

Agency: Commerce, Community and Economic Development**Grants to Municipalities (AS 37.05.315)****Grant Recipient: Selawik****Federal Tax ID: 92-0049770****Project Title:****Project Type: Other**

Selawik - Selawik Erosion Mitigation Project

State Funding Requested: \$215,000**House District: 40 / T**

Future Funding May Be Requested

Brief Project Description:

The Community of Selawik has initiated the "Selawik Erosion Mitigation Project" This project will determine the extent and causes of erosion in the community and take steps to control the negative economic impacts from this erosion on the community's critical infrastructure.

Funding Plan:

Total Project Cost:	\$290,000
Funding Already Secured:	(\$75,000)
FY2015 State Funding Request:	<u>(\$215,000)</u>
Project Deficit:	\$0

Funding Details:

\$75,000 Economic Development Grant received by the City of Selawik from NANA Corporation will be contributed to the project.

Detailed Project Description and Justification:

The Community of Selawik has initiated the "Selawik Erosion Mitigation Project" This project will determine the extent and causes of erosion in the community and take steps to control the negative economic impacts from this erosion on the communities' critical infrastructure.

There are three identifiable areas of immediate concern: The area on the airport side of the community, (2) the middle section of the community split by the river and (3) encroachment on the water and sewer plant facilities and equipment.

The unknown scale of the mitigation effort prompts our community to follow a standard six (6) step decision-making process to assist in standardizing, simplifying and designing the mitigation effort across our area to achieve sustainable erosion control for the community. (See Abstract)

Project Timeline:

This project will commence 15 days after an award from the State.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Raven Sheldon

Grant Recipient Contact Information:

Name:	Raven Sheldon
Title:	Mayor
Address:	PO Box 99 Selawik, Alaska 99770
Phone Number:	(907)484-2132
Email:	sheldonraven@hotmail.com

Has this project been through a public review process at the local level and is it a community priority? Yes No

Selawik Erosion Mitigation Project Abstract

Protecting Critical Infrastructure

Selawik Community efforts to protect critical community infrastructure from the effects of erosion from the Selawik River system. Strategy and Planning to attract Federal and State of Alaska funding support to complete sustainable erosion control mitigation efforts.

City of Selawik
2/2/2012



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Letters of Support

- *United States Department of Fish and Game*
- *Alaska Native Tribal Health Corporation*
- *Nana Corporation*
- *Native Village of Selawik*



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Selawik National Wildlife Refuge
P.O. Box 270
Kotzebue, Alaska 99752

January 27, 2012

City of Selawik
Nora Ramoth, Mayor
P.O. Box 99
Selawik, Alaska 99770

Dear Mayor Ramoth:

The Selawik National Wildlife Refuge supports the efforts of the Selawik community to access funding from the Federal and State governments to begin the "Selawik Erosion Mitigation Project."

The City of Selawik in cooperation with the Native Village of Selawik is initiating local efforts to mitigate the erosion effects to the community from the Selawik River. Erosion is occurring on all the riverbanks in the community with some areas eroding more quickly than others. Efforts are currently underway to maintain the existing bridges and to repair the eroded areas supporting the bridges. However, a detailed erosion study has not yet been performed in Selawik. The community desires detailed erosion mapping for assistance in the planning and prioritization of areas for future mitigation efforts to control the erosion.

We agree that negative impacts of erosion for your community will include: reduction in water quality due to high sediment loads, loss of native aquatic habitats, damage to public utilities, and economic impacts associated with costs to prevent or control erosion sites. There is a high probability that in the future Selawik could experience loss of critical infrastructure, disruption in communications, and disruption of utilities such as water and sewer services.

The community will require financial resources for site-specific mapping and the necessary civil engineering to reduce the detrimental effects of erosion on Selawik. We positively support the City's efforts to secure the necessary financial resources for this important erosion control project.

Sincerely,

Tina Moran
Acting Refuge Manager



Alaska Native Tribal Health Consortium

Division of Environmental Health and Engineering

1901 Bragaw Street • Suite 200 • Anchorage, AK 99508-3440 • Phone: (907) 729-3600 • Fax: (907) 729-4090 • www.anthc.org

February 2, 2012

The Honorable Nora Ramoth
Mayor, City of Selawik
PO Box 99
Selawik, Alaska 99770

Dear Mayor Ramoth:

Re: Letter of Support – “Selawik Erosion Mitigation Project”

The Alaska Native Tribal Health Consortium (ANTHC) fully supports the efforts of the Selawik community to access funding and financial support from the Federal and State of Alaska governments to begin the “Selawik Erosion Mitigation Project”. The ANTHC is currently in the process of writing a comprehensive report based on data from Selawik that was compiled over the past year related to climate change, including erosion. Severe erosion in several locations along the banks of the Selawik River was observed but not quantitatively recorded. In fact, a detailed erosion study has not yet been conducted in Selawik to date.

