

3.16 Visual Environment

3.16.1 Affected Environment

This section identifies existing scenic resources within the project area. It takes into account existing views of the Sterling Highway as well as views from the highway toward the surrounding environment. This section is based on and summarizes the *Visual Analysis* (HDR and USKH 2012) completed for the project.

The glacially carved Kenai River valley frames the visual environment of the project area. Steep mountains and the unique turquoise color of Kenai Lake and the Kenai River are the predominant features seen from the project area. Canyons formed by Juneau Creek and Cooper Creek, tributaries of the Kenai River, notch the north and south sides of the main valley. The Sterling Highway is recognized as a State Scenic Byway from MP 37 to 75 because of its scenery, history, and recreational opportunities. Designated Wilderness within KNWR on both sides of the Kenai River in the western end of the project area also heightens expectations for natural views. See Section 3.2.1.1 for a description of Wilderness management intent to preserve areas where the “imprint of man’s work is substantially unnoticeable” (Wilderness Act).

The existing Sterling Highway runs through boreal and riparian forest, interspersed with longer views in areas where the trees have been cleared or where the road follows the banks of the Kenai River. Bridge crossings of the Kenai River afford views of both the river and the surrounding valley. Foreground views from the Kenai Lake outlet and the Kenai River are of riparian forest and human development; mountain uplands and peaks can be seen in the background. The view of Cooper Landing, as seen from the Sterling Highway, Kenai Lake, and the Kenai River, is mainly of single-story small framed and sometimes log commercial buildings and other wood-frame facilities, such as docks and boardwalks. From high elevations where some hikers go (mostly off of formal trails), views are expansive, including the natural forest-to-alpine vegetation, the lake and river, and mountain topography as well as the existing engineered features. From high vantage points, individual buildings are less evident and patterns such as the linear clearing for the existing highway and separate clearing for power transmission lines are more evident.

Figure 3.16-1 and Figure 3.16-2 provide examples of existing views in the project area.



Figure 3.16-1. View from Quartz Creek Road/Sterling Highway intersection at Kenai Lake, looking west (Key View 1), an example of views in lower elevations of the project area.



Figure 3.16-2. View from Juneau Creek Falls informal overlook (near Resurrection Pass Trail) looking down Juneau Creek (Key View 12a), an example of views in higher elevations in the project area.

3.16.1.1 Visual Assessment Methodology

The visual analysis was conducted using the Visual Resource Analysis method developed by the Federal Highway Administration (FHWA) in conjunction with the American Society of Landscape Architects (FHWA 1981, HI-88-054). The analysis considers the qualities of the existing visual resources, anticipated changes to those qualities, and the number and sensitivities of viewer groups exposed to changes. The main viewer groups identified include area residents, recreationalists, and motorists.

Existing visual resources were evaluated using a multistep approach. First, the project area was divided into distinct “Landscape Units,” defined as areas that have distinct and cohesive visual qualities based on considerations of landform, water, vegetation, and the built environment. Eight distinct Landscape Units were identified in the project area. These are depicted on Map 3.16-1.

Following identification, landscape architects assessed the existing visual characteristics of each distinct Landscape Unit. The assessment was based on the following standardized criteria:

- **Visual Quality:** a qualitative appraisal of the relative value of visual resources based on vividness, intactness, and unity. Quality addresses concepts such as a “sense of enclosure” or openness, changing views, complexity or uniformity of the view, and commonness of the view in the region.
- **Visual Concern:** a measure of how an area is used and the visual sensitivity of the user.
- **Visual Exposure:** a categorization based on viewing distance (e.g., foreground, middleground, or background) and time (e.g., long-duration views, such as from a home, or short-duration views, such as seen from a passing vehicle).
- **Visual Sensitivity:** a summation of the quality, concern, and exposure evaluated for each viewer group.

Table 3.16-1 summarizes the existing visual characteristics of the eight identified Landscape Units.

Following identification of Landscape Units, landscape architects identified “Key Views” representative of each Landscape Unit. Key Views were selected to provide representative “scenes” within each Landscape Unit and views that help specifically pinpoint and analyze potential impacts within a geographically large area. These include important view areas for specific viewer groups (e.g., views seen by rafters on the Kenai River). Key Views include Cooper Landing settlement and community activity areas, recreational use areas, and scenic locations where views are available (e.g., Juneau Falls, Kenai Lake, Kenai River, and the Kenai Princess Lodge deck). In total, 16 Key Views were identified. Map 3.16-1 depicts the location and direction of each Key View.

Table 3.16-1. Visual assessment of Landscape Units

Landscape Unit	General Visual Characteristics				Representative Key Views Visual Quality Evaluation Rating
	Visual Quality	Visual Concern	Visual Exposure	Visual Sensitivity	
(1) Kenai Lake	Moderate to High	High	All distances Period varies	Motorists - Low to Moderate Kenai Lake viewers - high	1 - High 2 - High
(2) Kenai Lake/River Junction	Moderate	Low to Moderate	Foreground Period varies	Moderate	3 - Moderate/High
(3) Juneau Mountain	High	High	Middleground Intermittent	High	4 - Moderate 7A - Moderate 8 - Moderate
(4) Kenai River East	High	High	Foreground Continuous	High	6 - High
(5) Cooper Creek	Moderate to High	High	Foreground to Middleground Period varies	High	5 - Moderate 7B - High 9 - Moderate/high
(6) Juneau Creek Valley	High	High	All distances Periods vary Largely unseen	High	10 - High 12A, 12B - High 13 - Moderate/High
(7) Kenai River West	Moderate to high	High	Foreground Period varies	High	11 - Moderate/High 16 - Moderate
(8) West Kenai River Uplands	Moderate to High	Low to Moderate	Foreground Largely unseen	Moderate to High	14 - Moderate 15 - Moderate

Ratings range: low, moderate/low, moderate, moderate/high, high.

Landscape architects similarly examined the Key Views and assessed existing visual quality based on standardized FHWA criteria (FHWA 1981). These include:

- **Vividness:** “The memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive pattern.”
- **Intactness:** “The integrity of visual order in the natural and man-built landscape, and the extent to which the landscape is free from visual encroachment.”
- **Unity:** “The degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern; ...refers to the compositional harmony or inter-compatibility between landscape elements.”

