

Adopted by H. of R. Oct. March 2,

FILE COPY

ANACORTES HARBOR, WASH.

3-19
CIV. WKS. RECORD AREA

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORTS ON PRELIMINARY EXAMINATION AND SURVEY OF ANACORTES HARBOR, WASH., WITH A VIEW TO IMPROVING CAP SANTE WATERWAY.

MAY 13, 1916.—Referred to the Committee on Rivers and Harbors and ordered to be printed, with illustration.

WAR DEPARTMENT,
Washington, May 12, 1916.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, United States Army, dated 11th instant, together with copies of reports from Lieut. Col. J. B. Cavanaugh, Corps of Engineers, dated November 15, 1913, and July 2, 1915, with map, on preliminary examination and survey, respectively, of Anacortes Harbor, Wash., made by him in compliance with the provisions of the river and harbor act approved July 25, 1912.

Very respectfully,

NEWTON D. BAKER,
Secretary of War.

9 May 1933 to addition...

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, May 11, 1916.

From: The Chief of Engineers, United States Army.

To: The Secretary of War.

Subject: Preliminary examination and survey of Anacortes Harbor,
Wash.

1. There are submitted herewith for transmission to Congress reports dated November 15, 1913, and July 2, 1915, with map, by Lieut. Col. J. B. Cavanaugh, Corps of Engineers, on preliminary examination and survey, respectively, authorized by the river and harbor act approved July 25, 1912, of Anacortes Harbor, Wash., "with a view to improving Cap Sante Waterway * * *." Report on the portion of the same item of law referring to a proposed waterway between Fidalgo Bay and Similk Bay is printed in House Document No. 860, Sixty-third Congress, second session.

2. Anacortes Harbor is on the northern point of Fidalgo Island in Puget Sound, and is formed by the waters of Guemes Channel on the north and those of Fidalgo Bay on the east of the city. The principal wharves are on the north where ample depths are available, but vessels using these waters are exposed to strong tidal currents. Anacortes is chiefly engaged in the lumber and fish business. The large fishing fleet is composed mostly of small vessels, and a sheltered harbor would be of great benefit to them. The Cap Sante waterway is in Fidalgo Bay on the east side of the city. If this waterway were improved it would provide the needed facilities, and local authorities have signified their willingness to cooperate in this work. The district officer submits an estimate of cost of securing a channel 12 feet deep at mean lower low water, 150 feet wide at the outer end and 250 feet wide at the inner end, within the limits indicated on the map herewith, at a total estimated cost of \$84,000. He expresses the opinion that, under certain conditions of local cooperation, the locality is worthy of improvement to the extent indicated, and the division engineer concurs in this view.

3. These reports have been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated April 12, 1916, concurring in the views of the district officer and the division engineer.

4. After due consideration of the above-mentioned reports, I concur in the views of the district officer, the division engineer, and the Board of Engineers for Rivers and Harbors, and therefore report that the improvement by the United States of Anacortes Harbor, Wash., with a view to improving Cap Sante waterway * * *, is deemed advisable to the extent of providing a channel 12 feet deep at mean lower low tide, 150 to 250 feet wide, as shown on accompanying map, at an estimated cost of \$84,000, under the following conditions:

(a) That suitable dumping grounds for the deposit of dredged material and the necessary bulkheads to retain the material in place shall be furnished without cost to the United States.

(b) That before the work is commenced, local interests shall contribute the sum of \$28,000 toward the execution of the work and furnish evidence satisfactory to the Secretary of War that they will

provide a suitable terminal open to the public on equal and reasonable terms.

The full amount to be furnished by the Government, \$56,000, should be made available in one appropriation.

W. M. BLACK,
Chief of Engineers, United States Army.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS
ON SURVEY.

[Third indorsement.]

THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
April 12, 1916.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. The following is in review of the district officer's reports on preliminary examination and survey of Anacortes Harbor, Wash., with a view to improving Cap Sante waterway and constructing a waterway between Fidalgo Bay and Similk Bay, authorized by the act of July 25, 1912. This report relates only to the first part of the above quotation, i. e., "Anacortes Harbor, Washington, with a view to improving Cap Sante waterway * * *." A report has already been submitted with reference to the rest of the item, and may be found printed in House Document No. 860, Sixty-third Congress, second session.

