



**SHOALWATER BAY TRIBE  
ROADWAY TRANSPORTATION  
SAFETY PLAN**



May 2017



## INTRODUCTION

The Shoalwater Bay Tribe is committed to improving transportation safety and reducing fatalities and injuries that result from incidents on our transportation systems. The following plan will lead you through our transportation safety needs and strategies for our community. Implementation of the plan will improve transportation safety for the Tribe, its people, and its visitors. As part of an ongoing effort to make safety improvements, this Strategic Transportation Safety Plan was developed with input from several safety partners and will become a “living document” that will continue to effectively and efficiently address the safety needs of the Tribe.

### THE SHOALWATER BAY INDIAN TRIBE

An Executive Presidential Order, on September 22, 1866, set aside a 355 acre piece of land to be used for “Miscellaneous Indian purposes”. This is where the Shoalwater Bay Indian Reservation was created and where the ancestors of today's enrolled members lived. Today many Tribal members live not only on the Reservation but their residences extend out within the ancestral lands that run from Ilwaco to Aberdeen and everywhere in between. Shoalwater Indian Reservation is in Pacific County, WA, along the shores of Willapa Bay and just west of the city of Tokeland.

The Shoalwater Reservation is comprised of approximately 1,034 acres of trust land. In addition to the trust property, the Tribe owns several parcels of property which are currently in fee status, however, they are in the process of converting some of these parcels into trust land. The Tribe also owns many parcels of land throughout multiple counties including one on Willapa Bay which includes 671 total acres of oyster beds that are separated into 14 different parcel locations. The reservation is divided by SR 105 into the southern portion, which is coastal properties located on the Tokeland Peninsula, and the northern portion, which is comprised of low lying marshy wetlands that are met by the south face of timbered hills.

In 2013 the total population of Pacific County was approximately 13,000 people and of that, 215 or less that 2%, according to the 2010 US Census, are Shoalwater Bay Indian Tribal members. Some of the Tribal businesses operated by Willapa Bay Enterprises (WBE) Corporation are:

**Shoalwater Bay Casino:** a beautiful secret on the North rim of Willapa Bay in Tokeland, WA, offering a casino, a lounge, a buffet, and is located close to recreational beaches with surfing, fishing, crabbing and clam digging, and wildlife abound.

**Georgetown Station:** a convenience store with hot deli food, pizza, beer, and gas.

**Tradewinds on the Bay:** renovated from what originally was a family retreat, Tradewinds on the Bay has beautiful one bedroom/one bathroom condos on the shores of Willapa Bay.

**Willapa Bay Construction, LLC:** a wholly owned subsidiary of WBE, WBC is a construction and facility maintenance company emphasizing client relations that align with the Native American community.

The Shoalwater Bay Medical Clinic follows a program of integrated healthcare that addresses the physical, mental and emotional needs of Tribal members and the local community. The Clinic promotes wellness and preventative strategies for medical, dental, mental health, chemical dependencies, diabetic, and

nutritional counseling. The closest hospital is Grays Harbor Community Hospital in Aberdeen, which is just under one hour away.

Shoalwater Services provides public safety through their Police and Emergency Management Departments. Striving to meet the highest standards of law enforcement service and community policing, preserving safety, health and welfare, and prioritizing emergency preparedness, the Tribe aims to protect and serve their members and visitors as well as preserve their lands, environment, and culture.

[http://en.wikipedia.org/wiki/Shoalwater\\_Bay\\_Tribe](http://en.wikipedia.org/wiki/Shoalwater_Bay_Tribe)

<http://www.shoalwaterbay-nsn.gov/>

<http://www.co.pacific.wa.us/general-info-stats.html>

### **RESERVATIONS PHYSICAL CHARACTERISTICS**

The best physical description of the Tribal Property is the place where the land meets the sea. The Reservation is bisected into north and south portions by east-west running SR 105. The southern portion of the Reservation is comprised of coastal properties located on the Tokeland Peninsula, which is best described as tidal lands that range from zero to five feet in elevation. The northern portion of the reservation is comprised of some low lying marshy wetlands that are quickly met by the south face of timbered hills, quickly climbing to elevations over 200 feet above sea level. Most of the reservation property has been maintained in its natural condition and undeveloped. The unchanged tidelands to the south and the timbered hills to the north provide a natural habitat that is home to much aquatic life, deer, elk, beaver, and various species of coastal and migratory birds.

*Southern Portion - Coastal Tidal Flats and Willapa Bay - Photo by Reuben Jim, Red Plains*





*"Where the Land Meets the Sea" - Photos by Chris Robideau, Red Plains*



*Northern Portion - Timbered Hills - Photo by  
Chris Robideau, Red Plains*



All along SR 105, over the last 10-15 years, the land has faced significant physical characteristic changes, mainly on the north side of the road, in the lower elevation property between the highway and the foot of the timbered hills. This low lying area is quickly changing into a high classification of wetland, yielding significant conversion of soils condition, wildlife inhabitation, and plant life. The compacted soils and limited cross draining culverts associated with the construction of SR 105, has led to storm water build up and water retention in these lower elevation areas. The road is acting as a man-made dike, preventing the natural occurring spring and storm water in the timbered hills from draining into the ocean. Much of this property was high quality, flat farm/ranch land and timberlands, and now the hardwood trees are dead or dying as the water table continues to rise on this property. These lands along the SR 105 corridor that might have once been prime real estate for residential and commercial, have quickly converted to undevelopable wetlands. The creation of flooded property leads to additional safety concerns for travelers of SR 105.

There is a physical benefit to SR 105's compacted soils and dike like properties that is found in its prevention of continued coastal erosion caused by tidal surges and continuous wave activity. The road protects the upland side of the Reservation property from continued shoreline erosion and rising sea levels. A balanced design improvement plan and maintenance plan is required for SR 105 throughout the reservation to both mitigate the negative impacts and preserve the positive attributes of the road.

*North Shoulder of SR 105 - Forming Wetlands - Photo by Chris Robideau*



**CONCERNS**

No Guard Rail along this section  
of SR 105

Timberlines starting at the foot  
of the hills

Dead and dying hardwood trees  
due to rising water table

Aquatic/wetland vegetation  
growth

Significantly high water levels at  
culvert's head on SR 105

**CLIMATE**

The climate is characterized by coastal marine tendencies in the Pacific Northwest of cool, wet winters with high levels of precipitation, alternating with drier, moderately warm summer months. The average annual precipitation is approximately 76 inches with very little, if any, snowfall. Temperatures seasonally vary between low to mid 30's and low to mid 70's. The variation of climate conditions in and around Shoalwater Bay significantly impacts the safety of travelers, particularly during storm events.



THE TRANSPORTATION NETWORK



**Indian Reservation Roads Program**  
**Construction Cost to Build Final System**  
 Reporting Final System Miles and Future Surface Types  
 FY 2014 Inventory

Region P - NORTHWEST  
 Agency 06 - OLYMPIC PENINSULA  
 Reservation 118 - SHOALWATER BAY

|                           | Class 1    | Class 2      | Class 3      | Class 4      | Class 5      | Class 6    | Class 7    | Other      | Total         |
|---------------------------|------------|--------------|--------------|--------------|--------------|------------|------------|------------|---------------|
| <b>Road Length (mi)</b>   |            |              |              |              |              |            |            |            |               |
| Earth                     | 0.0        | 0.0          | 1.9          | 0.0          | 0.0          | 0.0        | 0.0        | 0.0        | 1.9           |
| Gravel                    | 0.0        | 0.0          | 0.2          | 2.7          | 4.0          | 0.0        | 0.0        | 0.0        | 6.9           |
| Pavement                  | 0.0        | 29.1         | 0.0          | 1.7          | 0.0          | 0.0        | 0.0        | 0.0        | 30.8          |
| not specified             | 0.0        | 0.0          | 0.0          | 0.0          | 0.0          | 0.0        | 0.0        | 4.9        | 4.9           |
| <b>Total</b>              | <b>0.0</b> | <b>29.1</b>  | <b>2.1</b>   | <b>4.4</b>   | <b>4.0</b>   | <b>0.0</b> | <b>0.0</b> | <b>4.9</b> | <b>44.5</b>   |
| <b>Bridge Length (ft)</b> |            |              |              |              |              |            |            |            |               |
| <b>Total</b>              | <b>0</b>   | <b>919</b>   | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>   | <b>0</b>   | <b>0</b>   | <b>919</b>    |
| <b>CTC (\$1000)</b>       |            |              |              |              |              |            |            |            |               |
| Incidental                | 0          | 1,248        | 1,563        | 147          | 1,545        | 0          | 0          | 401        | 4,904         |
| Addtnl Incidental         | 0          | 0            | 0            | 0            | 0            | 0          | 0          | 0          | 0             |
| Grade & Drain             | 0          | 0            | 794          | 861          | 2,583        | 0          | 0          | 0          | 4,238         |
| Aggregate                 | 0          | 0            | 0            | 196          | 1,122        | 0          | 0          | 0          | 1,318         |
| Pavement                  | 0          | 0            | 0            | 0            | 0            | 0          | 0          | 0          | 0             |
| Bridges                   | 0          | 0            | 0            | 0            | 0            | 0          | 0          | 0          | 0             |
| <b>Total</b>              | <b>0</b>   | <b>1,248</b> | <b>2,358</b> | <b>1,204</b> | <b>5,250</b> | <b>0</b>   | <b>0</b>   | <b>401</b> | <b>10,460</b> |





## **MISSION STATEMENT**

“Proactively Saving Lives Today while Planning for a Safer Tomorrow”

The Shoalwater Bay Tribe is dedicated to implementing measures that will improve the safety of the tribal community members and traveling public through the Reservation.

## **TRIBAL TRANSPORTATION SAFETY VISION**

Future Generations Depend on Transportation Safety Now

## **SAFETY PARTNERS**

- Shoalwater Bay Tribal Council
- Shoalwater Bay Tribal Community Members
- Shoalwater Bay Police Department
- Shoalwater Bay Emergency Management Team
- Shoalwater Bay Education Department
- Shoalwater Bay Tribal Court
- City of Tokeland
- Pacific County
- Washington State Department of Transportation

## **PROCESS**

Red Plains Professional (RPP) met with the Tribal Council and discussed how the Safety Plan would be completed and listened to Council concerns and issues. Crash Data was requested from Washington State Department of Transportation (WSDOT) – Transportation Data and GIS Office (TDGO). Due to limited crash data from WSDOT, the Shoalwater Bay Tribal Police Department was requested to provide any crash data they had.

In discussions with the Tribe, it was determined that, due to a lack of information, a Road Safety Audit (RSA) needed to be completed on various roads and intersections within the Shoalwater Bay Reservation. From the RSA, a list of seventeen (17) routes was developed.

On August 29 & 30, 2015, staff from Red Plains Professional analyzed the roads and intersections along these 17 routes for safety concerns.

Accident data was provided by Washington State Department of Transportation (WSDOT) and the Shoalwater Bay Tribal Police Department.

A Road Safety Evaluation Report for Shoalwater Bay Indian Tribe, dated November 9, 2007 and completed by WSDOT, was provided for review.

## DATA SUMMARY

The Tribe requested accident data in the area reported to the Washington State Safety Commission through the WSDOT-Transportation Data and GIS Office. There were only 3 accidents reported during the 2008 - 2013 timeframe and all 3 occurred near the junction of Tokeland Road, SR105, and the Shoalwater Bay Casino Parking Lot entrances. One of the accidents involved bicyclists.

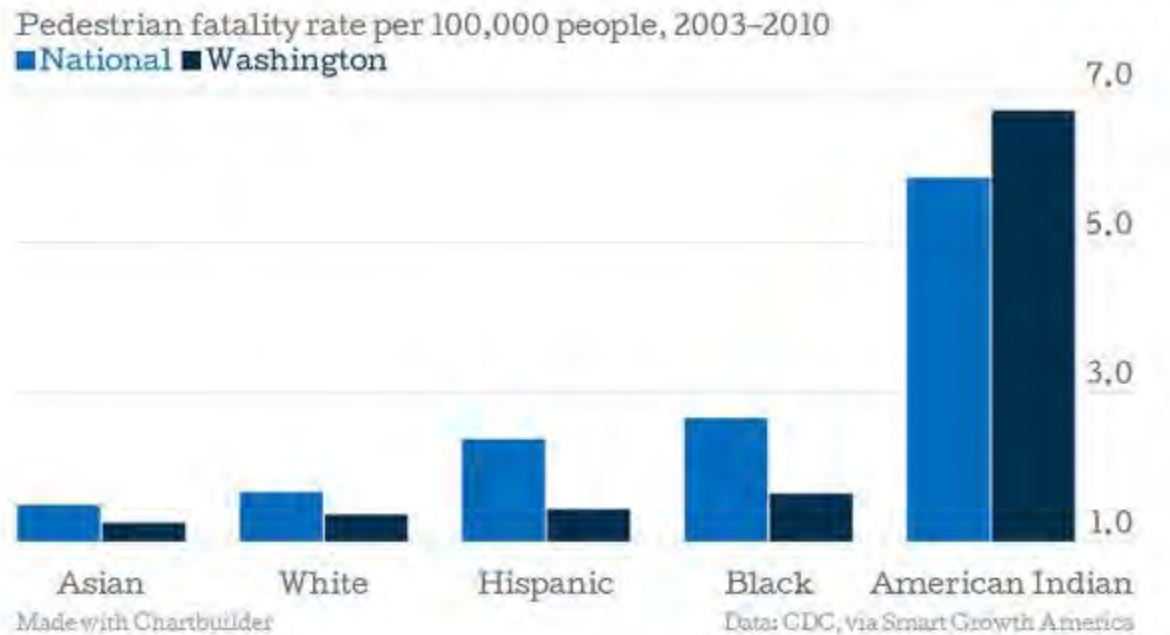
Additional accident data was provided by the Shoalwater Bay Tribal Police Department which covered the period from October 2011 to January 2015. Following is a breakdown of what was extracted and analyzed:

- Casino Parking Lots – 11 accidents total; 7 involved pedestrians and vehicles, and 4 were hit and runs. 15 additional traffic stops were noted.
- Georgetown Station – 1 accident, pedestrian and vehicle involved. 31 additional traffic stops were noted.
- Chief Charley's - 1 accident, pedestrian and vehicle involved. 133 additional traffic stops were noted.
- Mile Post 19 Eagle Hill Road – 215 traffic stops were noted.
- Mile Post 18 - 1 accident, pedestrian and vehicle involved. 66 additional traffic stops were noted.
- SR 105 & Tokeland Road – 1 accident, a hit and run. 29 additional traffic stops were noted.
- Tokeland Road – 2 accidents; 1 pedestrian and vehicle involved, and 1 hit and run. 63 additional traffic stops were noted.

