

Valdez Riprap Maintenance Manual

March 2020

Intent of the Document

The purpose of the Riprap Maintenance Manual is to provide the City of Valdez with a guide to manage their erosion control structures. It allows the City to have a consistent, sustainable approach to asset management regardless of the administration, engineer of record or contractor. The manual outlines methods for quality management in construction, and practices for assessing maintenance needs.

Where is this manual applicable?

The maintenance manual is applicable to the management of all riverine erosion control structures (dikes, revetments and spur dikes) within Valdez that are constructed with riprap. Riprap erosion control structures are located on Mineral Creek, Glacier Stream, and select locations on the Lowe River.

This manual would not apply to management of coastal armor stone structures, such as the breakwater at the harbor, due to the different intent of the design/rock configuration of the structure.

Who are the stakeholders?

The City of Valdez owns the erosion control structures on Mineral Creek, Glacier Stream and some of the structures on the Lowe River.

The Capital Projects and Engineering Department as well as the Public Works Department will lead the assessment of maintenance needs for these structures. Maintenance work may be contracted out to a contractor depending on the nature of the work. A Professional Engineer may be required to assess the condition and design an appropriate maintenance plan to keep Valdez's erosion control infrastructure in good health.

The Alaska Department of Transportation and Public Facilities also owns and maintains erosion control structures in Valdez but are not currently party to the Valdez Riprap Maintenance Manual.

How are the erosion control structures assessed?

Personnel assessing maintenance needs of existing infrastructure will have checklists when on site to guide their field notes and observations. The field notes will be compared to guidance in the manual to determine what maintenance is appropriate and when to schedule work.

When does the maintenance take place?

Erosion control structures will be assessed at least bi-annually. However due to the specific hydrologic characteristics of Valdez, the following schedule is suggested for regular observation:

- Prior to winter 'break-up'
- During or after the high river discharge events at 'break-up'
- Prior to predicted glacial outburst or heavy rain event
- During or after the glacial outburst or heavy rain event

The timing of work is dependent of the severity of damage sustained to the structure by each event. Ideally, less urgent maintenance should be conducted during low flow, good weather, and at a time that minimizes environmental impacts. For more urgent repairs, maintenance activities would be conducted as soon as feasibly possible.