2. The city of Anacortes occupies the northern point of Fidalgo Island, near the eastern end of San Juan de Fuca Strait. It has a population of about 6,000. The harbor of Anacortes is partially on the north and partially on the east of the city. The principal wharves are on the north, where the water is deep and the tidal currents strong. Cap Sante waterway is on the east. It is well sheltered, but is shallow, the depths ranging from 1 to 6 feet at mean lower low water. The mean range of tide is 6.3 feet.

3. The principal sources of commerce are the fish and lumber industries. There are a number of large mills, factories, and canneries. Puget Sound steamers carried during 1911, 7,799 tons of merchandise and 50,000 passengers, and 281 foreign steamers, with a tonnage of 70,794, transported cargoes valued at \$604,000.

4. The district officer presents a plan of improvement for the Cap Sante Waterway which provides for a channel 12 feet deep at mean lower low water, 150 feet wide at the outer end and 250 feet at the inner end, at an estimated cost of \$84,000. It is thought that no maintenance will be required. He is of opinion that this improvement is justified by the prospective benefits under certain stated conditions of local cooperation. The division engineer concurs in the views of the district officer.

5. The principal object of the contemplated improvement is to afford accommodations for light and moderate draft vessels in quiet water. On the north side of the city, where there is good depth, the currents are very strong, and while it is not unduly rough for large craft, it is not always safe for small vessels. The population tributary is increasing and it appears that the business is also. The com-

munity is apparently willing to cooperate substantially toward securing the desired improvement, and it is believed that the plan of cooperation proposed is equitable. The board concurs in the views of the district officer and the division engineer, and reports that, in its opinion, it is advisable for the United States to undertake the improvement of Cap Sante waterway to the extent of providing a channel 12 feet deep at mean lower low tide, 150 to 250 feet wide, as shown on the accompanying map, at an estimated cost of \$84,000, under the following conditions:

(a) That suitable dumping grounds for the deposit of dredged material and the necessary bulkheads to retain the material in place shall be furnished without cost to the United States.

(b) That before the work is commenced, local interests shall contribute the sum of \$28,000 toward the execution of the work and furnish evidence satisfactory to the Secretary of War that they will provide a suitable terminal open to the public on equal and reasonable terms.

The whole amount of the Government's share, \$56,000, should be made available in one appropriation.

6. In compliance with law the board reports that except as contemplated by the above recommendations there are no questions of terminal facilities, water power, or other subjects so related to the project proposed that they may be coordinated therewith to lessen the cost and compensate the Government for expenditures made in the interests of navigation.

For the board:

JOHN BIDDLE,
Colonel, Corps of Engineers,
Senior Member Present.

PRELIMINARY EXAMINATION OF ANACORTES HARBOR; WASH.
UNITED STATES ENGINEER OFFICE,
Seattle, Wash., November 15, 1913.

From: The District Engineer Officer.

To: The Chief of Engineers United States Army
(Through the Division Engineer).

Subject: Preliminary examination of Anacortes Harbor, Wash.

1. In compliance with section 2, river and harbor act of July 25, 1912, and instructions received in letters from the Office of the Chief of Engineers, dated August 3, 1912, and September 24, 1912, respectively, I have the honor to submit the following report of a preliminary examination of Anacortes Harbor, etc.

2. No previous examinations or surveys have ever been made of Anacortes Harbor, and no funds have been expended by the United States for its improvement.

3. Anacortes Harbor is the harbor of the city of the same name having a population of about 6,000. The city occupies the northern point of Fidalgo Island, which is wooded, hilly, very irregular in shape, and about 12 miles long, with an average width of about 4 miles. The island lies in about latitude 48° 30' N. and longitude 122° 35' W. of Greenwich, and its area is approximately 52 square miles. Swinomish Slough, connecting Padilla Bay on the north with

Skagit Bay on the south, separates Fidalgo Island from the mainland, but connection by rail and wagon road is made across the slough on the south shore of Padilla Bay. Anacortes Harbor is formed by the waters of Guemes Channel on the north and those of Fidalgo Bay on the east of the peninsula occupied by the city of Anacortes.

4. The surrounding country adjacent to the city is generally level, permitting growth and easy expansion. Available water frontage at the present time is 4 to 5 miles long. The principal wharves are located along the Guemes Channel, where ample depths are available, but vessels using these waters are exposed to unusually strong tidal currents and to the heavy seas piled up in the channel by east or west winds sweeping across Rosario Straits and Padilla Bay. Depths now actually available at these wharves have been fixed by the requirements of existing traffic and are from 18 to 24 feet at mean lower low water. Vessels desiring to dock when the tides are running are forced to come up against the tide, and exceptionally strong wharves and mooring facilities are required to prevent damage to vessels or wharves.

