



CITY OF KIRKLAND

Department of Public Works

123 Fifth Avenue, Kirkland, WA 98033 425.587.3809

www.ci.kirkland.wa.us

MEMORANDUM

To: David Ramsay, City Manager

From: Daryl Grigsby, Public Works Director
Ray Steiger, P.E., Capital Projects Manager

Date: March 6, 2008

Subject: JUANITA CREEK CHANNEL ENHANCEMENTS AT JUANITA BEACH PARK
ACCEPT WORK AND ESTABLISH LIEN PERIOD

RECOMMENDATION:

It is recommended that the City Council accept the Juanita Creek Channel Enhancements at Juanita Beach Park project, as constructed by Taggart Construction Inc. of Bothell, WA, and establish the 45 day lien period. In addition, it is recommended that the City Council approve the use of an additional \$158,500 from the Surface Water Utility Capital Contingency to complete the project.

BACKGROUND AND DISCUSSION:

This restoration project provided for stabilized stream banks, improved water quality, and enhanced stream habitat. Elements were accomplished by re-grading the channel, installing log structures and other measures, and replacing non-native, invasive vegetation with native plants along approximately 400 feet of Juanita Creek; this section of the Creek passes through the northern portion of Juanita Beach Park (Attachment A) and is one element of the overall Juanita Beach Park master plan.

At their meeting on June 5, 2007, Council awarded the Project to Taggart Construction in the amount of \$395,421.35. Construction began on July 12, 2007, and was substantially completed on November 30, 2007 (two months past the originally anticipated completion date). With the approval of additional funding, total payments to the Contractor will be \$469,350.00 (Attachment B) which includes two significant change orders as a result of events described below.

The two month delay for completion is directly attributed to additional work that was required to repair damage to the site caused by an unseasonably large storm event that occurred on August 19, 2007. The storm event raised the water level in Juanita Creek to the top of its banks, destroying the Contractor's temporary stream bypass system, and causing substantial bank erosion to the work zone. The effects of this storm were reported to Council by reading file on September 24, 2007.

On December 3, 2007, after the Contractor's August storm restoration and original scope of work were completed, a second large storm event passed through the Kirkland area and again raised the water level in Juanita Creek. This second storm proved to be an excellent, albeit untimely, test for the recently completed project. After the water level normalized, it was apparent that the Project had successfully handled the high flows with only minor stream bank damage. The original intent of the Project's bank stabilization design was to reduce stream velocity and to protect the easily erosive banks by widening the narrow channel and installing log structures to redirect flow

away from the banks at bends in the channel (Attachment C). The storm showed that objective was accomplished; however the storm did leave its mark on the Project in other ways. Plantings for the Project had just been finished a week prior, and approximately five hundred of the two thousand plants installed were carried downstream due to the high flows. Some costs to the Project, loss of plants totaling approximately \$2000 during the second storm, have been submitted to FEMA and are currently under consideration to be reimbursed.

