

National Park Service
U.S. Department of the Interior

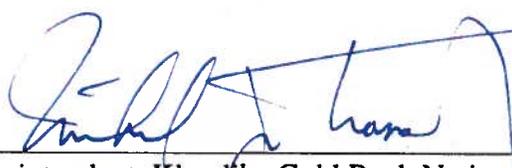
**Klondike Gold Rush National
Historical Park
Alaska**

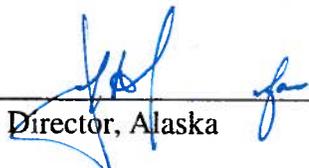


Finding of No Significant Impact

Dyea Area Plan and Environmental Assessment

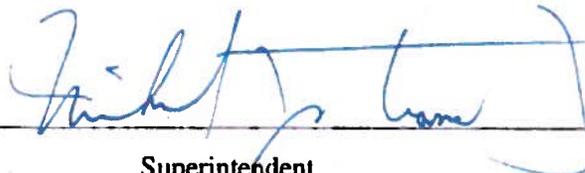
September 2014

Recommended:  9/10/14
Superintendent, Klondike Gold Rush National Historical Park Date

Approved:  9/10/2014
Regional Director, Alaska Date

FLOODPLAINS STATEMENT OF FINDINGS
Dyea Area Plan and Environmental Assessment

National Park Service
Klondike Gold Rush National Historic Park

Recommended:  9/15/14
Superintendent Date

Concurred:  9/18/14
NPS Water Resources Division Date

Approved:  9/18/14
Alaska Regional Director Date

FINDING OF NO SIGNIFICANT IMPACT

Dyea Area Plan and Environmental Assessment

Klondike Gold Rush National Historical Park, Alaska

September 2014

The National Park Service (NPS) prepared the *Dyea Area Plan and Environmental Assessment* to provide direction and guide management decisions for the Dyea area of Klondike Gold Rush National Historical Park for the next 20 years.

While the 1996 *General Management Plan* includes general management guidance for Dyea, it does not provide sufficient guidance for the National Park Service to be proactive in protecting the cultural landscape and associated high quality visitor experiences in the Dyea area because of the exponential growth in levels and types of visitor activities since it was published. This new *Dyea Area Plan and Environmental Assessment* amends the 1996 GMP to provide specific, updated information on how the NPS will manage the Dyea Unit to protect and interpret the cultural landscape and historic resources and values within the dynamic natural environment.

The plan describes how the National Park Service will provide future generations with a variety of opportunities to experience the park's Dyea area while protecting natural and cultural resources and values. Actions will be phased in over the 15-20 year life of the plan as funding allows and include:

- Further identifying and protecting archeological resources
- Improving access to visitor facilities in the Dyea area
- Providing additional orientation and interpretation
- Implementing the highest priority actions in the Dyea Cultural Landscape Treatment Plan
- Setting management direction for types and levels of commercial use
- Improving infrastructure to increase visitor safety and enhance operational efficiency

The NPS evaluated two alternatives in the environmental assessment: a no action alternative and an action alternative. Alternative 2 has been selected as described below.

In addition to comments received at a public meeting at the park on March 5, 2014, correspondence was received from one tribal council, three government agencies, and one environmental organization. Responses to public comments are found in Attachment A. An Errata section in Attachment B provides clarifications, modifications and additional information to the environmental assessment.

ALTERNATIVES

The two alternatives evaluated in the environmental assessment included:

Alternative 1 – Existing Conditions (No Action Alternative)

Under the No Action alternative, NPS lands in Dyea would have continued to be managed according to direction in the 1996 GMP and the Superintendent’s Compendium. Any proposed management actions would have been subject to individual environmental compliance (NEPA and NHPA Section 106) procedures and would have been implemented on a case-by-case basis.

Alternative 2 – Improve visitor experience and park operations and protect cultural and natural resources in Dyea (Selected Action)

Under Alternative 2 as selected by the NPS, the park will manage Dyea Unit lands according to direction in the 1996 *General Management Plan/Development Concept Plan*, as amended, and the Superintendent’s Compendium (NPS 2013a). High priority actions will be implemented as proposed in the Cultural Landscape Treatment Report (NPS 2006a) and the Cultural Landscape Report (NPS 2013b).

Specific actions are outlined below.

Management Zoning

In keeping with the *Secretary of the Interior Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (NPS, Birnbaum and Peters 1996b), the 2013 *Cultural Landscape Report* proposed that development within the Dyea area depend on the levels of impacts that could be sustained without adversely affecting either the cultural landscape or the cultural resources within different areas of Dyea. The CLTR used the term “management zones” to differentiate these areas and described three levels of development that will be allowed. The “Dyea Developed Area” refers to all of the Dyea area and includes federally owned lands on the east side of the Taiya River. The “Dyea Historic Townsite” refers to the full known extent of the Dyea Historic Townsite from its historic southernmost to northernmost boundaries, but generally does not include lands east of the western bank of the Taiya River. The “Dyea Core Historic Townsite” is defined to be the core “street grid” of the historic downtown business area located between the former 1st and 6th Avenues and River and West Streets. Development within the “Dyea Core Historic Townsite” is significantly restricted, with more allowed uses in the “Dyea Developed Area.”

Cultural and Natural Resource Protection

The Dyea Core Historic Townsite will be closed to horses permanently in regulation, pursuant to 43 CRF 36.11(h), unless specifically authorized by the superintendent, to protect irreplaceable cultural landscape features and artifacts and to allow for construction and maintenance of accessible trails with a fine gravel surface. Non-commercial horse traffic will continue to be unrestricted outside the Dyea Core Historic Townsite.

Commercial horse traffic will continue to be restricted to alternate routes designated for commercial and non-commercial horse use outside the Dyea Core Historic Townsite.

The park will continue to allow snowmobile traffic in the Dyea area. Use of snowmobiles will be permitted in the Dyea Core Historic Townsite when the Superintendent determines there is adequate snow cover to protect resources. Off-Road Vehicle (ORV) access is not permitted in the Dyea area pursuant to Executive Order 11644.

The cultural landscape will be managed according to the Secretary of the Interior Standards using specific recommendations related to vegetation, trail development, and visual character found in the 2013 *Cultural Landscape Report*.

The Kinney Toll Bridge (McDermott) Cabin will be moved to the intersection of Dyea Road and Dyea Flats Road, restored, and adaptively reused for an interpretive wayside and orientation node for the Dyea Historic Townsite. This will constitute the new 'formal' entrance into the historic townsite (Map 1).

The park will continue joint maintenance and planning with the Municipality of Skagway Borough, the State of Alaska, local Tribal offices, and other interested parties.

The park will continue to consult with Tribal and state governments on the potential relocation of graves currently located on state lands within the boundaries of the park. The park will identify a relocation area on federal property for graves in the event that it becomes necessary to relocate them away from the river. Any relocation activity will be carried out with appropriate landowners and stakeholders including the state, tribes, and family members. The Relocated Cemetery near the Slide Cemetery will be expanded to relocate the remaining graves from the Town Cemetery should it become necessary to do so.

The park will continue to monitor the bank of the Taiya River to determine whether any graves are at risk. As graves become endangered by Taiya River erosion, the park will immediately notify all appropriate parties including the state, potential relatives, tribal governments, and the Alaska State Troopers. Should grave relocation be required, the park will work with the appropriate parties in acquiring the necessary permits, implementing public notification, and assisting in relocation onto federal property in the re-interment location.

Any re-interment will be completed during the early fall, after the visitor season, to avoid unnecessary public attention in this sensitive task, unless conditions are such that it is unavoidable to do it at another time. Local interested persons will be permitted to prepare and carry out appropriate graveside activities during this event. This project is not expected to produce any scientific data for study, nor generate any artifact collections to be curated, unless specifically requested by the tribes in the case of Native Alaskan interments.

Map 1: Site Plan for Dyea Area



Dyea Area Plan

Klondike Gold Rush National Historical Park

Proposed Action Alternative

- 1 Dyea Flats Road and Slide Cemetery Road would be brought up to NPS and FHWA standards
- 2 A new formalized townsite entrance area would be developed at the intersection of Dyea Road and Dyea Flats Road
- 3 The Kinney Toll Bridge (McDermott) Cabin would be relocated and rehabilitated as an interpretive wayside and orientation node
- 4 A new multi-use River Trail would connect with the Core Historic Townsite trail system.
- 5 A new maintenance support facility would be constructed south of the Kalvick House
- 6 The park would design and construct a new dormitory, known as the Kalvick Property Bunkhouse
- 7 The Slide Cemetery parking area would be expanded and visitor services improved
- 8 Some trails within the Core Historic Townsite would be re-aligned with the historic street grid
- 9 Existing trails in the Core Historic Townsite not incorporated into the new trail system would be closed
- 10 The park would identify a relocation area on federal property for graves
- 11 The park would seek funding and conduct further planning to construct a horse trail
- 12 Improvements would be made to facilities at the Chilkoot Trailhead including improvements to the access trail from the campground
- 13 The Core Historic Townsite would be closed to horses permanently.
- 14 Commercial Services would be managed under the updated commercial services plan

*note numbers match across maps

LEGEND

Proposed Trails

- Townsite
- Horse Trail
- River Trail
- Trail or Road Closure
- Underground utility corridor

Land Ownership

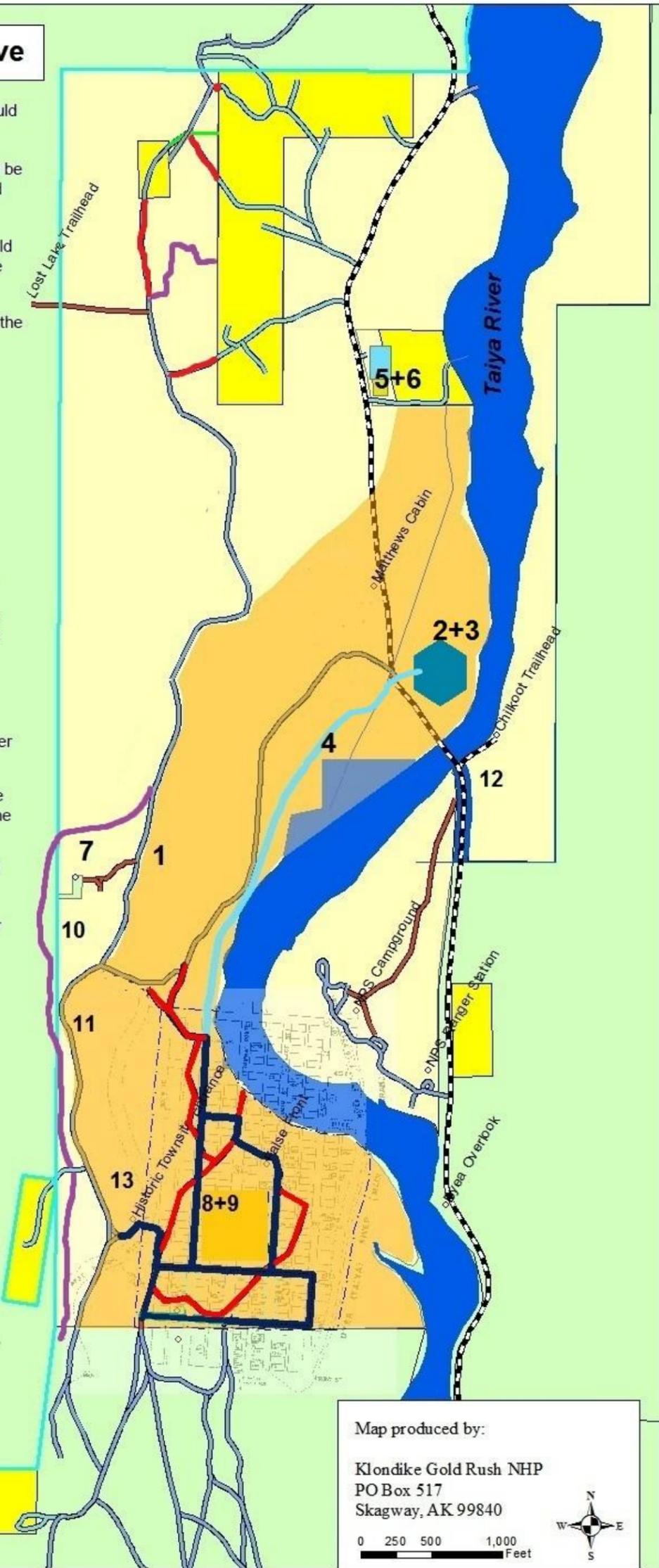
- State of Alaska
- National Park Service
- Municipality of Skagway
- Private

