

## Chapter 2 ALTERNATIVES INCLUDING THE PROPOSED ACTION

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This section describes the project alternatives: the No Action Alternative and the Proposed Action.

### 2.1 No Action Alternative

With the No Action Alternative Forest Service land near Trinity Point would not be accessible by road and limited transportation in Whittier would persist. Access to Trinity Point beyond the current terminus of Shotgun Cove Road would consist of hiking and all-terrain vehicle (ATV) trails only and development of lands beyond the end of the existing road would be unlikely.

### 2.2 Proposed Action

The Proposed Action would extend the existing Shotgun Cove Road for approximately 2.5 miles from the current terminus of the road near Second Salmon Run (mile 2.0) onto Forest Service land at Trinity Point (mile 4.5). The road extension would be constructed approximately 250 to 350 feet from the shoreline and would run roughly down the middle of City-owned land. The project would include nine new parking areas and eight spur/access roads accessing future beach access points, and future private parcels. The road would terminate at Trinity Point with a turnaround and separate parking area to accommodate up to 50 vehicles. Figure 2-1 shows the proposed main road and proposed spur/access roads alignments.

The main road would have two 10-foot-wide gravel travel lanes with 5-foot-wide gravel shoulders with recoverable slopes and drainage swales or rock cuts along uphill sides (Figure 2-2). The roadway would follow existing contours to limit steep grades (maximum grade would be 10%) and significant changes in grade. The access roads would be slightly narrower, with two 9-foot-wide gravel travel lanes and varying width recoverable slopes (Figure 2-3). Both the mainline and access roads would have designed rockfall catchment areas on the uphill side. Typical traffic control and wayfinding signage would be installed along the route. Due to steep existing topography at the site, the main road would have a posted speed limit of 25 miles per hour, and the access roads would have lower posted speed limits.

Culverts would be installed at existing creeks and small drainage features, including wetlands. Most culverts would be corrugated aluminum pipe and would be 36 to 60 inches in diameter, depending on waterway characteristics. At four locations where anadromous or resident fish are present, culverts would be designed to allow for fish passage. Two of the four fish passage culverts would be 60-inch pipe culverts, trenched at least 2 feet below the bottom of the roadway structural section and backfilled with stream substrate to a minimum depth of 2 feet. The other two fish passage culverts would be arch culverts installed on concrete footings and backfilled with stream substrate. One of the arch culverts would have a 20-foot span and 10-foot rise; the other would have a 9-foot span and a 4.5-foot rise.

Nine new parking areas would be constructed to provide access to public land along the corridor, with capacities ranging from 8 to 50 parked vehicles. Public toilet facilities would also be installed at two of the lots. The parking areas are planned in locations near recreation resources

such as viewpoints, beach access, backcountry access, fishing, and kayak launch areas. A majority of the existing two-mile-long Emerald Cove Trail would be abandoned in place and would no longer connect the parking area at the current end of Shotgun Cove Road to Emerald Cove. Two segments of the existing Emerald Cove Trail near proposed parking areas would be retained and would undergo minor improvements for safety.

### 2.2.1 Construction Methods

The project corridor traverses a steep grade, requiring a combination of rock cut blasting and fill. Since the project site is located in a rural area with no easily-accessible material sites, the project aims to balance cut fills from the site by using blasted rock for the embankments and road section. Material from the road excavation would be hauled by truck to the rock crushing area located at the staging area at the beginning of the project. Excess cut material that is stockpiled as construction of the road progresses would be used to construct the access roads, instead of being hauled miles away for disposal.

The project area is characterized by shallow bedrock overlain by an average of 2 to 4 feet of overburden/muck. To construct the roads, overburden less than 8 feet below the finish grade elevation would be excavated. Geotextile fabric would then be placed to separate the native ground from roadway fill and a layer of shot rock, overlain by 20 inches of base course (classified fill meeting DOT&PF Type A standard requirements) and 6 inches of aggregate surface course (crushed stone or gravel with fines meeting DOT&PF E-1 standard requirements), would make up the roadway structural section (DOT&PF 2020). Excavated overburden/muck would be disposed on 2:1 fill slopes and 2:1 cut slopes on portions of the mainline or access roads structural section and under or adjacent to the structural section of parking areas, where possible.