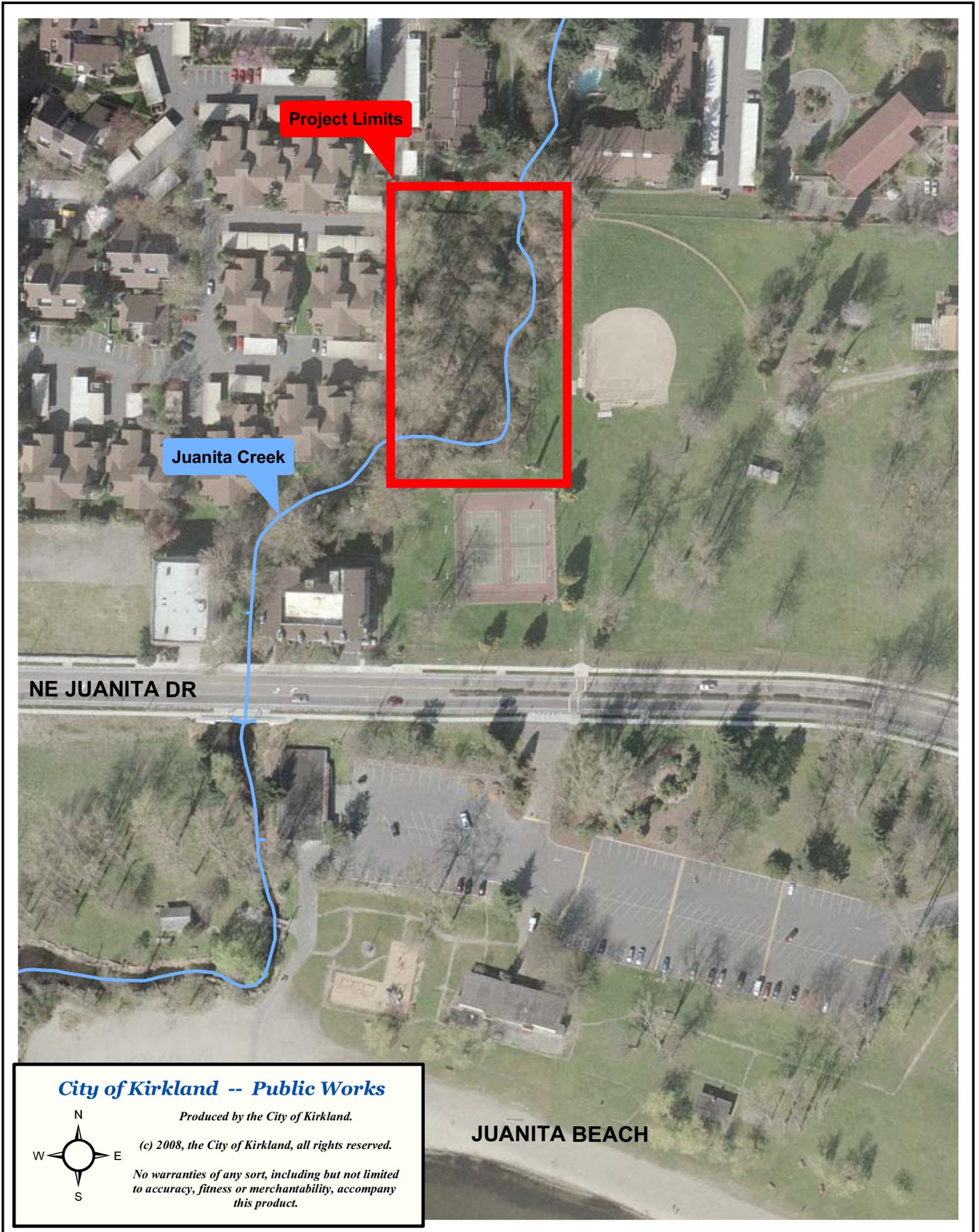
The Project replanting plan removed all invasive plant species and replaced them with native riparian and upland vegetation. Currently, compared to its pre-construction appearance, the site appears bare, however ongoing maintenance is critical to plant establishment which will gradually take place over the next three to five years. As part of the Project's permitting conditions, Staff prepared a five-year monitoring and maintenance plan to identify performance standards for plant establishment. Staff is working with Earth Corps, a non-profit organization specializing in stream restoration work who will be performing the maintenance work outlined in the plan.

Along with construction and inspection costs that went above those anticipated at the Contract award, costs associated with the monitoring and maintenance portion of the project have also come in higher than projected. The additional cost is again related to impacts from the December 3rd storm. Many of the (approximately 1500) plants that were not lost in the high flows were uprooted and submerged under water, and after the water level subsided, much of the re-vegetated banks were covered in sediment. Plant maintenance, and inventory were conducted after the storm to address immediate issues which prompted a less conservative approach on the estimation of plant survival (a lower survival rate was estimated), and the amount of additional labor required to ensure plant establishment have contributed to the increased cost. Due to the Project's visibility within the Juanita Beach Park and the potential impacts of poor restoration on future grant opportunities, \$57,000 of the requested additional funds will go towards the 5 years of plant monitoring and maintenance (Attachment D).

With Council acceptance of the work at their March 18th meeting, the Contractor's 45-day lien period will begin.

