

PORTAGE CREEK VILLAGE

TRIBAL HAZARD MITIGATION PLAN [2019 – 2024]

FINAL Revision 1
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Prepared for:

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
ACRONYMS AND ABBREVIATIONS	v
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1
2.0 COMMUNITY DESCRIPTION	3
2.1 Location and Geography.....	3
2.2 Climate.....	3
2.3 History	3
2.4 Economy.....	4
2.5 Demographics.....	4
3.0 PLANNING PROCESS	5
3.1 Planning Process	5
3.2 Planning Team	6
3.3 Public Involvement	6
3.3.1 Other Communities, Tribal Agencies, and Regional Agencies Involved	7
3.4 Incorporation of Existing Plans/Studies/Reports	8
3.5 Integration into Other Tribal Planning Processes	9
4.0 PLAN MAINTENANCE.....	11
4.1 Monitoring.....	11
4.2 Evaluating.....	11
4.3 Updating.....	12
4.4 Public Involvement in the Plan Maintenance Process.....	13
5.0 RISK ASSESSMENT.....	15
5.1 Hazard Analysis	15
5.1.1 Drought.....	19
5.1.2 Earthquake.....	20
5.1.3 Erosion.....	25
5.1.4 Extreme Temperatures.....	26

5.1.5 Flood29

5.1.6 Severe Wind.....30

5.1.7 Severe Winter Weather.....33

5.1.8 Subsidence34

5.1.9 Wildfire35

5.2 Community Assets40

5.2.1 People40

5.2.2 Economy.....40

5.2.3 Built Environment40

5.2.4 Natural Environment.....41

5.3 Risk Analysis41

5.4 Vulnerability49

6.0 MITIGATION STRATEGY51

6.1 Pre-/Post-Disaster Hazard Management51

6.2 Funding53

6.2.1 Existing Funding Sources53

6.2.2 Potential Funding Sources.....53

6.3 Mitigation Goals.....55

6.4 Potential Mitigation Actions.....55

6.5 Mitigation Action Plan.....57

6.6 Implementing Action Plan into Other Planning Mechanisms61

6.7 Reviewing Progress Goals61

7.0 PLAN ASSURANCES AND ADOPTION63

8.0 REFERENCES.....65

TABLES

Table 3-1 Hazard Mitigation Planning Team..... 6

Table 3-2: Stakeholder Contacts..... 8

Table 3-3: Existing Plans, Studies, and Reports Reviewed..... 8

Table 4-1: Plan Maintenance Timeline 13

Table 5-1: Location 16

Table 5-2: Maximum Extent or Magnitude..... 16

Table 5-3: Probability of Future Events..... 17

Table 5-4: Overall Impact..... 17

Table 5-5: Significant Hazards in the Planning Area..... 18

Table 5-6: Top 10 Historic Earthquake Epicenters Closest to Community 24

Table 5-7: Top 10 Greatest Magnitude Historic Earthquakes near Community..... 24

Table 5-8: Top 10 Most Recent Historic Earthquakes near Community..... 25

Table 5-9: Historical Extreme Cold Events 28

Table 5-10: Historical Extreme Heat Events 29

Table 5-11: Historical Severe Wind Events..... 32

Table 5-12: Historical Severe Winter Weather Events 34

Table 5-13: History of Wildfires 39

Table 5-14: Risks to Vulnerable Assets..... 43

Table 6-1: Planning and Regulatory Tools 51

Table 6-2: Administrative and Technical Capability 52

Table 6-3: Mitigation Goals 55

Table 6-4: Prioritized Mitigation Actions..... 59

EXHIBITS

Exhibit 2-1: Population History 4

Exhibit 5-1: Planning Area..... 15

Exhibit 5-2: Major Earthquakes in Alaska..... 21

Exhibit 5-3: Bristol Bay Earthquake Hazard Map..... 22

Exhibit 5-4: Modified Mercalli Intensity Scale with Approximate Richter Scale
Equivalent..... 23

Exhibit 5-5: Wind Chill Chart 27

Exhibit 5-6: Heat Index Chart..... 27

Exhibit 5-7: Beaufort Wind Scale 31

Exhibit 5-8: Portage Creek Fire Map 37

FIGURES

Figure 1 Asset and Hazard Map

Figure 2 Asset and Hazard Map

APPENDICES

- Appendix A Planning Process
- Appendix B Public Involvement
- Appendix C Plan Maintenance Forms
- Appendix D Funding Sources
- Appendix E Mitigation Action Tracking Forms
- Appendix F Adoption Resolution
- Appendix G FEMA Approval & THMP Plan Review Tool

ACRONYMS AND ABBREVIATIONS

%	percent
°F	degrees Fahrenheit
BBEDC	Bristol Bay Economic Development Corporation
BBNA	Bristol Bay Native Association
Bristol	Bristol Engineering Services Company, LLC
CDBG	Community Development Block Grant
CFR	Code of Federal Regulations
Community	Portage Creek
Council	Portage Creek Village Council
DCCED	State of Alaska Department of Commerce, Community, and Economic Development
DEC	Alaska Department of Environmental Conservation
DHS&EM	State of Alaska Division of Homeland Security and Emergency Management
DOTID	Department of Transportation and Infrastructure Development
FEMA	Federal Emergency Management Agency
FMA	Flood Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
ID	Identification
IGAP	Indian General Assistance Program
km	kilometer
MM	Modified Mercalli Scale
mph	mile per hour
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PDM	Department of Homeland Security Pre-Disaster Mitigation
THMP	Tribal Hazard Mitigation Plan
Tribe	Portage Creek Village
USGS	US Geological Survey

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EXECUTIVE SUMMARY

The Tribal Hazard Mitigation Plan (THMP) for Portage Creek, Alaska (Community) was developed in accordance with the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). Bristol Bay Native Association (BBNA) represents the Portage Creek Village (Tribe) and provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of the THMP. Planning Team members from the Community were identified by the Tribe to assist in the development of this plan.

Hazard mitigation reduces potential losses from future disasters. It is the goal of the Portage Creek Village Council (Council) to develop a disaster-resistant community for the general public and Tribe members by identifying hazard mitigation actions. These actions will reduce the impact of natural hazards on the Community and encourage the restoration and protection of natural and cultural resources.

This plan contains current community information, documents the planning process for the THMP, identifies the natural hazards that have an impact on the Community, identifies community assets, analyzes how the assets are impacted by natural hazards, and identifies the Community's vulnerability to these hazards. Additionally, the THMP lists the Community's mitigation goals and prioritized mitigation actions.

The Planning Team identified natural hazards that could affect the Community. The following is a list of natural hazards that have had an impact on the Community.

- Drought – Times with little to no rainfall limits barge access for critical resources. Seasonal dry events increases dust emissions and increases the risk to wildfires.
- Earthquake – Earthquakes occur and can disrupt groundwater for the Community. It can also result in damage to buildings and underground utilities and could potentially lead to chemical spills.
- Erosion – Erosion along the banks of Keefer Cutoff of the Nushagak River is experiencing erosion and approaching fuel tanks close to the bank.
- Extreme Temperatures – Extreme cold temperatures impacts the tank farm and can lead to chemical spills. Extreme heat temperatures can ruin subsistence harvests and increase dust emissions throughout the Community.
- Flood – Flooding in the Community occurs due heavy seasonal rainfall events, heavy spring snow melt, or ice jams in the river. This can cause flooding around the tank farm. These conditions also impact the airport runway preventing transportation in and out of the Community.

- Severe Wind – High wind events can result in damage to structures, power lines, and blow over tall trees. It decreases the quality of air due to dust, and limits the accessibility of the Community via air transportation.
- Severe Winter Weather – Severe winter weather events and cold temperatures can limit air transportation in and out of the Community. It can also present a hazard to residents traveling around the Community due to blowing snow and reduced visibility.
- Subsidence – Subsidence is impacting community infrastructure due to the gradual settling of ground.
- Wildfire – Wildfires destroy subsistence resources, structures, and is a severe risk to human life.

Mitigation goals were selected by the Planning Team for the identified natural hazards. These goals are broad statements that represent the Community's vision for reducing or avoiding losses from the identified hazards. The following is a list of mitigation goals:

- Build the capacity of the Tribe to prepare, respond to, and recover from disasters.
- Promote recognition and mitigation of all natural hazards that affect the Community.
- Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.
- Reduce the possibility of damages due to droughts.
- Reduce the possibility of damages due to earthquakes.
- Reduce the possibility of damages due to erosion.
- Reduce the possibility of damages due extreme temperatures.
- Reduce the possibility of damages due to floods.
- Reduce the possibility of damages due to severe wind.
- Reduce the possibility of damages due to severe winter weather.
- Reduce the possibility of damages due to subsidence.
- Reduce the possibility of damages due to wildfires.

In addition to the identified hazards and the mitigation goals, the Planning Team identified mitigation actions to support the THMP mitigation goals. The following is a list of high priority mitigation actions.

- Investigate possible road and airport dust suppression strategies.
- Acquire materials needed to secure fuel tanks, and secure fuel tanks at the tank farm.
- Install monitors on the beach near the fuel tanks to measure erosion.
- Secure and inspect tanks around the Community for signs of settling due to the freeze/thaw cycles of the soil.
- Improve drainage features along Community roads, and install new features as needed.
- Cut trees around community homes and power lines.
- Identify and acquire fire suppression items for the dump.

The THMP is a living document that will be reviewed on an annual basis, and updated every five years. The annual reviews will monitor the relevance and implementation of the mitigation action plan, and evaluate the effectiveness and progress of the THMP. The annual evaluation of the THMP will include a review of any changes to assets, impacts from hazards, or any additional changes to the plan.

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1.0 INTRODUCTION

Bristol Bay Native Association (BBNA) is an Alaska Native Regional Non-Profit Corporation and tribal consortium. Incorporated under state law, corporation bylaws are structured as a pure tribal consortium. The 31 federally recognized tribes in the Bristol Bay region make up the members of the non-profit corporation. The 31 tribes are represented on the BBNA Board of Directors by their elected tribal presidents, or the president's designee (who must be a tribal member). Therefore, BBNA is directly controlled by the tribal governments it represents.

BBNA is a federally recognized tribal consortium for contracting purposes and is a "Tribal Organization" as defined in the Indian Self-Determination and Education Assistance Act. BBNA operates dozens of grants and contracts under various types of eligibility. Understandably, eligibility of each grant is controlled by the regulations and authorizing legislation of each particular funding source. BBNA operates both Indian and non-Indian programs.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the Portage Creek Village Council (Council), BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of this Tribal Hazard Mitigation Plan (THMP) for Portage Creek, Alaska (Community). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Community eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Community, identifies actions to reduce losses from those hazards, develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Community while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Council to create a disaster-resistant community for the Portage Creek Village (Tribe) members and the general public in the Community. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in the Community.

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2.0 COMMUNITY DESCRIPTION

This section describes the location and geography, climate, history, demographics, and economy of the Community.

2.1 LOCATION AND GEOGRAPHY

The Community is located at the mouth of Portage Creek, a tributary of the Nushagak River, 29 miles southeast of Dillingham. The Community lies at approximately 58.9052° North Latitude and 157.7198° West Longitude (See Figures 1 and 2). The Community is located in Section 1, Township 15S, and Range 51W along the Seward Meridian. The Community is located in the Iliamna Recording District (State of Alaska Department of Commerce, Community, and Economic Development [DCCED], 2018).

2.2 CLIMATE

Climate can have a significant impact on the hazards that affect the Community. The Community's climate can also have an impact on the goals and mitigation strategies that are decided upon. The following is a climate summary of the Community:

The Community falls within the transitional climate zone, characterized by tundra interspersed with boreal forests, and weather patterns of long, cold winters and shorter, warm summers. Fog and low clouds are common during the summer. The river is ice-free from June through mid-November (DCCED, 2018). Annual precipitation ranges from 20 to 35 inches. The average winter temperatures range from 0 to 30 degrees Fahrenheit (°F), and the average summer temperatures range from 30 to 66°F (NOAA, November 2013).

2.3 HISTORY

The Community was used by the Yup'ik Eskimos as an overnight summer camp. The Community was so named because it was used to portage boats from the Nushagak River to the Kvichak River. In this way, travelers could avoid the open waters of Bristol Bay and the long trip around Etolin Point. The village was permanently settled in 1961 by some families from Koliganek and other villages up the Nushagak River. A Bureau of Indian Affairs school was established in 1963, and during the winter of 1964-1965, eleven families lived in the Community. In 1965 the village was served by a local, scheduled air carrier. Through the mid-1980s the Community was an active community, but the population has since declined. The Community is now a popular recreational fishing and camping site from May through July and a hunting location for Yup'ik residents (DCCED, 2018).

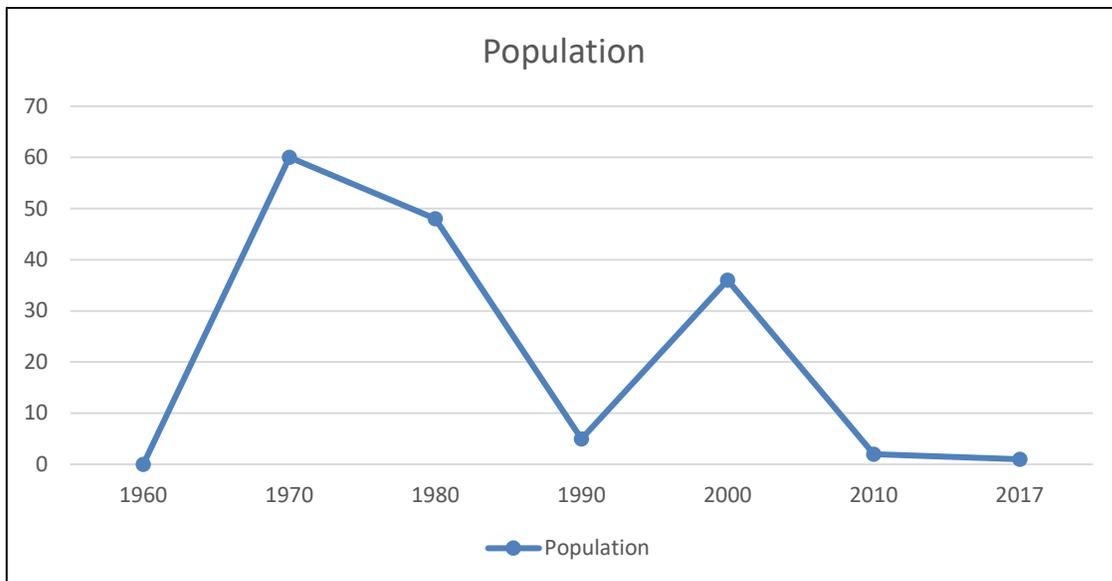
2.4 ECONOMY

No income and employment data was reported in 2010, however information was reported for the year 2000. In the year 2000, the median household income in the Community was \$41,250. At that time there were approximately 36 individuals. There is no information available from the Alaska Department of Labor and Workforce Development between 2007 and 2010, regarding top employers in the Community. The Community’s primary source for food is derived from a subsistence lifestyle. This lifestyle includes activities such as hunting, fishing, berry picking, and other similar activities (NOAA, November 2013).

2.5 DEMOGRAPHICS

The 2017 State of Alaska Department of Commerce, Community, and Economic Development (DCCED) certified population is 1 (DCCED, 2018). Exhibit 2-1 depicts a historic representation of the population of the Community.

Exhibit 2-1: Population History



Source Note: Census Population History retrieved from DCCED
<https://www.commerce.alaska.gov/dcra/dcraexternal/community/>

The 2010 census recorded 2 residents with a median age of 48.5 with 50 percent (%) Alaska Native, and 50% white. In 2010, there was one male and one female (DCCED, 2018).

3.0 PLANNING PROCESS

This section provides information about the planning process that took place during the development of the THMP. It provides an overview of the planning process, the planning team, the public involvement efforts and documentation, the review and incorporation of existing plans, reports and studies, and the plans to integrate the THMP into other planning processes. Documentation of the planning process and public involvement is located in Appendix A and Appendix B, respectively.

3.1 PLANNING PROCESS

The planning process was developed following the requirements of 44 CFR 201.7(c)(1). The Department of Homeland Security Pre-Disaster Mitigation (PDM) grant provided funding and project oversight to the BBNA Department of Transportation and Infrastructure Development (DOTID). Bristol, BBNA's contractor, guided the development of a project team to assist BBNA DOTID with the THMP development.

The planning process took place on November 13, 2018. The following steps describe the planning process to develop the THMP. All planning documents created or used are included in Appendix A.

1. **Establish the Planning Team:** An initial meeting was held with the Council to establish a point of contact and identify other team members. The titles and organizations of the Planning Team members are identified in Table 3-1. During the initial meeting there was a brief discussion about hazards that affect the community as described in the Risk Assessment (Section 5.0).
2. **Education of the Planning Team:** The THMP planning process was described to the Planning Team on November 13, 2018 and participants were asked to help identify hazards that affect the Community, and critical infrastructure.
3. **Organize Resources:** Members of the Planning Team identified resources, including staff, agencies, and local community members who could provide technical expertise and historical information needed in the development of the THMP (see Sections 3.2 and 3.3.1).
4. **Assess Risks:** The Planning Team identified the hazards and assets within the Community. With the assistance of Bristol, the Planning Team developed a risk analysis for the community assets in relation to the identified hazards. The Planning Team identified the areas of greatest concern to the Community and developed vulnerability statements. Section 5.0 provides a detailed description of the Risk Assessment.

5. **Assess Capabilities:** The Planning Team reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards (see Section 3.4 and Section 6.1).
6. **Develop a Mitigation Strategy:** After reviewing the risk analysis and vulnerability statements, the Planning Team developed the mitigation goals. Once goals were established, the Planning Team identified a comprehensive range of potential mitigation actions. Subsequently, the Planning Team refined the prioritized mitigation actions, and evaluated and prioritized the actions for implementation. Section 6.0 provides a detailed description of the Mitigation Strategy.
7. **Monitor, Evaluate, and Plan Updates:** The Planning Team developed a process to monitor, evaluate, and update the THMP to ensure it will be used as intended (see Section 4.0). Plan maintenance forms can be found in Appendix C. The Planning Team also established a plan to track the progress of the identified mitigation actions (see Section 6.7). Mitigation tracking forms are located in Appendix E.

In addition to the steps above the Planning Team encouraged community input throughout the planning process. Section 3.3 details how the public was involved in the planning process.

3.2 PLANNING TEAM

The Planning Team is shown in Table 3-1, 44 CFR 201.7(c)(1).

Table 3-1 Hazard Mitigation Planning Team

Name	Title	Organization
Charlie Johnson	President	Portage Creek Village Council
Stephan Johnson	EPA/IGAP	Portage Creek Village Council
Sophie Snow	Vice President	Portage Creek Village Council
Dan Breeden	Director	BBNA DOTID
Annie Fritze	Program Manager	BBNA DOTID
Isaac Pearson	Senior Engineer	Bristol (THMP Consultant)
Danielle Dance	Civil Engineer	Bristol (THMP Consultant)

3.3 PUBLIC INVOLVEMENT

Public involvement is important to the planning process of the THMP, 44 CFR 201.7(c)(1)(i). The Council defines “public” as living in the tribal service area or on tribal

land, as well as any tribal member or citizen not living on the tribal lands that desires to provide comment on the THMP. It is important for the public to understand and be educated on the Community's priorities. The public also provides valuable insight into issues of concern, identifying community assets and areas that need improvement. The public can provide important information about the history of hazards that have affected the area. Additionally, they can provide ideas for continuing public involvement after the plan has been adopted.

A hardcopy of the Draft THMP was mailed to the resident living in the Community on May 24, 2019. Other community members were notified of the completion of the Draft. All community members were encouraged to provide feedback on the THMP.

Newsletters were used to inform the public about the project. The first newsletter provided an overall description of the project, its purpose, the general process for plan development, and ways for the public to participate in the development of the plan. The second newsletter was sent to inform the public that a draft of the THMP was ready for review and provided the dates for a public review and comment period.

In addition to the newsletters, the residents of the Community were given the opportunity to participate in a Community survey. No surveys were returned. A copy of the survey distributed to community members can be found in Appendix B.

All documentation and materials used to involve the public are located in Appendix B. This includes: newsletters, surveys, and any comments received via email, phone, or facsimile.

3.3.1 Other Communities, Tribal Agencies, and Regional Agencies Involved

The Planning Team worked to include all stakeholders in the planning process and development of the THMP, 44 CFR 201.7(c)(1)(ii). Table 3-2 provides the other stakeholders, communities, tribal agencies, and regional agencies that were involved in the planning process and development of the plan.

Table 3-2: Stakeholder Contacts

Stakeholder Type	Stakeholder	Contact Person (Title)	Contact Email
Village for Profit	Choggiung Limited	Cameron Poindexter (CEO)	cameron@choggiung.com
Village for Profit	Choggiung Limited	Mary Barnes (Director of Operations)	mbarnes@choggiung.com
Regional for Profit	BBNC	Jason Metrokin (President)	jmetrokin@bbnc.net
State Representative	State of Alaska	Bryce Edgmon (Representative)	representative.bryce.edgmon@akleg.gov
State Senator	State of Alaska	Lyman Hoffman (Senator)	senator.lyman.hoffman@akleg.gov

Applicable stakeholders were contacted by e-mail to invite their participation in the planning process. Applicable comments provided by these stakeholders are included in Appendix B.

3.4 INCORPORATION OF EXISTING PLANS/STUDIES/REPORTS

During the development of the THMP the Planning Team reviewed any applicable existing plans, studies, and reports, 44 CFR 201.7(c)(1)(iii). Table 3-3 lists those documents reviewed by the Planning Team and contains a summary of the incorporated content.

Table 3-3: Existing Plans, Studies, and Reports Reviewed

Plans/Studies/Reports Reviewed for this THMP	Summary of Incorporated Content
State of Alaska Hazard Mitigation Plan	Identifies profiled hazards, provides resources, and provides goals and mitigation strategies identified by the State of Alaska Division of Homeland Security and Emergency Management (DHS&EM) (DHS&EM, 2013).
Alaska Emergency Response Guide for Small Communities	This guide provides general procedures to assist local officials in preparing for, responding to, and recovering from emergency and disaster situations developed by the State of Alaska DHS&EM (DHS&EM, 2017).
Portage Creek Long Range Transportation Plan	This plan identifies transportation goals and actions for the Community (Portage Creek Village Council, 2018).

NOTE: Complete reference information for the Plans/Studies/Reports in the table above is included in Section 8.0 of this plan.

3.5 INTEGRATION INTO OTHER TRIBAL PLANNING PROCESSES

The Planning Team worked to share and integrate the information collected during the planning process with other tribal planning processes, 44 CFR 201.7(c)(1)(iv). They accomplished this by attending tribal planning meetings when invited and providing regular updates to the Council. Through this process the Planning Team was also able to identify projects or actions for the mitigation plan.

The THMP was developed concurrently with the Portage Creek Tribal Transportation Safety Plan. As a result, safety throughout the community was addressed and discussed in various aspects regarding natural hazards, and safety on all modes of transportation in the Community.

There were no FEMA programs or initiatives occurring at the time of the planning process. Therefore, the planning process was not integrated into other FEMA programs or initiatives.

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4.0 PLAN MAINTENANCE

This section provides a formal maintenance plan to monitor, evaluate, and update the THMP to ensure that it remains an applicable and active document, and that improvements and updates to the THMP happen in a coordinated and organized manner, 44 CFR 201.7(c)(4)(i). This section also describes how the Council plans to continue public involvement in the maintenance of the plan. Appendix C contains questionnaires and forms to track the maintenance process.

4.1 MONITORING

The Planning Team will continue to monitor the progress of the mitigation actions to track the relevance and implementation of the mitigation action plan (Section 6.6) and all of its elements. Once a year from the time that the plan is adopted, the Tribal Administrator, or designee, will track the status of implementation of the identified mitigation actions and provide a status report to the Council. A more thorough review, by the responsible agency, of the progress of each identified mitigation action will be addressed in Section 6.7. The THMP Maintenance Monitoring Form (THMP Form 4-1) is located in Appendix C.

4.2 EVALUATING

The Planning Team will evaluate the THMP, in its entirety, to assess its effectiveness at achieving its stated goals and purposes. The Planning Team will evaluate the progress towards the THMP goals on an annual basis from the time the plan was adopted. The THMP Plan Update Evaluation Form (THMP Form 4-2) is located in Appendix C. This evaluation will include a review of the following:

- Identification of agencies, stakeholders, residents that have participated in THMP implementation efforts;
- Identification of notable changes to the risk assessment;
- Identification of new hazards and their impacts;
- Identification of new reports or planning materials available to the Community;
and
- Identification of new hazard mitigation projects.

The Tribal Administrator, or designee, will contact the Council and other applicable stakeholders identified in Sections 3.2 and 3.3.1 to determine if the THMP needs to be updated to address newly identified hazards, new reports, or new hazard mitigation projects. The Tribal Administrator, or designee, will e-mail all stakeholders summarizing this process and request a planning meeting, if an update is warranted.

4.3 UPDATING

The THMP will be updated at least once every five (5) years. The plan can be revised prior to this when significant changes need to be made, if any necessary changes are identified during the evaluation process (Section 4.2). The Tribal Administrator, or designee will contact the Council and Planning Team no later than the beginning of the fourth year following the THMP adoption to begin the process for updating the plan. The Planning Team will review and incorporate all applicable information collected or received to update the THMP. Comments received from the public and information collected from the THMP evaluation form (Form 4-2 located in Appendix C) and mitigation action plan review forms (Form 6-2 located in Appendix E) will aid the Planning Team in refocusing on any possible new hazards, or available resources.

In addition to reviewing the plan maintenance forms and mitigation action plan review forms the Planning Team will begin the following activities:

- Request grant assistance to update the THMP.
- Identify sections of the plan that need to be improved and begin brainstorming proposed changes.
- Update and analyze the risk assessment.
 - Review and update the hazard analysis.
 - Review and update the Community assets.
 - Complete a new risk analysis.
 - Re-evaluate the Community Vulnerability statements.
- Update the Community mitigation strategy.
 - Re-evaluate and update the Community mitigation goals.
 - Update and review mitigation actions.
- Update the THMP document.
- Submit updated THMP to FEMA for review and approval.

Table 4-1 identifies the plan maintenance timeline and the tasks that should be completed each year.

Table 4-1: Plan Maintenance Timeline

Year	Action(s)	Applicable Forms
2019	Plan Adoption	N/A
2020	<ul style="list-style-type: none"> • Monitor status of actions • Evaluate THMP 	<ul style="list-style-type: none"> • THMP Form 4-1 • THMP Form 4-2
2021	<ul style="list-style-type: none"> • Monitor status of actions • Evaluate THMP 	<ul style="list-style-type: none"> • THMP Form 4-1 • THMP Form 4-2
2022	<ul style="list-style-type: none"> • Monitor status of actions • Evaluate THMP 	<ul style="list-style-type: none"> • THMP Form 4-1 • THMP Form 4-2
2023	Begin plan update activities (outlined in Section 4.3)	N/A
2024	Finalize THMP update	N/A
2025	THMP Update adopted	N/A

4.4 PUBLIC INVOLVEMENT IN THE PLAN MAINTENANCE PROCESS

The Council is committed to involving the public in the continual maintenance and updating of the THMP, 44 CFR 201.7(c)(4)(iv). A continued effort will be made to identify opportunities to raise community awareness about the hazards that affect the Community. This effort could include attendance and provision of materials at Tribe-sponsored events, outreach programs, and public mailings. Additionally, efforts will be made to include hazard mitigation into Community public meetings when possible.

A paper copy of the THMP and any proposed changes will be available at the Tribal office and at the BBNA DOTID office. An electronic copy of the THMP Plan will also be available from the Tribal office or the BBNA DOTID office. Comments or concerns can be directed to the Tribal Administrator, or designee. Any comments or concerns collected will be included in the annual monitoring effort and considered for inclusion in future THMP updates.

The Planning Team will ensure that the public will be involved in the THMP update. This involvement could be in the form of public meetings, newsletters, or other community correspondence techniques. The public will be given the time to review the draft plan prior to its adoption.

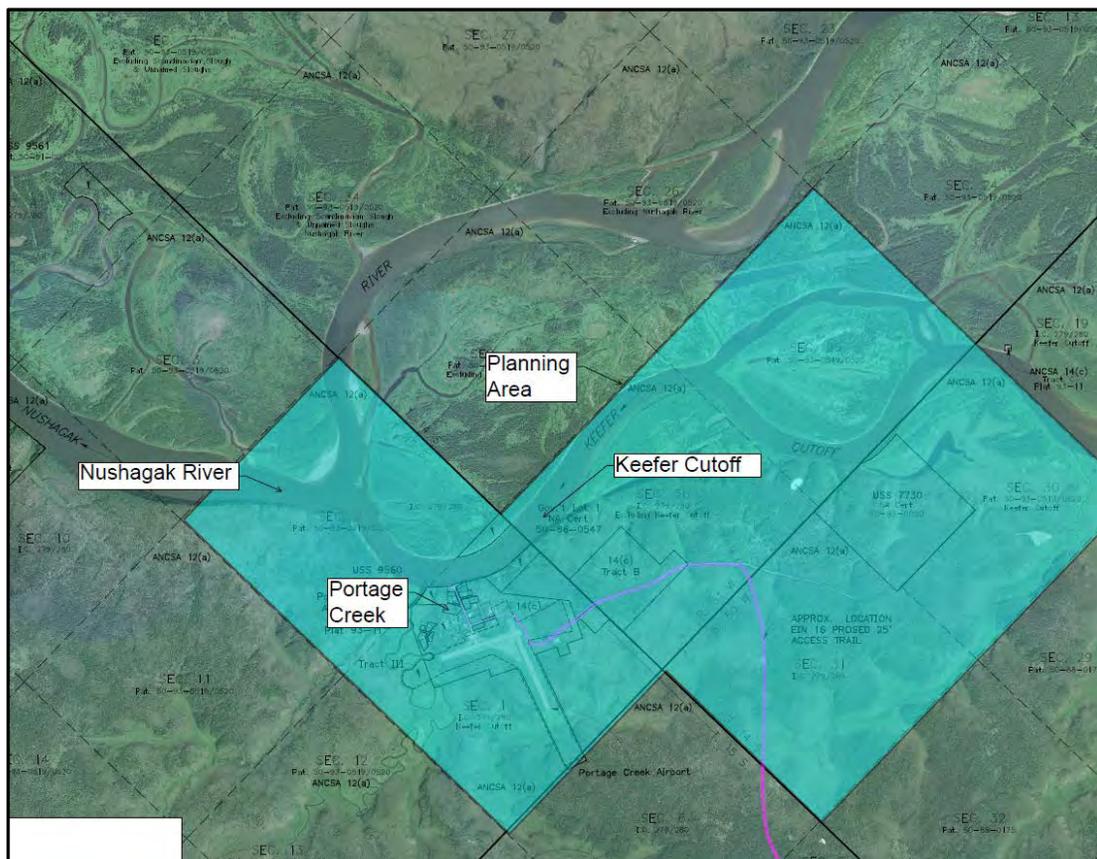
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5.0 RISK ASSESSMENT

This section provides an analysis of the hazards that affect the Community planning area, 44 CFR 201.7(c)(2)(i). This section also identifies the Community’s assets, analyzes the risks of assets associated with each hazard type, and assesses the vulnerabilities of local people, property, and natural environment.

The Community planning area is shown in Exhibit 5-1. The planning area encompasses Sections 2 and 3 of Township 15 South Range 51 West, Sections 25 and 36 of Township 14 South Range 51 West, and Section 30 and 31 of Township 14 South, Range 50 West, of the Seward Meridian. Community trails and subsistence areas may extend beyond the sections shown.

Exhibit 5-1: Planning Area



5.1 HAZARD ANALYSIS

The first step in the risk assessment is to identify the natural hazards that could affect the planning area. Natural hazards result from uncontrollable or unexpected natural events. The Planning Team reviewed 13 possible hazards that could affect the planning area. Each

hazard was evaluated based on a range of factors. Table 5-1 through Table 5-4 provide the classifications and definitions of each factor (FEMA, March 2013). These factors included the location of affected area (Table 5-1), the maximum extent or magnitude of the event (Table 5-2), and the probability of future events (Table 5-3). Based on the rankings from Table 5-1 through Table 5-3 the possible hazards were then ranked again based on their overall impact on the Community (Table 5-4). The hazard identification worksheet (Worksheet 1) is located in Appendix A.

Table 5-1 provides a classification and its definition related to the geographic area that the hazard may affect.

Table 5-1: Location

Color Code	Area Affected	Definition
BLUE	Negligible	<ul style="list-style-type: none"> Isolated single-point occurrences Less than 10% of planning area
GREEN	Limited	<ul style="list-style-type: none"> Limited single-point occurrences 10% to 25% of planning area
YELLOW	Significant	<ul style="list-style-type: none"> Frequent single-point occurrences 25% to 75% of planning area
RED	Extensive	<ul style="list-style-type: none"> Consistent single-point occurrences 75% to 100% of planning area

Table 5-2 provides classifications and definitions used to determine the significance of each hazard based on maximum extent or magnitude seen in historic events or future probability.

