

JAMESTOWN S'KLALLAM TRIBE – VETERANS MEMORIAL VETERANS MEMORIAL STREAM RESTORATION PROJECT

ENVIRONMENTAL CHECKLIST

A. Background [\[help\]](#)

1. Name of proposed project, if applicable: The Jamestown S'Klallam Tribe Veterans Memorial . Veterans Memorial Stream Restoration
2. Name of applicant: Jamestown S'Klallam Tribe (JST)
3. Address and phone number of applicant and contact person: 1033 Old Blyn Highway, Sequim, WA, 98382 (360) 681 4620
4. Date checklist prepared: 1-24-17
5. Agency requesting checklist: WDFW
6. Proposed timing or schedule (including phasing, if applicable): Phase 1 Construction . April 1, 2017 and Phase 2 Construction, April 1, 2018.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. No
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. A JARPA , Wetland Delineation Report, Historic Assessment, and Conceptual Design have been prepared. The JST has completed the internal permitting of the proposed Veterans Memorial Project. The proposed stream restoration is one element of the overall Veterans Memorial Project.
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [\[help\]](#)
No
10. List any government approvals or permits that will be needed for your proposal, if known. The JST has an internal permitting process they have completed. Clallam County has exempted the project from local permitting.
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

NOTE: SEE APPENDIX A ND THE PROJECT PLANS INCLUDED WITH THIS CHECKLIST AS SEPARATE DOCUMENTS IN ORDER TO REDUCE THE FILE SIZE.

This project is the development of a site to honor the Jamestown S'Klallam Tribe (JST) tribal veterans. The southern side of the site includes an unnamed seasonal stream that has been named Veterans Memorial Creek for the purposes of this project application. Veterans Memorial Creek discharges onto the site via a 30+CM^P culvert that drains a 378 acre watershed. The culvert carries the stream flow under SR 101, the Old Blyn Highway, and the JST Administration campus parking lot. It is approximately 435 feet long and on a steep grade.

Rather than extending the existing culvert to Sequim Bay the JST elected to incorporate the stream into the site as an amenity. The flow from the culvert will be directed into a new 334 feet long restored stream channel. The stream channel will include nine, 1 foot high rock grade controls to make stream fish passable, create white noise, and provide a soothing environment for the veterans memorial visitor.

In order to assure that there will always be water in the stream, a stream flow recirculation system has been added. Between 200 and 400 gallons per minute of stream water will be pumped from the holding tanks located at the bottom of the new stream channel to the head of the new stream channel. Make up water to the holding tanks will be supplied by the JST campus potable water system as necessary via a float controlled on/off valve located at the water storage tanks.

The stream channel will be lined with gravel that will remain in place at the velocities created by a flows of up to 15 cfs (100 year to 500 year event flows) The stream will have several habitat features including rocks, logs, and a 109 foot long pool section that includes a PVC liner to prevent leakage. The PVC liner will be covered with 9+of spawning gravel to provide habitat and prevent floatation. Vegetation plantings along the edges of the stream will add habitat and shade.

The pumping and water storage systems are designed to prevent fish or other biota in the stream from entering the water recirculation system. If fish or other biota does get into the water storage tanks they can exit the tanks via the tank overflow discharge piping that discharges back into the lower stream channel. A Tideflex Series TF-1 flow controller will placed at the end of the overflow discharge piping to prevent the discharge piping from becoming a fish attraction.

The JST has had the stream surveyed and by consultants and determined that there are no fish in this stream. However the WDFW has listed the stream as a fish bearing stream. The stream channel between the culvert outlet and Sequim Bay is basically a ditch that is dry most of the year. (Note that the mean precipitation for the watershed is 16 inches per year.)

The project applicants and Chris Waldbilling of WDFW met at the site on January 17, 2017 to discuss the WDFW findings that this is a fish bearing stream. Chris Waldbilling expressed a concern that the improvements to the stream may result in attracting local Coho and cutthroat fry. WDFW concerns stated at that meeting along with the corresponding design reposes are as follows:

1. WDFW has the stream listed as a fish stream and therefore any work we do to the stream must meet fish passage standards: WDFW has requested a 0.8 foot drop at each grade control structure. That design criteria for the proposed stream restoration will be hard to comply with and one foot rock weir grade controls are proposed. The in stream grade drops will be variable along the rock weirs due to the nature of rock weirs.