Attachments: (5)

VICINITY MAP
JUANITA CREEK CHANNEL ENHANCEMENTS AT JUANITA BEACH PARK
CSD-0057



Project Limits

Juanita Creek

NE JUANITA DR

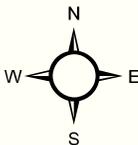
JUANITA BEACH

City of Kirkland -- Public Works

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JUANITA CREEK CHANNEL ENHANCEMENTS AT JUANITA BEACH PARK (SD-0057)

Project Budget Report

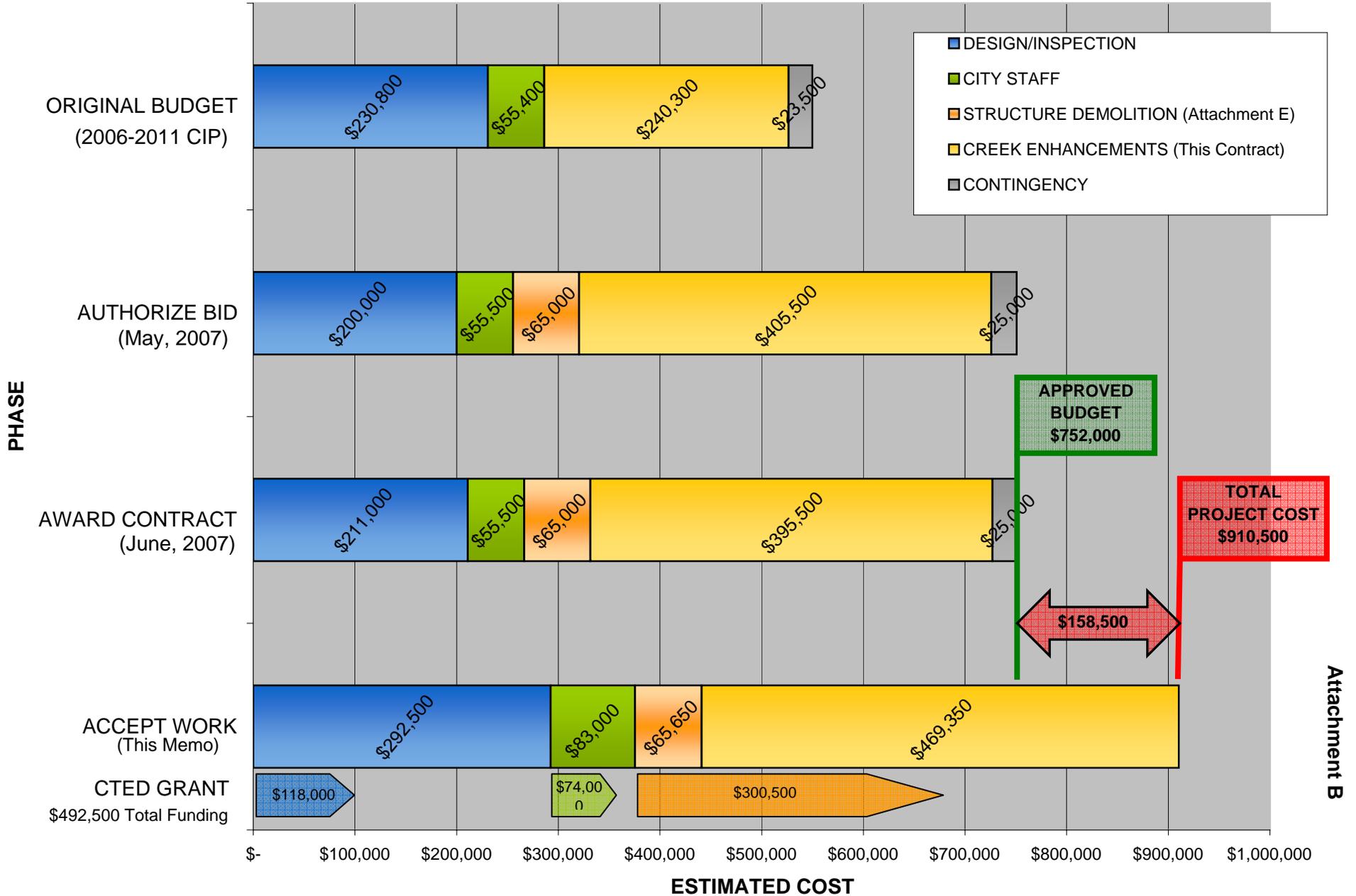


PHOTO SEQUENCE MAP
JUANITA CREEK CHANNEL ENHANCEMENTS AT JUANITA BEACH PARK
CSD-0057

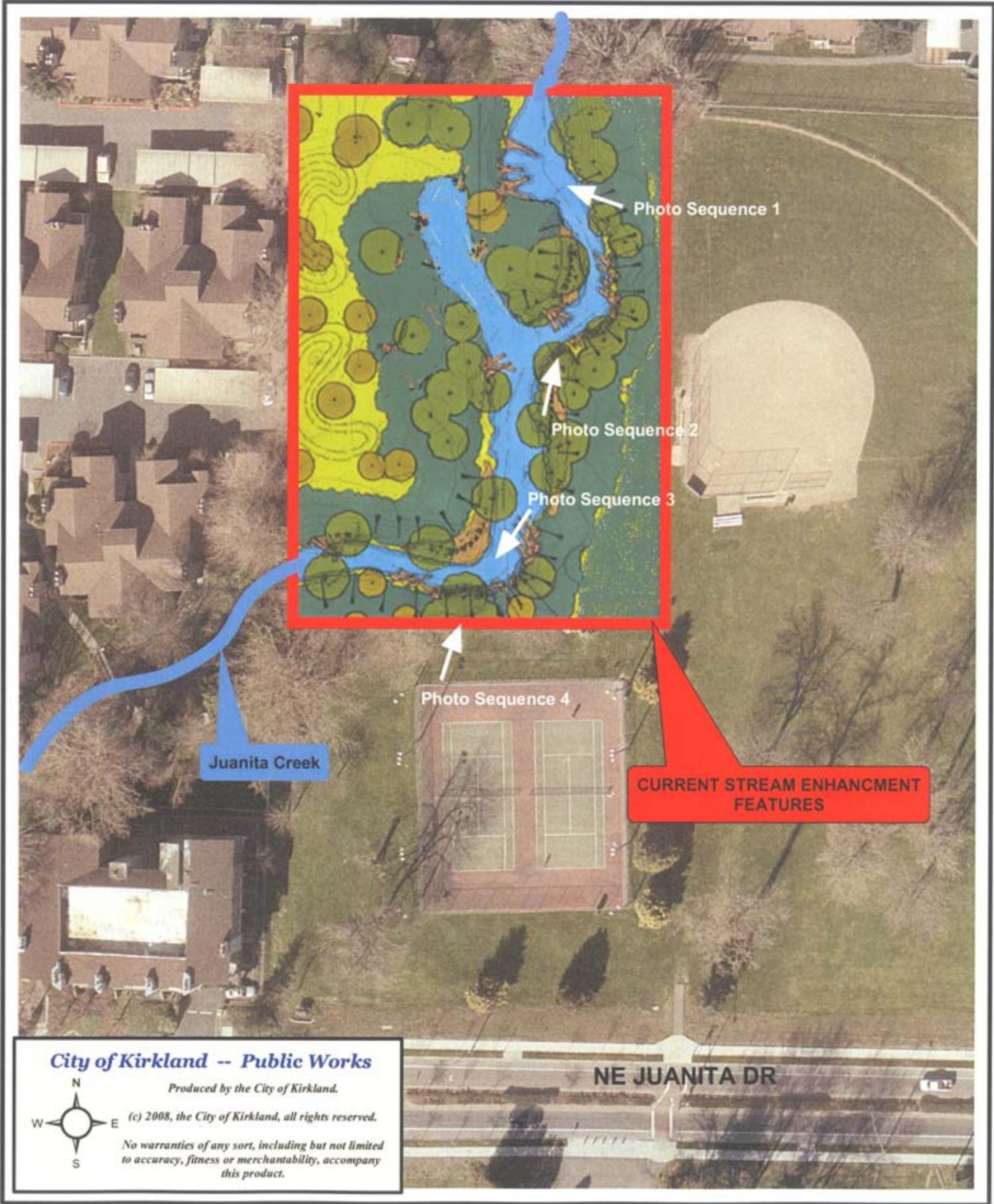


Photo Sequence 1 – Storm Damaged Upper Limits of Project, Looking West



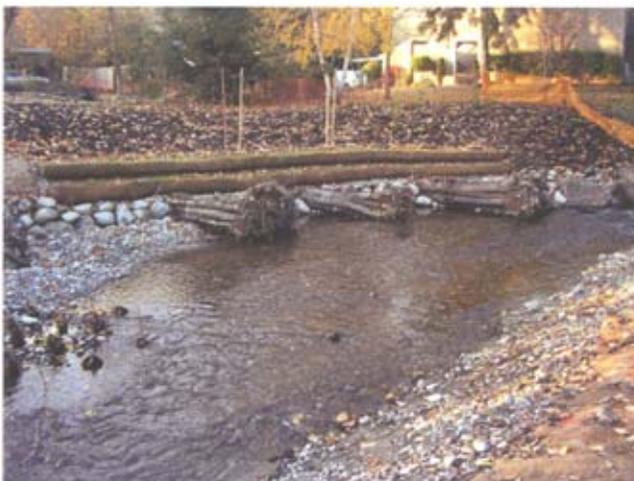
Early construction photo of the contractor installing the temporary stream bypass.

July, 2007



One day after the August 19th storm. The excessive erosion at this location was caused by high flows forced around the temporary stream bypass. No bank protection work was originally planned for this section. Repair of this area amounts to a major portion of the additional work associated with the August 19th storm damage.

August, 2007



Completed section of additional bank protection work. The log structures provide fish habitat and direct flow away from the bank. Above the log structures are soil layers planted with willow stakes and wrapped in erosion control fabric that will decompose over time.

November, 2007