Table 5-2: Maximum Extent or Magnitude

Color Code	Maximum Extent	Definition
BLUE	Weak	<ul style="list-style-type: none"> Little to no damage done Slow speed of onset or short duration of event Limited classification on scientific scale (if applicable)
GREEN	Moderate	<ul style="list-style-type: none"> Some damage and loss of services for days Moderate speed of onset or moderate duration of event Moderate classification on scientific scale (if applicable)
YELLOW	Severe	<ul style="list-style-type: none"> Devastating damage and loss of services for weeks or months Fast speed of onset or long duration of event Severe classification on scientific scale (if applicable)
RED	Extreme	<ul style="list-style-type: none"> Catastrophic damage and uninhabitable conditions Immediate onset or extended duration of event Extreme classification on scientific scale (if applicable)

Table 5-3 provides classifications with definitions related to the probability of future events happening in the planning area.

Table 5-3: Probability of Future Events

Color Code	Probability of Future Event	Definition
BLUE	Unlikely	<ul style="list-style-type: none"> • Less than 1% probability of occurrence in the next year • Recurrence interval of greater than every 100 years
GREEN	Occasional	<ul style="list-style-type: none"> • 1% to 10% probability of occurrence in the next year • Recurrence interval of 11 to 100 years
YELLOW	Likely	<ul style="list-style-type: none"> • 10% to 90% probability of occurrence in the next year • Recurrence interval of 1 to 10 years
RED	Highly Likely	<ul style="list-style-type: none"> • 90% to 100% probability of occurrence in the next year • Recurrence interval of less than 1 year

After the possible hazards were evaluated according to location, extent or magnitude, and probable future occurrence each hazard was then ranked according to its overall impact. A hazard’s overall impact is the effect or consequence of the hazard on the Community and its assets. The Community’s assets are identified and further discussed in Section 5.2. Table 5-4 provides the classifications with definitions to determine the overall impact of each hazard on the planning area.

Table 5-4: Overall Impact

Color Code	Impact	Definition
GREEN	Low	<ul style="list-style-type: none"> • Event has minimal impact on planning area • Two or more criteria fall in lower classifications
YELLOW	Medium	<ul style="list-style-type: none"> • Event’s impacts on the planning area are noticeable but not devastating • Criteria fall mostly in the middle ranges of classifications
RED	High	<ul style="list-style-type: none"> • Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area • Criteria consistently fall in the high classifications

Table 5-5 shows a summary of the hazard analysis (also provided in Appendix A, Worksheet 1). This summary identifies each of the hazards evaluated, if the hazard presents a significant impact to the Community, and an explanation of why it was or was not determined to be significant to the Community and further analyzed by the Planning Team.

Table 5-5: Significant Hazards in the Planning Area

Hazard	Significant (Yes/No)	Explanation
Avalanche	No	Avalanches do not occur in the Community due to the generally flat terrain.
Drought	Yes	Times with little to no rainfall can result in low river levels which can impact barge access for delivery of critical resources such as fuel, and can impact the subsistence fishing activities. Drought also contributes to dust emissions and causes dry vegetation, increasing the risk of wildfires.
Earthquake	Yes	Earthquakes occur in the Community, and can result in damage to buildings, utilities, and wells.
Erosion	Yes	The Community is situated along the Keefer Cutoff of the Nushagak River. The river is experiencing erosion along the banks, approaching fuel tanks.
Extreme Temperatures (Severe Cold & Heat)	Yes	Temperatures over 80°F can ruin harvested fish and impact to wildlife. Severe cold has caused cracks in the ground which has led to fuel leaks.
Flood	Yes	Flooding can occur due to heavy rainfall, ice jams in the river, or heavy spring snow melt. The fuel tanks are in the flood zone and floods for days at a time. Flooding can also compromise the airport runway by making it soft and preventing planes from landing.
Landslide	No	Landslides generally do not occur in the Community.
Severe Wind	Yes	Strong wind storms occur frequently in the Community. These storms can damage roofs, blow over tall trees, and power lines.
Severe Winter Weather	Yes	Severe winter weather can affect plane access to the Community for travel, food and supplies, and medical emergency evacuations.
Subsidence	Yes	Soils become noticeably soft during spring breakup. Houses shift, and roads sink due to silty, wet tundra.
Tsunami	No	The Community is not located on the coast of a large body of water, therefore is not impacted by tsunamis.
Volcano	No	The Community has no record of experiencing ash fall events.
Wildfire	Yes	There have been 8 fires within roughly 15 miles of the Community since 1957, totaling 13,593 acres. Wildfires can destroy structures and subsistence resources, and is a severe risk to human life.

The following sections examine each hazard identified by the Tribe that could impact the planning area. This examination includes a general description of each hazard, its anticipated location, anticipated extent, history of occurrences in the planning area, and the probability of future occurrences.

Some hazards, such as tornadoes, could occur in the planning area, but with such infrequency that they were not considered for this evaluation.

5.1.1 Drought

A drought is a period of time that has unusually dry weather. This length of time persists long enough that it causes deficiencies in water supplies. The effects of a drought take a long period of time to develop however, over time they can severely impact water supplies, crops, wildlife, subsistence areas, and recreational resources. Direct and indirect impacts to the economy can be significant if the drought conditions extend over a long period of time. If a drought continues for a long duration it can make the area more susceptible to fire.

5.1.1.1 Location

All land in the entire tribal planning area (see Exhibit 5-1) is equally at risk for the hazard.

5.1.1.2 Extent

Drought can impact subsistence foods, increase fire risks, decrease river water levels, and impede navigation. With limited rainfall or snowfall, local water bodies can see a reduction in water levels including rivers, streams, fishponds, and shallow groundwater aquifers. Residents of the Community rely on groundwater wells for drinking water and household sanitation. Low water levels of the Nushagak River can restrict barge access to the community, impeding delivery of critical resources such as heating oil, diesel generation for electricity, and other goods. This can result in higher fuel costs.

Weeks without sufficient rainfall can lower water levels in fishponds and tributaries, disrupting spawning areas available for salmon and resulting in poor subsistence harvest. During periods of low river levels, many subsistence-fishing areas may not be accessible by boat. Additionally, dry summers can result in poor production of natural berry patches. Due to climate change, residents have noticed new insect and bird species in the area. As a community with a subsistence lifestyle, residents can be especially impacted by drought because it can affect the quality of, and access to native food sources.

Limited moisture can also increase dust emissions caused by wind and travel on gravel roads and runways. Dust is a nuisance as well as a health hazard. Dust can settle on subsistence foods such as berry patches or salmon hanging out to dry. Inhaling airborne dust is also a risk, particularly for children, elders, and people with respiratory issues. Dust contains

particulate matter that can irritate a person's eyes and throat, aggravate existing heart and lung disease, and damage lung tissue.

Based on these factors and the summation of impacts described above, the THMP Planning Team has classed the maximum probable extent (magnitude/strength) of drought in the Community as "severe."

5.1.1.3 History of Occurrences

Due to limited data collection in rural Alaska, historical drought events are based on anecdotal evidence from community members. Community members recalled historical periods of limited or no rainfall lasting up to two months in the summer. Drought of this duration can affect an entire year's supply of subsistence foods. A summary of comments collected throughout the THMP planning process is provided below:

- When river levels in the Nushagak were too low, the barge can't get supplies to the Community.
- One summer they got very little rain and many forest fires occurred in the area.

5.1.1.4 Probability of Future Events

Droughts are highly likely to continue to affect the Community.

5.1.2 Earthquake

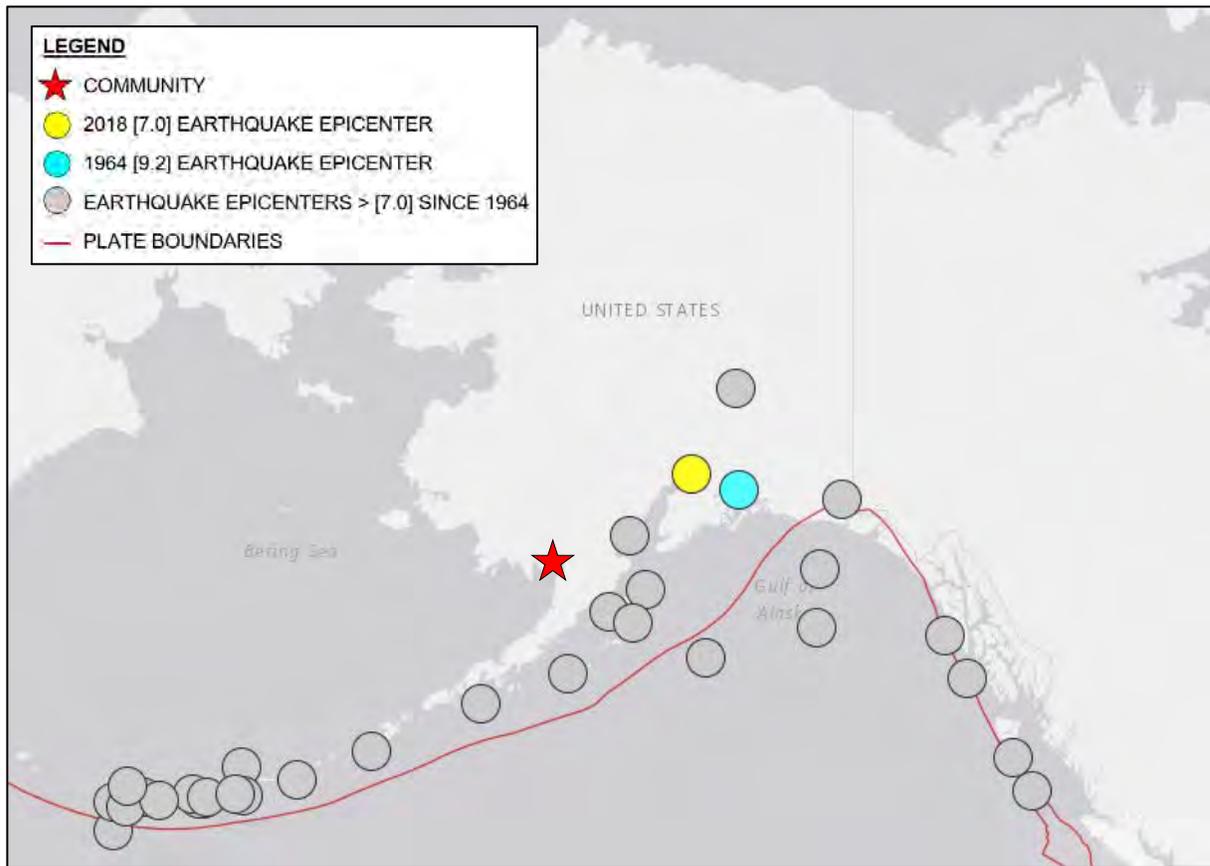
An earthquake is a sudden trembling or movement in the earth's crust due to a sudden release of energy along the edge of the earth's tectonic plates. Earthquakes typically occur without warning. The effects of an earthquake can be felt far beyond the site of its epicenter. The epicenter is the point on the earth's surface that is vertically above the point in the crust where the seismic movement begins. A seismometer detects the vibrations caused by an earthquake and plots them on a seismograph. The magnitude of an earthquake is measured using the Richter scale. Most earthquake-related deaths and property damage are caused by the collapse and failure of structures due to ground shaking. The amount of damage depends upon the duration and extent of the shaking.

Landslides, liquefaction, and tsunamis are some other damaging effects of an earthquake. Earthquake-induced landslides are the down-slope movement of rock, soil and other debris due to ground movement on a steep mountain or hillside slope. Liquefaction occurs when saturated, unconsolidated sand or soil is disturbed due to the shaking from an earthquake. This shaking causes ordinarily solid material or soils to behave like a liquid. A tsunami is a series of enormous ocean waves that can damage or destroy buildings and infrastructure and cause flooding.

5.1.2.1 Location

An earthquake above a 7.0 on the Richter scale is considered a major earthquake. The epicenters of all major earthquakes occurring in Alaska since 1964 are shown on Exhibit 5-2. This map was developed using the US Geological Survey (USGS) Earthquake Catalog Search feature (USGS, 2018). The Community is located approximately 376 miles southwest of the 1964 earthquake epicenter, the largest recorded earthquake in Alaska. The Community is not located on any mapped fault lines. The largest earthquake that has occurred within a 75 miles radius of the Community was a magnitude 6.6 on the Richter scale, located 31.0 miles away on the Alaska Peninsula in May 1990. The closest earthquake to occur near the Community above a magnitude 2.5 was a magnitude 3.7 earthquake that occurred 2.6 miles away in February 2016 (USGS, 2018). More historic earthquakes information surrounding the community is provided in Section 5.1.2.3.

Exhibit 5-2: Major Earthquakes in Alaska



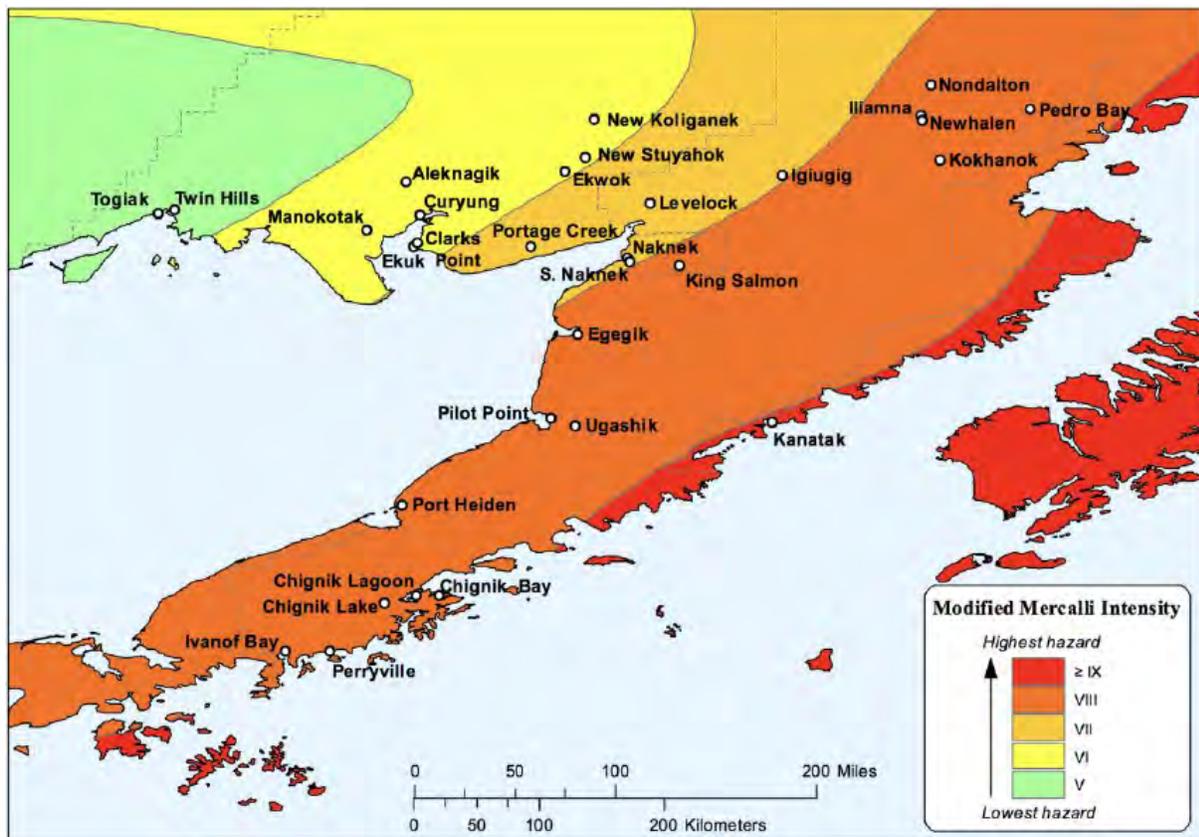
5.1.2.2 Extent

Earthquakes are rarely felt in the Community. Community members have reportedly felt slight tremors from major earthquakes in Alaska, but these earthquakes have not caused

any known damage in the Community. The most severe earthquake felt in the Community was the Great Alaska Earthquake of 1964. Residents described the event saying river ice was visibly shaking. This earthquake had a recorded magnitude of 9.2 on the Richter scale, making it the second largest recorded earthquake in the world. Its effects were felt as far away as South Africa (Alaska Earthquake Center, 2018).

The Geological Hazards Team of the USGS National Earthquake Information Center in Golden, Colorado created a time-independent probabilistic seismic hazard map for the Bristol Bay Region of Alaska. The map (Exhibit 5-3) depicts the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, presented in terms of the Modified Mercalli Scale (MM) and based on peak ground acceleration. The Community is located in a Zone VII MM Intensity, indicating the earthquake risk is moderate (Natalia Ruppert, Presentation, November 22, 2016). Exhibit 5-4 provides a description of damages that can occur at each magnitude of the MM. This exhibit also provides an approximate Richter Scale equivalent for each MM intensity (USGS, 2019 and SMS Tsunami Warning, 2018).

Exhibit 5-3: Bristol Bay Earthquake Hazard Map



USGS map showing the intensity of potential earthquake ground shaking that has a 2% chance of occurring in 50 years, site class B (based on peak ground acceleration)

Exhibit 5-4: Modified Mercalli Intensity Scale with Approximate Richter Scale Equivalent

MM Intensity	Richter Scale (approximate)	People's Reaction	Furnishings	Built Environment	Natural Environment
I	1-2	Not felt			Changes in level and clarity of well water are occasionally associated with great earthquakes at distances beyond which the earthquakes felt by people
II	3	Felt by a few	Delicately suspended objects may swing.		
III	3.5	Felt by several; vibration like passing truck.	Hanging objects may swing appreciably.		
IV	4	Felt by many; sensation like heavy body striking building.	Dishes rattle	Walls creek; windows rattle	
V	4.6	Felt by nearly all; frightens a few.	Pictures swing out of place; small objects move; a few objects fall from shelves within the community.	A few instances of cracked plaster and cracked windows within the community.	Trees and bushes shaken noticeably.
VI	5	Frightens many; people move unsteadily.	Many objects fall from shelves.	A few instances of fallen plaster, broken windows, and damaged chimneys within the community.	Some fall of tree limbs and tops, isolated rockfalls and landslides, and isolated liquefaction.
VII	5.5	Frightens most; some lose balance.	Heavy furniture overturned.	Damage negligible in buildings of good design and construction, but considerable in some poorly built or badly designed structures; weak chimneys broken at roof line, fall of unbraced parapets.	Tree damage, rockfalls, landslides, and liquefaction are more severe and widespread with increasing intensity.
VIII	6	Many find it difficult to stand	Very heavy furniture moves conspicuously.	Damage slight in buildings designed to be earthquake resistant, but severe in some poorly built structures. Widespread fall of chimneys and monuments.	
IX	6.5	Some forcibly thrown to the ground.		Damage considerable in some buildings designed to be earthquake resistant; buildings shift off foundations if not bolted to them.	
X	7			Most ordinary masonry structures collapse; damage moderate to severe in many buildings designed to be earthquake resistant.	

NOTE: Information in this exhibit is a compilation of information from the USGS Modified Mercalli Scale, and the SMS Tsunami Warning Scale (reference information located in Section 8.0).

The largest local concern regarding earthquakes in the Community is disruptions in groundwater. Each home has at least one groundwater well that is relied on for drinking water and household use. A large earthquake near the Community could potentially alter the mineralogy or quality of groundwater.

Seismic activity can cause damage to older community structures and underground utilities. This activity also has the potential to cause chemical spills if tank connections become loose or break.

5.1.2.3 History of Occurrences

The USGS Search Earthquake Catalog was consulted for a history of recorded earthquakes with epicenters within 75 miles of the Community and magnitude of 2.5 or greater since 1964. Table 5-6 shows the top ten data results by distance from the Community, Table 5-7 by magnitude, and Table 5-8 by date (USGS, 2018).

Table 5-6: Top 10 Historic Earthquake Epicenters Closest to Community

Date	Magnitude	Distance from the Community (miles)	Location
May-1990	6.6	31.0	Alaska Peninsula
Jul-2016	5.6	54.2	26 kilometer (km) SSE* of King Salmon
Feb-2003	5.5	33.3	Alaska Peninsula
May-1998	5.4	69.3	Alaska Peninsula
Jun-2010	4.9	59.4	Alaska Peninsula
May-1998	4.9	69.7	Alaska Peninsula
May-1998	4.7	74.9	Alaska Peninsula
May-1995	4.7	66.1	Alaska Peninsula
May-1998	4.6	75.1	Alaska Peninsula
Nov-1984	4.6	43.2	Alaska Peninsula

* South Southeast (SSE)

Table 5-7: Top 10 Greatest Magnitude Historic Earthquakes near Community

Date	Magnitude	Distance from the Community (miles)	Location
Feb-2011	3.7	2.6	Alaska Peninsula
Jun-2015	2.8	6.0	51 km WNW* of King Salmon
Mar-2003	3.6	7.2	Alaska Peninsula
Aug-2011	3.1	8.4	Alaska Peninsula
Nov-1998	3.4	12.0	Alaska Peninsula
Apr-2015	3.2	16.3	48 km W* of King Salmon
Apr-1995	3.1	17.6	Bristol Bay
Nov-1994	3.9	18.4	Alaska Peninsula
Nov-2000	3.5	22.3	Southern Alaska
Sep-2017	2.5	27.4	45 km SSE* of Dillingham

* West Northwest (WNW), West (W), South Southeast (SSE)

Table 5-8: Top 10 Most Recent Historic Earthquakes near Community

Date	Magnitude	Distance from the Community (miles)	Location
Nov-2018	2.5	74.8	55 km ESE* of King Salmon
Nov-2018	2.5	50.6	21 km SSE* of King Salmon
Oct-2018	2.7	74.9	55 km ESE* of King Salmon
Oct-2018	2.7	72.2	81 km S* of King Salmon
Sep-2018	3.0	29.0	31 km S* of Dillingham
Sep-2018	2.7	53.6	22 km SE* of King Salmon
Aug-2018	2.7	73.8	54 km SE* of King Salmon
Feb-2018	2.8	35.9	11 km WSW* of King Salmon
Jan-2018	2.8	72.1	52 km SE* of King Salmon
Dec-2017	2.7	75.1	55 km ESE* of King Salmon

* East Southeast (ESE), South Southeast (SSE), South (S), Southeast (SE), West Southwest (WSW)

5.1.2.4 Probability of Future Events

It is likely for earthquakes to occur in or near the Community in the future. It is possible for a large earthquake to impact the community to a critical degree.

5.1.3 Erosion

Erosion is the wearing away, movement, or transportation of land. This can occur along riverbanks, shorelines, dune materials, and beaches. Repetitive flooding events, sea level rise, wave action, subsidence, sediment loss, and climate change can result in long-term erosion. Though most erosion happens gradually over a long period, it can also happen quickly due to periodic natural events such as windstorms, flooding, hurricanes, and storm surges. This can also be intensified by human activities or influences such as the construction of embankment protection structures or water table depletion. Erosion is measured as the rate of change in the displacement or position of the shoreline or riverbank over a given period of time. Erosion does not typically cause death or injury to people; however, it can destroy community infrastructure, buildings, and transportation systems.

5.1.3.1 Location

The Community experiences gradual erosion along the banks of two local waterways, the Nushagak River and the Keefer Cutoff, which is a tributary of the Nushagak River. Significant erosion areas are identified on Figures 1 and 2.

5.1.3.2 Extent

The Community THMP team has classed the area affected by erosion as “significant.” The erosion of highest concern is the river eroding the banks and undermining the fuel tanks at the boat landing site. The boat access area is getting shorter and smaller due to erosion from the river. Eroded soil is deposited in other areas of the river, creating areas of shallow water and potential boating hazards.

In addition to the eroding river banks, several of the roads in the Community are experiencing erosion due to drainage issues. These areas include the access roads to the old landfill, the boat landing, and the gravel pits. Erosion is also occurring around the airport due to poor drainage features.

5.1.3.3 History of Occurrences

Erosion is an on-going process. However, particular events can result in notable occurrences of erosion, such as floods and ice jams. Community members stated that the boat landing site is smaller and the riverbank is getting close to the fuel tanks. No exact measurement has been taken but they estimate that the tanks are less than 50 feet away from the bank.

5.1.3.4 Probability of Future Events

Significant erosion is visible along the riverbanks every year, particularly after spring breakup. It is highly likely for erosion to continue to occur in the Community due to ice dams, storms, wind, and the continuous flow of the river.

5.1.4 Extreme Temperatures

Extreme temperatures constitute different conditions in different parts of the country. In colder climate regions such as Alaska, extreme cold events involve temperatures -10°F and below. Extreme cold temperatures can occur after a winter storm or during long durations of storm inactivity. Fatalities and injuries can occur from extreme cold by causing hyperthermia or frostbite (NOAA, NWS, December 2018). Extreme heat events involve temperatures above 80°F. These temperatures are much rarer in Alaska, but are being experienced more frequently due to climate change.

5.1.4.1 Location

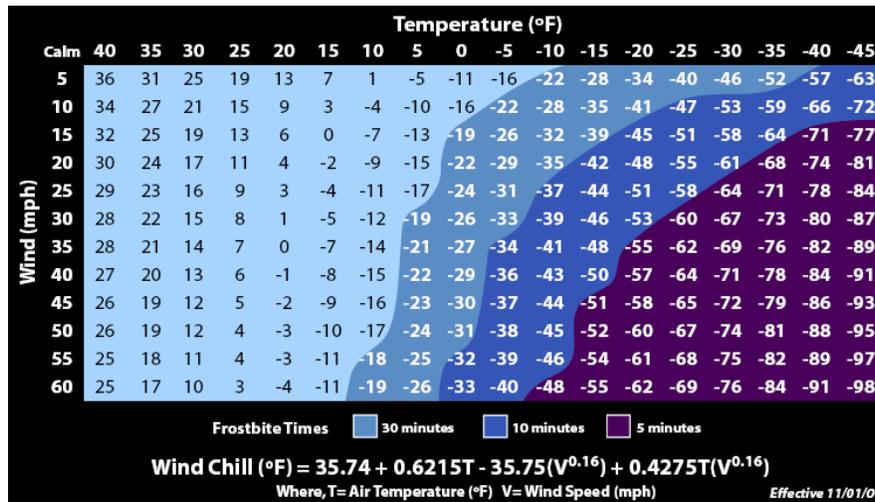
Extreme temperatures affect the entire tribal planning area (see Exhibit 5-1).

5.1.4.2 Extent

Extreme cold varies from region to region. For the purpose of this report, extreme cold is being classified as the temperature at which frostbite occurs in 30 minutes, or less. This

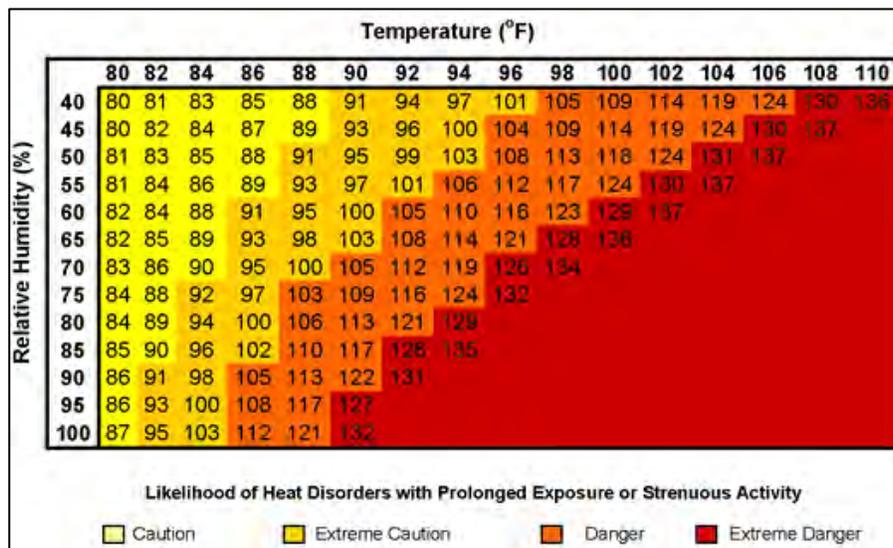
determination was based on the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) wind chill chart in Exhibit 5-5 (NOAA NWS, 2018).

Exhibit 5-5: Wind Chill Chart



Extreme heat has been classified as the temperature at which heat disorders are deemed cautionary, based on the NOAA NWS heat index in Exhibit 5-6 (NOAA NWS, 2018).

Exhibit 5-6: Heat Index Chart



The Community has experienced temperatures as low as -34°F in 2010 and as high as 93°F in 2017 (Weather Underground, 2018). There are no known fatalities, injuries, or illnesses caused by extreme temperatures in the Community. However, residents are impacted by these events in various ways.

Extreme cold temperatures cause cracks in the ground. In the past, this has led to tank displacement and leaking at the village tank farm, requiring costly remediation and removal of contaminated soil. Most residents are aware of the dangers of extreme cold and know how to prepare for winter weather. These events also makes it difficult to get vehicles to run and creates challenges for pumping oil. Extreme cold in the late spring early summer has the potential to impact plant growth and disrupt subsistence activities

Extreme heat, on the other hand, can ruin subsistence fish harvest and cause harm to other subsistence wildlife and vegetation. Residents are distressed by extreme heat, especially because there is no air conditioning. Extreme heat also increases dust plumes, which negatively affects the health of individuals and those with respiratory problems.

5.1.4.3 History of Occurrences

History of extreme temperature events is based on accounts from community members. According to residents, extreme cold events occur at least once every winter and can last up to several weeks at a time, while extreme heat events occurs every summer.

Data is not readily available for the Community, however, temperatures have been recorded in the nearby community of Dillingham, which is roughly 28 miles away. These communities are assumed to experience similar temperatures. Table 5-9 identifies historical extreme cold events and Table 5-10 identifies historical extreme heat events recorded in Dillingham (Weather Underground, 2018).

Table 5-9: Historical Extreme Cold Events

Year	Minimum Temperature (°F)	#of Days Below -10°F
2018	-11	1
2017	-16	8
2016	-5	0
2015	-11	1
2014	-11	1
2013	-11	2
2012	-31	33
2011	-29	11
2010	-34	18
2009	-20	14
2008	-27	19

Table 5-10: Historical Extreme Heat Events

Year	Maximum Temperature (°F)	#of Days Above 80°F
2018	72	0
2017	93	1
2016	75	0
2015	84	1
2014	78	0
2013	82	2
2012	71	0
2011	73	0
2010	75	0
2009	78	0
2008	71	0

5.1.4.4 Probability of Future Events

It is highly likely that the Community will continue to experience the effects of extreme temperatures.

5.1.5 Flood

Flooding is the accumulation of water where normally none exists. There are various types of flooding, such as, coastal flooding, riverine flooding, and shallow flooding. Additionally, flooding can occur due to rapid snowmelt, ice jams, heavy rainfall, severe thunderstorms, tropical storms, and other high precipitation events. Flooding can damage buildings, personal property, and infrastructure. It can cause road or bridge closures. It can cause a disruption of services, such as, transportation, or utility services. It can also cause injuries or death.

Flooding events are the most significant threats to ecosystems along river and coastal areas of Alaska. As the water runs over and through the watershed, it picks up and carries contaminants and soil. Everything from leaked motor oil on parking areas, plastic grocery bags, pesticides, fertilizers, detergents, and sediments; known as non-point source pollutants. Point source discharges are; discharge points, bulk fuel storage and sewage treatment plants, and other regulated known sources or points of pollutant discharges. If untreated, these pollutants wash directly into waterways carried by runoff from rain and snowmelt. These contaminants can infiltrate groundwater and concentrate in streams and rivers and can be carried down the watershed and into the ocean. Non-point source

pollution is linked to the creation of large dead-zones (areas with minimal oxygen) in the ocean and threatens the health of the ecosystem.

5.1.5.1 Location

Areas in the Community at risk of flooding are depicted on Figures 1 and 2. FEMA flood maps are not available for the Community. The boat launch adjacent to the Keefer Cutoff has the highest risk. Additionally, many roads and the airport have poor drainage.

5.1.5.2 Extent

The Community has experienced flooding in the past. Flooding in the Community is caused from ice jams on the Keefer Cutoff of the Nushakgak River, heavy spring snow melt, and during long periods of heavy rainfall. During long periods of heavy rainfall, areas around the Community can flood and maintain standing water for days or weeks. Ice jams in the Nushakgak River cause the water to back up and causes flooding and increases the rate of erosion.

The fuel tanks by the boat landing flood when the river is high during spring thaw. This can happen about every 5 years. Access roads to the fuel tanks have poor drainage and are effected by flooding which can block access to fuel tanks for up to two weeks. The airport has issues with standing water which can cause a significant problem. When the runway is wet and saturated it gets soft and prevents planes from landing safely. The road to the landfill and by the school also experience problems with standing water.

