

APPENDIX B—FLOODPLAIN STATEMENT OF FINDINGS

Hoh River Valley Road, West Twin Creek Bridge
Environmental Assessment
Olympic National Park
Washington

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for Superintendent, Olympic National Park Date
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The above signatures certify that this document is technically adequate and consistent with NPS policy.

Executive Order (EO) 11988 (“Floodplain Management”) requires the National Park Service (NPS) and other agencies to evaluate the likely impacts of actions in floodplains. It is NPS policy to preserve floodplain values and minimize potentially hazardous conditions associated with flooding. If a proposed action is in an applicable regulatory floodplain, then flood conditions and associated hazards must be quantified, and a formal Statement of Findings (SOF) must be prepared. The NPS *Procedural Manual #77-2, Floodplain Management* provides direction for the preparation of a floodplain SOF. This SOF has been prepared to comply with EO 11988 and with *Procedural Manual #77-2*.

PROPOSED ACTION

The National Park Service, in cooperation with the Federal Highway Administration (FHWA), is proposing to install a two-lane bridge across West Twin Creek on Upper Hoh Road at milepost 2.5 to restore permanent access to the roadway and the visitor center. The bridge would replace culverts that were washed out during a major storm in November 2006. The bridge would improve fish passage along West Twin Creek. In addition, this action includes removal of a temporary one-lane bridge that was installed following the storm and removal of two culverts that were washed downstream.

Site Description

The proposed West Twin Creek Bridge project will:

- Reestablish two-lane access for park visitors and staff to the Hoh Visitor Center, campground, picnic area, and trails
- Restore natural hydrologic conditions to West Twin Creek
- Provide fish passage along West Twin Creek

The proposed action is needed to repair damage to the Upper Hoh Road—West Twin Creek crossing caused by storm damage. Restoration of access to the Hoh Rain Forest is of vital concern to the NPS, local and regional communities, and park visitors. The Hoh Rain Forest is one of the prime destination points for visitors to the west side of the Olympic Peninsula. Facilities include the ranger station/visitor center, nature trails, residences, maintenance shop, campground, as well as Upper Hoh Road. The Hoh Trailhead is a major wilderness trailhead and provides the most direct trail access to Mt. Olympus. ONP received more than 3 million visitors in 2005 (Stynes 2006). In 2005, about 148,000 visitors traveled by vehicle to the Hoh Valley (NPS 2007). In 2002, the average daily traffic (ADT) on Upper Hoh Road during the month of August was 600 vehicles, and during September the ADT was 100 vehicles. The temporarily installed one-lane bridge does not provide adequate access for the volume of traffic.

Other needs associated with the proposed project include removal of the temporary bridge and abutments. This includes removal, reclamation, and revegetation of the temporary road detour to restore natural resource values. To restore stream function and reduce the potential for resource damage, the two culverts washed downstream by the storm need to be removed. The project area encompasses the Upper Hoh Road—West Twin Creek crossing and washed-out culverts located about 250 feet and 450 feet downstream from the road crossing.

Floodplains

The project area is within the West Twin Creek and Hoh River floodplains, which have not been mapped. The Hoh River floodplain is about 1 mile wide. The floodplain of West Twin Creek is

poorly developed. Until West Twin Creek enters the Hoh River floodplain, the stream has a very narrow floodplain constrained by steep slopes. The 2-year bankfull flow of West Twin Creek is estimated to be 430 cfs and the 100-year peak flow is estimated to be 1,000 to 1,060 cfs (Table B-1).

Justification for Use of the Floodplains

Construction of this bridge in the floodplain cannot be avoided. The impact of the project on floodplains would be minor and beneficial.

Investigation of Alternative Sites

There are no other alternative sites for this project.

Hydrologic Risk

The project would be completed during low creek flow. Construction would be halted if high precipitation or high flows occur. The floodplains would be slightly negatively impacted during construction and would be improved in the long term.

During high precipitation or high flow events, the road and bridge could be closed and the area within the floodplain evacuated. The floodplain has not been mapped, but peak flows have been estimated for purposes of bridge design:

TABLE B-1. PEAK DISCHARGE ESTIMATES FOR WEST TWIN CREEK AT PROPOSED BRIDGE LOCATION

Recurrence Interval	Peak Discharge (cfs)
2-year	430
10-year	680-710
25-year	800-850
50-year	900-950
100-year	1,000-1,060
500-year	1,310-1,600

Floods on West Twin Creek and the Hoh River occur during large frontal rainstorm events and as a result of snowmelt. Flooding of this nature can be anticipated and, therefore, the risk to visitors and park staff from flooding is small. However, floods larger than the bridge is designed to handle are possible on an infrequent basis and may result in damage or failure of the bridge.

MITIGATIVE ACTIONS

Flood hazard mitigation would be provided by incorporating methods for protecting life and minimizing damage to both the bridge and to natural resources through appropriate procedures. Mitigation of flood hazards to bridge users would be accomplished by closure of the road during periods of very high flow. The bridge will be designed to safely pass the 100-year flood without over-topping, and risk to the structure itself will be tolerated during floods exceeding the design. Such floods are expected to occur rarely.

Mitigation would include sustainable design principles, appropriate elevations for the finished road and bridge, and Best Management Practices during and after construction.

Design would minimize the adverse environmental impacts on natural floodplain values and minimize potential risk to lives and property. It would prevent alteration of the natural and beneficial floodplain values and maintain the floodplain environment as close to its natural state as possible using all practicable means.

The bridge would be designed to avoid scouring, deposition, other damage to floodplains. Placement of fill on floodplains would not occur. Free natural drainage and natural contours would be preserved to the extent practicable when designing and constructing the road and bridge. The site would be revegetated when construction is complete. Minimum grading requirements would be used and compaction would be minimized.

These mitigative measures would be in accordance with the NPS floodplain guidelines and with EO 11988 (“Floodplain Management”).

COMPLIANCE

The bridge for West Twin Creek would accommodate natural streamflows, as well as 100-year flood flows. There would be some localized measurable improvement in the ability of the floodplains to convey and store floodwaters, and bridge construction would not contribute to flooding.

Section 401 of the Clean Water Act requires a permit for any activity which may result in any discharge into the navigable waters of the United States. As per the U.S. Army Corps of Engineers, this project would likely fall under Section 404 of the Clean Water Act Nationwide Permit 14 (Linear Transportation Projects). Therefore, Section 401 and 404 permits would be required for this project.

Section 401 and 404 permits, plus the Environmental Assessment, this SOF for EO 11988 and Procedural Manual #77-2, and the finding of no significant impact (FONSI), when signed, would complete the requirements for the NEPA for this project.

CONCLUSION

The protection of people and property is of high priority to Olympic National Park. The proposed bridge would be constructed on National Park land, and West Twin Creek and the Hoh River flow across the park. The National Park Service concludes that there is no other practicable alternative for the proposed project. With the road and bridge designed to prevent or reduce flood damage, the risk to life and property would be minimized. There would be no significant negative effects on natural or beneficial floodplain values. Mitigation would include good design through sustainable design principles, appropriate siting, and Best Management Practices during and after construction. The National Park Service finds the proposal to be consistent with EO 11990.