General Information

- Dyea Historic Townsite
- Dyea Core Townsite

Roads

- Slide Cemetery Road
- Dyea Flats Road
- Private Road



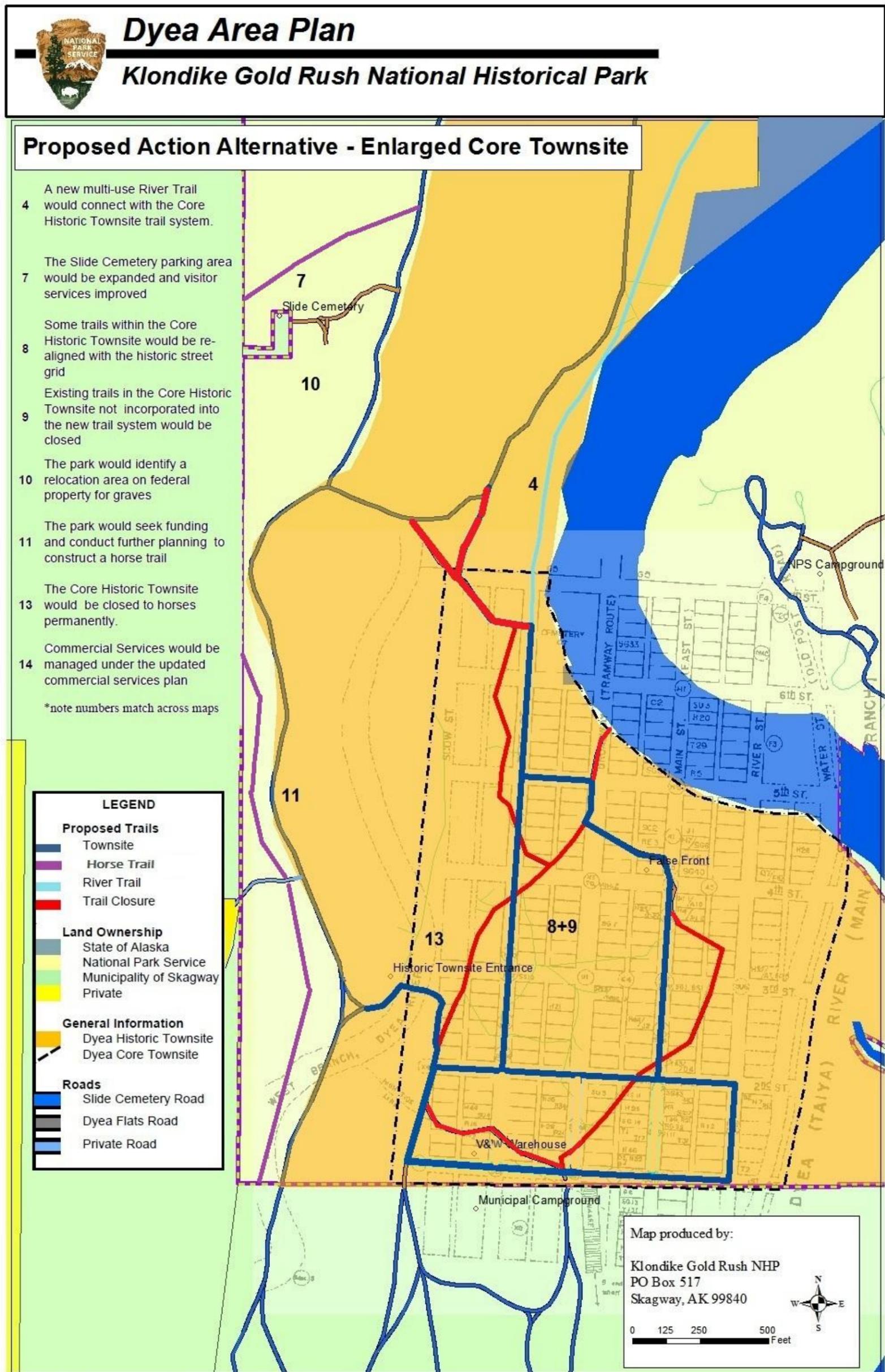
Map produced by:
 Klondike Gold Rush NHP
 PO Box 517
 Skagway, AK 99840

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Map 2: Site Plan for Dyea Core Historic Townsite



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Visitor Experience

The NPS will design and implement wayside exhibits using the park's graphics collection to help visitors visualize the size and layout of the former town. The wayside exhibits will be located to place historic photos close to the point where they were taken. The wayside exhibits will be implemented in conjunction with the Dyea Core Historic Townsite trail development and will follow, to the extent practicable, the recommendations of the Cultural Landscape Report.

A new formalized historic townsite entrance area will be developed at the intersection of Dyea Road and Dyea Flats Road. The entrance area will include parking for up to 5 vehicles (including parking for the River Trail to the core historic townsite), public restroom facilities (two vault toilets) and small scale features such as benches and wayfinding signs. The entrance area will include the relocated and rehabilitated Kinney Toll Bridge (McDermott) Cabin as an interpretive exhibit and orientation facility without NPS staffing. The Matthews Cabin will be interpreted as part of this site development, with an accessible connecting trail for access.

A new multiuse River Trail will connect the relocated Kinney Toll Bridge (McDermott) Cabin with the Dyea Core Historic Townsite trail system. This separate hike/bike trail will be developed by choosing a route that does not adversely affect cultural resources. It will add approximately one mile of new trail.

Improvements will be made to facilities at the Chilkoot Trailhead. Trail surfaces at the Chilkoot Trailhead connecting trailhead facilities will be capped with gravel. Benches and additional interpretive displays will be incorporated into the trailhead facilities. The trail connecting the long term parking and the campground will be improved through brushing, resurfacing and a 500 foot reroute.

A set of trails for hiking and to accommodate some bicycle traffic will be developed within the Dyea Core Historic Townsite. Trails will follow some segments of the original street grid in keeping with the Secretary of Interior Standards and the Cultural Landscape Treatment Plan recommendations. An approximate 1,000-foot loop trail on historic streets through the Dyea Core Historic Townsite both within the tree canopy and on the open grassy plain will be constructed (Map 2). Selected street segments will be connected using a street centerline trail alignment that will minimize vegetation removal and convey a sense of place. The selected historic street segments will be cleared up to 12 feet, with appropriate understory clearance along the trail edges to convey the sense of place on the historic street grid. The trail system will link with other trails in the Dyea Historic Townsite as well as with trails leading onto the municipality-owned "flats" area. The trail system will incorporate street segments that provide maximum opportunities for interpretation and protection of archeological resources.

A combination of trails and interpretive markers or GPS-based information will define and interpret the historic street grid at Dyea. "Gathering places" will be created at appropriate trail locations in the Dyea Core Historic Townsite to control social trail development and reduce crowding on the trail in areas where tour groups stop for presentations.

A phased approach will be used to align the trail with the historic street grids where possible while still using some trails that are not on the historic grid. As time and funding allow, trails

will eventually be moved to the historic street grid. Trails that cannot be incorporated into the new trail system will be closed and vegetation will develop in the area (about 3,420 feet). Active revegetation may be used provided adverse impacts to subsurface archeological deposits can be avoided.

The park will work with partners to develop a horse trail to the Dyea Flats on the west side of the current Dyea Flats Road. Municipality of Skagway Borough approval is needed for the connecting route on municipal property. Horse trail development is contingent upon completion and approval of a partnership construction agreement addressing financial support for construction and long term maintenance. The trail will be designed to avoid damage to wetlands and streams and will be open to commercial and non-commercial use.

The NPS will continue to maintain Lost Lake Trail access and the Slide Cemetery fencing and grave markers in cooperation with the Municipality of Skagway Borough.

The NPS will continue to pursue opportunities for alternative transportation to Dyea from Skagway.

Commercial Services

A *Commercial Services Plan* (CSP) was completed as part of the *General Management Plan and Development Concept Plan/Environmental Impact Statement*, which went through extensive public review prior to being approved. The CSP is in effect until amended or revised.

The NPS will continue managing commercial services based on the following objectives listed in the 1996 GMP:

1. To protect the natural and cultural resources of the park
2. To provide opportunities for visitor appreciation of the area
3. To allow some types of appropriate recreational activities
4. To allow land assignments for commercial visitor service activities on NPS-managed lands only after all alternatives for providing services on non-NPS managed land have been exhausted
5. To limit the number of commercial authorizations when determined necessary by management and
6. To control the numbers and types of commercial visitor services and potential conflicts among users.

The Dyea Area Plan amends the *Commercial Services Plan* for the Dyea area and the first two miles of the Chilkoot Trail. Changes reflected in the current plan will be in effect until amended or revised.

In reviewing the park's enabling legislation, subsequent legislation, past uses and trends, the 1996 *Commercial Services Plan*, and several recent social science studies relating to the Dyea area and visitor experience, the NPS concluded that significant changes to the frequency and types of services currently offered in Dyea are not needed. The one exception is that the number of hike and float tours permitted was increased from 6 to 24 groups per day. This reflects current

use patterns, which do not negatively affect park resources. Recent surveys also indicate continuing high levels of visitor satisfaction with the overall experience based on tour operators keeping groups separate from one another on each segment of the trip.

Current use patterns also allow an opportunity for independent (non-guided) travelers to visit the townsite without the possibility of encountering large groups of people either early in the morning or in late afternoon. Table 3 describes operating hours for CUAs within the Dyea Historic Townsite area.

The NPS will manage the Dyea area to maintain the high quality experience currently enjoyed by both commercially-guided and non-guided visitors and to protect the cultural and natural resources and values in the area based on new information obtained through studies during the past several seasons. The NPS will limit commercial services to the numbers that visitors identified between the “preferred” and “acceptable” ranges in recent studies.

Table 1: Commercial Services Use Limits based on Visitor Experience Desired Conditions

Commercial Services Use Limits				
Type of Guided Tour Activity	Type of Guided Tour Activity	Group Size - inclusive of guide(s)	Daily Total of GROUPS (See footnote 1) - with no two groups in the same location at the same time	Authorized hours of daily operation within CORE Historic Townsite (<i>no restrictions outside of CORE townsite</i>)
Auto/Bus (transportation which includes hiking within park)	Auto/Bus (Walking tours with transportation provided to site by operator)	25	12	Between 9a and 4p
Bicycle	Bicycle	12	8	Between 9a and 4p
Horseback riding	Horseback riding	12	4	n/a
Hike and Float (Listed as “Water” in 1996 GMP. Use limits apply to hiking portion.)	Hike and Float	12	24	n/a

¹ Authorized total number of groups per day with no two groups within the same activity area operating concurrently. For example: no two or more bicycle tours at the same place at the same time.

² The Commercial Services Plan included with the 1996 *General Management Plan* describes two categories of CUAs: Guided Tours and Transportation Activities. Both categories included Auto/Bus tours and a hiking/walking tour (“Bushwhack” tour under Transportation Activities and “Hiking/Walking” under the Guided Tours section). The Transportation Activities section in the current plan has been eliminated

because it is redundant to the activities described under the Guided Tours section.

Information from recent visitor use studies indicates that if the NPS manages to protect high quality visitor experiences, standards for cultural and natural resource protection will be met as well. Resource indicators and standards are addressed in the cultural landscape treatment recommendations on which this plan is based.

To continue protecting park resources and values, CUA operators will continue to be required to follow established trails and roadways and to follow all park specific provisions as spelled out in each CUA. These stipulations include restrictions on food use and feeding wildlife, advising clients regarding protection of natural and cultural resources and use of fires within provided fire rings, and any client safety related equipment and practices.

This plan does not limit CUAs that are already in place. Additional CUAs may be considered as long as the total authorized number of groups per day is not exceeded.

The two categories of commercial activities, guided tours and transportation, originate and terminate outside of the park boundary and/or on privately owned property within the park.

Auto/Bus

Auto/Bus tours are primarily vehicular tours that include a hiking/walking tour within the historic townsite. Commercial Auto/Bus tours will continue to be authorized within the Dyea Historic Townsite with the hiking/walking tours authorized within the Dyea Core Historic Town site. There will be no changes in the group size, nor the total number of groups authorized per day. Details of authorized group size and daily total of groups are described in Table 1.

Auto/Bus tours that are solely vehicular based tours without a hiking/walking component will continue to be operated without group size limits or limits on total tour numbers. The park does not manage vehicular activities that transit through the park on the federally owned Dyea Flats road to municipal lands.

Bicycle

Commercial bicycle tours will continue to be authorized within the Dyea Historic Townsite on the Dyea Flats Road until a new river trail is constructed, and within the Dyea Core Historic Townsite on maintained trails. There will be no change in group size, nor the number of services offered. Details of authorized group size and daily total of groups are described in Table 1.

Horseback

Commercial horseback tours will continue to be authorized on Slide Cemetery and Dyea Flats road until the new horse trail is constructed. Horseback use within the Dyea Core Historic

Townsite will be allowed by permit only for non-commercial users. Details of authorized group size and daily total of groups are described in Table 1.

Water

Hike/Float tours will continue to be authorized. These visitor services fall under the CUA system because the hiking portion of the activity occurs on the Chilkoot Trail on NPS owned property. There will be no change in authorized group size, but the daily total of groups allowed will increase from 6 to 24. Hike/Float operators will be required to follow the same principles as other CUA permitted activities and not have two or more tours in the same place at the same time on the Chilkoot Trail to prevent both real and perceived crowding on the lower trail.

Infrastructure Improvements

Permanent park operations facilities will continue to be located at the northern end of Dyea at the northernmost reaches of the Dyea Historic Townsite outside the known street grid, in an area that is already affected by modern development. All constructed facilities will be designed to fit the character of the cultural landscape. The Dyea Ranger Station located at the NPS Dyea Campground will continue to provide a kiosk with visitor orientation information and an emergency phone.

The existing Dyea Flats Road and a portion of the Slide Cemetery Road, up to the Lost Lake Trailhead, will be brought up to NPS and Federal Highways standards by correcting deficiencies such as drainage problems and sightline obstructions. Sightlines will be maintained by clearing vegetation. Portions of the Dyea Flats Road may be realigned or moved to avoid damage from river erosion if the Taiya River continues to move to the west.

The Slide Cemetery parking area will be expanded to include parking spaces for two additional vehicles, for a total of five vehicles, and one vault toilet. The vault toilet will be located near the outside edge of the expanded parking area to keep the project area compact and to reduce the total footprint. The vault toilet will replace the existing outhouse. The parking area will be re-contoured and gravel will be added to raise the level of the parking surface. This will provide a smooth driving surface and allow for increased drainage away from the parking area.

