

U.S. 101, East Sequim Bay Road Access Point

DRAFT Interchange Justification Report - Amendment

Jamestown S’Klallam Tribe



March 2012

Parametrix

U.S. 101, East Sequim Bay Road Access Point

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FOREWORD

In 2009, a U.S. 101 East Sequim Bay Road Access Point Interchange Justification Report (IJR) was completed by Parametrix and received concurrence from the Washington State Department of Transportation.

In 2010, based on new information, the preferred alternative changed. A Draft IJR Amendment was initiated and substantially completed by Parametrix but never finalized and approved.

In 2012, the Draft IJR Amendment was updated for submittal to fulfill contract obligations. This report was not finalized due to continued changes in Project alternatives and direction.

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CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

Prepared by Peter Chen

Checked by John Perlic

Approved by Happy Longfellow

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EXECUTIVE SUMMARY

This Interchange Justification Report (IJR) Amendment (hereafter referred to as “IJR Amendment”) for the proposed project “U.S. 101, East Sequim Bay Road Access Point” is being submitted to the Washington State Department of Transportation (WSDOT) for review and approval.

The Jamestown S'Klallam Tribe (JST) plans to construct access, mobility, and safety improvements to U.S. 101 from approximately mile post 271.1 to mile post 272.4, as well as associated local roadway improvements, in the Sequim Bay area of Clallam County, Washington. The purpose of the project is to provide better connections between East Sequim Bay Road, Old Blyn Highway, and U.S. 101, help alleviate any anticipated congestion along the U.S. 101 corridor, improve safety along the corridor, and accommodate future development needs in a safe manner.

JST identified 13 project alternatives, which were analyzed and documented in the “U.S. 101, East Sequim Bay Road Access Point IJR.” After WSDOT review, this IJR received a Finding of Engineering and Operational Acceptability in September 2009 (hereafter referred to as the “September 2009 IJR”). Since that time, JST selected a new Preferred Alternative that meets the project’s goals while potentially minimizing right-of-way acquisition and other project effects and total project cost. This new Preferred Alternative, shown on [NEED GRAPHIC: Figure ES-1], includes a raised median that separates U.S. 101 and limits access at intersecting roadways to right-in/right-out movements. Median openings would be provided at specific locations along U.S. 101 to allow U-turn movements and bidirectional travel along U.S. 101 from intersecting roadways. Left turn storage and acceleration/deceleration lanes on U.S. 101 would also be provided for turning movements.

This IJR Amendment to the September 2009 IJR evaluates the new Preferred Alternative. Information presented in this IJR Amendment supersedes all conclusions provided in the September 2009 IJR; however, all other information documented in the September 2009 IJR remains valid unless specifically noted otherwise.

Information and conclusions from the September 2009 IJR that remain valid have been summarized and include:

- Policy Point 1: Need for the Access Point Revision
- Policy Point 2: Reasonable Alternatives
- Policy Point 5: Land Use and Transportation Plans
- Policy Point 6: Future Interchanges
- Policy Point 7: Coordination
- Policy Point 8: Environmental Processes

Analyses and conclusions that specifically pertain to the new Preferred Alternative and supersedes the information provided in the September 2009 IJR are expounded on and include:

- Policy Point 3: Operational and Accident Analyses
- Policy Point 4: Access Connections and Design

[NEED TO SUMMARIZE PP3 AND PP4]

1. POLICY POINT 1: NEED FOR THE ACCESS POINT REVISION

What are the current and projected needs? Why are the existing access points and the existing or improved local system unable to meet the proposed needs? Is the anticipated demand short or long trips?

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

1.1 SUMMARY OF SEPTEMBER 2009 IJR

Two of the 11 study intersections currently operate unacceptably below the WSDOT LOS C standard; the U.S. 101/Blyn Crossing intersection operates at LOS D in the AM peak hour and the U.S. 101/Corriea Road intersection operates at LOS D in the PM peak hour. Background growth and land development within the study area are expected to substantially increase traffic volumes, resulting in seven to nine of the 11 study intersections expected to operate below the LOS C standard during the AM and PM peak hours in the year 2035 for Baseline and Alternative 1 (intersection channelization improvements only) conditions, including:

- U.S. 101/Corriea Rd (Baseline LOS F, AM/PM; Alternative 1 LOS F, AM/PM)
- U.S. 101/Casino Driveway (Baseline LOS F, AM/PM; Alternative 1 LOS F, AM/PM)
- U.S. 101/Sophus Rd (Baseline LOS F, AM/PM; Alternative 1 LOS F, AM/PM)
- U.S. 101/Blyn Crossing (Baseline LOS F, AM/PM; Alternative 1 LOS F, AM/PM)
- U.S. 101/Zaccardo Rd (Baseline LOS F, AM/PM; Alternative 1 LOS E, AM/PM)
- U.S. 101/Chicken Coop Rd (Baseline LOS F, AM/PM)
- U.S. 101/Deerhawk Dr (Baseline LOS F, AM/PM)
- U.S. 101/Old Blyn Hwy (Baseline LOS F, AM/PM; Alternative 1 LOS F, AM/PM)
- U.S. 101/Country Store Driveway (Baseline LOS D AM, LOS E PM; Alternative 1 LOS D AM, LOS E PM)

Alternative 1, which consists of local intersection improvements only and does not include any new access points to U.S. 101, was analyzed to determine if channelization improvements alone could result in acceptable operating conditions. Under Alternative 1, seven of the 11 intersections would operate below the LOS C standard. Traffic operations for Alternative 1 would marginally improve compared to Baseline conditions; however, high delays would still be problematic. Closure of Chicken Coop Road (or Zaccardo Road) and channelization improvements proposed as part of Alternative 1 would generally improve safety compared to Baseline conditions; however, left-turn volumes onto and off of U.S. 101 would still pose safety issues and these types of collisions would likely result in severe injuries and/or fatalities.

One high accident corridor (HAC) was identified along the U.S. 101 mainline east of Barker Road (SRMP 268.92) to Blyn Road (SRMP 272.41). A standard methodology for forecasting collision rates is not yet available. However, the potential for collision frequency and severity tends to increase with higher traffic volumes, especially for at- or above-capacity roadways such as U.S. 101 in 2035, as a result of more aggressive driver behavior entering traffic streams with unacceptable gaps. Multiple stop-controlled access points within the study area would likely exacerbate safety challenges and collision rates would likely increase.