5.1.5.3 History of Occurrences

Community members stated that there is a risk flooding from ice jams every spring. Additionally residents recalled that a plane crashed on the runway due to the runway being too soft from flooding. The approximate timeframe of this accident was not identified.

5.1.5.4 Probability of Future Events

It is highly likely flooding will continue to happen in the Community due to the continuing effects of rain, snow melt, and ice jams.

5.1.6 Severe Wind

Severe wind can accompany other natural hazards or occur alone. Wind events pose a threat to vital utilities, lives, and property. Severe winds are classified using the Beaufort Wind Scale. Strong gale winds of 47 miles per hour (mph) and greater are considered severe and likely to produce damage.

5.1.6.1 Location

Severe wind affects the entire tribal planning area (see Exhibit 5-1).

5.1.6.2 Extent

The Beaufort Wind Scale gives a force scale of 1 – 12 based on sustained wind speed. Exhibit 5-7 identifies the scale and the consequences that are possible at the different levels as well as, the impacts to ocean water movement (NOAA NWS, March 2013). Any wind event, Force 9 and higher is considered severe and can cause damage within the Community.

Exhibit 5-7: Beaufort Wind Scale

The Beaufort Wind Scale				
Force	Name	Wind Speed knots mph		Consequence
0	Calm	0	0	Smoke rises vertically
Wave height: 0 m - Sea: Like a mirror				
1	Light air	1-3	1-3	Smoke drifts with air
Wave height: 0.1 m (.25 ft) - Sea: Ripples - No foam crests				
2	Light breeze	4-6	4-7	Weather vanes become active
Wave height: 0.2-0.3 m (0.5-1 ft) - Sea: Small wavelets - Not breaking				
3	Gentle breeze	7-10	8-12	Leaves and small twigs move
Wave height: 0.6-1 m (2-3 ft) - Sea: Small wavelets - Crests begin to break				
4	Moderate breeze	11-16	13-18	Small branches sway
Wave height: 1-1.5 m - Sea: Small waves becoming longer, numerous whitecaps.				
5	Fresh breeze	17-21	19-24	Small trees sway - Waves break
Wave height: 2-2.5 m (6-8 ft) - Sea: Moderate waves - Many whitecaps				
6	Strong breeze	22-27	25-31	Large branches sway
Wave height: 3-4 m (9.5-13 ft) - Sea: Larger waves forming - Whitecaps everywhere				
7	Near gale	28-33	32-38	Whole trees sway - difficult to walk
Wave height: 4-5.5 m (13.5-19 ft) - Sea: Sea heaps up - White foam blown around				
8	Gale	34-40	39-46	Twigs break off trees
Wave height: 5.5-7.5 m (18-25 ft) - Sea: Edges of crests break into spindrifts				
9	Strong gale	41-47	47-54	Shingles blow off roofs
Wave height: 7-10 m (23-32 ft) - Sea: High waves - Sea rolls - Reduced visibility				
10	Storm	48-55	55-63	Trees uprooted - Damage to buildings
Wave height: 9-12.5 m (29-41 ft) - Sea: Very high waves with overhanging crests				
11	Violent Storm	56-63	64-73	Widespread damage
Wave height: 11.5-16 m (37-52 ft) - Sea: Exceptionally high waves				
12	Hurricane	Over 63	Over 73	Violent destruction
Wave height: 16+ m (52+ ft) - Sea: Sea completely white - Excessive foam				

Severe wind can be present all year, but these events are most common during the spring and fall months. These conditions can cause loose debris to blow around the Community and detach roofing or siding from homes and other structures. The Community is surrounded by trees. Severe windy conditions can cause trees to blow over and damage homes, and land on overhead power lines.

In the summer and fall months, severe wind conditions produce an unhealthy amount of dust. The airport runway and all of the roads in the Community are gravel. This produces large amounts of airborne dust, impacting subsistence harvests and producing a breathing risk to everyone, but especially young children and those with respiratory issues.

Severe wind impacts air transportation in and out of the Community. This increases risks to residents if there is a lack of needed supplies, medications, and mail. This also decreases the ability to evacuate for medical emergencies.

5.1.6.3 History of Occurrences

According to locals, severe windstorms have kept airplanes from landing for a few days in the past, and blown off roofs of older buildings.

Wind data is not readily available for the Community, however, wind speeds have been recorded in the nearby community of Dillingham, which is roughly 28 miles away. These communities are assumed to experience similar wind speeds. Therefore, Table 5-11 identifies historical severe wind events recorded in Dillingham (Weather Underground, 2018).

Table 5-11: Historical Severe Wind Events

Year	Max Wind Speed (mph)	# of Days Above 47 mph
2018	41	0
2017	43	0
2016	41	0
2015	53	1
2014	44	0
2013	38	0
2012	39	0
2011	38	0
2010	69	1
2009	59	3
2008	38	0

5.1.6.4 Probability of Future Events

Severe wind events are highly likely to continue to occur in the Community.

5.1.7 Severe Winter Weather

Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause harm to individuals, cause power outages, cause property damage, and damage utilities.

5.1.7.1 Location

Severe winter weather affects the entire tribal planning area (see Exhibit 5-1).

5.1.7.2 Extent

Air transportation is essential to the Community. Severe winter storm conditions create a hazard for planes to land in the Community. These storms hinder the ability to evacuate for medical emergencies, and receive needed supplies, medications, and mail due to ice or snow on the runway. There have been times in the past when planes have not been able to land in the Community for several days at a time.

Traveling in severe winter conditions is dangerous for residents because of the blowing snow and reduced visibility. This is exacerbated by colder temperatures because of their effect on the snow ratio. Due to the average temperatures in Alaska being lower than the rest of the United States during winter months, a snow ratio of 1:20 was assumed. This means that for every 1 inch of precipitation, 20 inches of snow falls. With extreme cold, the snow ratio can increase up to 1:50. This ‘fluffy’ snow is hard to manage because it becomes airborne easily.

5.1.7.3 History of Occurrences

Precipitation data is not readily available for the Community. However, precipitation has been recorded in the nearby community of Dillingham, which is roughly 28 miles away. These communities are assumed to experience similar amounts of precipitation. These communities experience similar amounts of precipitation. Table 5-12 identifies historical severe winter weather events recorded in Dillingham between the months of November and March. Precipitation data was not available between 2008 and 2012 (Weather Underground, 2018).

Table 5-12: Historical Severe Winter Weather Events

Year	Maximum One Day Precipitation (inches)	# of Days Above 1.0 inch
2018	0.81	0
2017	0.2	0
2016	1.28	1
2015	0.39	0
2014	1.1	1
2013	0.61	0

Residents in the Community stated that heavy snowfall events occur every couple of years. Additionally, the Community has had to perform search and rescue twice in the past for residents that became lost during blizzards.

5.1.7.4 Probability of Future Events

Severe winter weather will likely continue to occur and impact the Community.

5.1.8 Subsidence

Subsidence is the settling of surface soils either gradually over time or a sudden sinking. This is often experienced in swampy areas with soft or wet soils. Many things including thawing permafrost, declining groundwater levels, compactions, mining, and drainage can cause subsidence. The collapse of surface areas can damage infrastructure and buildings.

5.1.8.1 Location

Subsidence impacts most of the planning area.

5.1.8.2 Extent

Subsidence in the Community is impacting the community infrastructure. The gradual settling of the earth around the Community is causing houses to shift and roads to sink. This can cause damage to the infrastructure. Sinking roads also creates potholes and low areas more likely to get flooded and experience erosion.

5.1.8.3 History of Occurrences

Residents are noticing that their homes are affected. Floors are warped, walls are cracked, and some doors don't shut properly due to settling.

5.1.8.4 Probability of Future Events

Subsidence will continue to impact the Community since they are situated on silty soil and wet tundra.

5.1.9 Wildfire

A wildfire spreads through the consumption of vegetation. It typically occurs in areas with abundant vegetation. It often begins unnoticed and spreads quickly. It produces dense smoke that can be seen for many miles. Wildfires can result in damage to property, subsistence areas, and loss of life. The smoke produced from wildfires can prohibit air transportation in and out of a community, and reduces air quality.

Fuel, weather, and topography contribute to the behavior of the wildfire (Idaho Firewise, 2018):

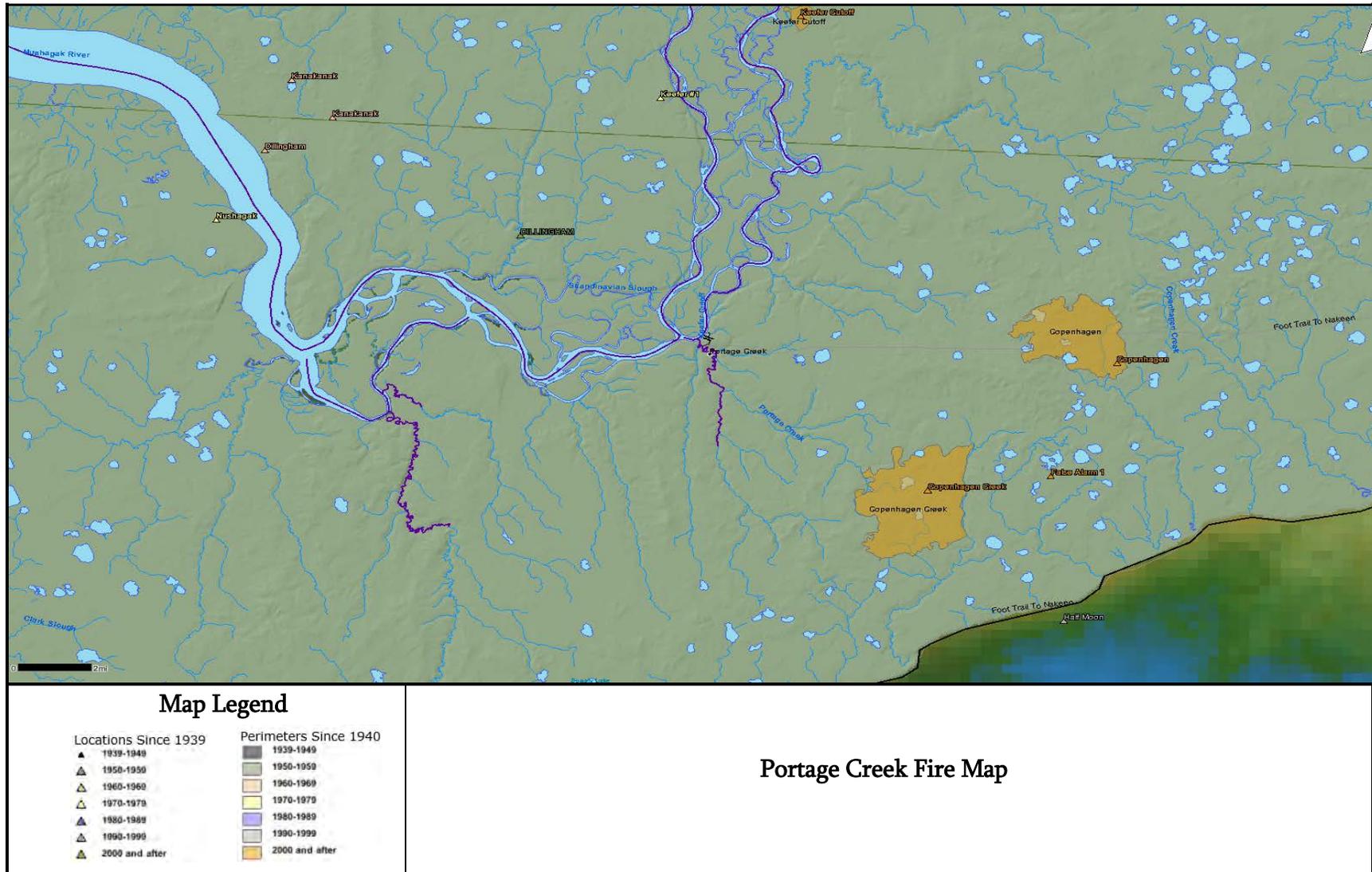
- Wildfire fuel includes structures and vegetation. Dense, large areas burn for a longer duration and creates large amounts of heat. Less dense and dry areas burn quickly with less heat.
- Weather that can affect a wildfire includes wind, moisture, temperature, cloudiness, and air pressure. Wind moves the wildfire across the landscape and provides oxygen which can make the fire grow quickly. It can also cause embers to blow to new areas potentially causing new fire locations. Low humidity and high temperatures can cause the vegetation to become dry. High humidity and rain can extinguish or slow the fire down.
- Topography, or physical features, including aspect and slope of an area, can contribute to the behavior of a wildfire. Wildfires burn more rapidly moving up a slope because it preheats the fuels which makes them more combustible. Also, south and west facing slopes have drier fuels due to more exposure to the sun.

5.1.9.1 Location

A map of wildfires located in and around the Community since 1957 is provided in Exhibit 5-8. However, wildfires have an impact on the entire tribal planning area (see Exhibit 5-1) due to the impacts of smoke and subsistence resources.

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Exhibit 5-8: Portage Creek Fire Map



Source: (Alaska Interagency Coordination Center, 2018)

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5.1.9.2 Extent

Subsistence areas around the Community provide needed food sources for residents. Wildfires can damage these areas and the resources they provide, such as berries, greens, and wildlife.

Smoke from wildfires produce poor air quality. It is hazardous to residents and pets, especially the elders, young children, and those with respiratory issues. Smoke from wildfires can also have a negative impact on subsistence harvests, specifically fish in smoke houses and in drying racks. This is an issue because residents throughout the Community rely upon these harvests to sustain themselves through the winter months.

Nearby wildfires are a great concern and stress for the Community because there is a lot of brush in close proximity to important buildings in the Community like the church, offices, homes, etc.

5.1.9.3 History of Occurrences

Table 5-13 below provides a list of wildfires and their impacts (in acreage) in or around the Community (Alaska Interagency Coordination Center, 2018).

Table 5-13: History of Wildfires

Fire Name	Year	Estimated Impact (Acres)	Distance from the Community (Miles)
Dillingham	1957	5000.0	6.2
Copenhagen Creek	2015	5167.0	7.6
Keefer #1	1974	5.0	7.9
Copenhagen	2015	3342.0	11.1
Half Moon	1996	60.0	13.2
Dillingham	1962	10.0	13.6
Nushagak	1974	8.0	14.1
Kanakanak	1962	1.0	14.2

5.1.9.4 Probability of Future Events

Wildfires are highly likely to continue to affect the Community. The Community is noticing drier and hotter seasons with more lightning. These conditions cause the vegetation to become drier, and more susceptible to fires. These same conditions are becoming more common throughout Alaska which also increases the risk of smoke from distant wildfires being blown into the Community.

5.2 COMMUNITY ASSETS

The Planning Team determined the potential impacts of natural hazards to the Community assets. Assets are broadly defined as anything that is important to the Community such as the people, the economy, and the natural and built environments of the Community. Some assets are more vulnerable to these hazards because of their socioeconomic uses and physical characteristics.

5.2.1 People

The most important asset to the Community is the people. The 2017 DCCED certified population was 1. Most Portage Creek Residents are seasonal and do not stay in the community during the winter. Residents are not always in their homes. The following list provides the main places that people are in large numbers during the day when not in their place of residence.

- Council House / Office
- Church
- School

5.2.2 Economy

The local economy is important to understand when planning to reduce the impacts of hazards. Economic resiliency influences recovery after a natural disaster. The following is a list of economic resources that could be affected and pose a severe impact on the Community should a hazard impact the Community.

- Beach Tank Farm
- Village Tank Farm
- Council House / Office

5.2.3 Built Environment

Existing infrastructure and structures are another important asset to the Community. The following is a list of important infrastructure, existing structures, and critical facilities in the community.

- Critical Facilities/Existing Structures
 - School
 - Old Storage Building
 - Church
 - Old Storage Building / Old Clinic
 - Generator Building
 - Council House / Office
 - Village Building / Storage

- Infrastructure
 - Airport
 - Roads
 - School Tanks
 - Old Tank Farm
 - Old Dump
 - Beach Tank Farm
 - Trails
 - Village Tank Farm
 - Overhead Power Lines
 - New Proposed Dump

5.2.4 Natural Environment

Natural resources and environmental assets are also important to the Community. These resources are important to the Community’s quality of life and identity.

- Subsistence areas (hunting and berry picking areas)
- Nushagak River
- Keefer Cutoff
- Beach
- Gravel Pit
- Drinking water aquifer

5.3 RISK ANALYSIS

The risk analysis assesses the potential effects of the identified hazards on the vulnerable assets that have been identified. Table 5-14 provides a list of the identified assets with the Community. It provides a monetary value, if applicable, to the asset as well as the number of occupants that could be affected should a natural hazard impact the asset. Each asset was evaluated for each identified hazard. If the hazard posed a significant risk to the asset an “X” was placed in the corresponding “Hazard Impact” column in Table 5-14. This information helped the Planning Team determine where the Community is most vulnerable and further helped in the identification of mitigation goals and actions.

The Planning Team used a combination of historical, exposure, and scenario analysis to determine the impact each hazard could have on the Community assets. They used historical analysis by reviewing the frequency and impact on the Community of the hazard in the past. Exposure analysis was used by evaluating the existing assets in the area where the hazard is likely to occur or has occurred in the past. Additionally, they used Community plans to identify future assets that may be affected by the hazard. The Planning Team used scenario analysis by asking “what if” questions about the hazard and made predictions of how the hazard would impact the Community assets should a hazard occur.

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Table 5-14: Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Wildfire
<i>Government</i>	9	Council House / Office	4	58°54'19.02"N, 157°43'14.86"W	Unknown		X		X			X		
<i>Transportation</i>	5	Airport	N/A	58°54'20.46"N, 157°42'54.22"W	\$7M			X		X	X	X		
	19	Roads	N/A	2.7 Official NTTFI Miles	\$5.5M			X		X		X	X	
	20	Trails	N/A	Community Wide	--			X		X		X	X	
<i>Educational</i>	2	School	N/A	58°54'18.69"N, 157°43'11.10"W	Unknown		X	X	X					X
	3	School Tanks	N/A	58°54'19.11"N, 157°43'8.51"W	Unknown		X		X			X		X

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Wildfire
<i>Medical</i>	16	Old Storage Building / Old Clinic	N/A	58°54'22.57"N, 157°43'8.46"W	Unknown		X	X			X			X
<i>Community</i>	8	Old Storage Building	N/A	58°54'27.08"N, 157°42'56.27"W	Unknown		X				X			X
	10	Church	12	58°54'21.69"N, 157°43'15.80"W	Unknown		X	X	X		X	X		X
	11	Cemetery	N/A	58°54'21.19"N, 157°43'14.23"W	--									X
	12	Village Building / Storage	N/A	58°54'27.18"N, 157°42'55.79"W	Unknown		X	X						X

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Wildfire
<i>Utilities</i>	1	Beach Tank Farm	1	58°54'26.36"N, 157°43'20.16"W	Unknown		X	X					X	X
	4	Village Tank Farm	1	58°54'27.53"N, 157°43'0.18"W	Unknown		X		X			X		
	6	Generator Building	1	58°54'27.87"N, 157°42'58.84"W	Unknown		X							X
	7	Old Tank Farm	N/A	58°54'26.43"N, 157°42'56.84"W	Unknown		X							X
	21	Overhead Power Lines	N/A	Community Wide	Unknown		X				X			X

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Wildfire
<i>Utilities (continued)</i>	14	Old Dump	1		Unknown			X						X
	15	New Proposed Dump	N/A	58°55'8.66"N, 157°42'15.65"W	Unknown			X		X				
<i>Natural Environment</i>	13	Beach	N/A	58°54'26.65"N, 157°43'21.01"W	--	X		X		X				
	17	Subsistence Areas	N/A	Community Wide	--	X			X				X	X
	18	Gravel Pit	N/A	58°56'7.44"N, 157°40'29.17"W	--				X	X				
58°55'38.39"N, 157°42'3.00"W														

Table 5-14 (Continued): Risks to Vulnerable Assets

Facility Type	Facility Number (See Fig. 1 & 2)	Facility Name	Number of Occupants	Location (Latitude, Longitude)	Estimated Value	Hazard Impacts								
						Drought	Earthquake	Erosion	Extreme Temperatures	Flood	Severe Wind	Severe Winter Weather	Subsidence	Wildfire
<i>Natural Environment (Continued)</i>	22	Nushagak River	N/A	58°54'14.10"N, 157°44'43.81"W	--			x		x				
	23	Keefer Cutoff	N/A	58°54'27.61"N, 157°43'23.74"W	--			x		x				

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5.4 VULNERABILITY

The following lists the Community's overall vulnerability to the hazards that affect the planning area, 44 CFR 201.7(c)(2)(ii).

- Drought – During drought conditions, nearby subsistence ponds dry up. Barges with supplies are not able to travel the Nushagak River due to low water levels. The roads are dusty, which can be a health concern for residents. The Community is surrounded by brush and tundra, and dry conditions create a fire hazard to the Community and subsistence areas.
- Earthquakes – The beach tank farm, school tank farm, and village tank farm are all connected via underground pipes, making them vulnerable to breaks and leaks due to earthquakes. The Community has limited spill containment or cleanup response resources.
- Erosion – Erosion impacts the river bank, roads throughout the Community, and the airport. The boat landing site is decreasing, reducing access to the Community. The beach tank farm is less than 50 feet away from the bank and putting the tanks at risk of falling over or needing to be relocated. The eroded sand from the river bank is being deposited downriver making shallow sandbars.
- Extreme Temperatures – Extreme cold temperatures have caused cracks in the ground which fuel leaks at the tank farm. Residents are subjected to extreme heat conditions every summer. This may be a health risk to people who spend full days outside fishing, and to homes with a lack of air conditioning.
- Flood – The beach tank farm floods in the spring due to ice jams and heavy rainfall events. Flooding also occurs near the school and on the road to the landfill. The airport experiences standing water on the runways, causing the runway gravel to soften. When this occurs planes are not able to land in the Community.
- Severe Wind – Trees near the overhead power lines are at risk of being blown over due to high wind speeds. The older buildings in the Community are at risk of losing roofs and other structural elements due to high wind speeds.
- Severe Winter Weather – Plane access is limited during severe winter weather events. Also, people have been lost or stranded during blizzards conditions while hunting on the winter trails.

- Subsidence – The Community is located on wet tundra and silty soils, which contribute to subsidence. Subsidence in the Community is causing roads to sink. Homes and other structures are also settling and beginning to tilt. This is causing doors to be misaligned, among other structural damage.
- Wildfire – The Community is surrounded by brush, trees, and tundra. Brush is surrounding all of the infrastructure in the Community. The Community is at risk of wildfires during dry, hot seasons, and lightning storms. The smoke from local and nearby wildfires is a breathing hazard for residents, especially those with respiratory issues.

6.0 MITIGATION STRATEGY

The following section describes the Community’s mitigation strategy. This mitigation strategy will serve as a long-term plan for reducing the potential losses identified in the risk assessment. The THMP discusses the Community’s current pre- and post- disaster hazard management plan, and existing and potential funding sources. It also provides the Community’s mitigation goals, and actions. Along with these goals and actions this section provides an action plan, a tracking process for the mitigation actions, and a plan to implement these goals and actions into existing planning mechanisms.

6.1 PRE-/POST-DISASTER HAZARD MANAGEMENT

Pre- and post-disaster hazard management programs, policies, and mitigation capabilities of the Community were reviewed, 44 CFR 201.7(c)(3) and 201.7(c)(3)(iv). The Planning Team used this review to identify existing opportunities and challenges of existing capabilities of the Community. This information aided in the determination of mitigation actions for the identified hazards.

The Community is small with limited financial, planning and land management tools, and administrative and technical capabilities. The resources available in the Community are listed below in Table 6-1 and Table 6-2. Expanding upon existing capabilities in the Community to further address mitigation issues is challenging due to the small size of the Community. Increasing these capabilities would require additional funding and personnel. This THMP provides an opportunity to identify challenges and needs for additional programs and/or policies. It also provides an opportunity to work with other local agencies in the development of these programs and policies. The Council, and other local partners, will use this plan as a roadmap to a systematic and structured approach to increase the overall mitigation capabilities of the Community. Opportunities for expansion of capabilities will be coordinated and evaluated with each plan review and update.

The Community’s planning and regulatory tools are listed in Table 6-1 below. These tools aid in the prevention and reduction of impacts from hazards in the Community.

Table 6-1: Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Comprehensive Plan	No	--
Land Use Plan	No	--
Wildland Fire Protection Plan	No	--
Emergency Response Plan	No	--

Table 6-1 (Continued): Planning and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	(Yes / No)	Comments
Long Range Transportation Plan	Yes	2018, developed by the Council
Tribal Transportation Safety Plan	Yes	2019, developed by the Council
Other Special Plans (e.g., climate change adaptation, coastal zone management)	No	--
Building Code ¹	No	--
Zoning Ordinances	No	--
Subdivision Ordinances or Regulations	No	--
Other	No	--

¹ New public facilities are designed by licensed professionals using applicable state and federal codes and regulations present at the time of design.

The Community’s administrative and technical capabilities are listed in Table 6-2 below. These staff and their skills and tools can be used for mitigation planning and to implement specific mitigation actions.

Table 6-2: Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Administrator	Yes	Tribe
Environmental Program	Yes	Tribe
Fire Department	No	--
Librarian	No	--
Village Public Safety Officer	No	--
Health Aide	No	--
Planner or engineer with knowledge of land development and land management practices	No	The Tribe hires consultants with this knowledge
Engineer or professional trained in construction practices related to buildings and / or infrastructure	No	The Tribe hires consultants with this knowledge
Planner or engineer with an understanding of natural and / or human-caused hazards	No	The Tribe hires consultants with this knowledge
Surveyors	No	The Tribe hires consultants with this knowledge
Floodplain Manager	No	--

Table 6-2 (Continued): Administrative and Technical Capability

Staff / Personnel Resources	(Yes / No)	Department / Agency and Position
Staff with education or expertise to assess the jurisdiction's vulnerability to hazards	No	The Tribe hires consultants with this knowledge
Personnel skilled in Geospatial Information System and / or HAZUS	No	The Tribe hires consultants with this knowledge
Finance (Grant Writers)	Yes	Tribe, BBNA ¹ (Situation Dependent)

¹ BBNA provides post-disaster grant management staff who can assist the Tribe with grant applications for disaster recovery and long-term recovery plans.

6.2 FUNDING

The following identifies existing and potential funding sources to implement proposed mitigation activities and actions, 44 CFR 201.7(c)(3)(iv) and 201.7(c)(3)(v).

6.2.1 Existing Funding Sources

At the time of the development of the THMP the Tribe has not received or allocated any non-FEMA funds for hazard mitigation actions or projects. However, the Tribe received PDM grant funding for the development of the THMP.

6.2.2 Potential Funding Sources

There are federal, tribal, and private funding sources available to the Tribe for proposed mitigation activities and projects. Sections 6.2.2.1 thru 6.2.2.3 provides a brief list and description of a selection of potential funding sources. In addition to the funding sources listed below other funding sources can be found from the following resources:

- Grants.gov – www.grants.gov is a public website where all federal agency discretionary funding opportunities are posted for grantees to find and apply. Some grant postings close quickly, so it is important to frequently check for potential opportunities.
- Catalog of Federal Resilience Programs for Alaskan Communities – The Denali Commission published a catalog detailing programs that are available to Alaskan communities. A copy of the catalog is located in Appendix D. See Section 8.0 for a web link to the catalog to check for updates (Arctic Executive Steering Committee, 2015).

6.2.2.1 Federal Funds

FEMA provides funding for eligible mitigation planning and projects that protect life and property from future disaster damages and reduces disaster losses. This funding is

administered through three programs, the PDM, the Hazard Mitigation Grant Program (HMGP), and the Flood Mitigation Assistance (FMA) Program. Below is a brief description of each of these funding sources.

Pre-Disaster Mitigation (PDM) Program

The PDM Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The goal of this programs is to reduce the overall risk to structures and population from future hazard events. Funds from the program provides opportunities to raise public awareness and reduce future losses before disasters occur. PDM provides funds on an annual basis for hazard mitigation planning and projects. This funding is dependent on the amount congress appropriates each year (FEMA, 2018).

Hazard Mitigation Grant Program (HMGP)

HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Following a Presidential Major Disaster Declaration HMGP supports post-disaster cost-effective projects. The purpose of the HMGP is to provide funding for long-term hazard mitigation planning and projects that will reduce the risk of loss of property and life from future disaster. HMGP provides funding up to 75% of mitigation projects. The remaining 25% of the mitigation project funding needs will come from other available funding sources (FEMA, 2018).

Flood Mitigation Assistance (FMA) Program

The FMA Program is authorized by Section 1366 of the National Flood Insurance Act of 1968. The goal of this program is to reduce or eliminate claims made under the National Flood Insurance Program (NFIP). FMA provides funding on an annual basis for planning and projects that reduce or eliminate the risk of flood damage to buildings that are insured under the NFIP. Funding for this program is dependent on the amount congress appropriates each year for this program (FEMA, 2018).

6.2.2.2 Tribal Funds

Tribal funds are available to the Community. One of the Tribal funds available is the IGAP. The IGAP provides funding sources to help manage and maintain an environmental office. This office conducts environmental assessments for the Community and helps to prioritize environmental concerns, and educate the public.

6.2.2.3 Private Funds

In general, private funds are not readily available to the Tribe. However, the Tribe could potentially have access to funds through local non-profit organizations and regional corporations.

6.3 MITIGATION GOALS

The findings from the risk assessment were used to develop mitigation goals and actions. The mitigation goals in this THMP are general guidelines that describe Community goals, 44 CFR 201.7(c)(3)(i). These goals are broad, long-term statements that represent the Community’s vision for avoiding and reducing losses from the identified hazards. The Planning Team has identified the mitigation goals in Table 6-3.

Table 6-3: Mitigation Goals

Goal Number	Goal Description
1	Build the capacity of the Tribe to prepare, respond to, and recover from disasters.
2	Promote recognition and mitigation of all natural hazards that affect the Community.
3	Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.
4	Reduce the possibility of damages due to droughts .
5	Reduce the possibility of damages due to earthquakes .
6	Reduce the possibility of damages due to erosion .
7	Reduce the possibility of damages due to extreme temperatures .
8	Reduce the possibility of damages due to floods .
9	Reduce the possibility of damages due to severe wind .
10	Reduce the possibility of damages due to severe winter weather .
11	Reduce the possibility of damages due to subsidence .
12	Reduce the possibility of damages due to wildfires .

6.4 POTENTIAL MITIGATION ACTIONS

Mitigation actions are specific activities, projects, actions, and processes that aid in achieving the mitigation goals. These actions are used to eliminate or reduce long-term risk to property and people from hazards and their impacts, 44 CFR 201.7(c)(3)(ii). There are four (4) types of mitigation actions that will help reduce long-term vulnerabilities. Mitigation actions fall under the following categories, local plans and regulations, infrastructure and structure projects, natural systems protections, and education and awareness programs. The Planning Team brainstormed and developed a comprehensive list of potential mitigation actions. The full list (Potential Mitigation Actions) is located in Appendix A.

Not all of the identified actions can be implemented in the final action plan. This could be due to a lack of political acceptance, technical feasibility, lack of funding, and other

constraints. The Planning Team refined the list of potential mitigation actions (see Appendix A) using the criterion listed below (FEMA, March 2013). These criteria were used to facilitate discussions and to aid in the determination of mitigation actions to be implemented into the prioritized mitigation action plan (Section 6.5). The underlined and bold action identification (IDs) in the potential mitigation actions list (see Appendix A) were selected by the Planning Team to be implemented in to the action plan. Each of these actions were more thoroughly analyzed using the Mitigation Action Evaluation Worksheet located in Appendix A (FEMA, March 2013).

- Life Safety – Analyzes how effective the action is at preventing injuries and protecting lives.
- Property Protection – Analyzes the significance of the action at eliminating or reducing damage to infrastructure and structures.
- Technical – Analyzes if the action is technically feasible and if it is a long-term solution.
- Political – Analyzes public and political support of the action.
- Legal – Analyzes if the Community has authority to implement the action.
- Environmental – Analyzes the actions impacts on the environment and if it complies with environmental regulations.
- Social – Analyzes the action based on its effect on one or more segments of the population.
- Administrative – Analyzes the Community’s personnel and administrative capabilities to implement and maintain action.
- Local Champion – Analyzes the action to determine if there is a strong advocate that will support the action’s implementation.
- Other Community Objectives – Analyzes if the action advances other community objectives or plans.

These identified and selected activities represent a comprehensive range that will lessen the need for preparedness or response resources when a natural hazard impacts the Community in the future.

6.5 MITIGATION ACTION PLAN

The actions to be implemented into the mitigation action plan, identified by the Planning Team, were prioritized based on the importance of each item relative to the plan’s goals, risks, and capabilities of the Community, 44 CFR 201.7(c)(3)(iii). Table 6-4 provides a prioritized list of mitigation actions, the position, office, department or agency responsible for the implementation of the action, potential funding options, and the timeframe for the action to be implemented. The Mitigation Action Implementation Worksheet (THMP Form 6-1) is included in Appendix E.