Aspects of each criterion were scored on a scale of 1 (very low) to 7 (very high). The scores for all three criteria were then averaged to give a numeric score (range of 1–7) which translates to an overall existing Visual Quality Evaluation (VQE) rating (e.g., 1–2 = Low; 3–4 = Moderate; 5 = Moderate/High; 6–7 = High). Details about the assessment methodology and application of the

methodology to this project can be found in the FHWA *Visual Impact Assessment for Highway Projects* guide (1981, HI-88-054) and the *Visual Analysis* (HDR and USKH 2012), respectively. Table 3.16-2 summarizes the existing VQE ratings of the Key Views.

Table 3.16-2. Key Views – Visual Quality Evaluation (VQE) ratings

Key View	Key View Location	Criteria			VQE Rating
		Vividness	Intactness	Unity	
1	Kenai Lake	High	Moderate	High	High
2	Snug Harbor Road	High	High	High	High
3	Kenai River/Lake Junction	High	Moderate	Moderate	Moderate/High
4	Cooper Landing	Moderate	Low	Moderate	Moderate
5	Cooper Landing Community Center	Moderate	Low	Moderate	Moderate
6	Kenai River East	Moderate	High	High	High
7A	Juneau Mountain	Moderate	Low	Moderate	Moderate
7B	Kenai Princess South	High	Moderate	High	High
8	Bean Creek Road	Moderate	Low	Moderate	Moderate
9	Cooper Lake Dam Road	Moderate	High	High	Moderate/High
10	Juneau Creek Valley	High	High	High	High
11	Round Mountain	High	Moderate	High	Moderate/High
12A	Juneau Creek Falls Lookout	High	High	High	High
12B	Resurrection Trail Bridge Crossing	High	High	High	High
13	Resurrection Trail	Moderate	High	High	Moderate/High
14	Russian River Ferry	Moderate	Moderate	Moderate	Moderate
15	River View	High	Moderate	Moderate	Moderate
16	Russian River Ferry/Kenai River Sanctuary	Moderate/High	Moderate	Moderate	Moderate

Note: VQE = Visual Quality Evaluation

In general, the visual resources in the project area have moderate to high ratings throughout. For more information on the existing visual resource assessment methodology, see the *Visual Analysis* (HDR and USKH 2012).

3.16.2 Environmental Consequences

This section describes the impacts of the alternatives on the visual environment. A visual impact is measured as the degree of change in visual resources and viewer responses to those changes. Visual impact analysis was conducted using complementary methodologies, selected because of their accepted use in measuring the visual impact of highway development and operations.

Primary impact analysis was based on the Visual Resource Analysis method, an evaluation of how each alternative would change the existing characteristics and qualities of the Landscape Units and Key Views described above (see Section 3.16.1). The analysis also considered viewer groups, their sensitivity toward various levels of change in the visual environment, and the effects each alternative would have on the viewer response at the Key Views. Table 3.16-3 summarizes the changes to the existing VQE at each Key View under each alternative. The overall impact of each alternative is expressed as the total change in the VQE rating of all Key Views with a larger score indicative of a larger impact to visual resources. Landscape Unit and Key View locations are shown on Map 3.16-1.

Potential impacts were also assessed using a Visual Prioritization Process (VPP) developed by FHWA and the Forest Service, U.S. Department of Agriculture (Forest Service) (Mason 1993, FHWA 1994). The VPP was used to quantitatively score the magnitude and potential visibility of each alternative based on visual impacts associated with roadway construction elements in the landscape. Roadway elements evaluated include cuts, fills, and bridges, including consideration for light and glare effects. Scores for individual roadway elements were based on nine criteria, including the distance at which the element can be seen, the magnitude or size of the element; the aspect, horizontal, and vertical angles of view; the duration of visibility at different distances; and silhouette effects. Scores for all individual roadway elements in each alternative were totaled to give an overall VPP score for that alternative (see Table 3.16-4). A higher VPP score indicates a larger visual resource impact.

Additional detail on the methodologies used to evaluate visual impacts can be found in the *Visual Analysis* (HDR and USKH 2012).

3.16.2.1 No Build Alternative

Direct and Indirect Impacts

The No Build Alternative would result in continued use of the existing highway at its current alignment, and includes future highway maintenance actions, such as ongoing highway surface maintenance and preservation treatments and the replacement of the Cooper Landing, Schooner Bend, and Cooper Creek bridges in accordance with the Alaska Department of Transportation and Public Facilities' (DOT&PF) highway maintenance schedules. These impacts are addressed in Section 3.27, Cumulative Impacts. For all viewer groups, the ability to enjoy and view scenery along the existing roadway would be compromised on an increasing basis by growth in traffic volume. However, the overall landscape would be maintained in existing conditions. As a result, no change to the visual environment is expected under the No Build Alternative.

3.16.2.2 Issues Applicable to the Build Alternatives

Under all build alternatives, impacts to visual resources would occur as a result of changes to the Sterling Highway alignment and the construction of new roadway elements, including cleared forest, cuts, fills, and bridges. The degree to which each build alternative would impact visual qualities at Key Views and Landscape Units varies based on the location of each alternative's new alignment and the visibility of the alignment for different viewer groups. The amount of permanent vegetation loss associated with each alternative would affect the visibility of the alignment for the viewer groups at the Key Views. The VQE rating was assessed for each Key View for each alternative and is summarized in Table 3.16-3. A numeric value was used to

assess the general magnitude of each change in VQE rating, and is shown as an overall total at the end of the table.