1.2 UPDATED INFORMATION

The new Preferred Alternative presented in this IJR Amendment changes travel patterns at intersections and along the U.S. 101 mainline. The westernmost intersection with proposed turning movement restrictions is the U.S. 101/Blyn Crossing intersection. At this location, both Blyn Crossing and Woods Road would be limited to right-in/right-out movements and the following travel patterns would change:

- Left-out movements from Blyn Crossing would be replaced with right-out movements that turn around at Sophus Road.
- Left-in movements to Blyn Crossing would continue to the U-turn location north of Chicken Coop Road, make the U-turn, and travel southbound on U.S. 101 to complete a right-in movement at Blyn Crossing.
- Left-out movements from Woods Road would be substituted with right-out movements that would continue to the U-turn location north of Chicken Coop Road, make the U-turn, then continue southbound on U.S. 101.
- Left-in movements to Woods Road would turn around at Sophus Road, then make a right-in movement to Woods Road.

Since travel patterns at this westernmost intersection do not affect the U.S. 101/Corriea Road or U.S. 101/Casino Driveway intersections, traffic volumes and operations would not be affected by the Preferred Alternative. Accordingly, WSDOT agreed to have these two intersections removed from the analysis in this IJR Amendment.

2. POLICY POINT 2: REASONABLE ALTERNATIVES

Describe the reasonable alternatives that have been evaluated.

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

2.1 SUMMARY OF SEPTEMBER 2009 IJR

Thirteen preliminary alternatives were developed to identify a broad range of possible solutions to the anticipated unacceptable traffic operations and safety concerns within the study area. This range of possibilities included a local intersection improvements only alternative, several interchange configurations, at at-grade intersection, and an overpass connecting two at-grade right-in/right-out intersections. Based on similarities between these preliminary alternatives, a high-level evaluation was conducted and resulted in eight alternatives that were carried forward for further analysis and evaluation.

A stakeholder review group, which consisted of WSDOT, Clallam County, and Jamestown S'Klallam Tribal staff, was formed to conduct the alternatives screening review process. An alternatives screening memorandum was prepared and each of the eight alternatives were evaluated with respect to four primary screening criteria, including: land use, transportation, environmental, and economics. Within each primary screening criterion several sub-criteria were identified. All primary and sub-criteria were assigned a weighting scheme that was agreed upon by each of the stakeholders. Each alternative was collectively scored by the stakeholder groups to derive a single score that was used to aid in the selection of a Preferred Alternative.

All of the build alternatives improve safety along the U.S. 101 mainline in some form compared to the No-Build as a result of:

- Access point closure (Zaccardo Road or Chicken Coop Road)
- Increased access point spacing
- Turning movement restrictions that reduce the number of conflict points
- Acceleration lanes that provide two-stage gap acceptance
- Acceleration lanes that decrease speed differentials of merging traffic
- Turn pockets that allow divergence from the U.S. 101 mainline stream of traffic
- Improved traffic operations that reduce driver frustration and aggressiveness

2.2 UPDATED INFORMATION

Since the time of the September 2009 IJR, two additional alternatives were evaluated. One alternative considered replacing several existing stop-controlled intersections with a series of roundabouts. The second alternative, which is now the Preferred Alternative, would restrict minor street connections to right-in/right-out movements and construct U-turn locations. Both of these alternatives went through the same fatal-flaw evaluation and alternatives screening process that previous alternatives were subject to. The two new alternatives were compared to a variety of different alternatives previously considered and the weighted scores were:

- Local Improvements Only – 3.14 (worst)

- At-Grade Signal – 3.27 (second worst)
- Overpass with Right-In/Right-Out (previous Preferred Alternative) – 3.86
- Indirect Left Turns (Preferred Alternative) – 4.09 (best)
- Roundabouts – 3.92 (second best)

Additional information is provided in Appendix A, U.S. 101 Updated Alternatives Screening Results Memorandum.

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3. POLICY POINT 3: OPERATIONAL AND ACCIDENT ANALYSIS

How will the proposal affect safety and traffic operations at year of opening and design year?

This section provides new information that supersedes the conclusions presented in the September 2009 IJR.

3.1 THE PREFERRED ALTERNATIVE

3.1.1 Preferred Alternative Build-Out Improvements

The new Preferred Alternative generally consists of consolidating access points, restricting turning movements to right-in/right-out only, realigning E Sequim Bay Road, and creating one new access point to U.S. 101 to improve access, mobility, and safety.

Improvements associated with the Preferred Alternative extend from Deerhawk Drive to the north, Blyn Crossing to the south, and Old Blyn Highway to the west.

Chicken Coop Road and Zaccardo Road would be consolidated into one roadway prior to intersecting with U.S. 101. The new intersection would remove the skew angle and replace it with an orthogonal orientation to improve safety. Left-out movements onto U.S. 101 would be restricted. Left-in and right-in movements from U.S. 101 would be accommodated by deceleration lanes to minimize effects on mainline flows. Right-out movements onto U.S. 101 would be received by an exclusive acceleration lane separated from the mainline by an extruded curb (“c-curb”) or other comparable barrier such that stopping or yielding is not required.

E Sequim Bay road would be realigned to form a four-legged intersection with Old Blyn Highway. The minor northbound and southbound (Old Blyn Highway) approaches would be stop-controlled and consist of a single lane. The major eastbound and westbound (E Sequim Bay Road) approaches would be free flow with left turn pockets. The existing skewed orientation would also be removed and replaced with an orthogonal orientation to improve visibility and safety. E Sequim Bay Road would also extend to U.S. 101 to form a new right-in/right-out only access point. A deceleration lane would be provided for right-in movements from U.S. 101 to minimize effects on U.S. 101 mainline operations. Right-out movements onto U.S. 101 would turn into an exclusive acceleration lane where stopping or yielding would not be required.

Deerhawk Drive, Blyn Crossing, and Woods Road would be limited to right-in/right-out movements and Old Blyn Road (a short roadway segment connecting Old Blyn Highway and U.S. 101) would be closed. Three U-turn locations would be constructed; one north of Deerhawk Drive, one south of the new E Sequim Bay Road access point, and one would be incorporated into the reconstructed U.S. 101/Zaccardo Road intersection. A raised barrier along the median of U.S. 101 would also be constructed to preclude illegal turning movements.

The operational and safety improvements under the Preferred Alternative in its completed form are shown in [NEED GRAPHIC: Figure 3-1].