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Table 6-4: Prioritized Mitigation Actions

1Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
1.A	Provide VHF communication for the Community.	Low	Tribal Council	Tribal Council	BBEDC/CDBG	5 Years
2.A	Provide education about all natural hazards that affect the Community to residents via the IGAP newsletters.	Low	Tribal Council	Tribal Council	BBEDC/CDBG/IGAP	5 Years
3.B	Identify a new gravel source for the Community.	Medium	Tribal Council	Tribal Council	BBEDC/	3-4 Years
4.A	Investigate possible road and airport dust suppression strategies.	High	Tribal Council	Tribal Council	TTP/Denali Commission/BBEDC	1-2 Years
5.A	Acquire materials needed to secure fuel tanks, and secure fuel tanks at the tank farm.	High	Tribal Council	Tribal Council	BBEDC	1-2 Years
5.E	Educate residents on the importance of securing objects to walls and different securing methods.	Low	Tribal Council	Tribal Council	BBEDC/FEMA	5 Years
6.B	Install monitors on the beach near the fuel tanks to measure erosion.	High	Tribal Council	Tribal Council	BBEDC/IGAP	1-2 Years
6.C	Build and repair roads in the Community.	Low	Tribal Council	Tribal Council	TTP/BBEDC	5 Years
7.A	Secure and inspect tanks around the Community for signs of settling due to the freeze/thaw cycles of the soil.	High	Tribal Council	Tribal Council	BBEDC	1-2 Years

Table 6-4 (Continued): Prioritized Mitigation Actions

1Action ID	Description	Priority (High, Medium, Low)	Coordinating Department	Implementation Department/Role	Potential Funding Source	Timeframe
8.A	Improve drainage features along Community roads, and install new features as needed.	High	Tribal Council	Tribal Council	TTP/BBEDC/FEMA	1-2 Years
9.B	Cut trees around Community homes and power lines.	High	Tribal Council	Tribal Council	BBEDC	1-2 Years
9.C	Encourage residents to replace and/or secure roofs as applicable.	Low	Tribal Council	Tribal Council	BBEDC	5 Years
10.A	Continue snow plowing at the airport.	Low	Tribal Council	Tribal Council	BBEDC/TTP	5 Years
11.B	Educate homeowners about silt build-up in their septic tanks, what to look for, the hazards, and way to correct the problem if needed.	Low	Tribal Council	Tribal Council	DEC	5 Years
12.A	Provide brush cutting services around the Community.	Medium	Tribal Council	Tribal Council	TTP	3-4 Years
12.D	Educate community members about the importance of a fire barrier around homes.	Low	Tribal Council	Tribal Council	BBNA/Firewise/BBEDC/FEMA	5 Years
12.F	Encourage residents to purchase fire extinguishers for personal dwellings.	Low	Tribal Council	Tribal Council	BBEDC	5 Years
12.G	Identify and acquire fire suppression items for the dump.	High	Tribal Council	Tribal Council	BBEDC	1-2 Years

¹ Action IDs are not in sequential order. For a full listing of potential mitigation action items see Appendix A.

6.6 IMPLEMENTING ACTION PLAN INTO OTHER PLANNING MECHANISMS

After the adoption of the THMP by the Council, the Planning Team will work to incorporate the goals and actions of the THMP into other existing Community planning mechanisms, 44 CFR 201.7(c)(4)(iii). The Planning Team will accomplish this by performing the following activities:

- Review community-specific regulatory tools to establish where to incorporate the mitigation philosophy into other plans.
- Work with the community to increase awareness for implementing THMP philosophies and initiatives into other planning mechanisms. Provide assistance with incorporating the mitigation strategy (and Mitigation Action Plan) into relevant planning mechanisms (i.e., Utility Master Plans, Transportation Plans, Comprehensive Plan, Capital Improvement Project List, etc.)
- Update or amend other applicable planning mechanisms as necessary to include the THMP Action Plan.

6.7 REVIEWING PROGRESS GOALS

Tracking the progress of the mitigation actions and goals is important to the THMP, 44 CFR 201.7(c)(4)(ii) and 201.7(c)(4)(v). The Prioritized Mitigation Actions (Table 6-4) provides information pertaining to the tracking process for each mitigation action. It provides the following tracking process information:

- The estimated time to implement each action.
- The department, office, or agency responsible for coordinating and monitoring the implementation of each action;
- The department, office, or agency and their respective roles in implementing each action; and

The Mitigation Action Plan in Section 6.5 provides a description of the planned implementation timeframe for each Mitigation Action. A Mitigation Action Progress Report will be completed annually to monitor the progress of the Mitigation Actions, and any Mitigation Actions that require project closeout. The Mitigation Action Progress Report will address the current status of the mitigation project, any changes made to the project, implementation problems, and appropriate strategies to overcome them. The Mitigation Action Progress Report (THMP Form 6-2) is located in Appendix E.

When FEMA supported projects are completed, the project closeout documents will be prepared by the Tribe. Project closeout may include final invoicing, site inspections, and summary memorandums of the Mitigation Actions.

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7.0 PLAN ASSURANCES AND ADOPTION

This section complies with the requirements of 44 CFR 201.7(c)(5) and 44 CFR 201.7(c)(6). The Tribe assures that it will comply with all applicable regulation and federal statutes in effect with respect to the periods for which it receives grant funding in compliance with 44 CFR Parts 200 and 3002. The Tribe will amend its plan whenever necessary to reflect changes in Federal or tribal laws and statutes.

The Council will formally adopt the THMP after receiving a letter from FEMA stating that the plan is approved pending adoption. The THMP adoption resolution will be signed by the Council and will be placed in Appendix F. This document will show the Tribe's commitment to implementing the mitigation strategies identified in the THMP and authorizes the responsible agencies to execute their actions.

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8.0 REFERENCES

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FIGURES

Community Map PORTAGE CREEK

68° 54' 22" N 157° 42' 53" W (NAD 83)
 Approximate Elevation: 102'
 Township 15 South, Range 51 West, S.M., AK
 U.S.G.S. Quadrangle "NAKNEK D-6" Alaska
 BRISTOL BAY RECORDING DISTRICT

LEGEND

-  EROSION
-  FLOODING

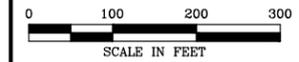


FIGURE
1 of 2

MAP NOTES

This map was prepared by the Bristol Bay Native Association (BBNA) in cooperation with the Alaska Department of Community and Economic Development (DCE) using funding from the Bristol Bay Housing Authority, U.S. Bureau of Indian Affairs, Alaska Coastal Management Program and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Alaska Native Tribal Health Consortium, Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCE. The Bristol Bay Native Association contracted with Bristol Environmental & Engineering Services in June of 2003 to prepare the map. McClintock Land Associates Inc. was subcontracted by Bristol Environmental and Engineering Corporation to perform aerial photography and control surveying.

This map is based upon a digital orthophoto prepared to National Map Accuracy Standards from July 14, 2003 photography (nominal scale 1" = 890'). An orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove aircraft distortions and warpage. The distortions are generally caused by topography and the aircraft tilt and trim.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a comprehensive title search of Recorder's Office records. Utility locations are approximate and show only the main lines. Generally, the information is current as of July, 2003.

This map should not be construed as a survey. On-site surveys should be conducted prior to engineering and/or construction.

COORDINATE SYSTEMS

Horizontal Datum-NAD 83 Alaska State Plane Zone 6 (USS FEET)

based on TRI STATION "Dillingham Az Mik"

Vertical Datum-NAVD 88, based on CORS tie to "Kenai" & "Cold Bay" & "Kodiak"

Magnetic Declination computed by U.S.G.S. Geomag program using IGRF2000 model as of January, 2004.

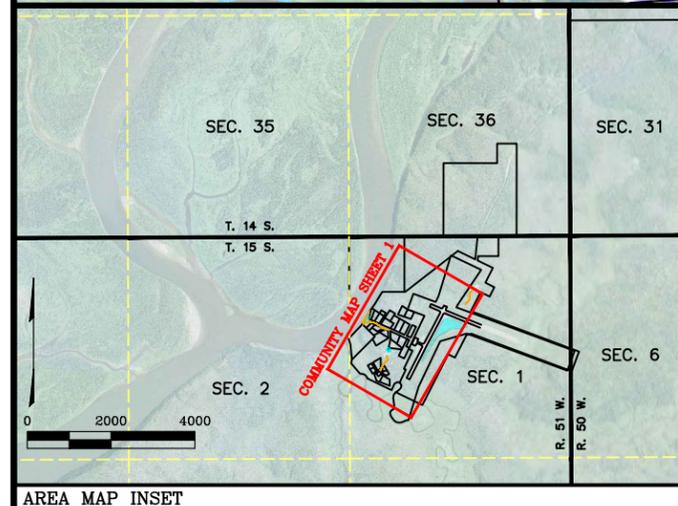
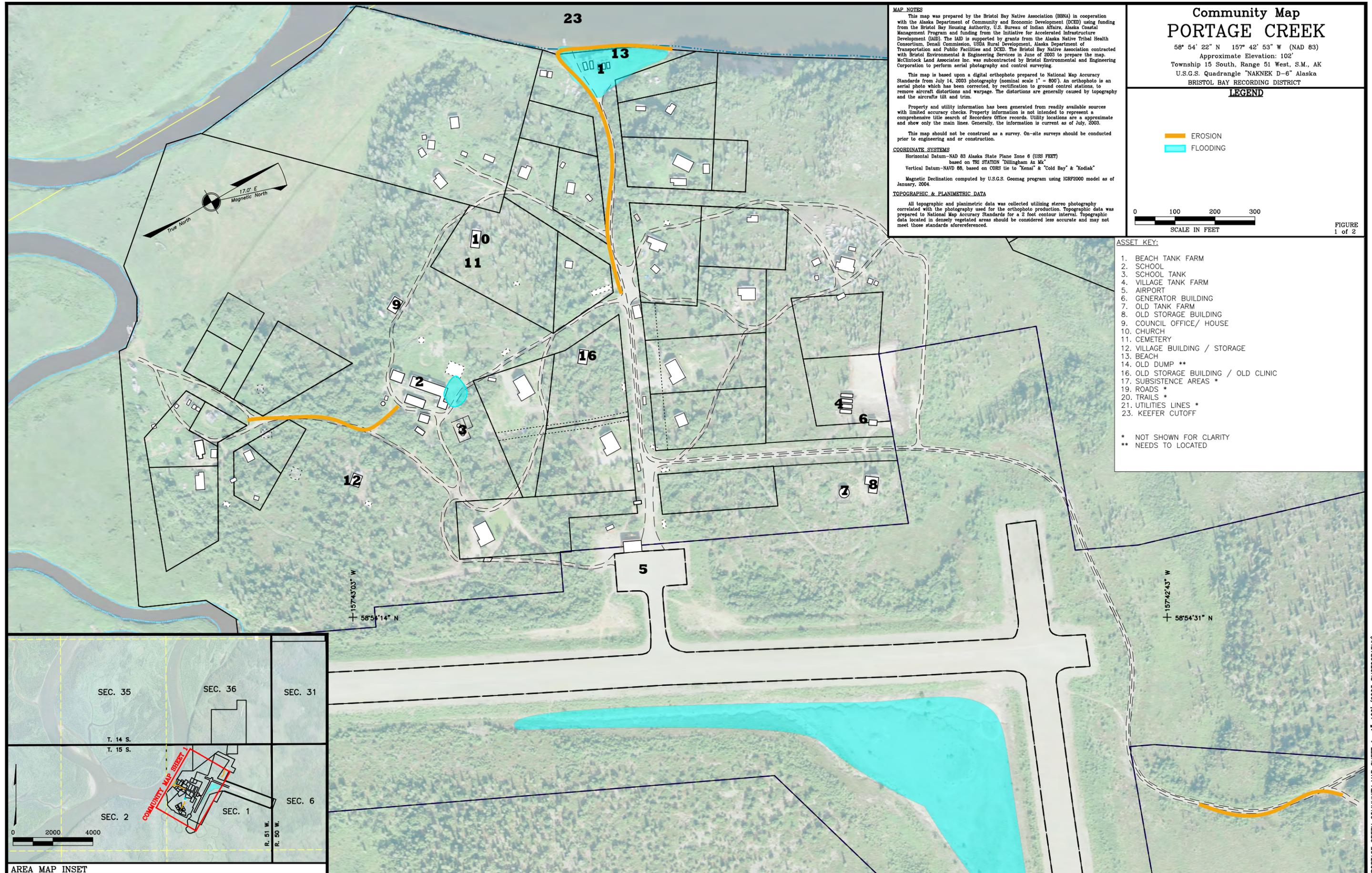
TOPOGRAPHIC & PLANIMETRIC DATA

All topographic and planimetric data was collected utilizing stereo photography correlated with the photography used for the orthophoto production. Topographic data was prepared to National Map Accuracy Standards for a 2 foot contour interval. Topographic data located in densely vegetated areas should be considered less accurate and may not meet those standards aforementioned.

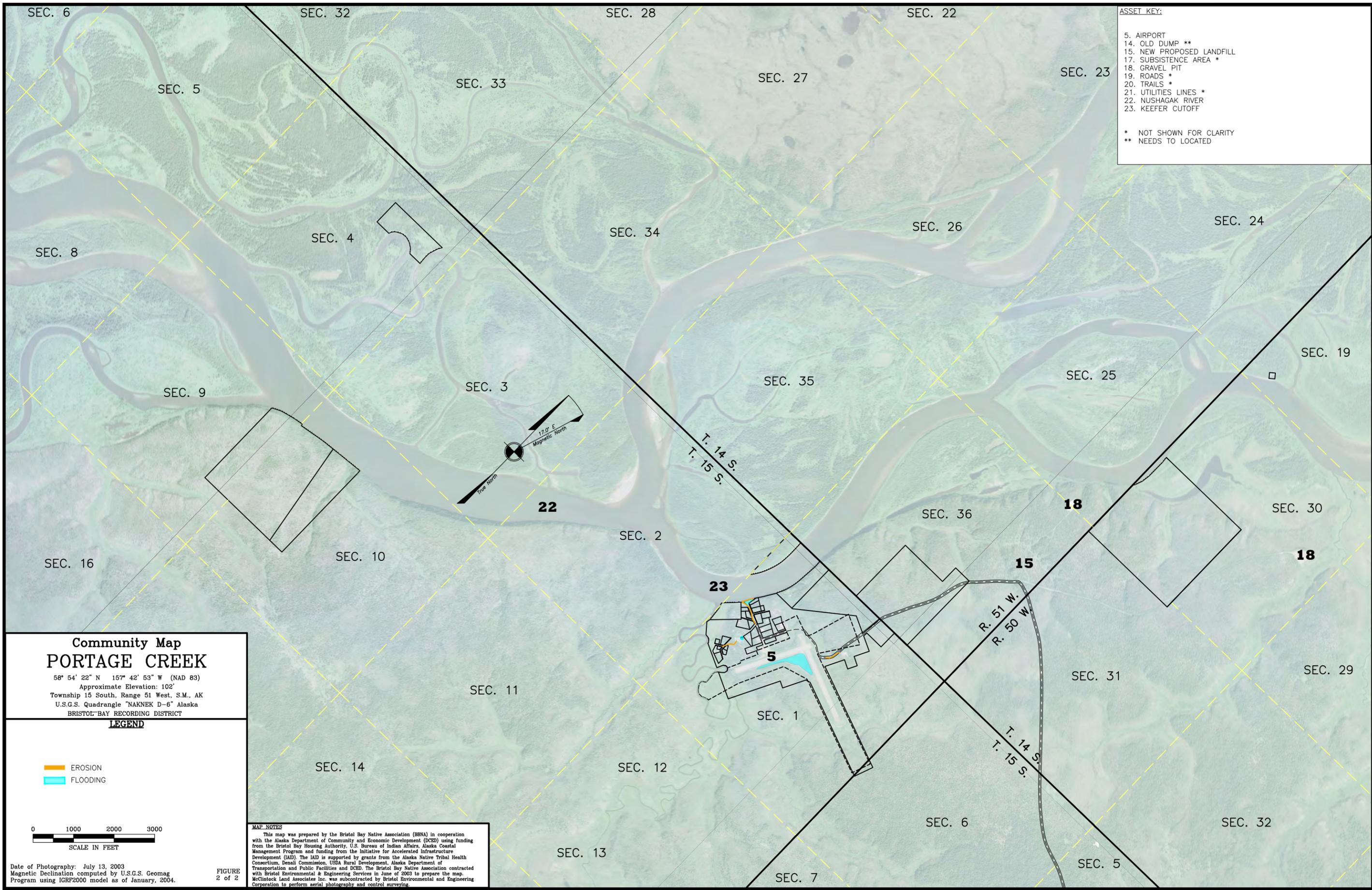
ASSET KEY:

1. BEACH TANK FARM
2. SCHOOL
3. SCHOOL TANK
4. VILLAGE TANK FARM
5. AIRPORT
6. GENERATOR BUILDING
7. OLD TANK FARM
8. OLD STORAGE BUILDING
9. COUNCIL OFFICE/ HOUSE
10. CHURCH
11. CEMETERY
12. VILLAGE BUILDING / STORAGE
13. BEACH
14. OLD DUMP **
16. OLD STORAGE BUILDING / OLD CLINIC
17. SUBSISTENCE AREAS *
19. ROADS *
20. TRAILS *
21. UTILITIES LINES *
23. KEEFER CUTOFF

* NOT SHOWN FOR CLARITY
 ** NEEDS TO LOCATED



PORTAGE CREEK COMMUNITY MAP SHEET 1 1"=100' (2003 PHOTOGRAPHY)



ASSET KEY:

- 5. AIRPORT
- 14. OLD DUMP **
- 15. NEW PROPOSED LANDFILL
- 17. SUBSISTENCE AREA *
- 18. GRAVEL PIT
- 19. ROADS *
- 20. TRAILS *
- 21. UTILITIES LINES *
- 22. NUSHAGAK RIVER
- 23. KEEFER CUTOFF

* NOT SHOWN FOR CLARITY
 ** NEEDS TO LOCATED

**Community Map
 PORTAGE CREEK**
 58° 54' 22" N 157° 42' 53" W (NAD 83)
 Approximate Elevation: 102'
 Township 15 South, Range 51 West, S.M., AK
 U.S.G.S. Quadrangle "NAKNEK D-6" Alaska
 BRISTOL BAY RECORDING DISTRICT

LEGEND

- EROSION
- FLOODING

0 1000 2000 3000
 SCALE IN FEET

Date of Photography: July 13, 2003
 Magnetic Declination computed by U.S.G.S. Geomag
 Program using IGRF2000 model as of January, 2004.

MAP NOTES
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PORTAGE CREEK AREA USE MAP SHEET 2 1"=1000' (2003 PHOTOGRAPHY)

APPENDIX A

Planning Process

- Meeting Minutes (November 13, 2018)
- Sign-In Sheet
- Meeting Agenda
- Map Mark Ups
- Hazard Identification Worksheet
- Risk Analysis Worksheet
- Mitigation Action Types & Examples
- Potential Mitigation Actions
- Mitigation Action Evaluation Worksheet

MEETING MINUTES

Project: **BBNA THMP & TTSP Project**

Bristol Project No: 32190013

Reference: Portage Creek Planning Team Meeting & Public Meeting

Date of Meeting: November 13, 2018

Location of Meeting: Bristol 3rd Floor Conference Room

Participants:

Bristol: Jackie Wander, Danielle Dance

BBNA: Annie Fritze, Dan Breeden (Teleconference)

Planning Team: See attached sign in sheet

Summary

Jackie and Danielle hosted a combined planning team and public meeting from 1:30 PM to 4:30 PM in the Bristol Conference Room with the Portage Creek planning team: Charlie, Stephan, and Sophie. Dan and Annie with BBNA joined in via teleconference. They discussed the Tribal Hazard Mitigation Plan (THMP) and Tribal Transportation Safety Plan (TTSP) projects. Information collected during the meeting is summarized below.

THMP Planning Team Meeting Notes

- Recommend calling the one resident of Portage Creek to set up a teleconference in lieu of a public meeting. Charlie may want to be involved, but he is busy through January.
- Charlie is the point of contact, prefers to be contacted via phone

Worksheet #1 – Hazard Analysis

- Avalanche
 - Flat terrain, no avalanches
 - DO NOT PROFILE
- Drought
 - There was a summer they got very little rain for almost two months, when there were many forest fires, around 2008
 - Low river, can't get supplies via barge, dried up ponds
 - Dusty roads
 - Fire concerns, dry vegetation
 - Seems to happen every ten years, or occasionally
 - PROFILE
- Earthquake
 - Everyone has individual groundwater wells
 - Have felt earthquakes in the past, has never been any damage
 - There was a 4.0 earthquake around 1999 that was memorable
 - Concern for oil/fuel tanks, including the Southwest Region School District tanks
 - PROFILE

- Erosion
 - Marked erosion areas on map (see attached), drainage issues cause erosion along the roadways and airport
 - Currently in the planning phase for new solid waste site because their old one is outdated
 - Erosion is making boat landing site smaller and riverbank is getting close to tanks, the tanks are less than 50 feet (maybe 20 feet) away from bank, seems to be gradual
 - The sand is getting washed away, depositing downriver, making shallow sandbars
 - PROFILE
- Extreme Cold
 - Two people live there in the winter, they have wood stoves
 - Happens every year
 - Ground cracks, caused a leak at the tank farm, had to remediate, remediation area visible on map
 - PROFILE
- Extreme Heat
 - Fish camp in the summer, approximately 40 people total
 - Gets in the 80s almost every year
 - No health concerns with high heat (dehydration, heat stroke), not a big concern
 - PROFILE
- Flooding
 - The tanks have flooded in the past when the river is high, or when ice jams occur/during breakup season, spring time
 - River floods tanks about every five years
 - Blocks access to fuel tanks for about 2 weeks at a time
 - Some standing water issues on the road to the dump and by the school
 - Airport has standing water issues, makes the runway soft which prevents airplanes from coming it at times, one crash occurred on the runway due to soft landing
 - PROFILE
- Landslide
 - Do not happen
 - DO NOT PROFILE
- Severe Wind
 - Gets very windy there
 - No airplanes, for a couple of days at a time
 - Older buildings had roofs blow off
 - They have overhead electric and power poles, might be a concern in the future, need to cut down nearby trees
 - Everyone has their own generators
 - No cell service there
 - PROFILE
- Severe Winter Weather
 - Only saw one winter with severe weather
 - Need to plow the airport, roads are not plowed, people snowmobile
 - Snow happens every year, but extreme snow happens every couple of years

- Want to profile wind and snow because of the airport
- PROFILE
- Subsidence
 - Very silty ground, wet tundra
 - Houses are shifting, some roads are sinking
 - Floors are wavy/crooked, cracks in the walls, doors do not shut properly anymore
 - PROFILE
- Tsunamis
 - Do not happen
 - DO NOT PROFILE
- Volcano
 - Has never been any ash-fall events
 - DO NOT PROFILE
- Wildfire
 - There was one that was 12 miles south/southeast of the community, it died out naturally, no firefighting was needed, happened in 2008 or 2011? Started because of lightning
 - Have been smoke impacts in the past due to surrounding wildfires
 - Was another across from New Stuyahok, but smoke did not come in
 - People go hunting around the village in the winter, but the fires can impact the subsistence areas
 - Big concern
 - A lot of brush around public buildings like church, offices, homes, etc. which needs to be cut
 - PROFILE

Worksheet #3 – Risk Analysis

- Commercial buildings on map are actually private
- The old clinic building is now used as storage
- School hasn't been open since 2005
- Want to include subsistence areas/tundra as an asset

Worksheets #4 & 5 – Vulnerability Statements & Mitigation Goals

- Did not spend much time on these due to time restrictions
- Make sure to include the roads and airport on the vulnerability statements
- Would like to include all of the example goals that we discussed
- Bristol will send draft statements and goals to Charlie by the end of the week so he can review them at their next council meeting

Worksheet #6 – Mitigation Action Plan

- People communicate by word of mouth, they have VHF to call for emergencies
- They burn trash at the dump, people watch until it goes out, nothing to fight fires
- No existing or updated fire gear, no fire truck, etc.

- School tank has containment, but other areas do not, concern about spills and pipes busting during earthquakes, all the tanks are connected underground via pipes, need response/cleanup
- Bend of creek is eroding and getting closer and closer to the airport, need to stop or fix the drainage issues, brush is growing in drainage ditches and needs to be cut
- HUD homes have a lot of silt, they have their own septic tanks which fill up with silt
- Existing gravel pit is very sandy, need a new source of gravel

TTSP Planning Team Meeting Notes

- Coordinate with the Long-Range Transportation Plan developed by Bristol
- Safety champion: Village President, BBNA consortium responsible for updating plan
- Existing safety efforts include brush cutting and spill cleanup
- Roads
 - No recollection of ATV crashes
 - Most people drive trucks, ATVs, and snow machines
 - Roads have erosion and drainage issues, get soft in the spring, and have potholes
 - Roads are not maintained, there is no grader in the village (except for the airport)
 - No need for traffic signs or streetlights
 - Need to fix the main road and the road to the dump
 - Brush cutting needed at main intersection, by the school, and around the airport
 - No speeding, drunk driving, or distracted driving concerns
 - Sometimes young kids drive ATVs, parents may want to see more helmets being worn
 - Dust is a big concern, need to investigate dust control techniques
 - No winter driving issues, no snow plowing needed on roads, people use snowmobiles
 - Wildlife is a big concern including bears, wolves, and moose, there were 6-7 bears in the community last winter, but there have not been any accidents
- Trails
 - Trails are used for berry picking in summer and for hunting in the winter
 - There is a trail to Dillingham that has trail markers, not maintained
 - Need trail markers on the northern trail (to dump and gravel pit and beyond)
 - Trails are lumpy
 - No safety cabins on trails, but they are not needed
 - No cell phone service in the community, people use VHF
 - Had to search and rescue twice in the past, people getting lost in blizzards, village gets a group of volunteers together to help
- Water Transportation
 - The river is very busy in the summer, worse traffic than the Kenai, contact Choggiung about boat counts because they monitor the traffic
 - People launch skiffs off the beach, would be nice to have a boat launch ramp
 - Boating from May through September
 - Would like a Kids Don't Float loaner board at beach to encourage more life jackets, more education/enforcement
 - No boating accidents/drownings nearby Portage Creek, some up river

- There was an accident on the river near New Stuyahok, two boats crashed into each other when fog was thick
- State requirement to use lights on boats, need to enforce/educate
- No concerns with nighttime boating
- Boats make large waves
- Need to control or monitor traffic in the river, if possible
- Air Transportation
 - Cross strip, gravel runway, not lighted
 - Only accident that they can think of was a plane crash in the early 90s, due to the airport being soft, people were injured
 - Runway is in good condition, but it is a long-term goal to replace gravel and mitigate the flooding issues
 - Need to fix drainage around the airport
 - State maintains
 - Need new cones/reflectors, existing ones have been damaged or are missing
 - Used by private planes
 - Need animal control, moving the dump will help mitigate bird issue, but moose walk on the airport, consider installing a fence or other forms of animal control
- Pedestrians
 - Walking is very common
 - Roads are wide enough for drivers/pedestrians to share the road
 - Nobody uses bikes
 - No safety concerns
- Emergency response
 - Very limited, no police, no medical, no search and rescue
 - Have tried to get a health clinic in the past but Kanakanak did not approve

Attachments:

1. Planning Team Meeting Sign-in Sheet
2. Planning Team Meeting Agenda
3. Map Markups
4. Worksheet #1 – Hazard Identification
5. Worksheet #3 – Risk Analysis
6. Worksheet #4 – Vulnerability Statements
7. Worksheet #5 – Mitigation Goals
8. Worksheet #6 – Mitigation Strategies

End Meeting Minutes

CC: File

HAZARD MITIGATION PLAN & TRANSPORTATION SAFETY PLAN

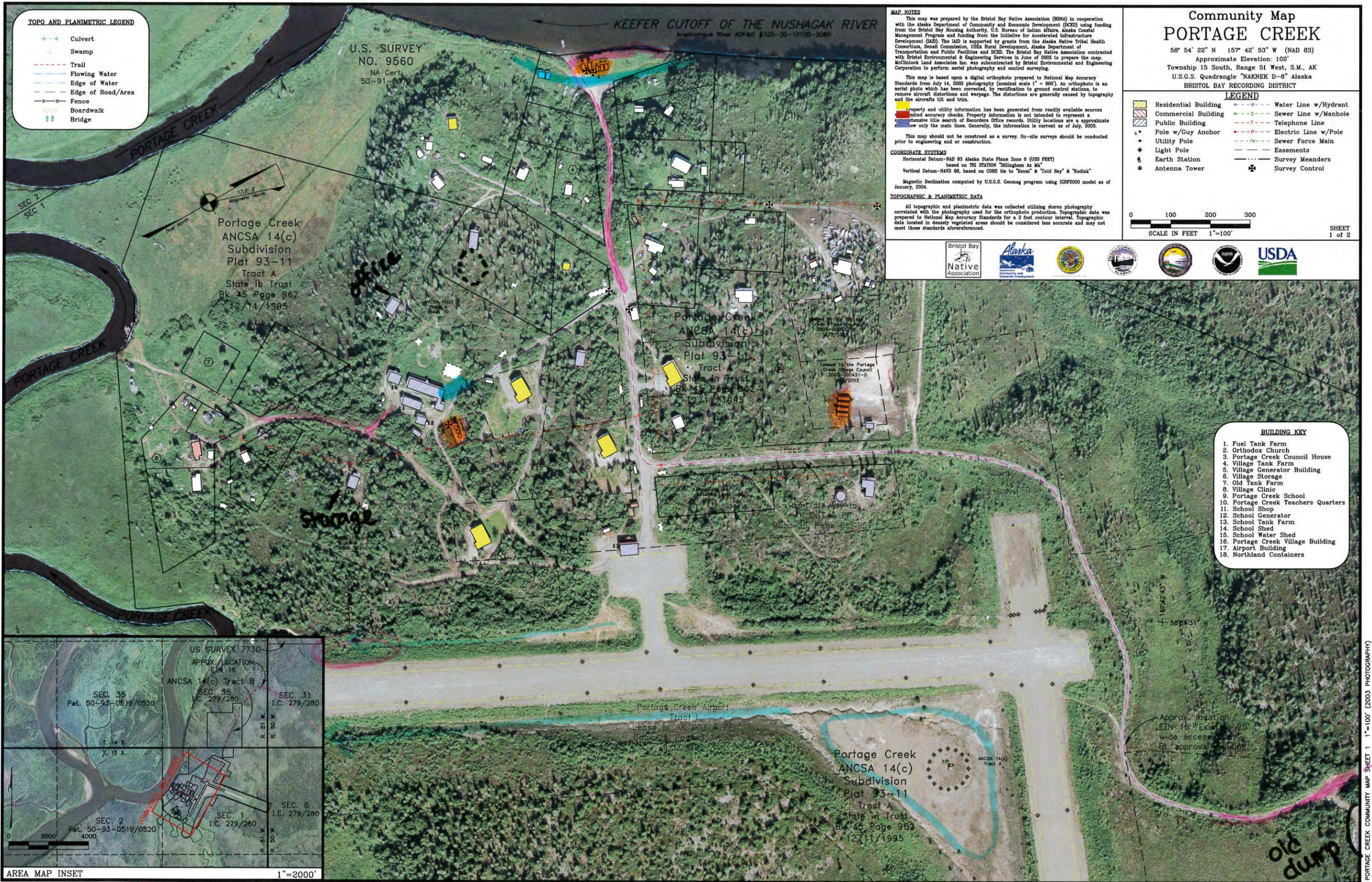
WORKSHOP AGENDA

Hazard Mitigation Plan

- 1:30 PM Introductions
Worksheet 1 – Hazard Identification
- 2:15 PM BREAK**
- 2:30 PM Worksheet 3 – Risk Analysis
- 3:00 PM Worksheet 4 – Vulnerability Statements
Worksheet 5 – Mitigation Goals
- 3:15 PM Worksheet 6 – Mitigation Action Plan
- 4:00 PM BREAK**

Transportation Safety Plan

- 4:15 PM Background Data
- 4:30 pm Determine Emphasis Areas
- 5:00 PM Closing Statements
Action Items & Next Steps



TOPO AND PLANIMETRIC LEGEND

	Culvert
	Swamp
	Trail
	Flowing Water
	Edge of Water
	Edge of Road/Area
	Fence
	Boardwalk
	Bridge

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 based on TRI STATION "Dillingham Az Mt."
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 Magnetic Declination computed by U.S.G.S. Geomag program using IGRF2000 model as of January, 2004.