The fry will likely swim up between the rocks like they do in nature. Larger Coho . should they somehow get into the stream . will have no problems with one foot drops. The JST prefers a higher grade drops because of the additional %splash+and because of the existing ground profile.

2. WDFW wants to make sure the stream is accessible from the Sequim Bay estuary: This stream restoration project will not change the access to Sequim Bay Estuary. The bottom pool has surface water over flow elevation of 9.6 MLLW. The MHHW at Sequim Bay is approximately 8.1 (MLLW) at the entrance and likely a little higher at the project location. The extreme high tide is 9.6 MLLW with the 100 year wave run up. There are 11 tides over 9.0 MLLW next year. There are 76 tides greater than 8.5 MLLW. The proposed water intake recirculation pool is right at the edge of the high tide mark. There will be water flowing through to the estuary and at certain tides fish will be able to enter and leave the restored stream channel at random.
3. WDFW does not want fish to be able to get into . or injured by . the proposed water recirculation pumping system. The JST has similar concerns. First, the inflow pipes to the water recirculation system are dual 8+iameter perforated pipes that will be installed under 9+of rock cobble. Second, if per chance fish do get into those pipes, The fish can get out of the water storage tanks via an outlet pipe that drains the first water storage tank. The fish can leave through a %duck bill+tidal flow restrictor at the end of the outflow pipe or leave the tank the same way they entered the water recirculation system.

The water recirculation pumps in the second tank are 3+solids handling pumps. The JST will install fish screens in front of the tank 2 intakes and around the pump intakes to keep the fish out of tank 2 and away from the pump intakes. Velocities will be low - in the 2 ft. per second . or less - range. Note that we expect the debris that gets into the water recirculation system to stay in the first tank. This system will require periodic cleaning and maintenance so we are installing two 2qdia. access covers in tank 1 and two 30+square access covers over the dual pumping systems in tank 2.

Chris also expressed some concern about temperature of the recirculated stream water. The JST is not concerned about the temperature of the restored stream water being above normal for the following reasons: The average time for the water to be above ground and flowing through the system will be around 3 to 5 minutes. Then the water will enter and be stored in underground tanks. It will be cooled by the water in the tanks. Second, there will be well water at the temperature of 55 degrees flowing into the system on an intermittent basis that will cool the water in the tanks. Third the water flowing into the system from the watershed should be cool. There is lot of shade in the watershed, the drainage areas are mostly forested, and there is a lot of underground piping above the outlet of the 30+CMP culvert

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Project Address: 1083 Old Blyn Highway, Sequim, WA 98382
Geographic Location: 48.002592 N latitude, 122.00300 W longitude
Section, Township, and Range: NE ¼, Section 12, T29N, R3W

Clallam County

B. ENVIRONMENTAL ELEMENTS [\[help\]](#)

1. Earth [\[help\]](#)

a. General description of the site: See FIGURE 4

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)? 7% slope.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification. Seven soil test holes were dug on the site along the proposed center line of the restored stream channel. All of the soils logs where dug to a depth of 5 feet. The top 9+of the soil on the portion of the site to be developed was organic top soil. Beneath the top soil was a light brown silty clay loam with no gravel or rocks. At station 3+00 on the proposed alignment we encountered gravel and ground water at a depth of 4 feet. The soil logs were dug in month of December after considerable rainfall and a very wet year yet no ground water seepage was encountered in the silty, clay loam. This is favorable for the construction and operation of the proposed stream channel. We expect very little leakage and the site grading should be very easy.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. No. See also the Wetland Delineation Classification Report for the JST for the property. The report has been included with the submission of this Environmental Check List.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. 0.8 acres of the site will be stripped of vegetation (640 CY) and graded to the preferred elevations. 200 CY of select gravel will be hauled onto the site to build the subgrade for the slabs and sidewalks. 400 CY of soil will excavated for the restored stream channel. 250 tons of stream gravel will hauled onto the site to build the new fish friendly stream channel.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. There is a very low probability of erosion occurring on site. The soil is not easily eroded, the rainfall in the project area is only 16 inches a year and best management practices will be used on site to control erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? The total size of the parcel the Veterans Memorial is located on is 3.4 acres. The portion of the site that will be developed for the memorial will be 0.8 acres. 5,300 square feet (15%) of the developed portion of the site will covered with the veterans memorial concrete slab and the concrete sidewalks.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Primarily silt fence to control site runoff and not working during wet weather. The proposed stream will be constructed and stabilized before water will be discharged into it. After the new stream has been activated the old stream channel will be filled.