We are pleased that the City of Selawik, in cooperation with the Native Village of Selawik, is initiating local efforts to mitigate the erosion effects to the community from the Selawik River. The community has developed across three banks of the Selawik River and has extensive problems with erosion. The community needs a detailed erosion map for assistance in the planning and prioritization of areas to direct future mitigation efforts to control the erosion. As previously mentioned, it is apparent that erosion is occurring on each of the riverbanks in Selawik, with some areas eroding more quickly than others. Although there are current efforts in progress to maintain the existing infrastructure, including the two bridges that link the community, further investigation is required to determine the potential extent the erosion could reach.

We agree that negative impacts of erosion for your community will include: reduction in water quality due to high sediment loads, loss of native aquatic habitats, damage to public utilities, and economic impacts associated with costs trying to prevent or control erosion sites. There is a high probability of future events to occur in the community of Selawik resulting in the loss of critical infrastructure, disruption in communications, and disruption of the provision of utilities such as water and sewer services.

We believe that this effort will attract financial resources to the community to complete site specific mapping and the necessary civil engineering to mitigate the detrimental effects on erosion to the Selawik community and we support the city’s efforts to secure the necessary financial resources for this important erosion control project.

Sincerely,

A handwritten signature in blue ink that reads "Sayward Fehrman". The signature is written in a cursive style.

Sayward Fehrman
Associate Engineering Project Manager

NANA

REGIONAL CORPORATION, INC.



January 27, 2012

City of Selawik
Nora Ramoth, Mayor
P.O. Box 99
Selawik, Alaska 99770

RE: Letter of Support – “Selawik Erosion Mitigation Project”

Dear Mayor Ramoth:

NANA Regional Corporation supports the efforts of the Selawik community to access funding and financial support from the Federal and State governments to begin the “Selawik Erosion Mitigation Project.”

The City of Selawik in cooperation with the Native Village of Selawik is initiating local efforts to mitigate the erosion effects to the community from the Selawik River. Selawik has extended problems with erosion, with the river dividing the village. Erosion is occurring on all of the riverbanks and natural river processes result in some areas eroding more quickly than others. There are current efforts in process to maintain the existing bridges and to repair the damaged areas supporting the bridges caused by erosion. However a detailed erosion study has not yet been performed in Selawik; no erosion study has been done and the community desires detailed erosion mapping for assistance in the planning and prioritization of areas to direct future mitigation efforts to control the erosion.

We agree that negative impacts of erosion for your community will include: reduction in water quality due to high sediment loads, loss of native aquatic habitats, damage to public utilities, and economic impacts associated with costs trying to prevent or control erosion sites. There is a high probability of future events to occur in the community of Selawik resulting in the loss of critical infrastructure, disruption in communications, and disruption of the provision of utilities such as water and sewer services.

This effort will attract financial resources to the community to complete site specific mapping and the necessary civil engineering to prevent and lessen the detrimental effects on erosion to the Selawik community and we positively support the City’s efforts to secure the necessary financial resources for this important erosion control project.

Sincerely,

Marie N. Greene
Marie N. Greene
President/CEO

Native Village of Selawik

P.O. Box 59
Selawik, Alaska 99770
(907) 484-2165p

City of Selawik
Nora Ramoth, Mayor
P.O. Box 99
Selawik, Alaska 99770

RE: Letter of Support – “Calendar Year 2012 Capital Projects Priorities”

Dear Mayor Ramoth:

The City of Selawik has grown in population and expanded public facilities. There are unmet capital project needs being addressed by the City of Selawik. The City has identified and prioritized their capital projects for the calendar year 2012 as: (1) Acquisition of equipment to properly and adequately operate and maintain the Landfill and Access road to the landfill, (2) Acquire a forklift to handle material offloading at the Selawik barge landing (3) Begin a program to control erosion from the Selawik River system and (4) Renovate the Community Building and bring it up to ADA and other agency standards.

The Native Village of Selawik supports the City of Selawik and its efforts to address these important capital project priorities for our community and we will collaborate and contribute whenever possible to assist the City to realize the full benefit of these projects.

Sincerely,



Clyde Ramoth Sr.