Table 3.16-3. Key View VQE rating by build alternative

Key View	Key View Location	Existing VQE Rating	VQE Rating by Alternative			
			Cooper Creek	G South	Juneau Creek	Juneau Creek Variant
1	Kenai Lake	H	H	H	H	H
2	Snug Harbor Road	H	-	H/M [.5]	H/M [.5]	H/M [.5]
3	Kenai River/Lake Junction	H/M	H/M	H/M	H/M	H/M
4	Cooper Landing	M	-	M	M	M
5	Cooper Landing Community Center	M	M	-	-	-
6	Kenai River East	H	-	-	-	-
7A	Juneau Mountain	M	-	M/L [.5]	M/L [.5]	M/L [.5]
7B	Kenai Princess South	H	M [1]	-	-	-
8	Bean Creek Road	M	-	M	M	M
9	Cooper Lake Dam Road	H/M	L [1.5]	-	-	-
10	Juneau Creek Valley	H	-	H	-	-
11	Round Mountain	H/M	-	M [.5]	-	-
12A	Juneau Creek Falls Lookout	H	-	-	M/L [1.5]	M/L [1.5]
12B	Resurrection Trail Bridge Crossing	H	-	-	M/L [1.5]	M/L [1.5]
13	Resurrection Trail	H/M	-	-	M/L [1]	M/L [1]
14	Russian River Ferry	M	-	-	-	L [1]
15	River View	M	-	-	M	-
16	Russian River Ferry/ Kenai River Sanctuary	M	-	-	-	L [1]
	Total Change in Key View VQE		2.5	1.5	5	7

Note: VQE = Visual Quality Evaluation. Scoring Key: [#] indicates the change in VQE Score. H = High [3], H/M = High/Moderate [2.5], M = Moderate [2], M/L = Moderate/Low [1.5], L = Low [1], (-) = Not Affected or Not Seen. VQE scores reflect qualitative changes to key views using the criteria of vividness, intactness, and unity. In general a lower VQE score (i.e., less qualitative change) is more desirable than a higher VQE score.

VPP scores for the build alternatives range from the 400s to the 500s, indicating that all build alternatives have at least moderate impacts as a result of new or updated roadway elements. The range of VPP scores also indicates that none of the build alternatives would result in impacts that are orders of magnitude different than the others.

VPP impact scores are summarized in Table 3.16-4.

Table 3.16-4. VPP score by alternative

Build Alternative	VPP Score
Cooper Creek	583
G South	508
Juneau Creek	460
Juneau Creek Variant	465

Note: VPP = View Prioritization Process

In addition to changes in visual qualities at Key Views, visual impacts would occur under all build alternatives as a result of project lighting at the intersections of the “old” and new highways. Lighting at each of these intersections likely would consist of approximately five to six poles, 20 to 30 feet high. One pole would light each approach to the intersection, particularly where there are left turn pockets, and two poles would be located at the intersection.

Intersection lighting could change the nighttime ambient light and views, particularly for areas farther from current development (i.e., farther from the Cooper Landing community, exterior lodge lights, etc.) where additional light intrusion may be visible and could affect rural recreational nighttime views. In general, light reflecting off snow and low clouds would be more visible in the Kenai River Valley than it is today. For designated Wilderness, where managers strive to maintain a setting untrammelled by human development, illumination near the Wilderness boundary would decrease the naturally dark night sky (except during June and July) and likely would diminish the wilderness experience.

Similarly, views from elevations above treeline would be altered, including views from within the Mystery Creek and Andrew Simons Wilderness units, as the highway under any alternative would include a wider engineered cut through the forest and larger cuts into hillsides, and the paved surface would be wider. Views from these vantage points include the existing highway and other development and are not seen by many people, but the construction of any build alternative would incrementally diminish the sense of wilderness and isolation and would be permanent visual changes.

The project corridor lies within the Sterling Highway Scenic Byway; however, none of the proposed build alternatives would result in a change to this designation. The Alaska Scenic Byways program, administered by the DOT&PF, recognizes and celebrates beautiful landscapes in the state, as well as routes that provide access to scenic, cultural, and recreational resources. Both the Alaska and National Scenic Byways programs support the development and management of scenic byways to serve the communities through which they pass. There are no State restrictions that apply to scenic byways, and the only Federal requirement of nationally designated byways is that new billboard construction is prohibited along nationally designated scenic byways that are Interstate, National Highway System, or Federal-aid primary highways. This is not an issue in Alaska because billboards were banned in 1998. All alternatives would be expected to provide motorists with outstanding scenic driving experiences.

Construction Impacts

Visual impacts would occur during construction for all build alternatives, affecting residents of and visitors to Cooper Landing and surrounding recreation sites. Affected viewer groups include people floating the Kenai River or fishing in the area and drivers passing through on the highway. Impacts under all build alternatives would include fresh cuts in the earth and placement of fresh fill and rock. This includes placement of rock riprap armoring along the river edge that would be visible to river users. Fresh earth cuts and fills are predicted to have the largest visual impact during and immediately following construction due to vegetation removal. The overall impact of these roadway elements is likely to lessen as vegetation regrows.

Visual impacts during construction would also include movement of construction equipment. Similarly, bridge construction under all alternatives would involve the use of large cranes that would be onsite for many months for pile driving and girder placement. This equipment would be visible at a distance and would result in temporary visual impacts.

Mitigation

As part of the standard design, all cuts and fills would be constructed with care, and bare soils would be seeded for quick greening of the landscape. Large new bridges under all alternatives would be designed with aesthetics in mind as seen by recreationists passing near or under the bridge on trails or in boats. Consultation would be undertaken with land managers during design regarding bridge aesthetics and the development of a vegetation plan for the selected alternative. See Section 3.20.2.3, under Practicable Measures to Minimize Harm and Vegetation headings, for more about this interdisciplinary plan. Some specific mitigation for each alternative's construction impacts are listed in the subsections that follow. Intersection lighting would be the minimum necessary in terms of number of poles and light lumens for highway safety. Fixtures would be shielded and directional to minimize light spilling beyond the intersections and to reduce any greater than necessary visual impact.

The following sections describe the alternative-specific impacts on visual quality.

3.16.2.3 Cooper Creek Alternative

Direct and Indirect Impacts

The Cooper Creek Alternative has a VPP impact score of 583 points, the highest of the four build alternatives. This alternative deviates the least from the existing Sterling Highway corridor (it has only about 4 miles of new alignment) but has cuts and fills on a visible slope located just above eye level for viewers on the north side of the Kenai River, a heavily used and sensitive view location. These new roadway elements largely account for the higher VPP score.

The Cooper Creek Alternative would have visual quality impacts to the Cooper Creek Landscape Unit (Unit 5) and two associated Key Views. Key viewer groups in the Cooper Creek Landscape Unit include trail users, residents of Cooper Landing and users of facilities such as the community center, and visitors to the area, particularly those visiting the Kenai Princess Lodge.