Upon completion of construction, all road maintenance would be the responsibility of the City. The City is not proposing snow removal and therefore the road would likely be impassible during much of the winter.

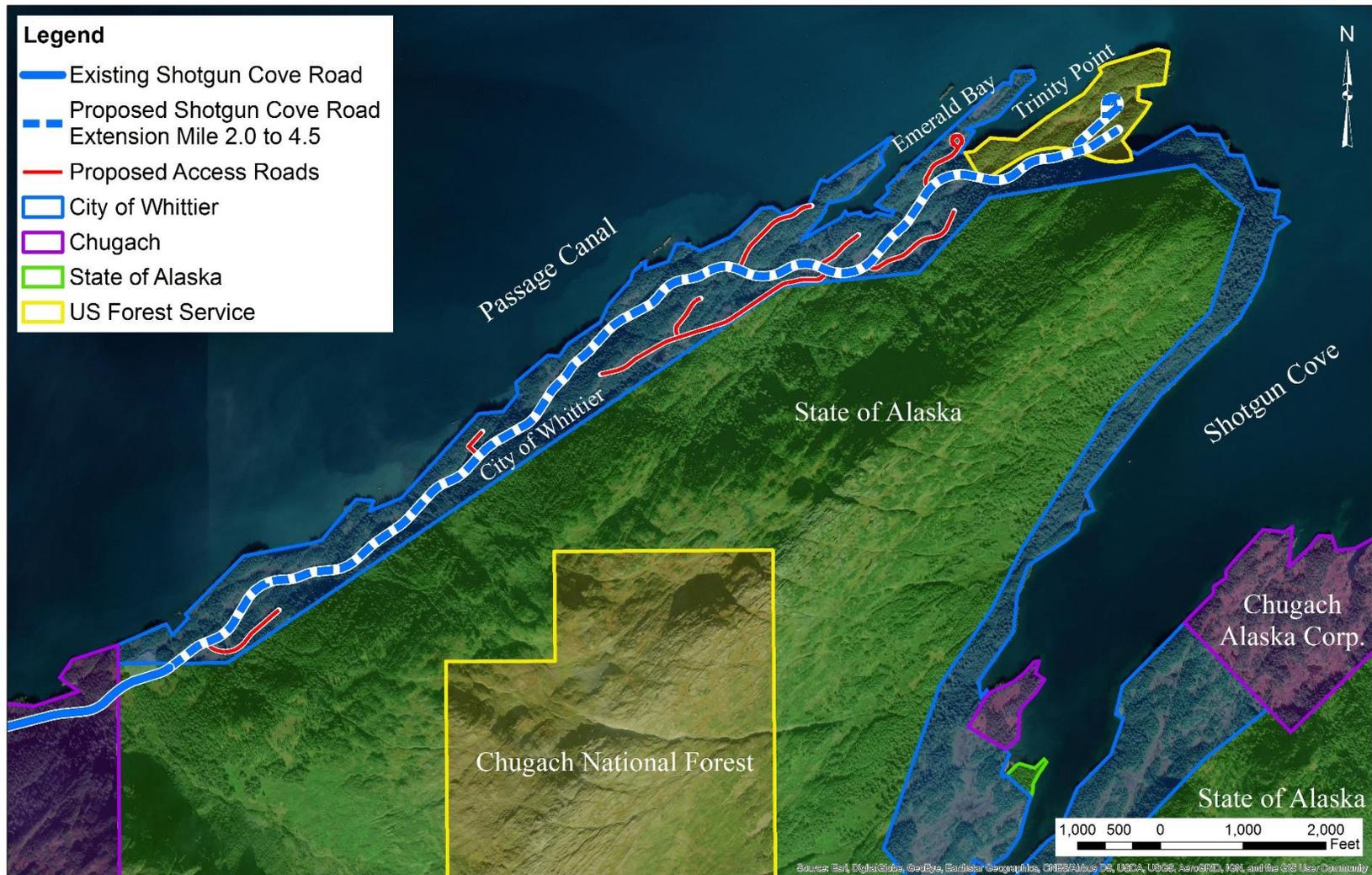


Figure 2-1. Proposed Shotgun Cove Road Extension Project Mainline and Spur Roads

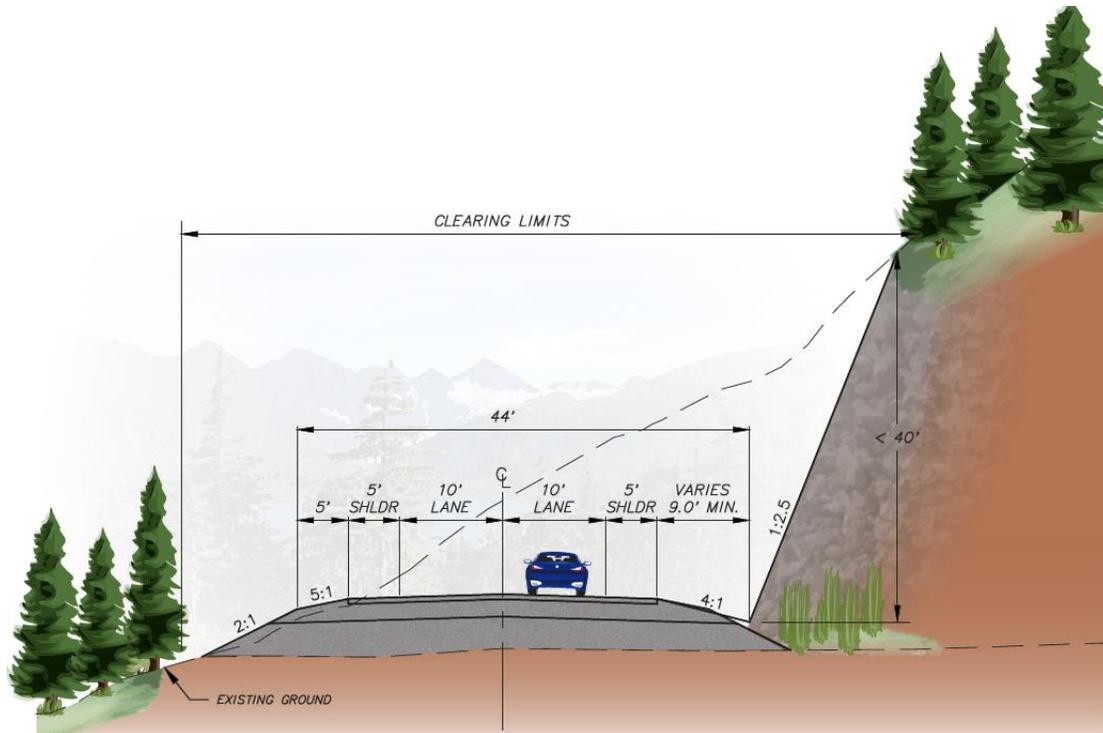


Figure 2-2. Typical Shotgun Cove Road Extension Project Mainline Road Cross Section