Tribal President

Native Village of Selawik

Selawik Erosion Mitigation Project Executive Summary

The Community of Selawik has initiated the "Selawik Erosion Mitigation Project" This project will determine the extent and causes of erosion in the community and take steps to control the negative economic impacts from this erosion on the communities' critical infrastructure.

There are three identifiable areas of immediate concern: The area on the airport side of the community, (2) the middle section of the community split by the river and (3) encroachment on the water and sewer plant facilities and equipment.



The unknown scale of the mitigation effort prompts our community to follow a standard six (6) step decision-making process to assist in standardizing, simplifying and designing the mitigation effort across our area to achieve sustainable erosion control for the community. The six (6) step process and expected initial costs are as follows:

STEP	BUDGET
1. Coordinate our Community Organizations - <u>Working Group</u>	\$ 5,000
2. Identify Sustainable Erosion Control Objectives - <u>Investigation</u>	5,000
3. Collect Site-Specific Data; Desktop Study/ <u>Site Reconnaissance and Data Collection</u>	40,000
4. Assess Erosion Potential; Complete Surveys - <u>Engineering</u>	20,000
5. Evaluate and Select Best Mitigation Practices - <u>Engineering/Plans - Documents</u>	60,000
6. Select and Implement Sustainable Erosion Controls - <u>Labor & Material</u>	85,000
City of Selawik: Contribution	75,000
State of Alaska: Capital Projects Request/Contribution	140,000
Initial/Final Phase: Project Budget	<u>\$ 215,000</u>

Step 1: Coordinate our Community Resources



Coordinate with the administrators from each of the communities organizations: The City of Selawik, the Native Village of Selawik and possibly AVEC to address the project issues associated with implementing sustainable erosion controls (soil, vegetation and water) in the community. Each of these organizations represents either the City or Tribal government and they have their own unique interests and mission statements for the relationships they have with the area(s) surrounding the community. This coordination will

ensure important areas for subsistence or other use are protected as the project moves forward to completion.

Step 2: Identify Sustainable Erosion Control Objectives

Mitigation or enhancement of the soil, water, and vegetation contributing to erosion are components of the sustainability triangle. Each contributes to balancing the ecosystem, and are each equally important for achieving permanent soil stabilization. The objectives of Step two are to add a time element to the sustainable erosion control stabilization objectives. The objectives for each of the components are:



Soil	Vegetation	Water
Optimal infiltration	Healthy plant communities	Surface erosion reduction
Adequate organic matter	Diverse species composition	Runoff reduction
Sufficient water holding capacity	Optimal rooting depth	Maintain/ Increase Water quality
Favorable soil biology and healthy microbes		

Step 3: Site Reconnaissance and Data Collection

Site reconnaissance and data collection are required to obtain pertinent field information about the project site. This will require investigating both the project site and a reference site. Data collected will be used in subsequent project steps.



Key project information can be determined by evaluating erosion on the project and reference sites.

Erosion is the physical process by which soil particles become detached from each other by water, wind, or gravity and are transported from their original location.

Sedimentation is the deposition of eroded material. When the top and toe of a slope are designed to intercept or divert run-on and the toe is protected using BMPs, then erosion from the site will be minimal.



Step 4: Assess Erosion Potential

It's essential to assess erosion potential at the sites. **The Revised Universal Soil Loss Equation (RUSLE)** can assist in this assessment process so the scope of the problem can be adequately addressed with appropriate Best Management (Mitigations) Practices (BMP) selection. There are several key design considerations to reduce erosion and increase water quality which include:

- ✓ Increase infiltration-incorporate organic matter where feasible
- ✓ Provide surface protection from raindrop impact
- ✓ Incorporate slope breaks, surface roughness, fiber rolls, etc. to slow runoff
- ✓ Control runoff to prevent concentrated flows
- ✓ Divert run-on at top of slope
- ✓ Stabilize toe of slope

Step 5: Design Pollution Prevention: Best Practices (Mitigation)

Best Mitigation Practices (BMP) are structural, non-structural and management practices that are recognized to be the most effective and practical means of controlling soil loss and reducing water quality degradation. This guide focuses on Design Pollution Prevention BMPs for erosion control, while other Caltrans resources focus on Construction Site BMPs and Treatment BMPs.

DPP BMPs are permanent water quality controls used to reduce pollutant discharges by preventing erosion. DPP BMPs are separated into three categories:

1. Earthwork (Soil Preparation): Provides increased infiltration, slows runoff and incorporates soil amendments.
2. Erosion Control: Protects against raindrop and surface erosion.
3. Runoff Control: Protects against damage from concentrated flow.