5. Water terminals are located along the water front of Guemes Channel. No modern methods of quick transfer of freight are used. The water terminals are generally efficient for the traffic that they serve, and are open to all water carriers on equal terms, subject to wharfage charges limited by State laws. All existing water terminals are privately owned, but the public has numerous streets ending along the water front and can develop water terminals if it so desires. The Great Northern Railway is the only railroad that comes to Anacortes. Physical connection exists between the railroad and the water terminals. So far as known, no contracts exist between the water carriers and the railroads. Improved highways have been constructed to the water terminals.

6. Anacortes Harbor is at present the only deep-water harbor reached by rail in the stretch of Puget Sound between the cities of Bellingham and Everett, a distance of 63 miles by rail and 75 miles by water, via most direct route.

7. Anacortes is chiefly engaged in the lumber and fish business and here are located several large lumber mills and some of the largest fish canneries on the Pacific coast. The following list shows the number and value of the various industries:

Number.	Kind.	Value.	Employees.
10	Shingle mills.....	\$205,000	168
6	Salmon canneries.....	600,000	700
3	Lumber mills and box factory.....	550,000	295
1	Cedar siding factory.....	50,000	35
1	Wood product factory.....	75,000	35
2	Glue, fish oil, and fertilizer.....	300,000	30
2	Codfishing plants.....	90,000	75
1	Fruit and vegetable cannery.....		62
1	Creamery and cold-storage plant.....	20,000	5
2	Shipyards.....	15,000	30
1	Feed mill.....		10
3	Machine shops.....	20,000	20
1	Fresh-fish packers.....	15,000	20
1	Water and light company.....	300,000	15
1	Oil company.....	25,000	10
1	Ice company.....	20,000	10
2	General wharves.....	24,000	20
1	Glass works.....	30,000	50

8. The following statistics regarding shipping, manufactures, exports, and imports, etc., of the city are taken from a report of the Anacortes Chamber of Commerce and Manufacture published in August, 1912:

Vessels.	Number.	Tons.
Documented by the Federal Government:		
Gasoline screw	51	649
Steam	5	132
Sailing	3	731
Scows and pile drivers	115	1,782
Not documented, under 5 tons: Fishing boats, pleasure boats, etc	80	200
Total vessels of all kinds	254	3,494

FREIGHT AND PASSENGER SERVICE.

Inland Navigation Co., steamers (4 boats)	Seattle-Anacortes-Bellingham.
Taku II	Anacortes-Bellingham.
City of Anacortes	Anacortes-San Juan Island Points.
Bainbridge	
Islander	
Elk (ferry)	
Total number of passengers carried in and out of Anacortes (exclusive of ferry) during year 1911 by water	50,530
Total freight carried in and out by the regular passenger boats named above during year 1911 (tons)	7,799
Tons of freight received during year 1911	15,469
Tons of freight sent out during year 1911 (2,097 carloads)	40,959

FOREIGN TRADE.

	Number.	Tons.	Value.	
			Imports.	Exports.
Vessels entered from foreign ports	147	44,511	\$463,139	.....
Vessels cleared for foreign ports	134	26,283	.....	\$141,377
Merchandise exported by railway (cars)	51	.....	.....	18,360

Products manufactured and shipped from Anacortes during 1911.

Product.	Quantity.	Value.
Canned fish	pounds 20,351,476	\$1,936,810
Fresh and mild-cured fish	do 2,488,357	166,041
Codfish	do 2,632,000	78,810
Lumber	feet 37,300,000	396,500
Shingles	217,120,000	311,529
Box shooks	tons 15,660	250,000
Fertilizer	pounds 1,500,000	27,000
Fish oil	gallons 91,950	30,000
Fish glue	do 21,550	7,990
Crabs	dozen 22,383	22,383
Shrimp	pounds 96,980	11,638
Canned fruit	do 420,000	10,920
Butter and cream	do 118,576	31,159
Vinegar .....	.....	957
Total value .....	.....	3,282,358

9. The eastern portion of Anacortes Harbor, i. e., Fidalgo Bay, is well sheltered from west winds, but is shallow and has few wharves, constructed for lumber industry, at which the prevailing depths are from 1 to 6 feet at mean lower low water. The mean range of tide is 6.3 feet and the extreme range 10.6 feet.