The Cooper Creek Alternative would impact visual resources in the Cooper Creek Landscape Unit by fracturing the unity and intactness of the predominately forested, north-facing slope. Views from the Cooper Lake Dam Road looking southwest toward the enclosing forest (Key View 9) would be altered by direct views of the new roadway, lowering the VQE rating at Key View 9 from “high/moderate” to “low.” The Cooper Lake Dam Road is used as an informal

recreational trail, although trail use is relatively low in comparison with other trails in the area. Most of the Cooper Creek Alternative would not be visible to trail users, due to dense vegetation and steep slopes, except when users pass directly under the highway. River users would generally not have views of the alternative because of the presence of banks and trees along the river edge.



The Cooper Creek Alternative would also reduce the VQE rating of the view from the Kenai Princess Lodge looking south (Key View 7B) from “high” to “moderate” because of visible cuts associated with the roadway in the middleground. Existing conditions at Key Views 9 and 7B and a visual simulation of the Cooper Creek Alternative from Key View 7B are presented in Table 3.16-5. Similar views from slightly higher elevations likely would be visible from occasional points along the Resurrection Pass Trail and Bean Creek Trail, with similar effects, although foreground vegetation is expected to obscure the view across the valley for most of the pertinent length of these trails.

Stetson Creek Trail would be physically altered by the Cooper Creek Alternative, changing the location of its trailhead and rerouting a short segment. Views from the trail near the trailhead likely would look down on the highway and be within view of the new Cooper Creek Bridge, a substantial change in the view for a portion of the trail.

Motorists on the new Cooper Creek Alternative alignment would be provided views to the Kenai River Valley, with views to the Chugach Mountains north of the valley. These views are currently unavailable from much of the area due to the proximity of trees that often obscure views. Motorists using the existing highway would generally not have views to the Cooper Creek Alternative alignment because of the presence of banks and trees along the river edge.

Two intersections would be lighted for the Cooper Creek Alternative. These include Snug Harbor Road with the “old” highway (east and west) (see Map 2.6-2 in Chapter 2). For developed areas within Cooper Landing, the lighting would be directly visible from residences in the vicinity of the Bean Creek Road and Snug Harbor Road intersections. Highway lighting could change the nighttime ambient light and views, although lighted yards and driveways already exist at some private residences and commercial properties in these areas. For areas farther from the alignment, with broader vistas, additional light intrusion may be visible. For designated Wilderness, the nearest illumination would be about 3 miles away and likely would not diminish the wilderness experience.

Table 3.16-5. Key Views—Cooper Creek Alternative

Key View	Existing	Visual Impact
9		<p>Because an accurate vantage point of this area could not be obtained, no visual simulation was prepared. The VQE rating for this Key View under the Cooper Creek alternative is low.</p>
<p>This Key View photo was taken about 1 mile up the Cooper Lake Dam Road, approaching the powerline. The VQE rating for this Key View is high/moderate.</p>		
7B		<p>At this Key View, the Cooper Creek Alternative would be located slightly above the elevation of the viewer and would be readily visible. The alternative would interject a conflicting horizontal element in a largely undisturbed landscape and would interject cut and fill that would contrast with color and patterns visible in the image. The VQE rating for the build condition is moderate.</p>
<p>This Key View photo was taken from the south side of the Kenai Princess Lodge, looking south to the hillside above the Kenai River. The VQE rating for this Key View is high.</p>		

Note: VQE = Visual Quality Evaluation

Construction Impacts

Visual impacts associated with the construction of the Cooper Creek Alternative are discussed above under Issues Applicable to the Build Alternatives (Section 3.16.2.2). Specific to this alternative would be construction of the Cooper Creek bridge, with associated temporary access roads to the area beneath the bridge for pier construction and staging area. These activities would involve clearing trees, storing bridge materials, staging cranes and other large equipment, and otherwise altering the current mostly natural visual environment upstream of Cooper Creek Campground. Impacts would potentially last for multiple construction seasons until the bridge was complete but most construction impacts would be temporary. The construction area is not expected to be visible from the campground because of screening by forest.

Mitigation

The new Cooper Creek bridge and replacement Cooper Landing and Schooner Bend bridges would be designed with aesthetics in mind. Other general measures to be incorporated as part of the standard design are listed above in Section 3.16.2.2. For the major construction staging area to be used for construction of the Cooper Creek Bridge, cleared areas would be re-seeded with a native seed mix and would be expected to be reclaimed by native forest over the life of the project. A vegetation plan for the entire project would be the subject of consultation with land management agencies during project design. A material disposal site on the bluff top east of Cooper Creek would not be visible from most locations and would be graded and seeded with a native seed mix to promote a quick return to a mostly natural appearance.

3.16.2.4 G South Alternative

Direct and Indirect Impacts

The G South Alternative has a VPP score of 508. The alternative would largely stay within the existing highway corridor but would have a segment of about 5.5 miles built on a new alignment. The G South Alternative includes roadway elements such as cuts, fills, and bridges, which would more often be viewed in the foreground and middleground and would raise this alternative's VPP score.

Changes to visual resources of three Key Views and four Landscape Units would occur as a result of construction of the G South Alternative. These include Key Views 2, 7A, and 11 and Landscape Units 1 (Kenai Lake), 3 (Juneau Mountain), 6 (Juneau Creek Valley), and 4 (Kenai River East). Viewer groups include residents, users of a number of locally used trails in the vicinity, viewers from the Kenai Princess Lodge, and motorists. Foreground views are provided from a number of homes and from trails that are located in the area. Some of the trails would be directed along and/or across the road; thus views would be in the immediate foreground. Many views are affected by trees or topography; thus the effects are often location dependent.





The G South Alternative would include a strong manmade visual encroachment on the lower slopes of Juneau Mountain, prominent because it is in the foreground and higher than current development as the roadway rises above the Cooper Landing settlement area into an undeveloped area with vivid vegetation and landforms. Cuts and fills would be visible from portions of Kenai Lake, near the mouth of Kenai Lake, the Cooper Landing boat launch, and its adjacent south bank of the Kenai River. The G South Alternative would reduce visual quality from existing conditions for Snug Harbor Road residents looking north (Key View 2). Residents in the Bean Creek area and visitors at the Kenai Princess Lodge would have views north toward



Juneau Mountain of cuts and roadway traffic in the middleground that would reduce the overall quality of their views. As a result, the VQE rating at Key View 7A would fall from “moderate” to “moderate/low.”

