



**U.S. Army Corps  
of Engineers**  
Alaska District

## ***ALASKA BASELINE EROSION ASSESSMENT***

### **Erosion Information Paper – Girdwood, Alaska**

Current as of October 12, 2007

#### **Community Information**

Girdwood (GURD-wood), population 236, is near the southern end of Turnagain Arm. The community is residential housing, vacation homes, and a small cluster of commercial development along 3 miles of the Alyeska Highway to the foot of Mount Alyeska. The unincorporated community is sometimes referred to as Alyeska. The community is in the Municipality of Anchorage (MOA), 35 miles east-southeast of downtown Anchorage. The area is accessed by the Seward Highway. Girdwood is bordered on 3 sides by the Chugach State Park and Chugach National Forest.

#### **Description of Erosion Problem**

Municipal staff in the Community Erosion Survey Stream identified erosion problems from Glacier Creek, California Creek, and to a lesser extent, Alyeska Creek. One erosion area is in the old Girdwood townsite, which contains primarily residential structures. Erosion in this area is caused by an area of California Creek upstream from the Alaska Railroad bridge before the creek merges with Glacier Creek. Erosion results from heavy rainfall events and associated flooding. These events can also undercut large cottonwood trees along the streamside, which can fall and divert the stream. The old townsite is bordered to the south by a gravel-armored levee on the north side of Glacier Creek between the Seward Highway and the Alaska Railroad. The old townsite is bordered to the west by the Seward Highway and to the east by the Alaska Railroad bed. The borders create a bowl that is prone to flooding and erosion.

Two additional erosion areas are along Glacier Creek. One area is downstream of the Alyeska Highway Bridge. The other area is upstream of the Alyeska Highway Bridge. The creek has been eroding mainly on the north side, but no information on erosion rates was available.

#### **Potential Damages**

The erosion along California Creek upstream from the railroad bridge has been periodically repaired and maintained by the Alaska Railroad. The Girdwood airstrip is on the south side of Glacier Creek. The airstrip is maintained by Alaska Department of Transportation and Public Facilities and has been armored with rip rap to protect against erosion. The Girdwood Elementary School and a condominium housing project are near the creek. On the north side of Glacier Creek has eroded within 130 feet of the access road that leads to the Girdwood Elementary School. The creek has also eroded within 35 feet of the condominium housing project downstream from the elementary school. A municipal well building was undercut by Glacier Creek erosion and was relocated away from the creek. Costs for the measures were not provided.

## **Photos and Diagrams**

Attached are photos of the Glacier Creek area provided by the MOA watershed management division. Also, attached is a diagram showing the linear extent of erosion.

## **References**

**USACE. 2007.** *Alaska Community Erosion Survey*, OMB approved number 07100001, expires September 30, 2009 administered to Jeff Urbanus and Jack Puff, floodplain management staff, Watershed Management Division, Municipality of Anchorage in August 2007.

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## **Additional Information**

This information paper, as well as those for other communities, can be accessed on the internet at [www.alaskaerosion.com](http://www.alaskaerosion.com). For more information please contact the Corps of Engineers project manager at (907) 753-5694 or email [Alaska.Erosion.POA@usace.army.mil](mailto:Alaska.Erosion.POA@usace.army.mil)



**Photo 1: Glacier Creek log jam, date of photo not available.**



**Photo 2: Well head building site relocated, April 2000**



**Photo 3: Well head building site relocated, April 2005.**





Erosion Above and Below Alaska Railroad  
Glacier Creek Bridge Crossing

GLACIER CREEK

Flow

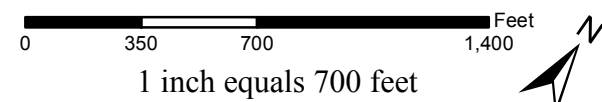
Date of Aerial Photo: 20 June 04

**NOTE:** The extent of erosion shown on this figure is based on interviews with the community. This data has not been field verified. This figure is only intended to show areas of erosion, not rates or severity of erosion