The aging Kalvick garage located south of the Kalvick house will be replaced by a maintenance support facility on federally owned property north of the replacement bunkhouse (Map 1). The primary purpose of this facility is to support park operations in Dyea and on the Chilkoot Trail. The maintenance storage building (approximately 30 feet x 40 feet) will include two garage doors and will house general storage and vehicles. A fenced yard, approximately 15,000 square feet, surrounding the building will provide exterior workspace, storage of road and trail construction material (short and long term), and ancillary uses. The maintenance support facility will be designed to be in character with the historic landscape and exterior lighting designed to minimize impacts to night skies. This area was determined not eligible for the National Register of Historic Places and is located within an already disturbed area of the park.

Unless suitable alternatives are available in Skagway, the NPS will replace substandard park housing in Dyea with a new bunkhouse for seasonal park employees on park land adjacent to

other park housing identified in the GMP as appropriate for support facilities. The single-story, wood-frame dormitory will have seven single-occupancy bedrooms, two full bathrooms, a kitchen, common room, and laundry facility. It will be elevated above the immediate floodplain.

Environmentally Preferable Alternative

As stated in Section 2.7 (D) of the NPS DO-12 Handbook, “The environmentally preferred alternative is the alternative that would best promote the national environmental policy expressed in NEPA (Section 101(b)).” The environmentally preferable alternative is the alternative that not only results in the least damage to the biological and physical environment, but that also best protects, preserves, and enhances historic, cultural, and natural resources.

Alternative 2 is the environmentally preferable alternative because it best protects the cultural and natural resources and values of the Dyea Historic Townsite in accordance with the laws, regulations, and policies listed in the introductory section of the plan.

PUBLIC INVOLVEMENT

The National Park Service consulted and coordinated with numerous agencies, organizations, and interested persons in addressing the proposed Dyea Area Plan and Environmental Assessment for Klondike Gold Rush National Historical Park. Individual members of the public and other interested agencies and organizations had the opportunity to shape the plan from the initial definition of issues and concerns through the development of alternatives.

Public Scoping

Public scoping began in late fall 2002. Early discussions centered on concerns of resource degradation by the river, but also introduced cultural landscape treatment planning that was underway.

Subsequent public meetings were held in the spring of 2007. Two open houses were held in Skagway; one introduced the public to the draft Dyea Area Plan and Environmental Analysis and the Dyea Cultural Landscape Treatment Recommendations. The second focused specifically on Commercial Use Authorizations and the park’s proposals for changes. A site visit was held in the Dyea area to allow the public and other stakeholders an opportunity to envision proposed changes.

In October 2012 another open house was held in Skagway. Work on the Environmental Assessment had been delayed because of a variety of circumstances, so this public meeting was held to re-acquaint the public with the intent of the Dyea Area Plan and Environmental Assessment and to provide an opportunity and forum for collecting new comments from the public.

In March 2014 there was another open house. The meeting provided an overview of all proposed changes to management in Dyea and was a public hearing for proposed restrictions on horse use in the Dyea Historic Townsite. Four citizens asked questions and gave comments.

Public Comments

Public comments were collected at all open houses. Three public comment periods were opened for 60 days each time in the spring of 2007, in October 2012, and early 2014. All of the substantive comments from early 2014 are responded to in Attachment A.

The most recent public comment period for this project was January 21, 2014 to March 28, 2014. The EA was posted on the NPS Planning, Environment and Public Comment (PEPC) website. A news release was sent to media outlets, which included newspapers, wire services, radio, TV, and online publications. It was also sent to local, state, and federal agencies, political officials, and businesses and organizations.

The NPS received seven pieces of correspondence on the last draft of the EA available to the public in March of 2014. Correspondence was received through the PEPC website, mail, email, and phone. Correspondence was received from one tribal council, three government agencies, and one environmental organization. The remaining two pieces of correspondence were from individuals.

Consultation with other Stakeholders

During the same periods that public comments were being solicited, consultation with the State and Local Governments occurred. The planning team shared draft copies of the EA with the State of Alaska and with the Municipality of Skagway. The National Park Service has consulted with the Alaska State Historic Preservation Office (SHPO) since initiating this project. Advance copies of the various drafts of the document were provided for their review to initiate and plan for survey, determination of eligibility, assessment of effect, and mitigation of possible cultural resources in the project areas early in the planning process. All implementation actions that could affect historic properties as defined under the National Historic Preservation Act and the 2008 Nationwide Programmatic Agreement will be evaluated through consultation with the state historic preservation officer. These actions include, but are not limited to, proposed changes to historic buildings and ground-disturbing activities.

Prior to the final decision and signing of this Finding of No Significant Impact (FONSI), the National Park Service consulted with and received concurrence from the SHPO, which was received on September 2, 2014.

Consultation with Native Tribal Governments

The National Park Service sent copies of the draft plan and letters requesting government-to-government consultation to four affected Native tribal governments, one of whom is the Carcross/Tagish First Nations tribe in Carcross, Canada. Several meetings were held between 2012 and 2013 with tribal governments in Skagway and Haines to discuss key components of the Dyea Area Plan and EA that were of interest to the local Federally Recognized tribes.

Next Steps

The NPS Alaska Regional Director has taken into account the new information and public comments, and has approved the Finding of No Significant Impact (FONSI). The FONSI was sent to those individuals and organizations that commented during the public review period, and it is available on the park's website (<http://www.nps.gov/klgo>) and the NPS park planning website (<http://parkplanning.nps.gov/>).

The National Park Service will implement operational and policy elements of the plan in fall 2014 and continue with the remaining items as funding allows over the next 10-15 years.

DECISION

The NPS decision is to select Alternative 2 as described above (Improve visitor experience and park operations and protect cultural and natural resources in Dyea (NPS Preferred) along with mitigating measures and the changes described in the attached errata section.

Mitigation Measures

Mitigation measures are specific actions that when implemented reduce impacts, protect park resources, and protect visitors. The following mitigation measures will be implemented with the Dyea Area Plan:

Floodplains

The park will design management actions to minimize impacts to existing drainage patterns throughout the site. This can be done by consulting with the Alaska Region hydrologist before implementing new projects.

Migratory Birds

In accordance with the USFWS timing guidelines recommended for the protection of migratory birds; vegetation clearing, site preparation, or other construction activities that may result in the destruction of active bird nests will not be undertaken during the nesting season, April 15 through July 15. If any active nest is encountered at any time, it will be protected from destruction. "Active" is indicated by intact eggs, live chicks, or presence of an adult on the nest. Eggs, chicks, or adults of wild birds will not be destroyed.

Wildlife

To minimize potential impacts to Boreal (or "Western") toad metamorphs, construction activities will not occur within 200 yards of identified breeding ponds while young toads are dispersing. According to ongoing research that began in 2004 and has most recently been summarized in 2013, the first emergence of metamorphs is within the third week of July. Metamorphs and toads are detected at all sites by the third week in August and continue to be seen through the research period into September.

To minimize impacts to bald eagles nesting in the area, the park will follow the USFWS National Bald Eagle Management Guidelines recommendations for avoiding disturbances at nest sites, including (1) keeping a distance between the activity and the nest (distance buffers), (2) maintaining forested (or natural) areas between the activity and around nest trees (landscape buffers), and (3) avoiding construction activities during the breeding season.

Cultural Resources

As required by the National Historic Preservation Act (NHPA), the park will complete an analysis using multiple criteria to determine appropriate treatment of the cultural landscape, including historic research, and perform archeological investigations to clarify where archeological remains occur and to identify any evidence of historic street traces. Historic streets that will be rehabilitated as modern day trails will be sited in locations where the least damage will occur to remaining *in situ* archeological sites and features. Trails will be sited in areas where *in situ* remains of historic buildings and features can be viewed and appreciated by visitors. Any significant subsurface discoveries will be evaluated for eligibility on the National Register of Historic Places. The park has consulted with the State Historic Preservation Officer (SHPO) early in the planning process for this undertaking.

The Secretary of the Interior Standards require design management, construction oversight, and facility completion acceptance by a historic landscape architect. An NPS cultural resource specialist will be present throughout the installation of facilities to ensure that important cultural resources are not affected. Should unknown resources be uncovered during the implementation of ground disturbing activities within the project area, work will be stopped in the discovery area, and the park will consult according to 36 CFR 800.11 and, as appropriate, will comply with the provisions of the Native American Graves Protection and Repatriation Act of 1992. Any artifacts recovered from park property will be accessioned, cataloged, preserved, and stored in the park's designated curatorial facilities in compliance with the DOI Museum Management Plan.

Vegetation

The park will require best management practices with regards to cleaning construction equipment and other vehicles to minimize the introduction of invasive plant species as part of plan implementation.

Plan implementation requires aggressive exotic plant control. It also requires revegetation of areas disturbed but not ultimately occupied by buildings, roads, or trails. These requirements extend for at least three years following implementation of any construction components of the plan. Beyond three years, exotic plant control will occur through ongoing maintenance of the designed and developed cultural landscape vegetation. After full implementation of the plan, the park will continue to require best management practices with regards to cleaning construction equipment and other vehicles to minimize the introduction of invasive plant species.

Visual Resources

Selective clearing and screening will minimize visual impacts. Existing vegetation will be preserved consistent with the cultural landscape. Selective clearing may be used to create viewsheds within the Dyea Core Historic Townsite to provide visitors with a sense of place consistent with the historic street grid. Other views from within and into Dyea will be managed to limit intrusive development while preserving the natural vistas that would have been evident during the Gold Rush period.

Night Skies

The maintenance support facility and bunkhouse at the Kalvick property are the only sites requiring exterior lighting. The preferred approved lighting method will use down lights which provide lighting at the ground level and do not affect the night skies.

Ethnographic Resources

Should re-interment be required for graves, it will be done outside of the main visitor use period in the summer if at all possible. If working outside the primary visitor season was not possible, then work will be conducted after peak visitor hours. Any inadvertent discoveries of human remains will trigger notification of appropriate parties and will require initiation of NAGPRA procedures.

Rationale for the Decision

The selected action (Alternative 2, Improve visitor experience and park operations and protect cultural and natural resources in Dyea) will satisfy the purpose and need of the project better than the other alternatives because it will best meet the stated goals:

1. New information indicates that cultural and natural resources need additional protection.
2. The NPS proposes to be proactive in protecting high quality visitor and user experiences in Dyea and to take specific management actions not listed in the 1996 *General Management Plan*.
3. Improved maintenance of existing infrastructure along with the addition of a few new facilities will enhance visitor experience and efficiency of operations.

Significance Criteria

The preferred alternative (Alternative 2) will not have a significant effect on the human environment. This conclusion is based on the following examination of the significance criteria as defined in 40 CFR Section 1508.27.

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

Alternative 2 will have negligible to minor beneficial impacts to cultural landscapes, cultural resources, ethnographic resources, soils, vegetation, floodplains, wildlife, fish, visual resources,

and soundscape.. Evaluations also included moderate benefits to visitor experience and opportunity.

(2) The degree to which the proposed action affects public health or safety.

Moderate beneficial impacts to public health and safety are expected since vehicular, horse, hike, and bike traffic will be separated to better serve safety. Road safety will be enhanced through line of sight clearing and upgrades in road standards. In addition, all visitors will be provided the use of ADA accessible trails within the historic townsite instead of maintained social trails.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetland, wild and scenic rivers, or ecologically critical areas.

Dyea is listed on the National Register of Historic Places as a site, but also as a contributing element to the Chilkoot Trail and Dyea Site National Historical Landmark. Over 300 archeological features have been recorded in the area. This plan improves protection of cultural resources. Taiya River eligibility for listing as a Wild and Scenic River will not be affected by this plan. Dyea also provides critical habitat to the Western Toad, a species of management concern. Mitigation measures will protect this habitat.

(4) The degree to which effects on the quality of the human environment are likely to be highly controversial.

The effects on the quality of the human environment are not controversial. The EA was distributed to over 70 agencies, organizations, and individuals for review. The NPS received numerous comments since 2002 when scoping began, the majority of which were supportive of the purpose and need to make improvements in the area. The environmental analysis concluded that alternative 2 will have moderately beneficial effects to the quality of the human environment.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The environmental effects of the selected alternative (Alternative 2) have no identified unique or unknown risks.

(6) The degree to which the action may establish a precedent of future actions with significant effects or represents a decision in principle about a future consideration.

The selected alternative does not establish a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant

impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The actions in Alternative 2 do not significantly contribute to cumulative impacts of any of the impact topics evaluated. These impact topics included cultural landscapes, cultural resources, ethnographic resources, soils, vegetation, floodplains, wildlife, fish, visual resources, soundscape, visitor experience and socioeconomics.

(8) Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The selected alternative (Alternative 2) includes mitigation strategies for sites, structures and objects listed in or eligible for listing on the National Register of Historic Places that may be affected by development activities. Mitigation strategies allow a determination of no adverse effect on historic properties.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There are no endangered or threatened species or habitat within the Area of Potential Effects.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The selected alternative (Alternative 2) does not violate any Federal, State, or local law.

FINDINGS

The level of impacts to soils, vegetation and floodplains; wildlife and fish values and habitat; and cultural landscapes and cultural resources anticipated from implementing Alternative 2 will not result in an impairment of park resources that fulfill specific purposes identified in the establishing legislation or that are key to the integrity of the park.

The selected alternative complies with the NPS Organic Act, the Alaska National Interest Lands Conservation Act, and the park's *General Management Plan*. There will be no restriction of subsistence activities as documented by the Alaska National Interest Lands Conservation Act, Title VIII, Section 810(a) Summary Evaluation and Findings.

The National Park Service has determined that the selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement is not needed and will not be prepared for this project.