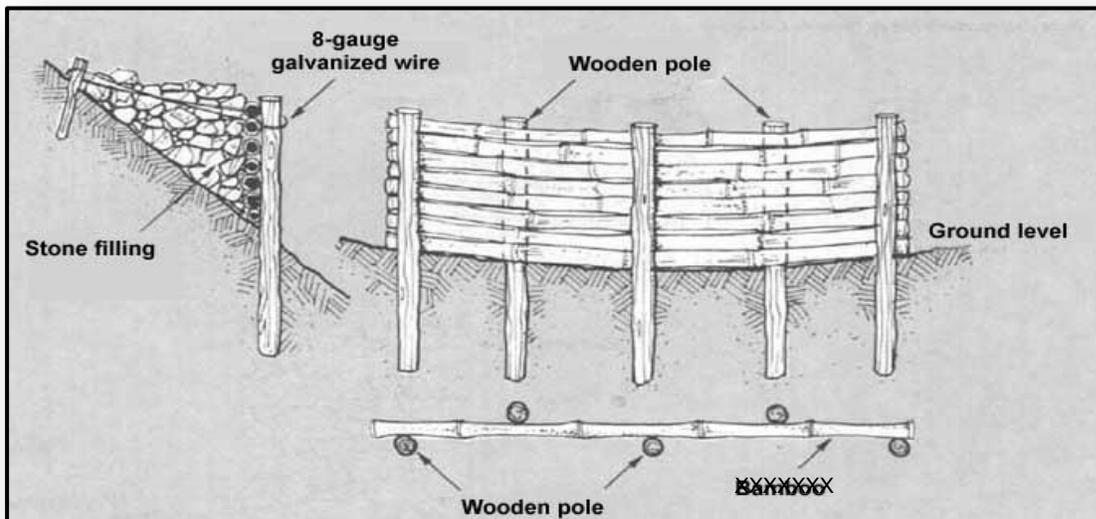
Complete engineering, designs and documentation of the mitigation work to be completed. This will be based on the gathering, surveying and documentation of the project area and review by the community.



Step 6. Select and Implement Sustainable Erosion Controls

Complete the work for selecting appropriate plants to achieve critical sustainable erosion controls that stabilizes disturbed soil areas and helps promote succession.

Succession seeks to re-establish natural stages of vegetation growth by providing early successional species as initial plant cover and creating conditions that support the establishment of later successional species. Establishing this in arctic tundra is slow and support for reestablishment of native vegetation will be the focus of the work.



The amount of work to mitigate the immediate erosion effects will be based on the engineering and the approach as well as the scope of the project. Efforts will be directed to areas towards the protection of critical infrastructure – the bridges and water and sewer as well as other public and private facilities and residences.

Contribution:

A \$75,000 Economic Development Grant will contribute to this project. This project will use local labor, local resources including transportation to and from the mitigation sites. The majority of the effort is expected to address the erosion occurring in following areas of the Selawik River: (1) On the airport side, (2) church side and (2) school side. The areas will be determined by recommendation from project supervisor with coordination of the site engineer.



City of Selawik

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(907) 484-2132 · Fax (907) 484-2209
E-mail: city_of_selawik@hotmail.com

RESOLUTION # 11-08

A RESOLUTION FOR THE SELAWIK PRIORITIZING THE CAPITAL PROJECT NEEDS FOR THE CITY OF SELAWIK

WHEREAS, the Selawik City Council is a governing body of Selawik; and

WHEREAS, the Selawik City Council wishes to improve the quality of life for the residents of Selawik; and

WHEREAS, the Selawik City Council wishes to protect the infrastructure of the City of Selawik; and

WHEREAS, the Selawik City Council wishes to sustain its ability to maintain the services that the City of Selawik provides;

NOW THEREFORE IT BE RESOLVED, that the Selawik City Council endorses the following priority list of needed capital projects in the order of importance:

Project Name:	Priority:
<u>New Equipment – D8</u>	<u>#1</u>
<u>Erosion Control</u>	<u>#2</u>
<u>New Building</u>	<u>#3</u>

BE IT FURTHER RESOLVED THAT, the Selawik City Council accepts the Priority list and involves the Northwest Arctic Borough in the planning process for the City of Selawik.

PASSED AND APPROVED that 19th day of December, 2011 at a meeting of the Selawik City Council by a vote of 7 Yes, and 0 No.

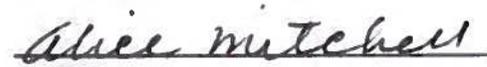
ATTEST:



MAYOR

12 / 21 / 11

Date



CLERK

12 / 19 / 11

Date