10. A harbor-line board, appointed in 1892 to recommend harbor lines for various harbors on Puget Sound, laid out proposed harbor

lines for Anacortes Harbor, consisting of the combined bulkhead and pierhead lines shown on the accompanying map.¹ Although these lines were never recommended to the department and have never been approved by the Secretary of War, they nevertheless have been accepted by the State of Washington in determining the outer limit of its first-class tide lands. These proposed harbor lines for Anacortes Harbor define a waterway known as Cap Sante waterway, 400 feet wide, extending from the 18-foot contour in Fidalgo Bay about 4,000 feet due west toward the shore. From Coast and Geodetic Survey maps of Anacortes Harbor the depths in this channel appear to increase quite gradually from zero at the inner or western end to about 7 feet below mean lower low water near the eastern end, where an abrupt drop to 18 feet occurs.

11. The small hill located on the extreme end of the hook of Anacortes Peninsula is composed of rock, and ledge rock might be encountered in dredging waterway. Numerous borings should therefore be taken to accurately determine the nature of the material before any estimates are made or work undertaken.

12. Cap Sante waterway, if improved, would furnish sheltered wharfage space and avoid the excessive tidal currents which are the chief objections to the present wharves on Guemes Channel.

13. The chief items of commerce are fish and lumber and their products. For the large fishing fleet operating from Anacortes, which is composed mostly of small steamers and power boats, pile drivers, and barges, a sheltered harbor would be of great benefit, and if a better harbor for lumber vessels could be provided, the greater part of the fine lumber growing in Skagit County, Wash., could find easy outlet through Anacortes Harbor for foreign or export use. The total merchantable standing timber in Skagit County, as estimated by timber cruisers employed by the county commissioners in 1908, was 12,400,005,000 feet board measure, not including timber suitable for piles and poles.

14. *Local cooperation.*—Anacortes, through its chamber of commerce, has expressed a willingness to cooperate to the extent of at least one-third of the cost of the improvement of Cap Sante waterway, and local interests will doubtless undertake to carry out any reasonable requirements laid upon them which come within the limits of their resources. The extent to which cooperation can be recommended is dependent upon the character and cost of the improvement found advisable, and while it should be equal at least to that offered as above indicated, definite recommendation will be delayed until the survey and estimate herein requested are authorized and made.

15. In view of the existing commerce of Anacortes and the demand for additional facilities, I am of opinion that the Cap Sante waterway is worthy of improvement by the United States in cooperation with local interests, at least to the extent of making provision for the fishing fleet by deepening the waterway for a width of 300 feet to a depth of 12 feet at mean lower low water, to accommodate at all times vessels having a maximum draft of 10 feet.

16. Whether a channel of greater dimensions should be provided for export lumber trade or not is dependent upon its cost and the amount of cooperation that can be relied upon.

¹ Not printed.

17. It is therefore recommended that I be authorized to make a survey of Anacortes Harbor and prepare estimates of cost of deepening the Cap Sante waterway to 12 feet at mean lower low water, and also to 24 feet in whole or in part, as conditions found justify.

18. There are no questions of water power, flood prevention, or related subjects to be considered in connection with this examination.

19. As a waterway between Fidalgo Bay and Similk Bay would form no logical part of an improvement of Anacortes Harbor, and determination of its advisability requires consideration in connection with other proposed routes for an inside waterway between northern and southern Puget Sound points, this proposed improvement is treated in a separate report on preliminary examination submitted this date, covering the three alternative routes for such a waterway.

J. B. CAVANAUGH,
Major, Corps of Engineers.

[First indorsement.]

UNITED STATES ENGINEER OFFICE,
NORTHERN PACIFIC DIVISION,
San Francisco, Cal., November 18, 1913.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. Concurring in the views expressed by the district officer.

THOS. H. REES,
*Lieut. Col., Corps of Engineers,
Division Engineer.*

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
December 3, 1913.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. For reasons stated herein, the board concurs with the district officer and the division engineer in recommending a survey in order to determine the extent and advisability of the improvement and the character and amount of local cooperation that may be expected.

2. In view of the district officer's statement that there has been no previous examination of Anacortes Harbor, attention is invited to House Document No. 160, Fifty-ninth Congress, first session, which gives report of examination made in compliance with the act of March 3, 1905.

For the board:

LANSING H. BEACH,
*Colonel, Corps of Engineers,
Senior Member Present.*

LETTER OF OWNERS AND MASTERS OF VESSELS NAVIGATING THE WATERS OF
PUGET SOUND.