ATTACHMENT A

NPS RESPONSES TO PUBLIC COMMENTS for the Dyea Area Plan and Environmental Assessment in Klondike Gold Rush National Historical Park

The NPS has read and considered all comments received on the Dyea Area Plan and Environmental Assessment. A substantive comment is defined as one which leads the NPS to: (1) modify an alternative, including the proposed action; (2) develop and evaluate an alternative not previously given serious consideration; (3) supplement, improve, or modify the environmental analysis; or (4) make factual corrections. The NPS is also required to provide an explanation when substantive comments do not warrant further agency response (CEQ NEPA Regulations 1503.4). The NPS received 7 comments on the plan, all of which supported the preferred alternative with some changes suggested. Substantive comments are addressed individually below.

Agencies

Comment: Skagway Traditional Council commented that the “Partial CLTR Implementation” on page four will take away the process that was outlined in the June 2013 internal review version of the plan under “Grave Relocation.” The wording in the internal review version was “something that the tribal council could work with because it gave the tribe a voice in the decision making process with the possibility of problem solving the erosion and the remaining graves”. The Traditional Council recommended adding language such as “The park would identify location and process for relocating the graves to NPS lands in the Dyea area should the state, with concurrence from the tribal government and identified relatives of the remaining grave sites...” into the final plan.

Response: On page 23 under **Cultural and Natural Resource Protection**, the NPS states that it will identify a relocation area on federal property for graves in the event that it becomes necessary to relocate them away from the river. Any relocation activity will be carried out with appropriate landowners and stakeholders including the state, tribes, and family members. The Relocated Cemetery near the Slide Cemetery will be expanded to relocate the remaining graves from the Town Cemetery should it become necessary to do so.

If any Native American graves are involved, the park will follow procedures outlined in the Native American Graves Protection and Repatriation Act (NAGPRA) as well as appropriate tribal consultation laws, regulations and policies.

Comment: The State of Alaska commented that a Title 16 Fish Habitat Permit is required for any activity or project that is conducted below the Ordinary High Water (OHW) mark of an anadromous stream.

Response: The National Park Service will obtain all necessary permits prior to implementing the plan.

Comment: The State of Alaska, Department of Fish and Game, stated that any culvert removal and installation below the OHW in Nelson Creek and its tributaries will require a Fish Habitat Permit.

Response: The National Park Service will obtain all necessary permits prior to implementing the Dyea Area Plan.

Comment: The Dyea Advisory Board commented that at least four spots or enough space for cars to turn around is needed at the Lost Lake Trailhead.

Response: The National Park Service believes that this amount of space will be available at the Lost Lake Trailhead once the plan's provision to bring the Slide Cemetery Road up to NPS and Federal Highway Standards is implemented.

Comment: The Dyea Advisory Board commented that the Dyea Core Historic Townsite should be available only for private horse use.

Response: Parts of the Dyea Core Historic Townsite will be open to private horse users with a special use permit. Commercial horse use will continue to be prohibited.

Organizations

Comment: The National Parks Conservation Association commented that they support “the commercially-guided tours mentioned (by bus, walking, bicycle and horseback) but not to the level of replacing traditional ranger-led tours. Both independent travelers and cruise ship passengers benefit tremendously from direct contact with an NPS ranger, either through formal interpretive programs or casual contact.”

Response: The NPS agrees that visitors benefit from direct contact with NPS rangers. Currently the NPS offers an hour and a half ranger-led walking tour once a day, Monday through Thursdays, in the Dyea Core Historic Townsite. These tours are open to both cruise ship passengers and independent travelers. Afterwards the ranger roves the townsite for additional casual contacts with visitors. Commercially-guided tours provide opportunities for more visitors to experience Dyea outside of the ranger-led tours but do not replace them.

Comment: The National Parks Conservation Association commented that “The EA mentioned there is some snowmobile use in the Dyea area and we are curious what regulation is used to authorize this activity? Looking at the 2014 compendium it appears it is authorized under 36.11, as access for traditional activities. Access for traditional activities is a confusing and contentious issue throughout the state. We assume snowmobiling in Dyea occurs on a summer road that is closed for winter, and that off-road use is not allowed. If this is the case, we suggest a better way to authorize snowmobile use would be through the national 4.10 regulation that allows snowmobiles on park roads. It appears to us this is a clearer method to authorize snowmobiling and avoids disputes about the definition of traditional activities.”

Response: For non-traditional activities, 36 Code of Regulations (CFR) §2.18 applies. Because the Dyea Flats Road is still open during winter, snowmobiles are subject to the laws of the state of Alaska for operation of a snowmobiles on highways, 13AAC 02.455.

For traditional uses, Klondike Gold Rush National Historical Park has been deemed by the Secretary as a conservation system unit (ANILCA sec. 102) and thus is subject to 16 U.S. Code § 3170 Section 1110 (a) of ANILCA. 43 CFR§ 36.11 implements the provisions of section 1110(a) of ANILCA. 43 CFR§ 36.11 (c) states: The use of snowmachines (during periods of adequate snow cover and frozen river conditions) for traditional activities (where such activities are permitted by ANILCA or other law) and for travel to and from villages and homesites and other valid occupancies is permitted within the areas, except where such use is prohibited or otherwise restricted by the appropriate Federal agency in accordance with the procedures of paragraph (h) of this section.

The Dyea area is open to snowmobiles for traditional uses during periods of adequate snow cover and if there are no other restrictions or prohibitions. Snowmobile use is regulated by applicable state law. In the Superintendent's Compendium for Klondike Gold Rush National Historical Park, the superintendent has deemed that snowmobile use in the Dyea Core Historic Townsite during periods of inadequate snow cover would be detrimental to the resource values of the area and thus has issued a temporary snowmobile closure for the Dyea Core Historic Townsite until snow cover is adequate.

Individuals

Comment: A citizen expressed concern about the closure of the trail between the Dyea Flats Road and the historic townsite. Riding in the townsite allows her to avoid the commercial horse traffic as much as possible in the summer and to avoid the icy road in the winter.

Response: Non-commercial horse use in the Dyea Core Historic Townsite will be available through a special use permit.

Comment: An individual expressed concern about the proposed location of the McDermott cabin, stating that it should be closer to the Taiya River Bridge and on the east side of the road.

Response: The NPS agrees and has adjusted the location of the McDermott cabin to the east side of the road closer to the Taiya River Bridge.

Comment: There are too many horses on the commercial tours, and they should scale back on operations. There could be environmental damage.

Response: The National Park Service has reviewed the level of commercial horse use as part of the planning process and concluded that it can continue to be conducted without any significant impacts to park resources and values. A separate horse trail will be constructed as part of a partnership construction agreement to remove commercial horse use from the Dyea Flats road.

Commercial horseback tours will continue to be authorized on Slide Cemetery and Dyea Flats roads until the separate horse trail is constructed.

The park will work with partners to develop a horse trail to the Dyea Flats on the west side of the current Dyea Flats Road. Municipality of Skagway Borough approval is needed for the connecting route on municipal property. Horse trail development is contingent upon completion and approval of a partnership construction agreement addressing financial support for construction and long term maintenance. The trail will be designed to avoid damage to wetlands and streams and will be open to commercial and non-commercial use.

Details of authorized group size and daily total of groups are described in Table 3.

Comment: A determination should be made ASAP to keep horses out of the Historic Townsite of Dyea and the NPS should collaborate with AKDOT to also keep bicycles and horse traffic from using the Dyea Road in the summertime until the entire road is a 2 lane road throughout the length from Skagway to Dyea. I am worried that as vehicle traffic continues to grow that people on horseback or bicycles could get injured. Is any thought being given to prohibit summertime bicycle use in Dyea on National Park roads?

Response: The NPS believes the following provisions in the plan address the major concerns expressed in this comment: The Dyea Core Historic Townsite will be closed to horses permanently in regulation, except under special use permit, to protect irreplaceable cultural landscape features and artifacts. The existing Dyea Flats Road and a portion of the Slide Cemetery Road will be brought up to NPS and Federal Highways standards by correcting deficiencies such as sightline obstructions and road width. Sightlines will be maintained by clearing vegetation.

In addition, the new river trail will provide an alternative route for bicycles to the Dyea Flats Road, and a new horse trail will remove commercial horse use from the Dyea Flats Road

Comment: Dyea Flats Management Plan: Which agency has this Municipality of Skagway document under review?

Response: The Municipality of Skagway recently published the final version of the Dyea Flats Management Plan and the document is no longer under review. The NPS has noted this in the errata section also.

Comment: Page 18. Threatened and Endangered Species: Have there been any studies about the stability of Marbled Murrelet numbers given the heavy cruise ship emissions in and around Skagway? FYI: In 1992 WA, OR, and CA populations of Marbled Murrelets were federally listed as threatened. Is such a listing being considered for Alaska or Skagway in particular?

Response: The NPS did not address this comment because Skagway is outside of the study area.

Comment: Page 36. This section states that while the existing campground could be threatened by movement of the Taiya River; hydrologic analysis conducted during the past 2 years indicates the campground could likely continue to function for the life of the plan. The 2 years referenced: did that include the existing campground flooding event that occurred in September 2013? That was a fairly significant event.

The largest flood event was recorded in 1967 and is described as a stream flow estimate of 25000 cfm. The stream gauge had not yet been installed to record the height. The Skagway River also flooded during this exceptionally rainy period, so the Taiya River flood is not attributed to a catastrophic event.

The second highest recorded flood event was in 2002 with the West Creek lateral moraine failure at 19.86 feet. The 2013 flood peaked at 18.98 feet as the third highest event and is followed with an 18.91 foot event in 2003

The second highest, "normal," peak should be used for evaluating the recurrence interval, rather than the 2002 outburst number because using a known catastrophic event as the annual peak skews the data and the resulting predictions. It makes it seem like large events occur more frequently.

Calculating a curve based on the Weather Service flow data, and removing the 2002 West Creek catastrophic flood event, it appears that the 2013 flooding would have a recurrence interval of about 20 years (a "20 year flood") while the 1967 flood would fit on the curve at the 100 year interval ("100 year flood"). The campground is on the 13-year floodplain (generally stated to be between the 10 and 20-year floodplains), really meaning that there is a 7.5% chance of a campground flood in any given year.

Comment: Archaeological Data Recovery Plan. The last sentence of this section states "This plan would describe emergency data recovery procedures for features that are in imminent danger of destruction". What are the plans for emergency recovery of features/artifacts that exist on the Brackett Wagon Road? The Brackett Wagon Road and the White Pass Trail were every bit as big a part of the Gold Rush as Dyea and the Chilkoot Pass. And the Brackett is mostly, if not totally, in Federal ownership.

Response: The remnants of the former Brackett Wagon Road are outside the study area for the Dyea Area Plan and mainly located within Tongass National Forest land north of Skagway. The NPS is currently working with the US Forest Service to plan for archeological inventory of the route.

Comment: Circulation. Second paragraph. Where did the figure of 20' come from when describing the width of the Dyea Road?

Response: Based on this comment, the NPS verified with the Alaska Department of Transportation and Public Facilities that the road width is 26 feet, with a 100 foot right of way. This is noted in the errata section.

Comment: Page 44. Top of page just before Archaeological Resources there is text about SHPO concurrence that has not yet been obtained. - Why is that?

Response: The SHPO requires that an Assessment of Effect (AE) be prepared by the park. This document requires that the Area of Potential Effects (APE) be defined, and effects to resources be evaluated as to whether they are adverse or not. In order to prepare the AE it is necessary to identify the proposed activities. Developing the EA, and going through the public scoping process allows for revisions in the proposed actions. The NEPA process (preparing the EA) also allows the opportunity to identify proposed mitigative measures for *not* causing adverse effects to historic resources that are included in the AE. Once the final actions are identified, the AE is prepared, with mitigation measures, for the SHPO's concurrence. It should be noted that the SHPO has had the opportunity to review the Cultural Landscape Treatment Recommendations, as well as the Dyea Area Site Plan and EA.

Comment: Page 50. Floodplains paragraph 8. Where does the September 2013 flood rank amongst the 14 high water events or is this document too old to account for 2013?

Response: See above comment and response. The 2013 flood event is the third highest recorded, following the West Creek flood of 2002.

Comment: Page 61. Socioeconomics. Has there been an estimate of spending if there wasn't a National Park in Skagway?

Response: The NPS has not conducted such a study and does not believe it critical to the socioeconomic analysis for the Dyea Area Plan.

ATTACHMENT B

ERRATA

An errata section provides clarifications, modifications or additional information to the EA. The modifications here do not significantly change the analysis of the EA and, therefore a new or revised EA is not needed and will not be produced. These modifications are based on public comments and additional agency review of the plan and environmental assessment.