On the lower slopes of Juneau Creek Valley, the G South Alternative would cut deeply into the side of a small hill and then curve to cross Bean Creek and the Bean Creek Trail, interjecting a large scale manmade element into a generally undeveloped area, although some vegetation clearing has occurred in this area. The alternative would not be readily visible to the community’s core settlement given slope changes and distance. The alternative would be potentially visible from locations in the upper Juneau Creek Valley, and potentially on high south banks of the Kenai River and lower slopes of Cecil Rhode Mountain where slope and vegetation allow intermittent views. As the roadway entered Juneau Creek canyon, it would cross on piers or deck arches (the bridge total length would be about 1,300 feet); the bridge would fit into the topography of the canyon, obscuring most views from outside the area, including from below on the Kenai River at the Juneau Creek confluence. As the alternative curved southward to leave the canyon, it would follow the lower portion of the slope that makes up the west side of the valley. At the top of the slope above the highway, there may be partial views from the Resurrection Pass National Recreation Trail to the G South Alternative, particularly in wintertime. Views of the highway would be an impact to some trail users who are otherwise accustomed to mostly natural views.

River users generally would not have views to the alternative except where the new bridge crossing connects to the existing highway, as seen from Key View 11 looking from the existing Sterling Highway toward Round Mountain. The construction of a new bridge crossing the Kenai River that would be visible from Key View 11 changes the VQE rating from “high/moderate” to “moderate.” Visual simulations of the Key Views impacted by the G South Alternative are presented in Table 3.16-6.

Table 3.16-6. Key Views—G South Alternative

Key View	Existing	Visual Impact
2	 <p data-bbox="289 758 834 907">This Key View photo was taken from Snug Harbor Road looking in the direction of the existing Sterling Highway (east of the Cooper Landing Bridge) and toward Juneau Mountain. The VQE rating for this Key View is high.</p>	 <p data-bbox="878 758 1424 877">G South Alternative would run across the hillside and be intermittently visible to Snug Harbor Road residents. The VQE rating for the build condition is high/moderate.</p>
7A	 <p data-bbox="289 1346 834 1465">This Key View photo was taken from near the entrance to the Kenai Princess Lodge, looking north toward Juneau Mountain. The VQE rating for this Key View is moderate.</p>	 <p data-bbox="878 1346 1424 1495">The G South Alternative cuts into the lower elevations (600 to 700 feet) of Juneau Mountain where there is no existing development. The VQE rating for the build condition is moderate/low.</p>

Key View	Existing	Visual Impact
11		
	<p>This Key View photo was taken from the south bank of the Kenai River along the existing Sterling Highway facing northwest toward Round Mountain. The VQE rating for this Key View is high/moderate.</p>	<p>A new bridge crossing the Kenai River would be visible in the distance (left side of this photo simulation). The VQE rating for the build condition is moderate.</p>

Note: VQE = Visual Quality Evaluation

Recreational users of the Stetson Creek Trail and Cooper Lake Dam Road may have intermittent views to the north and northeast across the valley to the G South Alternative. Most views likely would be screened by vegetation or terrain, but when visible, the highway would present an engineered line through the otherwise mostly undisturbed natural landscape uphill of Cooper Landing.

Motorists driving along the G South Alternative alignment would be provided views to the Kenai River Valley and to Cooper Creek valley and background peaks. The alignment would also provide expansive views of the Kenai River Valley and Kenai Lake, views seldom seen by most visitors.

For the G South Alternative, lighting would be incorporated at the intersections with the “old” highway (east and west) (see Map 2.6-3 in Chapter 2). Because this alternative would be routed around most of the developed areas within Cooper Landing, the lighting would not be directly visible from residences, although light reflecting off snow and low clouds would be visible. For areas farther from the alignment encompassing broader vistas, additional light intrusion may be visible. For designated Wilderness, the nearest illumination would be 3 miles away and would be unlikely to diminish the wilderness experience.

Construction Impacts

Visual impacts associated with the construction of the G South Alternative are discussed above under Issues Applicable to the Build Alternatives (Section 3.16.2.2). Specific to this alternative would be construction of the Juneau Creek Bridge, with associated temporary access roads to the area beneath the bridge for pier construction and staging area. An area would be used for material disposal as well. These activities would involve clearing trees, storing bridge materials, permanently disposing of woody debris and unusable soils, and staging cranes and other large equipment. These activities would alter the current natural visual environment at the downstream end of Juneau Creek canyon. Impacts would potentially last for multiple construction seasons

until the bridge was complete, but ultimately most construction impacts would be temporary. The construction area is not expected to be visible from most areas commonly used by residents and recreationalists because of forest screening; however, it likely would be visible from some parts of the Resurrection Pass Trail (on the bluff above the creek to the west). Mitigation measures would help to revegetate the area relatively quickly, reducing the time that visual impacts would be as noticeable.

Mitigation

Large new and replacement bridges (Juneau Creek, Kenai River, Schooner Bend) would be designed with aesthetics in mind as seen by recreationists passing near or under the bridge on trails or in boats. Other general measures to be incorporated as part of the standard design are listed above in Section 3.16.2.2. For the major construction staging area to be used for construction of the Juneau Creek Bridge, cleared areas, including the material disposal area, would be re-seeded with a native seed mix and would include native tree seedlings. These areas would be expected to be reclaimed by native forest within several years. A specific vegetation plan for the entire project would be the subject of consultation with land management agencies during project design. A tree buffer would be retained between the highway and the cleared areas to maintain a mostly natural appearance from the highway. A material disposal site on the bluff top east of Juneau Creek would be less visible but also would be graded and seeded with a native seed mix to promote return to a mostly natural appearance.

3.16.2.5 Juneau Creek and Juneau Creek Variant Alternatives

Direct and Indirect Impacts

Juneau Creek Alternative (preferred alternative). The Juneau Creek Alternative would deviate the most from the existing corridor (approximately 9.5 miles of new roadway alignment), but received the lowest overall VPP score of 460 points because cuts and fills would be typically less visible. In a number of locations, cuts and fills would be seen only as a “crease” in the landscape or would be hidden from view behind landforms. In some locations, especially for dispersed recreationists who have climbed the mountains above this alternative, resulting views of the existing natural and rural landscape would change to views with a linear man-made element and cleared vegetation in an undeveloped area. However, this alternative has a higher VQE total reduction for the number of Key Views impacted.