Sir: The undersigned, owners and masters of vessels engaged in navigating the waters of Puget Sound, hereby indorse the project of constructing the inner harbor at Anacortes known as the Cap Sante waterway.

The construction of such a waterway would create an inner harbor at Anacortes that would prove of especial value to small craft, as the proposed harbor would be a safe retreat from storm and a convenient point for "tying up" at all times.

During a portion of the year the waters of the lower Puget Sound are storm swept to an extent that renders navigation difficult and dangerous to small craft, and there are but few ports that are safe and yet convenient to an established city with wire and other means of proper communication with the neighboring cities. The construction of the Cap Sante waterway would create a needed protected harbor at a central point and in the heart of a city affording all the conveniences of trade and communication such as are needed in the conduct of commerce. This waterway would also, if made a proper depth, be a great advantage to the deep-water shipping of Anacortes.

The expenses of the proposed waterway will be small compared to the benefits to navigation, business, and commerce.

C. B. Lancaster, *Taku II*; Martin Johnson, *Standard*; W. J. Elliott, *Leo*; Clyde Anable, *Samish Eagle*; I. H. Barbee, launch *Valentine*; P. W. Tellier, *Lady Lou*; J. W. Lewis, *Signal*; J. S. Woodin, *Mercury*; R. L. Fullerton, *I. B. 2*, *I. B. 3*, and *Norine*; H. Rickaby, launch *Sunny Jen*, launch *Elk*; H. Nichols, *Spirit*; Coast Fish Co., by W. F. Coulson, treasurer, *Beatrice Baer*, *Coast*, *Capricer*, *North Star*, *Clara*, *Alice C.*, *Sound*, *Sloga II*; Apex Fish Co., by R. B. Wever, bookkeeper, *Superior*, *Hydah*, *Tidings*, *Bessie B.*, *Haleina*; Pacific American Fisheries, by F. Crowell, *Callendar*, *Victor*, *Uwanta*, *Sachem*, *City of Olympia*, *S. D. Co.*, *Alpha*, *Spokane*; Bert Jones, *Shamrock*; Matheson Fisheries Co., by H. S. Grupe, *Fanny Dutard*, *Maid of Orleans*; Robinson Fisheries Co., *Alice*, *Challenge*; F. L. McGill, *Spider*; Gorman & Co., by Fred Fulton, *Setracang*, *Spokane*, *Kasaan*, *Companion*, *Grant*, *Alaska Chief*, *Eagle*, *Lorens*, *Pike*, *Tatoosh*, *Little Glory*, *Alma*, *Louise*, *Bustler*, *Edith*, *Kerin Fucen*; C. A. Norton, harbor master, tug *Governor*, tug *McKinley*.

Maj. J. B. CAVANAUGH,
Corps of Engineers.

LETTER OF THE ANACORTES CHAMBER OF COMMERCE AND MANUFACTURE.

ANACORTES, WASH., February 12, 1913.

SIR: We respectfully offer the following in answer to your inquiry dated January 10, 1913, in reference to the waterway improvements in Anacortes Harbor for which preliminary survey was ordered by Congress.

The project of constructing a deep waterway from Fidalgo Bay to Similk Bay we consider an essential improvement to the otherwise almost perfectly protected natural inside channel leading from Everett, Seattle, Tacoma, and other upper sound points to Anacortes, Bellingham, Vancouver (British Columbia), and Alaska. It will be a distinct benefit to the whole Puget Sound country and create an almost perfect harbor for Anacortes.

Vessels now using the inside channel lose several miles in going around Fidalgo Island, withstand the excessive currents and irregular channel of Deception Pass, and ride in the trough of the waves produced by the sweep of the wind up the Straits of Juan de Fuca. A great number of small boats which could by way of this projected waterway navigate the inside channel throughout the year are now required to lay up during a considerable portion of the year because of the rough sea encountered in going to the westward and outside of Fidalgo Island.

The total number of water craft having Government registration at this port is 184. There are also 80 boats in use here which, being under 5 tons, are not registered. For these and the numerous other small boats in use in this vicinity the Cap Sante waterway would furnish a harbor or refuge during storms, the value of which can not be overestimated.

The only deep-water frontage now available to Anacortes is that along Guemes Channel, which, while suitable for mills and canneries is not well fitted for public wharves, because the air and water currents generally present there interfere with ships landing at piers. Without piers the matter of providing for economical handling of merchandise between vessels and railroads is difficult.