1. **Modification** to page 3, 4, 6, 9, 16, 21, 28, 35, 39, 43, 45, 46, 62, 66-71, A-3, D-3: “archaeolog-” changed to “archeolog-”.
2. **Modification** to page 5, 17, 30, 52, 54, 55, 59, 60: All references to Nelson Slough were changed to Nelson Creek.
3. **Modification** to page 15. “This document is currently under review and a revised DRAFT was completed in 2010.” was changed to “A revised version was completed in 2010.” to reflect the recently updated Final Dyea Flats Management Plan.
4. **Modification** to pages 17 and 51: Consultation with Alaska Department of Fish and Game was conducted and it was determined that the Taiya River, Stream No. 115-34-10230, supports eulachon, Dolly Varden char, chum, coho, pink, and Chinook salmon. The term Chinook salmon was added to the EA.
5. **Modification** to page 17: Consultation with Alaska Department of Fish and Game was conducted and it was determined that in the Anadromous Waters Catalog (AWC), Nelson Creek was formerly referred to as Stream No. 115-32-10230-2011. In 2009, the name was changed to “West Branch Taiya River” and the AWC Stream No. was changed to 115-34-10228, because it has a different mouth than the Taiya River. The Alaska Department of Fish and Game has submitted an AWC nomination to change the local name from “West Branch Taiya River” back to “Nelson Creek”. All references to the West Branch Taiya River will continue to be referenced as Nelson Creek.
6. **Modification** to page 17, 52, 80: Pink salmon was added to fish populations in the “West Branch Taiya River” (Nelson Creek).
7. **Modification** to page 17, 52, 80: Consultation with Alaska Department of Fish and Game was conducted and it was determined that the tributary to Nelson Creek is not currently listed in the AWC as anadromous. The term anadromous was removed from the EA. ADF&G Division of Habitat will survey Nelson Creek and its tributaries to update the AWC while conducting field work in Skagway.
8. **Modification** to Table 3 on page 29: The last row of the table for Hike and Float tours was updated based on new information and analysis conducted during the planning process. It is now reproduced as Table 1 in this FONSI.
9. **Addition** to page 33, first full paragraph: “Unless suitable alternatives are available in Skagway, the NPS will replace substandard park housing in Dyea with a new bunkhouse for seasonal park employees on park land adjacent to other park housing identified in the GMP as appropriate for support facilities.”
10. **Modification** to page 42. The road width for “The 20-foot wide state-owned and maintained Dyea Road” was changed to 26 feet as verified by the Alaska Department of Transportation and Public Facilities.
11. **Modification** to page 44. “panted” changed to “planted”.

12. **Modification** to Table 6 on page 65. River “trail” was changed to “Trail”.
13. **Modification** to Table 6 page 65. A new row was added to Table 6: “Horse Trail” to include all new horse trail from north of Lost Lake trailhead to the Dyea Flats. Approximately 3242 ft x 5’, for planned improvements of .65 acres.
14. **Modification** to Table 6 on page 65. Changed .717 acres to .8 acres to reflect the final planned trail configuration (4594 ft x 8ft).
15. **Modification** to Table 6 on page 65. Changed .97 acres to .59 acres to more accurately reflect the final planned trail configuration (3242 ft x 8ft).
16. **Modification** to Table 6 on page 65. The grand totals were updated to compensate for the addition of the “Horse Trail” and refinement of the Dyea Historic Townsite trail grid. Planned improvements approximate area 7.96 and Grand Total Infrastructure Area 28.814. This is offset by closure of 1.24 acres of social trails and existing roads.
17. **Addition to “Floodplains” section, pages 49-51:**
The largest flood event was recorded in 1967 and is described as a stream flow estimate of 25000 cfm. The stream gauge had not yet been installed to record the height. The Skagway River also flooded during this exceptionally rainy period, so the Taiya River flood is not attributed to a catastrophic event.

The second highest recorded flood event of 19.86 feet was in 2002 with the West Creek lateral moraine failure. The 2013 flood peaked at 18.98 feet as the third highest event, followed with an event that peaked at 18.91 feet in 2003.

The second highest "normal" peak was used for evaluating the recurrence interval, rather than the 2002 outburst number. Using a known catastrophic event as the annual peak skews the data and the resulting predictions, giving the impression that large events occur more frequently.

Calculating a curve based on the National Weather Service flow data, and removing the 2002 West Creek catastrophic flood event, it appears that the 2013 flooding would have a recurrence interval of about 20 years (a “20 year flood”) while the 1967 flood would fit on the curve at the 100 year interval (“100 year flood”). The campground is on the 13-year floodplain (generally stated to be between the 10 and 20-year floodplains), meaning that there is a 7.5% chance of a campground flood in any given year.

18. **Modifications** to Maps 1, 2 and 3. On USS 1516, Lot 2A. added a 470’ utility corridor to be installed along an existing roadbed to provide service to a private resident. Changed the location of the Visitor Contact Station to the north side of Dyea Road. Changed the Core Historic Townsite Street grid alignment to more accurately reflect the planned changes. Added new horse trail.
19. **Modification** to Table 6, Page 64. Replace table with following updated version.

Table 6: Acreage of Infrastructure in the Dyea Developed Area

	Existing Infrastructure Approximate Area			Planned improvements Approximate Area	
Existing Facility, Road, or Trail	Approximate Length	Approximate Average Width	Approximate Area	Planned improvements Approximate Area	Action item
	(Feet)	(Feet)	(Acres)	(Acres)	
Kalvick House (Required Occupancy) and surrounding property	300	150	1.03	0.51	Construct Seasonal Bunkhouse
Dyea Townsite Parking & Picnic Area & SST	N/A*	N/A*	0.3	0	N/A*
Dyea Flats Road (NPS Maintained)	6547.2	24	3.6	1.5	Upgrade Dyea Road Standards
Road from Slide Cemetery north to Lost Lake Trailhead	5280	18	2.2	1.2	Upgrade Road
Horse Trail	0	0	0	.65	Add new Horse Trail
Slide Cemetery Parking south to Dyea Road	1372.8	24	0.8	0.1	Upgrade road, add parking
Dyea Townsite Trail System	6283.2	7	1	0.8	Realign core historic townsite trails
Lost Lake Trailhead	0.12	7	0.1	0	N/A*
Dyea Campground	1000	500	11.48	0	N/A*
Dyea Chilkoot Trail parking & SST	300	50	0.344	0.61	Add parking, improve toad pond trail
River Trail	0	0	0	0.59	Add new River Trail
Visitor Entrance - Kinney Toll Bridge (McDermott Cabin)	0	0	0	2	Similar to Kalvick area improvements
GRAND TOTAL			20.854	7.96	28.814

* N/A = Not Applicable

20. **Modification** Appendix B Floodplain Statement of Findings: Added clarifying language that provided context for recent flood events and the observed impacts. Also added mitigation strategies in the event of a flood, to include the development of an early warning system within an Emergency Response Plan that includes evacuation procedures, training and drills for immediate implementation should it become necessary. More specifically:

The NPS will prepare an Emergency Response Plan (ERP) that specifically addresses a variety of flooding events within the Taiya watershed. It will include maps showing appropriate egress routes to safe, higher ground within the Dyea area for both visitors and residents given different circumstances, for example, a normal flooding event, with adequate warning times, may have an egress route over the Taiya River bridge, leading to Skagway, while an outburst event with less warning time available may require an egress to higher ground in the immediate vicinity.

Additionally the ERP will include protocols for training staff and, in cooperation with the Municipality, residents in Dyea. Standards for evacuation drills will be prepared and regular practice of the drills will be carried out.

The ERP will include measures for securing any hazardous materials from the maintenance storage facility. The area would be closed until the flood event had subsided and authorities deem the area safe for the public to return.

These changes are reflected in the Floodplain Statement of Findings attached to this decision document.

21. **Modification** to Page 34, Infrastructure Improvements: Added “Park facilities will be designed and constructed in accordance with standards and criteria of the National Flood Insurance Program (44 CFR 60) and in keeping with NPS Management Policies (2006).” To be in keeping with language in the Appendix B: Floodplain Statement of Finding.

ATTACHMENT C

Determination of Non-Impairment Dyea Area Plan

The NPS Organic Act of 1916, reaffirmed by the General Authorities Act of 1970, prohibits impairment of park resources and values. The 2006 *NPS Management Policies* uses the terms “resources and values” to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in the park’s establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically provided by statute. The primary responsibility of the NPS is to ensure that park resources and values will continue to exist in an unimpaired condition that will allow people to have present and future opportunities for enjoyment of them.

A determination of non-impairment is made for each of the resource impact topics carried forward and analyzed in the environmental assessment for the selected alternative (Alternative 2). The description of park significance in the first part of the plan was used as a basis for determining if a resource is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park’s general management plan or other relevant NPS planning documents.

Impairment determinations are not provided for visitor experience or socioeconomics because impairment determinations relate back to park resources and values. These impact topics are not considered to be park resources or values subject to the non-impairment standard.

Soils, Vegetation, Floodplains

The dynamic landscape of the Taiya River valley is identified as a fundamental resource in the *2009 Klondike Gold Rush National Historical Park Foundation Statement (Foundation Statement)*. In addition, flora is separately identified as a fundamental resource in the *Foundation Statement*.

The soils in Dyea are primarily silts and sands deposited through wind and wave action. The soils are highly permeable. Approximately 2 to 4 acres of soil disturbance will occur from facility construction and improvements. Closure of old trails and reduction in soil disturbance through visitor access management will improve soil stability in other areas.

A mid-age stand of A Sitka spruce forest and cottonwood trees occur in most of the project area, with paper birch (*Betula papyrifera*) and willow (*Salix spp.*) occurring in

relatively low densities. All of the construction proposed in the Alternative 2 will occur in the Sitka Spruce forest. Construction and improvement of facilities will necessitate removing approximately 5-10 acres of overstory and understory vegetation. It is likely that the area suitable for exotic invasive plant establishment will increase, but that existing park efforts at early detection and control will be effective in these expanded areas.

The Dyea Historic Townsite is within the regulatory 100-year floodplain. It has been subject to sudden catastrophic geohazard related flooding greater than a 100-year high water event. Construction and placement of proposed structures will not divert water flow in the floodplain. Culverts added to the road system will improve hydrologic functions in the area that may now be affected by the road. Improved trails, facilities, and historic resources could be susceptible to direct impacts from flooding within the 100-year floodplain.

Adverse effects on the soil and vegetation resources in the project area will be offset by the closure and rehabilitation of certain trails and the improvements to the existing roads and trails. Overall, the impacts to soils, vegetation, and floodplains from the implementation of Alternative 2 will not result in impairment of these resources.

Wildlife and Fish

Fauna is identified as a fundamental resource in the *Foundation Statement*.

Resident and migratory songbirds and bald eagles have the potential to be disrupted during construction, especially during the tree removal phase, of the project's components. Mitigation measures require that construction occur outside the nesting season for forest birds.

Bears may be temporarily disrupted during construction activities, but would not suffer any permanent loss of habitat as a result of this project.

Boreal toad breeding habitat is unlikely to be impacted during the project, and construction activities will not occur within 200 yard of breeding ponds while young toads are dispersing. The river trail will cross two anadromous fish streams which provide rearing habitat for Dolly Varden and juvenile coho salmon. Construction activities could potentially reduce habitat quality at and downstream of the site, resulting in short-term impacts to fish habitat. Hydrology of the area may be improved with the upgrade of the road and introduction of additional culverts to allow better water drainage, potentially improving habitat for salmon and toads.

Overall, the impacts to fish and wildlife from the implementation of Alternative 2 will not result in impairment of these resources.

Visual Resources and Soundscapes

Both the natural and cultural viewsheds are described in the NHL designation as important resources. These viewsheds give the visitor a sense of place and orientation to the historic landscape.

Alternative 2 will result in a rehabilitation of the street grid of the Dyea Historic Townsite through selective vegetation and introduction of new and historic facilities into the cultural landscape. A new trail network along the grid and Taiya River will create improved views of the surrounding natural and cultural landscape. Other trails will be rehabilitated, removing elements of a fragmented natural visual landscape. Temporary negative impacts to the landscape will result from construction activities. New structures are located outside the historic townsite, and be designed to blend with the existing built environment. The relocation of the Kinney Toll Bridge will add to the enhancement of the cultural landscape.

Construction activities from implementing Alternative 2 may be disruptive to the soundscape for up to several weeks each year of implementation. Future trail and facility maintenance would cause ongoing effects to the soundscape. Use of new trails and roads, occasional maintenance, visitor tours, and other elements of the existing soundscape would be similar in frequency, volume, and characteristic as current noise levels.

Overall, the impacts to visual resources and soundscapes from the implementation Alternative 2 will not result in impairment of these resources.

Cultural Landscapes and Cultural Resources

Cultural resources in the Dyea area include the cultural landscape, archeological sites, historic buildings and structures, and numerous in situ artifacts.

No adverse impacts are expected to the cultural landscape due to enhanced protection for the most critical cultural landscape elements of the Dyea area. The landscape integrity is substantially maintained through preservation of archeological resources, construction of infrastructure consistent with the rehabilitation of the historic townsite, and vegetative management appropriate to the natural setting and to the character of the period of significance in keeping with the Secretary of the Interior Standards.

No adverse impacts to cultural resources are expected as archeological investigations in advance of ground disturbance will be carried out in accordance with Secretary of the Interior Standards. Relocation of social trails away from sensitive archeologically rich features will further protect resources.

No adverse impacts to the cemetery are expected. Graves will be relocated to the new cemetery established during the 1970s. Relocation of the remaining graves will, in effect, restore the integrity of the original cemetery, albeit in a different location.

The impacts to cultural landscapes and cultural resources from the implementation Alternative 2 will not result in impairment of these resources.

SUMMARY

The level of impacts to soils, vegetation and floodplains; wildlife and fish; and cultural landscapes and cultural resources anticipated from implementing Alternative 2 will not result in

an impairment of park resources that fulfill specific purposes identified in the establishing legislation or that are key to the integrity of the park.

ATTACHMENT D

Floodplains Statement of Findings

Introduction

Proposed Action

The National Park Service (NPS), Klondike Gold Rush National Historical Park (KLGO) is proposing to protect cultural and natural resources and improve visitor safety and experience by developing a plan that identifies priorities and provides guidance for cultural and natural resource management and visitor services within the Historic Townsite of Dyea. The proposed action would include a combination of trails, road improvements and permanent facilities which would be confined to small unobtrusive areas within Dyea. Proposed infrastructure would include a new entrance area, seasonal employee bunkhouse, maintenance support facility, parking and toilet replacement. These facilities are classified as Class I actions under the NPS floodplain policy (DO-77).