2. Air [\[help\]](#)

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. None
- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. No
- c. Proposed measures to reduce or control emissions or other impacts to air, if any: None.

3. Water [\[help\]](#)

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

This is a stream restoration project. We will be replacing 260 feet of highly altered stream channel that is a seasonal drainage with 360 feet of new stream channel that will include habitat features and a stream water recirculation system. See Figure 4. We have included the JARPA for the stream restoration project with this Environmental Checklist.

The project is within numerous buffers . see the Wetland delineation report. Figure 5 below further illustrates the wetland, stream, and Sequim Bay buffers.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. Yes . See Figure 5.
- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. There will be some excavation in the existing Class III wetland to build the new stream channel. Most of the work on the site will be completed in the wetland buffers. See TABLE 1 below and the project JARPA. Abandonment of the existing stream channel will require using 50 CY of native soil from the site.

TABLE 1

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³
Excavation	No Name . in the wetlands	Class 3	1,500	3 months
Grading Activities . cut	No Name . In the	Class 3	35,000	3 months

and fill	Wetland Buffers only			
Soil and Vegetation removal	No name- in the wetland buffers only	Class 3	35,000	2 weeks

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. Veterans Memorial Creek will be realigned and restored.
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. No.
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. No.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. **The stream water recirculation system makeup water will be provided by the JST administration campus potable water system that is supplied by deep wells. Much of the year no makeup water will be required. It is roughly estimated that up to a 1,000 gallons per day may be required for makeup water in the system during the drier periods of the year. The makeup water to the system will be metered.**
- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. None

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. There will be 5,393 square feet of impervious surface in the walkways and veterans memorial. Stormwater from the impervious surfaces will drain directly into the surrounding landscaped area and remain on site.
- 2) Could waste materials enter ground or surface waters? If so, generally describe. No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. Yes. The new stream channel will change the route of the Veterans Memorial Stream across the property.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: The project is a stream restoration project that will result in a revitalized and restored stream channel.

4. **Plants** [\[help\]](#)

a. Check the types of vegetation found on the site: Only in the area to be developed.

- deciduous tree: alder, maple, aspen, other
 evergreen tree: fir, cedar, pine, other
 shrubs
 grass
 pasture
 crop or grain
 Orchards, vineyards or other permanent crops.
 wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
 water plants: water lily, eelgrass, milfoil, other
 other types of vegetation

b. What kind and amount of vegetation will be removed or altered. The entire area along the existing stream channel is heavily infested with Himalayan Blackberries. The initial clearing has removed the above ground vines. The future grading of the site will remove the entire noxious weed community within the project area.

c. List threatened and endangered species known to be on or near the site.

Coastal-Puget Sound Bull Trout DPS, Puget Sound Chinook ESU (spring run), Hood Canal Summer-run Chum ESU, and Puget Sound Steelhead (winter and summer runs). These species are not anticipated to be affected by the proposed work.

In addition to the species indicated above, WDFW documents the project vicinity as providing wintering habitat for peregrine falcon, breeding habitat for harlequin duck, and management buffer for northern spotted owl. Given the anticipated project timing- subsequent to nesting and fledging for harlequin duck and northern spotted owl and prior to wintering for peregrine falcon- no effects to these species are anticipated.

Other PHS species that may potentially occur on or near the project site include pileated woodpecker, great blue heron, bald eagle, Vaux's swift, river and Pacific lamprey, Puget Sound Coho, Puget Sound pink salmon, resident and sea-run cutthroat trout, western toad, van dyke's salamander, valley silverspot butterfly, and a variety of mammalian species (Keen's myotis, western pocket gopher, etc.). Terrestrial species are not anticipated to be affected by the proposed work. Aquatic species are not anticipated to be affected by the proposed work.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any. The entire site will be landscaped. A landscaping plan has been prepared that uses native plants to revegetate the site.
- e. List all noxious weeds and invasive species known to be on or near the site. Himalayan and Evergreen blackberries.