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 U.S.G.S. Quadrangle "NAKNEK D-6" Alaska
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LEGEND

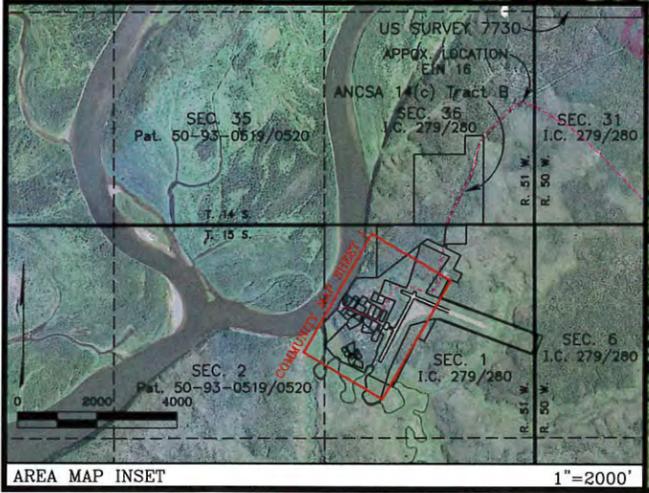
	Residential Building		Water Line w/ Hydrant
	Commercial Building		Sewer Line w/ Manhole
	Public Building		Telephone Line
	Pole w/ Guy Anchor		Electric Line w/ Pole
	Utility Pole		Sewer Force Main
	Light Pole		Easements
	Earth Station		Survey Meanders
	Antenna Tower		Survey Control

0 100 200 300
 SCALE IN FEET 1"=100'

SHEET 1 of 2



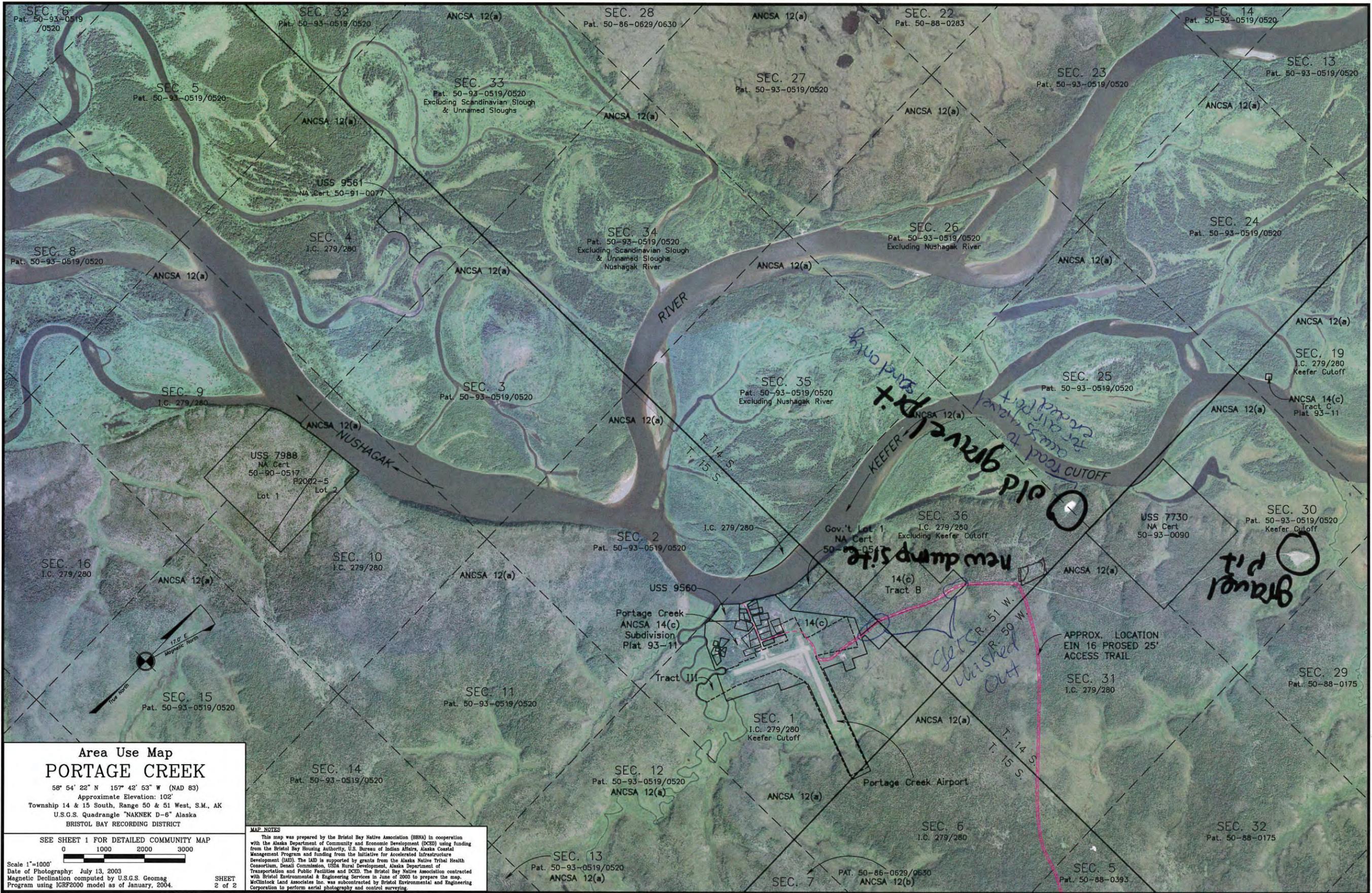
- BUILDING KEY**
- Fuel Tank Farm
 - Orthodox Church
 - Portage Creek Council House
 - Village Tank Farm
 - Village Generator Building
 - Village Storage
 - Old Tank Farm
 - Village Clinic
 - Portage Creek School
 - Portage Creek Teachers Quarters
 - School Shop
 - School Generator
 - School Tank Farm
 - School Shed
 - School Water Shed
 - Portage Creek Village Building
 - Airport Building
 - Northland Containers



erosion flooding cemetery
 tanks at risk of earthquake

flooding
Approx. location E1N 16 "Exit" 25 wide access road BL approval pending
old dump
Develop New plan solid waste site

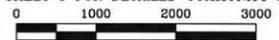
PORTAGE CREEK COMMUNITY MAP SHEET 1 1"=100' (2003 PHOTOGRAPHY)



**Area Use Map
PORTAGE CREEK**

58° 54' 22" N 157° 42' 53" W (NAD 83)
 Approximate Elevation: 102'
 Township 14 & 15 South, Range 50 & 51 West, S.M., AK
 U.S.G.S. Quadrangle "NAKNEK D-6" Alaska
 BRISTOL BAY RECORDING DISTRICT

SEE SHEET 1 FOR DETAILED COMMUNITY MAP



Scale 1"=1000'
 Date of Photography: July 13, 2003
 Magnetic Declination computed by U.S.G.S. Geomag
 Program using IGRF2000 model as of January, 2004.

SHEET
 2 of 2

MAP NOTES
 This map was prepared by the Bristol Bay Native Association (BBNA) in cooperation with the Alaska Department of Community and Economic Development (DCEM) using funding from the Bristol Bay Housing Authority, U.S. Bureau of Indian Affairs, Alaska Coastal Management Program and funding from the Initiative for Accelerated Infrastructure Development (IAD). The IAD is supported by grants from the Alaska Native Tribal Health Consortium, Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCEM. The Bristol Bay Native Association contracted with Bristol Environmental & Engineering Services in June of 2003 to prepare the map. McClintock Land Associates Inc. was subcontracted by Bristol Environmental and Engineering Corporation to perform aerial photography and control surveying.

PORTAGE CREEK AREA USE MAP SHEET 2 1"=1000' (2003 PHOTOGRAPHY)

wildfire 12 mi. away

Anadromous River ADF&G #325-30-10100-2080

Community Map PORTAGE CREEK

58° 54' 22" N 157° 42' 53" W (NAD 83)
Approximate Elevation: 102'
Township 15 South, Range 51 West, S.M., AK
U.S.G.S. Quadrangle "NAKNEK D-6" Alaska
BRISTOL BAY RECORDING DISTRICT

LEGEND

MAP NOTES

This map was prepared by the Bristol Bay Native Association (BBNA) in cooperation with the Alaska Department of Community and Economic Development (DCED) using funding from the Bristol Bay Housing Authority, U.S. Bureau of Indian Affairs, Alaska Coastal Management Program and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Alaska Native Tribal Health Consortium, Detail Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and DCED. The Bristol Bay Native Association contracted with Bristol Environmental & Engineering Services in June of 2003 to prepare the map. McClintock Land Associates Inc. was subcontracted by Bristol Environmental and Engineering Corporation to perform aerial photography and control surveying.

This map is based upon a digital orthophoto prepared to National Map Accuracy Standards from July 14, 2003 photography (nominal scale 1" = 800'). An orthophoto is an aerial photo which has been corrected, by rectification to ground control stations, to remove aircraft distortions and warpage. The distortions are generally caused by topography and the aircrafts tilt and trim.

Property and utility information has been generated from readily available sources with limited accuracy checks. Property information is not intended to represent a comprehensive title search of Records Office records. Utility locations are a approximate and show only the main lines. Generally, the information is current as of July, 2003.

This map should not be construed as a survey. On-site surveys should be conducted prior to engineering and or construction.

COORDINATE SYSTEMS

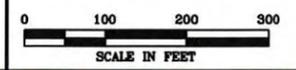
Horizontal Datum-NAD 83 Alaska State Plane Zone 6 (USS FEET)
based on THE STATION "Dillingham in M"

Vertical Datum-NAVD 88, based on CORS tie to "Kenai" & "Cold Bay" & "Kodiak"

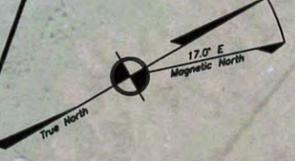
Magnetic Declination computed by U.S.G.S. Geomag program using IGRF2000 model as of January, 2004.

TOPOGRAPHIC & PLANIMETRIC DATA

All topographic and planimetric data was collected utilizing stereo photography correlated with the photography used for the orthophoto production. Topographic data was prepared to National Map Accuracy Standards for a 2 foot contour interval. Topographic data located in densely vegetated areas should be considered less accurate and may not meet those standards aforementioned.



SHEET
1 of 2



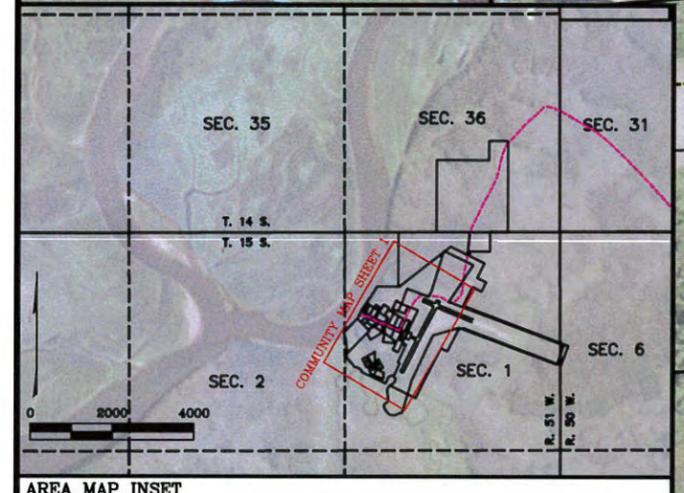
SEC 2
SEC 1

brush cutting

brush cutting

157°43'03" W
58°54'14" N

157°42'43" W
58°54'31" N



AREA MAP INSET

needs markers up north

WORKSHEET #1: HAZARD IDENTIFICATION

Use this worksheet to identify which hazards are most significant to your community planning area. Follow the instructions provided on pages 9 and 10.

Write "Blue" "Green" "Yellow" or "Red" in Columns A-D based on definitions in Tables 1-4 on Pages 9-10.

Write "Yes" or "No" in Column E depending on the outcome of Column D.

Hazard	Column A Location (Geographic Area Affected) <i>(Table 1)</i>	Column B Maximum Probable Extent (Magnitude / Strength) <i>(Table 2)</i>	Column C Probability of Future Events <i>(Table 3)</i>	Column D Overall Significance <i>(Table 4)</i>	Column E Profile (Yes/No)
*Avalanche	Blue	Blue	Blue	Green	No
Drought	Red	Yellow	Green	Yellow	YES
Earthquake	Red	Blue	Green	Green	YES
Erosion	Red	Yellow	Red	Red	YES
*Extreme Cold	Red	Green	Red	Yellow	YES
*Extreme Heat	Red	Blue	Yellow	Yellow	YES
Flood	Yellow	Yellow	Red	Yellow	YES
*Landslide	Blue	Blue	Blue	Green	No
Severe Wind	Red	Green	Yellow	Yellow	YES
*Severe Winter Weather	Red	Green	Yellow	Green	YES
*Subsidence	Red	Yellow	Red	Red	YES
Tsunami	Blue	Blue	Blue	Green	No
Volcano	Blue	Blue	Blue	Green	No
Wildfire	Red	Red	Yellow	Red	YES
Other					

* Definitions for selected hazards are located on the back for clarification.

SELECT HAZARD DEFINITIONS

Extreme Temperatures (i.e. Extreme Cold, Extreme Heat): Extreme temperatures constitute different conditions in different parts of the country. In regions that are accustomed to winter weather, extreme cold temperatures involve temperatures between 20° F to -50° F. These temperatures can occur after a winter storm or during long durations of storm inactivity. Similarly, extreme heat is usually recognized as the condition where temperatures consistently stay ten or more degrees above the average high temperature for extended periods of time. Fatalities can occur from extreme temperatures by causing hyperthermia or frostbite in cold regions and hypothermia in warmer regions.

Landslide / Avalanche: A landslide is the movement of a mass of debris, rock, or earth by force of gravity down a slope. An avalanche is the movement of snow and debris down a slope by force of gravity. Landslides and avalanches occur when the stability of the slope changes from stable to unstable. This can be caused by storms, earthquakes, volcanic eruptions, fire, erosion, rapid temperature changes in the case of avalanches, and other human-induced activities. Steep slopes and long slopes have a higher probability to slide. High soil water content and/or slopes with low vegetative coverage are also likely to slide. Landslides and avalanches cause infrastructure and property damage, environmental disturbance, and possible injuries and fatalities.

Severe Winter Weather: Severe winter storms can include snow, freezing rain, sleet, or a mix of the previous forms of precipitation. Heavy snowfall occurs when large quantities of snow is produced in a short period of time. Drifting snow creates an uneven distribution of snow caused by strong winds. This weather can cause power outages, downed trees, and property damage. It can also cause deaths and injuries.

Subsidence: Subsidence is the settling over time or sudden sinking of surface soils due to subsurface movements. Some causes of subsidence are thawing permafrost, declining ground water levels, compactions, mining, and drainage of organic soils. Subsidence can destroy or damage infrastructure or buildings near areas affected by a sudden or gradual collapse of surface area.

NOTE: If you have any questions about the hazard definitions, or about Worksheet #1 in general, contact Danielle with Bristol at (907) 743-9394.

INSTRUCTIONS FOR WORKSHEET #1

Worksheet #1 is a tool to determine which hazards to include in the Tribal Hazard Mitigation Plan (THMP). Use these classifications / definitions to help identify the most significant hazards that affect your community. Give each hazard on Worksheet #1 a color code based on the definitions provided in Tables 1 – 4.

1. Location (Geographic Area Affected) – [Column A]

This classification describes where the hazard occurs, how often it occurs, and how much of the community was impacted.

Table 1: Location (Geographic Area Affected)

Color Code	Area Affected	Definition
BLUE	Negligible	<ul style="list-style-type: none"> Only one small area or none Less than 10% of planning area Isolated single-point occurrences
GREEN	Limited	<ul style="list-style-type: none"> Only some of the community 10% to 25% of planning area Limited single-point occurrences
YELLOW	Significant	<ul style="list-style-type: none"> Most of the community 25% to 75% of planning area Frequent single-point occurrences
RED	Extensive	<ul style="list-style-type: none"> Almost all or All of the community 75% to 100% of planning area Consistent single-point occurrences

2. Maximum Probable Extent (Magnitude / Strength) – [Column B]

This classification describes how much damage was done, how fast and for how long the hazard impacted the community, and the strength or magnitude of the hazard on a scientific scale, if applicable.

Table 2: Maximum Probable Extent (Magnitude/Strength)

Color Code	Maximum Extent	Definition
BLUE	Weak	<ul style="list-style-type: none"> Little to no damage done Slow speed of onset or short duration of event Limited classification on scientific scale (if applicable)
GREEN	Moderate	<ul style="list-style-type: none"> Some damage and loss of services for days Moderate speed of onset or moderate duration of event Moderate classification on scientific scale (if applicable)
YELLOW	Severe	<ul style="list-style-type: none"> Devastating damage and loss of services for weeks or months Fast speed of onset or long duration of event Severe classification on scientific scale (if applicable)
RED	Extreme	<ul style="list-style-type: none"> Catastrophic damage and uninhabitable conditions Immediate onset or extended duration of event Extreme classification on scientific scale (if applicable)

3. Probability of Future Events – [Column C]

This classification describes the possibility of the hazard occurring in the next year, and how often the hazard will occur.

Table 3: Probability of Future Events

COLOR CODE	Probability of Future Event	Definition
BLUE	Unlikely	<ul style="list-style-type: none"> Less than 1% probability of occurrence in the next year Recurrence interval of greater than every 100 years
GREEN	Occasional	<ul style="list-style-type: none"> 1% to 10% probability of occurrence in the next year Recurrence interval of 11 to 100 years
YELLOW	Likely	<ul style="list-style-type: none"> 10% to 90% probability of occurrence in the next year Recurrence interval of 1 to 10 years
RED	Highly Likely	<ul style="list-style-type: none"> 90% to 100% probability of occurrence in the next year Recurrence interval of less than 1 year

4. Overall Significance – [Column D]

This classification provides a way to determine how much impact the hazard has on the community. This classification is based on the classifications from Tables 1 – 3 (Columns A – C).

Table 4: Overall Significance

COLOR CODE	Impact	Definition
GREEN	Low	<ul style="list-style-type: none"> Event has minimal impact on planning area Two or more criteria fall in lower classifications (2 or more BLUE) Profile – Likely doesn't need to be profiled but can
YELLOW	Medium	<ul style="list-style-type: none"> Event's impacts on the planning area are noticeable but not devastating Criteria fall mostly in the middle ranges of classifications (2 or more GREEN or YELLOW) Profile – Choice of the Planning Team
RED	High	<ul style="list-style-type: none"> Event is likely/highly likely to occur with severe strength over a significant or extensive portion of the planning area Criteria consistently fall in the high classifications (2 or more RED) Profile – Definitely profile

5. Profile (Yes OR No) – [Column E]

For the purposes of the THMP, “profile” means to include the hazard in the plan and analyze in more detail. Not all hazards need to be profiled for your community. Only hazards with a moderate to high overall significance should be included in the plan, but the Planning Team can choose to profile any hazard as they see fit. Use Table 4 (Column D) to determine if the hazard should be profiled.

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts <i>(Fill in Hazards in Blank Columns Below)</i>												
				Drought	Earthquake	Erosion	Extreme Cold	Extreme Heat	Severe Wind	Severe Winter Weather	Subsidence	Wildfire				
Beach Tank Farm	1				X	X						X	X			
School	N/A															
School Tanks	N/A															
Village Tank Farm	1															
Airport	N/A															
Generator Building	1															
Old Tank Farm	N/A															
Roads	N/A															
Trails	N/A															
Old Storage Building	N/A															
Council House / Office	4															
Church	12															
Cemetery	N/A															
Village Building / Storage	N/A															
Beach	N/A															
Overhead Power Lines	N/A															
Old Dump	1															

Risk Analysis Worksheet *(Profiled Hazards Only)*

Column A Facility Name	Column B Number of Occupants	Column C Location	Column D Estimated Value	Column E: Hazard Impacts <i>(Fill in Hazards in Blank Columns Below)</i>													
				Drought	Earthquake	Erosion	Extreme Cold	Extreme Heat	Severe Wind	Severe Winter Weather	Subsidence	Wildfire					
New Proposed Dump	N/A																
Old Storage Building / Old Clinic	N/A																
Subsistence Areas	N/A																
Gravel Pit	N/A																

WORKSHEET #4: VULNERABILITY STATEMENTS

Based on the information gathered in Worksheets #1 through #3, develop “Vulnerability Statements” i.e. Problem Statements, and list them below in the space provide. These statements will guide you to determine mitigation goals and later, mitigation actions.

These statements should summarize the most significant risks and vulnerabilities in the community based on the information collected during the hazard analysis and risk analysis. For example, if you identified Avalanche as a significant hazard, and determined an asset such as the Clinic to be located in an avalanche zone, the Clinic may be a community vulnerability.

Below is a small set of examples.

- The North Creek Sewage Treatment Plant is located in the 100-year floodplain and has been damaged in past events.
- Newberg City recently annexed the South Woods area located in the wildland-urban interface. The City’s land use and building codes do not address wildfire hazard areas. Future development in South Woods will increase vulnerability to wildfires.
- The lighthouse, of significant historic value, is threatened by erosion from coastal flooding. The rate of erosion is 5 feet per year.
- Residents of the Village describe ground failure impacts such as some homes and facilities sinking on their pilings, particularly in the downtown “old town” area.
- The boardwalk to the new school, which is used for evacuation, has ground failure damage.
- The community’s marine fuel header has begun to sink into the ground and slant to one side.

Community Vulnerability Statements:

**Note: You many have more or less than 15 statements.*

1.) Erosion impacts the river bank, roads throughout the community, and the airport. The beach tank farm is less than 50 feet away from the bank. _____

2.) _____

3.) _____

4.) _____

Community Vulnerability Statements (Continued):

- 5.) _____

- 6.) _____

- 7.) _____

- 8.) _____

- 9.) _____

- 10.) _____

- 11.) _____

- 12.) _____

- 13.) _____

- 14.) _____

- 15.) _____

WORKSHEET #5: MITIGATION GOALS

Mitigation goals are general guidelines that explain what the community wants to achieve with the Tribal Hazard Mitigation Plan. They are broad policy-type statements that are long-term, and represent the vision for reducing or avoiding losses from the identified hazards.

The following are a few examples of mitigation goals.

- **Promote** development that is disaster-resistant.
- Build capacity of the Tribe to prepare, respond to, and recover from disasters.
- Reduce possibility of damages from **[disaster]**.
- Promote recognition and mitigation of all natural hazards that affect the Community.
- Prevent damage to structures and infrastructure.
- Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.

Using the previously created vulnerability statements as a guide, and the provided examples, create the Community Tribal Hazard Mitigation Plan (THMP) Mitigation Goals.

Mitigation Goals:

**Note: You may have more or less than 15 statements.*

- 1.) Reduce the possibility of damages from all disasters. (list each hazard).

- 2.) Build the capacity of the Tribe to prepare, respond to, and recover from disasters.

- 3.) Promote recognition and mitigation of all natural hazards that affect the Community.

- 4.) Promote cross-referencing of mitigation goals and actions with other Tribal planning mechanisms and projects.

- 5.) _____

- 6.) _____

Mitigation Goals (Continued)

- 7.) _____

- 8.) _____

- 9.) _____

- 10.) _____

- 11.) _____

- 12.) _____

- 13.) _____

- 14.) _____

- 15.) _____

Worksheet #6 Mitigation Actions

Column B

ACTIONS
Column B2
Description
Drought - investigate road / airport dust strategies,
Earthquake - secure tanks at the tank farm, containment for fuel tank farm, identified personnel to respond to the leak, spill clean up kit, education to secure items to walls
Erosion -install ditches / culverts, track erosion along beach near tanks, build up / repair roads, work with private owner to secure / protect from erosion of beach tanks, investigate best option for erosion near the airport (fix)
Extreme Cold - secure / inspect tanks for signs of settling, update spill response training for operators
Extreme Heat - fire control
Flooding - improve drainage along roads, investigate or consider sea wall at beach, fix drainage at airport, brush cutting around airport and out to dump
Severe Wind - dust control, cutting trees around houses and power lines, encourage residents to replace or secure roofs
Severe Winter Weather - continue snow plowing at airport,
Subsidence - secure / inspect tanks for signs of settling, educate homeowners about silt build up in septic tanks

Worksheet #6 Mitigation Actions

Column B

ACTIONS
Column B2
Description
Wildfire - brush cutting, educating about brush perimeter around homes, update or acquire new fire gear, encourage residents to get fire extinguishers (get for homes), fire suppression at dump, brush cutting around the airport, brush cutting out to dump site
Work with IGAP (newsletters)
VHF communication
future development - ensure good building pad, search for new gravel source

MITIGATION ACTION TYPES AND EXAMPLES

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built	<ul style="list-style-type: none"> • Comprehensive plans • Land use ordinances • Subdivision regulations • Development review • Building codes and enforcement • NFIP Community Rating System • Capital improvement programs • Open space preservation • Stormwater management regulations and master plans
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p> <p>Many of these types of action are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.</p>	<ul style="list-style-type: none"> • Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Culverts • Safe rooms
Natural Systems Protections	These are actions that minimize damage and losses and also reserve or restore the functions of natural systems.	<ul style="list-style-type: none"> • Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness Programs	<p>These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities.</p> <p>Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.</p>	<ul style="list-style-type: none"> • Radio or television spots • Websites with maps and information • Real estate disclosure • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas • StormReady • Firewise Communities
Emergency Response Actions	These are actions to identify emergency response or operational preparedness.	<ul style="list-style-type: none"> • Create mutual aid agreements with neighboring communities to meet emergency response needs • Purchase radio communications equipment • Develop procedures for notifying citizens of available shelter locations during an event

Potential Mitigation Actions

GOALS		ACTIONS	
No.	Goal	ID	Description
1	Build the capacity of the Tribe to prepare, respond to, and recover from disasters.	<u>1.A</u>	Provide VHF communication for the Community.
2	Promote recognition and mitigation of all natural hazards that affect the Community.	<u>2.A</u>	Provide education about all natural hazards that affect the Community to residents via the IGAP newsletters.
3	Promote development that is disaster resistant.	3.A	Ensure all new development is built on a good building pad.
		<u>3.B</u>	Identify a new gravel source for the Community.
4	Reduce the possibility of damages due to droughts.	<u>4.A</u>	Investigate possible road and airport dust suppression strategies.
5	Reduce the possibility of damages due to earthquakes.	<u>5.A</u>	Acquire materials needed to secure fuel tanks and secure fuel tanks at the tank farm.
		5.B	Construct a containment for the fuel tank farm.
		5.C	Identify personnel to respond to fuel leaks.
		5.D	Acquire a spill kit for the Community.
		<u>5.E</u>	Educate residents on the importance of securing objects to walls and different securing methods.
6	Reduce the possibility of damages due to erosion.	6.A	Upgrade and install drainage features in the Community.
		<u>6.B</u>	Install monitors on the beach near the fuel tanks to measure erosion.
		<u>6.C</u>	Build up and repair roads in the Community.
		6.D	Work with the private owner of fuel tanks near the beach to secure and protect tanks from erosion.
		6.E	Investigate the most appropriate option to reduce erosion near the airport, and put that erosion control measure in place.
7	Reduce the possibility of damages due to extreme temperatures.	<u>7.A</u>	Secure and inspect tanks for signs of settling.
		7.B	Update spill response training for operators.
		7.C	Cut brush around the Community and conduct other fire control measures as needed.

Potential Mitigation Actions

GOALS		ACTIONS	
No.	Goal	ID	Description
8	Reduce the possibility of damages due to floods.	8.A	Improve drainage features along Community roads, and install new features as needed.
		8.B	Investigate the possibility of a sea wall at the beach.
		8.C	Improve and install new drainage features at the airport.
		8.D	Provide brush cutting services around the airport.
		8.E	Provide brush cutting services along the road to the dump.
9	Reduce the possibility of damages due to severe wind.	9.A	Identify viable dust control option for the Community and apply to the roads.
		9.B	Cut trees around Community homes and power lines.
		9.C	Encourage residents to replace and/or secure roofs as applicable.
10	Reduce the possibility of damages due to severe winter weather.	10.A	Continue snow plowing at the airport.
11	Reduce the possibility of damages due to subsidence.	11.A	Secure fuel tanks and inspect for signs of settling.
		11.B	Educate homeowners about silt build-up in their septic tanks, what to look for, the hazards, and way to correct the problem if needed.
12	Reduce the possibility of damages due to wildfires.	12.A	Provide brush cutting services around the Community.
		12.B	Provide brush cutting services around the airport.
		12.C	Provide brush cutting services out to dump site.
		12.D	Educate community members about the importance of a fire barrier around homes.
		12.E	Update or acquire new fire gear for the Community.
		12.F	Encourage residents to purchase fire extinguishers for personal dwellings.
		12.G	Identify and acquire fire suppression items for the dump.

INSTRUCTIONS - MITIGATION ACTION EVALUATION WORKSHEET

Use this worksheet to help evaluate and prioritize each mitigation action that is going to be implemented in the Mitigation Action Plan. For each action, evaluate the potential benefits and / or likelihood of successful implementation for the criteria defined below.

Rank each of the criteria with a -1, 0 or 1 using the following scale:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

EVALUATION CRITERIA

Life safety – How effective will the action be at protecting lives and preventing injuries?

Property Protection – How significant will the action be at eliminating or reducing damage to structures and infrastructure?

Technical – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.

Political – Is there overall public support for the mitigation action? Is there the political will to support it?

Legal – Does the community have the authority to implement the action?

Environmental – What are the potential environmental impacts of the action? Will it comply with environmental regulations?

Social – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

Administrative – Does the community have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?

Local Champion – Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?

Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of the comprehensive plan?

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Mitigation Action Evaluation Worksheet

Mitigation Action ID	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
1.A	1	0	1	0	1	0	1	1	0	1	6
2.A	1	1	1	1	1	0	1	1	0	0	7
3.B	0	0	1	1	1	1	0	1	1	1	7
4.A	1	0	1	1	1	0	1	1	1	1	8
5.A	0	1	1	0	1	1	1	1	0	0	6
5.E	1	1	1	0	1	0	1	1	0	0	6
6.B	0	1	1	1	1	1	1	1	1	1	9
6.C	1	1	0	1	1	0	1	0	1	1	7
7.A	0	1	1	0	1	1	1	1	0	0	6
8.A	0	1	1	1	1	0	1	1	1	1	8
9.B	1	1	1	1	1	0	1	1	0	0	7
9.C	1	1	1	0	1	0	1	0	0	0	5
10.A	1	0	0	1	0	0	1	0	1	1	5
11.B	0	1	1	0	1	0	1	1	0	0	5
12.A	1	1	1	1	1	0	1	1	1	1	9
12.D	1	1	1	0	1	0	1	1	0	0	6
12.F	1	1	1	0	1	0	1	1	0	0	6
12.G	1	1	1	1	1	0	1	1	1	0	8

*Source: Local Mitigation Planning Handbook, FEMA, March 2013, Worksheet 6.1

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APPENDIX B

Public Involvement

- Community Survey
- Newsletter #1 and Fax Transmittal
- Stakeholder Email
- Newsletter #2
- Stakeholder Comment 1
- Stakeholder Comment 2
- Letter to State Representative
- Letter to Senator

COMMUNITY SURVEY

This is a public opinion survey regarding natural hazards in your community. The results from this survey will help the Tribal Hazard Mitigation Plan Planning Team improve public/private coordination, mitigation, and risk reduction efforts in your community. Additionally we would like information regarding the methods and techniques you prefer for reducing the risks and losses associated with these hazards.

NATURAL HAZARD INFORMATION

We would like to know about your experience involving natural hazards and your exposure to preparedness information.

1. In the last five (5) years, have you or someone in your household directly experienced any of the natural disasters listed below?

(Please check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Coastal Ice
<input type="checkbox"/> Drought
<input type="checkbox"/> Earthquake
<input type="checkbox"/> Erosion
<input type="checkbox"/> Extreme Temperatures
<input type="checkbox"/> Flood | <input type="checkbox"/> Landslide/Avalanche
<input type="checkbox"/> Severe Winter Weather
<input type="checkbox"/> Tsunami
<input type="checkbox"/> Volcano Eruption
<input type="checkbox"/> Wildfire
<input type="checkbox"/> Other (specify):
<hr style="width: 20%; margin-left: 0;"/> |
|--|--|

2. How concerned are you about the following natural disasters affecting your community?

(Check the corresponding box for each hazard)

Natural Disaster	Very Concerned	Somewhat Concerned	Neutral	Not Very Concerned	Not Concerned
Coastal Ice	<input type="checkbox"/>				
Drought	<input type="checkbox"/>				
Earthquake	<input type="checkbox"/>				
Erosion	<input type="checkbox"/>				
Extreme Temperatures	<input type="checkbox"/>				
Flood	<input type="checkbox"/>				
Landslide/Avalanche	<input type="checkbox"/>				
Severe Winter Weather	<input type="checkbox"/>				
Tsunami	<input type="checkbox"/>				
Volcano Eruption	<input type="checkbox"/>				
Wildfire	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>				

3. Have you received information about how to make members of your household and home safer from natural disasters?

- Yes
- No (**IF NO Skip to Question 5**)

If “YES”, how recently?