Site Description

The Dyea Historic Townsite is located in the lower Taiya River watershed, near Skagway, Alaska. The footprint of the historical townsite lies mostly on the west side of the Taiya River, with a small portion located north of the river (Figure B-1). The eastern, northern and western portions of the historic townsite are within the estimated 100-year floodplain. The central portion of the historic townsite is on a ridge of land that has a higher elevation than the estimated 100-year flood elevation. The proposed permanent facilities (visitor service facility, seasonal employee bunkhouse, maintenance support facility, parking and toilet replacement) would be located within the estimated 100-year floodplain (Figure B-1).

Floodplain Values

Values associated with floodplain use include recreation, such as hiking, site seeing and hunting. Floodplain values also include wildlife habitat for a diversity of species. In addition, floodplains play a necessary function in the overall adjustment of a river system. Floodplains not only influence the hydrology of a watershed by dissipating floodwater energy, but also serve as a temporary storage component for sediment eroded from the watershed.

Currently, a mid-age stand of Sitka spruce dominates the project area. The forest canopy is composed of medium and large sized Sitka spruce and averages about 25 feet in height. Other tree species in the project area include cottonwood, paper birch and willow.

Nature of Flooding and Associated Floodplain Processes

A preliminary floodplain assessment was completed for the lower portion of the Taiya River watershed. The purpose of the floodplain assessment was to describe the 100-year floodplain and determine if the Dyea Historic Townsite and the proposed facilities and improvements are within the 100-year floodplain. Based on the preliminary floodplain assessment, it appears that the eastern and western areas surrounding the core historic townsite are within the 100-year floodplain (Figure B-1).

The largest flood event was recorded in 1967 and is described as a stream flow estimate of 25000 cfm. The stream gauge had not yet been installed to record the height. The Skagway River also flooded during this exceptionally rainy period, so the Taiya River flood is not attributed to a catastrophic event. The second highest recorded flood event of 19.86 feet was in 2002 with the West Creek lateral moraine failure. A 2013 flood peaked at 18.98 feet as the third highest event, followed with an event that peaked at 18.91 feet in 2003.

The second highest "normal" peak (of 18.98 feet) was used for evaluating the recurrence interval, rather than the 2002 outburst number. Using a known catastrophic event as the annual peak skews the data and the resulting predictions, giving the impression that large events occur more frequently (Burger 2014).

Calculating a curve based on the National Weather Service flow data, and removing the 2002 West Creek catastrophic flood event, it appears that the 2013 flooding (the third highest event) would have a recurrence interval of about 20 years (a "20 year flood") while the 1967 flood (the largest recorded event) would fit on the curve at the 100 year interval ("100 year flood"). The campground is on the 13-year floodplain (generally stated to be between the 10 and 20-year floodplains), meaning that there is a 7.5% chance of a campground flood in any given year (Burger 2014).

To put this into an on-the-ground perspective, the USGS Gauging Station at the Taiya River bridge is located at 50 feet above NGVD29 (North Geodetic Vertical Datum 29) or sea level. Based on the period of record and gauge observations during high water events, the National Weather Service Advanced Hydrologic Prediction Service states that a reading relative to the gauge, not to channel or ground elevations, of 16.5 feet is considered flood stage.

Management actions commence with a gauge reading of 16.0. At this stage, advisories are issued to the public and staff. At 16.1 feet, portions of the Chilkoot Trail begin to flood and by 16.8 feet Mile 2.7 of the trail can be knee to thigh deep (2-3 feet). Note that flooding on the Chilkoot Trail is not synonymous with flooding in Dyea since many portions of the trail are low-lying along the Taiya River. At 17 feet on the gauge, the NPS may close the Chilkoot Trail due to safety concerns.

In contrast, it is not until 19 feet (69 feet above sea level), that the Dyea campground located $\frac{3}{4}$ mile south of the gauging station begins to flood. The northwestern portion of the campground is situated at the lowest elevation along the Taiya in this vicinity. At 20.7 feet the lowest spot on the state maintained Dyea Road near the Taiya River bridge floods. This is where the raft pullout is located.

Although the USGS gauging station has not been operated continuously, there are fourteen historical high water crests that exceed 16.5 feet on the gauge since 1971 (National Weather Service, 2009). These events have ranged from 16.88 feet recorded in 1973 to 19.86 feet recorded in 2002 with the advent of the West Creek lateral moraine failure.

This latter event flooded portions of private property and the Dyea Road near the northern end of the Dyea area that were located adjacent to West Creek. This high water event flooded the Dyea campground and required it to be evacuated. It also scoured the riverbanks and caused loss of property next to the campground and at the core historic townsite along the western bank. It did not, however, flood any other properties within the Dyea area.

Flooding in the mid-1970s reached historic levels at 18.35 feet in 1975 and 18.43 feet in 1976. During this time severe erosion occurred near the core historic townsite, and over 90 feet of bank was lost near the Town Cemetery. However, there are no reports of the water overtopping the bank within the core townsite during these flooding events.

The estimated water surface elevations associated with the 100-year recurrence interval should be considered preliminary and approximate. Flooding in the lower Taiya River watershed can result from rain and snow, snowmelt, and geohazards related to glacial features in the upper tributary basins, including glacially dammed lakes, avalanches or mudslides associated with unstable deposits. The assessment does not take into account flood events associated with glacial lake outburst, nor does it factor in tidal influence. Additional analysis would be required to account for these processes and how they would impact floodplain water surface elevations. Furthermore, the preliminary assessment assumes that floodwater is conveyed in all areas below the flood water surface elevation. While many of these low lying areas are active channels that convey water during high flow periods, further analyses would be required to establish if all these geomorphologic features are interconnected and actually convey water at the 100-year flood stage. Actual observation of various flooding event levels demonstrates that the water is not evenly conveyed across the landscape.

Based on this assessment however, it appears that flooding would extend across most of the valley north of the Taiya River Bridge (Figure B-1, Appendix B). Downstream from the bridge, flooding appears to be divided into the area bounding the main channel along the east side of the valley, and the area bounding the channel along the west side of the Dyea Core Historical Townsite. Based on the predicted main channel velocities, it is likely that, depending upon the location of debris jams, increased bank erosion would likely occur during the 100-year event. Average estimated floodplain velocities are significantly less due to the increased surface roughness, such as trees, surface undulations, and brush vegetation. The removal of trees and creating smoother trail surfaces may reduce surface roughness and increase potential flood velocities in those areas. Flow that is conveyed in active or inactive channels across the floodplain could increase erosion and channel migration, depending upon stream velocities, the occurrence of debris jams, and the density of vegetative cover.

The lower Taiya River is characterized as having an anastomosing channel pattern. Anastomosing rivers are sinuous, low-gradient channels consisting of multiple interconnected branches transporting suspended and mixed bedloads (Ritter 1978). One main channel is characteristic of anastomosing channels, with only overbank flow feeding smaller branches during higher flows. The nature of the drainage pattern and the occurrence of debris jams in the main channel and overbank channels create a complex set of hydraulic conditions. The extent of woody debris in the channels and the debris jams that result will influence the extent of flooding in a particular area during a given flood event.

Justification for use in the Floodplain

The proposed actions are related to the management of the Dyea Historic Townsite, which is located within the estimated 100-year floodplain. Visitor facilities for the Dyea Historic Townsite cannot be located elsewhere because all NPS managed land within Dyea and Skagway

are within the floodplain. Lands in the Chilkoot Trail and White Pass units are not suitable for this proposed infrastructure. Acquiring new land outside either of these two floodplains would be cost prohibitive and inefficient to develop and use.

Maintenance facilities and limited employee housing are available in Skagway, approximately 8 miles from Dyea. Lack of available housing for sale or lease on the commercial market in Skagway requires alternative government housing (Hughes et al. 2013). Transporting maintenance equipment from Skagway to Dyea regularly is costly and time-consuming.

Site-Specific Flood Risk

The Dyea Historic Townsite lies within the lower Taiya River watershed. The lower Taiya River valley is less than a mile wide, and the topographic conditions are relatively gentle and flat. The preliminary floodplain assessment was performed using available hydrologic data and information, including United States Geological Survey (USGS) discharge data from the Taiya River Gauging Station, USGS Regional Regression Equations, and Light Detection and Ranging (LIDAR) data. Hydrologic field data was not collected as part of this assessment.

Recurrence Interval

The majority of the lower Taiya River valley, including large portions of the Dyea Historic Townsite, lies within the 100-year floodplain. A 100-year flood is defined as the flood elevation that has a 1% probability of occurring in any given year. The rate at which flooding occurs will be related to the source. Flooding associated with a precipitation event would likely take more time to reach flood stage in the lower Taiya River valley as compared to flooding from a glacial dam outburst.

Hydraulics of Flooding at the Site

The water surface elevation at each cross section, as well as main channel and average overbank velocities associated with the 100-year recurrence interval are summarized in Table B-1, and the area estimated for inundation is depicted in Figure B-1. Due to the surface roughness (trees, brush, surface undulations) of the floodplain, it is predicted that floodplain velocities will typically be less than 1-foot per second; however, main channel velocities are likely to be extreme, capable of transporting trees and other debris. Channel bottom and banks are likely to erode, altering channel patterns and shapes in some areas.

Table B-1: Summary of Estimated Water Surface Elevations and Velocities Associated with 100-Year Recurrence Interval

Cross Section	Minimum Channel Elevation (feet)	Water Surface Elevation (feet)	Main Channel Velocity (feet per second)	Floodplain Average Velocity (feet per second)	
				Left Overbank	Right Overbank
15	31.7	41.5	5.5	0.4	0.4
14	28.3	41.2	4.7	0.4	0.4
13	26.7	40.8	5.4	0.5	0.3
12	25.3	40.2	7.1	NA	0.5
11	24.6	40.1	4.6	0.3	0.3
10	24.1	36.3	16.5	1.6	1.0
9	20.2	28.9	8.1	0.6	0.5
8	19.3	27.4	9.6	0.8	0.4
7	15.2	24.8	6.8	0.7	0.5
6	14.9	24.2	6.5	0.4	0.5
5	14.8	23.6	8.3	0.3	0.7
4	12.0	21.0	10.3	1.1	0.6
3	11.6	19.4	8.6	1.0	0.5

The minimum channel elevation and the water surface elevation are provided in Table B-1 to indicate the approximate depth of water in the channel during the 100-year flood. Water depths across the portion of the project area likely to be inundated during a 100-year event range from approximately 2 feet to as high as 10 feet (Figures B-2 through B-15). In the vicinity of the proposed seasonal bunkhouse and maintenance support facility, water depths are predicted to be between 2 to 4 feet (Station 1300, Figure B-4), and velocities are predicted to be 0.3 feet per second. At the proposed Dyea Visitors Center, water depths are predicted to be between 8 to 10 feet (Station 1300, Figure B-6), and velocities are predicted to be 0.3 feet per second. Flooding in the vicinity of the proposed facilities is likely to be widespread across most of the valley; therefore, the base flood elevation would not be affected as the result of the construction of the proposed facilities.

Time Required for Flooding to Occur

The USGS Gauging Station at the Taiya River Bridge is not surveyed to local control; however, based on the period of record and gauge observations during high water events, the National Weather Service Advanced Hydrologic Prediction Service states that a gauge reading of 16.5 feet (relative to the gauge, not to channel or ground elevations) is considered flood stage. A gauge reading of 16.0 is considered an action stage, meaning advisories are prepared and issued in the event that evacuation becomes necessary. As already noted, however, at this stage, advisories are issued to the public and staff for the Chilkoot Trail. It is not until 19 feet that the Dyea Campground floods, and in excess of 20.7 feet for the State maintained Dyea Road to flood. For a given event, the gauge would be monitored by the National Weather Service for predicting the

flood level and time for flooding to occur. The NPS staff is notified electronically if a flood notification is issued. Protocols are followed that include issuing public warnings, and closure of the Chilkoot Trail and the campground in Dyea once flood levels reach certain stages. Applications (Apps) are also monitored that graph the projected trajectory and timing of flooding so that management decisions can be made accordingly.

Opportunity for Evacuation

With the Taiya River gauging station providing real-time data for flood prediction, evacuation procedures would likely be successful, provided that visitors are within vicinity of the road and trail system within the historic area. In the event of a 100-year or larger flood, the roads and the Taiya River Bridge would likely be under water and closed to vehicular traffic after evacuation for public protection. While there is only one bridge leading to out of Dyea to Skagway, there are other roads in the immediate vicinity that lead to higher ground and out of the floodplain that may be more readily accessible when time is of consequence. West Creek Road leads up the western valley to high ground, as does the Dyea Flats Road, which leads to private property on higher ground on the west valley. In the event of an extreme high water event all routes would be identified for potential evacuation.

Geomorphic Considerations

As stated above, the lower Taiya River is characterized as having an anastomosing channel pattern. The nature of the drainage pattern and the occurrence of debris jams in the main channel and overbank channels create a complex set of hydraulic conditions. The extent of woody debris in the channels and the debris jams that result will influence the extent of flooding in a particular area during a given flood event. Additionally, debris jams can increase channel and bank erosion by redirecting flow.