The ideal location of Cap Sante waterway with reference to the railroad yards and also the manufacturing and business districts of the city coupled with the fact that it is absolutely protected from storms and currents detrimental to navigation has made its ultimate improvement so evident that we have been unable to interest capital in providing any adequate facilities on Guemes Channel.

Those who would otherwise be interested prefer to wait until the Cap Sante waterway is improved, and provide facilities there, as they contend that the shipping would go there to the detriment of Guemes Channel wharves.

The following statement, we believe, will answer your inquiry as to exports and imports.

Goods manufactured and shipped from Anacortes during 1911.

	Tons.	Value.
Fish, canned.....	10,000	\$1,936,810
Fish, fresh, and mild-cured.....	1,200	166,041
Fish, cod.....	1,300	78,840
Fish oil.....	500	30,000
Fish glue.....	100	8,000
Fish fertilizer.....	750	27,600
Crabs.....	125	22,383
Shrimp.....	50	12,000
Canned fruit.....	210	10,920
Butter and cream.....	60	31,000
Lumber.....	56,000	396,500
Shingles.....	32,000	311,520
Box shooks.....	15,700	250,000
Total.....	117,995	3,281,614

These articles and practically all of the raw material required to produce them were conveyed by water. Out of 100,000,000 feet (board measure) of logs towed into Anacortes last year, 70,000,000 were used for product to be exported.

The collector of the subport of Anacortes reports that during 1911, 147 vessels entered the harbor from foreign ports. These vessels had an aggregate tonnage of 44,511, and the value of the imports was \$463,139. One hundred and thirty-four vessels cleared for foreign ports with a tonnage of 26,238 and the value of the exports was \$146,377. In addition to this there were exported to foreign countries by railroad 51 cars of merchandise valued at \$18,360. The imports of merchandise by railroad, being entered at the boundary line, could not be determined.

The available deep-water frontage of the port is limited to 1 mile along Guemes Channel. It is largely occupied by canneries, and by reason of adverse currents is practically available for public water terminals, as we have explained above.

There are no modern means of quick and economical transfer of freight used at our wharves. The freight is transferred between ship and car by hand trucks, the cars being spotted upon a siding along the shore. This sidetrack provides our nearest approach to physical connection between public wharves and railroads. The railroads absorb in their rate the dock charges of goods passing over our wharves.

Graded streets, some of which are to be paved this year, lead to the public wharves. While most of our commerce is conducted by the smaller type of vessels in general use upon Puget Sound, a number of ships of from 2,000 to 2,500 tons capacity make regular stops here. These vessels draw up to 24 feet of water. The water alongside our public wharves is from 18 to 24 feet at mean lower low water.

A movement is under way which is being urged by this body to fill in tidelands and streets with earth to be removed from the waterways, thereby reducing the cost and fitting the land for handling the business which the waterways will bring.

The only saving in freight rates which we anticipate by reason of the improvement of Cap Sante waterway will be in the transfer to and from land and water carriers, and in lowering the cost of local distribution.

We can through public and private contracts together pay at least one-third of the cost of these waterway improvements, thereby reducing the amount we will have to ask from the United States Government.

We have in the Skagit Valley an empire so rich in natural resources, and one which even with the present meager development is producing so bountifully hay and grain, dairy products, fruit, lumber, cement, etc., that with adequate harbor facilities we can at least increase our business many fold in taking care of the commerce of our own immediate hinterland.

We will get, however, in addition to that a fair share of the through freight, and of the business of the wonderful eastern Washington inland empire as soon as our direct railroad connection is completed.

Respectfully,

Maj. J. B. CAVANAUGH,
Corps of Engineers.

G. W. KREBE, *President.*

SURVEY OF ANACORTES HARBOR, WASH.

UNITED STATES ENGINEER OFFICE.

Seattle, Wash., July 2, 1915.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army
(Through the Division Engineer).

Subject: Report on survey of Anacortes Harbor, Wash., with estimate of cost of improvement.

1. In compliance with instructions contained in letter from office of the Chief of Engineers dated December 5, 1913, the following report upon the survey of Anacortes Harbor, Wash., is submitted.

2. Instrumental survey was made of the Cap Sante waterway, the portion of the harbor under consideration, including careful borings to determine the character of material to be removed, and maps¹ are submitted herewith showing the results of this survey.