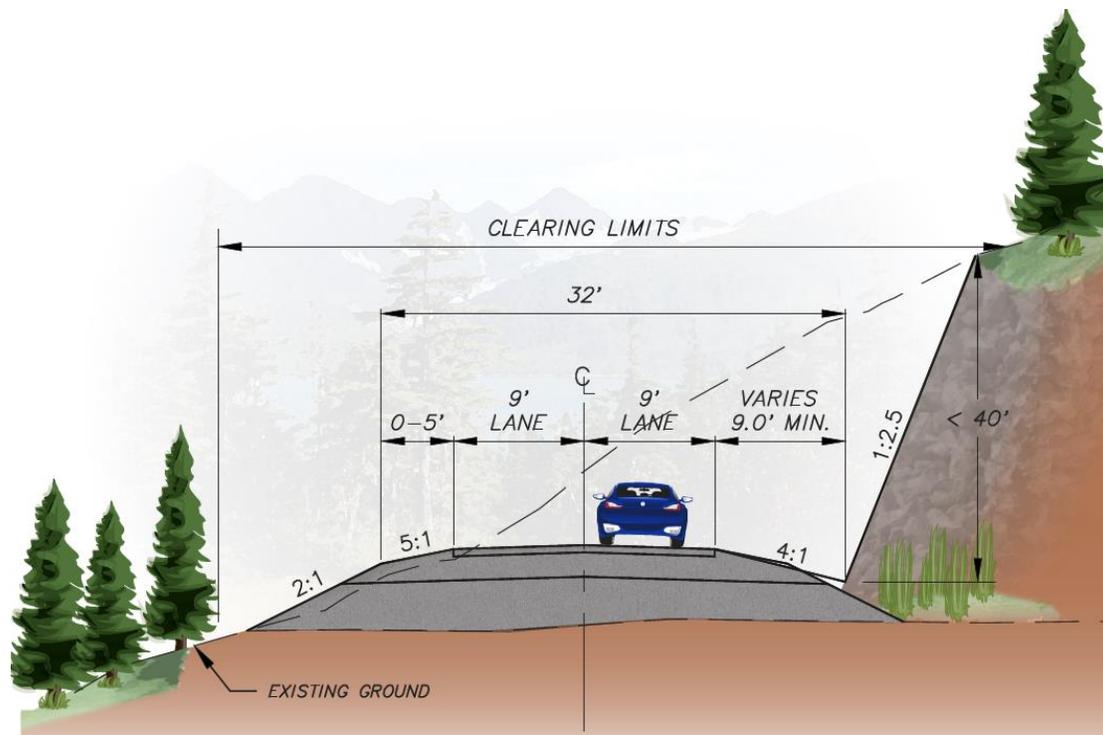


Figure 2-3. Typical Shotgun Cove Road Extension Project Spur Access Road Cross Section

## 2.3 Alternatives Previously Considered but Dismissed

Several alternative alignments were considered early in the planning and design phases but were not advanced for further analysis in this environmental assessment (EA). The project's Design Study Report (DSR) evaluated two of the most feasible road alignment options, a High Option and a Low Option (CRW 2018). These two were chosen for evaluation in the DSR because they appeared feasible and best minimized stream crossings and maintained wetland connectivity out of the many options considered. Both options began at the existing Shotgun Cove Road terminus and ended prior to reaching Forest Service land at Trinity Point. The options were evaluated and compared based on environmental impacts, road profile, length of steep cuts and fill, mass haul, and construction feasibility/cost. They were also evaluated on how well they met the project's purpose and need. Various access roads to provide access to future private (potentially developable parcels) and public lands (trailheads, beach access) were also considered in the evaluation.

The High Option was dismissed from further consideration for several reasons, chief among them being construction feasibility. As design progressed, it became apparent that portions of this alignment were not constructible due to very steep topography. Areas of the alignment were steep enough to be basically inaccessible and impractical for future access or development of adjacent lands. Wetlands impacts were lower along the High Option mainline, and it was shorter in length, but the footprint was approximately 27,500 square feet larger than the Low Option due to greater cut and fill requirements. The High Option also had a greater amount of acreage impacted by construction of access roads as it was far uphill from many of the expected future private parcels and beach access. Additionally, the access roads proposed with the High Option would have resulted in greater wetland impacts than the Low Option and its associated access roads.

The Low Option, located along less steep terrain, was found to be feasible to construct and enabled access to adjacent lands. Although the Low Option initially had more wetlands impacts than the High Option, further design refinement occurred based on resource studies and feedback from agencies and stakeholders. The design modifications helped to minimize wetlands undercutting or draining and stream channels impacts. In addition, further engineering helped to improve roadway crossings of anadromous fish streams and avoid difficult topography.

As originally proposed, the Low Option terminated at the Forest Service land boundary before Trinity Point. However, after receiving public comments and discussions with the Forest Service, it was determined that the logical terminus for the project was at the end of Trinity Point on Forest Service land. In addition, the original Low Option did not include access roads. After further design and public input, the access roads were added to this option to better meet the project's purpose and need and to provide beneficial reuse of the excess cut material from the mainline road.

The Low Option terminating at Trinity Point Forest Service land and including access roads has been carried forward as the Proposed Action in this document.