Flood Mitigation Plans

Construction activities within the estimated 100-year flood plain include a Dyea Visitor Contact Station, maintenance support facility and a seasonal bunkhouse. The storage facility and bunkhouse are located north of the Taiya River Bridge (Figure B-1), while the Visitor Contact Station is west of the bridge on the Dyea Road. It is not anticipated that these facilities would have an impact on the floodplain base elevation. Mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be adhered to during and after the construction. If required, permits with other federal and cooperating state and local agencies would be obtained prior to construction activities. Park facilities will be designed and constructed in accordance with standards and criteria of the National Flood Insurance Program (44 CFR 60) and in keeping with NPS Management Policies (2006). After construction activities are completed, the sites would be returned as close as possible to natural contours; floodplain fill and grading requirements would be minimized.

While all of the proposed infrastructure development activities are north, or upstream, of the Taiya River gauging station, this station is still considered to provide adequate timing thresholds

for flood warning and for providing evacuation notification to residents and visitors in the general Dyea area for normal flooding events. The risks of construction in this area have been considered and, given the past history of the area along with future plans for further early warning systems, are believed to be manageable with the appropriate emergency management planning and response.

For outburst events, which are possible within this watershed, an early warning system coupled with a solid Emergency Response Plan will be required. The NPS is working with the Municipality of Skagway to install an early warning system in the Nourse River drainage system as early as the summer of 2015. This drainage system has numerous glaciers and glacially dammed lakes that could precipitate a catastrophic event of noteworthy size (plus 100 year flood event).

The Municipality of Skagway has recently installed a gauging station at West Creek, a western tributary approximately one mile north of the Taiya River bridge. While this gauge provides data north of the development area in Dyea for which this SOF is being generated, it is not intended to provide early warning of flood events. Instead, it has been installed for the purposes of evaluating stream flow in the West Creek in anticipation of a hydro power development in the West Creek drainage system.

The NPS will prepare an Emergency Response Plan (ERP) that specifically addresses a variety of flooding events within the Taiya watershed. It will include maps showing appropriate egress routes to safe, higher ground within the Dyea area for both visitors and residents given different circumstances, for example, a normal flooding event, with adequate warning times, may have an egress route over the Taiya River bridge, leading to Skagway, while an outburst event with less warning time available may require an egress to higher ground in the immediate vicinity.

Additionally the ERP will include protocols for training staff and, in cooperation with the Municipality, residents in Dyea. Standards for evacuation drills will be prepared and regular practice of the drills will be carried out.

The ERP will include measures for securing any hazardous materials from the maintenance storage facility. The area would be closed until the flood event had subsided and authorities deem the area safe for the public to return.

Summary

Based on the preliminary floodplain assessment, it appears that the Dyea Historic Townsite and proposed facilities are within the 100-year floodplain of the lower Taiya River (Figure B-1). The estimated water surface elevations associated with the 100-year recurrence interval should be considered preliminary and approximate. The assessment does not take into account flood events associated with glacial lake outburst, nor does it factor in tidal influence. Additional analysis would be required to account for these processes and how they would impact floodplain water surface elevations.

Furthermore, the preliminary assessment assumes that floodwater is conveyed in all areas below the flood water surface elevation. While some of these low lying areas are active channels that convey water during high flow periods, further analyses would be required to establish if these

geomorphologic features are interconnected and actually convey water at the 100-year flood stage.

Based on the predicted main channel velocities, it is likely that, depending upon the location of large woody debris jams, increased bank erosion would occur during the 100-year event. Flow that is conveyed in active or inactive channels across the floodplain could increase erosion and channel migration, depending upon stream velocities, the occurrence of log jams, and the density of vegetative cover. Water depths across the portion of the project area likely to be inundated during a 100-year event range from approximately 2 feet to as high as 10 feet (Figures B-2 through B-15).

While the location of proposed structures within the flood zone would result in risks from the possibility of flooding, methods to minimize flood damage would be incorporated into the overall design of the facilities. In addition, efforts to preserve existing vegetation within the floodplain would be undertaken as standard procedure during site preparation and construction. Therefore, floodplain values would be protected to the maximum extent possible and potential flood hazards would be minimized.

In accordance with Executive Order 11988 for the protection of floodplains, mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be strictly adhered to during the design, construction, and operation of the proposed facilities to the historic area. The NPS finds that no long-term adverse impacts to the 100-year designated floodplain would occur from the proposed actions.

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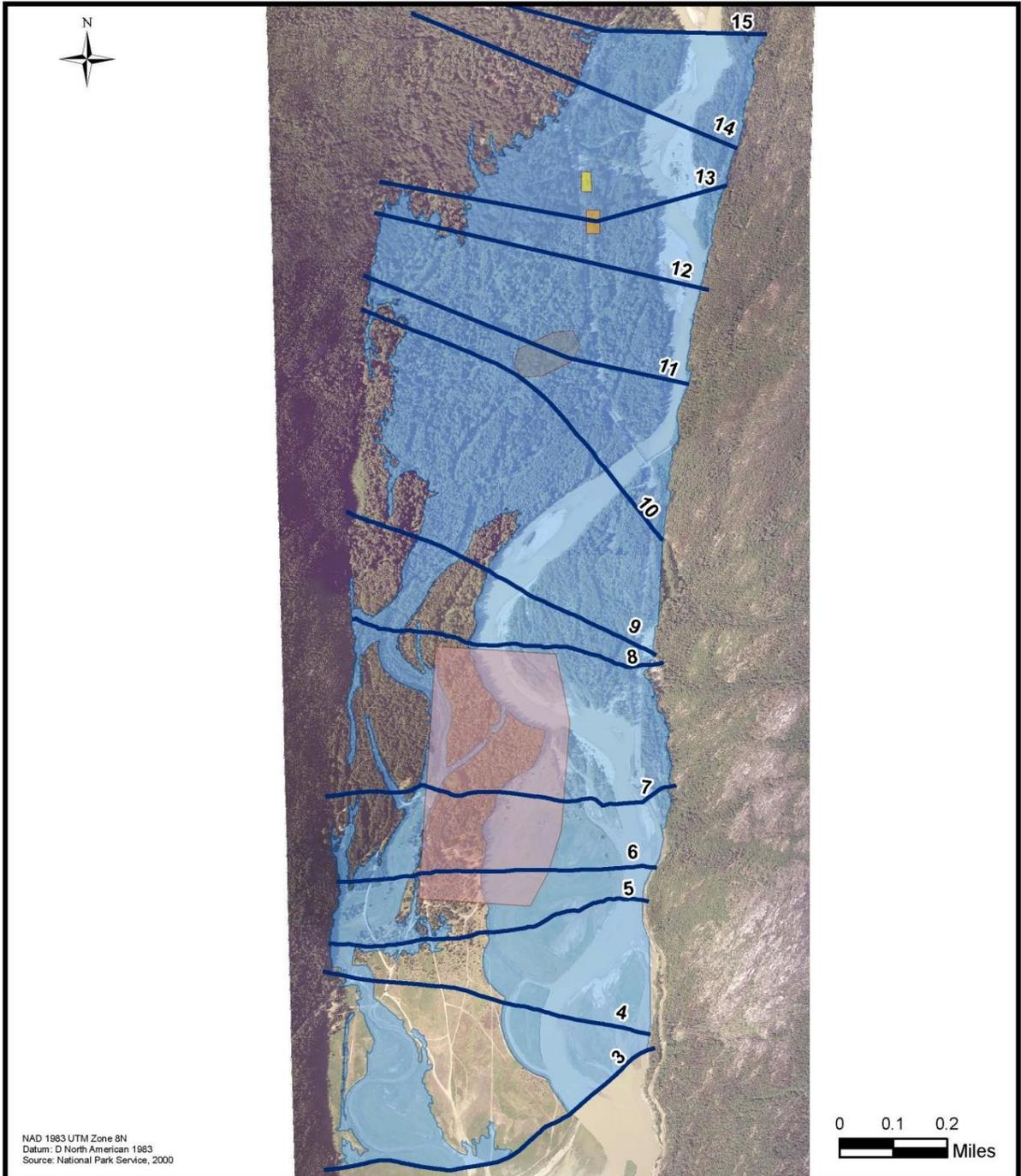
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Figure B-1: Preliminary 100-Year Floodplain Boundary



NAD 1983 UTM Zone 8N
 Datum: D North American 1983
 Source: National Park Service, 2000

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DYEA MANAGEMENT PLAN ENVIRONMENTAL ASSESSMENT	
<p>Legend</p> <ul style="list-style-type: none"> — Lidar generated channel and floodplain cross sections Approximate boundary of preliminary 100-Year Floodplain Approximate location of Dyea Historical Townsite Approximate location of Dyea Visitors Center Approximate location of Dyea Maintenance Storage Facility Approximate location of Dyea Seasonal Bunk House 	<p>PRELIMINARY 100-YEAR FLOODPLAIN BOUNDARY</p> <p>URS</p>
<p>KLONDIKE GOLD RUSH NATIONAL HISTORICAL PARK, ALASKA</p> <p>JOB NO: 26219855 DRAWN: KAH</p> <p>DATE: AUGUST 2009 FILE: SEE PATH</p>	
FIGURE 1	

**Figures B-2 – B -15: Lower Taiya River Channel and Floodplain Cross Sections
100-Year Recurrence Interval**

1. EG PF 1 – Energy grade line for profile 1 (the 100-year event), represented by the green dashed line. Recurrence
2. WS PF1 – Water surface elevation for 100-year event, represented by the blue solid line.
3. Ground surface is represented by the black line with black square symbols.
4. Top of main channel banks represented by red dots.
5. Floodplain and main channel hydraulic roughness values displayed across top of graph.