5. Animals [\[help\]](#)

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [\[help\]](#)

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site. See 4c above.
- c. Is the site part of a migration route? If so, explain. No
- d. Proposed measures to preserve or enhance wildlife, if any: The project is a stream restoration project. It is hoped the fish may reestablish themselves in the restored stream channel after restoration.
- e. List any invasive animal species known to be on or near the site. None.

6. Energy and Natural Resources [\[help\]](#)

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. Electricity will be required to power the water recirculation pumps. Two .2 HP centrifugal pumps area proposed.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. No
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: We are installing single phase to three phase converters to reduce power consumption by the pumps.

7. Environmental Health [\[help\]](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. No.

- 1) Describe any known or possible contamination at the site from present or past uses.
None
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. None
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. None
- 4) Describe special emergency services that might be required. None
- 5) Proposed measures to reduce or control environmental health hazards, if any: None

b. Noise NA

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? The traffic noise from Old Blyn Highway and SR 101 will affect the peaceful atmosphere at the site. The white noise from the restored stream will help reduce the impact of that noise. Large trees and landscaping are being installed to reduce the noise at the site.
- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. None
- 3) Proposed measures to reduce or control noise impacts, if any: See b-1 above.

8. **Land and Shoreline Use** [\[help\]](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. No.
 - b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? NA
- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: NA

- c. Describe any structures on the site. None
- d. Will any structures be demolished? If so, what? No.
- e. What is the current zoning classification of the site? The project is on JST Tribal Land
- f. What is the current comprehensive plan designation of the site? The project is on JST Tribal Land
- g. If applicable, what is the current shoreline master program designation of the site? Natural
- h. Has any part of the site been classified as a critical area by the city or county? If so, specify. No..
- i. Approximately how many people would reside or work in the completed project? Five
- j. Approximately how many people would the completed project displace? None
- k. Proposed measures to avoid or reduce displacement impacts, if any: NA
- L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: This is a Veterans Memorial on Tribal Land. No additional measures have been taken.
- m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any: None

9. Housing: NA

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. None
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. NA

c. Proposed measures to reduce or control housing impacts, if any: NA

10. Aesthetics [\[help\]](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? NA
- b. What views in the immediate vicinity would be altered or obstructed? None
- b. Proposed measures to reduce or control aesthetic impacts, if any: The tribe is going to great lengths to make this a wonderful experience for the visitor to visit and contemplate the tremendous contribution their veterans made for our security and safety.

11. Light and Glare [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? There will some low level lighting at the site to accommodate night time visitors.
- b. Could light or glare from the finished project be a safety hazard or interfere with views? No
- c. What existing off-site sources of light or glare may affect your proposal? None
- d. Proposed measures to reduce or control light and glare impacts, if any: None

12. Recreation [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity? The site is being designed so the people can visit the site and contemplate the veterans sacrifices with viewing beautiful Sequim Bay with the sound of the stream in the background.
- b. Would the proposed project displace any existing recreational uses? If so, describe. No.
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: None

13. Historic and cultural preservation [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe. No.
- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. No
- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. An historic artifacts survey by the JST tribal historian.
- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
None.

14. Transportation [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. Old Blyn Highway.
- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? Yes.
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? None.
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). No
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. None

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? It is impossible to estimate – on a long term basis – how many people will come to the veteran's memorial site to visit. The parking and transportation impacts are expected to be insignificant. Most of the use of the veteran's memorial is expected to be by tribal members who want to remember their

loved ones at random times when they come to the tribal administration offices on other business.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. NA

h. Proposed measures to reduce or control transportation impacts, if any: None

15. Public Services [\[help\]](#)

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. No

b. Proposed measures to reduce or control direct impacts on public services, if any. None

16. Utilities [\[help\]](#)

a. Circle utilities currently available at the site: [\[help\]](#)

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. Power: Clallam County PUD . Water: the JST water system. No additions or improvements to the electrical or water systems are needed or expected.

C. Signature [\[help\]](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Annette Nesse

Name of signee Annette Nesse

Position and Agency/Organization COO Jamestown S'Klallam Tribe

Date Submitted: 1/26/17