Photo Sequence 2 – Mid Project Bank Protection Section, Looking North



Pre-construction photo of planned bank protection section showing previously existing invasive plants

January, 2007



Completed bank protection section showing log structures and soil wrapped bank protection.

November, 2007



December 3rd storm event showing the high flows at the recently constructed bank protection section.

December, 2007

Photo Sequence 3 – Downstream Bank Protection Section, Looking South



Pre-construction photo showing eroded bank lined with broken up concrete slabs.

January, 2007



High flows during the August 19th storm. No significant damage occurred in this section. The channel had been re-graded at this time which provided a wider channel with lower velocity flows.

August, 2007



Completed bank protection section showing log structures and soil wrapped bank protection.

February, 2008

Photo Sequence 4 – Downstream End of Project After Completion Looking North



*Completed project prior to the
December 3rd storm*

November, 2007



*Completed project during the
December 3rd storm*

December, 2007



*Completed project after the December
3rd storm showing lost plants and
sediment deposited along stream bank.*

February, 2008

FISCAL NOTE

CITY OF KIRKLAND

Source of Request							
Daryl Grigsby, Public Works Director							
Description of Request							
Request additional funding of \$158,500 from the Surface Water Capital Contingency for the Juanita Creek Channel Enhancements at Juanita Beach Park project. The project incurred additional costs for design, construction, materials and inspection due to two large storm events that damaged in-process and recently completed work on the project. In addition, the cost for the ongoing vegetation maintenance and monitoring has increased above original estimates.							
Legality/City Policy Basis							
Fiscal Impact							
One-time use of \$158,500 of the Surface Water Capital Contingency. The contingency is able to fully fund this request.							
Recommended Funding Source(s)							
Reserve	Description	2008 Est End Balance	Prior Auth. 2007-08 Uses	Prior Auth. 2007-08 Additions	Amount This Request	Revised 2008 End Balance	2008 Target
	Surface Water Capital Contingency	876,760	202,000	0	158,500	516,260	876,760
	Prior 2007-08 Authorized Uses include \$202,000 for the Juanita Creek Channel Enhancements project (same project) for additional design work due to Dept. of Fish and Wildlife permits and higher than anticipated construction costs received on opened bids.						
Revenue/Exp Savings							
Other Source							
Other Information							
Prepared By	Sandi Hines, Financial Planning Manager				Date	March 6, 2008	

MAINTENANCE BUILDING DEMOLITION

**JUANITA CREEK CHANNEL ENHANCEMENTS AT JUANITA BEACH PARK
(SD-0057)**



May, 2007



June, 2007