3.1.2 Preferred Alternative Phased Improvements

Funding for this public project is being requested from tribal, federal, state, and local sources. This project is eligible for several funding programs including;

- Bureau of Indian Affairs, Indian Reservation Roads Program
- FHWA, Public Lands Highway Discretionary funds
- FHWA, Scenic Byways Program
- Jamestown S'Klallam Tribe, Transportation Program
- WSDOT, mobility program
- WSDOT, Transportation Improvement Board
- Clallam County CIP
- And others

Depending on available funding, it is possible that the Preferred Alternative could require phased construction and may not be fully completed by the year 2015. If phased construction is proposed, the likely sequence of improvements would consist of:

Phase I (2011)

- Realign and consolidate Chicken Coop Road and Zaccardo Road.
- Construct new U.S. 101 intersection with the consolidated Chicken Coop/Zaccardo Road, maintain full access, construct median acceleration/deceleration lanes.
- Close the U.S. 101/Old Blyn Road intersection (note: this safety improvement could occur at anytime during the project or independent of the project).

Phase I and II (2013)

- All improvements included in Phase I.
- Realign E Sequim Bay Road.
- Reconstruct Old Blyn Highway/E Sequim Bay Road intersection.
- Construct new full access U.S. 101/E Sequim Bay Road intersection with acceleration and deceleration lanes.

Phase I, II, and III (Build-Out)

- All improvements included in Phases I and II.
- Construct all three U-turn locations.
- Construct U.S. 101 median barrier.
- Limit side street turning movements to right-in/right-out.

These phased improvements are shown on [NEED GRAPHICS: Figures 3-2 through 3-4].

3.2 METHODOLOGIES

3.2.1 Traffic Volume Forecasting Methodology

Future traffic volume forecasts for the new Preferred Alternative were developed using the same methodology and assumptions identified in the September 2009 IJR. Future volume forecasts were based on a 3 percent annual growth rate and pipeline projects identified with the area. The 3 percent growth rate was based on a review of multiple sources, including: the 1995 Peninsula Regional Transportation Plan, traffic counts according to permanent recorders along U.S. 101, the WSDOT pavement management system, and information from Clallam County. Pipeline projects identified by Clallam County and the Jamestown S'Klallam Tribe included:

- **Seven Cedars Hotel** – A new hotel with 270 rooms
- **Seven Cedars Conference Center** – A new conference center with a capacity of roughly 470 persons
- **Long House Market** – A development that includes a delicatessen, a convenience market, and a gas station
- **354 Single-Family Residences** – Along East Sequim Bay Road
- **14 Single-Family Residences** – Along Thompson Road

Preferred Alternative Build-Out Traffic Volumes

Traffic volume forecasts for the full build-out of the Preferred Alternative for the 2015 Opening Year and 2035 Horizon Year assume a 3 percent annual growth rate and complete construction and occupancy of the pipeline projects described above, which is consistent with the methodology and assumptions used in the September 2009 IJR. The 2015 Opening Year volumes are represented in [NEED GRAPHICS: Figures 3-5 and 3-6] and the 2035 Horizon Year traffic volumes are shown on [NEED GRAPHICS: Figures 3-7 and 3-8].

Preferred Alternative Phased Traffic Volumes

Future traffic volume forecasts for interim phases were based on the methodology described above; however, different proportions of each pipeline project were assumed to be constructed and occupied for each phase of the project. Table 3-1 summarizes the percentages of build-out assumed for each pipeline project.

Table 3-1. Assumed Timeline of Pipeline Project Build-Out

Pipeline Project	Build-Out Capacity	2011 Phase I	2013 Phase II	2015 Phase III
Seven Cedars Hotel	270 rooms	0%	100%	100%
Seven Cedars Conference Center	470 persons	0%	100%	100%
Long House Market	9,400 sf	100%	100%	100%
E Sequim Bay Road Residences	354 units	0%	50%	100%
Thompson Road Residences	14 units	0%	50%	100%

The assumption of 100 percent build out and occupancy for all pipeline projects by 2015 is consistent with the assumptions outlined in the September 2009 IJR that gained agreement from WSDOT, Clallam County, and the JST. The 2011 build out of Phase I assumption was based on the existing construction and occupancy of the Long House Market and current land development trends. The 2013 build out of Phase II assumption was an interpolation between 2011 and 2015 and was based on a reasonable, yet aggressive, amount and schedule of development to provide conservatively high estimates of traffic volumes.

In addition to the differing assumptions of build-out at each phase, a 0 percent growth rate was used for the East Sequim Bay Road/Old Blyn Highway intersection since the residential development accounts for all of the vehicle trip generating land use potential in that area and no other land uses are anticipated to generate additional background growth in traffic volumes. The exception is the 2011 Phase I traffic volume forecasts that did assume a 3 percent annual growth rate since none of the residential units were assumed to be constructed and occupied at this time.

Based on the traffic volume forecasts and diversions that would result at each of the different phases, AM and PM peak turning movement volumes for each phase are shown on [NEED GRAPHICS: Figures 3-9 through 3-11].

3.2.2 Operational Analysis Methodology

The traffic operations analyses can be divided into two components: intersection LOS and queuing.

Except where noted, the intersection LOS analysis was conducted using Synchro 7 (Build 773, Rev 8), which is a software tool used industry-wide for measuring intersection LOS and is based on methodologies outlined in the Highway Capacity Manual. Since the U.S. 101 operating standards are based on intersection LOS, conclusions drawn from the traffic operations analyses were primarily based on the intersection LOS analysis from Synchro (and VISSIM where noted below) compared to the queuing analysis.

A queuing analysis was conducted to ensure that the turning movement demand from U.S. 101 could be accommodated by the proposed storage under the Preferred Alternative and would not interfere with U.S. 101 mainline operations. Except where noted, the queuing analysis was based on results from Synchro.

The Preferred Alternative includes U-turn movements and merging maneuvers that cannot be accurately model using Synchro. As a result, VISSIM 5.1 was used estimate delays for right-turn movements from side streets that would be accommodated by acceleration lanes. VISSIM was also used to identify the delay associated with the U-turn movements that would also merge into U.S. 101 mainline traffic. Similar to Synchro, VISSIM is a microsimulation software used industry-wide and is also referenced in the Highway Capacity Manual as an appropriate tool for microsimulation. Except where noted, the VISSIM analysis is presented as complimentary information to the intersection LOS analysis only, since U.S. 101 operating standards are based on intersection LOS.

Since interim phases of the Preferred Alternative do not include the U-turn movements or merging maneuvers that VISSIM was used to model, the VISSIM analysis was conducted only for the full design of the Preferred Alternative for the 2015 opening year and 2035 design year and not the 2011 Phase I or 2013 Phase II operations.