The Juneau Creek Alternative would result in visual impacts to six Key Views and five Landscape Units. These include Key Views 2, 7A, 12A, and 12B, 13, and 15 and Landscape Units 1 (Kenai Lake), 3 (Juneau Mountain), 6 (Juneau Creek Valley), 4 (Kenai River East), and 8 (West Kenai River Uplands). Viewer groups include residents, motorists, and visitors/recreationalists, including hikers, boaters/floaters, and fishermen.

The Juneau Creek Alternative would be seen by residents in the foreground and middleground distances, such as at Key View 2 looking north across Kenai Lake and the existing Sterling Highway from Snug Harbor Road. At this Key View, the new highway segment would be intermittently visible depending on the height of Snug Harbor roadside vegetation and topography. Snug Harbor Road residents would view a cut in the hillside and the highway traffic, changing the VQE rating at Key View 2 from “high” to “high/moderate.” When views are available, motorists and recreationalists would typically have middleground views such as at Key View 7A, where the highway cut is visible on the mountain slope. This change would reduce the

VQE rating looking north from the Kenai Princess Lodge toward Juneau Mountain from “moderate” to “moderate/low.”

Impacts to the Resurrection Pass National Recreation Trail would be particularly important and would occur at more than one vantage point: at the Juneau Creek Falls Lookout (Key View 12A), the Resurrection Trail Bridge Crossing (Key View 12B), and the Resurrection Pass National Recreation Trail (Key View 13). At the Juneau Creek Falls Lookout (Key View 12A), long views down Juneau Creek Canyon would be partially blocked by the new Juneau Creek Bridge. Similarly, mostly natural forest and tree canopy views along the existing trail at the Resurrection Trail Bridge Crossing (Key View 12B) would be replaced by a bridge overhead in the foreground. At both Key Views 12A and 12B, the existing “high” VQE rating would change to “moderate/low” because the Juneau Creek Bridge would block views down into Kenai River Valley and add a linear, man-made element in an undeveloped area. The architectural form of the bridge spanning Juneau Creek canyon also would introduce a contrasting visual element. The Forest Service has noted that this impact would be a visual obstruction of what many people currently come to the Resurrection Pass Trail to experience, and would degrade the trail and backcountry experience for trail users and campers.¹

The highway would be intermittently visible from the trail at Key View 13, particularly during the winter when the leafless deciduous vegetation allowed views to middleground distances. The VQE rating for Key View 13 would fall from “moderate/high” to “moderate/low,” based on disruption to the “unity” and “intactness” of the view, which would be particularly visible when leaves had fallen in winter, and based on the introduction of a major highway in the view.





Recreational users of the Stetson Creek Trail and Cooper Lake Dam Road, and possibly users of the Russian Lakes Trail and Russian River Angler’s Trail, could have intermittent views of these alternatives across the valley at breaks in the forest cover. While foreground vegetation and surrounding terrain would be expected to screen most views of these alternatives, where the alternatives were visible, they would appear as a linear engineered element in an otherwise undeveloped slope.





River users generally would not have views to the alignment due to topography or visual limitations posed by vegetation. However, the alignment would be fully visible in the foreground where the Juneau Creek alignment joins the western end of the project above the north side of Kenai River (Key View 15) within the Kenai River Special Management Area (KRSMA). This impact would result in a lower VQE score, but the rating would remain in the “moderate” category.




Visual simulations of these Key Views impacted by the Juneau Creek Alternative are presented in Table 3.16-7.

¹ The Forest Service, a cooperating agency for this Environmental Impact Statement (EIS), noted in its comments that, in its judgment, the VQE for this particular view should be changed from H to L, rather than to M/L. The 2012 Visual Analysis technical report on which this section is based was prepared by a registered landscape architect who based the rating on a specific method. However, there is room for disagreement in professional judgment. The technical report does agree with the Forest Service that this is one of the most important visual impacts among all the alternatives and all the Key Views. Because the report was a finished product and because this section is based on the report, the specific VQE rating has not been altered. DOT&PF, FHWA, and the Forest Service agree that this is an important visual impact. FHWA does not disagree with the Forest Service and defers to the Forest Service landscape architect’s judgment as the land manager.

Table 3.16-7. Key Views—Juneau Creek Alternative

Key View	Existing	Visual Impact
2	 <p data-bbox="289 810 834 957">This Key View photo was taken from Snug Harbor Road looking in the direction of the existing Sterling Highway (east of the Cooper Landing Bridge) and toward Juneau Mountain. The VQE rating for this Key View is high.</p>	 <p data-bbox="878 810 1403 957">The Juneau Creek Alternative would run across the hillside at a higher elevation than the existing highway and therefore be intermittently within view. The VQE rating for the build condition is high/moderate.</p>
7A	 <p data-bbox="289 1398 834 1518">This Key View photo was taken from near the entrance to Kenai Princess Lodge, looking north toward Juneau Mountain. The VQE rating for this Key View is moderate.</p>	 <p data-bbox="878 1398 1403 1539">The Juneau Creek Alternative would cut into the lower elevations (600 to 700 feet) of Juneau Mountain where there is no existing development. The VQE rating for the build condition is moderate/low.</p>

Key View	Existing	Visual Impact
12A		
	<p>This Key View photo was taken looking southeast from a lookout below Juneau Falls along the Resurrection Pass National Recreation Trail. The viewpoint is accessible on foot and by mountain bike/horseback in summer and by ski/snowshoe and snowmobile in winter. The VQE rating for this Key View is high.</p>	<p>The Juneau Creek Bridge crossing would be visible and would partially block views to the surrounding Juneau Creek Valley, Kenai River Valley, and Kenai Mountains. Because this is an informal but known scenic overlook, visual change would be notable. The VQE rating for the build condition is moderate/low.</p>
12B		
	<p>This Key View photo was taken looking into the vegetated overstory approximately 0.5 mile south of Juneau Falls, at the proposed Juneau Creek Bridge crossing. The VQE rating for this Key View is high.</p>	<p>The Juneau Creek Bridge would be fully seen from this Key View, from below the bridge. The VQE rating for the build condition is moderate/low.</p>

Key View	Existing	Visual Impact
13		<p>Because an accurate vantage point of this area could not be obtained, no visual simulation was prepared.</p>
15		
	<p>This Key View photo was taken looking north approximately 1.5 miles along the Resurrection Pass National Recreation Trail. The VQE rating for this Key View is moderate/high.</p>	<p>The Juneau Creek Alternative would be seen from this view as it merged with the existing Sterling Highway. The VQE rating for the build condition is moderate.</p>

*Except for Key View 15, the impacts illustrated in these views would apply to both the Juneau Creek Alternative and the Juneau Creek Variant Alternative. Key View 15 does not apply to the Juneau Creek Variant Alternative. See further discussion of the Juneau Creek Variant Alternative below.