In total, there were 17 accidents reported, 12 of which involved pedestrians (70 %) and the remaining 5 were hit and runs. Overall, 419 traffic stops were reported throughout the Reservation. (Appendix A - Shoalwater Bay Accidents & Traffic Stops Map)

While much of the crash data we have researched is not specific to the geographic area of the Shoalwater Bay Reservation, and not accurate to the unique characteristics of the SBIT Tribal Transportation System and community, the article published by KPLU (now KNKX) News titled **"Report: Pedestrian Deaths Disproportionately Affect Native Americans in Washington State"** speaks directly to the Shoalwater pedestrian safety concerns. The article, dated Tuesday, May 20, 2014, reports on a study released by the National Complete Streets Coalition, a branch of Smart Growth America, which is a coalition of advocacy and technical assistance groups dedicated to developing a healthier tomorrow by promoting healthier communities.

The article and study focused on the increased pedestrian fatality rates for Native American's throughout the Nation and specifically in Washington State. According to the data, the Native American population in Washington State experience three to four times higher pedestrian fatality rates compared to any other ethnic population.



The article goes on to state that statistics are not improving in Washington State. In the article, MJ Haight, Program manager and Tribal Liaison for the Washington Traffic Safety Commission, said in 2013 **“the data told us that Native American fatalities are 3.9 times higher than the general population”**. The article went on to say that **“in Washington State, between 2008-2012, Native Americans were involved in 8.4 percent of pedestrian fatalities while representing less than 2 percent of the population”**. The article goes on to attribute this factor to several unique characteristics of tribal traveling pedestrians:

- traveling on under-designed rural roadway networks lacking proper pedestrian facilities
- traveling on under-designed rural roadway networks lacking street lighting
- bike and walk more due to necessity and lack of vehicle availability
- have a higher rate of intoxicated pedestrian and vehicular traffic

The article goes on to mention that in Washington State, the **“statistics illustrated in the report are likely underreported and the issues and discrepancies of Native American pedestrian casualties are in fact worse than the report suggests.”**

## RSA OBSERVATIONS

All roads evaluated were driven several times during daylight hours. Many of the roads lack street lights, making them unsafe for pedestrian or bicycle traffic after dark. The lack of shoulders, narrow travel lanes and limited sections of guardrail are also safety concerns for vehicles.

A map of the roads evaluated is included in Appendix B – RSA Route Map and a summary of the observations can be found in Appendix C – RSA Summary Table.

Representative photos taken during the site visit on August 29 & 30, 2015 are included below.



Old Tokeland Rd Route 9513- Northeast side of roadway. Standing water forces pedestrians out into traffic.  
(Photo #143)



Old Tokeland Rd Route 9513 - Intersection with Georgetown St Route 0002.  
(Photo #148)



*Old Tokeland Rd Route 9513 – Intersection with Davis Drive St – Route 9994 – Standing water – no ditch forces pedestrians into roadway.  
(Photo #156)*



Old Tokeland Rd Route 9513 – Intersection with Shoalwater Bay Dr. Route 0001 – Standing water no drainage, forces pedestrians into roadway.  
(Photo #164)



Old Tokeland Rd Route 9513 –  
Faded, rusted sign. (Photo #169)



Old Tokeland Rd Route 9513– Intersection and  
ditch by Police Station. Ditch runs for  
approximately 1000 feet in length and 2 feet  
deep. Hazardous to vehicles, the runoff and the  
edge. (Photo #169A)



SR 105 Route 0105 – Intersection with Old  
Tokeland Road Route 9513, Crosswalk faded,  
crossing signal lights difficult to see in daylight.  
(Photo #81)



Casino Parking Lot Route 0308 – 11 crashes, 7  
involved pedestrians and 4 hit and run. No  
pedestrian facilities, parking stalls are minimum  
required and driving lanes are minimum.  
(Photo #107)



Pedestrian Trail Route 0010 – No defined trail through Gas Station entrance to Crosswalk on SR 105. (Photo #45)



Pedestrian Trail Route 0010 – Pavement heaving, trip hazard. (Photo #21)



Pedestrian Trail Route 0010 – Pedestrian trail merges with Old Tokeland Rd. This creates a conflict between the pedestrians and cyclists and the traffic. (Photo #35)



Pedestrian Trail Route 0010 – Intersection with proposed reroute of trail onto dike. (Photo #38)



Pedestrian Trail Route 0010 –Proposed reroute of trail onto dike. (Photo #39)



Paul Bunyan Dr. Route 0021 – Intersection with Lagoon Dr. Route 9992 – No stop sign at intersection. No pedestrian facilities. (Photo #52)



7<sup>th</sup> St. Route 0028 – Plugged drain pipe. (Photo #77)



7<sup>th</sup> St. Route 0028 – Plugged drain pipe with no place to drain. (Photo #78)



Route 9513 Drainage Ditch & Failing Shoulder (Photo #239)



Route 9513 Drainage Ditch & Failing Shoulder (Photo #246)

## **EMPHASIS AREAS**

After reviewing the available data, five emphasis areas are selected for added attention in the transportation safety efforts of the Shoalwater Bay Tribe. These emphasis areas represent the most significant opportunities to accomplish the vision. The selected emphasis areas are:

- Data Management
- Vulnerable Road Users (Bicycles and Pedestrians)
- Intersection Safety Improvements for Tokeland Road and SR 105
- Reduction of Roadside Hazards
- Reduce Pedestrian Related Accidents in Casino Parking Lot

Each emphasis area is described below and is accompanied by a list of strategies that, if implemented, are expected to reduce the associated crashes. Each strategy is assigned to a department or task force that is responsible for implementation and evaluation.

### **EMPHASIS AREA 1 – DATA MANAGEMENT**

#### **DESCRIPTION**

Crash data is a critical element for successful strategic safety planning. Quality data helps to fully define the problems so that effective decisions can be made to select the most appropriate countermeasures. Reasonably good data was available to support this safety planning effort, however, there is room for improvement in the collection, management, and use of crash data.

#### **GOAL A**

Complete all crash reports in an electronic database within one month of the date of crash.

#### **STRATEGIES FOR GOAL A**

- Eliminate IT security risks on police server so that it can house crash data (Strategy Champion: Information Technology)
- Implement electronic crash data reporting (Strategy Champion: Police Department)
- Conduct training for police officers on how to properly report using the software and emphasize the importance of the data in safety decision making (Strategy Champion: Police Department)

#### **GOAL B**

Improve use of and access to crash data.

#### **STRATEGIES FOR GOAL B**

- Store electronically captured crash data locally as well as submitting a copy to State DOT so the Tribe can benefit from State DOT analysis capabilities and be eligible for additional funds. (Strategy Champions: Information Technology, Police Department)
- Develop an automated crash statistic report that is distributed to various Tribal departments on a reoccurring basis. Reports should include a dashboard of overall crash counts and specific emphasis area statistics. The Safety Management Steering Committee will direct the content of this report. (Strategy Champion: Information Technology)



- Explore opportunities to share some crash data with local media outlets to increase public awareness of transportation safety problems. (Strategy Champion: Public Relations)
- Import crash data to a Geographical Information System (GIS) layer on an annual basis to improve the ability to combine with other data (such as traffic counts) and screen for problem locations. (Strategy Champion: Planning)

Utilize improved data in future updates of this plan. (Strategy Champion: Planning)

## **EMPHASIS AREA 2 – VULNERABLE ROAD USERS (BICYCLES AND PEDESTRIANS)**

### **DESCRIPTION**

Of The 17 reported accidents 11 involved Pedestrians (65% of total accidents). Pedestrian facilities are limited to a trail from the Casino to the Tribal Center 0.8 miles. The Transportation network on the reservation is characterized by narrow roadways with no shoulders and no sidewalks.

### **GOAL**

Reduce the number of pedestrian and bicyclist involved fatalities and injuries by 50% by 2020.

### **STRATEGIES**

- Recommend developing a pedestrian access plan and constructing sidewalks and trails throughout the reservation. (Strategy Champion: Transportation)
- Coordinate with the State DOT Safe Routes to School Program to develop a school walking plan. (Strategy Champion: Planning)

## **EMPHASIS AREA 3 – INTERSECTION SAFETY IMPROVEMENTS FOR TOKELAND ROAD AND SR 105**

Recommend improving the pedestrian crossing at Tokeland Road and SR 105. Crosswalk is faded, pedestrian crossing light difficult to see in daylight. Needs to be replaced with a high visibility LED signal light. May want to look at solar powered lighting. **Go after TTP Safety funds to complete.**

### **GOAL**

Improve intersection safety by 2020.

### **STRATEGIES**

- Apply for Tribal Transportation Safety Funding. (Strategy Champion: Planning, Transportation)
- Work with WSDOT and Pierce County to develop alternatives to addressed pedestrian and bicycle issues along SR 105. Come to an agreement as to what is acceptable to them and whether they would be willing to provide 50% of the funding, or all of the funding, with the Tribe providing the Federal match from their TTP funding. (Strategy Champion: Planning and Transportation)



#### **EMPHASIS AREA 4 – REDUCTION OF ROADSIDE HAZARDS**

Southwest side of Tokeland Road (9513) has deep (2') and steep (0.5:1) ditch in the area of the Tribal Center Complex. Approximately 780 feet that needs to be piped and covered to eliminate roadway hazard. (See photos #169A and #238 to #251) This was part of the Tokeland Road re-construction project that was eliminated due to lack of funding. **Project is design ready. Go after TTP Safety Funding to complete.**

##### **Goal**

Improve driver safety by 2020.

##### **Strategies**

- Apply for Tribal Transportation Safety Funding. (Strategy Champion: Planning, Transportation)
- Complete with regular TTP funds. (Strategy Champion: Planning, Transportation)

#### **EMPHASIS AREA 5 – REDUCE PEDESTRIAN RELATED ACCIDENTS IN CASINO PARKING LOT**

There were 11 crashes in the Casino parking lot that occurred from October 2011 to December 2015, 7 involved pedestrians (64% of the total). There are no pedestrian facilities within the parking lot, parking stalls are minimum required, and driving lanes are narrow.

##### **Goal**

Eliminate pedestrian related crashes within Casino parking lot by 2021.

##### **Strategies**

- Develop a pedestrian safety plan for the Casino parking lot. (Strategy Champion: Planning, Transportation)
- Design and construct a reconfigured Casino parking lot that provides pedestrian facilities. (Strategy Champion: Planning, Transportation)

### **IMPLEMENTATION & EVALUATION**

#### **SHOALWATER BAY TRIBAL TRANSPORTATION SAFETY COMMITTEE**

For this plan to be successful it must be implemented and monitored. Revisions to this plan will be necessary as success will mandate change. The Shoalwater Bay Tribe has established a Transportation Safety Committee comprised of directors from various departments to review this plan and make recommendations for future revisions. The committee will hold quarterly meetings to evaluate progress toward each goal, discuss the progress of strategies that are being implemented, and consider any needed revisions to this plan.