3.2.3 Safety Analysis Methodology

Collision History

The methodology for analyzing the collision history in this IJR Amendment is consistent with the methodology in the September 2009 IJR. The three most recent (at the time of the analysis), complete, and consecutive years of collision data were analyzed. Collision rates were calculated for intersections and for the corridor as a whole and compared to similar roadway facilities.

Preferred Alternative Safety

The methodology for analyzing the safety of the Preferred Alternative in this IJR Amendment is consistent with the methodology in the September 2009 IJR. There is no standard methodology accepted industry-wide for forecasting future collision rates. The safety evaluation in this IJR Amendment for future conditions is comprised of two parts: a quantitative assessment of the number of conflict points and a qualitative assessment of collision severity, which is consistent with the approach presented in the September 2009 IJR.

3.3 PREFERRED ALTERNATIVE OPERATIONS

The following two subsections address how the build-out and phased operations of the Preferred Alternative compare to No-Build.

3.3.1 Preferred Alternative Build-Out Operations

This section of the report describes the intersection LOS, queuing, and corridor travel speed analyses for the full build-out of the Preferred Alternative for the 2015 Opening Year and 2035 Horizon Year. Except where noted, the intersection LOS and queuing analyses were completed using Synchro 7 (Build 773, Rev 8) while the travel speeds were obtained from VISSIM 5.1.

It is noteworthy to recall that while queuing and corridor speed information are presented to identify potential flow impacts to the U.S. 101 mainline, operating standards for the U.S. 101 corridor are based on intersection LOS.

Opening Year (2015)

Intersection LOS

Full build-out of the Preferred Alternative would consist of the following operational and safety improvements:

- Realign and consolidate Chicken Coop Road and Zaccardo Road.
- Construct new U.S. 101 intersection with newly consolidated Chicken Coop/Zaccardo Road.
- Realign E Sequim Bay Road.
- Reconstruct Old Blyn Highway/E Sequim Bay Road intersection.
- Construct new right-in/right-out U.S. 101/E Sequim Bay Road intersection with acceleration and deceleration lanes.
- Construct three U-turn locations.
- Construct U.S. 101 median barrier.
- Limit side street turning movements to right-in/right-out.

The Opening Year 2015 traffic operations associated with the Preferred Alternative are compared to No-Build and summarized in Table 3-2.

Table 3-2. Opening Year 2015 No-Build and Preferred Alternative (Build-Out) LOS Summary

Intersection	AM Peak Hour				PM Peak Hour			
	No-Build		Preferred Alt		No-Build		Preferred Alt	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
U.S. 101/Sophus Rd	C	23.9	C	24.2	C	20.9	C	21.3
U.S. 101/Blyn Crossing/Woods Rd	F	>200	C	19.3	F	> 200	C	17.8
Old Blyn Hwy/Blyn Crossing	A	9.3	A	8.6	A	9.9	A	8.4
U.S. 101/Zaccardo Rd/View Point ¹	F	51.8	A	5.3	E	45.1	A	5.0
U.S. 101/Chicken Coop Rd	E	37.9	CLOSED		D	33.8	CLOSED	
Old Blyn Highway/E Sequim Bay Rd	B	11.5	B	11.7	B	12.7	B	12.7
U.S. 101/Deerhawk Dr	D	28.0	B	14.3	D	32.4	C	17.9
U.S. 101/Country Store Drwy	C	15.0	C	15.1	C	18.1	C	18.5
U.S. 101/E Sequim Bay Rd ¹	NA	NA	A	8.9	NA	NA	A	7.1
U Turn 1 n/o Deerhawk Dr	NA	NA	A	9.7	NA	NA	B	11.8
U Turn 2 s/o E Sequim Bay Rd	NA	NA	B	10.6	NA	NA	B	10.5
U Turn 2 s/o E Sequim Bay Merge ¹	NA	NA	A	0.2	NA	NA	A	0.3

¹ Based on VISSIM analysis.

[DESCRIBE RESULTS: Re-write the following bullet points that explain the results:

- 4 intersections failing under No Build, 0 intersections failing under Build for both AM and PM.
- For the Build, delays at Zaccardo, E Sequim Bay Rd, and U-Turn 2 Merge are based on VISSIM analysis to account for the benefits of an acceleration lane, compared to the other intersections which are based on Synchro.
- Delays at the Sophus Rd and Country Store intersections slightly increase with the Build because U-Turn movements are incorporated at these locations; i.e., left turn into Sophus and right turn out of Country Store.
- At the Blyn Crossing/Woods intersection (in 2035 only), the delay for Build decreases compared to No Build, but still fails operationally. This is because the Build removes the left movements, which reduces delay, but the second highest delay movement is the right out, which would be the same and fail under both the No Build and Build. An acceleration lane for the right turns onto U.S. 101 would mitigate the situation.]

Queuing

[QUEUING RESULTS FROM SYNCHRO: Summarize 2015 AM and PM storage lengths and queues per the Synchro analysis. Summarize in Table 3-3 and describe results in text]

Horizon Year (2035)

Intersection LOS

The 2035 Horizon Year represents the long-term effectiveness of the project that can be reasonably planned for. The Horizon Year 2035 traffic operations associated with the Preferred Alternative are compared to No-Build and summarized in Table 3-4.

Table 3-4. Opening Year 2035 No-Build and Preferred Alternative (Build-Out) LOS Summary

Intersection	AM Peak Hour				PM Peak Hour			
	No-Build		Preferred Alt		No-Build		Preferred Alt	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
U.S. 101/Sophus Rd	F	65.5	F	72.3	F	50.2	F	56.7
U.S. 101/Blyn Crossing/Woods Rd	F	> 200	F	59.7	F	> 200	F	66.7
Old Blyn Hwy/Blyn Crossing	A	9.6	A	8.8	B	10.4	A	8.5
U.S. 101/Zaccardo Rd/View Point	F	> 200	A	5.3	F	> 200	A	5.3
U.S. 101/Chicken Coop Rd	F	> 200	CLOSED		F	> 200	CLOSED	
Old Blyn Highway/E Sequim Bay Rd	B	11.5	B	11.7	B	12.7	B	12.7
U.S. 101/Deerhawk Dr	F	93.6	C	21.8	F	125.0	D	31.4
U.S. 101/Country Store Drwy	D	27.7	D	29.3	E	37.7	E	44.0
U.S. 101/E Sequim Bay Rd	NA	NA	A	8.6	NA	NA	A	7.0
U Turn 1 n/o Deerhawk Dr	NA	NA	B	12.6	NA	NA	C	21.3
U Turn 2 s/o E Sequim Bay Rd	NA	NA	C	16.6	NA	NA	C	15.9
U Turn 2 s/o E Sequim Bay Merge	NA	NA	A	0.3	NA	NA	A	0.3

¹ Based on VISSIM analysis.