Note: VQE = Visual Quality Evaluation

Motorists on the Juneau Creek Alternative alignment would be provided excellent expansive views of the Kenai River Valley from a number of locations where cut and fill opportunities provide views to areas below. Prime views for motorists would be from the long slopes at each end of the alternative that provide views up and down the valley. Views on the roadway would be similar to those offered along much of the Seward Highway.

For the Juneau Creek Alternative, lighting would be incorporated at both intersections where the old highway and new segment connect (see Map 2.6-4 and Map 2.6-5 in Chapter 2). Because this alternative would be routed around most of the developed areas within Cooper Landing, the

lighting would not be directly visible from residences, although light reflecting off snow and low clouds would be visible. For areas farther from the alignment encompassing broader vistas, additional light intrusion may be visible, affecting rural recreational nighttime views. For designated Wilderness, where managers strive to maintain a setting untrammelled by human development, the nearest illumination would be within 900 feet (Juneau Creek Alternative) or within 150 feet (Variant). In both cases, illumination in fall and winter would diminish wilderness qualities and values and the opportunity for a wilderness recreational experience (see also Section 3.2.1.1 for discussion of wilderness qualities and values).

The Juneau Creek Alternative would include a new cleared swath of land through forest, mostly on CNF land, but also for some distance on KNWR land. This swath would appear as an engineered line in a largely natural landscape, and it would be visible from portions of the Andrew Simons Wilderness south of the Kenai River. The Surprise Creek Trail begins across the Kenai River from Jim's Landing and provides access up Surprise Creek through forest to alpine terrain above treeline (and outside the project area). Russian Mountain, at an elevation of about 3,500 feet, would block any view from the trail, but anybody who ventured across country to the north side of Russian Mountain or to its summit would be able to view the Kenai River valley, including the existing highway and power transmission line cuts, Sportsman's Landing and Russian River Ferry parking areas, the Forest Service Russian River Campground, and the new highway. The new highway would be an additional and permanent engineered element within the view, and it would detract from the sense of wilderness and isolation in this designated Wilderness area. However, because other development already exists in the view, the character of the view would change incrementally but would not be a dramatic change in the same way that putting a highway through the heart of a Wilderness unit would. Also, because Surprise Creek Trail requires boating across the Kenai River with risk of entering rapids downstream, and because of the distance and elevation gain required to reach the alpine ridges from which these views would be visible, relatively few people access these views. It is anticipated that the change in the view would affect few individuals in any given year, but the impacts would be permanent.

Juneau Creek Variant Alternative. The visual effects of the Juneau Creek Variant Alternative would be very similar to those of the Juneau Creek Alternative. Both alternatives have the same VPP scoring for much of the Juneau Creek Variant's length, as much of the approximately 8.8 miles of new roadway would not be visible from view locations. The Juneau Creek Variant Alternative's overall VPP score of 465 is slightly greater than the VPP score for the Juneau Creek Alternative due to the high visibility of the overpass at the western terminus of the Juneau Creek Variant alignment and the length of improvements made directly adjacent to the Kenai River. These new elements would be visible to fisherman and floaters of the Kenai River.

The Juneau Creek Variant Alternative would have views and predicted changes similar to those discussed for the Juneau Creek Alternative. Exceptions include Key View 15 (view from the Kenai River where the Juneau Creek Alternative would merge with the existing highway), where no change from the existing visual quality is anticipated for the Juneau Creek Variant Alternative. However, the Juneau Creek Variant Alternative would have changes to Key View 14 (view from the Russian River Ferry/Kenai River Sanctuary) and Key View 16 (view from Russian River) that the Juneau Creek Alternative would not have. Impacts to Landscape Units under the Juneau Creek Variant Alternative would generally replicate those described for the Juneau Creek Alternative, although impacts to the West

Kenai River Uplands (Landscape Unit 8) would be less under the Juneau Creek Variant Alternative due to the shorter roadway length.





The view from the Russian River Ferry (Key View 14) to the mountain slopes north of the parking area would change. The proposed bridge overpass over the existing Sterling Highway would interject a more dominant traffic element into the view from both the Kenai River and the Russian River Ferry parking area. The overpass would also create views of exposed fill where forest currently exists. The overpass's location above the viewer (i.e., "superior" in view) would result in a more dominant presence of transportation infrastructure than now exists. Similarly, views from the Russian River within KRSMA (Key View 16) would also be altered. The area is heavily used for fishing, and sports fishers would have a direct view to the new roadway climbing toward the Juneau Creek Bridge crossing, except where a river bar with trees precludes the view. This change would lower the existing "moderate" VQE rating at both Key Views to "low."

Visual simulations of the Key Views are presented in Table 3.16-8.

For the Juneau Creek Variant Alternative, illumination would be incorporated at both intersections where the "old" highway and new segment connect (see Map 2.6-5 in Chapter 2). Because this alternative would be routed around most of the developed areas within Cooper Landing, the lighting would be less visible from residences, although diffuse light reflecting off snow and low clouds would be visible. For areas farther from the alignment encompassing broader vistas, additional light intrusion may be visible, thereby affecting rural recreational nighttime views. For designated Wilderness areas, the illumination would diminish the wilderness experience.

Impacts to views seen from the Russian Mountain area within Andrew Simons Wilderness (KNWR) would be similar to those described at the end of the Juneau Creek Alternative section, above. An exception is that there would be no new swath of trees cut within the KNWR as there would be for the Juneau Creek Alternative. Therefore, these visual impacts would be slightly reduced under the Juneau Creek Variant Alternative.

