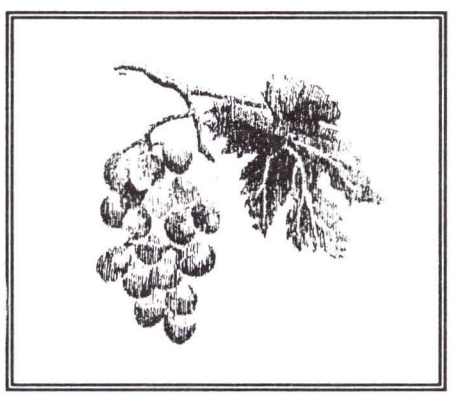


2) Reconstruct the barn and root houses if these facilities are needed to support the agricultural activities of the fort (stables, farm equipment, etc.), and there is enough documentation to support a reconstruction. If the barn(s) and root houses are not reconstructed and storage facilities for agricultural operations are still needed, store equipment in maintenance structures or construct appropriate structures outside the historic core.

3) If the security of Kanaka Village can be assured, construct post-on-the-sill foundation outlines in the locations of historic structures in Kanaka Village located during Phase II. Otherwise, maintain the interpretive exhibits from Phase I.

Vegetation

1) Fully reconstruct the garden, orchard, cultivated fields, pasture, and historic native vegetation if the research and infrastructure supports a living history farm and heirloom plant study center. If is not feasible to completely reconstruct features, maintain the partially reconstructed features planted in Phase II for interpretation.

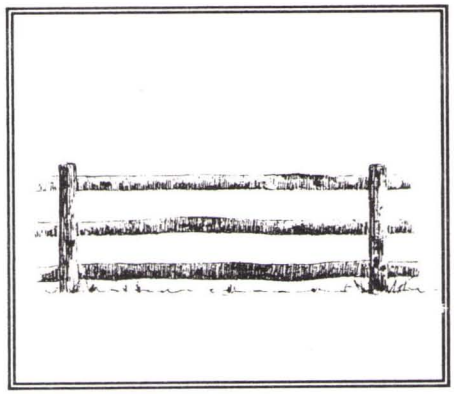


2) Restore the Columbia River's riparian edge to its natural condition, if feasible.

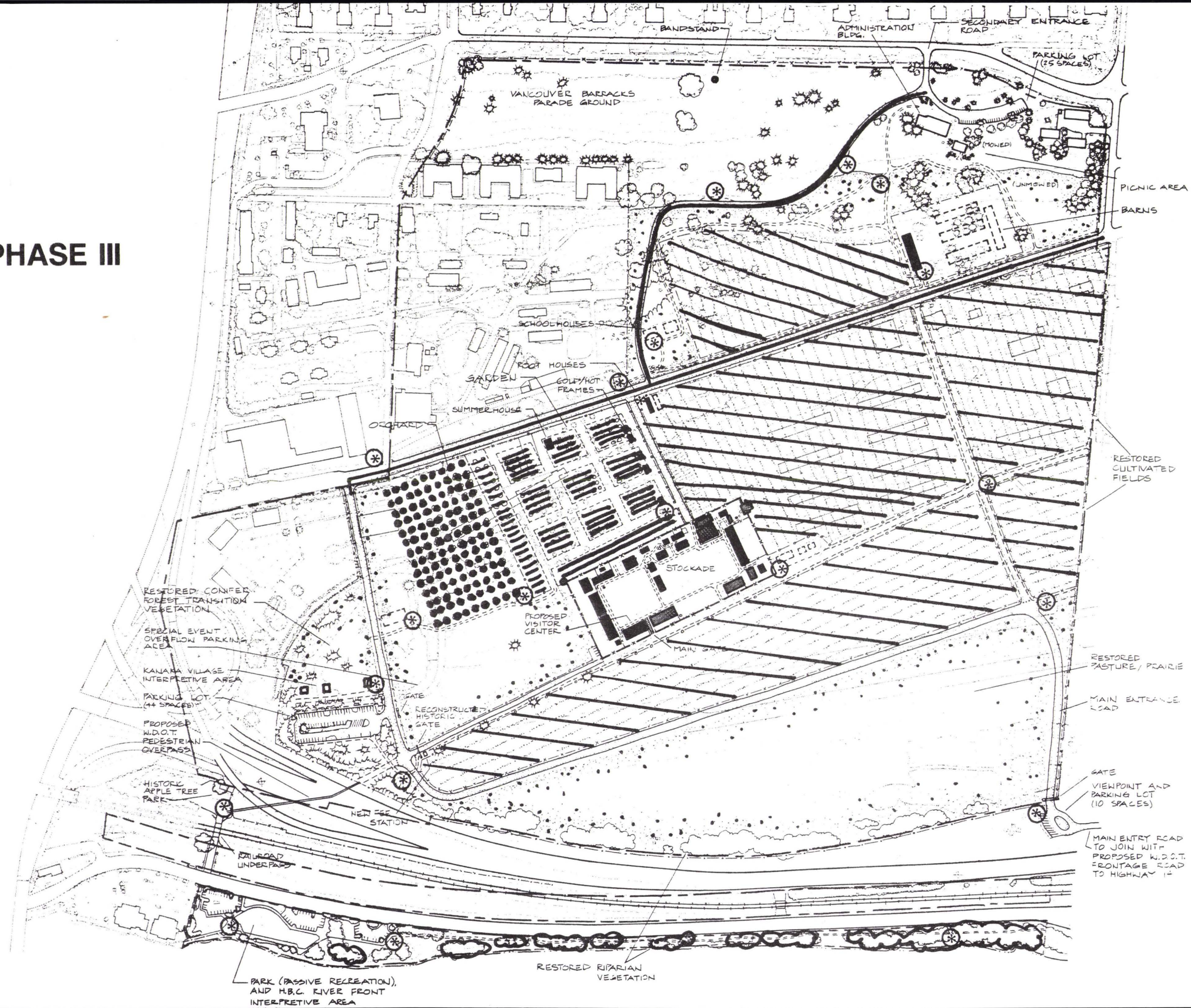
Small-Scale Features

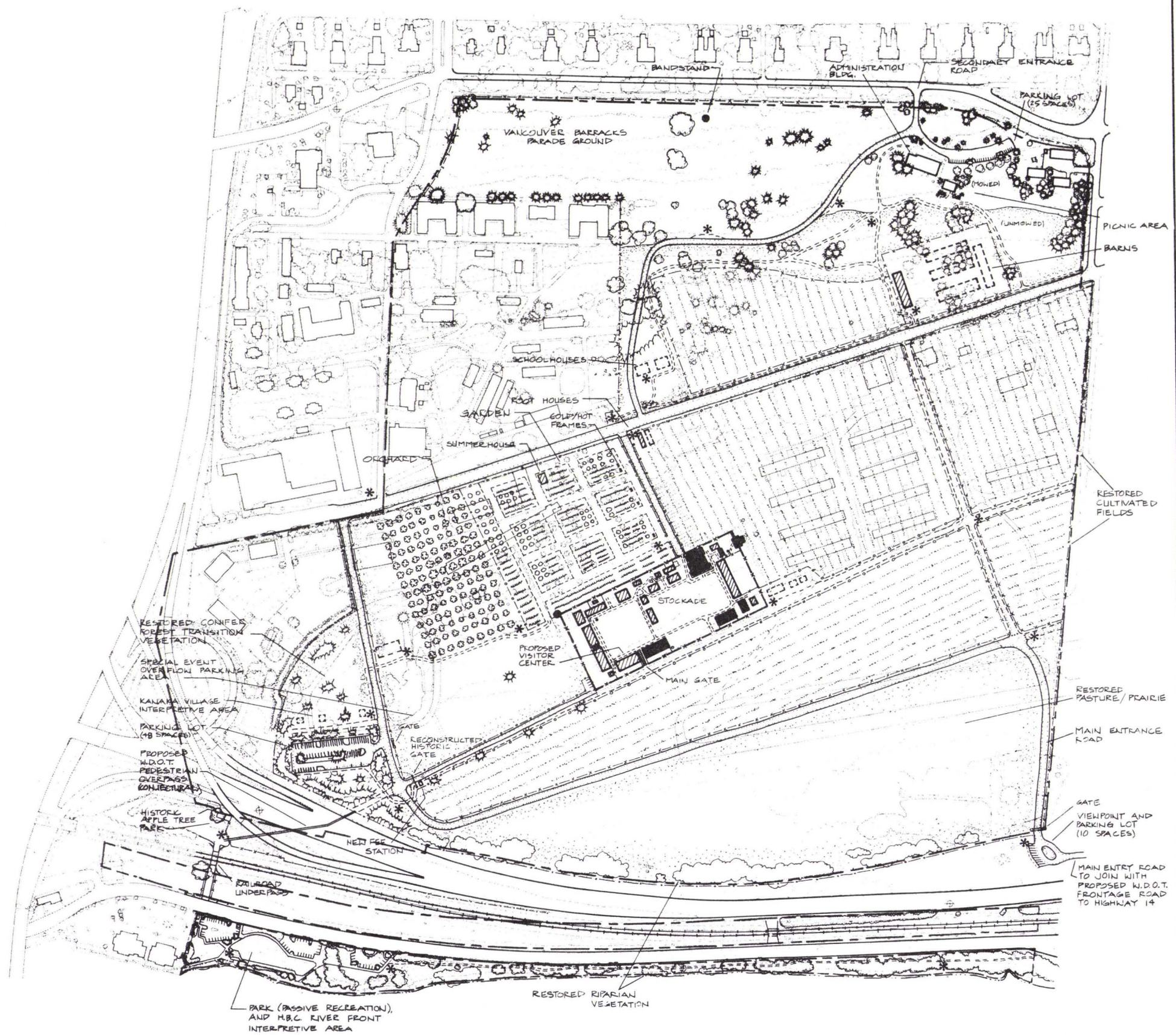
1) Reconstruct any additional key small-scale features that were documented in Phase I or II. For example, reconstruct the garden well, and additional garden cold/hot frames (four to five total), if they are necessary for garden operations and if an appropriate design was established in Phase I or II.

2) Reconstruct key small-scale features in Kanaka Village that were identified in Phase I or II research, only if the security of the area's archeological resources can be assured.