[DESCRIBE RESULTS: Re-write the following bullet points that explain the results:

- 5 intersections failing under No Build, 3 intersections failing under Build for both AM and PM.

- For the Build, delays at Zaccardo, E Sequim Bay Rd, and U-Turn 2 Merge are based on VISSIM analysis to account for the benefits of an acceleration lane, compared to the other intersections which are based on Synchro.
- Delays at the Sophus Rd and Country Store intersections slightly increase with the Build because U-Turn movements are incorporated at these locations; i.e., left turn into Sophus and right turn out of Country Store.
- At the Blyn Crossing/Woods intersection (in 2035 only), the delay for Build decreases compared to No Build, but still fails operationally. This is because the Build removes the left movements, which reduces delay, but the second highest delay movement is the right out, which would be the same and fail under both the No Build and Build. An acceleration lane for the right turns onto U.S. 101 would mitigate the situation]

Queuing

[QUEUING RESULTS FROM SYNCHRO: Summarize 2035 AM and PM storage lengths and queues per the Synchro analysis. Summarize in Table 3-5 and describe results in text.]

3.3.2 Preferred Alternative Phased Operations

This section of the report describes the intersection LOS and queuing analyses associated with phased construction is required. Both the intersection LOS and queuing analyses were completed using Synchro 7 (Build 773, Rev 8).

It is noteworthy to recall that while queuing information is presented to identify potential flow impacts to the U.S. 101 mainline, operating standards for the U.S. 101 corridor are based on intersection LOS.

Phase I (2011)

Intersection LOS

Operational and safety improvements constructed as part of Phase I are shown on [NEED GRAPHIC: Figure 3-12] and include:

- Realign and consolidate Chicken Coop Road and Zaccardo Road.
- Construct new U.S. 101 intersection with the consolidated Chicken Coop/Zaccardo Road, maintain full access, construct median acceleration/deceleration lanes.
- Close the U.S. 101/Old Blyn Road intersection.

Phase I was assumed to occur in the year 2011. For this analysis year, a 3 percent annual growth rate was used to forecast future traffic volumes, consistent with the September 2009 IJR. The Long House Market was the only pipeline project assumed to be fully constructed and operational during Phase I (note: the Long House Market opened in 2009).

Based on the assumed construction improvements and traffic volume forecasts described above, a comparison of the No-Build and Phase I intersection operations are summarized in Table 3-6.

Table 3-6. Year 2011 No-Build and Phase I LOS Summary

Intersection	AM Peak Hour				PM Peak Hour			
	No-Build		Phase I		No-Build		2011 Phase I	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
U.S. 101/Sophus Rd	C	16.2	C	16.2	C	15.6	C	15.6
U.S. 101/Blyn Crossing/Woods Rd	F	53.9	F	53.9	E	45.5	E	45.5
Old Blyn Hwy/Blyn Crossing	A	8.9	A	8.9	A	8.7	A	8.7
U.S. 101/Zaccardo Rd/View Point	D	28.2	C	15.2	D	26.6	C	15.5
U.S. 101/Chicken Coop Rd	C	22.5	CLOSED		C	21.5	CLOSED	
Old Blyn Highway/E Sequim Bay Rd	A	9.3	A	9.3	A	9.5	A	9.5
U.S. 101/ Deerhawk Dr	C	19.1	C	19.1	C	20.8	C	20.8
U.S. 101/Country Store Drwy	B	12.9	B	12.9	B	13.2	B	13.2

[DESCRIBE RESULTS: Re-write the following bullet points that explain the results:

- 2 intersections failing under No Build, 1 intersection failing under Build Phase I for both AM and PM.
- At most intersections, the LOS and delay are the same between the No Build and Build Phase I.
- At the U.S. 101/Zaccardo intersection, although the Zaccardo and Chicken Coop traffic volumes get consolidated into one intersection, the LOS and delay go from unacceptable to acceptable with the Build Phase I improvements. This is because the Phase I improvements include a median acceleration lane on U.S. 101 for left-out movements from Zaccardo, which reduces delay.
- U.S. 101/Chicken Coop is closed.
- U.S. 101/Old Blyn Road intersection is closed. This intersection was not part of the operations analysis because it is not typically used; however, the closure was assumed for safety purposes given that the roadway width is less than 12 feet, is not wide enough to allow for 2-way traffic (though not marked for 1-way traffic), has steep embankments/drop offs on either side of the roadway, and has poor visibility and sight distance.]

Queuing

[QUEUEING RESULTS FROM SYNCHRO: Summarize 2011 AM and PM storage lengths and queues per the Synchro analysis. Summarize in Table 3-7 and describe results in text]

Phases I and II (2013)

Intersection LOS

Operational and safety improvements constructed as part of Phase II are shown on [NEED GRAPHIC: Figure 3-13] and include:

- All improvements included in Phase I.
- Realign E Sequim Bay Road.
- Reconstruct Old Blyn Highway/E Sequim Bay Road intersection.
- Construct new full access U.S. 101/E Sequim Bay Road intersection with acceleration and deceleration lanes.

Phase II was assumed to occur in the year 2013. For this analysis year, a 3 percent annual growth rate was used to forecast future traffic volumes in concert with a higher proportion of pipeline development, including: the Seven Cedars Hotel, Seven Cedars Conference Center, Long House Market, and 50 percent of the residential development.

Based on the assumed construction improvements and traffic volume forecasts described above, a comparison of the No-Build and Phase II intersection operations is summarized in Table 3-8.