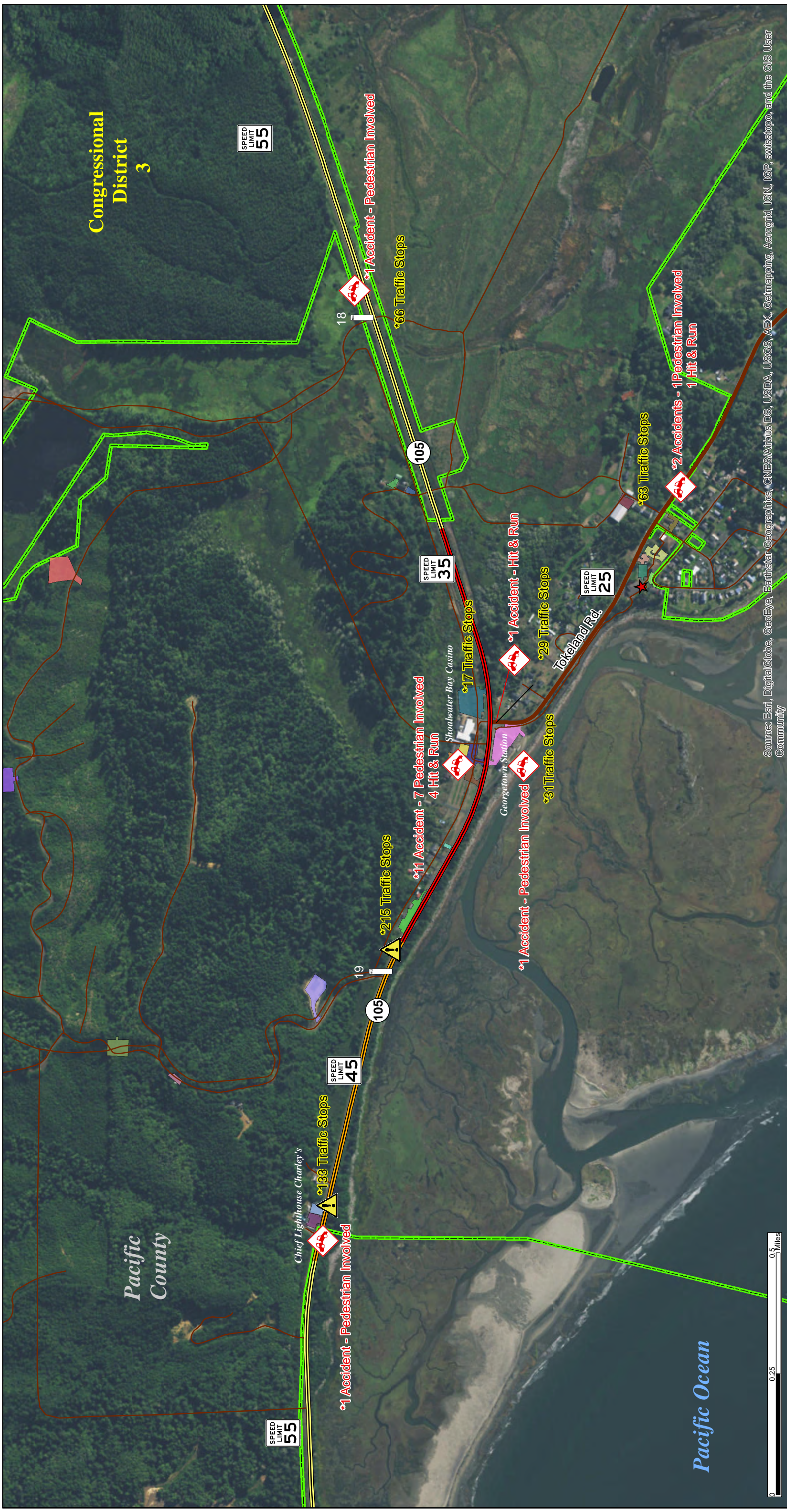


## **STRATEGY IMPLEMENTATION CHAMPIONS**

The strategies listed above designate a champion department or task force for each strategy. This strategy champion has the lead on implementation of the strategy. Many of the strategies may require an implementation plan be created that is separate from this document. As needed, the strategy champions will build an action plan for their strategy that outlines the implementation steps, schedule, and needed resources. The strategy champions will report back to the Transportation Commission on their strategy when updates are available or as requested.



## **APPENDIX A – SHOALWATER BAY ACCIDENTS & TRAFFIC STOPS MAP**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Important Notice:**  
 Red Plains Professional has made reasonable efforts to provide you with accurate maps and related information, but we cannot discount the possibility of errors or omissions in sources or of changes in physical conditions. RED PLAINS PROFESSIONAL MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED AND SHALL NOT BE LIABLE TO ANY PERSON UNDER ANY LEGAL OR EQUITABLE THEORY, FOR DAMAGES ARISING OUT OF THE USE OF THESE MAPS, INCLUDING, WITHOUT LIMITATION, FOR DIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES.



# The Shoalwater Bay Tribe Accidents & Traffic Stops Per Speed

1:12,000



- Tribal Office
- Shoalwater Bay Reservation Boundary
- SPEED LIMIT**
- 35 MPH
- 45 MPH
- 55 MPH
- Accidents
- Traffic Stops
- Milepost Marker

Data was collected and maps were created by  
 Red Plains Professional, Inc. Northwest Region Planning  
 1499 SE Tech Center Place - Suite 200  
 Vancouver, WA 98683 - August 2015





## **APPENDIX B – RSA ROUTE MAP**


# ROADWAY SAFETY AUDIT MAP

2014 TTPSF APPLICATION

SHOALWATER BAY INDIAN TRIBE (SBIT)



















WASHINGTON STATE

## LEGEND

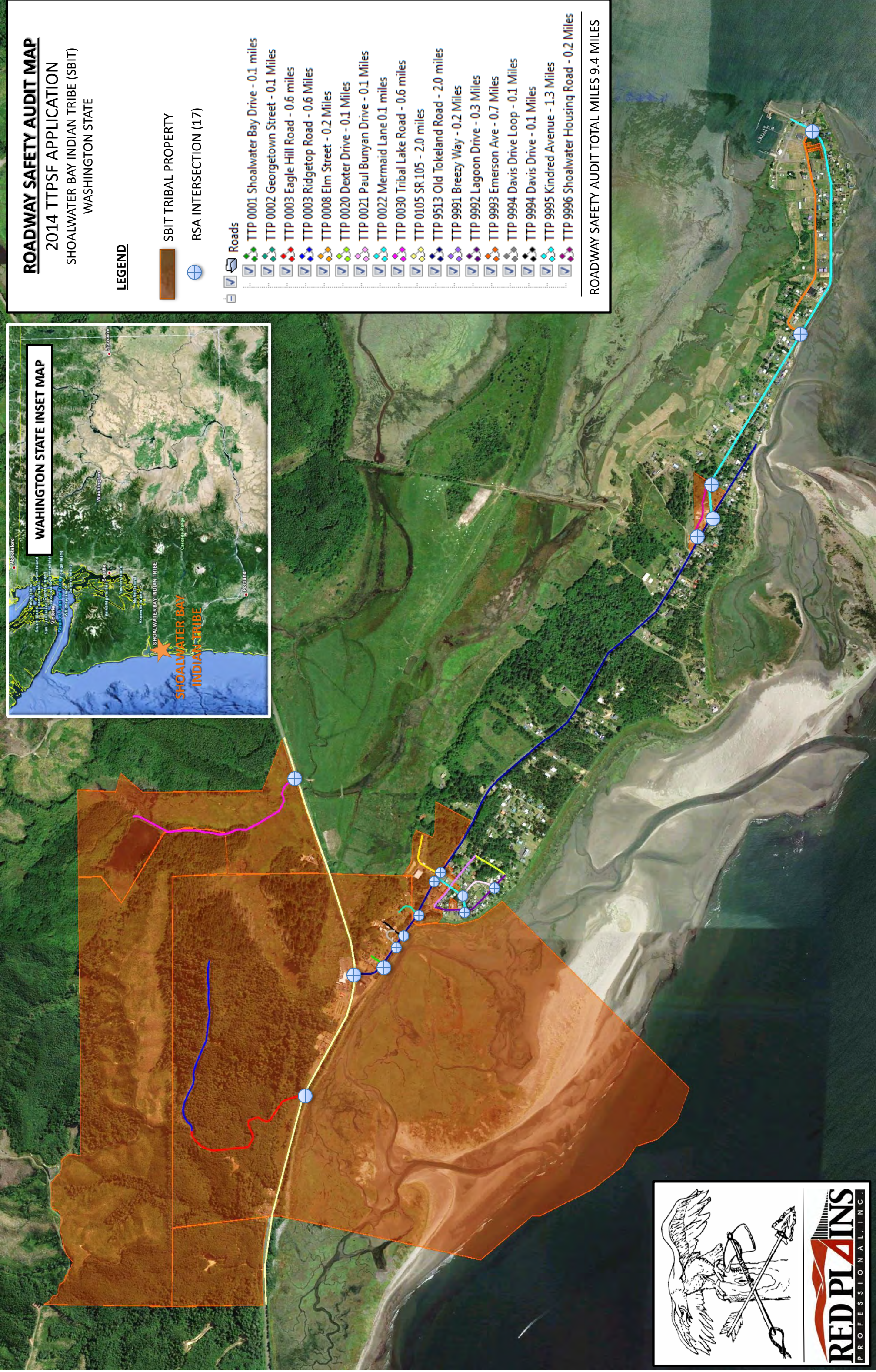
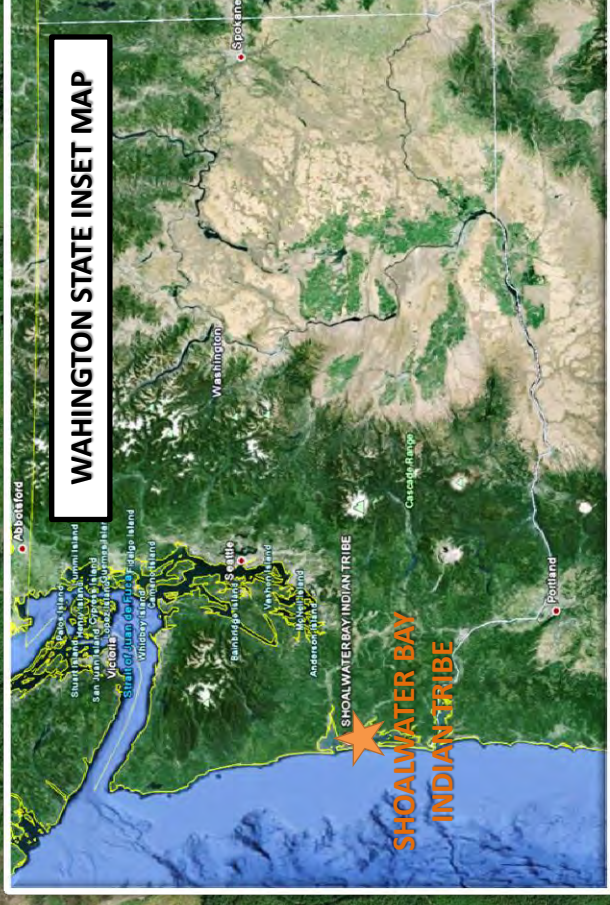
 SBIT TRIBAL PROPERTY

 RSA INTERSECTION (17)

 Roads

-  TTP 0001 Shoalwater Bay Drive - 0.1 miles
-  TTP 0002 Georgetown Street - 0.1 Miles
-  TTP 0003 Eagle Hill Road - 0.6 miles
-  TTP 0003 Ridgetop Road - 0.6 Miles
-  TTP 0008 Elm Street - 0.2 Miles
-  TTP 0020 Dexter Drive - 0.1 Miles
-  TTP 0021 Paul Bunyan Drive - 0.1 Miles
-  TTP 0022 Mermaid Lane 0.1 miles
-  TTP 0030 Tribal Lake Road - 0.6 miles
-  TTP 0105 SR 105 - 2.0 miles
-  TTP 9513 Old Tokeland Road - 2.0 miles
-  TTP 9991 Breezy Way - 0.2 Miles
-  TTP 9992 Lagoon Drive - 0.3 Miles
-  TTP 9993 Emerson Ave - 0.7 Miles
-  TTP 9994 Davis Drive Loop - 0.1 Miles
-  TTP 9994 Davis Drive - 0.1 Miles
-  TTP 9995 Kindred Avenue - 1.3 Miles
-  TTP 9996 Shoalwater Housing Road - 0.2 Miles

ROADWAY SAFETY AUDIT TOTAL MILES 9.4 MILES





## **APPENDIX C – RSA SUMMARY TABLE**

**Shoalwater Bay Indian Tribe  
Road and Intersection Road Safety Audit  
Summary Table**

| Road, Route # & Section                             | Safety Issue  | Suggestions  | Accidents | Ownership |
|---|---|--|-----------|-----------|
| <b>Shoalwater Bay Drive - Route 0001</b>            |   |  | 0         | 1         |
| Section 10  | Stop Bar only partialy there. Bad patch at intersection with Old Tokeland Rd. Moderate cracking on roadway.   | Re-stripe stop bar. Remove and replace patch and crack seal road.  |           |           |
| <b>Georgetown Street - Route 0002</b>               |   |  | 0         | 1         |
| Section 10  | Stop Bar only partialy there. Bad patch at intersection with Old Tokeland Rd. Severe cracking on roadway, has been crack sealed before and needs to be again.   | Re-stripe stop bar. Remove and replace patch and crack seal road. Road should be overlaid after sealing              |           |           |
| <b>Eagle Hill Road and Ridgetop Road Route 0003</b> |   |  | 0         | 1         |
| Section 10 & 20                                     | Section 10 has been recently reconstructed. Suggest paving first 100 feet from intersection with SR 105 to prevent gravel from being carried onto SR 105 and thus being a hazard to traffic. Section 20 is narrow and steep. Plans are in the works to move the Tribal members to higher ground in a subdivision on Eagle Hill road. When that happens the road will be upgraded and paved. | Pave first 100 feet of Eagle Hill Road from intersection with SR 105. Add stop bar striping and centerline striping. |           |           |
| <b>Elm Street Route 0008</b>                        |   |  | 0         | 1         |
| Section 10 & 20                                     | No pedestrian facilities  | Add sidewalks when reconstructed   |           |           |
| <b>Dexter Drive Route 0020</b>                      |   |  | 0         | 5         |
| Section 810   | Intersection with Breezy Way no Stop Bar  | Add Stop Bar at intersection with Breezy Way   |           |           |
| <b>Paul Bunyan Drive Route 0021</b>                 |   |  | 0         | 5         |
| Section 810   | Intersections with Mermaid Drive and Lagoon Drive no Stop Bar.  | Add Stop Bars to each intersection   |           |           |
| <b>Mermaid Lane Route 0022</b>                      |   |  | 0         | 5         |
| Section 810   | No Stop Bars at Stop signs onintersections with Old Tokeland Road, Breezy Way, Paul Bunyan Drive , and Lagoon drive.  | Add Stop Bars to each intersection   |           |           |
| <b>Tribal Lake Road Route 0030</b>                  |   |  | 0         | 2         |
| Section 10  | Route is currently gated. When new townsite is constructed, this route will become the main access to the area and will be upgraded to a pave two lane road.  |  |           |           |
| <b>Blackberry Lane Route 0066</b>                   |   |  | 0         | 2         |
| Section 10  | No Stop sign at intersection with Old Tokeland Road.  | Add Stop sign and Stop Bar at intersection.  |           |           |