PHASE III


BANDSTAND
ADMINISTRATION BLDG.
SECONDARY ENTRANCE ROAD
PARKING LOT (25 SPACES)
VANCOUVER BARRACKS PARADE GROUND
(MOWED)
(UNMOWED)
PICNIC AREA
BARNS
SCHOOLHOUSES
ROOT HOUSES
GARDEN
COLD/HOT FRAMES
SUMMERHOUSE
ORCHARD
STOCKADE
RESTORED CULTIVATED FIELDS
RESTORED CONIFER FOREST TRANSITION VEGETATION
SPECIAL EVENT OVERFLOW PARKING AREA
KANAKA VILLAGE INTERPRETIVE AREA
PARKING LOT (44 SPACES)
PROPOSED W.D.O.T. PEDESTRIAN OVERPASS
HISTORIC APPLE TREE PARK
GATE
RECONSTRUCTED HISTORIC GATE
PROPOSED VISITOR CENTER
MAIN GATE
NEW FEE STATION
RAILROAD UNDERPASS
RESTORED PASTURE / PRAIRIE
MAIN ENTRANCE ROAD
GATE
VIEWPOINT AND PARKING LOT (10 SPACES)
MAIN ENTRY ROAD TO JOIN WITH PROPOSED W.D.O.T. FRONTAGE ROAD TO HIGHWAY 14
RESTORED RIPARIAN VEGETATION
PARK (PASSIVE RECREATION), AND H.B.C. RIVER FRONT INTERPRETIVE AREA



NOTES:

- VEGETATION SHOWN IN THE GARDEN IS FOR ILLUSTRATIVE PURPOSES ONLY.
- PROPOSED RECONSTRUCTIONS ARE COUTINGENT ON THE AVAILABILITY OF ACCURATE DOCUMENTATION.
- THE MAIN PARKING LOT WILL ACCOMMODATE 44 CARS, 5 R.V.s, AND 5-6 BUSES.
- 4-5 ACCESSIBLE PARKING SPACES AND PARK MAINTENANCE VEHICLE SPACES ARE LOCATED IN A SMALL LOT AT THE S.W. CORNER OF THE STOCKADE.
- ENLARGEMENTS OF THE STOCKADE AND PARKING AREA ARE PROVIDED IN THE CULTURAL LANDSCAPE REPORT.

SOURCES:

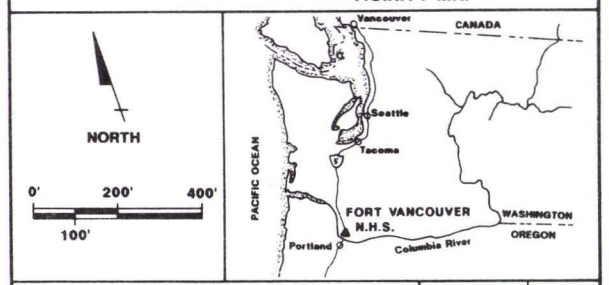
HISTORIC MAPS, DOCUMENTS, AND PHOTOS ON FILE, FORT VANCOUVER N.H.S. ARCHEOLOGICAL REPORTS AND MAPS ON FILE, FORT VANCOUVER N.H.S.. EXISTING CONDITIONS DOCUMENTATION AND FIELD INVENTORY (1991).

BASE MAP: CITY OF VANCOUVER (1987): 110-1436, 112-1447, 112-1446, 114-1443, 114-1436, 113-1445
PROJECT BOUNDARY: NPS 389/92001 (revised 1991)

LEGEND:

- EXISTING STRUCTURE
- EXISTING RECONSTRUCTION
- PROPOSED RECONSTRUCTION
- PROPOSED FOUNDATION OUTLINE
- PAVED ROAD
- UNPAVED ROAD
- UNPAVED PEDESTRIAN ROUTE
- [illegible]
- [illegible]
- [illegible]
- POST AND RAIL FENCE
- ZIG-ZAG FENCE
- CHAIN LINK FENCE
- CONIFEROUS TREES
- DECIDUOUS TREES
- PASTURE/PRAIRIE GRASSES
- CULTIVATED FIELDS
- INTERPRETIVE WAYSIDE
- WOOD BOLLARDS

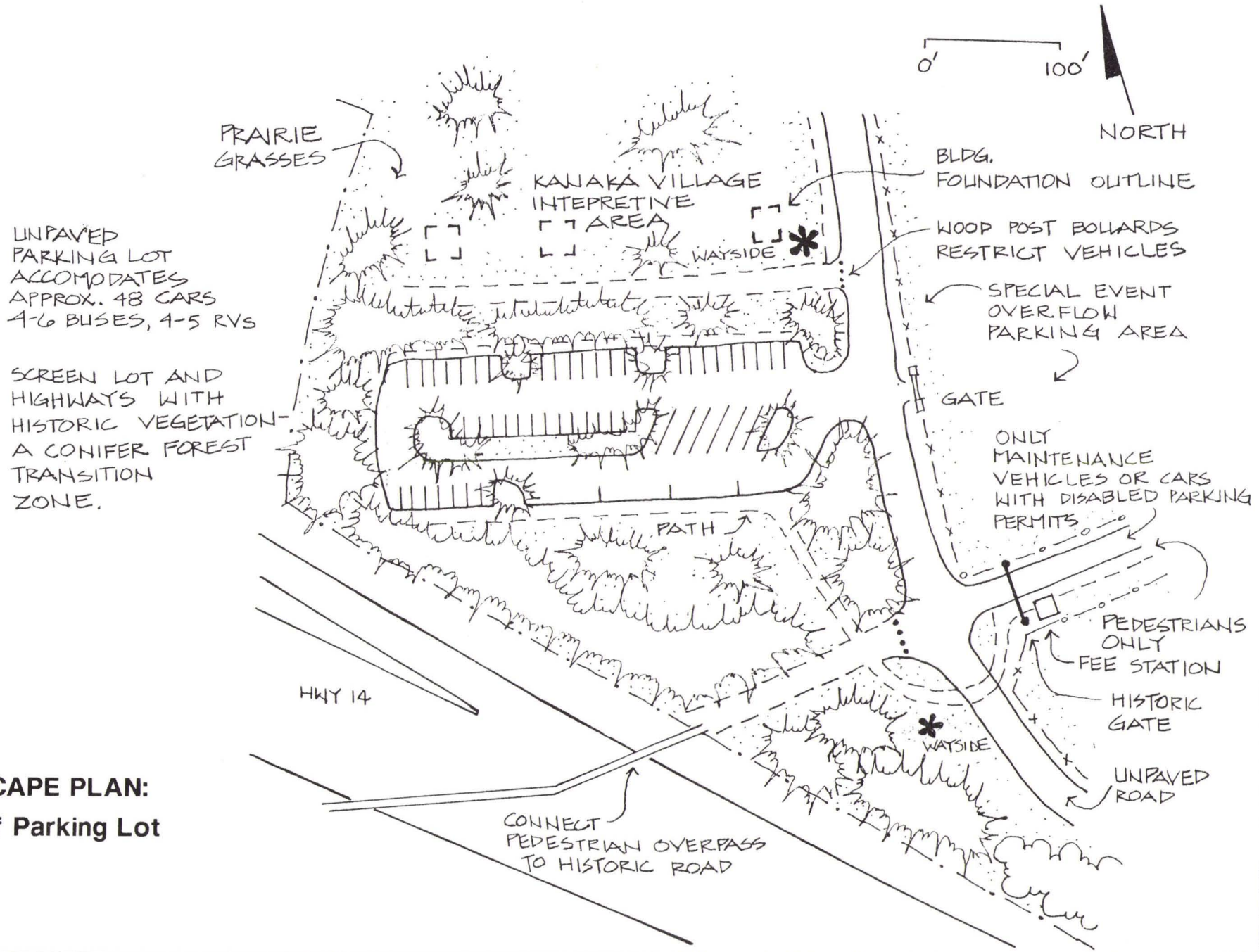
VICINITY MAP



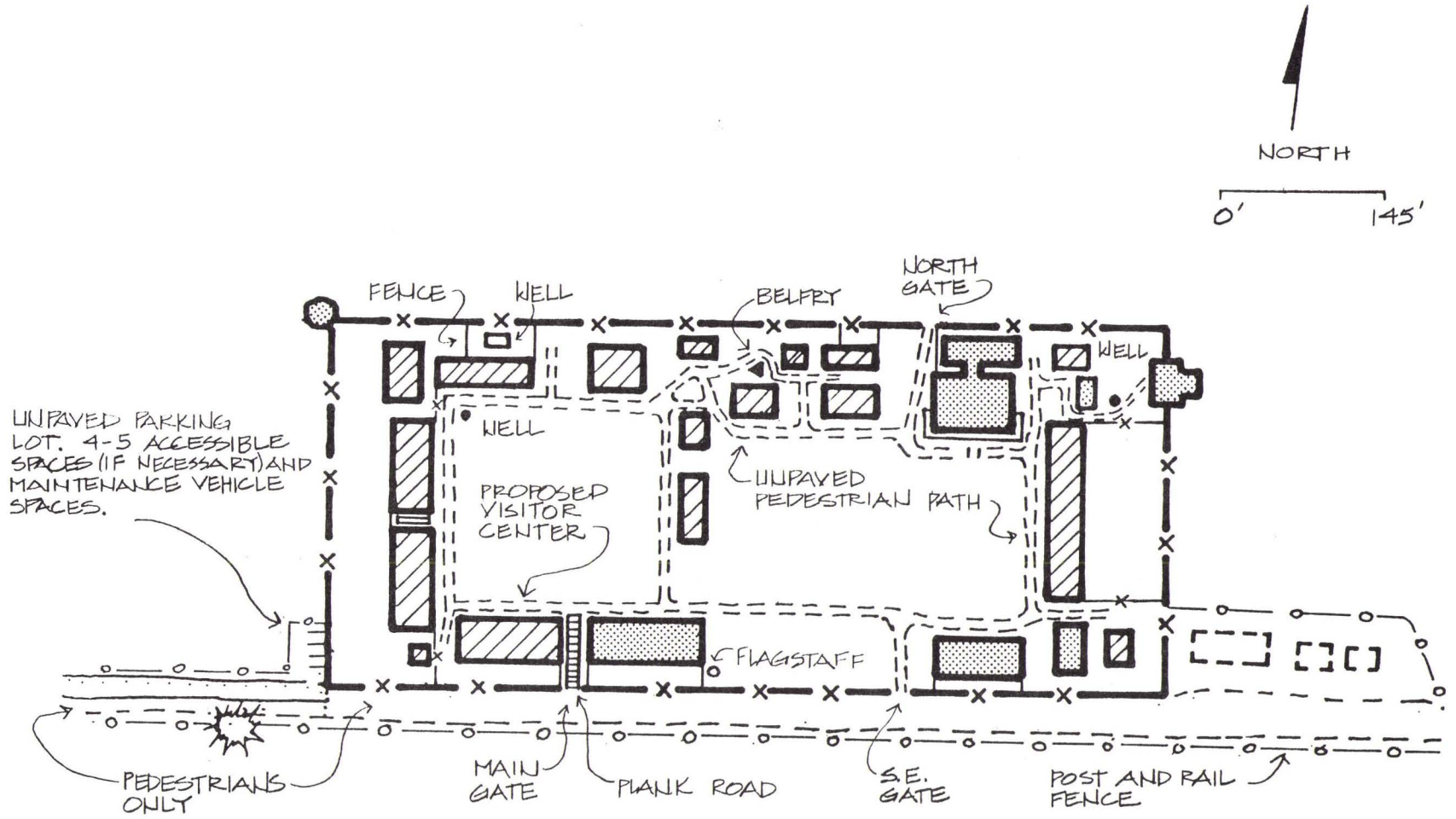
TITLE OF SHEET
LANDSCAPE PLAN and Existing Conditions
FORT VANCOUVER NATIONAL HISTORIC SITE

CULTURAL LANDSCAPE REPORT:
FORT VANCOUVER NATIONAL HISTORIC SITE

DRAWING NO.	SHEET
389 / 80030a	5 OF 5
DESIGNED: T. TAYLOR	
DRAWN: T. TAYLOR	
DATE: 10/92	



LANDSCAPE PLAN:
Detail of Parking Lot



LANDSCAPE PLAN: PHASE III
Detail of Stockade

V. BIBLIOGRAPHY

BIBLIOGRAPHY

Note: The majority of Volume I of the Cultural Landscape Report: Fort Vancouver N.H.S, is based on Volume II of the Cultural Landscape Report: Fort Vancouver N.H.S, Landscape History, by Patricia C. Erigero, 1992.