- Within the last 6 months
- Between 6 and 12 months
- Between 1 and 2 years
- Between 2 and 5 years
- 5 years or more

4. Who provided the last received information about how to make members of your household and home safer from natural disasters?

(Please check only ONE)

- | | |
|---|--|
| <input type="checkbox"/> News Media | <input type="checkbox"/> Tribe |
| <input type="checkbox"/> Government Agency | <input type="checkbox"/> Neighbor / Friend / Family Member |
| <input type="checkbox"/> Utility Company | <input type="checkbox"/> Non-Profit Organization |
| <input type="checkbox"/> University or Research Institution | <input type="checkbox"/> Not Sure |
| | <input type="checkbox"/> Other (specify): |
-

5. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters?

(Please check UP TO THREE)

- | | |
|--|--|
| <input type="checkbox"/> Newspapers | <input type="checkbox"/> Books |
| <input type="checkbox"/> Radio | <input type="checkbox"/> Mail |
| <input type="checkbox"/> Schools | <input type="checkbox"/> Fact Sheet / Brochure / Newsletters |
| <input type="checkbox"/> Internet (News Outlets/Email Newsletters) | <input type="checkbox"/> Public Workshops / Meetings |
| | <input type="checkbox"/> Other (specify): |
-

COMMUNITY VULNERABILITIES AND HAZARD MITIGATION STRATEGIES

We need to understand which community assets may be vulnerable to natural hazards in order to assess community risk. Vulnerable assets are those community features, characteristics, or resources that may be impacted by natural hazards (e.g. populations with functional needs, environmental resources, economic components, and others). The next set of questions will focus on the vulnerable assets in your community and your preferred strategies to mitigate risk to those assets.

6. Community assets are characteristics, features, or resources that either allow the community to function or make a community unique. In your opinion, which of the following categories are most vulnerable to the impacts caused by natural hazards in your community?

(Rank the community assets in order [from 1 to 6] of vulnerability, 1 being most vulnerable and 6 being least vulnerable)

Community Assets	Potential Natural Hazard Impact	Order of Vulnerability
Human	Loss of life and/or injuries	_____
Economic	Business closures and/or job losses	_____
Infrastructure	Damage or loss of bridges, utilities, schools, etc.	_____
Cultural / Historic	Damage or loss of fish dry racks, cemeteries, etc.	_____
Environmental	Damage or loss of forests, rangeland, waterways, subsistence areas, etc.	_____
Governance	Ability to maintain order and/or provide public amenities and services	_____

7. We would like to know what specific types of community assets are most important to you.
 (Check the corresponding box for each hazard)

Community Assets	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
School	<input type="checkbox"/>				
Clinic	<input type="checkbox"/>				
Churches	<input type="checkbox"/>				
City Buildings	<input type="checkbox"/>				
Tribal Buildings	<input type="checkbox"/>				
Store	<input type="checkbox"/>				
Post Office	<input type="checkbox"/>				
Transportation Systems	<input type="checkbox"/>				
Major Employers	<input type="checkbox"/>				
Fuel Storage	<input type="checkbox"/>				
Utilities	<input type="checkbox"/>				
Homes	<input type="checkbox"/>				
Subsistence Areas	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>				
Other: _____	<input type="checkbox"/>				
Other: _____	<input type="checkbox"/>				
Other: _____	<input type="checkbox"/>				

8. A number of activities can reduce your community’s risk from natural hazards. These activities can be both regulatory and non-regulatory.
 (Check the corresponding box that best represents your opinion on how to best reduce the risk and loss associated with natural disasters.)

Strategies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Sure
I support a planning and regulatory approach to reducing risk	<input type="checkbox"/>					
I support a non-regulatory approach to reducing risk	<input type="checkbox"/>					
I support a mix of both regulatory and non-regulatory approaches to reducing risk	<input type="checkbox"/>					
I support structure and infrastructure projects to reduce risk	<input type="checkbox"/>					
I support natural systems protection projects to reduce risk	<input type="checkbox"/>					
I support education and awareness programs to reduce risk	<input type="checkbox"/>					
I support protecting historical and cultural structures	<input type="checkbox"/>					
I would be willing to make my home more disaster-resistant	<input type="checkbox"/>					
I support steps to safeguard the local economy following a natural disaster	<input type="checkbox"/>					
I support improving the disaster preparedness of local schools	<input type="checkbox"/>					

9. Natural hazards can have a significant impact on a community. However, planning for these events can help reduce the impacts. The following statements will help determine community priorities regarding planning for natural hazards in your community.

(Check the corresponding box to show us how important each one is to you.)

Statements	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	<input type="checkbox"/>				
Protecting critical facilities (e.g. roads, bridges, clinic, schools, store, etc.)	<input type="checkbox"/>				
Enhancing function of natural features (e.g. streams, wetlands)	<input type="checkbox"/>				
Protecting historical and cultural resources and landmarks	<input type="checkbox"/>				
Protecting and reducing damage to utilities	<input type="checkbox"/>				
Strengthening emergency services	<input type="checkbox"/>				

MITIGATION AND PREPAREDNESS ACTIVITIES IN YOUR HOUSEHOLD

Households can prepare and mitigate for natural hazards in order to prevent property damage, injuries, and loss of life. Any precautions taken or training received can make a big difference in your ability to recover from an emergency or natural disaster. Emergency care or access to basic services (e.g. electricity, gas, water, communications) may be temporarily cutoff. Or you may be asked to quickly evacuate. The following questions focus on your household’s preparedness for natural hazards or emergencies.

10. Please check the activities that you have done in your household, plan to do in the near future, have not done, or are unable to do.

(Check one answer for each preparedness activity.)

Have you or someone in your household:	Have Done	Plan To Do	Not Done	Unable To Do
Attended a meeting or received written information on natural disasters or emergency preparedness?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Talked with members in your household about what to do in case of an emergency or natural disaster?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developed a “Household/Family Emergency Plan” in order to decide what everyone would do in the event of an emergency or disaster?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prepared a “Disaster Supply Kit” (stored extra food, water, batteries, or other emergency supplies)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



This newsletter describes the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Mitigation Planning project development processes to all interested agencies, stakeholders, and the public and to solicit comments. It can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association (BBNA) Transportation and Infrastructure Department (DOTID) was awarded a Pre-Disaster Mitigation Program grant from the Federal Emergency Management Agency (FEMA) to prepare your 2019 Tribal Hazard Mitigation Plan (THMP). Bristol Engineering Services Company, LLC (BESC) was contracted to assist the BBNA DOTID with preparing a 2019 FEMA approvable THMP plan.

The THMP will identify all natural hazards, such as earthquake, flood, erosion, severe weather, and wildland/tundra fire hazards, etc. The plan will also identify the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. We will document the public participation and planning process as part of this project.

What is Hazard Mitigation?

Hazard mitigation projects eliminate the risk or reduce the hazard impact severity to people and property. Projects may include short- or long-term activities to reduce exposure to or the effects of known hazards. Hazard mitigation activities could include relocating or elevating buildings, replacing insufficiently sized culverts, using alternative construction techniques, developing, implementing, or enforcing building codes, or developing, and implementing education programs.

Why Do We Need A Hazard Mitigation Plan?

Communities must have a State, FEMA approved, and community adopted mitigation plan to receive a project grant from FEMA's pre- and post- disaster grants identified in their Hazard Mitigation Assistance and other agency's mitigation grant programs. BBNA DOTID plans to apply for mitigation funds after our plan is complete.

A FEMA approved and community adopted THMP enables the Local government to apply for the Hazard Mitigation Grant Program (HMGP), a disaster related assistance program; the Pre-Disaster Mitigation (PDM), and the National Flood Insurance Program (NFIP) Flood Mitigation Assistance (FMA) grant programs.

The Planning Process

There are very specific federal requirements that must be met when preparing a FEMA approvable THMP. These requirements are commonly referred to as the planning process requirements of 44 CFR 201.7 (c)

The following steps describe the planning process in order to develop the THMP.

1. **Establish the Planning Team**
2. **Education of the Planning Team**
3. **Assess Risks**
4. **Assess Capabilities**
5. **Develop a Mitigation Strategy**
6. **Monitor, Evaluate, and Plan Updates**

We are currently in the very beginning stages of preparing the plan development. We will be conducting a Planning Team Meeting to introduce the project and planning team, to gather comments from community residents, identify hazards, and collect data to refine the vulnerability assessment.

We Need Your Help

BESC has prepared survey packets to begin collecting information for your THMP. Survey packets will be mailed to your village council and sent by email to your village administrator.

Establishing a Planning Team is a very important step.

We will need a point of contact (POC)/team leader from your community. This group will consist of 2-5 people that have good knowledge about land use, the transportation system, public facilities, and safety resources within the community. BBNA DOTID will be in contact with your tribe to determine a POC and your planning team.

Once the Planning Team has been developed, they will begin to work on the following items:

- Identifying the hazards that impact your community;
- Determining information about the hazards such as, location, history, extent, and the probability of future events;
- Completing a risk analysis, and;
- Developing problem statements and goals.

BBNA DOTID will be in contact with your tribe to set up an initial teleconference meeting with the Planning Team, BBNA DOTID, and BESC to continue to work on the THMP development.

The BBNA DOTID team will be led by Annie Fritze, DOTID Program Manager or Dan Breeden, Department Director with assistance from Bristol Engineering Service Company, LLC (contracted by BBNA). BESC will be developing materials and lead the planning process with guidance from BBNA DOTID staff.

BBNA Tribal Hazard Planning Team

Team Member	Title	Involvement
Annie Fritze	Program Manager	THMP Team Leader, data gathering and plan review
Dan Breeden	Department Director	THMP Team Leader, data gathering and plan review
Isaac Pearson, P.E.	Senior Engineer	THMP Consultant
Danielle Dance	Civil Engineer	THMP Consultant

Public Participation

The purpose of this newsletter is to keep you informed, and to allow you every opportunity to voice your opinion regarding these important projects. We want to encourage public involvement as a continuous effort throughout the project.

We encourage you to take an active part in the development effort, and preparation of the Tribal Hazard Mitigation Plan.

The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas, and to guide the community.

Please contact BBNA DOTID program staff or BESC if you have any questions, comments, or requests for more information:

<p>Bristol Bay Native Association DOTID</p> <p>Annie Fritze OR Dan Breeden PO Box 310 Dillingham, Alaska 99576 (907) 842-6219</p>	<p>Bristol Engineering Services Company, LLC</p> <p>Danielle Dance, Consultant 111 W. 16th Avenue, Third Floor Anchorage, Alaska 99501 (907)563-0013</p>
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*** TX REPORT ***

JOB NO. 2587
DEPT. ID 1244
ST. TIME 08/20 09:34
SHEETS 3
FILE NAME
TX INCOMPLETE 819078402217
819078452217
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Chignik Lagoon Village
chignik lake vc
Aleknagik Trad. Council
Chignik Bay Tribal Council

-sent
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BRISTOL BAY NATIVE ASSOCIATION

PO BOX 310 DILLINGHAM ALASKA 99576

PHONE: (907) 842-5257

TOLL FREE 1-800-478-5257 FAX: (907) 842-5932

FAX TRANSMISSION COVER SHEET

DATE: August 20, 2018
TO: Vlg Admin
FAX: _____
SENDER: Annie Fritze
RE: Please Post and
Share w/in your community -
I will email and follow up
with a phone call -

Quyana -
af

8/20/2018
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Chignik Bay faxed -
will re fax -
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JOB NO. 2588
DEPT. ID 1244
PGS. 3
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Chignik Bay



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DEPT. ID 1244
PGS. 3

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TO: Vlg Admin

FAX: _____

SENDER: Annie Fritze

RE: Please Post and
Share w/in your community -
I will email and followup
with a phone call -

Quyenana -

Dance, Danielle

From: Annie Fritze <afritze@bbna.com>
Sent: Wednesday, May 29, 2019 8:19 AM
To: cameron@choggiung.com; jmetrokin@bbnc.net; mbarnes@choggiung.com; Program Managers; Senator.Lyman.Hoffman@akleg.gov; Representative.Bryce.Edgmon@akleg.gov
Cc: Dance, Danielle; Pearson, Isaac; Dan Breedon; 'MaryAnn Johnson (ciugtaq@yahoo.com)'
Subject: Portage Creek THMP Public Comment
Attachments: Bristol Bay NPortage Creek Newsletter.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Portage Creek Community Stakeholders:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

We are excited to announce that the draft THMP for the Tribal Council of Portage Creek will be made available to the Tribal offices for public review and comment May 29-June 06, 2019. This plan is available on BBNA's web page for public comment at:

<https://www.bbna.com/wp-content/uploads/DRAFT-FEMA-THMP-Portage-Creek-May2019.pdf>

The goal is to receive comments, identify key issues or concerns, and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

Public comments should be received no later than June 06, 2019. Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713. If no comments are received by the end of the comment period it will be assumed that there were no comments on the draft.

Please contact me should you have any additional questions at afritze@bbna.com, (907)842-6143 or Danielle Dance at ddance@bristol-companies.com, (907)563-0013

Annie Fritze

Transportation and Infrastructure Program Manager

afritze@bbna.com

907-842-6143



This newsletter discusses the Bristol Bay Native Association Transportation and Infrastructure Department's Tribal Hazard Pre-Mitigation Plan for your Tribal Council. This newsletter has been prepared to inform interested agencies, stakeholders, and the public about the project and to solicit comments. This newsletter and the draft mitigation plan can also be viewed on the BBNA's website at www.bbna.com

Bristol Bay Native Association was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. On behalf of the twenty tribes, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) to prepare your THMP.

The THMP identifies all natural hazards that affect the community, including earthquake, flood/erosion, severe weather, and wildland/tundra fire hazards, etc. The plan identifies the people and facilities potentially at risk and ways to mitigate damage from future hazard impacts. The public participation and planning process is documented as part of this project.

Why Do We Need A Hazard Mitigation Plan?

A FEMA approved and community adopted THMP enables your Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan.

The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

We Need Your Help

We are excited to announce that the draft THMP for the Portage Creek Tribal Council is available at the Tribal office for public review and comment. This plan is also available on BBNA's web page at www.bbna.com for public comment. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

Public comments should be received no later than **June 06, 2019**

Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at: ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713.

Public Participation

Public involvement is important to the planning process of the THMP. This meets the requirements of 44 CFR 201.7(c)(1)(i).

The purpose of this newsletter is to encourage public involvement as a continuous effort throughout the project. The goal is to receive comments, identify key issues or concerns, and improve mitigation ideas from all stakeholders in your community.

We encourage you to take an active part in preparing the Tribal Hazard Mitigation Plan development effort. The purpose of this newsletter is to keep you informed and to allow you every opportunity to voice your opinion regarding these important projects.

If you have any questions, comments or requests for more information, please contact:

Danielle Dance, THMP Consultant
111 W. 16th Avenue, Third Floor
Anchorage, Alaska 99501
(907)563-0013
ddance@bristol-companies.com

Annie Fritze, BBNA DOTID
PO Box 310
Dillingham, Alaska 99576
(907)842-6143
afritze@bbna.com

Dance, Danielle

From: Kristina Andrew <krandrew@bbna.com>
Sent: Wednesday, May 29, 2019 9:23 AM
To: Annie Fritze; Dance, Danielle
Subject: TYPO-see highlighted. RE: Portage Creek THMP Public Comment

Follow Up Flag: Follow up
Flag Status: Flagged

2.3 HISTORY

The Community was used by the Yup'ik Eskimos as an overnight summer camp. The Community was so named because it was used to portage boats from the Nushagak River to the Kvichak River. In this way, travelers could avoid the open waters of Bristol Bay and the long trip around Etolin Point. The village was permanently settled in 1961 by some families from Koliganek and other villages up the Nushagak River. A BIA school was established in 1963, and during the winter of 1964-1954, 11 families lived in the Community. In 1965 the village was served by a local, scheduled air carrier. Through the mid-1980s the Community was an active community, but the population has since declined. The Community is now a popular recreational fishing and camping site from May through July and a hunting location for Yup'ik residents (DCCED, 2018).

2.4 ECONOMY

From: Annie Fritze <afritze@bbna.com>
Sent: Wednesday, May 29, 2019 8:19 AM
To: cameron@choggiung.com; jmetrokin@bbnc.net; mbarnes@choggiung.com; Program Managers <ProgramManagers@bbna.com>; Senator.Lyman.Hoffman@akleg.gov; Representative.Bryce.Edgmon@akleg.gov
Cc: Dance, Danielle <ddance@bristol-companies.com>; Pearson, Isaac <ipearson@bristol-companies.com>; Dan Breedon <dbreedon@bbna.com>; 'MaryAnn Johnson (ciugtaq@yahoo.com)' <ciugtaq@yahoo.com>
Subject: Portage Creek THMP Public Comment

Portage Creek Community Stakeholders:

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Please contact me should you have any additional questions at afritze@bbna.com, (907)842-6143 or Danielle Dance at ddance@bristol-companies.com, (907)563-0013

Annie Fritze

Transportation and Infrastructure Program Manager
afritze@bbna.com
907-842-6143

Dance, Danielle

From: Kristina Andrew <krandrew@bbna.com>
Sent: Wednesday, May 29, 2019 9:25 AM
To: Annie Fritze; Dance, Danielle
Subject: RE: Portage Creek THMP Public Comment

Follow Up Flag: Follow up
Flag Status: Flagged

2.5 DEMOGRAPHICS

The 2017 State of Alaska Department of Commerce, Community, and Economic Development (DCCED) certified population is 1 (DCCED, 2018). **Error! Reference source not found.** depicts a historic representation of the population of the Community.

From: Annie Fritze <afritze@bbna.com>
Sent: Wednesday, May 29, 2019 8:19 AM
To: cameron@choggiung.com; jmetrokin@bbnc.net; mbarnes@choggiung.com; Program Managers <ProgramManagers@bbna.com>; Senator.Lyman.Hoffman@akleg.gov; Representative.Bryce.Edgmon@akleg.gov
Cc: Dance, Danielle <ddance@bristol-companies.com>; Pearson, Isaac <ipearson@bristol-companies.com>; Dan Breedon <dbreedon@bbna.com>; 'MaryAnn Johnson (ciugtaq@yahoo.com)' <ciugtaq@yahoo.com>
Subject: Portage Creek THMP Public Comment

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Public comments should be received no later than June 06, 2019. Comments can be made via email, fax, or phone to Danielle Dance, Bristol Engineering Services Company, LLC at ddance@bristol-companies.com, (907)563-0013 or by fax at (907)563-6713. If no comments are received by the end of the comment period it will be assumed that there were no comments on the draft.

Please contact me should you have any additional questions at afritze@bbna.com, (907)842-6143 or Danielle Dance at ddance@bristol-companies.com, (907)563-0013

Annie Fritze

Transportation and Infrastructure Program Manager

afritze@bbna.com

907-842-6143

BRISTOL BAY NATIVE ASSOCIATION

P.O. BOX 310
DILLINGHAM, ALASKA 99576
PHONE (907) 842-5257

Aleknagik

Chignik Bay

Chignik Lagoon

Chignik Lake

Clarks Point

Curyung

Egegik

Ekuk

Ekwok

Igiugig

Iliamna

Ivanof Bay

Kanatak

King Salmon

Kokhanok

Koliganek

Levelock

Manokotak

Naknek

New Stuyahok

Newhalen

Nondalton

Pedro Bay

Perryville

Pilot Point

Port Heiden

Portage Creek

South Naknek

Togiak

Twin Hills

Ugashik

January 9, 2019

The Honorable Bryce Edgmon
State Capitol Room 208
Juneau, AK 99801

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Representative Edgmon:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

The purpose of hazard mitigation is to reduce potential losses from future disasters. The intent of mitigation planning is to maintain a process that leads to hazard mitigation actions. This THMP identifies the natural hazards that affect the Tribal communities, identifies actions to reduce losses from those hazards, and develops long-term strategies to reduce the impacts of future events on people, property, and the environment, and establishes a coordinated process to implement the plan. The THMP establishes goals and objectives and associated actions to reduce and mitigate the threat of natural hazards to life, property, infrastructure, economic stability and emergency response capabilities in the Tribal communities while encouraging the protection and restoration of cultural and natural resources.

It is the goal of the Tribal organizations to create a disaster-resistant community for the Tribal members and the general public. The THMP includes information to assist government leaders and residents with current and future planning efforts to efficiently and effectively mitigate natural hazards in their communities.

We are excited to announce that the draft THMP for the Tribal Councils of **Aleknagik, Chignik Bay, Chignik Lagoon, Chignik Lake, Clarks Point, Egegik, Ekuk, Kanatak, Levelock, Manokotak, New Stuyahok, Nondalton, Perryville, Pilot Point, Port Heiden, Portage Creek, Togiak and Twin Hills** will be made available to their Tribal offices for public review and

comment in the next few months. These plans will also be made available on BBNA's web page for public comment at www.bbna.com. The goal is to receive comments, identify key issues or concerns and improve ideas for mitigation. When the draft plan is complete, the results will be presented to the community before submitting to FEMA for their preliminary approval and returned back to the Tribal Council for formal adoption.

A FEMA approved and community adopted THMP enables the Tribal council's eligibility to apply for funding through state and federal mitigation grant programs.

Sincerely,
Bristol Bay Native Association

A handwritten signature in black ink, appearing to read "Ralph Andersen", with a stylized flourish at the end.

Ralph Andersen,
President/Chief Executive Officer

cc: Dan Breeden, BBNA DOTID Director
Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

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Port Heiden
Portage Creek
South Naknek
Togiak
Twin Hills
Ugashik

January 9, 2019

The Honorable Lyman Hoffman
PO Box 886
Bethel, AK 99559

RE: Introducing BBNA's Tribal Hazard Mitigation Planning Project

Dear Senator Hoffman:

Bristol Bay Native Association (BBNA) was awarded a Federal Emergency Management Agency (FEMA) grant to develop Tribal Hazard Mitigation Plans (THMP's) for twenty (20) tribes in the Bristol Bay Region. We would like to take this time to acquaint you to the project, with the BBNA THMP Team, and to welcome your input and participation.

BBNA represents all tribes within the Bristol Bay Region, and as such provides support for the Federal Emergency Management Agency (FEMA) pre-disaster mitigation planning project. On behalf of the twenty tribes in this region, BBNA contracted Bristol Engineering Services Company, LLC (Bristol) for the development of their Tribal Hazard Mitigation Plan (THMP). The THMP was prepared to meet the requirements of the Stafford Act and Title 44 of the Code of Federal Regulations (CFR). By meeting these requirements, it makes the Tribal communities eligible for funding through state and federal mitigation grant programs.

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Sincerely,
Bristol Bay Native Association

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Ralph Andersen,
President/Chief Executive Officer

cc: Dan Breeden, BBNA DOTID Director
Annie Fritze, BBNA DOTID Program Manager
Isaac Pearson, BESC Senior Engineer
Danielle Dance, BESC Civil Engineer

APPENDIX C

Plan Maintenance

- Maintenance Monitoring Form (THMP Form 4-1)
- Plan Update Evaluation Form (THMP Form 4-2)

MAINTENANCE MONITORING FORM

Use this form to track the status of implementation of the identified mitigation actions, once a year. Use the information to provide the Council with a brief status report.

Date	Evaluator	Comments <i>(Brief Status Overview of Mitigation Actions)</i>

Date	Evaluator	Comments <i>(Brief Status Overview of Mitigation Actions)</i>

PLAN UPDATE EVALUATION FORM

Plan Section	Considerations	Explanation
Planning Process	Have any internal or external agencies been invaluable to the mitigation strategy?	
	Can any procedures (e.g., meeting announcements, plan updates) be done differently or more efficiently?	
	Has the Planning Team undertaken any public outreach activities?	
	How can public participation be improved?	
Capability Assessment	Have jurisdictions adopted new policies, plans, regulations, or reports that could be incorporated into this plan?	
	Are there different or additional administrative, human, technical, and financial resources available for mitigation planning?	
	Are there different or new education and outreach programs and resources available for mitigation activities?	

Plan Section	Considerations	Explanation
Plan Maintenance Procedures	Was the plan monitored and evaluated as anticipated?	
	What are needed improvements to the procedures?	
Hazard Profile	Has a natural and/or technical or human-caused disaster occurred?	
	Should the list of hazards addressed in the plan be modified? What hazards need to be addressed? Are there hazards that need to be added or removed? If so, list the hazards.	
	Are there new data sources and/or additional maps and studies available? If so, what are they and what have they revealed? Should the information be incorporated into future plan updates?	
Risk Analysis	Do any new critical facilities or infrastructure need to be added to the asset lists?	
	Have any changes in development trends occurred that could create additional risks?	

Plan Section	Considerations	Explanation
Mitigation Strategy	Are the goals still applicable?	
	Should new mitigation actions be added to the community's Mitigation Action Plan?	
	Do existing mitigation actions listed in the community's Mitigation Action Plan need to be reprioritized?	
	Have elements of the plan been incorporated into other planning mechanisms?	

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APPENDIX D
Funding Sources

CLIMATE RESILIENCE IN ALASKAN COMMUNITIES

Catalog of Federal Programs

PRODUCT OF THE
Coastal Erosion Working Group
OF THE ARCTIC EXECUTIVE STEERING COMMITTEE



September 2, 2015

In February 2015, the newly established Arctic Executive Steering Committee (AESC), in one of its first actions, established a Coastal Erosion Working Group (CEWG). The CEWG, which included representatives from the Executive Office of the President as well as ten Federal agencies, was tasked with examining opportunities for Federal action to address the imminent threats that coastal erosion and flooding pose to Alaskan Arctic coastal communities. Representation on the working group drew from both headquarters and the Alaska region, ensuring good knowledge of State and local stakeholders' needs.

One of the recommendations that the CEWG presented at the June meeting of the AESC, was to catalog Federal programs that could be useful for Alaskan coastal communities seeking to address erosion, flooding, and other resilience challenges. The following "Catalog of Federal Resilience Programs for Alaskan Communities" was developed by the CEWG in response to this recommendation. We hope this resource will support communities in Alaska in identifying Federal resources available to help address some of great challenges they are facing.

Ambassador Mark Brzezinski
Executive Director, Arctic Executive Steering Committee

Overview

According to the U.S. National Climate Assessment, over the past 60 years, climate change has caused the Alaskan Arctic to warm twice as rapidly as the rest of the United States, and accelerated rates of erosion caused by the combination of repeated extreme weather events, thawing permafrost, and decreased arctic sea ice are threatening the way of life in native villages.

Developed under the leadership of the Arctic Executive Steering Committee's (AESC) Coastal Erosion Work Group (CEWG), this catalog of Federal technical assistance programs and funding resources is the result of collaboration across Federal agencies to identify existing programs that may be used to assist coastal communities in Alaska facing challenges associated with climate-related risks. Although a variety of Federal programs are available to provide assistance, lack of information about the full range of resources available can present a barrier to communities securing assistance. This compendium is intended to help Alaskan communities identify Federal resources that can be used to support local efforts to gather and evaluate information about the risks posed by coastal erosion and other hazards; building capacity to mitigate those risks; advance onsite measures; and, if necessary, relocate community assets.

Each program's entry describes its purpose and funding potential, eligible applicants, and activities typically undertaken with its support. The Quick Reference Program Matrix serves to identify which programs can support the following activities:

Information Gathering and Evaluation: Risk assessment and monitoring activities, including assessing hazards like coastal erosion, mapping subsistence patterns, and tracking natural climate variability;

Capacity Building: Training, education, and community planning efforts, including digital access to tools and development of administrative needs to inform resilience planning;

On-site Measures: Maintaining and strengthening infrastructure, land, and livelihoods within a community. Examples include redesigning roads and evacuation routes due to climate change impacts and investing in infrastructure that generates economic returns; and

Relocation: Activities that support the relocation of entire communities or certain community assets, including new site identification and development.

Contributing agencies include the Departments of Agriculture, Energy, Health and Human Services, Housing and Urban Development, the Interior, Transportation, Homeland Security, Commerce, the Environmental Protection Agency, and the U.S. Army Corps of Engineers. While this guide attempts to be as comprehensive as possible in describing relevant Federal grant programs, programs are continually evolving and are subject to change.

About the Arctic Executive Steering Committee

President Obama established the AESC in his January 2015 [Executive Order 13689](#) on *Enhancing Coordination of National Efforts in the Arctic*. The Executive Order directed Federal agencies to strengthen international cooperation to mitigate the greenhouse gas emissions driving climate change, understand more fully and manage more effectively the adverse effects of climate change, protect life and property, develop and manage resources responsibly, enhance the quality of life of Arctic inhabitants, and serve as stewards for valuable and vulnerable ecosystems. The AESC was charged with guiding executive departments and agencies and enhancing coordination of Federal Arctic policies across agencies and offices, and with State, local, and Alaska Native tribal governments and stakeholders.

The CEWG, co-chaired by the Department of Housing and Urban Development (HUD) and the Department of the Interior (DOI), was created to examine opportunities for improving Federal actions to address the imminent threat of coastal erosion and flooding impacting Alaskan Arctic coastal communities.

Quick Reference Programs Matrix

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
			Risk Assessment	Monitoring	Technical Training	Environmental Education	Preserving Traditional Lifestyles	Strategic Planning	Infrastructure Strengthening	Coastal Erosion Control	Recovery of Critical Infrastructure	Economic Development	Site Evaluation	Development	Infrastructure
Department of Homeland Security - Federal Emergency Management Agency	Flood Mitigation Assistance	12						X	X						
	Hazard Mitigation Grant Program	12						X	X	X	X				
	Pre-Disaster Mitigation Grant Program	13						X	X	X	X				
	Risk Mapping, Assessment, and Planning	13	X	X	X			X							
Department of Commerce - Economic Development Authority	Economic Adjustment Assistance Program	14	X					X	X		X	X	X	X	X
	Public Works Program	14							X		X	X		X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Commerce – National Oceanic and Atmospheric Administration	Alaska Center for Climate Assessment and Policy	15	X					X							
	Alaska Ocean Observing System	15	X	X											
	Analyze, Forecast, and Support	16	X	X											
	Integrated Ocean and Coastal Mapping Program	16	X	X											
	National Oil and Hazardous Substances Pollution Contingency Plan	16	X	X					X						
	Climate Program	17	X		X	X									
	Observations	17	X	X											
Department of Energy	Alaska START Program	17			X	X		X	X		X	X			X
	Tribal Energy Program	18			X	X		X	X		X	X			X

Agency	Program	Page	Information Gathering		Capacity Building			On-Site Measures				Relocation			
Department of the Interior	Alaska Climate Science Center	19	X	X	X			X					X		
	ANILCA Sec. 1318 Historic Assistance	19						X							
	Landscape Conservation Cooperatives	19	X	X											
	North Slope Science Initiative	20	X	X			X								
	Subsistence – ANLICA Title VIII	20						X	X						
Department of the Interior - Bureau of Indian Affairs	Cooperative Landscape Conservation	20					X								
	Indian Energy Resource Development Program	21					X					X			X
	Tribal Transportation Program	21								X			X		X
Department of Transportation	Transportation Investment Generating Economic Return	22							X	X			X		X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation			
Department of Transportation - Federal Aviation Administration	Airport Improvement Program	22								X						X
Department of Transportation - Federal Highway Administration	Federal-aid Highway Apportioned Funds	23								X			X			X
	Tribal Transportation Program	23						X	X				X			X
Department of Transportation - Federal Transit Administration	Public Transportation on Indian Reservations Program Tribal Transit Program	24						X	X			X				X
Environmental Protection Agency	Alaska Native Villages Grant	24			X					X						X
	Clean Water Act Indian Set-Aside Program	25						X	X							X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation			
Environmental Protection Agency	Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program	25								X						X
	Environmental Justice Small Grants	26							X							
	Indian General Assistance Program	26	X	X												
	Office of Water Climate Ready Water Utilities Program	27	X							X						
	Safe Drinking Water Act (SDWA) Tribal Set-Aside Program	27								X	X					X
Health and Human Services	ACF/ANA Environmental Regulatory Enhancement	28			X		X	X					X			
	CDC/NCID/ Arctic Investigations Program	29	X	X			X									

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation	
Health and Human Services	CDC/NIOSH American Indian/ Alaska Native Program	29			X	X								
	CDC/NIOSH Climate Change Initiative	30	X											
	NIH/NIEHS Alaska Community Action on Toxics	30	X	X	X	X	X	X						
	NIH/NIEHS Research to Action	31	X	X	X	X	X	X						
	NIH/NIEHS The Center for Indigenous Environmental Health Research	31	X	X	X	X	X	X						
Department of Housing and Urban Development	Community Development Block Grant	32	X	X	X						X		X	X
	Emergency Solutions Grants Program	33							X		X			
	Indian Community Development Block Grant	33							X		X	X	X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
Department of Housing and Urban Development	Mortgage Insurance for Disaster Victims – 203(h)	34												X	
	Native American Housing and Self-Determination Act - Indian Housing Block Grant Program	34	X	X	X	X		X	X	X		X	X	X	
	Section 184 Loan Guarantee Program	35												X	
	Title VI Loan Guarantee Program	35							X	X	X			X	X
US Army Corps of Engineers	Continuing Authorities Program	35							X	X					
	International and Interagency Support Services	36	X	X			X	X	X	X	X		X	X	X
	Planning Assistance to States	36	X					X					X		
	Tribal Partnership Program	37	X					X	X	X			X	X	X

Agency	Program	Page	Information Gathering		Capacity Building				On-Site Measures				Relocation		
US Department of Agriculture	Business and Industry Loan Guarantee	37										X			
	Community Facilities Loans and Grants	38												X	
	Electric Loans	38							X						X
	Rural Business Development Grant	38										X			
	Rural Energy for America Loans and Grants	39							X						X
	Sewer, Water, Solid Waste Loans and Grants	39							X						X
	Single Family Direct and Guaranteed Loans	40												X	
	Single Family Repair Loans and Grants	40									X				
	Telecom Loans	41							X						X

Department of Homeland Security (DHS) – Federal Emergency Management Agency (FEMA)

Program Name: Flood Mitigation Assistance (FMA)

Purpose: Authorized to reduce or eliminate claims under the National Flood Insurance Program (NFIP) by eliminating the long-term risk of flood damage to structures insured under the NFIP.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes apply on behalf of local communities, who must be participating in the NFIP.