**Shoalwater Bay Indian Tribe  
Road and Intersection Road Safety Audit  
Summary Table**

| Road, Route # & Section             | Safety Issue  | Suggestions   | Accidents | Ownership |
|-------------------------------------|---|---|-----------|-----------|
| <b>SR 105 Route 0105</b>            |   |   | 4         | 3         |
| Sections 812, 814, & 816            | 3 of the 4 accidents involved pedestrians. No pedestrian facilities other than a crosswalk to access the casino. Crosswalk to Casino is faded,  | Install sidewalks through the reservation along SR 105.   |           |           |
| <b>Old Tokeland Road Route 9513</b> |   |   | 3         | 5         |
| Section 810 & 820                   | Section 820 has ponding issues both sides of roadway and into the road. Deep ditch 2+ feet 1 foot off right side edge of road. In several places water flowing through ditch has undermined the road surface. | Install piping in deep ditch and cover to eliminate drop off. Install guardrail and Y-intersection warning signs. Install rumble strips to get drivers attention. Will also need to install motorcycle caution signs because of strips. Install street light. |           |           |
| <b>Breezy Way Route 9991</b>        |   |   | 0         | 5         |
| Section 810                         | No stop bars at intersection with Mermaid Lane.   | Add Stop Bars at intersection with Mermaid Lane.  |           |           |
| <b>Lagoon Drive Route 9992</b>      |   |   | 0         | 5         |
| Section 810                         | No Stop Bars at intersections with Paul Bunyan Drive and Mermaid Drive.   | Add Stop Bars at both intersections.  |           |           |
| <b>Emerson Avenue Route 9993</b>    |   |   | 0         | 5         |
| Section 810                         | Striping faded entire length. No Stop bars on intersecting roads and where Emerson intersects with Kindred Ave. No curve warning sign on 3rd Street where it turns and becomes Emerson.                       | Restripe entire length. Add Stop Bars at intersection. Install curve warning sign on 3rd going Northeast.   |           |           |
| <b>Davis Drive Loop Route 9994</b>  |   |   | 0         | 5         |
| Section 810                         | Northwest leg of Davis Drive Loop does not have a Stop sign at intersection with Old Tokeland Road. Speed bumps striping is faded or gone.  | Instal Stop sign and Stop Bar and restrip speed bumps.  |           |           |
| <b>Kindred Avenue Route 9995</b>    |   |   | 0         | 5         |
| Section 810                         | Paved intersecting roads do not have Stop Bars with the Stop signs.   | Add Stop Bars at each intersection.   |           |           |
|                                     |   |   |           |           |
|                                     |   |   |           |           |



## **APPENDIX D – RSA CHECKLIST SHEETS**

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |   |  |     |
|------------------------|---|--|-----|
| Owner:                 | BIH & County  |  |     |
| Roadway Name:          | Georgetown <sup>WA</sup> Rte 2 @ 9513 <sup>9513</sup> |  |     |
| By:                    | JK  |  |     |
| Date/Time:             | 8/29/15 8:37 am                                       |  |     |
| Weather:               | Stormy, High Wind, Gusts 65+, light rain              |  |     |
| City/State             | Tokeland, WA  |  |     |
| Location:              | From:   |  | To: |
| Length:                |   |  |     |
|                        |   |  |     |
| Number of Lanes        | 2   |  |     |
| Lane Width             |   |  |     |
| Crown/Superelevation   |   |  |     |
| Longitudinal Slope     |   |  |     |
| Pavement Material      | Asphalt   |  |     |
| Pavement Condition     | 9513 - Good, Rte 2 - Poor                             |  |     |
| Shoulder Width         | See IPR   |  |     |
| Shoulder Material      |   |  |     |
| Side Slopes (cut/fill) | 0   |  |     |
| Speed Limit            | 25 mph  |  |     |
| Traffic Mix            | Commercial/Residential                                |  |     |
| Traffic Volume         | Medium  |  |     |
| Sidewalk               | No  |  |     |
| ADA Ramps              | No  |  |     |
| Roadway Geometry       | Flat  |  |     |
| Sight Distance Issues  | NE corner 9513 - sight issues                         |  |     |
| Clear Zones            |   |  |     |
| Intersections          |   |  |     |

# Road Safety Checklist

|                                |   |
|--------------------------------|---|
| Driveways/Accesses             |   |
| Drainage                       |   |
| Signage                        | Stop, street name   |
| Sign Retroreflectivity         |   |
| Lighting                       | None  |
| Barriers/Guardrail             | none  |
| Utilities / Poles              | none  |
| Parking                        | none  |
| Turning Radii                  | Good  |
| Landscaping                    | min   |
| Crosswalks                     | 1 - visible, sign indicator, no lights, reflective striping |
| Centerline Striping            | 9513 / 0002 - none  |
| Edge Striping                  | 9513 / 0002 - none  |
| Other Striping                 | -   |
| Pavement Markers / Delineators | £ reflectors  |
| Surrounding Land Uses          | Res/comm (Police Station)                                   |
| Pedestrian / Bicyclists        | -   |
| Obstructions/Vegetation        | -   |
| Roadside Damage                | -   |
| Nighttime Issues               | -   |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

1-9

**Accident History:**

**Notes:**

Bus shelter, mailboxes close to intersection, non-breakaway  
stop sign

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                  |  |     |
|------------------------|----------------------------------|--|-----|
| Owner:                 | County                           |  |     |
| Roadway Name:          | 9994 @ 9513 (East)               |  |     |
| By:                    | JR                               |  |     |
| Date/Time:             | 8/29/15                          |  |     |
| Weather:               | High wind, 65+ gusts, light rain |  |     |
| City/State             | Tokeland, WA                     |  |     |
| Location:              | From:                            |  | To: |
| Length:                |                                  |  |     |
|                        |                                  |  |     |
| Number of Lanes        | 2                                |  |     |
| Lane Width             |                                  |  |     |
| Crown/Superelevation   |                                  |  |     |
| Longitudinal Slope     |                                  |  |     |
| Pavement Material      | 9513 - good, 9994 - OK asphalt   |  |     |
| Pavement Condition     | ↘                                |  |     |
| Shoulder Width         |                                  |  |     |
| Shoulder Material      |                                  |  |     |
| Side Slopes (cut/fill) |                                  |  |     |
| Speed Limit            | 25 mph                           |  |     |
| Traffic Mix            | comm/residential                 |  |     |
| Traffic Volume         | med                              |  |     |
| Sidewalk               | N                                |  |     |
| ADA Ramps              | N                                |  |     |
| Roadway Geometry       | flat                             |  |     |
| Sight Distance Issues  | OK                               |  |     |
| Clear Zones            |                                  |  |     |
| Intersections          |                                  |  |     |

# Road Safety Checklist

Red Plains Professional, Inc.

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | N  |
| Drainage                       | Poor, some water pooling   |
| Signage                        | non-breakaway wooden street sign, metal break away stop              |
| Sign Retroreflectivity         |  |
| Lighting                       | N  |
| Barriers/Guardrail             | N  |
| Utilities / Poles              | N  |
| Parking                        | N  |
| Turning Radii                  | good   |
| Landscaping                    | minimal  |
| Crosswalks                     | N  |
| Centerline Striping            | 9513   |
| Edge Striping                  | 9513   |
| Other Striping                 |  |
| Pavement Markers / Delineators | £ reflectors   |
| Surrounding Land Uses          | Res  |
| Pedestrian / Bicyclists        | Ped/Bike path runs along 9513 - no delineators, striping, separation |
| Obstructions/Vegetation        |  |
| Roadside Damage                | Water pooling,   |
| Nighttime Issues               |  |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

10-17

**Accident History:**

**Notes:**

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                  |  |     |
|------------------------|----------------------------------|--|-----|
| Owner:                 | County                           |  |     |
| Roadway Name:          | 9994 @ 9513 (west)               |  |     |
| By:                    | JR                               |  |     |
| Date/Time:             | 8/29/15                          |  |     |
| Weather:               | High winds 65+ gusts, light rain |  |     |
| City/State             | Tokeland, WA                     |  |     |
| Location:              | From:                            |  | To: |
| Length:                |                                  |  |     |
|                        |                                  |  |     |
| Number of Lanes        | 2                                |  |     |
| Lane Width             |                                  |  |     |
| Crown/Superelevation   |                                  |  |     |
| Longitudinal Slope     |                                  |  |     |
| Pavement Material      |                                  |  |     |
| Pavement Condition     | 9513 - good, 9994 - OK           |  |     |
| Shoulder Width         |                                  |  |     |
| Shoulder Material      |                                  |  |     |
| Side Slopes (cut/fill) |                                  |  |     |
| Speed Limit            | 25                               |  |     |
| Traffic Mix            | Res/com                          |  |     |
| Traffic Volume         | med - 9513                       |  |     |
| Sidewalk               | None                             |  |     |
| ADA Ramps              | N                                |  |     |
| Roadway Geometry       |                                  |  |     |
| Sight Distance Issues  |                                  |  |     |
| Clear Zones            |                                  |  |     |
| Intersections          |                                  |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             |  |
| Drainage                       | Poor - Large water pool at road junction |
| Signage                        | No stop sign, wood street sign           |
| Sign Retroreflectivity         |  |
| Lighting                       | -  |
| Barriers/Guardrail             | -  |
| Utilities / Poles              | South side of intersection               |
| Parking                        | N  |
| Turning Radii                  | good                                     |
| Landscaping                    | Min                                      |
| Crosswalks                     | N  |
| Centerline Striping            | Reflective 9513, None 9994               |
| Edge Striping                  | 9513                                     |
| Other Striping                 |  |
| Pavement Markers / Delineators | £ 9513                                   |
| Surrounding Land Uses          | Res/comm                                 |
| Pedestrian / Bicyclists        |  |
| Obstructions/Vegetation        |  |
| Roadside Damage                |  |
| Nighttime Issues               |  |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

18-26

**Accident History:**

**Notes:**

Green utility box NE corner

Extension cord across 9994 from fireworks shack

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                 |  |     |
|------------------------|---------------------------------|--|-----|
| Owner:                 | 9513 county , 0001 BIA          |  |     |
| Roadway Name:          |                                 |  |     |
| By:                    | JR                              |  |     |
| Date/Time:             | 8/29/15 9:14 am                 |  |     |
| Weather:               | High Wind 65+ gusts, light rain |  |     |
| City/State             | Tokeland, WA                    |  |     |
| Location:              | From:                           |  | To: |
| Length:                |                                 |  |     |
|                        |                                 |  |     |
| Number of Lanes        | 2                               |  |     |
| Lane Width             |                                 |  |     |
| Crown/Superelevation   | Good                            |  |     |
| Longitudinal Slope     | Good                            |  |     |
| Pavement Material      | Asphalt                         |  |     |
| Pavement Condition     | 9513 and 0001 good              |  |     |
| Shoulder Width         |                                 |  |     |
| Shoulder Material      |                                 |  |     |
| Side Slopes (cut/fill) | -                               |  |     |
| Speed Limit            | 25 mph 9513                     |  |     |
| Traffic Mix            | res/com                         |  |     |
| Traffic Volume         | med                             |  |     |
| Sidewalk               | -                               |  |     |
| ADA Ramps              | -                               |  |     |
| Roadway Geometry       | Flat / Curve West               |  |     |
| Sight Distance Issues  | None                            |  |     |
| Clear Zones            |                                 |  |     |
| Intersections          |                                 |  |     |

# Road Safety Checklist

|                                |                                      |
|--------------------------------|--------------------------------------|
| Driveways/Accesses             |                                      |
| Drainage                       | shallow ditch south side             |
| Signage                        | stop sign / street sign, X-walk sign |
| Sign Retroreflectivity         |                                      |
| Lighting                       |                                      |
| Barriers/Guardrail             | -                                    |
| Utilities / Poles              | N                                    |
| Parking                        | N                                    |
| Turning Radii                  | good                                 |
| Landscaping                    | Tall grass NW & NE corners           |
| Crosswalks                     | East - reflective striping           |
| Centerline Striping            | 9513                                 |
| Edge Striping                  | 9513                                 |
| Other Striping                 | -                                    |
| Pavement Markers / Delineators | E reflectors 9513                    |
| Surrounding Land Uses          | Res                                  |
| Pedestrian / Bicyclists        | -                                    |
| Obstructions/Vegetation        | -                                    |
| Roadside Damage                | N                                    |
| Nighttime Issues               |                                      |

# Road Safety Checklist

Red Plains Professional, Inc.