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VI. APPENDICES

APPENDIX A:
NATIVE PLANTS OF FORT VANCOUVER VICINITY
This is a list of indigenous plants at Fort Vancouver and vicintiy during the historic period. It is derived from historic references by HBC officers and employees, and visitors. Plants cited by more than one source are only listed once. This list and the following summary of native vegetation (from contemporary sources and an existing conditions inventory) should be used to restore the native vegetation as suggested in the Design Recommendations.

HISTORIC CITATION	CONTEMPORARY BOTANICAL NAME * Probable ** unlikely, non-native *** native to PNW but unlikely to be found at Fort Vancouver's low elevation # unlikely, although a native to PNW FOVA area not part of species' current range.	CONTEMPORARY COMMON NAME (Hitchcock & Cronquist)
Rev. Samuel Parker		
3 species of fir		
red fir	Psuedotsuga menziesii	Douglas-fir
yellow fir	unknown	
white fir	Abies grandis	grand fir, white fir, balsam fir
**tamarisk	*possibly "tamarack"	
"found in small sections of the country"	#Larix occidentalis or #Pinus contorta	larch, tamarack lodgepole pine, tamarack pine
cedar	Thuja plicata	western red cedar
yew	Taxus brevifolia	Pacific yew
white oak	Querqus garryana	Oregon white oak
common white ash	Fraxinus latifolia	Oregon ash
alder	Alnus rubra	red alder
3 species of poplar		
common aspen		
cotton	Populus trichocarpa	black cottonwood
balm	possibly "balm of Gilead" see historic citation.	black cottonwood
(also) "species of poplar often called balm of Gilead & by most travelers, cottonwood"		
balsam fir	Abies grandis	grand fir, balsam fir
white maple	Acer macrophyllum	bigleaf maple

willows	Salix ssp.	willows
several varieties of thorn-bush one with black berries	Rubus ursinus	Pacific blackberry
choke cherry	Prunus virginiana	common chokecherry
salalberry	Gaultheria shallon	salal
serviceberry	Amelanchier alnifolia	serviceberry
Pambina or Owyhee cranberry	*Vaccinium oxycoccos	wild cranberry
3 varieties of currants	Ribes sanquineum	red currant
	*Ribes viscosissimum	sticky currant
	Ribes ssp.	many others
snowdrop	Symphoricarpos albus	snowberry
common raspberries	Rubus pedatus	trailing wild raspberry
	Rubus idaeus	wild raspberry
vining honeysuckle	Lonicera ciliosa	twining vine, trumpet honeysuckle
sweet elder	*Sambucus racemosa	red elderberry
sweet flowering pea	Lathyrus ssp.	sweet pea-many species
red clover	Trifolium ssp.	clover-many species
strawberries-indigenous	Fragaria vesca	woods strawberry
wild flax	*Linum perenne var. lewisii	wild blue flax
sun flowers	unknown	
broom corn-Columbia bottomlands	unknown	
a wide grain somewhat resembling barley or rye	unknown	
wappatoo	Sagittaria latifolia	wapato
cammas	Camassia quamash	camas

John Scouler

Pinue balsamea	*Abies grandis	grand fir, balsam fir
Pinue canadensis	unknown	
Amentaceae-very rare	unknown	
Phalengium escluentum	Camassia quamash	camas
Berberis nervosa	Berberis nervosa	Cregongrape
Berberis aquifolium	Berberis aquifolium	tall Oregongrape
Calypso borealis	Calypso bulbosa	fairy-slipper
Corallorhiza innata	*Corallorhiza striata	striped coral-root
	*C. maculata	Pacific coral-root

George Roberts

wild cherry	*Prunus emarginata var. mollis	bittercherry tree
Herb Paarisa	maybe "herb paris" a European herb related to trilliums-	

several species field iris	*Trillium ovatum	white trillium
wild rose	Iris tenax	Oregon iris
**eglantine	Rosa nutkana	Nootka rose
woodbine	Rosa eglanteria	eglantine (European native)
yarrow	Lonicera ssp.?	honeysuckle
nettle	Achillea ssp.?	yarrow
wild tare	*Urtica dioica	stinging nettle
wild gooseberry	Vicia americana	vetch
	Ribes divaricatum	coast black gooseberry, common g.
William Tolmie		
brake	Pteridium aquilinum	
pinewood	Pseudotsuga menziesii	bracken, brake-fern
"trees in flower"	Cornus nuttallii	Douglas-fir
"low creeping evergreens"	Arctostaphylos uva-ursi	Pacific dogwood
	Gaultheria shallon	kinnikinnick
Charles Wilkes		salal
red honeysuckle	Lonicera spp.	
columbine	Aquilegia formosa	
pines	Pseudotsuga menziesii	red columbine
		Douglas-fir
Susan Downing Sheperd		
lupines (wild, blue)	Lupinus lepidus	
red cullendine	*Aquilegia formosa	prairie lupine
blue, red, yellow violets	Viola adunca	red columbine
	Viola nuttallii var. praemorsa	early blue violet
		canary violet
George Gibbs		
vine maple	Acer circinatum	
hazel	Corylus cornuta	vine maple
spirea	*Spirea douglasii	hazelnut
spruce	Picea sitchensis	Douglas's spirea, hardhack
arbor vitae	Thuja plicata	Sitka spruce
		western red cedar, arborvitae
George Simpson		
hemlock	Tsuga heterophylla	
		western hemlock
Cyrus Shepard		
crabapples	Pyrus fusca	

Chief Factor McLoughlin
". . . Pigs . . . poisoned by
eating a kind of poisoned Camas."

Zigadenus venenosus

western crabapple

death camas

PLANTS GATHERED BY THE CHINOOK PEOPLE, THE INDIGENOUS NATIVE AMERICANS OF THE FORT VANCOUVER AREA.[1]

COMMON NAME CITED	BOTANICAL NAME
wapato	Sagittaria latifolia
camas	Camassia quamash
edible thistle	Cirsium ssp.
lupine	Lupinus ssp.
bracken fern	Pteridium aquiliunum
horsetail	Equisetum arvense
cattail root	Typha latifolia
salmonberry	Rubus spectabilis
cow parsnip	Heracleum lanatum
water parsley, wild celery	Oenanthe sarmentosa
cranberry	Vaccinium oxycoccos
strawberry	Fragaria vesca
blueberry	Vaccinium uliginosum (bog b.)
huckleberry	Vaccinium ovatum (evergreen h.)
	Vaccinium parvifolium (red h.)
salalberry	Gaulteria shallon
bearberry (kinnikinnick)	Arcostaphylos uva-ursi
wild crabapple	Pyrus fusca

ADDITIONAL PLANTS BELONGING TO THE WILLAMETTE VALLEY VEGETATION ZONE NOT CITED IN HISTORIC RESEARCH
(list not comprehensive)

BOTANICAL NAME	CONTEMPORARY COMMON NAME (Hitchcock & Cronquist)
TREES	
Arbutus menziesii	Pacific madrone
Rhamnus purshiana	cascara, buckthorn
Prunus emarginata var. mollis	bittercherry
Crataegus douglasii	black hawthorn
SHRUBS	
Prunus emarginata var. emarginata	bittercherry-tall shrub
Cytisus scoparius	Scotch broom
Holodiscus discolor	ocean spray
Osmaronia cerasiformis	Indian plum
HERBS	
Carex pensylvanica	long stolon sedge

Festuca idahoensis	blue bunchgrass
Dodecatheon hendersonii	broad-leaved shooting star
Balsamorhiza deltoidea	Puget balsamroot

MOSSES

Rhacomitrium canescens	

1. Silverstein, Michael, "Chinookans of the Lower Columbia", in: Handbook of North American Indians, Vol. 7. Wayne Suttler vol. editor, Smithsonian Institution, Washington, 1990, pgs. 533-546.

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SUMMARY OF NATIVE PLANTS HISTORICALLY IN THE FORT VANCOUVER VICINITY[2]

BOTANICAL NAME	CONTEMPORARY COMMON NAME (Hitchcock & Cronquist)
TREES	
Pseudotsuga menziesii	Douglas-fir
Abies grandis	grand fir
#Larix occidentalis	larch, tamarack
#Pinus contorta	lodgepole pine, tamarack
Thuja plicata	western red cedar
Taxus brevifolia	Pacific yew
Quercus garryana	Oregon white oak
Fraxinus latifolia	Oregon ash
Alnus rubra	red alder
Populus trichocarpa	black cottonwood
Populus tremuloides	quaking aspen
Acer macrophyllum	bigleaf maple
Acer circinatum	vine maple
Prunus emarginata var. mollis	bittercherry
Cornus nuttallii	Pacific dogwood
Picea sitchensis	Sitka spruce
Tsuga heterophylla	western hemlock
Pyrus fusca	western crabapple
Arbutus menziesii	Pacific madrone
Rhamnus purshiana	cascara, buckthorn
Cratageus douglasii	black hawthorn
Salix ssp.	willows
SHRUBS	
Cirsium ssp.	thistle
Equisetum arvense	common horsetail
Typha latifolia	cattail
Heracleum lanatum	cow parsnip
Oenanthe sarmentosa	water parsley
Rubus ursinus	Pacific blackberry
Prunus virginiana	common chokecherry
Gaultheria shallon	salal
Amelanchier alnifolia	serviceberry
Vaccinium oxycoccos	wild cranberry
Vaccinium uliginosum	bog blueberry
Vaccinium ovatum	evergreen huckleberry
Vaccinium parvifolium	red huckleberry
Ribes sanquineum	red currant
*Ribes viscosissimum	sticky currant
Ribes divaricatum	coast black gooseberry, common g.
Symphoricarpos albus	snowberry
Rubus pedatus	trailing wild raspberry
Rubus idaeus	wild raspberry
Berberis nervosa	Oregongrape
Berberis aquifolium	tall Oregongrape
Rosa nutkana	Nootka rose
Arctostaphylos uva-ursi	kinnikinnick
Corylus cornuta	hazelnut
Prunus emarginata var. emarginata	bittercherry-tall shrub
Cytisus scoparius	Scotch broom
Rubus spectabilis	salmonberry
Holodiscus discolor	ocean spray
Rubus parviflorus	thimbleberry
Osmaronia cerasiformis	Indian plum
Spirea douglasii	Douglas's spirea, hardhack
HERBS	