3. The limits of the Cap Sante waterway, as defined by the harbor lines proposed by the State of Washington, are shown on these maps, and a general description of the locality and the commercial interests affected by any improvement undertaken are given in report of preliminary examination submitted November 5, 1913.

4. In view of the large and important fishing industry located at Anacortes, and the benefit that would follow the provision of a suitable sheltered harbor in this locality, the dredging of Cap Sante waterway to dimensions adequate for the fishing fleet is believed to be justified if suitable cooperation can be offered by local interests.

5. The estimated cost of securing a channel 12 feet deep at mean lower low water, 150 feet wide at the outer end and 250 feet wide at the inner end, within the limits indicated on the maps herewith, is as follows:

Clay, sand and gravel, mud, and silt.....	cubic yards..	251,000	
Hard pan.....	do.....	50,000	
Boulders.....	do.....	2,000	
No ledge rock so far as known.....			
Total, at 25 cents.....	do.....	303,000	\$75,750
Superintendence and incidentals, approximately 10 per cent.....			8,250
Total estimated cost.....			84,000

6. Tentative estimates were prepared for channels of sufficient depth to accommodate deep-draft vessels, but due to the unfavorable character of the material encountered, and the possible existence of ledge rock, the cost of an adequate channel for seagoing vessels would be more than double the above estimate. In view of the limited existing or prospective commerce of this character, the improvement of the harbor to a greater depth than 12 feet is not considered advisable at the present time, and no plans or estimates for channels deeper than 12 feet are submitted.

7. The matter of cooperation has been under consideration with representatives of local interests with a view to securing a definite offer of cooperation, and communications from the mayor of Anacortes and the principal riparian owners surrounding the waterway

¹ One map only printed.

are submitted herewith. It is believed that any reasonable degree of cooperation required by Congress can be relied upon.

8. As indicated on the map, the ownership of the lands adjacent to the waterway is confined to a limited number of persons and corporations. Therefore the conditions precedent to participation in the improvement by the United States should include provision for adequate terminals in public ownership so that the interests of the public in the improvement may be properly safeguarded. As the city of Anacortes at present controls the northerly margin of the waterway, it is understood that the necessary lands for such terminals are available or can be readily obtained by vacation of a portion of the marginal street in exchange for adjacent property.

9. In view of the existing commerce of Anacortes, the demand for additional facilities and the increase in commerce that would logically result from the provision of a suitable harbor in this locality for small craft, I am of the opinion that the improvement of Anacortes Harbor by dredging Cap Sante waterway to a depth of 12 feet at mean lower low water as indicated on the maps herewith is worthy of being undertaken by the United States, provided cooperation is furnished by local interests as follows:

(a) That suitable dumping grounds for the deposit of dredged material and the necessary bulkheads to retain the material in place shall be furnished without cost to the United States.

(b) That not less than one-third of the actual cost of dredging shall be borne by local interests.

(c) That the Secretary of War shall be satisfied that the city of Anacortes, or other local authorities, will provide a suitable terminal for the accommodation of the fishing fleet, open to the public on equal and reasonable terms.

The improvement, if made, should be provided for by a single appropriation sufficient to cover that portion of the cost to be borne by the United States. No maintenance will be required, as the dredged channels should be permanent in character.

10. There are no questions of water power, flood prevention, or related subjects to be considered in connection with this improvement.

J. B. CAVANAUGH,
Lieut. Col., Corps of Engineers.

[First indorsement.]

UNITED STATES ENGINEER OFFICE,
NORTH PACIFIC DIVISION,
Portland, Oreg., July 7, 1915.

To CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. Forwarded.
2. I concur in the recommendation of the district officer.

C. H. MCKINSTRY,
Lieut. Col., Corps of Engineers,
Division Engineer.

[For report of the Board of Engineers for Rivers and Harbors on survey see p. 3.]

ANACORTES HARBOR, WASH.

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LETTER OF MR. J. L. SNAPP, AGENT, GREAT NORTHERN RAILWAY CO.

GREAT NORTHERN RAILWAY CO.,
Seattle, Wash., June 19, 1915.

DEAR SIR: The above matter has been discussed with Mr. Budd, assistant to the president, and we are advised that the Great Northern Railway Co. does not care to go to any expense at the present time in connection with the waterway. It may be that at some future time the company would be willing to consider the question.

Yours, truly,

JNO. L. SNAPP,
Right of Way and Tax Agent.

Lieut. Col. J. B. CAVANAUGH,
Corps of Engineers.