Photographs:

27-34

Accident History:

Notes:

Crosswalk sign non-break away / Dirty

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |  |  |     |
|------------------------|--|--|-----|
| Owner:                 | SR 105 @ BTH 2014                              |  |     |
| Roadway Name:          |  |  |     |
| By:                    | JK   |  |     |
| Date/Time:             | 8/20/15 9:26 am                                |  |     |
| Weather:               | High wind 43+ gusts                            |  |     |
| City/State             | Tokeland, WA                                   |  |     |
| Location:              | From:  |  | To: |
| Length:                |  |  |     |
| Number of Lanes        | SR 105 2 lanes - east - alone                  |  |     |
| Lane Width             |  |  |     |
| Crown/Superelevation   |  |  |     |
| Longitudinal Slope     |  |  |     |
| Pavement Material      | Asphalt  |  |     |
| Pavement Condition     | SR 105 - good. BTH may cracking pattern (poor) |  |     |
| Shoulder Width         |  |  |     |
| Shoulder Material      | Gravel   |  |     |
| Side Slopes (cut/fill) |  |  |     |
| Speed Limit            | 35 mph   |  |     |
| Traffic Mix            | Rural  |  |     |
| Traffic Volume         | 1000 to 2000 SR 105                            |  |     |
| Sidewalk               | N  |  |     |
| ADA Ramps              | N  |  |     |
| Roadway Geometry       | Flat.  |  |     |
| Sight Distance Issues  | Curve east SR 105                              |  |     |
| Clear Zones            |  |  |     |
| Intersections          |  |  |     |

# Road Safety Checklist

Red Plains Professional, Inc.

|                                |                                      |
|--------------------------------|--------------------------------------|
| Driveways/Accesses             |                                      |
| Drainage                       | OK                                   |
| Signage                        | Breakaway stop, Tsunami Warning sign |
| Sign Retroreflectivity         | -                                    |
| Lighting                       | -                                    |
| Barriers/Guardrail             | -                                    |
| Utilities / Poles              | N                                    |
| Parking                        | N                                    |
| Turning Radii                  | Good                                 |
| Landscaping                    | N                                    |
| Crosswalks                     | N                                    |
| Centerline Striping            | SR 105                               |
| Edge Striping                  | SR 105                               |
| Other Striping                 |                                      |
| Pavement Markers / Delineators | SR 105                               |
| Surrounding Land Uses          | Tribal Building Annex                |
| Pedestrian / Bicyclists        | -                                    |
| Obstructions/Vegetation        |                                      |
| Roadside Damage                | -                                    |
| Nighttime Issues               | -                                    |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

35-41

**Accident History:**

**Notes:**

Stop sign over 8' tall

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                            |  |     |
|------------------------|----------------------------|--|-----|
| Owner:                 | SR105 BIA 0003             |  |     |
| Roadway Name:          | Eagle Hill Rd.             |  |     |
| By:                    | JK                         |  |     |
| Date/Time:             | 8/29/15 9:43 am            |  |     |
| Weather:               | High Wind, light rain      |  |     |
| City/State             | Tolant, WI                 |  |     |
| Location:              | From:                      |  | To: |
| Length:                |                            |  |     |
|                        |                            |  |     |
| Number of Lanes        | 2                          |  |     |
| Lane Width             |                            |  |     |
| Crown/Superelevation   |                            |  |     |
| Longitudinal Slope     |                            |  |     |
| Pavement Material      | Asphalt SR105, Gravel 0003 |  |     |
| Pavement Condition     | SR105 good                 |  |     |
| Shoulder Width         |                            |  |     |
| Shoulder Material      |                            |  |     |
| Side Slopes (cut/fill) |                            |  |     |
| Speed Limit            | 45 → 35 mph                |  |     |
| Traffic Mix            | Res/com                    |  |     |
| Traffic Volume         | med - high                 |  |     |
| Sidewalk               | -                          |  |     |
| ADA Ramps              | -                          |  |     |
| Roadway Geometry       | Flat, straight             |  |     |
| Sight Distance Issues  | nd                         |  |     |
| Clear Zones            | -                          |  |     |
| Intersections          |                            |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | N  |
| Drainage                       | OK   |
| Signage                        | metal Stop/street name                           |
| Sign Retroreflectivity         | -  |
| Lighting                       | -  |
| Barriers/Guardrail             | N  |
| Utilities / Poles              | Telephone line marker, fire hydrant, Blue stake, |
| Parking                        | N  |
| Turning Radii                  | Good   |
| Landscaping                    | N  |
| Crosswalks                     | N  |
| Centerline Striping            | SR105  |
| Edge Striping                  | SR105  |
| Other Striping                 | -  |
| Pavement Markers / Delineators | SR105  |
| Surrounding Land Uses          |  |
| Pedestrian / Bicyclists        | Occasional                                       |
| Obstructions/Vegetation        | Encroaching on SR105                             |
| Roadside Damage                | N  |
| Nighttime Issues               | -  |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

43-52

**Accident History:**

**Notes:**

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                         |  |     |
|------------------------|-------------------------|--|-----|
| Owner:                 | 9992-County/0021 County |  |     |
| Roadway Name:          |                         |  |     |
| By:                    |                         |  |     |
| Date/Time:             | 3:25 / 8/26/15          |  |     |
| Weather:               | Partly cloudy           |  |     |
| City/State             |                         |  |     |
| Location:              | From:                   |  | To: |
| Length:                |                         |  |     |
|                        |                         |  |     |
| Number of Lanes        | 2                       |  |     |
| Lane Width             |                         |  |     |
| Crown/Superelevation   | Good                    |  |     |
| Longitudinal Slope     | " "                     |  |     |
| Pavement Material      | Asphalt                 |  |     |
| Pavement Condition     | Poor                    |  |     |
| Shoulder Width         |                         |  |     |
| Shoulder Material      | Gravel                  |  |     |
| Side Slopes (cut/fill) | -                       |  |     |
| Speed Limit            | 25mph                   |  |     |
| Traffic Mix            | Residential             |  |     |
| Traffic Volume         | Low                     |  |     |
| Sidewalk               | None                    |  |     |
| ADA Ramps              | " "                     |  |     |
| Roadway Geometry       | Flat + straight         |  |     |
| Sight Distance Issues  | None                    |  |     |
| Clear Zones            | -                       |  |     |
| Intersections          | -                       |  |     |

# Road Safety Checklist

|                                |                                      |
|--------------------------------|--------------------------------------|
| Driveways/Accesses             | Driveways                            |
| Drainage                       | Poor / None                          |
| Signage                        | Non-Break away                       |
| Sign Retroreflectivity         | Good                                 |
| Lighting                       | None                                 |
| Barriers/Guardrail             | None                                 |
| Utilities / Poles              | yes/set back good                    |
| Parking                        | None                                 |
| Turning Radii                  | Good                                 |
| Landscaping                    | minimal                              |
| Crosswalks                     | None                                 |
| Centerline Striping            | None                                 |
| Edge Striping                  |                                      |
| Other Striping                 |                                      |
| Pavement Markers / Delineators | 9992-none/0021 centerline reflectors |
| Surrounding Land Uses          | Residential                          |
| Pedestrian / Bicyclists        | Yes                                  |
| Obstructions/Vegetation        | None                                 |
| Roadside Damage                | None (Drop inlet low)                |
| Nighttime Issues               |                                      |

**Photographs:**

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**Accident History:**

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**Notes:**

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# Road Safety Checklist

|                        |                   |  |     |
|------------------------|-------------------|--|-----|
| Owner:                 | 9992-County / — — |  |     |
| Roadway Name:          |                   |  |     |
| By:                    |                   |  |     |
| Date/Time:             | 3:20 / 8-28-15    |  |     |
| Weather:               | Partly cloudy     |  |     |
| City/State             |                   |  |     |
| Location:              | From:             |  | To: |
| Length:                |                   |  |     |
|                        |                   |  |     |
| Number of Lanes        | 2                 |  |     |
| Lane Width             |                   |  |     |
| Crown/Superelevation   | Good              |  |     |
| Longitudinal Slope     | Good              |  |     |
| Pavement Material      | Asphalt           |  |     |
| Pavement Condition     | Poor              |  |     |
| Shoulder Width         |                   |  |     |
| Shoulder Material      | Gravel            |  |     |
| Side Slopes (cut/fill) | -                 |  |     |
| Speed Limit            | 25mph             |  |     |
| Traffic Mix            | Both              |  |     |
| Traffic Volume         | Low - medium      |  |     |
| Sidewalk               | None              |  |     |
| ADA Ramps              | None              |  |     |
| Roadway Geometry       | Flat + straight   |  |     |
| Sight Distance Issues  | veg - S side      |  |     |
| Clear Zones            | -                 |  |     |
| Intersections          | -                 |  |     |

# Road Safety Checklist

|                                |                                       |
|--------------------------------|---------------------------------------|
| Driveways/Accesses             | Both                                  |
| Drainage                       | Poor/None                             |
| Signage                        | Non-break away                        |
| Sign Retroreflectivity         | Good                                  |
| Lighting                       | None                                  |
| Barriers/Guardrail             | None                                  |
| Utilities / Poles              | Yes                                   |
| Parking                        | None                                  |
| Turning Radii                  | Good                                  |
| Landscaping                    | minimal (S. side of Road encroaching) |
| Crosswalks                     | None                                  |
| Centerline Striping            | None                                  |
| Edge Striping                  | None                                  |
| Other Striping                 | -                                     |
| Pavement Markers / Delineators | Centerline Reflectors                 |
| Surrounding Land Uses          | Residential                           |
| Pedestrian / Bicyclists        | Yes                                   |
| Obstructions/Vegetation        | S. Side of Road                       |
| Roadside Damage                | Drop inlets low                       |
| Nighttime Issues               | -                                     |

# Road Safety Checklist

**Photographs:**

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**Accident History:**

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**Notes:**

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# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                      |  |     |
|------------------------|----------------------|--|-----|
| Owner:                 | — County/0021 County |  |     |
| Roadway Name:          |                      |  |     |
| By:                    |                      |  |     |
| Date/Time:             | 3:10 p.m 1/8/28/15   |  |     |
| Weather:               | Partly cloudy        |  |     |
| City/State             |                      |  |     |
| Location:              | From:                |  | To: |
| Length:                |                      |  |     |
|                        |                      |  |     |
| Number of Lanes        | 2                    |  |     |
| Lane Width             |                      |  |     |
| Crown/Superelevation   | Good                 |  |     |
| Longitudinal Slope     | " "                  |  |     |
| Pavement Material      | Asphalt              |  |     |
| Pavement Condition     | Poor                 |  |     |
| Shoulder Width         |                      |  |     |
| Shoulder Material      | Gravel               |  |     |
| Side Slopes (cut/fill) | -                    |  |     |
| Speed Limit            | 25mph                |  |     |
| Traffic Mix            | Both                 |  |     |
| Traffic Volume         | Low                  |  |     |
| Sidewalk               | None                 |  |     |
| ADA Ramps              | None                 |  |     |
| Roadway Geometry       | Curvy & Flat         |  |     |
| Sight Distance Issues  | None                 |  |     |
| Clear Zones            | -                    |  |     |
| Intersections          | -                    |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | yes - tribal vehicle Fenced lot / Driveway |
| Drainage                       | Poor                                       |
| Signage                        | wood - Non Break away                      |
| Sign Retroreflectivity         | Good                                       |
| Lighting                       | None                                       |
| Barriers/Guardrail             | None                                       |
| Utilities / Poles              | Close to Roadway (2 ft)                    |
| Parking                        | Tribal vehicle Fenced lot                  |
| Turning Radii                  | Good                                       |
| Landscaping                    | Yes  |
| Crosswalks                     | None                                       |
| Centerline Striping            | None                                       |
| Edge Striping                  | None                                       |
| Other Striping                 | Centerline reflectors                      |
| Pavement Markers / Delineators | ↘  |
| Surrounding Land Uses          | Both                                       |
| Pedestrian / Bicyclists        | Yes  |
| Obstructions/Vegetation        | None                                       |
| Roadside Damage                | None                                       |
| Nighttime Issues               | -  |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

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**Accident History:**

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**Notes:**

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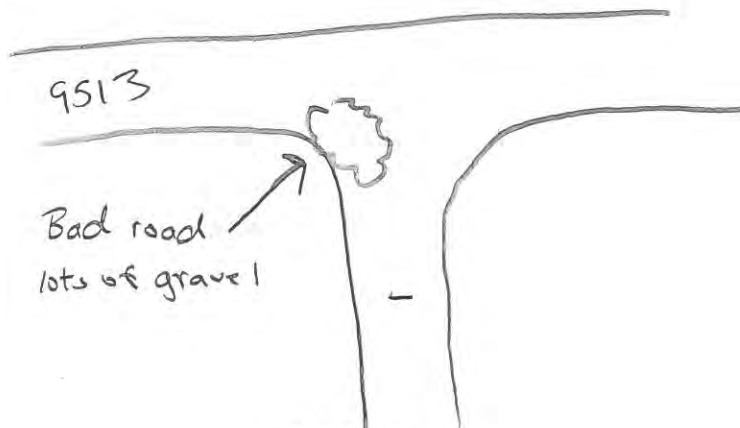
# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                       |  |     |
|------------------------|-----------------------|--|-----|
| Owner:                 | 9513-County / - ?     |  |     |
| Roadway Name:          |                       |  |     |
| By:                    |                       |  |     |
| Date/Time:             | 3:00 8/25/15          |  |     |
| Weather:               | Partly Cloudy         |  |     |
| City/State             | Tokeland, WA          |  |     |
| Location:              | From:                 |  | To: |
| Length:                |                       |  |     |
|                        |                       |  |     |
| Number of Lanes        | 2                     |  |     |
| Lane Width             |                       |  |     |
| Crown/Superelevation   | Good                  |  |     |
| Longitudinal Slope     | Good                  |  |     |
| Pavement Material      | Asphalt               |  |     |
| Pavement Condition     | 9513-Good / ? - Poor  |  |     |
| Shoulder Width         | 9513 - / - None       |  |     |
| Shoulder Material      | 9513-Paved/           |  |     |
| Side Slopes (cut/fill) | -                     |  |     |
| Speed Limit            | 9513- 35mph / - 25mph |  |     |
| Traffic Mix            | Both                  |  |     |
| Traffic Volume         | High                  |  |     |
| Sidewalk               | None                  |  |     |
| ADA Ramps              | None                  |  |     |
| Roadway Geometry       | Flat + straight       |  |     |
| Sight Distance Issues  | None                  |  |     |
| Clear Zones            | -                     |  |     |
| Intersections          | -                     |  |     |

# Road Safety Checklist

|                                |                                       |
|--------------------------------|---------------------------------------|
| Driveways/Accesses             | Business entrances                    |
| Drainage                       | Roof                                  |
| Signage                        | 16 Break away                         |
| Sign Retroreflectivity         | Good                                  |
| Lighting                       | None                                  |
| Barriers/Guardrail             | None                                  |
| Utilities / Poles              | yes-good                              |
| Parking                        | None                                  |
| Turning Radii                  | Good                                  |
| Landscaping                    | minimal                               |
| Crosswalks                     | None                                  |
| Centerline Striping            | 9513-yes / - - no                     |
| Edge Striping                  | " " " " / " " " "                     |
| Other Striping                 | 9513+ - centerline Reflectors         |
| Pavement Markers / Delineators | None                                  |
| Surrounding Land Uses          | Residential / commercial              |
| Pedestrian / Bicyclists        | Pedestrians visiting commercial areas |
| Obstructions/Vegetation        | No                                    |
| Roadside Damage                | No                                    |
| Nighttime Issues               |                                       |