Lathyrus ssp.	sweet pea
Trifolium ssp.	clover
Fragaria vesca	wood strawberry
Linum perenne var. lewisii	wild blue flax
Sagittaria latifolia	wapato
Camassia quamash	camas
Calypso bulbosa	fairy-slipper
Corallorhiza striata	striped coral-root
C. maculata	Pacific coral-root
Trillium ovatum	white trillium
Iris tenax	Oregon iris
Lonicera ciliosa	twining vine, trumpet honeysuckle
Achillea ssp.?	yarrow
Urtica dioica	stinging nettle
Vicia americana	vetch
Pteridium aquilinum	bracken fern, brake-fern
Aquilegia formosa	red columbine
Lupinus lepidus	prairie lupine
Viola adunca	early blue violet
Viola nuttallii var. praemorsa	canary violet
Zigadenus venenosus	death camas
Carex pensylvanica	long stolon sedge
Festuca idahoensis	blue bunchgrass
Dodecatheon hendersonii	broad-leaved shooting star
Balsamorhiza deltoidea	Puget balsamroot

Prairie

moss layer-
Rhacomitrium canescens

penetrating moss layer-

Balsamorhiza deltoidea	Puget balsamroot
Camassia quamash	camas
Carex pensylvanica	long stolon sedge
Dodecatheon hendersonii	broad-leaved shooting star
Viola adunca	early blue violet
Viola nuttallii	canary violet
Zigadenus veneosus	death camas

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APPENDIX B:

CULTIVATED FIELD PLANT LIST AND CHRONOLOGY

DATE	CROPS	NOTE, SOURCE, FIELD LOCATION
1825, spring	Planted & sowed-potatoes, peas, beans	Imported. Potato fields were planted behind the first stockade on the upper river terrace.
1825, fall	seed received & sowed-spring wheat, oats, barley, Indian corn, timothy	York Factory. Indian corn not doing well.
1826	planted-spring wheat, potatoes, peas, barley, oats, Indian corn, timothy harvested-wheat, oats, potatoes, barley, Indian corn, peas	Wheat imported across mtns. by Company express. Except for potatoes and barley, all 1826 harvest seed saved for spring 1827.
1827	seed-clover, buckwheat, wheat	Gordon, Forsythe & Co.
	seed-red wheat, white wheat, oats, barley planted-peas, barley, oats, wheat	Imported on ship "William & Mary" from London.
1828	planted-wheat, grey peas, early peas, barley, oats, Indian corn, potatoes harvested-wheat, peas, barley, oats, Indian corn, potatoes	Harvest "very abundant" except white peas. 1825-1828 location of fields unknown, some were possibly on the bluff near the old stockade, others perhaps on Fort Plain.
1829	harvested-barley, wheat, white peas, grey peas, Indian corn (McLoughlin, John Dease, Jedidiah Smith)	Location-after spring 1829, principal cultivation area on"beautiful plain" east of the new stockade.

	seeds-clover, buckwheat, wheat	Gordon, Forsythe & Co.
1830	harvested-barley, wheat, early peas, grey peas, white peas, Indian corn, oats (McLoughlin)	Floods injury growing crops. Except for barley, all crops sown on 11 July, after water had fallen. So, location of fields probably below the stockade, nearer the river and low ground.
	seeds-clover, buckwheat, wheat	Gordon, Forsythe & Co.
1831	harvested-wheat, barley, oats, early peas, grey peas, white peas, Indian corn, potatoes (McLoughlin)	
	seeds-clover, buckwheat, wheat	Gordon, Forsythe & Co.
	seeds purchased-"Early Green Pease, Early White Pease, Early White Turnip, Early Yellow Turnip, Dutch Turnip, Lapland Turnip, Yellow Swedish Turnip, Flax, Hemp, Rye Grass, Timothy Grass, White Clover, Red Clover, Early Angus oats, Early potatoe, Winter Wheat".	Seeds purchased from London-Gordon, Forsythe & Co. for the Columbia Dept.
1832	harvested-wheat, peas, barley, oats, potatoes, Indian corn, pumpkins, buckwheat (George Allan)	George Allan noted, ". . .about 700 acres of land under cultivation."- for Fort Vancouver farm.
1833	planted-wheat, peas, barley. harvested-wheat, peas, barley, oats, buckwheat (McLoughlin).	W. Tolmie notes there was ". . . farmsteading which is extensive & placed about 300 yards behind & above the fort." From the "upper prairie", viewing the plain below, he said, " . . .From this part to bank of river is a level plain generally 3/4 mile wide & divided by fences into large wheat & barley or pease fields or broad meadows."
1834	wheat, barley, peas, beans, corn, potatoes, oats (John K. Townsend, Cyrus Shepherd)	
1835	harvested-wheat, peas, barley, oats, potatoes (McLoughlin, Rev. Samuel Parker, Willian Slacum)	

1836	harvested-wheat, barley, oats, peas, potatoes, turnips, pumpkins, "corn but little" (Henry Spalding)	
1837	planted-wheat, barley, peas, potatoes (James Douglas)	By 1837, cattle penned at night on fields at Fort Plain to make the "poor miserable dry shingly soil" produce a crop.
1838		80 acres of best crop destroyed by flooding despite Douglas trying to put up "repeated embankments". Following flood, Douglas plowed, harrowed and sowed second crop.
	sowed (second crop)-peas, barely, buckwheat, potatoes sowed-100 acres of wheat in Nov. after harvesting above summer crops. (James Douglas)	Fort Plain-a maximum of 457 acres of cultivable land--178 acres poor, 76 acres good and 203 acres subject to inundation.
1841	harvested-wheat, barley, oats, peas, potatoes (McLoughlin, Duflot de Mofras)	Location-Vancouver, Nisqually, & Cowlitz.
	wheat (George Emmons)	Emmons noted that adjoining the Fort a small bed of wheat was sown as a sample.
	Hordeum vulgare, barley; Avena sativa, oats; and Secale cereale, rye.	Crops observed by Brackenridge according to C. Pickering.
1842	white wheat and yellow wheat	Received by Russians-origin uncertain, either Vancouver or Cowlitz.
1843	wheat (McLoughlin)	oats and wheat harvested at Mill Plain (Thomas Lowe)

1844	wheat, peas, oats, barley (McLoughlin)	
	barley, tares, clover, potatoes, cole seed	Crops planted on Fort Plain in vicinity of stockade according to 1844 map (within current FOVA study boundary except for cole seed which was east of current boundary).
1845	wheat, peas, oats, barely (McLoughlin) timothy	M.T. Simmons testified that the fields in the immediate vicinity of the fort were "laid down principally in timothy".
		Joel Palmer noted that a three mile stretch of the "prairie along the river" had been abandoned for cultivation due to flooding which washed away the fences there too.
1846	wheat, oats, barley, potatoes, peas -240 acres planted in turnips & colewort (James Douglas, Peter S. Ogden)	
	seeds-clover, buckwheat, wheat	Gordon, Forsythe & Gordon, Thompson & Co.
1846/47		Dugald MacTavish later testified 500 acres of farm "under fence" on Fort Plain at time of 1846 treaty.
		1846 Covington farm map and 1844 Peers map indicate 120 to 220 acres under fence on Fort Plain. Dugald Mactavish later testified 200 acres was cultivated with wheat or other grain and the remainder was planted in timothy and clover, very little of which was under fence.
		Company inventory lists 8,362 yards of fence adjoining the fort. Witnesses said there was more land

		in cultivation than was listed on inventory, but it was not listed.
1847	wheat, peas, oats, barley, potatoes (J. Douglas, and Ogden)	
1848	wheat, peas, oats (Douglas and Ogden)	
1849	timothy	William Crate noted the Company had sown "a good deal of land above and below the fort with timothy grass.
1850	wheat (Ogden)	HBC compensated for 8 acres of wheat and considerable fencing in a meadow north of fort where the U.S. Army to build officers' houses (current Officers' Row).
1851	wheat, oats, barley (Ogden)	
1852	wheat (John Ballenden)	Ballenden leased 3/4 of garden, "the upper half of the field immediately below the fort," two fields north of Upper Mill Road, and a piece of ground bet. the new army barracks and the HBC's barn, to Col. Bonneville for one year. Ballenden complained to Simpson that during the last few years, not more than 100 acres, excluding the Mill Plain, had been cultivated.
early 1850s	oats	Oats grown in field east of school houses.
1853	grain	Ogden reports yield "good".
	timothy	Dr. Henry Tuzo reports that by 1853 2,000 acres on Fort Plain and Lower Plain enclosed and sown with timothy grass.

1854	seeds-clover, buckwheat, wheat	Gordon, Forsythe & Gordon, Thompson & Co. I.N. Ebey reported that since the treaty, in the vicinity of the grist mill and saw mill, "cultivated land and enclosures have been reduced to about 1,000 acres. . . ". From 1853-54 on, harvests reported as losses.
1855	oats	Floods in June put all of Fort Plain under water and threatened oat field.
1855-1859		Farm reported losses.
ca. 1858-59	potatoes	William Crate testified that just before the Company left, that the Army took possession of the last potato field-possibly the field directly south of the fort where potatoes indicated on 1844 map. This area noted as "public pasture" on 1859 military map.
1860		At time of departure, HBC cultivated 2 fields east of fort, approx. 50 acres. In front of stockade, 2 small enclosures with 12 acres.

APPENDIX C:

LIST OF AGRICULTURAL TOOLS USED AT FORT VANCOUVER[3]

1) chaff cutting machines-"English Chaff Cutter" and "Irons for Chaff Cutting Machines";
2) dibbling irons, long handled iron tipped tool for planting seeds;
3) hand barrows, two man wooden carrying platforms;
4) harrows-"Angular Sided Harrows", "Common Country Made Harrows", and "Iron or Finless Harrrows";
5) garden hoes;
6) pea hooks, for harvesting pea pods.
7) pitch forks, 2 and 3 prong;
8) plow parts for many different types of plows, supplied by Jukes Coulson & Co.; Crowley, Millington & Co.; and Samuel Morton;
9) scythe parts-"Hay Scythes"- 40 and 48 inch from Benjamin T. Fenton. "Reaping Cradles" were attached to scythe handles to catch and stack cut stalks;
10) seeders-"Brood [Broad] Cast Seed Machine with extra seed boxes and English Seed Drill";
11) sickels-"Sickels with teeth, No. 4", from Benjamin T. Fenton;
12) threshing machines-"English Thrashing Machines" from Robert Maynard;
13) "English Turnip Cutter"; and
14) winnowing machines.

3. Ross, Lester A., Fort Vancouver 1829-1860: A Historical Archeological Investigation of the Goods Imported and Manufactured by the Hudson's Bay Company, USDI, NPS, Part IV., pp.1091-1103, June 1976.

APPENDIX C: (CONT.) 1844 INVENTORY OF "ARTICLES IN USE" AT FORT VANCOUVER FARM

From: John Hussey, "Fort Vancouver Farm", prepared for the National Park Service, (Typewritten), n.d. pp. 179-180.