Funding Range: Severe Repetitive Loss structures can be funded at 100% federal cost; repetitive loss structures can be cost-shared at 90% federal cost. Insured structures and planning grants are cost-shared at 75 percent federal, 25 percent non-federal. Maximum Federal share for planning sub-applications per Applicant is \$50,000 for State plans and \$25,000 for local plans. Technical assistance up to \$50,000 is available for states who were awarded FMA grant funds totaling at least \$1million in FY 2014.

Program Activities: Projects include the elevation, relocation and acquisition of flood prone structures, and projects to address minor, localized flooding issues, such as upgrading culverts, building detention ponds, and otherwise improving local stormwater management facilities.

Because this program is funded by resources collected from NFIP policyholders, the recent focus of the program has been on mitigating severe repetitive loss structures in order to reduce the drain on the National Flood Insurance Fund (NFIF).

Severe repetitive loss structures and repetitive loss structures are prioritized for funding to maximize cost-effectiveness and reduce claims to the NFIF.

Additional Information: <http://www.fema.gov/media-library-data/1432854343618-674f4cfd5dd49813a9aef429e5d49c7d/FMAFactSheetFY2015.pdf>

Program Name: Hazard Mitigation Grant Program (HMGP)

Purpose: Provides grants to states, Indian tribal governments and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the recovery from a disaster.

Eligible Applicants: Funds become available only after a disaster is declared. The Governor of the state determines availability, however it is frequently available anywhere within the state or tribe in which the declaration was made.

Funding Range: The amount of assistance available under the HMGP is a percentage of FEMA's assistance made available under the response and recovery programs for the declared major disaster.

HMGP funds are generally 15 percent of assistance under these programs for states with a Standard State Mitigation Plan and 20 percent of assistance under these programs for those with an Enhanced State Mitigation Plans. Small impoverished communities may be eligible for up to a 90% Federal cost share in accordance with the Stafford Act.

Program Activities: Some examples of projects eligible for HMGP and the PDM grant funds include the development of all-hazards mitigation plans at the tribal, state and local levels, the seismic retrofitting of critical public buildings, and acquisition, relocation or elevation of flood-prone properties located in the floodplain.

Additional Information: <http://www.fema.gov/hazard-mitigation-grant-program>

Program Name: Pre-Disaster Mitigation Grant Program (PDM)

Purpose: Designed to assist States, territories, Federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program.

Eligible Applicants: States, U.S. territories, Federally-recognized tribes.

Funding Range: In 2015, each state is eligible to receive a set aside of 1 percent of the total appropriated PDM funding, or \$250,000; \$5 million is set aside for Federally-recognized Tribal governments to receive a set aside of 1 percent of the total appropriated PDM funding, or \$250,000; The balance of PDM Grant Program funds will be distributed on a competitive basis to all eligible applicants.

Program Activities: Elevation, acquisition, or floodproofing structures, seismic or wind retrofit of structures, major or minor flood hazard reduction activities, mitigation planning

Additional Information: <http://www.fema.gov/media-library-data/1432847398289-878c470e718239eedcaadc8d52ea1823/PDMFactSheetFY2015.pdf>

Program Name: Risk Mapping, Assessment, and Planning (Risk MAP)

Purpose: Not only is flooding one of the most common and costly disasters, flood risk can also change over time because of new building and development, weather patterns and other factors. FEMA is working with federal, state, tribal and local partners across the nation to identify flood risk and help reduce that risk through the Risk Mapping, Assessment and Planning (Risk MAP) program.

Eligible Applicants: State, regional, Tribal, and local communities can use enhanced hazard data to make more informed decisions regarding risk.

Funding Range: Varies.

Program Activities: Risk MAP provides high quality flood maps and information, tools to better assess the risk from flooding and planning and outreach support to communities to help them take action to

reduce (or mitigate) flood risk. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services.

Additional Information: <http://www.fema.gov/risk-mapping-assessment-and-planning-risk-map>

Department of Commerce (DOC) – Economic Development Administration (EDA)

Program Name: Economic Adjustment Assistance Program

Purpose: Helps communities design and implement strategies to address evolving economic changes that are causing or threaten to cause serious structural damage to the underlying economic base or undermining locally-developed development goals.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from \$100,000 to \$1,250,000; the average is approximately \$829,000.

Program Activities: Can be used to conduct feasibility or environmental studies, capitalize revolving loan funds, and to fund the construction of publicly-owned infrastructure, such as water and sewer facilities, access roads, rail spurs, and broadband, to support the expansion of area businesses; business incubators; job training facilities; and other infrastructure investments.

Additional Information: <http://www.eda.gov/pdf/about/Economic-Adjustment-Assistance-Program-1-Page1.pdf>

Program Name: Public Works Program

Purpose: The Public Works Program provides strategic-investments to help communities build or expand access to the infrastructure assets that are the most basic building blocks of an economy and are required to support the growth and economic development of distressed regions.

Eligible Applicants: (1) District Organization of a designated Economic Development District; (2) Indian Tribe or a consortium of Indian Tribes; (3) State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions; (4) institution of higher education or a consortium of institutions of higher education; or (5) public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

Funding Range: Investments range from \$200,000 to \$3,000,000, the average is approximately \$1.4 million.

Program Activities: Traditional infrastructure through this program including water and sewer system improvements, industrial parks, business incubator facilities, expansion of port and harbor facilities, skill-training facilities, and the redevelopment of brownfields. Also, technology-based facilities; research and development commercialization centers; facilities for workforce development; wet labs; multi-tenant manufacturing facilities; research, business and science parks with fiber optic cable; and telecommunications infrastructure and development facilities.

Additional Information: <http://www.eda.gov/pdf/about/Public-Works-Program-1-Pager.pdf>

DOC – National Oceanic and Atmospheric Administration (NOAA)

Program Name: Alaska Center for Climate Assessment & Policy

Purpose: NOAA’s Regional Integrated Sciences & Assessments (RISA) program supports research teams that help expand and build the nation’s capacity to prepare for and adapt to climate variability and change.

Eligible Applicants: NOAA 5 year funding agreement with ACCAP; ACCAP awards funding to other entities to accomplish its five year goals.

Funding Range: Varies.

Program Activities: Partner with stakeholders to inform realistic community plans and climate adaptation strategies using the most scientifically accurate, reliable, and up-to-date information.

Additional Information:

<http://cpo.noaa.gov/ClimatePrograms/ClimateandSocietalInteractions/RISAProgram/RISATeams/ACCA.P.aspx>

Program Name: Alaska Ocean Observing System

Purpose: Address regional and national needs for ocean information, gather specific data on key coastal and ocean variables, and ensure timely and sustained dissemination and availability of these data.

Eligible Applicants: AOOS Funding is based on a five year plan focusing on: safe marine operations; coastal hazard mitigation; tracking ecosystem and climate trends; and monitoring water quality.

Funding Range: \$0-\$500k.

Program Activities: (1) Enables advances in scientific understanding to support the sustainable use, conservation, management, and understanding of healthy ocean and coastal resources.

(2) Improves the Nation’s capability to measure, track, explain, and predict events related directly and indirectly to weather and climate change, natural climate variability, and interactions between the oceanic and atmospheric environments.

Additional Information: <http://www.ioos.noaa.gov/regions/aos.html>

Program Name: Analyze, Forecast, and Support

Purpose: Field forecast and warnings, facilities supporting the mission and programmatic leadership in the provision of life saving decision support services.

NWS has initiated Impact Based Decision Support Services (IDSS) to provide better, more useful information to partners, emergency managers, and decision makers to foster an appropriate public response.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Provides decision support services, warning coordination, and Arctic environmental intelligence (timely, reliable, and actionable information to help plan for and adapt to economic and ecological impacts, including disasters) to the State of Alaska and Alaska Native partners, industry and community stakeholders, and federal and other local officials.

Addresses mitigation science and technology gaps in the Arctic as well as forecast challenges to improve IDSS), such as: scarcity of in-situ observations (e.g., wave, ocean, and ice buoys, weather observation platforms, river gauge) in the Arctic; performance concerns with weather, water, ocean and wave prediction models in the Arctic region as compared to the rest of the US; and the lack of maturity of tactical and medium range weather and sea ice modeling capabilities.

Additional Information: <http://www.weather.gov/organization/afs>

Program Name: Integrated Ocean & Coastal Mapping Program

Purpose: Planning, acquiring, integrating, and disseminating ocean and coastal geospatial data and derivative products in a manner that permits easy access to and use by the greatest range of users.

Eligible Applicants: Participation in the IOCM approach (map used many times) is voluntary but coordination with and leveraging of other partner efforts are encouraged.

Funding Range: N/A

Program Activities: Federal mapping coordination.

Additional Information: <http://iocm.noaa.gov/>

Program Name: National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

Purpose: Area Committees -- composed of federal, state, and local government officials -- must develop detailed, location-specific Area Contingency Plans.

Eligible Applicants: Federal, state, and local government officials serve on the committees. Participation and input by Alaska Native entities to the committees is encouraged.

Funding Range: N/A

Program Activities: Planning, preparedness, and exercises support resiliency to oil spills. Environmental Sensitivity Indices (ESI) maps and other tools assess the risk from oil spills and would also be useful potential species impacts.

Additional Information: <http://response.restoration.noaa.gov/>

Program Name: Climate Program

Purpose: Fund high-priority climate science, assessments, decision support research, outreach, education, and capacity-building activities designed to advance our understanding of Earth's climate system, and to foster the application of this knowledge in risk management and adaptation efforts.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: Varies.

Program Activities: Varies.

Additional Information: <http://cpo.noaa.gov/>

Program Name: Observations

Purpose: Collection of space, atmosphere, water, and climate observational data owned or leveraged by National Weather Service. The Office is responsible for the development, acquisition and management of cost-effective observing technologies, hardware and software enhancements, maintenance and repairs, logistics, cost management, technical data verification, and life-cycle replacements of NWS observational platforms.

Eligible Applicants: None, work is performed by NOAA.

Funding Range: N/A

Program Activities: Weather and sea ice observations.

Additional Information: <http://www.nws.noaa.gov/om/osd/portal.shtml>

Department of Energy (DOE)

Program Name: Alaska Strategic Technical Assistance Response Team (START) Program

Purpose: To provide technical assistance in strategic energy planning to accelerate clean energy and energy efficiency projects and move projects closer to implementation.

Eligible Applicants: Any Indian Tribe, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.).

Funding Range: Varies.

Program Activities: The START team, which consists of DOE, including its national laboratories, and the Denali Commission, along with DOE's national laboratories and other local and national experts, assists rural Alaska Native communities in developing strategic energy plans to help mitigate the impacts of climate change by conducting energy awareness and training programs, and pursuing new renewable energy and energy efficiency opportunities. As a competitive technical assistance opportunity, Alaska START is aimed at achieving the following goals:

- Reducing the cost and use of energy for rural Alaska consumers and communities
- Increasing local capacity, energy efficiency, and conservation through training and public education
- Increasing renewable energy deployment and financing opportunities for communities and utilities.

Additional Information: <http://www.energy.gov/indianenergy/office-indian-energy-start-team>

Program Name: Tribal Energy Program

Purpose: To provide financial and technical assistance that enables tribes to evaluate and develop their renewable energy resources and reduce their energy consumption through efficiency and weatherization.

Eligible Applicants: Federally recognized Indian tribes, bands, nations, Alaska Native villages; other organized tribal groups and communities – including Alaska Native regional and village corporations; tribal energy resource development organizations.

Funding Range: Varies.

Program Activities: DOE's Tribal Energy Program promotes tribal energy sufficiency and fosters economic development and employment of energy efficiency on tribal lands through the use of renewable energy and energy efficient technologies through government-to-government partnerships. The Tribal Energy program provides financial opportunities through a competitive process; technical assistance through DOE's national laboratories; and education and training through webinars, student internships, and workshops to help build the knowledge and skills essential to developing, implementing and sustaining energy efficiency and renewable energy efficiency and renewable energy projects.

Additional Information: <http://apps1.eere.energy.gov/tribalenergy/>

Department of the Interior (DOI)

Program Name: Alaska Climate Science Center

Purpose: The Alaska Climate Science Center (AK CSC) provides scientific information, tools, and techniques that managers and other parties interested in land, water, wildlife and cultural resources can use to anticipate, monitor, and adapt to climate change.

Eligible Applicants: Any

Funding Range: No specific funding levels or deadlines.

Program Activities: The Center and its partners provide expertise in climate science, ecology, environmental impacts assessment, modeling, cultural impacts, and advanced information technology.

Additional Information: <https://www.doi.gov/csc/alaska/>

Program Name: Alaska National Interest Lands Conservation Act (ANILCA) Sec. 1318 Historic Assistance

Purpose: Technical assistance in preserving cultural resources.

Eligible Applicants: All Tribes and Corporations in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Wide variety of activities related to cultural resources.

Additional Information: Telephone: (907) 644-3456

Program Name: Landscape Conservation Cooperatives

Purpose: Science and technical assistance.

Eligible Applicants: Any village or other entity.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: provide tools to assess coastal hazards, including accelerated coastal erosion associated with climate change. Specific projects include: acquisition and analysis of imagery to quantify historical erosion rates and enable communities to consider the stability of existing and future infrastructure; data and modeling needed to predict the severity of flooding based on the circumstances and magnitude of storms; community vulnerability assessments that incorporate coastal erosion as well as other aspects of coastal change.

These projects are underway or are newly completed. A shared effort is planned by LCCs in Alaska to work with partners and communities to utilize these tools and information during the winter of 2015-16.

Additional Information: Arctic Landscape Conservation Cooperative: <http://arcticlcc.org/>

Western Alaska Landscape Conservation Cooperative:
<https://westernalaskalcc.org/SitePages/Western%20Alaska%20LCC.aspx>

Program Name: North Slope Science Initiative

Purpose: To facilitate and improve collection and dissemination of ecosystem information pertaining to the Alaskan North Slope region, including coastal and offshore regions. To improve scientific and regulatory understanding of terrestrial, aquatic, and marine ecosystems for consideration in the context of resource development activities and climate change.

Eligible Applicants: Any.

Funding Range: No specific funding levels or deadlines.

Program Activities: Provide resource managers with the data and analyses they need to help evaluate multiple simultaneous goals and objectives related to each agency’s mission on the North Slope. The NSSI uses and complements the information produced under other North Slope science programs. The NSSI also facilitates information sharing among agencies, non-governmental organizations, industry, academia, international programs, and members of the public to increase communication and reduce redundancy among science programs.

Additional Information: <http://www.northslope.org/>

Program Name: Subsistence – ANLICA Title VIII

Purpose: Technical assistance related to subsistence.

Eligible Applicants: Any Tribe or village in Alaska.

Funding Range: No specific funding levels or deadlines.

Program Activities: Examples: 1) subsistence mapping in coastal communities to document where people go for particular resources at particular times of the year; and 2) document the flow of resources through sharing networks, which could be greatly disrupted if whole communities and groups of families are relocated.

Additional Information: Telephone (907) 644-3596.

DOI – Bureau of Indian Affairs (BIA)

Program Name: Cooperative Landscape Conservation (shifting to Tribal Climate Resilience in FY16)

Purpose: Funding for tribal climate adaptation, and ocean & coastal planning. Engagement and technical support, not operational funds.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Current administrative limit is \$250k per award.

Program Activities: BIA is investing in technical assistance to support adaptation planning, including coordination, training, travel support for relevant training, and digital access to data and tools.

Additional Information: <http://www.indianaffairs.gov/WhoWeAre/BIA/climatechange/index.htm>

Program Name: Indian Energy Resource Development Program

Purpose: Assist tribes in development of tribal energy resources. This includes the Tribal Energy Development Capacity (TEDC) grant program to build capacity to develop conventional or renewable energy resources on Indian lands.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: Varies depending on appropriations.

Program Activities: The TEDC grant program helps tribes in assessing, developing, or obtaining the managerial, organizational and technical capacity needed to develop energy resources on Indian land and to account properly for resulting energy production and revenues.

Additional Information: <http://www.bia.gov/WhoWeAre/AS-IA/IEED/DEMD/TEDCP/index.htm>

Program Name: Tribal Transportation Program

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the Department of Transportation's (DOT) TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally Recognized Tribes.

Funding Range: TTP is formula funded.

Program Activities: New roads can be built based on the specific needs for evacuation routes, or redesigning if impacted roads by changes due to climatic variances (flooding, snow fences and road shelters, etc.). TTP funds can also be used for facility preservation, road maintenance and bridge maintenance, as well as "emergency relief for federally owned roads" (this includes tribal or native roads and facilities that are transportation related). Equipment storage, material storage, equipment purchase are other allowable uses.

Additional Information: BIA: <http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm>;

DOT: <http://flh.fhwa.dot.gov/programs/ttp/>

Department of Transportation (DOT)

Program Name: Transportation Investment Generating Economic Return (TIGER)

Purpose: Discretionary grants that focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for disconnected communities, while emphasizing improved connection to employment, education, services and other opportunities, workforce development, or community revitalization.

Eligible Applicants: State, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of State or local governments.

Funding Range: \$500M nationwide funds. Funding cannot exceed \$200M and no more than \$125M in a single state. TIGER can cover up to 80% in an urban area and 100% in a rural area. Minimum award for urban is \$10M and rural is \$1M. The annual funding for TIGER changes annually based on the appropriations and authorizations.

Program Activities: Eligible projects for TIGER Discretionary Grants are capital projects that include, but are not limited to: highway or bridge projects eligible, (including bicycle and pedestrian related projects); public transportation projects; passenger and freight rail transportation projects; port infrastructure investments (including inland port infrastructure); and intermodal projects. Eligibility requirements must be satisfied.

Additional Information: <http://www.transportation.gov/tiger>

DOT – Federal Aviation Administration (FAA)

Program Name: Airport Improvement Program

Purpose: Airport improvement planning and development.

Eligible Applicants: Public-use airports included within the National Plan of Integrated Airport Systems (NPIAS).

Funding Range: State of Alaska: 93.75% Federal, 6.25% cost sharing.

Program Activities: The AIP is authorized to provide grant funding for eligible airport improvements as requested by eligible airport sponsors. This would potentially include measures to safeguard airport infrastructure from erosion.

Additional Information: <http://www.faa.gov/airports/aip/>

DOT – Federal Highway Administration (FHWA)

Program Name: Federal-aid Highway Apportioned Funds

Purpose: Planning, preventive maintenance, infrastructure preservation, construction of highways and bridges, safety, congestion mitigation, and air quality improvement.

Eligible Applicants: State of Alaska Department of Transportation and Public Facilities.

Funding Range: Alaska receives approximately \$480M in apportionment funds annually. Federal share is typically 80%.

Program Activities: In Alaska, Federal-aid highway apportioned funds may be used for roads, pedestrian facilities, and snowmobile trails. Funding may be available to assist villages with improving or repairing roads and boardwalks.

Additional Information: <http://www.fhwa.dot.gov/federalaid/projects.cfm>

Program Name: Tribal Transportation Program (TTP)

Purpose: To provide funding to tribes for access to basic community services that enhance the quality of life in Indian country, such as construction and/or reconstruction of roads, bridges, docks and trails. The TTP replaces the former Indian Reservation Roads (IRR) program. Note that this program is the same as the DOI BIA TTP, although DOT can additionally provide strategic planning.

Eligible Applicants: Federally recognized Tribes.

Funding Range: In MAP-21, the TTP is authorized at \$450 million/year and funds are distributed through a statutory formula. The federal share is 100%.

Program Activities: Eligible uses for TTP funds are identified in 23 USC 202(a). These include transportation planning, design, construction, and maintenance of roads and bridges as well as any other project that would be eligible under Title 23. The project must be on or for a facility that provides access to or is located within tribal land. The planning and construction of emergency escape or relocation routes are eligible activities.

Additional Information: DOT: <http://flh.fhwa.dot.gov/programs/ttp/>;
BIA: <http://www.bia.gov/WhoWeAre/BIA/OIS/Transportation/index.htm>

DOT – Federal Transit Administration (FTA)

Program Name: Public Transportation on Indian Reservations Program Tribal Transit Program (TTP)

Purpose: Provide grants to Indian tribes for program activities eligible under FTA’s Rural Areas Formula Program, 49 U.S.C. 5311.

Eligible Applicants: Federally recognized Indian Tribes and Alaskan Native villages, groups, or communities.

Funding Range: \$25 million formula program and \$5 million discretionary program. Discretionary funds are made available annually on a competitive basis.

Program Activities: Operating assistance to enable tribes to start new transit services; capital to enable tribal investment in new or replacement equipment; and funding for tribal transit planning studies. Examples of eligible resilience projects may include elevating or relocating transit assets that are located in a special flood hazard area, protecting transit assets vulnerable to high winds, installing mitigation measures that prevent the intrusion of floodwaters into underground segments of a public transportation system, strengthening systems that remove rainwater from public transportation facilities, and other projects that address identified vulnerabilities. However, relocating non-transit assets would not be considered an eligible resilience project.

Additional Information: http://www.fta.dot.gov/grants/15926_3553.html

Environmental Protection Agency (EPA)

Program Name: Alaska Native Village Grant

Purpose: To assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems.

Eligible Applicants: The applicant must be an unincorporated community that has between 25 and 600 people; a second-class city (no population limits); or a first class city with not more than 600 residents.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved water and wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in rural Alaska.

The ANV Program provides technical support to communities to design and construct water and wastewater systems. It is meant to assist Alaska Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater systems. This funding can also be used to provide training and technical assistance in the operations and maintenance of these systems.

Additional Information: <http://water.epa.gov/type/watersheds/wastewater/Alaska-Native-Village-and-Rural-Communities-Grant-Program.cfm>

Program Name: Clean Water Act Indian Set-Aside Program

Purpose: Provides funding, 2% of the CWA SRF, for wastewater infrastructure to Indian tribes and Alaska Native Villages. The CWISA Program is administered in cooperation with the Indian Health Service (IHS). EPA uses the IHS Sanitation Deficiency System priority lists to identify and select projects for CWISA program funding. To be considered for CWISA Program funding, tribes must identify their wastewater needs to the IHS Sanitation Deficiency System.

Eligible Applicants: All federally recognized tribes, Alaska Native Villages, and tribes on former reservations in Oklahoma are eligible for CWISA Program funds.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved wastewater infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: <http://water.epa.gov/type/watersheds/wastewater/clean-water-indian-set-aside-grant-program.cfm>

Program Name: Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

Purpose: Provides funding for eligible applicants for projects that address local environmental and public health issues within an affected community. The CPS Program is designed to help communities understand and address exposure to multiple environmental harms and risks.

Eligible Applicants: Nonprofit organizations including, but not limited to, environmental justice networks; Federally recognized tribal governments; or Tribal organizations (includes American Indian/Alaska Native groups, cooperatives, partnerships, associations).

Funding Range: Up to \$120,000.

Program Activities: Funds enable community-based organizations to partner with stakeholders from across industry, government, academia to develop and implement solutions that will significantly address

environmental and/or public health issues at the local level. Projects must use the CPS Model, comprised of seven elements of a successful collaborative partnership, to address local environmental and/or public health issues.

Additional Information: <http://www.epa.gov/environmentaljustice/grants/ej-cps-grants.html>

Program Name: Environmental Justice Small Grants

Purpose: The purpose of this grant program is to support activities designed to empower and educate communities to understand environmental and public health issues and to identify ways to address these issues at the local level. EPA anticipates awarding up to 25% of fiscal year 2015 awards to fund projects that support community climate resiliency.

Eligible Applicants: Incorporated non-profit organizations including, but not limited to, environmental justice networks, faith based organizations and those affiliated with religious institutions; federally recognized tribal governments; or tribal organizations.

Funding Range: Varies (up to \$30,000).

Program Activities: Supports and empowers communities working on solutions to local environmental and public health issues. The program assists recipients in building collaborative partnerships to help them understand and address environmental and public health concerns in their communities. Successful collaborative partnerships involve not only well-designed strategic plans to build, maintain, and sustain the partnerships, but also working towards addressing the local environmental and public health issues.

Additional Information: <http://www.epa.gov/environmentaljustice/grants/ej-smgrants.html>

Program Name: Indian General Assistance Program (IGAP)

Purpose: Provide General Assistance Program (GAP) grants to federally recognized tribes and tribal consortia for planning, developing, and establishing environmental protection programs. The GAP program is exempt from competition, therefore, applications that meet the stated requirements in program regulations and guidance will be funded if funds are available.

Eligible Applicants: All federally recognized tribes in Region 10 are eligible to receive funds. Tribal consortia that meet the eligibility requirements may also receive funding, if available.

Funding Range: Typically \$75,000 - \$125,000 per year per grantee in Alaska (special projects not included).

Program Activities: Funding is provided under GAP for the purposes of planning, developing, and establishing tribal environmental protection programs. For example a tribe could use GAP funds to develop a climate change adaptation plan or to establish environmental protection programs that compliment non-environmental protection programs.

Activities related to establishing education, outreach, public participation, compliance assistance, and coordination programs for tribal environmental staff to work effectively with regulated entities are allowable.

Specific examples of allowable activities: climate change vulnerability/risk assessment; climate change preparedness/adaptation program (e.g., zoning rules and regulations; tax incentives; building codes/design standards; utility rates/fee setting; public safety rules and regulations); outreach and education; emergency management powers; community outreach/education programs; developing voluntary or partial environmental protection programs; participating in environmental policy making; coordinating with EPA or other federal agencies on the implementation of federal environmental protection programs; and entering into joint environmental protection programs with neighboring tribal, state, or local environmental agencies.

Additional Information: <http://yosemite.epa.gov/R10/TRIBAL.NSF/Grants/IGAP>

Program Name: Office of Water Climate Ready Water Utilities Program (CRWU)

Purpose: Assists drinking water, wastewater, and stormwater utilities, in addressing climate change impacts. Through the development of practical and easy-to-use tools, EPA promotes a clear understanding of climate science and adaptation options by translating complex climate projections into accessible formats. This information helps utility owners and operators better prepare their systems for the impacts of climate change.

Eligible Applicants: All water utilities can ask for assistance.

Funding Range: No direct funding. This is a technical assistance program.

Program Activities: Extreme weather events, sea level rise, shifting precipitation patterns and temperature variability, all intensified by climate change, have significant implications for the sustainability of the water sector. By planning for, assessing and adapting to these challenges, the water sector can fulfill their public health and environmental missions and begin the process of becoming climate ready.

Additional Information: <http://water.epa.gov/infrastructure/watersecurity/climate/index.cfm>

Program Name: Safe Drinking Water Act (SDWA) Tribal Set-Aside Program

Purpose: Provides grants to Indian Tribes, Alaska Native Villages, and to the State of Alaska for the benefit of the native villages. The grant funds are used to address the most significant threats to public health associated with Public Water Systems that serve Indian Tribes. Most types of projects that improve the health of the public being served by the public water system are eligible for funding, 2% of the SDWA State Revolving Fund.

Eligible Applicants: Any federally recognized Indian tribe is eligible to receive a project grant through the program. Eligible systems must serve tribes or Alaskan Native Villages, though they can be owned by someone other than the tribe. Private systems are also eligible.

Funding Range: Funding varies.

Program Activities: The program is planning, designing and constructing new and or improved drinking water infrastructure in various communities throughout the State of Alaska to improve the health and sanitation conditions in Alaska Native Villages. Funds may also be used to conduct project feasibility studies, engineering design work, and for project administration. EPA issues all or the vast majority of funds to the Indian Health Service for Administration.

Additional Information: http://water.epa.gov/grants_funding/dwsrf/allotments/tribes.cfm

Department of Health and Human Services (HHS)

Program Name: Administration for Children and Families (ACF) / Administration for Native Americans (ANA) Environmental Regulatory Enhancement

Purpose: To provide funding for the costs of planning, developing, and implementing programs designed to improve the capability of tribal governing bodies to regulate environmental quality pursuant to federal and tribal environmental laws.

Eligible Applicants: Federally recognized Indian tribes; Consortia of Indian tribes; Incorporated non-federally recognized tribes; Incorporated state-recognized tribes; Alaska Native villages, as defined in the Alaska Native Claims Settlement Act (ANCSA) and/or non-profit village consortia; Non-profit Alaska Native Regional Corporation/Associations in Alaska with village specific projects; Other tribal or village organizations or consortia of Indian tribes; and Tribal governing bodies (IRA or traditional councils) as recognized by the Bureau of Indian Affairs.

Funding Range: \$300,000 per Budget Period.

Program Activities: The ERE program supports the principle that projects must follow tribal cultural preservation and natural resource management priorities in order to achieve environmentally healthy, sustainable Native American and Alaska Native communities. The Administration for Native Americans (ANA) is therefore interested in supporting locally designed projects that strengthen tribal environmental regulatory programs in a manner consistent with the goals of native communities. Program areas of interest for this FOA include, but are not limited to, the following:

Providing training and education to employees responsible for enforcing, or monitoring compliance with, environmental quality laws; Developing laws, regulations, and ordinances to protect the environment; Enforcing and monitoring environmental quality laws, regulations, and ordinances; Establishing baseline condition for regulatory purposes; Informing the community about regulations and environmental

stewardship; Building the technical and program capability of the tribe or organization to perform essential environmental program functions to meet tribal and federal regulatory requirements; Establishing demonstration projects to exhibit technologies, which can lead to compliance with environmental regulations.

Additional Information: <http://www.acf.hhs.gov/grants/open/foa/index.cfm?switch=foa&fon=HHS-2014-ACF-ANA-NR-0777>

Program Name: Center for Disease Control (CDC) / National Center for Infectious Diseases (NCID) / Arctic Investigations Program (AIP)

Purpose: AIP's mission is the prevention of infectious diseases in people of the Arctic and sub-Arctic. AIP places a special emphasis on diseases of high incidence and concern among the Alaska Native and other northern indigenous peoples. AIP conducts infectious disease surveillance, evaluate prevention services, and conduct applied research in collaboration with our partners.

Eligible Applicants: N/A

Funding Range: Intramural.

Program Activities: AIP focuses its research on priority areas that are of regional importance. These priority areas include: Surveillance in Alaska; Elimination of health disparities; Emerging infectious diseases; Preparedness and response; Circumpolar health; Water and sanitation. Focusing on these priority areas allows AIP to achieve its mission of preventing infectious diseases in the Arctic and sub-Arctic. These research priorities also provide a platform for strong partnerships, which combine CDC subject-matter expertise with local knowledge and community involvement. By working together, AIP has become a national and international research leader.

Additional Information: <http://www.cdc.gov/ncezid/dpei/aip/>

Program Name: CDC – National Institute for Occupational Safety and Health (NIOSH) American Indian/Alaska Native Program

Purpose: Collaborate with American Indian and Alaska Native (AI/AN) communities, organizations and partners to provide occupational safety and health (OSH) support.

Eligible Applicants: Tribal representatives, tribal employers, or their designees in need of occupational safety and health support can contact CDC/NIOSH directly to access a variety of programs.

Funding Range: N/A

Program Activities: Addresses occupational safety and health in tribal communities. NIOSH provides technical expertise in OSH through field studies and investigations, conducts health hazard evaluations (HHEs) and fatality investigations, and provides resources on specific OSH topics. We can offer technical assistance (tribal representatives, tribal employers/employees, and their designees). These include Health Hazard Evaluations, Fatality Investigations, and safety program support.

Additional Information: <http://www.cdc.gov/niosh/>

Program Name: CDC –NIOSH Climate Change Initiative

Purpose: Ensure current, emerging, and anticipated worker safety and health issues associated with climate change are appropriately identified and prioritized, and to determine the most important actions that are appropriate for CDC/NIOSH to address. Can provide technical assistance regarding occupational safety and health issues.

Funding Range: No direct funding, no cost for technical assistance.