LETTER OF THE MAYOR OF ANACORTES, WASH.

ANACORTES, WASH., June 11, 1915.

DEAR SIR: Replying to your favor of the 9th inst., am advising that after receipt of same I took up the Cap Sante waterway question with the principal owners of property to be benefited by the work, with the exception of the Great Northern Railway. The railway officials who have such matters for consideration have not been reached directly, but it is understood they are very favorable to the work, and it would seem to me that self-interest would prompt them to be favorable. The other owners have tentatively agreed upon the main features of the proposed work, as indicated in the inclosed communication, and I coincide with their views.

The details of the work will, of course, have to be worked out by those familiar with the law and engineering, and we hope to have your active help in this respect. This is an improvement that the city is earnestly desirous of having done, and we trust there will be no difficulty in fully carrying out the project.

Thanking you for your attention, I am,
Very sincerely,

F. V. HOGAN, Mayor of Anacortes.

LIEUT. COL. J. B. CAVANAUGH,
Corps of Engineers.

LETTER OF OLD OREGON MANUFACTURING CO. ET AL.

ANACORTES, WASH., June 11, 1915.

DEAR SIR: Referring to the letter of Lieut. Col. J. B. Cavanaugh, Corps of Engineers, regarding the proposed improvement of Cap Sante waterway, the owners of adjacent property submit it to be their understanding:

(a) That a channel 18 feet deep below low water and 150 feet wide, with the removal of approximately 375,000 cubic yards; 300 feet wide, 500 feet wide, in excess of a million cubic yards.

(b) That the Government will aid in the cost of the work to the extent of the cost thereof.

(c) That the city will acquire a site for a public wharf fronting the waterway.

(d) That the city will bear a part of the cost of improvement in proportion as represented by the property acquired for public use, and that the improvement will be of general benefit to the wharf and adjacent property.

(e) That the waterway will be as indicated on the accompanying map.

With this general outline of the situation your petitioners subscribe themselves, urging you to proceed in the project, and we severally agree to take and pay for our proportionate share.

Respectfully,

OLD OREGON
By A. W. ADAMS
DOUGLASS
ANACORTES
By DOUGLASS
MELVILLE

Capt. F. V. HOGAN, Mayor Anacortes, Wash.

ANACORTES HARBOR, WASH.

LETTER OF THE ANACORTES CHAMBER OF COMMERCE AND MANUFACTURES.

ANACORTES, WASH., June 19, 1915.

DEAR SIR: This chamber has from time to time communicated with you and other representatives of the Government concerning the Cap Sante waterway, and we are now writing to again urge the construction of same and to ask your full indorsement and active support. While we believe the facts have been pretty fully covered in past correspondence, we again mention some of the points in favor of our application for this improvement.

One of the main points is the aid to the establishment of the proposed car ferry between Anacortes and Sidney, British Columbia. During 1913 the business of the Great Northern's car ferry between New Westminster and Sidney, British Columbia, amounted to approximately 1,000 cars each way. The figures for 1914 are not available to this chamber. The construction of the waterway would enable the railway to operate its car ferry in and out of this city in conjunction with its depot and yard forces, as the yards and depot are adjacent to the waterway. The dirt removed from the waterway would be of value to the railway in filling its trestle and yards. Aside from the facilities that this waterway would afford in operating this car ferry, this initial establishment of direct communication between Anacortes and Sidney, British Columbia, would certainly lead to other communication between the two points, as in winter months communication could be maintained through the protected channels of the San Juan Archipelago, instead of across the open waters of the Gulf of Georgia or the Straits of Fuca. Also, in winter months, this Cap Sante waterway would afford a perfectly safe retreat for the smaller craft navigating lower Puget Sound. The chamber is furthering the project of the city's acquiring a tract on the waterway for a public wharf, to be used especially by the fishing fleet and other small craft.

The chamber has been unable to get definite assurances from the Great Northern Railway, on account of the officers of the company on the sound having to submit propositions requiring expenditures for such work to the headquarters at St. Paul. However, the company has heretofore shown active interest in and cooperated with the chamber of commerce in furnishing data.

This improvement means much to the present and future of Anacortes, and we earnestly hope that it will have your full and conscientious indorsement.

Thanking you for the kindly interest you have shown in the subject, we are,

Respectfully,

ANACORTES CHAMBER OF COMMERCE & MANUFACTURES,
By O. W. KREK, *President*.

Lieut. Col. J. B. CAVANAUGH,
Corps of Engineers.