Farm Utensils &c

2	Oak 4 Wheeled ox Waggons
8	small horse Carts
6	2 horse harvest Carts
1	Water Cart complete
3	Horse Drays
3	" Tumbril[s]
2	small 4 wheeled hand Carts pr Granary
2	2 Wheel ox Trucks
1	4 " " do
1	Cast iron ox Ransomes Plough
15	" " horse " do
1	C[ountry] Made Horse do
1	potatoe drill d'ble breast do
2	Weeding or Scuffers do
2	p'rs angular sided Horse Harrows
4-1/2	" com C. M. " " do
4	" Irons or Finless" do
12	sets Harness pr 2 horse Carts, consisting of 2 Collars, 2 p'rs Hames, 2 Bridles, Breeching, cart saddles w[it]h chains, pins, traces, bands, &c
16	sets plough Harness, consisting of 2 Collars, 2 p'rs Hames, 2 Bridles & reins & 2 pr Traces
1	Thrashing Machine Harness 4 Collars, 4 prs Hames, 4 Bridles, 4 p'rs iron traces
39	Collars
5	Bridles
1	pair English Fanners
3	" C. M. do
1	oil Feeder
3	Imperial 1/2 Bush[el] Measures
1	" 1 " do
9	Ox Yokes & Bows
4	large Ox Chains
6	small " do
50	large square head Axes
1	" screw Auger 2-1/2 in
6	Spades
4	Shovels
3	Crowbars
2	Timber Cants
25	Reaping Cradles
15	Hay Scythes
23	pea Hooks
5	Horse Rollers
1	" Rake
6	3 prong pitch Forks
4	2 " " do

[Farm Utensils, &c., continued]

1	Bleeding Fleam
1	Searing Iron
1	Clamb
1-1/2	pr Horse Hobbles
25	Garden Hoes
2	Com[mon] trading Guns
1	Dibling Iron [dibbling iron]
3	small cross cut Saws
2	whip Do
3	large C[ast] I[ron] Boilers
2	Loggerheads
6	pack Saddles
1	C[ountry] M[ade] portable Thrashing Machine 4 horse power Complete
2	English do. do.
1	" Chaff Cutter
1	" Turnip Cutter
1	" Seed Drill
6	Columbia Boats
9	Batteaux
1	Scow
2	large Carvel built 14 oars 8 tons
1	North West Canoe
2	Cheenook do. [Chinook canoe]
1	Ship's Boat[94]

The inventory made in the spring of 1848 differs somewhat from that of 1844, but its main contribution is the following list of articles in use in the garden:

-- Gardners [sic] Tools --

1	Axe
2	dung Forks
3	garden Hoes
2	Rakes
2	tenon Saws
1	Shovel
5	Spades[95]

APPENDIX D:

GARDEN PLANT LIST AND CHRONOLOGY

DATE	PLANT	SOURCE OR COMMENT
1825-1828	"useful seeds"from David Douglas-3 packets sent during 1826-28.	Horticultural Society of London
1827	garden seeds apple seeds (probable date)	Gordon, Forsythe & Co. Lt. Aemilius Simpson-London. The seeds were sown in "little boxes" and placed under glass in the store (warehouse).
1828	"a fine garden, some small trees & vines"	
1826-29	Deptford Onion, vetch, early white turnip, Dutch turnip, La Filame Turnip, Broad beans, Early York Cabbage, Green Tarvy Cabbage, Cos Lettuce, Onion underground, Lwent (?vent) Marjoram, Blue Pease, Hopper peas, Radish-black, Radish Turnip, Swedish Turnip, Yellow Turnip, carrots, parsnip, Mustard, Olrefry, Drum or Dream Cabbage, Salmon Radish, Early Yellow Storm Turnip, White Storm Turnip, Beet-red, Red Cabbage, celery, cucumber, leeks, Thyme, Green Cos Lettuce, White Lettuce, Melon, Welch Onion, Good Parsley, Early White Pease, Early Mumonfort?, Green Savory Cabbage, Chulter? Pease, Chives, toled or soled or loled ? Celery, Cress, shed Marjoram, pot marjoram, Mansilly (?), Thobrugh (?) onion, curled parsley.	From Gordon & Forsythe Co. for York Factory. Indents for Columbia Dept. did not appear until 1831, however, it is possible some seeds were sent overland to the Columbia Dept. from the York shipments.
1829	garden seeds	Gordon, Forsythe & Co.
	3 peach trees	Islands of San Juan Fernandez off the coast of

		Chile
1830	garden seeds	Gordon, Forsythe & Co.
1831	garden seeds	Gordon, Forsythe & Co.
	1/2 lb. each-Early Frame Cucumbers; broccoli, white broccoli, Curled Parsley, 1 lb. each-Green Cos Lettuce, Curly Kale, Welch Onion, Mustard; 2 lbs. Leek; 10 lbs. Deptford Onions; 4 lbs. Strasburgh Onion; 1 gross each-Early Green Pease, Early White Pease; 3 lbs. Salmon Radish; 2 lbs. Turnip Radish; 10 lbs. each-Early White Turnip, Early Yellow Turnip; Dutch Turnip; 1 lb. Lapland Turnip; 6 lbs. Yellow Swedish Turnip; 1 bushel each- Flax, Hemp, Timothy Grass, Early Angus oats, Early potatoes, Winter Wheat; 2 bushels Rye Grass; 6 lbs. each White & Red Clover;	London purchased these from Gordon, Forsythe & Co. Purple for shipment directly to the Columbia Dept. (not all seeds & quantities would have been used at Fort Vancouver-just shipped to the fort and divided among other forts).
1832	apples, peaches, grapes, vegetables (George Allan)	-Plants producing in 1832 so probably planted bet. 1829-32
1833	carrots, strawberries, turnips, apples, peaches, melons, culinary vegetables (Tolmie, N. Wyeth, John Ball)	Carrot, cabbages, turnips growing over the winter cabbages, of 1832-33. Melons sown under a long range of frames.
	dahlia seeds under frames, acacia seeds, "drinking' calabash (gourd)	acacia - Oahu dahlia & calabash (Tolmie)
1834	culinary vegetables, apples, peaches, grapes, pears, melons-musk & water, pumpkins, squashes, potatoes, carrots, parsnips (J.K. Townsend, Jason Lee, Cyrus Shepherd)	Wyeth on Sauvie Island requested from Hawaii, cuttings of roots of grapes, figs, sweet potatoes, sugar cane- no record of receiving them.

fruit, flowers, & vegetables

1835 "esculent vegetables, ornamental plants & flowers", grapes strawberries, peaches, "various tropical fruits - figs, oranges & lemons" (Rev. Samuel Parker)

"grow with about the same care as they would require in the latitude of Philadelphia"

1836 melons, apples, grapes, cherries, peaches, strawberries, plums, peas cucumbers, tomatoes, beans, beets, cabbages, figs, citrons, oranges, quinces, lemons, pomegranates, cotton plants (Narcissa Whitman, Henry Spalding)

1837 "every variety of vegitables" peas, currants, gooseberries, grapes, "roses in bloom and many other pretty flowers" (Susan Downing Shepherd)

1838 apples, melons, chickweed, gooseberries, strawberries, blackberries, raspberries, currants, potatoes, garden peas (George Roberts, William Tolmie)

G. Roberts also observed-maybe associated with the garden-holly leaved barberry (Oregon grape), honeysuckle, woodbine, yarrow & nettle

1839 beets, cabbage, turnips, carrots, potatoes (Thomas Farnham)

Capt. E. Belcher noted: "Garden produce peas, apples, plums, peaches, strawberries, raspberries and "general kitchen stuff and potatoes thrive and are plentiful". This may be referring to Willamette Valley.

1838 the Company's Secretary wrote to the Duke of Devonshire at Chiswick: "The Bearer William Bruce is going out in the company's vessel with the Plants &c under his charge that Mr. Joseph Paxton has so kindly forwarded for the use of the establishment at Fort Vancouver." The knowledge of this reference, to date, is that a number of fruit trees from

		Chiswick were brought out "under glass" by W. Bruce in Sept. 1839.
1840	" gigantic Umpqua pine"	sugar pine-Pinus lambertiana-discovered by David Douglas on Umpqua River-1826, sowed in garden by W. Tolmie to test soundness of seeds sent to George Simpson in 1840.
1841	gooseberries, strawberries, nectarines, grapes, musk & water melons, pears, currants, apples, peaches,"a large variety of vegetables", (William Brackenridge)	grapes-"cultivation has been neglected in last years".
	roses (James Douglas)	Probably what is now known as the "Mission Rose" according to John Minto who noted: ". . . I found left in the Original M.E. [Methodist)] mission Garden . . . the rose bush of which I diseminated cuttings far and wide as the Old Mission Rose. I assume it was first introduced at Fort Vancouver. As I feel sure it is one of the varieties in cultivation in North Britain by flower fancying Miners as also was the Old Moss Ross."
	Pyrus malus, apple; Pyrus communis, pear; Vitis vinifera, European grape; Amygdalus persica, peach; Armeniaca vulgaris, apricot; Prunus domestica, European plum; Prunus cerasus, European or common garden cherry; Fragaria-several imported varieties of strawberry; Ribes rubrum, garden currant; Ribes grossularia, European or common gooseberry; Cucumis melo, musk melon; Cucurbita melopepo, squash; Pisum sativum, garden pea; Phaselous, common kidney bean; Solanum melongena, egg plant or aubergine;	Listed by Charles Pickering, who also noted:"a well conducted garden... The original packages of seeds were brought, some by sea, but chiefly overland from Montreal"

Beta vulgaris, beet;
Apium dulce, celery;
Petroselinum sativum, parsley;
Allium cepa, onion;
and all the other common vegetables.

Charles Wilkes: ". . .Billy Bruce. . .made us his debtor, by sending us. . . fine fruit and vegetables . . . I have endeavored to repay him, by sending him seeds . . ."
-No evidence to date of Bruce receiving them.

Charles Wilkes: ". . . all his [W. Bruce] success here continues to be compared with Chiswick, which he endeavors to surpass; this is alike creditable to both."

lemons

George Emmons & his riding party, were provided lemonade by Company servants.

1842

William Tolmie on leave in England asks permission "to take for the Vancouver Garden a box 4 feet 2 containing grafts of choice Peach, Apricot, Pear, Plum, and Cherry trees prepared for me by a botanical friend in Glasgow."
No evidence, to date, of their arrival.

1844 gooseberries, currants, apples, melons (Thomas Lowe)

Sept. fire burns northwest corner of garden fence

1845 "peaches, pears, & apples. . . the garden abounds with these fruits, as well as with melons, grapes, etc." potatoes, green peas (Thomas Lowe)

1846 "fresh strawberries brought in", currants, gooseberries, apples, peas (Thomas Lowe)

garden seeds

Gordon, Thompson & Co.