Table 3.16-8. Key Views—Juneau Creek Variant Alternative^a

Key View	Existing	Visual Impact
14		
	<p>This Key View photo was taken looking north from the Sportsman's Landing boat launch. The VQE rating for this Key View is moderate</p>	<p>Cut and fill would be visible, and the bridge overpass structure would be clearly visible and close to the viewer. The VQE rating for the build condition is low.</p>
16		
	<p>This Key View photo was taken south of the Sportsman's Landing boat launch and Russian River Ferry. The VQE rating for this Key View is moderate</p>	<p>Cut and fill would be visible, and the bridge overpass structure would be clearly visible. The VQE rating for the build condition is low.</p>

^aThe impacts illustrated in this table would be in addition to those listed above in Table 3.16-7, which are shared by the Juneau Creek Alternative and Juneau Creek Variant Alternative.

Note: VQE = Visual Quality Evaluation

Construction Impacts

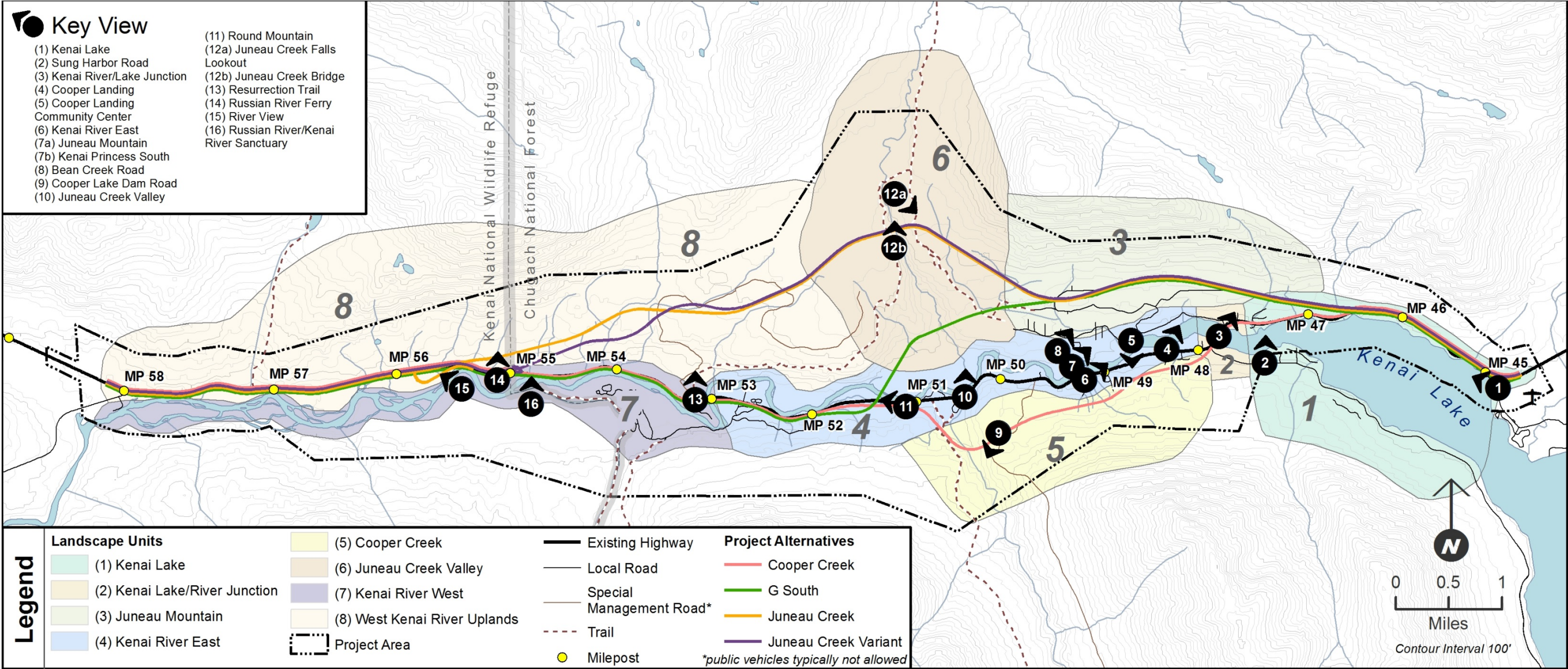
Visual impacts associated with the construction of the Juneau Creek and Juneau Creek Variant alternatives are discussed above under Issues Applicable to the Build Alternatives (Section 3.16.2.2). Specific to these two alternatives would be construction of the Juneau Creek Bridge, with associated temporary staging areas east and west of the canyon. The bridge would be built from the canyon rims with no access or visual disturbance within the canyon. These activities would involve clearing trees, storing bridge materials, and staging cranes and other large equipment. These activities would alter the current natural visual environment near the Bean

Creek and Resurrection Pass trails. Impacts would potentially last for multiple construction seasons until the bridge was complete, but most construction impacts would be temporary. The construction area is not expected to be visible from inhabited areas. Mitigation measures would help to revegetate the area relatively quickly, reducing the time that visual construction impacts would occur.

Mitigation

The Juneau Creek Bridge would be designed with aesthetics in mind as seen by recreationists passing near or under the bridge on trails. The bridge and embankment facing Sportsman's Landing (Juneau Creek Variant Alternative) similarly would be designed with aesthetics in mind as seen by people using the boat launch area or fishing in and near the confluence of the Kenai and Russian rivers. Other general measures to be incorporated as part of the standard design are listed above in Section 3.16.2.2.

The cleared area for the major staging area to be used for construction of the Juneau Creek Bridge would be re-seeded with a native seed mix. The staging area west of the bridge would be used for a new formal trailhead parking area for the Resurrection Pass Trail. If needed, additional vegetation screening would be planted between the highway and the new trailhead using native tree seedlings. Cleared areas would be expected to be reclaimed by native forest within several years. A specific vegetation plan for the entire project would be the subject of consultation with land management agencies during project design. A material disposal site on the bluff top east of Juneau Creek would be less visible but also would be graded and seeded with a native seed mix to promote return to a mostly natural appearance. Related discussion appears in Chapter 4 (Final Section 4(f) Evaluation) under discussion of measures to minimize harm to the Resurrection Pass Trail. A material disposal site located on the bluff top east of Juneau Creek (well downstream of the bridge site) would be less visible but similarly would be graded and re-seeded with a native seed mix to promote return to a mostly natural visual environment.



Map 3.16-1. Landscape units and key views in the project area [Updated]

This page intentionally left blank.