Table 3-8. Year 2013 No-Build and Phase II LOS Summary

Intersection	AM Peak Hour				PM Peak Hour			
	No-Build		Phase II		No-Build		Phase II	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
U.S. 101/Sophus Rd	C	20.5	C	20.5	C	18.6	C	18.6
U.S. 101/Blyn Crossing/Woods Rd	F	166.3	F	64.6	F	132.4	F	56.0
Old Blyn Hwy/Blyn Crossing	A	9.1	A	8.6	A	9.3	A	8.4
U.S. 101/Zaccardo Rd/View Point	E	41.9	C	20.7	E	39.3	C	20.8
U.S. 101/Chicken Coop Rd	D	31.4	CLOSED		D	28.5	CLOSED	
Old Blyn Highway/E Sequim Bay Rd	B	10.3	B	10.8	B	10.9	B	11.0
U.S. 101/ Deerhawk Dr	C	24.6	C	24.6	D	27.6	D	27.6
U.S. 101/Country Store Drwy	B	14.1	B	14.1	C	16.0	C	16.0
U.S. 101/E Sequim Bay Rd	NA	NA	C	19.9	NA	NA	C	23.4

[DESCRIBE RESULTS: Re-write the following bullet points that explain the results:

- 3/4 (AM/PM) intersections failing under No Build, 1/2 (AM/PM) intersections failing under Build Phase I.
- At many intersections, the LOS and delay are similar between the No Build and Build Phase II.
- At Blyn Crossing/Woods Road, the channelization would be the same; however, the Phase II improvements include the realignment and construction of the U.S. 101/E Sequim Bay Road intersection, which would divert a substantial amount of traffic volume, thereby decreasing the Phase II delay at Blyn Crossing. Although the delay would substantially decrease under Phase II, this intersection would still operate at unacceptable LOS F. The realignment of E Sequim Bay Road also has a similar effect at the Old Blyn Highway/Blyn Crossing intersection; however, because the proportion of diverted trips would be lower and the total intersection volumes are low, the magnitude of benefit not as high.
- At the U.S. 101/Zaccardo intersection, although the Zaccardo and Chicken Coop traffic volumes get consolidated into one intersection, the LOS and delay go from

unacceptable to acceptable with the Build Phase II improvements. This is because the Phase I improvements, which are assumed as part of Phase II, include a median acceleration lane on U.S. 101 for left-out movements from Zaccardo, which reduces delay.

- U.S. 101/Chicken Coop is closed.
- The Deerhawk intersection is unacceptable, but the Phase II improvements do not degrade; i.e., No Build = Build Phase II.
- U.S. 101/Old Blyn Road intersection is closed. This intersection was not part of the operations analysis because it is not typically used; however, the closure was assumed for safety purposes given that the roadway width is less than 12 feet, is not wide enough to allow for 2-way traffic (though not marked for 1-way traffic), has steep embankments/drop offs on either side of the roadway, and has poor visibility and sight distance.]

Queuing

[QUEUING RESULTS FROM SYNCHRO: Summarize 2011 AM and PM storage lengths and queues per the Synchro analysis. Summarize in Table 3-9 and describe results in text]

3.4 SAFETY ANALYSIS

3.4.1 Collision History

The collision history analysis and conclusions have not changed since the September 2009 IJR. None of the study intersections exhibited a collision rate at a level of concern; however, when considering all collisions at and in between intersections, the U.S. 101 corridor has an average annual collision rate of 1.23 collisions per million vehicle miles (coll/MVM), which is higher than the statewide average of 1.11 coll/MVM for similar facilities (rural principal arterials), and higher than the Olympic Region average of 1.04 coll/MVM (WSDOT 2005).

3.4.2 Preferred Alternative Safety

The safety aspect of the Preferred Alternative is of paramount importance. There is no standard methodology accepted industry-wide for forecasting future collision rates. The safety evaluation in this IJR Amendment for future conditions is comprised of two parts: a quantitative assessment of the number of conflict points and a qualitative assessment of collision severity, which is consistent with the approach presented in the September 2009 IJR.

Preferred Alternative Build-Out Safety

Conflict Points

Conflict points are the locations where travel paths through an intersection intersect. Table 3-10 compares the number of conflict points for intersections along U.S. 101 within the study area where improvements are proposed.

Table 3-10. No-Build and Build-Out Conflict Points

Intersection	No-Build	Build-Out
Blyn Crossing / Woods Rd	32	4
Chicken Coop Rd / Zaccardo Rd	18	5
Old Blyn Rd	9	0
E Sequim Bay Rd	0	2
Deerhawk Dr	9	2
U Turn 1 n/o Deerhawk Dr	0	3
U Turn 2 s/o E Sequim Bay Rd	0	3
U Turn 2 s/o E Sequim Bay Merge	0	2
Total	68	21

With the Preferred Alternative, the total number of conflict points substantially decreases from 68 to 21. Although collisions occur as a combined effect of multiple factors and direct causal relationships are difficult to identify, it would be reasonable to conclude that fewer collisions would occur under the Preferred Alternative because there are substantially less conflict points compared to No-Build.

Collision Severity

Build-out of the Preferred Alternative removes many left-turn movements to and from U.S. 101. These left turns are typically severe and result in injury due to the type of collision (i.e., “T-bone”) and the force generated from the high-speed impact (the speed limit along U.S. 101 is 50 mph).

In addition to eliminating the potential for T-bone locations at several intersections, the Preferred Alternative includes constructing acceleration and deceleration lanes at several locations. Acceleration and deceleration lanes have two primary safety benefits. First, cars are able to exit the flow of mainline traffic without breaking and causing “shockwaves,” which tends to reduce the frequency of collisions. Second, collisions within the acceleration and deceleration lanes tend to occur with a lower speed differential, which typically results in less severe collisions.

The combined effect of turning movement restrictions at Blyn Crossing and improved mobility along E Sequim Bay Road would divert substantial traffic volumes away from the JST offices along Old Blyn Highway. Diversion of this traffic would reduce the frequency of motorized and non-motorized interaction and would therefore reduce the potential for vehicle-to-pedestrian conflict, which tend to be severe.

With the removal of several T-bone locations, addition of acceleration and deceleration lanes, and diversion of motorized traffic volumes away from high-volume pedestrian areas, the Preferred Alternative is expected to be safer than the No-Build with respect to collision severity.

Preferred Alternative Phased Safety

Conflict Points

Although build-out of the Preferred Alternative would substantially reduce the number of conflict points, it is important to evaluate the interim phases to ensure temporary conditions do not exacerbate safety concerns. Table 3-11 summarizes the number of conflict points for each phase of construction and compares them to the number under No-Build and build-out conditions.

Table 3-11. Phased Construction Conflict Points

Intersection	No-Build	Build-Out	Phase I	Phase II
Blyn Crossing / Woods Rd	32	4	32	32
Chicken Coop Rd / Zaccardo Rd	18	5	9	9
Old Blyn Rd	9	0	0	0
E Sequim Bay Rd	0	2	0	9
Deerhawk Dr	9	2	9	9
U Turn 1 n/o Deerhawk Dr	0	3	0	0
U Turn 2 s/o E Sequim Bay Rd	0	3	0	0
U Turn 2 s/o E Sequim Bay Merge	0	2	0	0
Total	68	21	50	59

With the exception of the E Sequim Bay Road and U-turn locations, which are new access points to U.S. 101, all existing intersections would have fewer conflict points during each phase of the project compared to No-Build. Additionally, the total number of conflict points for each phase of the Preferred Alternative would be less than No-Build. Accordingly, it is reasonable to assume that each phase of the Preferred Alternative would reduce the frequency of collisions compared to No-Build.