Garden reduced in size-west boundary fence now flush with west wall of stockade

1849		General Persifor F. Smith, U.S. army noted: "Fort Vancouver farms "in good cultivations. The largest potatoes, turnips, onions, beets, & radishes, I have ever seen". -Not necessarily referring to Fort Vancouver garden.
1852		Ogden leased three-quarters of the garden.
1854	garden seeds	Gordon, Thompson & Co.
	80 apple trees	Recorded on 1854 list of Co.'s improvements, valued at $20 each. It appears most of these were in the garden not the orchard.
1858		Army recruits devastate orchard & garden.
1860	garden seeds	Gordon, Thompson & Co.
		Boundary Commission photo shows fruit trees in the garden, east of the summer house.
		The garden or "orchard" as it was called by 1860, was reduced to four acres.

APPENDIX E:

ORCHARD PLANT LIST AND CHRONOLOGY

Historic references to fruit trees usually did not differentiate between locations in the garden or orchard. The following list includes any references to fruit trees: if known, the location is noted. Documentation suggests there were mainly apples, peaches and pears in the orchard).

DATE	TYPE OF PLANT	NOTES OR SOURCES
ca.1826-27	apples	Carried over in a gentleman's vest pocket from London.
1828	"some small apple trees"	
1829	3 peach trees	To McLoughlin from Francis A. Lemont, apprentice on the "Owyhee", from the Islands of San Juan Fernandez near Chile.
	apples	
1832	apples, peaches (N. Wyeth, John Ball, George Allan)	Producing by 1832 so probably planted ca. 1829.
1833	apples (N. Wyeth, William Tolmie)	
1834	apples, peaches, pears (Jason Lee, J.K. Townsend)	The word "orchard" first mentioned. Jason Lee-"The orchard is young, but the quantity is so great that many of the branches would break if they were not prevented by props."
1835	apples, peaches, oranges, lemons, figs (Rev. Samuel Parker	

1836-39		The orchard delineated on 1844 map probably began during this time.
1836	apples, peaches, plums, figs, citrons, oranges, lemons, cherries, pears, pomegranates ((Henry Spalding)	
1838	apples (William Tolmie)	
1839		Capt. E. Belcher noted among other plants (see garden list), apples, plums and peaches. He may have been referring to the Willamette Valley. In Sept. gardener William Bruce, brought out "under glass" a number of fruit trees from Joseph Paxton at Chiswick.
1841	Pyrus malus, apple; Pyrus communis, pear; Vitis vinifera, "Amygdalus persica, peach; Armeniaca vulgaris, apricot; Prunus domestica, European plum; Prunus cerasus, European or common garden cherry;	List from Charles Pickering's notes on Brackenridge's reports-he also noted: "a well conducted garden. . . The original packages of seeds were brought, some by sea, but chiefly overland from Montreal."

	apples	Brackenridge observed: "The Apple Trees bore a remarkable heavy crop of fruit. . . there were from 4 to 500 of these in a bearing state. . ."
	nectarines (William Brackenridge)	
1842		William Tolmie on leave in England, requests permission "to take for the Vancouver Garden a box 4 feet x 2 containing grafts of choice Peach, Apricot, Pear, Plum, and Cherry trees prepared for me by a friend in Glasgow." No record, to date, of the box being sent or received.
1844	apples	Northern half of orchard burned in September fire. Also northwest corner of garden fence. Although the fence was rebuilt, it appears this area of the orchard was never replanted.
1845	apples, peaches, pears (Thomas Lowe)	"the garden abounds with these fruits"
1846	apples (Thomas Lowe)	
1851		Peter Skene Ogden providing cuttings for American farmers in the Willamette Valley.

1854	80 fruit trees	Recorded on 1854 list of Company's improvements, valued at $20 each. It appears most of these were in the garden.
1858		The orchard fence was partially removed by the military. Also, army recruits "devastated" the orchard and garden.
1860		The garden or "orchard" as it was called then, was four acres at time of HBC departure.

APPENDIX F:
LIST OF SUGGESTED WAYSIDE EXHIBIT LOCATIONS AND GENERAL INTERPRETATION TOPICS

A) Core Area:
In addition to wayside exhibits describing the features and operations inside the stockade, provide wayside exhibits for structures and features adjacent to the stockade related to a variety of HBC operations (agricultural, service, industrial) including the following wayside exhibits that:

1) Describe the size and layout of the garden, the garden summerhouse, the variety of plants grown there, and who and how it was used.
2) Describe the size, layout, and types of fruit grown in the orchard.
3) Describe the location of an unidentified building near the orchard and possible agricultural uses.
4) Describe the Cooper's shed, what coopering (barrel making) was about, and the location of other structures adjacent to the Cooper's shed.
5) Describe the root houses on East Fifth Street (historic Upper Mill Road), and what and how crops were stored in the structures.
6) Describe and illustrate (photo) the school houses, and their rental by the U.S. Army.
7) Describe the barn complex and associated agricultural operations.
8) Provide a viewpoint and description of the overall fort landscape and Vancouver Barracks parade ground, from a pedestrian path.
9) Provide a viewpoint and description of the overall fort landscape from a vehicle pullout.
10) Describe the Vancouver Barracks parade ground and the area's prior historic use as a Hudson's Bay Company pasture and field.
11) Descriptions of the livestock pasture and HBC livestock operations.
12) Describe the historic roads to the historic Mill Plain and the extent of the HBC property.
13) Provide a viewpoint of the fort landscape and description of Fort Vancouver operations from the proposed access at the southeast side of the park.

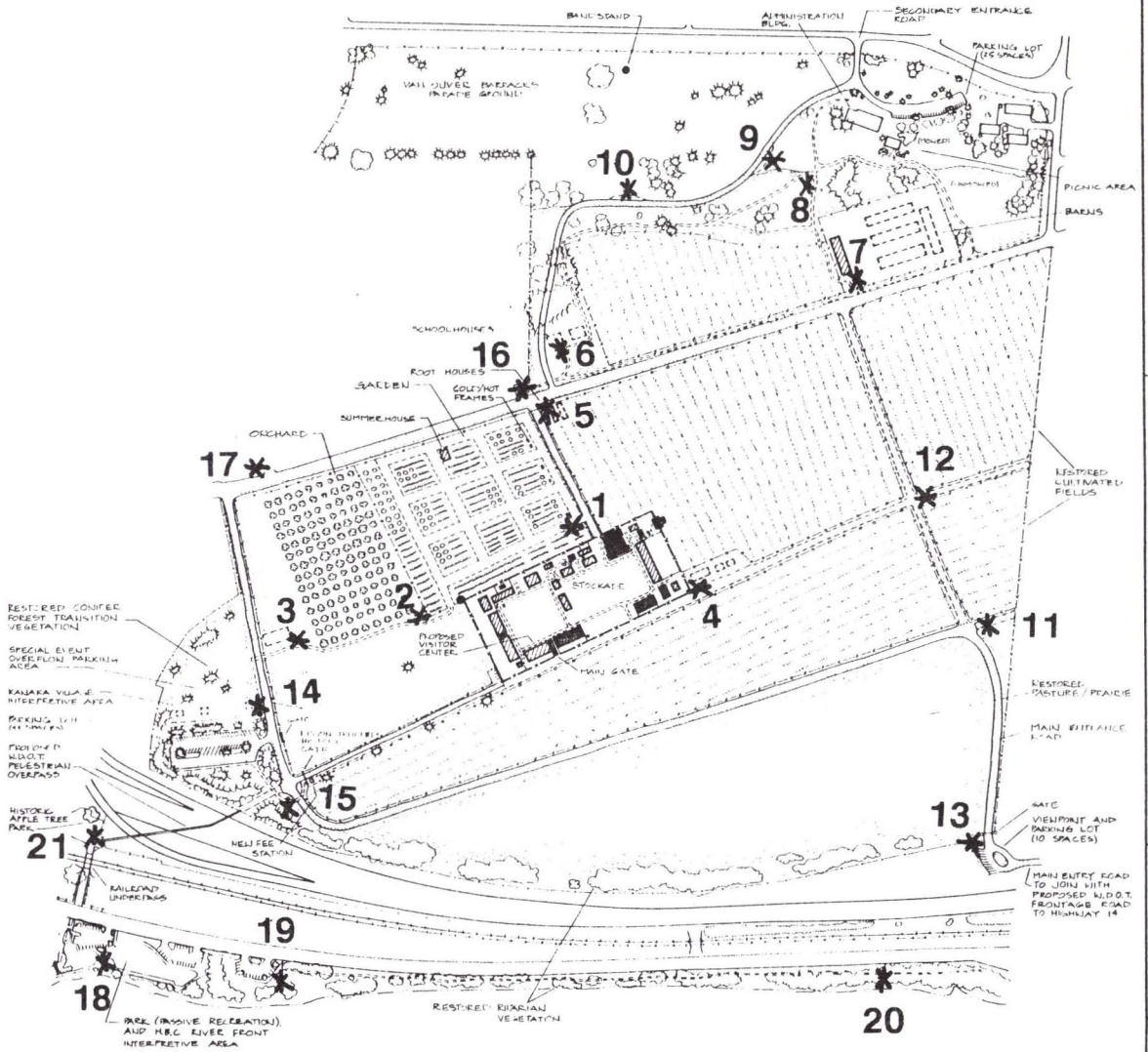
B) Kanaka Village:
14) Exhibits that describe the full extent of development at Kanaka Village (boundaries, roads, structures, small-scale features).
15) An exhibit describing the critical connection of the fort to the Columbia River and historic roads that led to the HBC river front area.

C) U.S. Army Vancouver Barracks property:
In cooperation with the U.S. Army, construct interpretive wayside exhibits to interpret the HBC resources and U.S. Army resources located on the property that is currently owned by the army.

16) Vancouver Barracks development and the area's prior historic use as a HBC service/civic area, including structures such as the grist mill, stable, and Ryan's.
17) The Vancouver Barracks development and location of HBC dwellings, and St. James Mission.

D) River Front Area:
18) Establish wayside exhibits that highlight the historic routes from the river to the stockade, and the type, and number of historic structures and associated activities that occurred at the river front in the historic period.
19) Establish a wayside that describes the Columbia River ecosystem and the use and appearance of the shoreline before and during the HBC historic period.
20) Locate wayside exhibits and describe the HBC structures (servant's dwellings and *Modeste* stable) located at the east end of the river front area.

E) Historic Apple Tree Park (City of Vancouver property):
21) Exhibit describing Fort Vancouver N.H.S. and the historic connection of the fort to the Columbia River.



NOTES:

- VEGETATION SHOWN IN THE GARDEN IS FOR ILLUSTRATIVE PURPOSES ONLY.
- PROPOSED RECONSTRUCTIONS ARE CONTINGENT ON THE AVAILABILITY OF ACCURATE DOCUMENTATION.
- THE MAIN PARKING LOT WILL ACCOMMODATE 44 CARS, 5 R.V.'S, AND 5-6 BUSES.
- 4-5 ACCESSIBLE PARKING SPACES AND PARK MAINTENANCE VEHICLE SPACES ARE LOCATED IN A SMALL LOT AT THE S.W. CORNER OF THE STOCKADE.
- ENLARGEMENTS OF THE STOCKADE AND PARKING AREA ARE PROVIDED IN THE CULTURAL LANDSCAPE REPORT.