Program Activities: Promote and coordinate intramural and extramural research, support and help facilitate other CDC/NIOSH initiatives with climate change implications, establish research priorities, recommend appropriate policies to CDC/NIOSH Leadership, interact with other agencies and organizations involved with climate change and participate on standard setting or technology development committees and work groups; Prepare and publish communication products regarding worker safety and health and climate change; Coordinate the provision of occupational safety and health related technical assistance to communities affected by climate change.

Additional Information: <http://www.cdc.gov/niosh/topics/climate/default.html>

Program Name: National Institute of Health (NIH) / National Institute of Environmental Health Sciences (NIEHS) Alaska Community Action on Toxics - Protecting the Health of Future Generations: Assessing and Preventing Exposures

Purpose: This community-based participatory research project investigates exposures to two classes of emerging endocrine-disrupting chemicals (EDCs) with the Yupik people of St. Lawrence Island (SLI) in the *Alaskan Arctic*. Exposure to POPs from both distant and local sources is a trend in the Arctic that is likely to increase due to increased global use and production of EDCs and climate warming. The aim of this exposure assessment is to provide information, ownership of data, and training for the people of SLI so that they can plan and participate in public health actions to reduce environmental health risks.

Eligible Applicants: Yupik people of St. Lawrence Island (SLI) in the Alaskan Arctic.

Funding Range: N/A

Program Activities: The purpose of this project is to initiate research partnerships that work in collaboration with the two Yupik villages of SLI to assess multiple exposure routes of two emerging EDCs-polybrominated diphenyl ethers (PBDEs) and perfluorinated compounds (PFCs). The project will assess exposures to PBDEs and PFCs in surface waters through analyses of contaminant levels and biomarkers for xenobiotic chemicals in the threespine stickleback fish. The research team will also analyze household dust for PBDEs and PFCs. Because the Yupik people of SLI depend on the harvest of wild foods to sustain them and their way of life, the research team will analyze levels of PBDEs and PFCs in traditional foods which are likely a major exposure pathway due to the biomagnification of POPs in marine mammals and fish that are critical components of the Yupik diet. This study will include a human

biomonitoring component in order to assess levels of PBDEs and PFCs in human blood serum in relation to measures of thyroid health.

Finally, the research team collaborates with the leadership, elders, and youth of SLI to develop measures to prevent and mitigate environmental exposures through community educational programs and public policy actions, including community-based research institutes for college credit, health fairs for all community members, and workshops for health care providers.

Additional Information:

http://tools.niehs.nih.gov/portfolio/index.cfm/portfolio/grantDetail/grant_number/R01ES019620

Program Name: NIH / NIEHS Research to Action

Purpose: Bring together community members and environmental and occupational health researchers to investigate the potential health risks of environmental and occupational exposures that are of concern to the community. The overall goal is to support changes to prevent or reduce exposure to harmful environmental exposures and improve the health of a community.

Eligible Applicants: All projects must include at least one research scientist in environmental or occupational health sciences in addition to at least one member of a community-based organization (CBO) who works directly and regularly with the affected community. The partnership between the research scientist and CBO should be equitable and draw upon the unique strengths that each brings to the partnership. Alaska Native and Native Hawaiian Serving Institutions encouraged to apply.

Funding Range: Direct costs must be less than \$500,000 in any year, and need to reflect actual needs of the proposed project. The maximum period is 5 years.

Program Activities: Data collection, translation of research into public health action, and project evaluation are all required. Information collected will be translated into public health action using a variety of strategies; applicants must develop an education, outreach, prevention or intervention program(s) designed to improve overall understanding of the problem amongst community members, healthcare professionals or policymakers and to promote actions that will prevent or reduce harmful environmental / occupational exposures and improve human health. Finally, applicants must implement an evaluation plan to assess project outputs and impacts relevant to the proposed project's goals and objectives.

Additional Information:

<http://www.niehs.nih.gov/research/supported/dert/programs/peph/prog/rta/index.cfm>

Program Name: NIH/NIEHS The Center for Indigenous Environmental Health Research

Purpose: Partner with American Indian and Alaskan Native communities to build capacity to evaluate environmental health exposures, increase environmental health literacy and resilience, and inform program and policy development. The Center's Community Engagement Core will collaborate with

American Indian and Alaska Native (AI/AN) communities to develop culturally-relevant policies and assets-based programs that reinforce resilience to mitigate adverse health effects.

Eligible Applicants: N/A

Funding Range: N/A

Program Activities: The specific aims of the CEC are: 1) Dialogue: To equitably engage AI/AN stakeholders and CIEHR members for the ethical and culturally-appropriate translation and application of Center findings; 2) Knowledge: To strengthen the environmental health literacy (EHL) of AI/AN leaders, policy-makers and community members; 3) Action: To strengthen community resilience and capacity to promote environmental health in AI/AN communities on tribal lands and in urban settings; and 4) Evaluation: To assess the effectiveness of the CEC activities and contributions to the mission of the Center. The CEC will achieve the aims by utilizing long-term partnerships with tribal, rural, and urban AI/AN communities. The CEC will also build on the knowledge, lessons learned, strategies, and resources from the two established Centers located at the same institution: the Southwest Environmental Health Sciences Center and Center for American Indian Resilience. All CEC strategies and activities will be informed by community-based participatory research (CBPR) principles, which have been shown to be effective in AI/AN communities. Major strategies will include: 1) guiding the development of Community Advisory Boards (CABs) for each proposed research project and pilot projects; 2) giving presentations at tribal meetings, AI/AN health events, regional forums and national conferences; 3) conducting baseline assessments of EHL, implementing EHL community interventions and testing effectiveness; 4) developing and administering CBPR training to tribal leaders, community members, and researchers; 5) identifying and implementing strategies for enhancing community assets and resilience that improve health, build community capacity, and foster policy change; and 6) conducting short, mid, and long-term evaluation of CEC activities. The CEC will collaborate with the CABs and AI/AN partners to disseminate and translate successful research outcomes to tribal leadership, local communities, regional and national AI/AN forums, and scientific audiences to reduce environmental health risks and build AI/AN resilience across the U.S.

Additional Information:

http://projectreporter.nih.gov/project_info_description.cfm?aid=8994391&icde=25964664&ddparam=&dvalue=&ddsub=&cr=3&csb=default&cs=ASC

Department of Housing and Urban Development (HUD)

Program Name: Community Development Block Grant

Purpose: To provide funding to metropolitan cities, urban counties and states to support their housing and community development strategies to develop viable urban communities.

Eligible Applicants: Funds are allocated by formula to metropolitan cities, urban counties and States.

Funding Range: Annual formula grants are provided to Alaska's two CDBG grantees – the State of Alaska and the Municipality of Anchorage.

Program Activities: Develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low-and moderate-income persons.

Additional Information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment

Program Name: Emergency Solutions Grants Program

Purpose: To provide grant funds to State and local governments for the rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid rehousing.

Eligible Applicants: The homeless, homelessness prevention and rapid re-housing.

Funding Range: Annual formula grants for the State of Alaska and the Municipality of Anchorage.

Program Activities: Rehabilitation or conversion of buildings for use as emergency shelter for the homeless, for the payment of certain expenses related to operating emergency shelters, for essential services related to emergency shelters and street outreach for the homeless, and for homelessness prevention and rapid re-housing.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/esg

Program Name: Indian Community Development Block Grant

Purpose: Development of viable Indian and Alaska native communities, including decent housing, a suitable living environment, and economic opportunities, principally for persons of low and moderate income.

Eligible Applicants: Federally-recognized Tribes or Indian Organizations on behalf of Federally-recognized Tribes. For the standard ICDBG program, applicant must submit an application under the annual Notice of Funding Availability (NOFA). Applications for imminent threat grants are processed on a first come, first serve basis.

Funding Range: The Alaska Office of Native American Programs has an estimated ICDBG allocation for FY2015 of \$6,500,000 for grant awards. The ICDBG program also has a national set-aside of approximately \$3,500,000 to fund Imminent Threat applications.

Program Activities: The competitive ICDBG program may be used for new construction, rehabilitation, and acquisition of residential units and public facilities as well as housing services, economic development projects. There is also a national set-aside for ICDBG Imminent Threat (IT) grants that are intended to alleviate or remove threats to health or safety as described at 24 CFR Part 1003, subpart E.

These grants provide a solution to problems of an urgent nature that were not evident at the time of the ICDBG Single Purpose funding grant cycle or require immediate action. These are non-competitive grants up to \$450,000 (\$900,000 for Presidentially-Declared Disasters) on a first come first serve basis. 70 percent of each grant must support activities that benefit low and moderate income persons.

Additional Information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Mortgage Insurance for Disaster Victims – 203(h)

Purpose: This program provides mortgage insurance to protect lenders against the risk of default on mortgages to qualified disaster victims.

Eligible Applicants: Eligible customers are anyone whose home has been destroyed or severely damaged in a Presidential declared disaster area.

Funding Range: No down payment is required. The borrower is eligible for 100 percent financing. Closing costs and applicable fees must be paid according to program requirements.

Program Activities: Insure mortgages.

Additional Information: portal.hud.gov/hudportal/HUD?src=/hudprograms/mifdv_section203h

Program Name: Native American Housing and Self-Determination Act (NAHASDA) - Indian Housing Block Grant Program

Purpose: Supports a range of affordable housing activities on Indian reservations and Indian areas.

Eligible Applicants: Federally-recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Annual formula block grant to Indian Tribes and/or TDHEs. Alaska recipients received \$94,588,589 State-wide in FY 2015 for the Indian Housing Block Grant program.

Program Activities: IHBG funding can be used for a variety of activities including new construction, rehabilitation, acquisition, housing services, and crime prevention. The Title VI loan guarantee program can be used to leverage all the above activities with a private market loan.

Additional Information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Section 184 Loan Guarantee Program

Purpose: Provides homeownership opportunities to Native American living on trust, restricted, and simple fee land.

Eligible Applicants: Native Americans, Tribes, or Tribally Designated Housing Entities.

Funding Range: Varies.

Program Activities: This program offers HUD approved loan guarantees to private sector lenders who make home mortgage loans to eligible participants.

Additional Information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

Program Name: Title VI Loan Guarantee Program

Purpose: To obtain financing for up to five times the amount of the Tribe's annual NAHASDA IHBG.

Eligible Applicants: Federally Recognized Tribes and their Tribally Designated Housing Entities are eligible to participate in this program.

Funding Range: Varies.

Program Activities: Financing can be used for any affordable housing purpose in accordance with an approved Indian Housing Plan.

Additional Information:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/ih/codetalk/fundingprogram#IHBG

US Army Corps of Engineers (USACE)

Program Name: Continuing Authorities Program (CAP)

Purpose: Plan, design, and construct certain flood risk management and navigation improvements without specific congressional authorization. The basic objective of this program is to allow the Corps to respond more quickly to problems or needs where the apparent project scope and costs are small.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: The amount of Federal participation is limited by Congress, and varies for each individual authority, however it is typically \$5 million Federal, cost shared 65% Federal, 35% Non-Federal.

Program Activities: Several authorities exist under CAP which allow the Corps to assist communities with aquatic ecosystem, flood damage reduction, small navigation, and emergency streambank and shoreline protection projects. An example of the type of work supported by this program is the construction of a small revetment at Shishmaref to reduce risks of coastal erosion.

Additional Information:

[http://planning.usace.army.mil/toolbox/agree.cfm?Id=229&Option=Continuing%20Authorities%20Program%20\(CAP\)&List=Process](http://planning.usace.army.mil/toolbox/agree.cfm?Id=229&Option=Continuing%20Authorities%20Program%20(CAP)&List=Process)

Program Name: International and Interagency Support Services

Purpose: Planning, design, and/or construction for others.

Eligible Applicants: Federal State, Local, and Tribal Governments.

Funding Range: No per-project limit, all costs are born by the supported entity.

Program Activities: Interagency and International Services (IIS) is the U.S. Army Corps of Engineers (Corps) program providing technical assistance to non-Department of Defense (DoD) federal agencies, state and local governments, tribal nations, private U.S. firms, international organizations, and foreign governments. Most IIS work is funded on a reimbursable basis. The Corps provides engineering and construction services, environmental restoration and management services, research and development assistance, management of water and land related natural resources, relief and recovery work, and other management and technical services. An example of the type of work provided by this 100% stakeholder-funded program is the initiation of an adaptation study for Denali Commission looking at protect in place versus relocation for 31 communities identified by the GAO.

Additional Information:

<http://www.usace.army.mil/Missions/MilitaryMissions/InteragencyInternationalSupport.aspx>

Program Name: Planning Assistance to States

Purpose: This program permits the Corps to use its technical planning expertise to supplement and support state and Indian tribe efforts to undertake broad, statewide, comprehensive water resources planning. Upon request, the Corps will cooperate with a state or tribe in the preparation of plans for the development, use and conservation of water and related land resources located within the state or tribal boundaries.

Eligible Applicants: State, Local, and Tribal Governments and ANCSA Corporations.

Funding Range: Cost shared at 50 percent federal, 50 percent non-federal. Limited to \$2 million per state or tribe annually. Individual studies generally range from \$25,000 to \$100,000.

Program Activities: Provides assistance to states, local governments, tribes and other non-federal entities for preparation of comprehensive plans for development and conservation of water and related land

resources. Studies are planning level of detail; they do not include detailed design for project construction.

Additional Information:

<http://www.poa.usace.army.mil/Portals/34/docs/civilworks/CAP/Section22PlanningAssistancetoStatesandTribes.pdf> (note: each Corps District has information about this program on their website).

Program Name: Tribal Partnership Program

Purpose: Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, to study and determine the feasibility of carrying out projects that will substantially benefit Indian tribes.

Eligible Applicants: Tribal Governments and ANCSA Corporations.

Funding Range: No per-project limit, cost shared based on project purpose.

Program Activities: The U.S. Army Corps of Engineers can conduct studies that will substantially benefit Indian tribes. Topics that could be studied include flood damage reduction, environmental restoration and protection, preservation of natural and cultural resources, and, other projects the Secretary of the Army, in cooperation with Indian tribes and the heads of other Federal agencies, determines to be appropriate. This program provides an opportunity to assist with water resources projects that address economic, environmental and cultural resources needs.

Additional Information: <http://www.usace.army.mil/Missions/CivilWorks/TribalNations.aspx>

US Department of Agriculture (USDA)

Program Name: Business and Industry Loan Guarantee

Purpose: Can assist rural business with construction, repairs, equipment, machinery, inventory and supplies.

Eligible Applicants: For-profit businesses, Nonprofits and cooperatives, Federally-recognized Tribes, Public bodies and Individuals in rural areas of 50,000 people or less.

Funding Range: \$5 – \$10 million loan limit with certain exceptions.

Program Activities: Eligible activities include but are not limited to: (1) business conversion, enlargement, repair, modernization, or development; (2) purchase and development of land, easements, rights-of-way, buildings, or facilities; (3) purchase of equipment, leasehold improvements, machinery, supplies, or inventory; (4) debt refinancing when new jobs will be created and other conditions are met;

(5) business and industrial acquisitions when the loan will keep the business from closing and/or save or create jobs.

Additional Information: <http://www.rd.usda.gov/programs-services/business-industry-loan-guarantees/ak>

Program Name: Community Facilities Loans and Grants

Purpose: Finance essential rural community facilities.

Eligible Applicants: Public bodies, non-profits, Tribes.

Funding Range: Grants are limited to 75% of project cost but average about \$30,000 due to limitation of funding. No loan limit.

Program Activities: Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses.

Additional Information: <http://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program/ak>

Program Name: Electric Loans

Purpose: Build and repair electric infrastructure.

Eligible Applicants: Electric co-ops and other utilities (primarily).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance electric infrastructure for: maintenance; upgrades; expansion; replacement of distribution, sub transmission and headquarters (service and warehouse) facilities; energy efficiency; and renewable energy systems.

Additional Information: <http://www.rd.usda.gov/programs-services/electric-infrastructure-loan-loan-guarantee-program>

Program Name: Rural Business Development Grant

Purpose: Facilitate the development of small and emerging business.

Eligible Applicants: Public bodies, non-profits and tribes.

Funding Range: \$50,000 - 100,000 maximum grant (depending on activity type).

Program Activities: Congress historically has mandated a portion of this program's funding specifically for Federally Recognized Tribes.

Additional Information: <http://www.rd.usda.gov/programs-services/rural-business-development-grants/ak>

Program Name: Rural Energy for America Loans and Grants

Purpose: Purchase or install renewable energy systems or make energy efficiency improvements.

Eligible Applicants: Agricultural producers and rural small businesses.

Funding Range: Loan guarantees to \$25M; Grants to \$250,000 for energy efficiency improvements or \$500,000 for renewable energy systems.

Program Activities: Funds may be used for the purchase, installation and construction of renewable energy systems, such as: Biomass (for example biodiesel and ethanol, anaerobic digesters, and solid fuels); Geothermal for electric generation or direct use; Hydropower below 30 megawatts; Hydrogen; Small and large wind generation; Small and large solar generation; Ocean (tidal, current, thermal) generation.

Funds may also be used for the purchase, installation and construction of energy efficiency improvements, such as: High efficiency heating, ventilation and air conditioning systems (HVAC); Insulation; Lighting; Cooling or refrigeration units; Doors and windows; Electric, solar or gravity pumps for sprinkler pivots; Switching from a diesel to electric irrigation motor; Replacement of energy-inefficient equipment.

Additional Information: <http://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency/ak>

Program Name: Sewer, Water, Solid Waste Loans and Grants

Purpose: Provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Eligible Applicants: This program assists qualified applicants that are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include: Most State and local governmental entities, Private non-profits and Federally-recognized Tribes.

Funding Range: Grants are limited to 75% of project cost. No loan limit.

Program Activities: Funds may be used to finance the acquisition, construction or improvement of: drinking water sourcing, treatment, storage and distribution; sewer collection, transmission, treatment and disposal; solid waste collection, disposal and closure; and storm water collection, transmission and disposal.

Additional Information: <http://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/ak>

Program Name: Single Family Direct and Guaranteed Loans

Purpose: Finance the purchase of homes for rural residents.

Eligible Applicants: Low and very low income individuals in rural areas of 35,000 people or less.

Funding Range: The maximum loan amount an applicant may qualify for will depend on the applicant's repayment ability. The applicant's ability to repay a loan considers various factors such as income, debts, assets and the amount of payment assistance applicants may be eligible to receive. Regardless of repayment ability, applicants may never borrow more than the [Area's Loan Limits](#) (plus certain costs allowed to be financed) for the county in which the property is located.

Program Activities: Funds can be used to build, repair, renovate or relocate a home, or to purchase and prepare sites, including providing water and sewage facilities.

Additional Information:

Single Family Direct Loan: <http://www.rd.usda.gov/programs-services/single-family-housing-direct-home-loans/ak>

Single Family Guaranteed Loan: <http://www.rd.usda.gov/programs-services/single-family-housing-guaranteed-loan-program/ak>

Program Name: Single Family Repair Loans and Grants

Purpose: Finance repair of homes.

Eligible Applicants: Very low income homeowners in rural areas. Grants are only available to very-low income homeowners in rural areas that are at least 62 years old.

Funding Range: Loans up to \$20,000 at 1%, grants up to \$7,500. Loan grant combinations up to \$27,500 in certain circumstances.

Program Activities: Loans may be used to repair, improve or modernize homes or remove health and safety hazards. Grants must be used to remove health and safety hazards.

Additional Information: <http://www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants>

Program Name: Telecom Loans

Purpose: This program provides financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas.

Eligible Applicants: Most entities that provide telecommunications in qualified rural areas including: State and local governmental entities, Federally Recognized Tribes, Non-profits, including Cooperatives and limited dividend or mutual association and For-profit businesses (must be a corporation or limited liability company).

Funding Range: No loan limit.

Program Activities: Funds may be used to finance broadband capable telecommunications service: Improvements; Expansions; Construction; Acquisitions (in certain cases); Refinancing (in certain cases).

Additional Information: <http://www.rd.usda.gov/programs-services/telecommunications-infrastructure-loans-loan-guarantees>

APPENDIX E

Mitigation Tracking

- Mitigation Action Implementation Worksheet (Form 6-1)
- Mitigation Action Progress Report (Form 6-2)

MITIGATION ACTION IMPLEMENTATION WORKSHEET

Complete a mitigation action implementation worksheet for each identified mitigation action.

Mitigation Action / Project Title:	
Background / Issues:	
Ideas for Integration:	
Responsible Agency:	
Partners:	
Potential Funding:	
Cost Estimate:	
Benefits (Losses Avoided):	
Timeline:	
Priority:	
Worksheet Completed By:	<i>(Name / Department)</i>

MITIGATION ACTION PROGRESS REPORT

Progress Report Period:	<u>From Date:</u>	<u>To Date:</u>
Action / Project Title:		
Responsible Agency:		
Contact Name:		
Contact Phone / Email:	<u>Phone:</u>	<u>Email:</u>
Project Status:	<input type="checkbox"/> Project Completed <input type="checkbox"/> Project Canceled <input type="checkbox"/> Project on Schedule Anticipated completion date: _____ <input type="checkbox"/> Project Delayed Explain: _____	

Summary of Project Progress for this Report Period

1. What was accomplished for this project during this reporting period?

2. What obstacles, problems, or delays did the project encounter, if any?

3. If uncompleted, is the project still relevant? Should the project be changed or revised?

4. Other Comments:

Next Step: What is / are the next step(s) to be accomplished over the next reporting period?

APPENDIX F
Adoption Resolution

Portage Creek Village Council

**Resolution No. _____
Tribal Hazard Mitigation Plan Adoption Resolution**

WHEREAS, the Portage Creek Village hereafter “Tribe” is a federally recognized tribe; and

WHEREAS, the Portage Creek Village Council is the governing body of the Tribe; and

WHEREAS, the Tribe recognizes the threat that natural hazards pose to people and property; and

WHEREAS, the Tribe has prepared a tribal hazard mitigation plan, hereby known as Portage Creek Village Tribal Hazard Mitigation Plan [2019 – 2024] hereafter “Plan”, dated [DATE] in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Portage Creek from the impacts of future hazards and disasters; and

WHEREAS adoption by the Tribe demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Tribe, hereby adopts the Plan as an official plan.

CERTIFICATION

The Portage Creek Village Council has adopted this resolution during a meeting held on _____, 2019, in _____, Alaska, with a quorum present.

For ____ Against ____ Abstain ____ Present ____ Absent ____

Signature

Date

Print Name / Title

Signature

Date

Print Name / Title

APPENDIX G

FEMA Approval & THMP Plan Review Tool

FEMA Region 10 Tribal Mitigation Plan Review Tool

The *Tribal Mitigation Plan Review Tool* records how the tribal mitigation plan meets the regulations in [44 CFR §§ 201.7](#) and [201.5](#) (if applicable) and offers FEMA plan reviewers an opportunity to provide feedback to the tribal government.

- **Section 1:** The Regulation Checklist documents FEMA’s evaluation of whether the plan has addressed all requirements. If plan requirements are not met, FEMA uses each Required Revisions section to indicate necessary changes.
- **Section 2:** The Strengths and Opportunities for Improvement summary identifies plan’s strengths as well as areas for improvement as part of the next plan update.

The FEMA mitigation planner must reference the [Tribal Mitigation Plan Review Guide](#) when completing the *Tribal Mitigation Plan Review Tool*.

Tribal Jurisdiction: Portage Creek Village	Title of Plan: Portage Creek Village Hazard Mitigation Plan [2019 – 2024]	Date of Plan: October 2019
Tribal Point of Contact: Charlie Johnson	Address: Portage Creek Tribal Council 1762 Abbott Road Anchorage, AK 99507	Email: cjjohnson_pca@yahoo.com
Title: President		
Agency: Portage Creek Tribal Council		
Phone Number: 907-277-1105		

State Reviewer (if applicable):	Title:	Date:
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FEMA Reviewer: Josh Vidmar Kate Skaggs John Schelling John.Schelling@fema.dhs.gov	Title: CERC Planner Mitigation Champion Regional Hazard Mitigation Planning Manager	Date: September 16, 2019 September 17, 2019 September 17, 2019
Date Received in FEMA Region 10	August 16, 2019	
Plan Not Approved	September 17, 2019	
Plan Approvable Pending Adoption		
Plan Approved		

Section 1: REGULATION CHECKLIST

1. Standard Regulation Checklist Regulation (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
ELEMENT A. PLANNING PROCESS			
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process? [44 CFR § 201.7(c)(1)]	Sec. 3, PDF 16-18 App. A, PDF 83-111 App. B, PDF 113-135	X	
A2. Does the plan document an opportunity for public comment during the drafting stage and prior to plan approval, including a description of how the tribal government defined “public”? [44 CFR § 201.7(c)(1)(i)]	Sec. 3, PDF 16-19 App. A, PDF 83-111 App. B, PDF 113-135	X	
A3. Does the plan document, as appropriate, an opportunity for neighboring communities, tribal and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? [44 CFR § 201.7(c)(1)(ii)]	Sec. 3, PDF 17-18 App. A, PDF 83-111 App. B, PDF 113-135	X	
A4. Does the plan describe the review and incorporation of existing plans, studies, and reports? [44 CFR § 201.7(c)(1)(iii)]	Sec. 3, PDF 19-20 Sec. 8, PDF 76-78	X	
A5. Does the plan include a discussion on how the planning process was integrated to the extent possible with other ongoing tribal planning efforts as well as other FEMA programs and initiatives? [44 CFR § 201.7(c)(1)(iv)]	Sec. 3, PDF 20	X	
A6. Does the plan include a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within the plan update cycle)? [44 CFR § 201.7(c)(4)(i)]	Sec. 4, PDF 22-24 App. C, PDF 136-141	X	
A7. Does the plan include a discussion of how the tribal government will continue public participation in the plan maintenance process? [44 CFR § 201.7(c)(4)(iv)]	Sec. 4, PDF 24 App. C, PDF 136-141	X	
<u>ELEMENT A: REQUIRED REVISIONS</u>			

1. Standard Regulation Checklist Regulation (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	Introduction Sec. 1, PDF 12 Community Description Sec. 2, PDF 14-15 Hazard Analysis Sec. 5, PDF 26-30 Drought Sec. 5, PDF 30-31 Earthquake Sec. 5, PDF 31-34 Erosion Sec. 5, PDF 36-37 Extreme Temperatures Sec. 5, PDF 37-39 Flood Sec. 5, PDF 40-41 Severe Wind Sec. 5, PDF 41-43 Severe Winter Weather Sec. 5, PDF 44-45 Subsidence Sec. 5, PDF 45 Wildfire Sec. 5, PDF 46-50	X	
B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for the tribal planning area? [44 CFR § 201.7(c)(2)(i)]	Drought Sec. 5, PDF 31 Earthquake Sec. 5, PDF 34-36 Erosion Sec. 5, PDF 37 Extreme Temperatures Sec. 5, PDF 39-40 Flood Sec. 5, PDF 41 Severe Wind Sec. 5, PDF 43-44 Severe Winter Weather Sec. 5, PDF 44-45 Subsidence Sec. 5, PDF 45-46 Wildfire Sec. 5, PDF 50	X	

1. Standard Regulation Checklist Regulation (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
B3. Does the plan include a description of each identified hazard's impact as well as an overall summary of the vulnerability of the tribal planning area? [44 CFR § 201.7(c)(2)(ii)]	Drought Sec. 5, PDF 30-31 Earthquake Sec. 5, PDF 31-34 Erosion Sec. 5, PDF 36-37 Extreme Temperatures Sec. 5, PDF 37-39 Flood Sec. 5, PDF 40-41 Severe Wind Sec. 5, PDF 41-43 Severe Winter Weather Sec. 5, PDF 44-45 Subsidence Sec. 5, PDF 45 Wildfire Sec. 5, PDF 46-50 Community Assets Sec. 5, PDF 51-52 Risk Analysis Sec. 5, PDF 52-58 Vulnerability Sec. 5, PDF 60-51	X	
ELEMENT B: REQUIRED REVISIONS			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan include a discussion of the tribal government's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including an evaluation of tribal laws and regulations related to hazard mitigation as well as to development in hazard-prone areas? [44 CFR §§ 201.7(c)(3) and 201.7(c)(3)(iv)]	Sec. 6, PDF 62-65	X	
C2. Does the plan include a discussion of tribal funding sources for hazard mitigation projects and identify current and potential sources of Federal, tribal, or private funding to implement mitigation activities? [44 CFR §§ 201.7(c)(3)(iv) and 201.7(c)(3)(v)]	Sec. 6, PDF 64-65 App. D, PDF 143-184	X	
C3. Does the Mitigation Strategy include goals to reduce or avoid long-term vulnerabilities to the identified hazards? [44 CFR § 201.7(c)(3)(i)]	Sec. 6, PDF 66	X	
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with emphasis on new and existing buildings and infrastructure? [44 CFR § 201.7(c)(3)(ii)]	Sec. 6, PDF 70-71 App. A, PDF 104-109	X	

1. Standard Regulation Checklist Regulation (44 CFR § 201.7 Tribal Mitigation Plans)	Location in Plan (section and/or	Met	Not Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized, implemented, and administered by the tribal government? [44 CFR § 201.7(c)(3)(iii)]	Sec. 6, PDF 66-71		X
C6. Does the plan describe a process by which the tribal government will incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate? [44 CFR § 201.7(c)(4)(iii)]	Sec. 6, PDF 72	X	
C7. Does the plan describe a system for reviewing progress on achieving goals as well as activities and projects identified in the mitigation strategy, including monitoring implementation of mitigation measures and project closeouts? [44 CFR §§ 201.7(c)(4)(ii) and 201.7(c)(4)(v)]	Sec. 6, PDF 72	X	
ELEMENT C: REQUIRED REVISIONS Element C. The mitigation actions do not have all of the information required, including the priority, the responsible party, potential funding sources, and the timeframe. Table 6-4 is incomplete and does not contain this information.			
ELEMENT D. PLAN UPDATES			
D1. Was the plan revised to reflect changes in development? [44 CFR § 201.7(d)(3)]	N/A. This is a new plan		
D2. Was the plan revised to reflect progress in tribal mitigation efforts? [44 CFR §§ 201.7(d)(3) and 201.7(c)(4)(iii)]	N/A. This is a new plan		
D3. Was the plan revised to reflect changes in priorities? [44 CFR § 201.7(d)(3)]	N/A. This is a new plan		
ELEMENT D: REQUIRED REVISIONS			
ELEMENT E. ASSURANCES AND PLAN ADOPTION			
E1. Does the plan include assurances that the tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, including 2 CFR Parts 200 and 3002, and will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes? [44 CFR § 201.7(c)(6)]	Sec. 7, PDF 74	X	
E2. Does the plan include documentation that it has been formally adopted by the governing body of the tribal government requesting approval? [44 CFR § 201.7(c)(5)]	App. F, PDF 189	X	
ELEMENT E: REQUIRED REVISIONS			

SECTION 2: STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

Plan Strengths

- The plan lists out the stakeholders with the organization, the type, the contact person, and their email.
- The appendices include all information and presentations that were used in the planning process. This helps show what occurred throughout the drafting timeline, providing a look at what worked best for when the plan is updated.

Opportunities for Improvement

- For plan maintenance, consider including the name of any specific events or opportunities where the public could be included.
- The description for how the planning process was integrated into other Tribal planning efforts is fairly vague. It is recommended that these be as specific as possible and include any documentation. This will help with the plan update process.
- Consider including what dates the newsletters were distributed in the planning process narrative.

Element B: Hazard Identification and Risk Assessment

Plan Strengths

- There is a clear reasoning and explanation for each hazard identified in the plan, and why they are a potential threat. Those that are not included, but are considered regionally, are also included with their own explanations.
- In many of the profiles, there are descriptions of how the hazards can impact the community.
- Extreme heat, in addition to extreme cold, is included in the Extreme Temperatures profile. This section discusses how hotter than normal weather can affect the tribe and its community.
- The Community Assets sections lists not only manmade constructs as critical facilities, but also those that are part of the natural environment.

Opportunities for Improvement

- The hazard profiles are relatively short and don't relate well back to other information in the plan, such as the community profile or mitigation strategy. In future drafts of the plan, link this information more closely. The more information about how hazards can affect the community, as well as how they *have* affected it, is always better. Try to be as specific as possible about impacts.
- Consider including additional information about past events. Some of the hazards only reference to a particular timeframe of a previous occurrence.

Element C: Mitigation Strategy

Plan Strengths

- There are mitigation actions for all hazards, as well as a variety of projects types. These projects range from physical infrastructure to education and outreach initiatives.
- The project implementation worksheets in the appendix provide a quick and efficient way to keep track of projects during the plan's lifetime.

Opportunities for Improvement

- As mitigation projects are completed, think about adding a section to the plan that talks about their relative successes or lessons learned during the implementation process.
- It should be noted that Emergency Response Actions are not considered as mitigation by FEMA. While these can still be included as actions within the plan, they cannot be funded by programs under the Hazard Mitigation Assistance Program.

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

Plan Strengths

- N/A. This is a new plan.

Opportunities for Improvement

- N/A. This is a new plan.