Collision Severity

Each phase of the project would reduce some amount of left-turns and T-bone collisions, and each phase would also add channelization that improves flow, reduces delay, and reduces speed differentials. Phase II would also divert traffic volumes from high-volume pedestrian areas. As a result, each phase of the Preferred Alternative is expected to reduce collision severity compared to No-Build.

3.5 SUMMARY OF POLICY POINT 3

The analyses for Policy Point 3, which are divided into the traffic operations and safety categories, have been substantially updated since the September 2009 IJR to reflect the new Preferred Alternative and supersede all previous information and conclusions. Summaries for these updated analyses are provided below.

3.5.1 Summary of Traffic Operations

[Provide summary of 2015 and 2035 Build Out operations with respect to LOS and queues]

[Provide summary of 2011 and 2013 Phase I and Phase II operations with respect to LOS and queues]

3.5.2 Summary of Safety

Build out of the Preferred Alternative reduces the total number of conflict points from 68 to 21, and each phase of the project would also experience a reduction in the total number of conflict points. As a result, it is expected that fewer collisions would occur under each phase and build-out of the Preferred Alternative compared to No-Build.

Both phased and build-out improvements associated with the Preferred Alternative remove left-turn movements and add channelization that improves flow, reduces delay, and reduces speed differentials. Accordingly, each phase and build-out of the Preferred Alternative is expected to lower collision severity compared to No-Build.

4. POLICY POINT 4: ACCESS CONNECTIONS AND DESIGN

Will the proposal provide fully directional interchanges connected to public streets or roads, spaced appropriately, and designed to full design level geometric control criteria?

This section provides new information that supersedes the conclusions presented in the September 2009 IJR.

WSDOT requires demonstration that the proposed new or revised access is designed to meet or exceed current standards for the interstate system. This section provides a discussion of modifications to U.S. 101 and associated improvements to the arterial system. This includes interchange spacing, ramp configuration and channelization, and potential deviations from WSDOT design standards. All modifications and improvements proposed for U.S. 101 and the affected arterial system will meet or exceed current design standards, as specified in the WSDOT Design Manual.

4.1 ACCESS CONNECTIONS TO U.S. 101

This section describes new access connections and modifications to existing U.S. 101 access points at full build-out and during each phase.

4.1.1 Build-Out Access Connections to U.S. 101

The Preferred Alternative consists of one new access connection to U.S. 101 and several modified connections at existing access points. Modifications to the existing U.S. 101 connections generally includes limiting turning movements to right-in/right-out only. These turning movement restrictions would be enforced by a raised barrier along the U.S. 101 median from just north of the new U.S. 101/E Sequim Bay Road intersection to just west past Blyn Crossing and Woods Road.

New Access Connections

The Preferred Alternative includes one new access point to U.S. 101 to improve mobility and safety and would originate from a realigned of E Sequim Bay Road. At U.S. 101, E Sequim Bay Road would connect to U.S. 101 with a single right-turn only lane into an acceleration lane on U.S. 101 designed to WSDOT standards. This right-turn would be channelized and a raised median in U.S. 101 would also be constructed to further prevent left-out and left-in movements. U.S. 101 would also be widened to accommodate a deceleration lane into East Sequim Bay Road. [NEED GRAPHIC: Figure 4-1] Figure 4-1 shows the final design of the new U.S. 101/E Sequim Bay Road access point.

The new access point would connect the realigned E Sequim Bay Road to U.S. 101 at a location approximately 0.31 miles north of the existing Chicken Coop Road alignment. From this location, the closest interchanges are located at Simdars Road in Sequim (SRMP 266.64) and at SR 20 near Discovery Bay (SRMP 286.64). Chapter 940 of the Design Manual identifies a minimum interchange spacing of one mile in urban areas and two miles in rural areas. Although the Preferred Alternative is not an interchange or modification to an existing interchange, the location of the proposed access point is approximately 5.16 miles from the closest interchange (Simdars Road); therefore WSDOT's interchange spacing standard would not be compromised.

Although no other interchanges are planned in this vicinity at this time, additional development near the west end of the study area (Corriea Road vicinity) may necessitate a new or modified U.S. 101 access point in the future, such as an interchange, to accommodate

additional travel demand in a safe and efficient manner. However, since this project's Preferred Alternative is not an interchange, construction of the Preferred Alternative and potential construction of a new or modified access point around the Corriea Road vicinity would continue to be consistent with interchange spacing standards.

Modified Access Connections

Deerhawk Drive, Blyn Crossing, and Woods Road would be limited to right-in/right-out movements. Left-in and left-out movements would be accommodated by U-turn locations and/or Sophus Road.

Zaccardo Road and Chicken Coop Road would both be re-aligned to form a single orthogonal intersection with U.S. 101. Left-out movements would be restricted and shifted to right-out movements, followed by use of U-turn location #2. Left-in movements from U.S. 101 would be stored in a turn lane. Right-out movements (including U-turn movements) onto U.S. 101 would enter an exclusive acceleration lane such that stopping or yielding would not be required. A raised median, such as a "pork chop" island, would separate northbound traffic in the deceleration lane (i.e., right-in movements) from northbound traffic in the acceleration lane (i.e., right-out movements). An extruded curb ("c-curb") or other comparable barrier would be added to separate traffic in the acceleration lane from U.S. 101 mainline traffic prior to the merge point. [NEED GRAPHIC: Figure 4-2] Figure 4-2 shows the final design of the reconstructed U.S. 101/Zaccardo Road intersection.

The improvements within WSDOT right-of-way are designed in accordance with WSDOT Design Manual Guidelines. The improvements within the local road right-of-way are designed in accordance with Clallam County Standards and WSDOT Local Agency Guidelines. No design deviations are proposed.

4.1.2 Phased Access Connections to U.S. 101

In general, phased construction of the Preferred Alternative would allow full access movements and provide acceleration and deceleration lanes to improve U.S. 101 mainline flows and improve safety.

New Access Connections

- **Phase I (2011)** – No new access connections would be made under Phase I.
- **Phase II (2013)** – The new U.S. 101/E Sequim Bay Road intersection would be constructed under Phase II. During Phase II, this intersection would allow all turning movements, which would be accommodated by acceleration and deceleration lanes. The turn pocket for left-in movements and the median acceleration lane for left-out movements would later be replaced with the U.S. 101 median barrier under full build-out conditions. The right-in deceleration lane and right-out acceleration lane would remain as part of the full design. [NEED GRAPHIC: Figure 4-3] Figure 4-3 shows this intersection configuration during Phase II.
- **Phase III (2015)** – No new access connections would be made under Phase III.