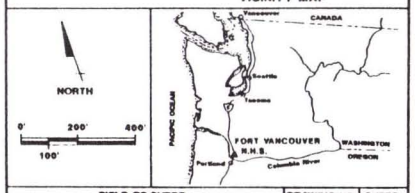
SOURCES:

HISTORIC MAPS, DRAWINGS AND PHOTOS ON FILE, FORT VANCOUVER N.H.S. ARCHEOLOGICAL REPORTS AND MAPS ON FILE, FORT VANCOUVER N.H.S., EXISTING CONDITION DOCUMENTATION AND FIELD INVENTORY (1990).

LEGEND:

- EXISTING STRUCTURE
- EXISTING RECONSTRUCTION
- PROPOSED RECONSTRUCTION
- PROPOSED FOUNDATION OUTLINE
- PAVED ROAD
- UNPAVED ROAD
- UNPAVED PEDESTRIAN ROUTE
- POST AND RAIL FENCE
- ZIG-ZAG FENCE
- CHAIN LINK FENCE
- CONIFEROUS TREES
- DECIDUOUS TREES
- PASTURE/PRAIRIE GRASSES
- CULTIVATED FIELDS
- INTERPRETIVE WAYSIDE
- WOOD BOLLARDS

VICINITY MAP



TITLE OF SHEET: LANDSCAPE PLAN	DRAWING NO.: ———
FORT VANCOUVER NATIONAL HISTORIC SITE	SHEET: OF
CULTURAL LANDSCAPE REPORT: FORT VANCOUVER NATIONAL HISTORIC SITE	DESIGNED: T. TAYLOR
	DRAWN: T. TAYLOR
	DATE: 10/92

SUGGESTED WAYSIDE EXHIBIT LOCATIONS

APPENDIX G: CRITERIA FOR RECONSTRUCTING HISTORIC VEGETATION AND ASSOCIATED FEATURES AT FORT VANCOUVER

Accurately reconstructing historic features such as the garden, orchard, fields, and pastures, at Fort Vancouver is predicated on the identification of specific plant varieties that were historically used at the site between 1829 and 1846, and are still available. Even if historic varieties (cultivars) from Fort Vancouver are no longer available, a description of the characteristics of the variety should be obtained, if possible, to try and match these historic characteristics. All materials need to be verified using historical, pictorial, and physical documentation. A large network of heirloom plant research centers, societies, clubs, historic gardens, and demonstration farms exist today and an abbreviated list of resources can be found in Appendix H. Reconstructions should be based on primary and secondary sources if possible.

PRIMARY SOURCES:

Primary sources include plants used specifically at Fort Vancouver or used at a place closely associated with Fort Vancouver. These sources include references in journals, diaries, illustrations, archeological investigations, seed and plant records, and extant historic plant material (Historic Apple Tree; folklore plants such as the plum tree and wormwood plant from HBC employee George Roberts' home in Cathlamet). Examples of primary sources include the list of seeds from Gordon, Forsythe, & Company for both the Columbia Department and York Factory, and vegetation grown at outposts administered by Fort Vancouver such as Cowlitz Farm, and Fort Nisqually. A list of historic plants from primary sources (summarized from Appendices B, D, and E) follows. For a preliminary list of native vegetation see Appendix A.

Perhaps the best source of plant materials for Fort Vancouver, are the lists of seeds from Gordon, Forsythe, & Company. These lists provide the most accurate list of plant material because they include the common name for

plant varieties; visitors and employees usually only referred to plants by generic names, for example, carrots, turnips, apples, dahlias, etc.

SECONDARY SOURCES:

Secondary sources include general reference materials, such as popular garden and horticultural books, and catalogues and magazines from the British Isles during the historic period. Plant varieties chosen from these sources should be based on the list of generic names identified in the primary research.

Reference materials specifically noted as being found at Fort Vancouver should be given high priority. For example, J.C. Loudon's An Encyclopedia of Agriculture (probably the 1831 edition) was in Chief Factor McLoughlin's library. Common plant varieties suggested in this book may be appropriate plant varieties for the site (if they are still available).

Current research indicates most of the plants grown at Fort Vancouver originated from sources in England or Scotland; therefore, identifying historic varieties should focus on varieties that were common in the British Isles. The use of secondary sources from America or other countries should be limited. While it is possible some plant varieties were introduced to Fort Vancouver by American settlers, foreign visitors, or through foreign trade (peaches from San Fernandez, acacia from Oahu) they should not be included as historic plant material unless the specific varieties and their use at Fort Vancouver can be documented. Note: This does not preclude that possibility that foreign or American varieties can be considered secondary sources since common varieties in England and Scotland included many varieties that originated in other countries.

If historic plant varieties identified through primary and secondary research are no longer available other historic varieties may be planted for interpretive purposes. It is important that these features are interpreted as being representational of the fort's agricultural operations and that they are not authentic HBC Fort Vancouver historic varieties. There is a wide range of other historic plant

varieties, including HBC forts other than those listed as primary or secondary source, and heirloom or contemporary varieties. It is important to remember that all plant materials should be selected on the basis of restoring the historic scene at Fort Vancouver. The choice of plants should be based on the generic names identified in the historic research, and when possible, varieties should match the physical characteristics (color, form, & size) of historic varieties if they have been identified.

LIST OF POTENTIAL PRIMARY SOURCES (to date):

1. Hudson's Bay Company Archives (HBCA) Indent Book list of seeds from Gordon, Forsythe & Company for the Columbia Department and York Factory during the late 1820s, and 1830 to mid-1840s.

2. Any historic references specific to Fort Vancouver, Fort Nisqually, and Cowlitz Farm, during the historic period (1829-46).

LIST OF POTENTIAL SECONDARY SOURCES (to date):[4]

1. Any historic references specific to Fort Langley, and Fort Victoria during the historic period.

2. Seed catalogs from the historic period from seed companies used by Fort Vancouver:
a) Thomas Sheppard (1824-1827 seed co. used by HBC)
b) Gordon, Forsythe & Company
c) Gordon, Thompson & Company

3. John C. Loudon An Encyclopedia of Agriculture (1831, 1835), An Encyclopedia of Gardening, 1830 and 1834, and Gardeners' Magazine (during the Fort Vancouver historic period).

4. Catalogue of Fruits, 1826. A catalog listing the fruits in the garden at Chiswick, submitted by the Secretary of the Horticultural Society to the Council.[5]

Catalogue of Fruits, 2nd Edition, 1831, from the Horticultural Society of London. A catalog of the fruit varieties grown in the Society's garden, and notes on each variety. This catalog was also listed as a reference book for Loudon's An Encyclopedia of Gardening (1834).[6]

GENERAL NOTES FOR RECONSTRUCTING THE GARDEN AND ORCHARD AT FORT VANCOUVER

While historical documentation about the garden and orchard is limited, some elements were identified in the historic research and should be included when developing specific designs and plans for these features. For example, the garden walks were said to be lined with strawberry plants, historic illustrations suggest that fruit trees in the garden were more numerous in the northwest beds, and frames (hot or cold) were used in the east side of the garden. These elements should be reestablished to enhance the interpretation of the historic scene. Except for the frames, fences, and well, no other small-scale features or ornamental features have been identified in the garden. While many visitors expressed amazement about the quantity and variety of produce, and the orderly layout of the garden, except for the summerhouse, no other ornamental features such as trellises, benches, sundials, etc., were mentioned. Also, there was no mention of sitting in the garden, only walking, and likewise the use of the summerhouse is unknown; did visitors sit in the summerhouse or was it simply used to store tools? As a large-scale working garden, it may be more likely that the garden was limited in ornamental features, therefore, the introduction of ornamental small-scale features common to Victorian English gardens, without specific references to their use at Fort Vancouver should be pursued with caution. Accurately transposing features from designed Victorian gardens, to a remote Pacific Northwest fur-trading post, could create an inaccurate historic scene.

While it is possible dwarf apple trees existed at Fort Vancouver during the historic period, until more conclusive evidence is available, the majority of the trees in the garden and orchard should be standard size trees.

4. There is an intriguing series of connections between John C. Loudon's encyclopedias, The Horticultural Society of London (Chiswick Gardens), and Fort Vancouver. Fort Vancouver was often compared to Chiswick, documentation indicates plants were received from the Horticultural Society, Loudon's Encyclopedia of Agriculture, was in McLoughlin's library, and the two primary seed sources for the fort were Gordon, Forsythe & Company, and Gordon, Thompson & Company. Loudon cites several major contributors to The Encyclopedia of Agriculture (1839), and An Encyclopedia of Gardening (1830, 1834), including Esq. William Forsyth F.A.S., and members of the Horticultural Society of London including Mr. Thompson and Mr. Gordon. Mr. Thompson was the gardener of the Fruit Department at the Horticultural Society's garden (Chiswick) and provided a list of fruit for the 1834 edition of Loudon's An Encyclopedia of Gardening. Is it possible that these three contributors were associated with the two primary seed companies used at Fort Vancouver, Gordon, Forsythe, & Company, and Gordon, Thompson, & Company? For example, Esq. William Forsyth (1737-1804) from Scotland, is identified in The Encyclopedia of Gardening, as an expert on fruit trees, and author of Treatise on the Culture and Management of Fruit Trees: in which a new method of Cure, invented and practiced by the Author, London, 1791. The 1830 edition of An Encyclopedia of Gardening, includes lists of vegetable varieties recommended by William Forsyth. *His son "was an eminent London seedsman and author of a botanical catalogue". Was his son, Forsythe of the seed company Gordon, Forsythe & Company? Future research confirming all these possible connections would increase support of the use of these secondary sources.

5. Council Minutes of the Horticultural Society, November 11, 1826. Lindley Library, Royal Horticultural Society, Vincent Square, London.

6. Horticultural Society of London, "XLIII. Report on the progress of the Horticultural Society of London, from May 1, 1830 to April 30, 1840", From: Vol. II, Second Series of Transactions of the Horticultural Society of London, Lindley Library, Royal Horticultural Society, Vincent Square, London.

PLANT LIST FROM HUDSON'S BAY COMPANY ARCHIVES INDENT BOOKS FOR USE AS A PRIMARY PLANT SOURCE FOR FORT VANCOUVER

London purchased seeds from Gordon, Forsythe & Co. for shipment directly to the Columbia Dept. These seeds & quantities would not have been used exclusively at Fort Vancouver, they would have been shipped to Fort Vancouver and then distributed to the other Columbia Department forts. The following varieties were listed in the 1831 Hudson's Bay Company Archives Indent Books:

Early Frame Cucumbers
Purple broccoli
white broccoli
Curled Parsley
Green Cos. Lettuce
Curly Kale
*Welch Onion
Mustard
Leeks
Deptford Onions
Strasburgh Onion
Early Green Pease
Early White Pease
Salmon Radish
Turnip Radish
Early White Turnip
Early Yellow Turnip
Dutch Turnip
Lapland Turnip
Yellow Swedish Turnip
Flax
Hemp
Timothy Grass
Early Angus oats
Early potatoes
Winter Wheat--Triticum hybernum p. 811
Rye Grass--Secale cereale pg. 821
White & Red Clover

London also purchased seeds from Gordon & Forsythe & Co. for York Factory. HBCA Indent Books for Columbia Department did not appear until 1831, however, it is possible some varieties were sent overland to the Columbia Dept. from the York shipments. The following varieties were listed in the 1826-1831 Indents: Varieties that are underlined are varieties also identified in J.C. Loudon's Encyclopedia of Agriculture, 1835.