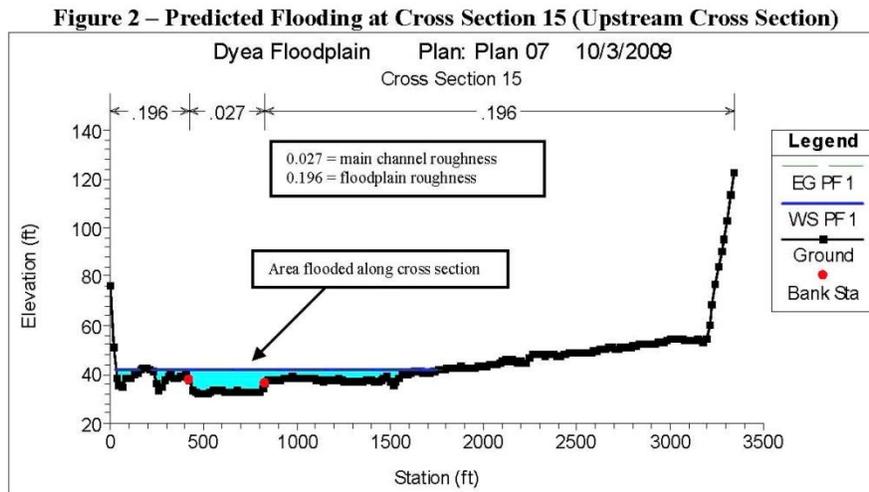


Figure 3 – Predicted Flooding at Cross Section 14

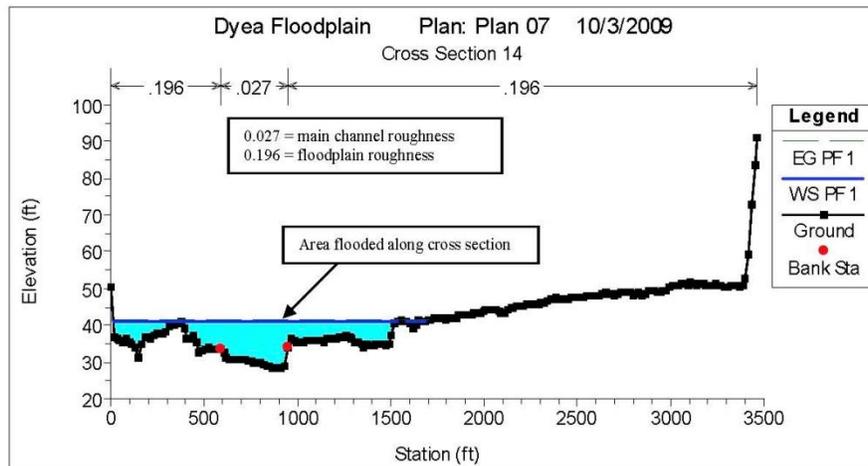


Figure 4 – Predicted Flooding at Cross Section 13

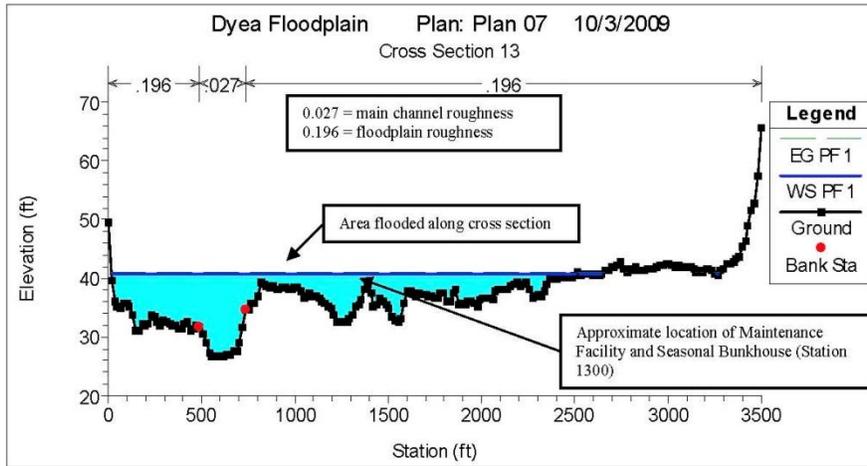


Figure 5 – Predicted Flooding at Cross Section 12

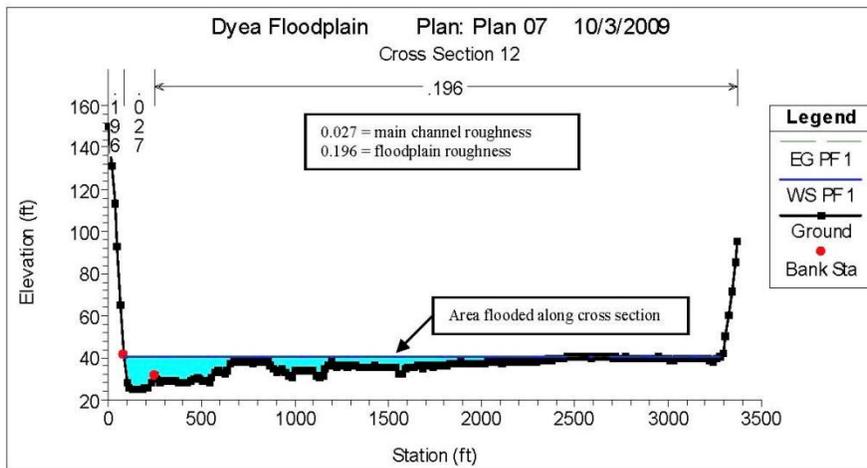


Figure 6 – Predicted Flooding at Cross Section 11

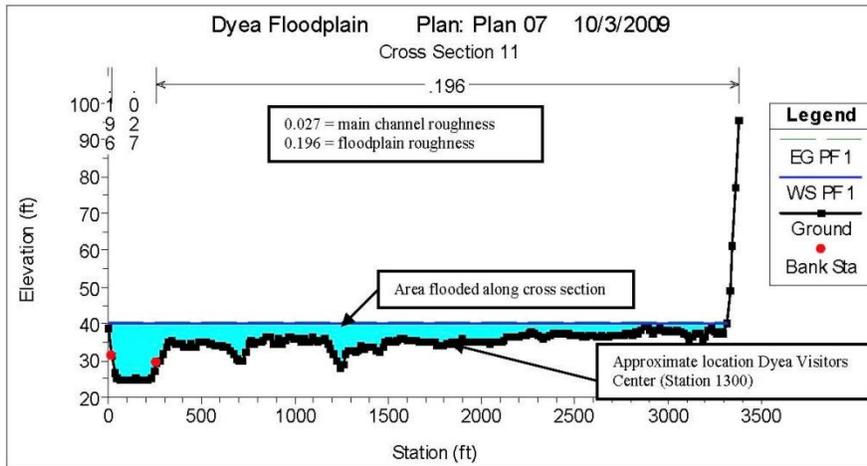


Figure 7 – Predicted Flooding at Cross Section 10.5 (Taiya River Bridge)

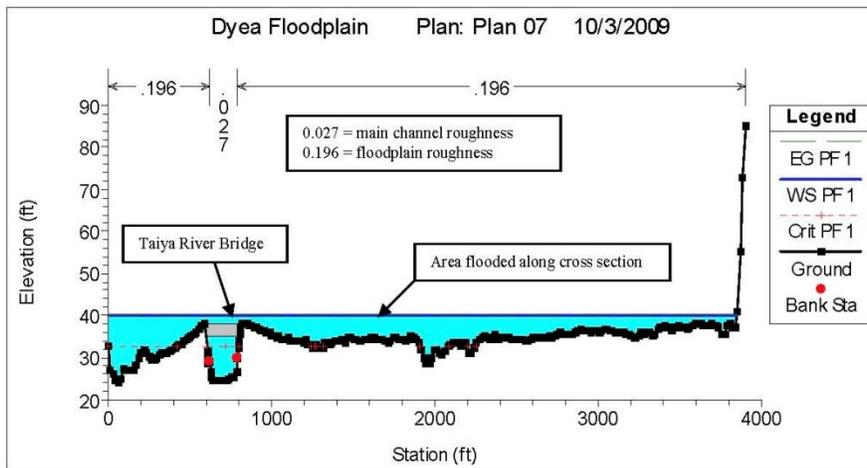


Figure 8 – Predicted Flooding at Cross Section 10

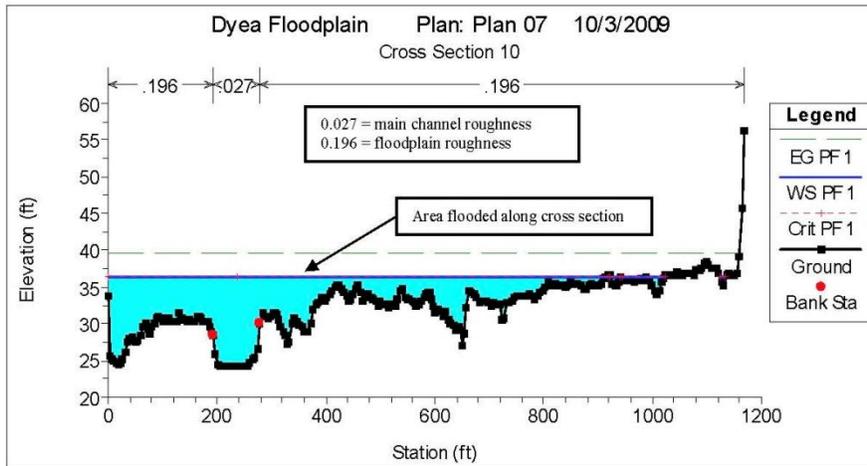


Figure 9 – Predicted Flooding at Cross Section 9

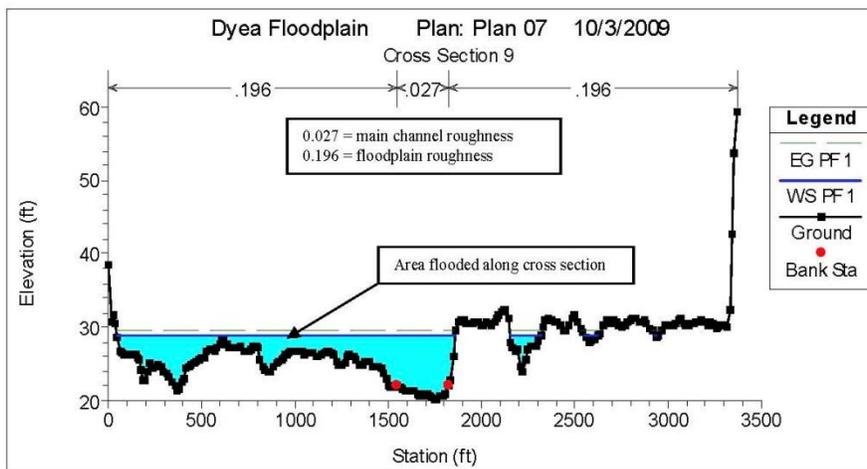


Figure 10 - Predicted Flooding at Cross Section 8

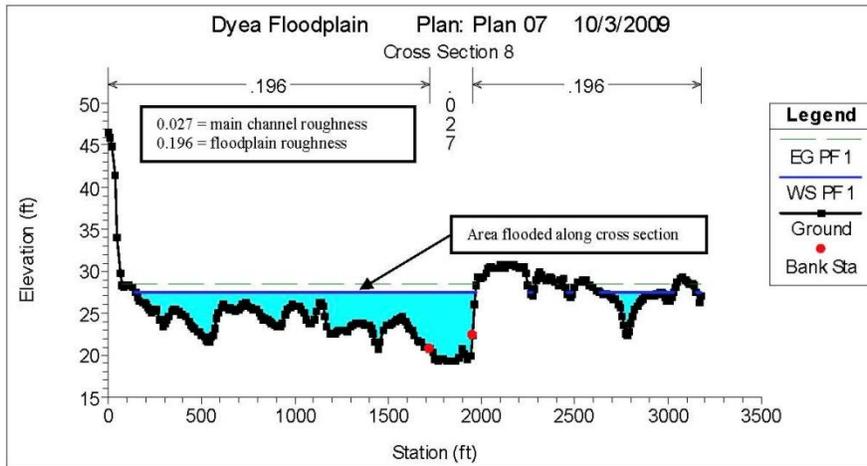


Figure 11 - Predicted Flooding at Cross Section 7

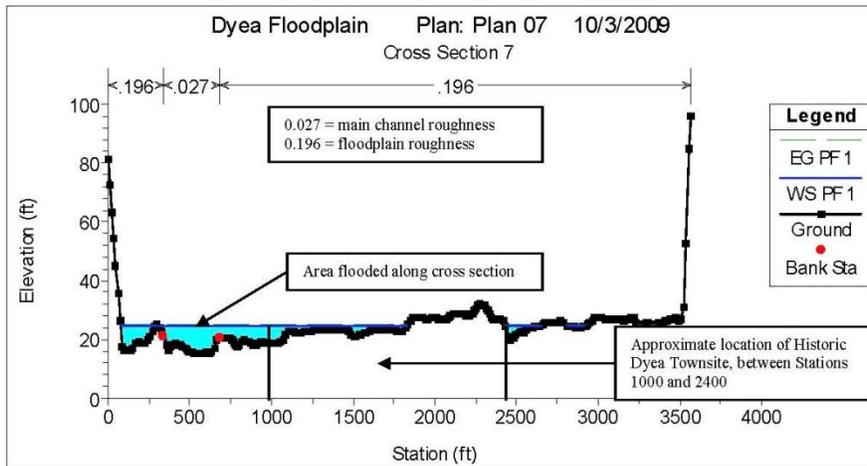


Figure 12 - Predicted Flooding at Cross Section 6

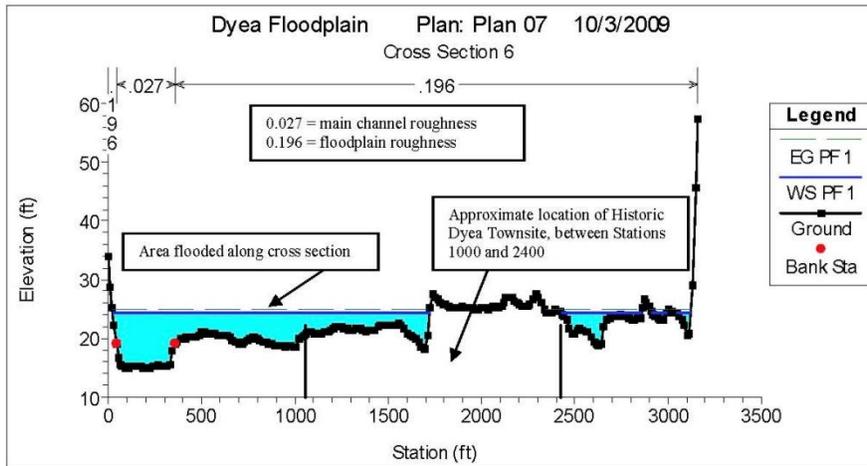


Figure 13 - Predicted Flooding at Cross Section 5

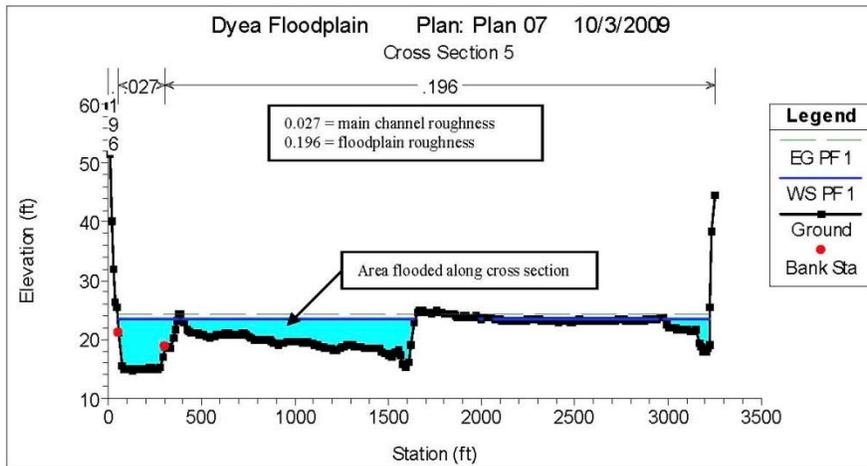


Figure 14 - Predicted Flooding at Cross Section 4

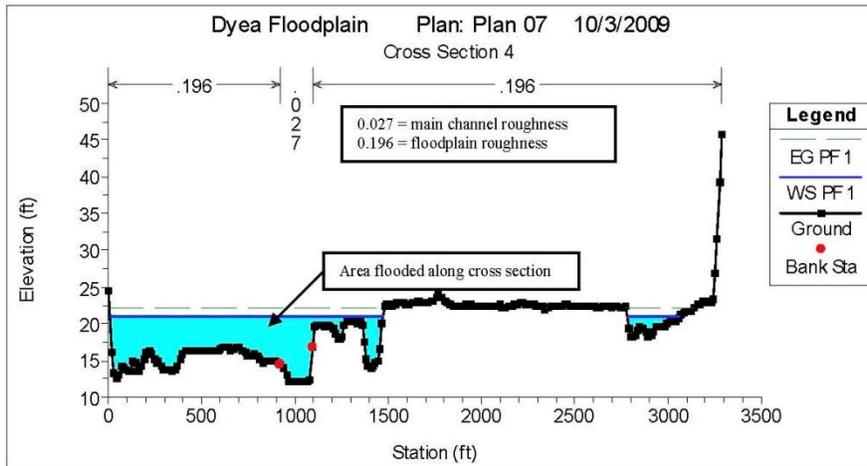


Figure 15 - Predicted Flooding at Cross Section 3 (Downstream Cross Section)