Modified Access Connections

- **Phase I (2011)** – Phase I consists of realigning Chicken Coop Road and Zaccardo Road to form one reconstructing intersection with U.S. 101. During Phase I, this intersection would allow full access movements and would accommodate turning movements from U.S. 101 with turn pockets. An acceleration lane along the U.S. 101 median would also be provided for left-out movements, which would later be converted into the raised median under build-out conditions. The right and left turn lanes from U.S. 101 would remain since this location would later accommodate U-

turn movements under the build-out conditions. [NEED GRAPHIC: Figure 4-4] Figure 4-4 shows the interim intersection design at this location under Phase I.

- **Phase II (2013)** – No existing access points to U.S. 101 would be modified under Phase II.
- **Phase III (2015)** – As described above, Phase III represent the full design of the Preferred Alternative. Left-in movements would now utilize U-turn locations followed by a right turn into the desired side street. Left-out movements would shift to right-out movements followed by a U-turn movement.

4.2 POTENTIAL FUTURE PROJECTS NOT ASSOCIATED WITH THE PREFERRED ALTERNATIVE

Not included in this draft.

4.3 DESIGN DEVIATIONS

No design deviations are anticipated thus far in the process.

4.4 SUMMARY OF POLICY POINT 4

[Summarize Policy Point 4]

5. POLICY POINT 5: LAND USE AND TRANSPORTATION PLANS

Is the proposed access point revision compatible with all land use and transportation plans for the area?

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

5.1 SUMMARY OF SEPTEMBER 2009 IJR

The December 2009 WSDOT Design Manual Chapter 550 acknowledges that the scope of an IJR is scalable to the complexity of the proposal. Based on the nature of the proposed work and because U.S. 101 is a non-interstate facility and predominately at-grade, WSDOT staff has agreed that the scope of this IJR can exclude Policy Points 5, 6, and 7.

5.2 UPDATED INFORMATION

No additional information updates this Policy Point.

6. POLICY POINT 6: FUTURE INTERCHANGES

Is the proposed access point revision compatible with a comprehensive network plan? Is the proposal compatible with other known new access points and known revisions to existing points?

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

6.1 SUMMARY OF SEPTEMBER 2009 IJR

The December 2009 WSDOT Design Manual Chapter 1425 acknowledges that the scope of an IJR is scalable to the complexity of the proposal. Based on the nature of the proposed work and because U.S. 101 is a non-interstate facility and predominately at-grade, WSDOT staff has agreed that the scope of this IJR can exclude Policy Points 5, 6, and 7.

6.2 UPDATED INFORMATION

No additional information updates this Policy Point.

7. POLICY POINT 7: COORDINATION

Are all coordinating projects and actions programmed and funded?

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

7.1 SUMMARY OF SEPTEMBER 2009 IJR

The December 2009 WSDOT Design Manual Chapter 1425 acknowledges that the scope of an IJR is scalable to the complexity of the proposal. Based on the nature of the proposed work and because U.S. 101 is a non-interstate facility and predominately at-grade, WSDOT staff has agreed that the scope of this IJR can exclude Policy Points 5, 6, and 7.

7.2 UPDATED INFORMATION

No additional information updates this Policy Point.

DRAFT

8. POLICY POINT 8: ENVIRONMENTAL PROCESSES

What is the status of the proposal's environmental processes?

This section summarizes the information and conclusions presented in September 2009 IJR, which have not changed and remain valid and applicable. Additional detail and updates that do not change the September 2009 conclusions have been provided where applicable.

8.1 SUMMARY OF SEPTEMBER 2009 IJR

No environmental compliance documents have been prepared for the project to date. However, an environmental scan of the project study area is being completed to determine existing conditions (i.e., the affected environment). The scan includes gathering existing background data, performing a reconnaissance level of field review, interviewing and coordinating with tribal staff, and discussions with resource agencies. The environmental scan addresses the following elements of the environment:

- Geology
- Streams
- Wetlands
- Marine Habitat
- Wildlife Habitat
- Cultural and Archaeological Resources
- Section 4(f) and 6(f) Resources
- Threatened and Endangered Species
- Hazardous Materials
- Utilities
- Land-Use
- Noise
- Air Quality

Technical memorandums have been completed for streams, wetlands, hazardous materials, and cultural and archaeological resources and are included as Appendix B. This information was used to help site the new access point and in the environmental review process, which will include preparation of documents to comply with the National and State Environmental Policy Acts (NEPA and SEPA) and other federal requirements such as the Endangered Species Act, as well as permit applications. The environmental compliance process will begin after the IJR is reviewed.

It is expected that the environmental process will involve preparation of the following documents:

- NEPA Environmental Assessment (EA)
- Biological Assessment (BA)
- Finding of No Significant Impact (FONSI)
- SEPA Adoption Notice
- Various permit applications

The environmental process will proceed generally in the following order (this description assumes that there will be no need to prepare an environmental impact statement): (1) Prepare Draft EA and BA, (2) Internal review and revision of Draft EA/BA, (3) Prepare revised Draft EA/BA and issue a Notice of Availability (NOA) allowing for a 30-day review and comment period of the Draft EA/BA by the public, tribes, and agencies (circulate the Draft BA to the

National Marine Fisheries Service and U.S. Fish and Wildlife Service), (4) Receive comments and revise EA/BA, (5) Prepare Draft FONSI, (6) Receive confirmation from resource agencies on the BA decision, (7) Issue NOA for the Draft FONSI and Final EA/BA allowing a 30-day review period, (8) Make revisions to the FONSI as needed and issue Final FONSI, (9) Prepare and issue SEPA adoption notice, and (10) Prepare and submit permit applications. There will be a complimentary process of public and agency involvement and outreach. The duration of the environmental process is expected to be one to two years.

At this time, no environmental compliance documents have been completed; however, several technical memorandums have been prepared and will be used to support the necessary environmental efforts. It is anticipated that this IJR will receive a Finding of Engineering and Operational Acceptability, at which time project will move forward with the environmental process.

8.2 UPDATED INFORMATION

[Provide any updated information on environmental processes]

DRAFT

9. REFERENCES

WSDOT. 2005. Annual State Highway Collision Data Summary. Washington State Department of Transportation, Olympia, WA.

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