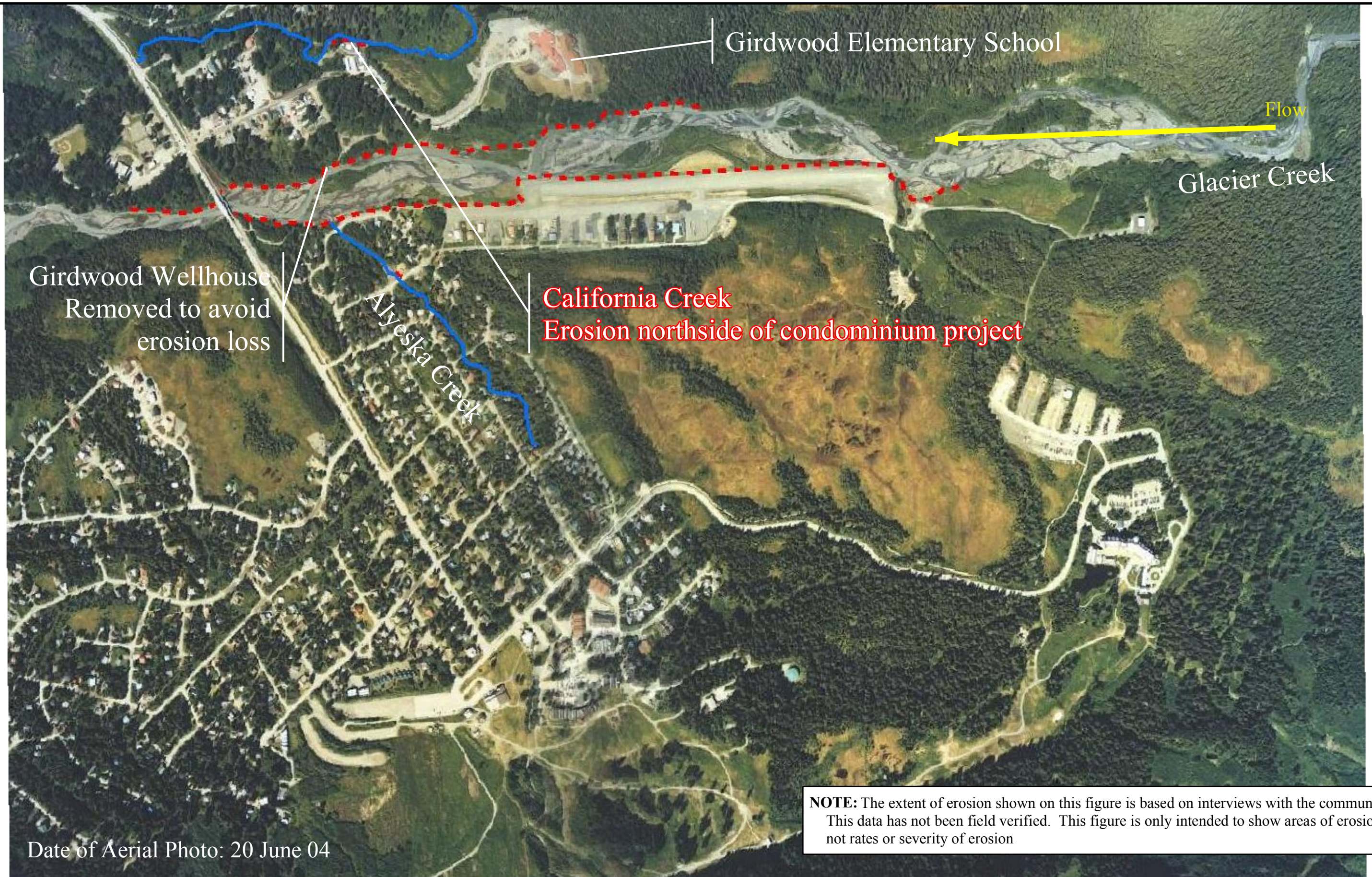
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--- Linear Extent of Erosion  
Part 1



Alaska Baseline Erosion  
Girdwood, Alaska





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--- Linear Extent of Erosion

Part 2



Alaska Baseline Erosion  
Girdwood, Alaska