# Road Safety Checklist

**Photographs:**

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**Accident History:**

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**Notes:**

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# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                  |  |     |
|------------------------|----------------------------------|--|-----|
| Owner:                 | 9513 - County / 0008 BIA         |  |     |
| Roadway Name:          |                                  |  |     |
| By:                    |                                  |  |     |
| Date/Time:             | 2:55 p.m / 8/26/15               |  |     |
| Weather:               | Partly cloudy                    |  |     |
| City/State             | Tokeland, WA                     |  |     |
| Location:              | From:                            |  | To: |
| Length:                |                                  |  |     |
|                        |                                  |  |     |
| Number of Lanes        | 2                                |  |     |
| Lane Width             |                                  |  |     |
| Crown/Superelevation   | Good                             |  |     |
| Longitudinal Slope     | Good                             |  |     |
| Pavement Material      | Asphalt                          |  |     |
| Pavement Condition     | Good / saw cut 0008              |  |     |
| Shoulder Width         | 9513 - / 0008 - None             |  |     |
| Shoulder Material      | 9513 - Paved / -                 |  |     |
| Side Slopes (cut/fill) | - <del>None</del>                |  |     |
| Speed Limit            | 9513 - 35mph / 0008 - 25mph      |  |     |
| Traffic Mix            | 9513 - Both / 0008 - residential |  |     |
| Traffic Volume         | High , 9513 / Low 0008           |  |     |
| Sidewalk               | None                             |  |     |
| ADA Ramps              | None                             |  |     |
| Roadway Geometry       | Straight / Flat                  |  |     |
| Sight Distance Issues  | Minor 0008 to 9513               |  |     |
| Clear Zones            | -                                |  |     |
| Intersections          | -                                |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | Yes  |
| Drainage                       | Poor   |
| Signage                        | Non-Breakaway (wood + metal Post)                |
| Sign Retroreflectivity         | Good   |
| Lighting                       | None   |
| Barriers/Guardrail             | None   |
| Utilities / Poles              | yes - fine                                       |
| Parking                        | None   |
| Turning Radii                  | Good   |
| Landscaping                    | minimal (No side of 9513 minor sight deficiency) |
| Crosswalks                     | None   |
| Centerline Striping            | 9513 - yes / 2008 - none                         |
| Edge Striping                  | " " " / " " " "                                  |
| Other Striping                 | -  |
| Pavement Markers / Delineators | 9513 centerline reflectors                       |
| Surrounding Land Uses          | Commercial + Residential                         |
| Pedestrian / Bicyclists        | Minimal  |
| Obstructions/Vegetation        |  |
| Roadside Damage                | None   |
| Nighttime Issues               |  |

# Road Safety Checklist

Red Plains Professional, Inc.

**Photographs:**

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**Accident History:**

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**Notes:**

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# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                  |  |     |
|------------------------|----------------------------------|--|-----|
| Owner:                 | Tribal 0066 / County 9513        |  |     |
| Roadway Name:          | Blackberry Ln + Tokeland Rd      |  |     |
| By:                    |                                  |  |     |
| Date/Time:             | 2:35 8/28/15                     |  |     |
| Weather:               | Partly cloudy + warm             |  |     |
| City/State             | Tokeland, WA                     |  |     |
| Location:              | From:                            |  | To: |
| Length:                |                                  |  |     |
|                        |                                  |  |     |
| Number of Lanes        | 2                                |  |     |
| Lane Width             | See IRR                          |  |     |
| Crown/Superelevation   | Good                             |  |     |
| Longitudinal Slope     | Good                             |  |     |
| Pavement Material      | Asphalt                          |  |     |
| Pavement Condition     | Good                             |  |     |
| Shoulder Width         | 9513 - see IRR / 0066 - none     |  |     |
| Shoulder Material      | Paved / X                        |  |     |
| Side Slopes (cut/fill) | none                             |  |     |
| Speed Limit            | 25 mph                           |  |     |
| Traffic Mix            | Residential - 0066 / 9513 - Both |  |     |
| Traffic Volume         | Low 0066 / 9513 medium           |  |     |
| Sidewalk               | None                             |  |     |
| ADA Ramps              | None                             |  |     |
| Roadway Geometry       | Flat - minor curving             |  |     |
| Sight Distance Issues  | Good                             |  |     |
| Clear Zones            | -                                |  |     |
| Intersections          | -                                |  |     |

# Road Safety Checklist

|                                |                                    |
|--------------------------------|------------------------------------|
| Driveways/Accesses             | Yes - Driveway on Both             |
| Drainage                       | Poor / None                        |
| Signage                        | ★ No stop sign on 0066             |
| Sign Retroreflectivity         | Good                               |
| Lighting                       | Entry lights <sup>on</sup> Fencing |
| Barriers/Guardrail             | None                               |
| Utilities / Poles              | yes, Fine                          |
| Parking                        | None                               |
| Turning Radii                  | Good                               |
| Landscaping                    | Minimal                            |
| Crosswalks                     | None                               |
| Centerline Striping            | 9513 - Good / 0066 - None          |
| Edge Striping                  | " " " " / " " " "                  |
| Other Striping                 | 9513 - centerline reflectors       |
| Pavement Markers / Delineators | ↓                                  |
| Surrounding Land Uses          | Residential                        |
| Pedestrian / Bicyclists        | minimal                            |
| Obstructions/Vegetation        | None                               |
| Roadside Damage                | None                               |
| Nighttime Issues               |                                    |

# Road Safety Checklist

**Photographs:**

268-275

**Accident History:**

**Notes:**

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                 |  |     |
|------------------------|---------------------------------|--|-----|
| Owner:                 | County                          |  |     |
| Roadway Name:          | 9990 + 9913 + 9995              |  |     |
| By:                    |                                 |  |     |
| Date/Time:             | 2:25 8/28/15                    |  |     |
| Weather:               | Partly Cloudy / warm            |  |     |
| City/State             |                                 |  |     |
| Location:              | From:                           |  | To: |
| Length:                |                                 |  |     |
|                        |                                 |  |     |
| Number of Lanes        | 2                               |  |     |
| Lane Width             | See IRR                         |  |     |
| Crown/Superelevation   | Fine                            |  |     |
| Longitudinal Slope     | Fine                            |  |     |
| Pavement Material      | Asphalt                         |  |     |
| Pavement Condition     | Fine                            |  |     |
| Shoulder Width         | See IRR                         |  |     |
| Shoulder Material      | Paved                           |  |     |
| Side Slopes (cut/fill) | -                               |  |     |
| Speed Limit            | 9990<br>9995 - ? / 9913 - 25mph |  |     |
| Traffic Mix            | Both                            |  |     |
| Traffic Volume         | medium                          |  |     |
| Sidewalk               | None                            |  |     |
| ADA Ramps              | None                            |  |     |
| Roadway Geometry       | Curvy                           |  |     |
| Sight Distance Issues  | yes - veg 9913 S. side          |  |     |
| Clear Zones            | -                               |  |     |
| Intersections          | -                               |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | yes at interchange                         |
| Drainage                       | Poor                                       |
| Signage                        | yes  |
| Sign Retroreflectivity         | Good                                       |
| Lighting                       | None                                       |
| Barriers/Guardrail             | None                                       |
| Utilities / Poles              | yes  |
| Parking                        | None                                       |
| Turning Radii                  | Fine                                       |
| Landscaping                    |  |
| Crosswalks                     | None                                       |
| Centerline Striping            | 9995 - Good / 9913 - None                  |
| Edge Striping                  |  |
| Other Striping                 | —  |
| Pavement Markers / Delineators | 9995 - centerline reflectors / None curves |
| Surrounding Land Uses          | Residential                                |
| Pedestrian / Bicyclists        | minimal                                    |
| Obstructions/Vegetation        | yes S. side 9913                           |
| Roadside Damage                | —  |
| Nighttime Issues               | —  |

# Road Safety Checklist

**Photographs:**

257-267

**Accident History:**

**Notes:**

# Road Safety Checklist

Red Plains Professional, Inc.

|                        |   |
|------------------------|---|
| Owner:                 |   |
| Roadway Name:          | 9995 + 0027 (9993)                                  |
| By:                    |   |
| Date/Time:             | 2:15 partly cloudy                                  |
| Weather:               | ↙<br>warm   |
| City/State             |   |
| Location:              | From: <input type="text"/> To: <input type="text"/> |
| Length:                |   |
|                        |   |
| Number of Lanes        | 2   |
| Lane Width             | See IRR   |
| Crown/Superelevation   | Good  |
| Longitudinal Slope     | " "   |
| Pavement Material      | Asphalt   |
| Pavement Condition     | Fine  |
| Shoulder Width         | 9995 - 4ft 0027 none                                |
| Shoulder Material      | Peved   |
| Side Slopes (cut/fill) | -   |
| Speed Limit            | 25 mph Both   |
| Traffic Mix            | Both  |
| Traffic Volume         | medium  |
| Sidewalk               | None  |
| ADA Ramps              | None  |
| Roadway Geometry       | 9995 - straight + / 0027 slight curve               |
| Sight Distance Issues  | 0027 - encroaching Bush                             |
| Clear Zones            | -   |
| Intersections          | -   |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | Driveway double entrance At intersection |
| Drainage                       | None                                     |
| Signage                        | <del>Post</del>                          |
| Sign Retroreflectivity         | Good                                     |
| Lighting                       | None                                     |
| Barriers/Guardrail             | None                                     |
| Utilities / Poles              | None                                     |
| Parking                        | None                                     |
| Turning Radii                  | Fine                                     |
| Landscaping                    | Well maintained                          |
| Crosswalks                     | None                                     |
| Centerline Striping            | 9995-Good / 0027 Faded                   |
| Edge Striping                  | -       /     None                       |
| Other Striping                 | -  |
| Pavement Markers / Delineators | Reflective Centerline markers            |
| Surrounding Land Uses          | Residential                              |
| Pedestrian / Bicyclists        | Minor                                    |
| Obstructions/Vegetation        | 0027 - encroaching bushes                |
| Roadside Damage                | None                                     |
| Nighttime Issues               | -  |

# Road Safety Checklist

Photographs:

250-256

Accident History:

Notes:

- one breakaway post  
- south side of Road Rock Berm

# Road Safety Checklist

|                        |                                      |  |     |
|------------------------|--------------------------------------|--|-----|
| Owner:                 | State/County                         |  |     |
| Roadway Name:          | Intersection of Tokeland & Hwy 101   |  |     |
| By:                    | Gas station / Casino                 |  |     |
| Date/Time:             | 11:45 a.m.                           |  |     |
| Weather:               | partly cloudy light wind             |  |     |
| City/State             | Tokeland                             |  |     |
| Location:              | From:                                |  | To: |
| Length:                |                                      |  |     |
|                        |                                      |  |     |
| Number of Lanes        | 2 each                               |  |     |
| Lane Width             | See IRR inventory                    |  |     |
| Crown/Superelevation   | —                                    |  |     |
| Longitudinal Slope     | —                                    |  |     |
| Pavement Material      | Asphalt                              |  |     |
| Pavement Condition     | Good                                 |  |     |
| Shoulder Width         | 6 ft each side                       |  |     |
| Shoulder Material      | Paved                                |  |     |
| Side Slopes (cut/fill) | —                                    |  |     |
| Speed Limit            | 35 <sup>mph</sup> Hwy 25mph Tokeland |  |     |
| Traffic Mix            | all                                  |  |     |
| Traffic Volume         | High                                 |  |     |
| Sidewalk               | Non (crosswalk)                      |  |     |
| ADA Ramps              | Non                                  |  |     |
| Roadway Geometry       |                                      |  |     |
| Sight Distance Issues  | curves both intersections            |  |     |
| Clear Zones            |                                      |  |     |
| Intersections          |                                      |  |     |

# Road Safety Checklist

|   |  |
|---|--|
| <b>Driveways/Accesses</b>                 |  |
| <b>Drainage</b>                           |  |
| <b>Signage</b>                            |  |
| <b>Sign Retroreflectivity</b>             |  |
| <b>Lighting</b>                           |  |
| <b>Barriers/Guardrail</b>                 |  |
| <b>Utilities / Poles</b>                  |  |
| <b>Parking</b>                            |  |
| <b>Turning Radii</b>                      |  |
| <b>Landscaping</b>                        |  |
| <b>Crosswalks</b>                         |  |
| <b>Centerline Striping</b>                |  |
| <b>Edge Striping</b>                      |  |
| <b>Other Striping</b>                     |  |
| <b>Pavement Markers /<br/>Delineators</b> |  |
| <b>Surrounding Land Uses</b>              |  |
| <b>Pedestrian / Bicyclists</b>            |  |
| <b>Obstructions/Vegetation</b>            |  |
| <b>Roadside Damage</b>                    |  |
| <b>Nighttime Issues</b>                   |  |

Photographs:

Accident History:

Notes:

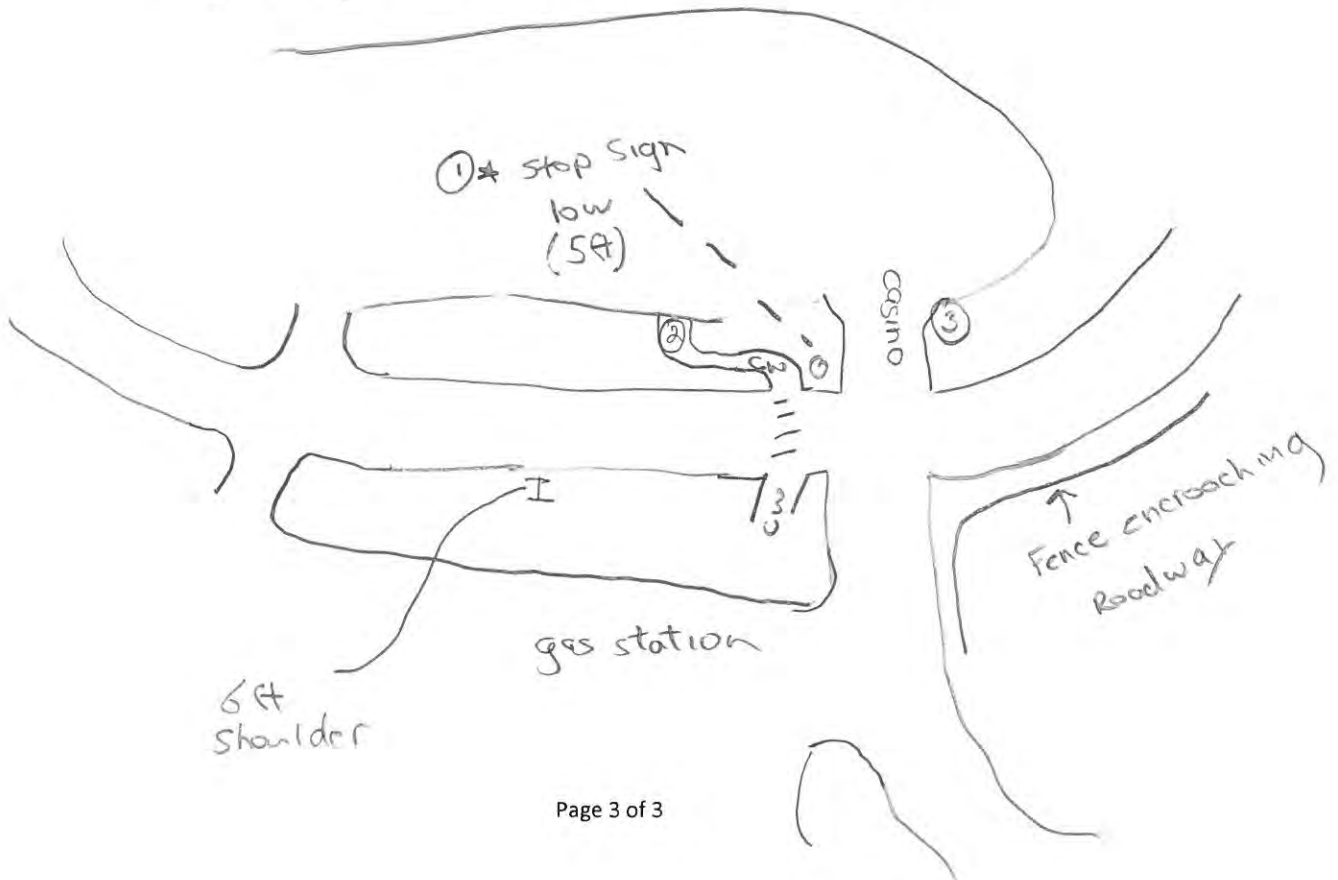
No Roadside Drainage

① 5ft tall / No Break away post  
to bottom  
of sign

~~② School bus sign~~ ~~no breakaway~~

③ Speed sign low + not vertical

② Bridge over walking path non-ADA



# Road Safety Checklist

|                        |                    |  |     |
|------------------------|--------------------|--|-----|
| Owner:                 | Tribal             |  |     |
| Roadway Name:          | Casino Parking Lot |  |     |
| By:                    |                    |  |     |
| Date/Time:             | 11:55 8/28/15      |  |     |
| Weather:               | Partly Cloudy warm |  |     |
| City/State             |                    |  |     |
| Location:              | From:              |  | To: |
| Length:                |                    |  |     |
|                        |                    |  |     |
| Number of Lanes        | -                  |  |     |
| Lane Width             | -                  |  |     |
| Crown/Superelevation   | -                  |  |     |
| Longitudinal Slope     | -                  |  |     |
| Pavement Material      | Asphalt            |  |     |
| Pavement Condition     | Good               |  |     |
| Shoulder Width         | 2 feet Curbed      |  |     |
| Shoulder Material      | Curb               |  |     |
| Side Slopes (cut/fill) | -                  |  |     |
| Speed Limit            | 5mph               |  |     |
| Traffic Mix            | All                |  |     |
| Traffic Volume         | Medium             |  |     |
| Sidewalk               | None               |  |     |
| ADA Ramps              | None               |  |     |
| Roadway Geometry       |                    |  |     |
| Sight Distance Issues  |                    |  |     |
| Clear Zones            |                    |  |     |
| Intersections          |                    |  |     |

# Road Safety Checklist

|   |  |
|---|--|
| <b>Driveways/Accesses</b>                 |  |
| <b>Drainage</b>                           |  |
| <b>Signage</b>                            |  |
| <b>Sign Retroreflectivity</b>             |  |
| <b>Lighting</b>                           |  |
| <b>Barriers/Guardrail</b>                 |  |
| <b>Utilities / Poles</b>                  |  |
| <b>Parking</b>                            |  |
| <b>Turning Radii</b>                      |  |
| <b>Landscaping</b>                        |  |
| <b>Crosswalks</b>                         |  |
| <b>Centerline Striping</b>                |  |
| <b>Edge Striping</b>                      |  |
| <b>Other Striping</b>                     |  |
| <b>Pavement Markers /<br/>Delineators</b> |  |
| <b>Surrounding Land Uses</b>              |  |
| <b>Pedestrian / Bicyclists</b>            |  |
| <b>Obstructions/Vegetation</b>            |  |
| <b>Roadside Damage</b>                    |  |
| <b>Nighttime Issues</b>                   |  |

# Road Safety Checklist

**Photographs:**

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**Accident History:**

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**Notes:**

- Saw cut in asphalt filled with large rock
- road signs low

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# Road Safety Checklist

|                        |                         |  |     |
|------------------------|-------------------------|--|-----|
| Owner:                 |                         |  |     |
| Roadway Name:          | 9513                    |  |     |
| By:                    |                         |  |     |
| Date/Time:             |                         |  |     |
| Weather:               |                         |  |     |
| City/State             |                         |  |     |
| Location:              | From:                   |  | To: |
| Length:                |                         |  |     |
|                        |                         |  |     |
| Number of Lanes        | 2                       |  |     |
| Lane Width             | See IRR                 |  |     |
| Crown/Superelevation   | -                       |  |     |
| Longitudinal Slope     | -                       |  |     |
| Pavement Material      | Asphalt                 |  |     |
| Pavement Condition     | Good                    |  |     |
| Shoulder Width         | See IRR                 |  |     |
| Shoulder Material      | Paved/ asphalt          |  |     |
| Side Slopes (cut/fill) | -                       |  |     |
| Speed Limit            | 25-35 mph               |  |     |
| Traffic Mix            | Residential/ Commercial |  |     |
| Traffic Volume         | High                    |  |     |
| Sidewalk               | No                      |  |     |
| ADA Ramps              | No                      |  |     |
| Roadway Geometry       | Slight curves + Bends   |  |     |
| Sight Distance Issues  | minor                   |  |     |
| Clear Zones            |                         |  |     |
| Intersections          |                         |  |     |

# Road Safety Checklist

|                                |  |
|--------------------------------|--|
| Driveways/Accesses             | yes commercial + Residential                           |
| Drainage                       | ☆ Poor   |
| Signage                        | Non Break away wood Post                               |
| Sign Retroreflectivity         | Good   |
| Lighting                       | None   |
| Barriers/Guardrail             | None   |
| Utilities / Poles              | yes  |
| Parking                        | No   |
| Turning Radii                  | Good   |
| Landscaping                    | Good   |
| Crosswalks                     | Non marked w/ signage                                  |
| Centerline Striping            | Good   |
| Edge Striping                  | " "  |
| Other Striping                 | " "  |
| Pavement Markers / Delineators | None   |
| Surrounding Land Uses          | Residential / Commercial                               |
| Pedestrian / Bicyclists        | minimal  |
| Obstructions/Vegetation        | none   |
| Roadside Damage                | Erosion along roadside drainage road edge falling away |
| Nighttime Issues               |  |

# Road Safety Checklist

**Photographs:**

mailbox close

**Accident History:**

water pooling

**Notes:**

# Road Safety Checklist

|                        |                                |  |     |
|------------------------|--------------------------------|--|-----|
| Owner:                 | 0010                           |  |     |
| Roadway Name:          | Pedestrian Path                |  |     |
| By:                    |                                |  |     |
| Date/Time:             | 1:30                           |  |     |
| Weather:               | Partly cloudy 60°'s            |  |     |
| City/State             |                                |  |     |
| Location:              | From:                          |  | To: |
| Length:                |                                |  |     |
|                        |                                |  |     |
| Number of Lanes        |                                |  |     |
| Lane Width             |                                |  |     |
| Crown/Superelevation   | -                              |  |     |
| Longitudinal Slope     | -                              |  |     |
| Pavement Material      | asphalt                        |  |     |
| Pavement Condition     | some severe cracking see photo |  |     |
| Shoulder Width         | -                              |  |     |
| Shoulder Material      | -                              |  |     |
| Side Slopes (cut/fill) | -                              |  |     |
| Speed Limit            | -                              |  |     |
| Traffic Mix            | Pedestrian                     |  |     |
| Traffic Volume         | Low                            |  |     |
| Sidewalk               | ✓                              |  |     |
| ADA Ramps              | ?                              |  |     |
| Roadway Geometry       | -                              |  |     |
| Sight Distance Issues  | -                              |  |     |
| Clear Zones            | -                              |  |     |
| Intersections          | -                              |  |     |

# Road Safety Checklist

|                                |                          |
|--------------------------------|--------------------------|
| Driveways/Accesses             | crosswalks               |
| Drainage                       | Poor                     |
| Signage                        | None                     |
| Sign Retroreflectivity         | -                        |
| Lighting                       | None                     |
| Barriers/Guardrail ★           | None                     |
| Utilities / Poles              | yes                      |
| Parking                        | -                        |
| Turning Radii                  | -                        |
| Landscaping                    | creeping vegetation      |
| Crosswalks                     | yes "                    |
| Centerline Striping            | -                        |
| Edge Striping                  | -                        |
| Other Striping                 | -                        |
| Pavement Markers / Delineators | None                     |
| Surrounding Land Uses          | Residential / commercial |
| Pedestrian / Bicyclists        | yes                      |
| Obstructions/Vegetation        |                          |
| Roadside Damage                |                          |
| Nighttime Issues               | .                        |

**Photographs:**

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**Accident History:**

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**Notes:**

- non break away signs
- roots cracking surface
- No crosswalk signage across roads

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# Road Safety Checklist

Red Plains Professional, Inc.

|                        |                                  |  |     |
|------------------------|----------------------------------|--|-----|
| Owner:                 | County both                      |  |     |
| Roadway Name:          | 9995 + 9993                      |  |     |
| By:                    | Troy                             |  |     |
| Date/Time:             | 2:00 8/28/15                     |  |     |
| Weather:               | Partly cloudy warm               |  |     |
| City/State             |                                  |  |     |
| Location:              | From:                            |  | To: |
| Length:                |                                  |  |     |
|                        |                                  |  |     |
| Number of Lanes        | 2                                |  |     |
| Lane Width             | See IRR                          |  |     |
| Crown/Superelevation   | Good                             |  |     |
| Longitudinal Slope     | Good                             |  |     |
| Pavement Material      | Asphalt                          |  |     |
| Pavement Condition     | Good                             |  |     |
| Shoulder Width         | See IRR                          |  |     |
| Shoulder Material      | " " "                            |  |     |
| Side Slopes (cut/fill) | -                                |  |     |
| Speed Limit            | 25mph                            |  |     |
| Traffic Mix            | Commercial / Accidental          |  |     |
| Traffic Volume         | medium                           |  |     |
| Sidewalk               | none                             |  |     |
| ADA Ramps              | none                             |  |     |
| Roadway Geometry       | Flat                             |  |     |
| Sight Distance Issues  | yes (south side of road Building |  |     |
| Clear Zones            | -                                |  |     |
| Intersections          |                                  |  |     |

# Road Safety Checklist

|                                |                            |
|--------------------------------|----------------------------|
| Driveways/Accesses             | -                          |
| Drainage                       | Poor/none                  |
| Signage                        | street name - falling down |
| Sign Retroreflectivity         | -                          |
| Lighting                       | none                       |
| Barriers/Guardrail             | none                       |
| Utilities / Poles              | yes, good                  |
| Parking                        | -                          |
| Turning Radii                  | good                       |
| Landscaping                    | minimal (low veg)          |
| Crosswalks                     | none                       |
| Centerline Striping            | yes 9995 / no on 9993      |
| Edge Striping                  |                            |
| Other Striping                 | -                          |
| Pavement Markers / Delineators | none                       |
| Surrounding Land Uses          | Residential / commercial   |
| Pedestrian / Bicyclists        | -                          |
| Obstructions/Vegetation        | -                          |
| Roadside Damage                | -                          |
| Nighttime Issues               |                            |



## **APPENDIX E – RSA FIELD CONDITION PHOTOS**

# Shoalwater Bay Tribe Roadway Safety Audit Photos

AUGUST 2015





Casino Parking Lot #1



Gas Station Parking Lot #2



Pier falling apart #3)