Depford Onion
vetch
early white turnip
Dutch turnip
La Filame Turnip
Broad beans
Early York
Cabbage
Green Tarvy Cabbage
Cos Lettuce
Onion underground
Lwent (?vent) Marjoram
Blue Pease
Hopper peas
Radish-black
Radish Turnip
Swedish Turnip--Brassica rapa var. rutabaga pg. 845
Yellow Turnip
carrots
parsnip
Mustard
Olrefry
Drum or Dream Cabbage
Salmon Radish
Early Yellow Storm Turnip
White Storm Turnip
Beet-red--Beta vulgaris pg.845
Red Cabbage
celery
cucumber
leeks
Thyme
Green Cos Lettuce
White Lettuce
Melon

**Welch Onion
Good Parsley
Early White Pease
Early Mumonfort?
Green Savory Cabbage
Chulter? Pease
Chives
toled or soled or loled ?
Celery
Cress
shed Marjoram
pot marjoram
Mansilly (?)
Thobrugh (?) onion
curled parsley
Soild Celery
curled Kail [kale]
Hardy Hammersmith Lettuce
Marseilles Lettuce
Mustard Lettuce
Strasburgh Onion
Best Curled Parsley
Long Salmon Radish
White turnip radish
Black G?nish Turnip
Early White Mam?ie
Early Yellow ?mie
Brichey___
Pound___
Dwarf curled savory
Moldowna (?)balm
Marigold
Sto(?) Marjoram
Mint
Sage
Meadow fescue grass
G.sunes Artalis grass

Vow Pruterses Grass
Festiva Oviso Grass
Cocksfort Grass
Best Pied Clover Grass
Curly Z___ Cabbage
Best Carrot
Yellow Scotch Turnip
Curly White ___? (maybe turnip)
Purple Broccoli
White Broccoli
Best ___? Parsley
Best Cauliflower
Early Frame Cucumber
French Dun Dwarf Bean
**Scarlet Runner Bean
White Runner Bean
Windsor Bean
Hungarian Bean
Mangel Wazzel??

* Historic variety still available. Planted at a Chilton Gardens, Chilton Foliat, England, a restored Victorian kitchen garden. See Jennifer Davies, The Victorian Kitchen Garden, 1988.

** Historic variety still available see: Scott Kunst, "Victorian Vegetables", Old House Journal, March/April, 1987, pp. 46-51.

SUMMARY OF ADDITIONAL PRIMARY SOURCE PLANTS FOR FORT VANCOUVER (in addition to HBCA Indent Books)

This summary was derived from Appendices B., D., and E. and other historic documentation.
Varieties that are underlined are varieties that are also listed in J.C. Loudon's Encyclopedia of Agriculture, 1835.

FRUITS:

water melons
pumpkins
figs
oranges
lemons
citrons
quinces
pomegranates
blackberries
raspberries
nectarines
apples--Pyrus malus
pears--Pyrus communis
grapes--Vitis persica (European grape)
peaches--Amygdalus persica
cherries--Prunus cerasus (European or common garden cherry)
gooseberries--Ribes grossularia (European or common gooseberry)
currants--Ribes rubrum (garden currant)
musk melons--Cucumis melo
apricot--Armeniacaa vulgaris
plum--Prunus domestica (European plum)
strawberries--Fragaria (several imported varieties)

Fruit trees most likely planted in the orchard:
apples
pears
paches

Fruit trees more likely to be planted in the garden:
plums
cherries
apricots
figs
citrons
oranges
lemons
pomegranates
nectarines

VEGETABLES AND CROPS:

peas--Pisum sativum (garden pea)
squash--Cucurbita melopepo
beans--Phaselous (common kidney) bean
beets--Beta vulgaris
egg plant or aubergine--Solanum melongena
celery--Apium dulce
onion--Allium cepa
tomatoes
"drinking' calabash (gourd)
barley--Hordeum vulgare p. 823 (spring barley)
Indian corn
buckwheat
peas--grey peas, early peas
wheat--Triticum aestivum p. 811 (Spring wheat), white wheat, yellow wheat.
colewort (or cole seed)
pumpkins
tares

FLOWERS:

dahlias
roses
"many other pretty flowers"

OTHERS:

"gigantic Umpqua Pine" (sugar pine)
acacia (tree)
cotton plants
chickweed (herb)
parsley--"Petroselinum sativum"
lemonbalm, plum, & wormwood (from George Roberts' home in Cathlamet, WA.).
'drinking' calabash (gourd)

PLANTS NEEDING ADDITIONAL VERIFICATION

The following plants are likely from accurate secondary sources but due to time constraints for this report the primary sources were not located or validated and they need to be checked before using them at Fort Vancouver as part of the primary plant list. In some instances, such as J. Neilson Barry's citations, no primary source was listed and therefore they need further verification.

hops, broom corn, bush potato, red potato, Brotchie potato, Early blue potato, **Ladies Finger potato, Early ash leaf Kidney-not certain a potato but it was planted with potatoes (Hussey, "Fort Vancouver Farm")

white figs (Barry, "Agriculture in the Oregon Country in 1795-1844")

** Historic variety still available see: Scott Kunst, "Victorian Vegetables", Old House Journal, March/April, 1987, pp. 46-51.

"Grass seeds sown at Nisqually April 1, 1847". From page 27 of the Botanical Notebook of William Fraser Tolmie 1832-1847 (PABC Add. MSS. 557 v.1/7).

1st Bed	Poa pratensis (smooth-stalked meadow-grass)*
2nd Bed	P. nemoralis (wood meadow grass)
3rd Bed	P. trivialis (rough stalked meadow grass)
4 "	Agrostis vulgaris (common creeping-rooted bent-grass)
5 "	A. alba (marsh bent grass)
6 "	Phleum pratense (timothy)
7 "	Ahenatherum avenaceum (French rye grass)
8 "	Avena flavescens (yellow oat grass)
9 "	Alopecurus pratensis (meadow fox-tail)
10 "	Cynosurus cristatus (crested dog-tail grass)
11 "	Milium effusum (wood millet grass)

12 " Festuca rubra (creeping rooted fescue)
13 " F. pratensis (meadow fescue)
14 " F. loliacea (spiked or rye grass-like fescue)
15 " F. heterophylla (various-leaved giant fescue)
16 " F. tenuifolia (fine-leaved fescue)
17 " F. duriuscula (hard fescue grass)

NOTE: Common names for the grasses at Niqually are from a catalog by Peter Lawson & Son, 1844, Edinburgh. These common names should be verified with other historic period catalogs (especially primary source catalogs), before relying on their accuracy.

APPENDIX H: ABBREVIATED LIST OF HEIRLOOM PLANT RESOURCES

HISTORIC PLANT ORGANIZATIONS

Plant Finder's of America
106 Fayette Circle
Fort Wright, KY 41044
send $5 and common and scientific name and full description of plant--400 seed sources world-wide.

Vegetable Variety Inventory
Seed Saver's Exchange (Kent Whealy)
203 Rural Avenue
Decorah, Iowa 52101
send SASE for copy of inventory

Heirloom Vegetable Garden Project
Dept. of Vegetable Crops
157 Plant Science Building
Cornell University
Ithaca, NY 14853

Scott Kunst
Old House Gardens
536 Third Street
Ann Arbor, Michigan 48103
source lists and plant searches

Association for Living Historical Farms and Agricultural Museums
Smithsonian Institution
Washington, D.C. 20560

Historic Plant Center
Monticello
Charlottesville, VA

National Agricultural Library
Special Collections
10301 Baltimore Blvd.
Beltsville, MD

A Heritage Seed Program
Heather Apple
RR 3
Uxbridge, Ontario, Canada
The Canadian version of Kent Whealy's Seed Saver's Exchange

North American Fruit Explorers
Rte. 1, Box 94
Chapin, IL 62629
society for old and unusual fruit $8

PUBLICATIONS

North American and European Fruit and Tree Nut Germplasm Resources Inventory, U.S. Dept. of Agriculture, USGPO Washington, D.C., 1977
Miscellaneous publications Number 1406

Smith, Muriel, National Apple Register of the United Kingdom. London: Ministry of Agriculture, Fisheries and Food, 1971.

Fruits and vegetables sold in Europe between 1400 and 1900 are documented in three books by John Harvey--published in Great Britain:

1) Early Garden Catalogues--facsimiles of some of the earliest seed lists in Europe.
2) Early Horticultural Catalogues--checklist of all catalogues issued by English and Irish nurseries and seed companies in 1850.
3) Early Nurseryman--the history of the seed trade from the Middle Ages to the 19th Century.

Stuart, David, and James Sutherland, Plants from the Past, New York, NY: Viking Penguin, Inc., 1987.

Burr, Fearing Jr., The Field and Garden Vegetables of America, Chillicothe, IL: American Botanists Booksellers, 1988 (Originally published in 1865 by JE. Tilton & Co., Boston, MA).

Plant "Origination Lists" are lists that contain all known cultivars of a plant, with dates of introduction and brief descriptions of the cultivars. For a short summary of Origination Lists for flowers see: "Where Have All the Flowers Gone", Scott Kunst and Arthur O. Tucker, Association for Preservation Technology, Vol. XXI, No. 2, 1989, pp. 43-50.

NURSERIES AND SEED SOURCES

Plants from the Past
The Old House
1 North St.
Belhaven, Dunbar, Great Britain
nursery with heirloom British varieties

Chiltern Seeds
Bortree Stile, Ulverston
Cumbria LA12 7PB England

Hillier Nurseries
Ampfield House, Ampfield
Romsey, Hants. SO5 9PA England

Thompson & Morgan
Box 1308
Jackson, NJ 08527
British based-free

C.A. Cruickshank Inc.
1015 Mt. Pleasant Rd.
Toronto, Ontario
Canada M4P 2M1

World Seed Service
J.L. Hudson, Seedsman
PO Box 1058
Redwood City, CA 94064

Bear Creek Farms
PO 411
Northport, WA 99157
send SASE with two stamps

Good Seed
P.O. Box 702
Tonasket, WA 98855

Select Seeds
81 Stickney Hill Rd.
Union, CT 06076
$2

APPENDIX I: LIST OF CLASSIFIED STRUCTURES

List of Classified Structures (LCS)
Park/Structure Index

Park Alpha Code: FOVA

Structure	LCS ID Number	Structure Name
016	30081	Blacksmith's Shop
017	30062	Indian Trade Store/Dispensary
006	05179	Well
007	00400	Palisade
008	00401	Bastion
009	00402	Bakery
010	00407	Chief Factor's House
011	00408	Kitchen
012	00403	Wash House

Total Structures for Park: **9**