

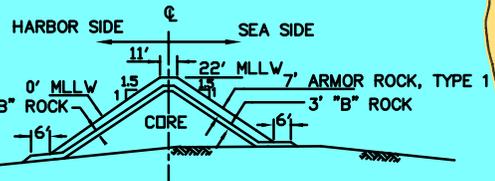
**KAKE  
BREAKWATER**

**NOTES**

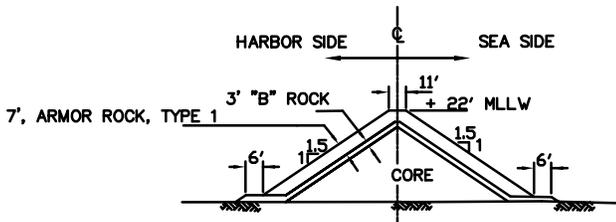
1. THIS LOCALITY IS SHOWN ON USC & GS CHART NOS. 17368, 17360, 17320, AND 16016.
2. ELEVATIONS AND DEPTHS ARE IN FEET AND REFER TO MEAN LOWER LOW WATER (MLLW = 0.0').

**TIDAL DATA - KAKE, ALASKA**

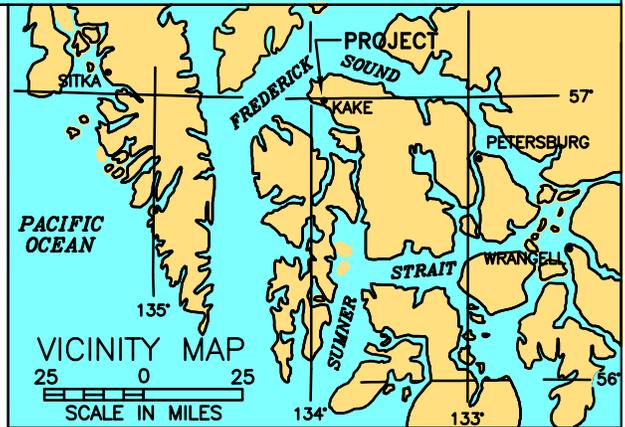
Estimated Highest Water Level	+18.0 ft MLLW
Mean Higher High Water	+14.0 ft MLLW
Mean High Water	+13.1 ft MLLW
Mean Tide Level	+7.25 ft MLLW
Mean Low Water	+1.4 ft MLLW
Mean Lower Low Water (datum)	+0.0 ft MLLW
Lowest Estimated Tide	-4.0 ft MLLW



**C BREAKWATER TRUNK SECTION**  
 STA. 5+00 TO STA. 6+50  
 STA. 11+50 TO STA. 16+00



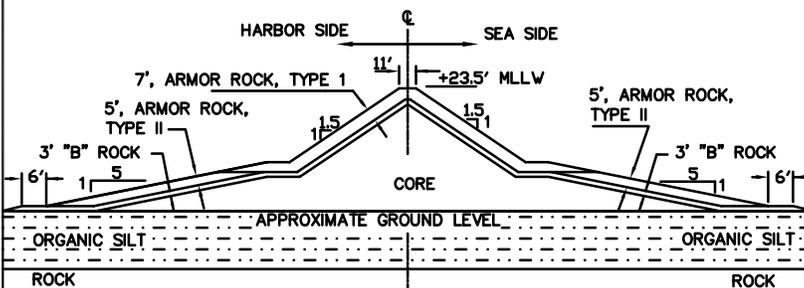
**A BREAKWATER HEAD SECTION**  
 STA. 16+00 TO STA. 17+00



**KAKE, ALASKA**

**KAKE HARBOR ALASKA**

2000



**B BREAKWATER TRUNK SECTION**  
 STA. 6+50 TO STA. 11+50

**KAKE HARBOR, ALASKA**  
(CWIS NO. 72739)

Condition of Improvement 30 September 2011

**AUTHORIZATION:** Rivers and Harbors Act, 13 August 1968 (Senate Doc. 249, 75th Congress, 1st Session) as adopted, provides for a 1,580 foot long west breakwater and a 900 foot long south breakwater enclosing a 7 acre berthing area at -15 feet MLLW.

<b>EXISTING PROJECT:</b>	<u>LENGTH</u>	<u>HEIGHT</u>	<u>WIDTH</u>
• Breakwater . . . . .	1,240 ft.	22-23.5 ft.	varies

**PROJECT USAGE:** Fishing vessels find moorage at Portage Cove Harbor, a site 3 miles from town, protected by the new permanent Federal breakwater and a state maintained floating breakwater.

**PROGRESS OF WORK:**

- 1971 - Pre-construction planning is initiated; field surveys are completed.
- 1972 - Foundation and materials investigations begin.
- 1976 - Pre-construction investigations reveal poor foundation conditions resulting in project re-evaluation and reformulation.
- 1979 - Additional field investigation verifies poor subsurface conditions. The project is modified to include a 1,150 foot long west breakwater with a 960 foot shoreward access causeway and a 1,050 foot long floating south breakwater.
- 1980 - Sampling and testing of bottom sediments is conducted.
- 1982 - Plans and specifications are completed.
- 1983 - A wind monitoring station is set up in June, and an aquatic biological study is initiated.
- 1986 - The biological study is completed and wind data collection continues.
- 1991 - Wind data is evaluated.
- 1994 - A geophysical investigation is conducted at the Portage Cove harbor about 3 miles from the town site.
- 1996 - A General Reevaluation Report is issued in July covering possibilities at the Portage Cove site.
- 1998 - Breakwater construction begins at Portage Cove.
- 2000 - The breakwater is completed in October.
- 2009 - A temporary tide gauge is installed in the fall to take observations for a tidal datum update.
- 2010 - A project condition survey was accomplished in July.

**COST TO DATE:**

GI PED Appropriation	\$273,151
GI PED Costs	\$273,151
CG Appropriation	\$16,021,585
CG Costs	\$16,021,094
CG Contributed Appropriation	\$1,971,000
CG Contributed Costs	\$1,971,000

(continued on page 1-21a)

**KAKE HARBOR, ALASKA (continued from 1-21)**

1-21a

<b>RANGE OF TIDE:</b>	<u>Mean Range</u> 12.0'	<u>Diurnal Range</u> 14.0'	<u>Extreme Range</u> 22.0'
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1-21a

## **Kake Breakwater, Kake Alaska**



Kake breakwater (top) and Kake marina (below) photographs taken in 2010.