Pier falling apart #4



Pier falling apart #5



Route 0002 @ Route 9513 Bus Stop & Mailboxes #6



Route 0003 #7



Route 0003 New Building #8



Route 0003 New Building #9



Route 0003 New Building #10



Route 0003 New Building #11



Route 0003 New Building Back Hillslope Failing #12



Route 0003 New Building Erosion Control #13



Route 0003 New Building #14



Route 0003 Road Curve #15



Route 0010 #16



Route 0010 #17



Route 0010 #18



Route 0010 #19



Route 0010 (Asphalt Heaving) #20



Route 0010 (Asphalt Heaving) #21



Route 0010 (Asphalt Heaving) #22



Route 0010 (Bad Longitudinal Patch) #23



Route 0010 (Crosswalk) #24



Route 0010 (Crosswalk) #25



Route 0010 (Crosswalk) #26



Route 0010 (Crosswalk) #27



Route 0010 (Culvert to Culvert Connection) #28



Route 0010 (Culvert to Culvert Connection) #29



Route 0010 (Culvert) #30



Route 0010 (Culvert) #31



Route 0010 (Merging with Roadway) #32



Route 0010 (Merging with Roadway) #33



Route 0010 (Merging with Roadway) #34



Route 0010 (Merging with Roadway) #35



Route 0010 (New Path Location) #36



Route 0010 (New Path Location) #37



Route 0010 (New Path Location) #38



Route 0010 (New Path Location) #39



Route 0010 (New Path Location) #40



Route 0010 (New Path Location) #41



Route 0010 (New Path Location) #42



Route 0010 (New Path Veer Off) #43



Route 0010 (Surveying Being Done) #44



Route 0010 Entrance to Parking Lot #45



Route 0010 Entrance #46



Route 0010 Tsunamis Warning Sign #47



Route 0010 #48



Route 0021 @ Route 9992 #49



Route 0021 @ Route 9992 #50



Route 0021 @ Route 9992 #51



Route 0021 @ Route 9992 #52



Route 0021 @ Route 9992 #53



Route 0021 @ Route 9992 #54



Route 0021 @ Route 9992 #55



Route 0021 @ Route 9992 #56



Route 0021 @ Route 9992 #57



Route 0021 @ Route 9992 #58



Route 0022 @ Route 0021 #59



Route 0022 @ Route 0021 #60



Route 0022 @ Route 0021 #61



Route 0022 @ Route 0021 #62



Route 0022 @ Route 0021 #63



Route 0022 @ Route 0021 #64



Route 0022 @ Route 0021 #65



Route 0022 @ Route 0021 #66



Route 0022 @ Route 0021 #67



Route 0022 @ Route 0021 #68



Route 0022 @ Route 9992 #69



Route 0022 @ Route 9992 #70



Route 0022 @ Route 9992 #71



Route 0022 @ Route 9992 #72



Route 0022 @ Route 9992 #73



Route 0022 @ Route 9992 #74



Route 0022 @ Route 9992 #75



Route 0022 @ Route 9992 #76



Route 0028 Drainage Issues #77



Route 0028 Drainage Issues #78



Route 0105 @ Route 9513 #79



Route 0105 Chris & Troy Discussing Drainage Concerns #80



Route 0105 Cross Walk #81



Route 0105 Cross Walk #82



Route 0105 Cross Walk #83



Route 0105 Cross Walk #84



Route 0105 Cross Walk #85



Route 0105 Cross Walk #86



Route 0105 Cross Walk #87



Route 0105 Cross Walk #88



Route 0105 Cross Walk #89



Route 0105 Cross Walk #90



Route 0105 Cross Walk #91



Route 0105 Cross Walk #92



Route 0105 Crosswalk #93



Route 0105 Crosswalk #94



Route 0105 Crosswalk (Trip Hazard) #95



Route 0105 Drainage Issues Shoulder #96



Route 0308 Casino Entrance #97



Route 0308 Casino Entrance #98



Route 0308 Casino Parking Lot #99



Route 0308 Casino Parking Lot #100



Route 0308 Casino Parking Lot #101



Route 0308 Casino Parking Lot #102



Route 0308 Casino Parking Lot #103



Route 0308 Casino Parking Lot #104



Route 0308 Casino Parking Lot #105



Route 0308 Casino Parking Lot #106



Route 0308 Casino Parking Lot #107



Route 0308 Casino Parking Lot #108



Route 0308 Casino Parking Lot #109



Route 0308 Casino Parking Lot #110



Route 0308 Casino Parking Lot #111



Route 0308 Casino Parking Lot #112



Route 0308 Casino Parking Lot #113



Route 0308 Casino Parking Lot #114



Route 0308 Casino Parking Lot #115



Route 0308 Casino Parking Lot #116



Route 0308 Casino Parking Lot #117



Route 0308 Casino Parking Lot #118



Route 0308 Casino Parking Lot #119



Route 0308 Casino Parking Lot #120



Route 0308 Casino Parking Lot #121



Route 0308 Casino Parking Lot #122



Route 0308 Casino Parking Lot (Saw Cut Not Patched) #123



Route 0308 Casino Parking Lot Drainage Issue #124



Route 0308 Casino Parking Lot Drainage Issues #125



Route 0308 Casino Parking Lot Drainage Issues #126



Route 0308 Casino Parking Lot Drainage Issues #127



Route 0308 Casino Parking Lot Drainage Issues #128



Route 0308 Casino Parking Lot Entrance #129



Route 0308 Casino Parking Lot Entrance #130



Route 0308 Casino Parking Lot Entrance #131



Route 0308 Casino Parking Lot Entrance #132



Route 0308 Casino Parking Lot Entrance #133



Route 0308 Casino Parking Lot #134



Route 0308 Casino Speed Limit Sign #135



Route 0308 Casino Walking Path #136



Route 0308 Casino Walking Path #137



Route 9513 - drainage issues #138



Route 9513 - drainage issues #139



Route 9513 - drainage issues #140



Route 9513 - drainage issues #141



Route 9513 #141A



Route 9513 #142



Route 9513 #143



Route 9513 #144



Route 9513 #145



Route 9513 #146



Route 9513 #147



Route 9513 #148



Route 9513 #149



Route 9513 #150



Route 9513 #151



Route 9513 #152



Route 9513 #153



Route 9513 #154



Route 9513 #155



Route 9513 #156



Route 9513 #157



Route 9513 #158



Route 9513 #159



Route 9513 #160



Route 9513 #161



Route 9513 #162



Route 9513 #163



Route 9513 #164



Route 9513 #165



Route 9513 #166



Route 9513 #167



Route 9513 #169



Route 9513 #169A



Route 9513 @ Route 0001 #170



Route 9513 @ Route 0001 #171



Route 9513 @ Route 0001 #172



Route 9513 @ Route 0001 #173



Route 9513 @ Route 0001 #174



Route 9513 @ Route 0001 #175



Route 9513 @ Route 0001 #176



Route 9513 @ Route 0001 #177



Route 9513 @ Route 0002 #178



Route 9513 @ Route 0002 #179



Route 9513 @ Route 0002 #180



Route 9513 @ Route 0002 #181



Route 9513 @ Route 0002 #182



Route 9513 @ Route 0002 #183



Route 9513 @ Route 0002 #184



Route 9513 @ Route 0002 #185



Route 9513 @ Route 0002 #186



Route 9513 @ Route 0008 #187



Route 9513 @ Route 0008 #188



Route 9513 @ Route 0008 #189



Route 9513 @ Route 0008 #190



Route 9513 @ Route 0008 #191



Route 9513 @ Route 0008 #192



Route 9513 @ Route 0008 #193



Route 9513 @ Route 0008 #194



Route 9513 @ Route 0022 #195



Route 9513 @ Route 0022 #196



Route 9513 @ Route 0022 #197



Route 9513 @ Route 0022 #198



Route 9513 @ Route 0022 #199



Route 9513 @ Route 0022 #200



Route 9513 @ Route 0022 #201



Route 9513 @ Route 0022 #202



Route 9513 @ Route 0022 #203



Route 9513 @ Route 0022 #204



Route 9513 @ Route 0022 #205



Route 9513 @ Route 0022 #206



Route 9513 @ Route 0022 #207



Route 9513 @ Route 0066 #208



Route 9513 @ Route 0066 #209



Route 9513 @ Route 0066 #210



Route 9513 @ Route 0066 #211



Route 9513 @ Route 0066 #212



Route 9513 @ Route 0066 #213



Route 9513 @ Route 0066 #214



Route 9513 @ Route 0066 #215



Route 9513 @ Route 9994 (Drainage Issues) #216



Route 9513 @ Route 9994 (Drainage Issues) #217



Route 9513 @ Route 9994 (East) #218



Route 9513 @ Route 9994 (East) #219



Route 9513 @ Route 9994 (East) #220



Route 9513 @ Route 9994 (East)  
#221



Route 9513 @ Route 9994 (East) #222



Route 9513 @ Route 9994 (East) #223



Route 9513 @ Route 9994 (East) #224



Route 9513 @ Route 9994 (East) #225



Route 9513 @ Route 9994  
(West) #226



Route 9513 @ Route 9994 (West) #227



Route 9513 @ Route 9994 (West) #228



Route 9513 @ Route 9994 (West) #229



Route 9513 @ Route 9994 (West) #230



Route 9513 @ Route 9994  
(West) #231



Route 9513 @ Route 9994 (West) #232



Route 9513 @ Route 9994 (West) #233



Route 9513 @ Route 9994 (West) #234



Route 9513 168 #235



Route 9513 Bad Road Shoulder & Buried Culvert #236



Route 9513 Buried Culvert #237



Route 9513 Ditch Culvert #238



Route 9513 Drainage Ditch & Failing Shoulder #239



Route 9513 Drainage Ditch & Failing Shoulder #240



Route 9513 Drainage Ditch & Failing Shoulder #241



Route 9513 Drainage Ditch #242



Route 9513 Drainage Ditch #243



Route 9513 Drainage Ditch #244



Route 9513 Drainage Ditch #245



Route 9513 Drainage Ditch #246



Route 9513 Drainage Ditch @ Culvert #247



Route 9513 Drainage Ditch @ Culvert #248



Route 9513 Drainage Ditch Culvert #249



Route 9513 Drainage Ditch #250



Route 9513 Drainage Issues #251



Route 9513 Drainage Issues #252



Route 9513 Gas Station Entrance Bad Light Base #253



Route 9513 Gas Station Entrance Failing Shoulder #254



Route 9513 Gas Station Entrance Failing Shoulder #255



Route 9513 Gas Station Entrance #256



Route 9513 Gas Station Parking Lot Entrance & Trail #257



Route 9513 Gas Station Parking Lot Entrance & Trail #258



Route 9513 Gas Station Parking Lot Entrance & Trail #259



Route 9513 Gas Station Parking Lot Entrance #260



Route 9513 Speed Zone Ahead Sign #261



Route 9990 - worn striping #263

No Slide #262



Route 9990 Drainage Issues (Bad Culvert) @264



Route 9990 Drainage Issues (Bad Culvert) #265



Route 9990 Drainage Issues (Bad Culvert) #266



Route 9990 Drainage Issues #267



Route 9990 Fence Encroaching Roadway #268



Route 9990 Fence Encroaching Roadway #269



Route 9990 Random Pipe, Possibly for Drainage #270



Route 9990 Random Pipe,  
Possibly for Drainage #271



Route 9990 Site Deficiency #272



Route 9990 Site Deficiency #273



Route 9990 Site Deficiency #274



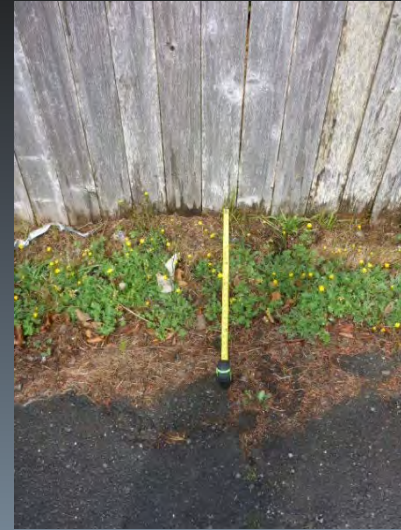
Route 9990 Site Deficiency #275



Route 9990 Site Deficiency #276



Route 9990 Site Deficiency #277



Route 9994 Fence Encroaching Roadway #278



Route 9995 - Kindred Ave #279



Route 9995 - Kindred Ave #280



Route 9995 - Kindred Ave #281



Route 9995 - Kindred Ave #282



Route 9995 - Kindred Ave #283



Route 9995 - Kindred Ave #284



Route 9995 @ Route 0023 Site Dificiencies #285



Route 9995 @ Route 0023 Site Dificiencies #286



Route 9995 @ Route 0027 #287



Route 9995 @ Route 0027 #288



Route 9995 @ Route 0027 #289



Route 9995 @ Route 0027 #290



Route 9995 @ Route 0027 #291



Route 9995 @ Route 0027 #292



Route 9995 @ Route 0027 #293



Route 9995 @ Route 0400 #294



Route 9995 @ Route 9993 #295



Route 9995 Bad Shoulder #296



Route 9995 Bad Sign Post #297



Routes 9990 @ 9513 @ 9995 #298



Routes 9990 @ 9513 @ 9995 #299



Routes 9990 @ 9513 @ 9995 #300



Routes 9990 @ 9513 @ 9995 #301



Routes 9990 @ 9513 @ 9995 #302



Routes 9990 @ 9513 @ 9995 #303



Routes 9990 @ 9513 @ 9995 #304



Routes 9990 @ 9513 @ 9995 #305



Routes 9990 @ 9513 @ 9995 #306



Routes 9990 @ 9513 @ 9995 #307



Routes 9990 @ 9513 @ 9995 #308



SR105 @ Route 0003 (Eagle Hill Rd) #309



SR105 @ Route 0003 (Eagle Hill Rd) #310



SR105 @ Route 0003 (Eagle Hill Rd) #311



SR105 @ Route 0003 (Eagle Hill Rd) #312



SR105 @ Route 0003 (Eagle Hill Rd) #313



SR105 @ Route 0003 (Eagle Hill Rd) #314



SR105 @ Route 0003 (Eagle Hill Rd) #315



SR105 @ Route 0003 (Eagle Hill Rd) #316



SR105 @ Route 0003 (Eagle Hill Rd) #317



SR105 @ Route 0003 (Eagle Hill Rd) #318



SR105 @ Route 0004 #319



SR105 @ Route 0004 #320



SR105 @ Route 0004 #321



SR105 @ Route 0004 #322



SR105 @ Route 0004 #323



SR105 @ Route 0004 #324



SR105 @ Route 0004 #325



Tree on utility lines #326