Memorandum

To:	Chelsea Benner	Project:	Melvin R. Sampson Coho Hatchery
From:	Thad Jones	cc:	Lindsey Ozbolt, Kittitas County Kevin Jensen, McMillen Jacobs Associates
Date:	March 22, 2018	Job No.:	16-012
Subject:	Kittitas County Shoreline Exemption Permit Supplemental Documentation for the MRS Hatchery Project		

1.0 Introduction

The Bonneville Power Administration (BPA) is proposing to fund construction and operation of the Melvin R. Sampson Hatchery (MRS Hatchery) in the Yakima Basin in central Washington. The proposed hatchery would be owned and operated by the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) and would be constructed on land owned by the Yakama Nation northwest of Ellensburg in Kittitas County, Washington (Attachment A – Figure 1). Construction activities will involve building a new hatchery building, outdoor adult holding pond, a shop building, an effluent clarifier and three new residences in the general area of an existing farmhouse and barn. The MRS Hatchery project has made efforts to provide a state-of-the-art salmonid fish hatchery that will serve as an interpretive center for the community, while maintaining the rural character of Kittitas County.

The State of Washington and Kittitas County manage growth, and protect designated shoreline through the Washington State Shoreline Management Act and Kittitas County's Shoreline Master Program. Designated shoreline, or Shorelines of the state, include floodways and contiguous floodplain areas landward two hundred (200) feet when associated with streams or rivers. The MRS Hatchery is located adjacent to the New Cascade Canal bypass channel, which is considered a floodway. Project related activities including construction of an enclosed shed would occur within the 200-foot shoreline management area.

McMillen Jacobs Associates, acting as an Authorized Agent for the Yakama Nation, submitted a Shoreline Exemption Permit application in February 2018. This memorandum provides supplemental documentation showing that the MRS Hatchery project meets the provisions of Section 7.3 of the Kittitas County Shoreline Master Program that allows for exemptions from the substantial development permit process.

2.0 Washington State Department of Fish and Wildlife (WDFW) Approval

On January 23, 2014, the WDFW reviewed the MRS Hatchery (previously referred to as "Holmes Hatchery") project and approved the request for Hillis Rule priority water rights processing of application S4-33084 and G4-33083 (Attachment B), in support of the project. Additionally, WDFW state that,

> "Adding 10 cfs (cubic feet per second) of flow for Holmes Hatchery non-consumptive use would cut the normal fall/winter flow reduction in half and would provide about 1 mile of high quality winter side channel fish habitat…a substantial enhancement to the natural environment, while having minimal impact to fish habitat in the much larger mainstem Yakima River. In addition, adult coho salmon returning to the bypass channel are able to spawn naturally in one section that has high quality spawning gravel. Salmon spawning is currently hindered by the existing 5 cfs base flow, whereas a 15 cfs total flow in the bypass channel in Nov.- Dec. will allow more adult coho to spawn successfully."

WDFW goes on to state that,

> "The use of colder groundwater is essential to successfully raising these salmon during late spring, summer and early fall. Adult coho returning to the CID (Cascade Irrigation District) bypass channel adjacent to the Holmes Hatchery will provide marine-derived nutrients that will benefit the aquatic and terrestrial ecosystem. Plans may also include using hatchery effluent water for growing native plant species for habitat restoration projects in the Yakima Basin."

WDFW is aware of the benefits associated with the MRS Hatchery project and approves of the project.

3.0 Hydraulic Project Approval (HPA)

The MRS Hatchery project applied for a WDFW HPA on February 12, 2018 as part of the joint aquatic resource permit. WDFW issued a letter on February 13, 2018 stating that the application is incomplete pending written notice of compliance with the State Environmental Policy Act (SEPA). Environmental impacts associated with the MRS Hatchery project have been reviewed in a Final Environmental Impact Statement that is available online[1]. The environmental review process will be complete following the issuance of a Record of Decision (ROD), which is anticipated in Spring 2018.

The project will provide the required HPA following submittal of a complete application, as well as a copy of the ROD to document compliance with SEPA.

4.0 Fish Habitat Enhancement

One component of the project includes improvement to the New Cascade Irrigation Canal (Attachment A – Figure 1). The New Cascade canal diversion is located on the left bank of the Yakima River approximately 7 miles to the northwest of Ellensburg, Washington. The diversion, which is owned and operated by the Bureau of Reclamation, provides about 150 cfs of irrigation water from April through October.

[1] BPA EIS location: https://www.bpa.gov/efw/Analysis/NEPADocuments/Pages/MelvinSampsonHatcheryYakimaBasinCohoProject.aspx

The New Cascade Canal includes a fish screen facility located approximately 0.4 miles downstream of the diversion (Attachment A – Figure 2). The fish screen facility consists of eight rotary drum screens, a fish bypass entrance channel, and a bypass pipe that conveys fish back into a side channel of the Yakima River.

Modifications to the New Cascade Screen include a low-lying reinforced concrete sill (or wingwall) approximately 30 inches high and 9 inches wide, doweled into the existing concrete slab upstream of the screens. The sill will ensure a minimum diversion of 10 cfs to the side channel through the fish bypass during the non-irrigation season, to improve fish spawing habitat in the bypass channel, and allowing for full use of the surface water right for the project. Modification to the existing New Cascade screen would increase water flow into the bypass channel improving fish passage into, and fish spawing habitat in, the bypass channel.

As a result, modification to the New Cascade Canal will improve the fish bypass screen to ensure safe fish passage from the canal into the New Cascade Canal bypass channel and increases late-season bypass channel flow by 10 cfs. Adding 10 cfs to the bypass channel would be "*a substantial enhancement to the natural environment…*' by allowing adult coho salmon to return to the bypass channel to spawn naturally in an area that previously limited spawing due to low base flow.

5.0 Conclusion

It is our understanding that the MRS Hatchery project meets the requirements for an exemption to the substantial development permit process. Documentation to support this understanding is presented above; however, additional documentation is required prior to issuance of a Letter of Exemption from Kittitas County. Upon completion of the environmental review process, the project will provide Kittitas County with a copy of the signed Record of Decision to document compliance with SEPA, and a compete and approved HPA.

I look forward to hearing back from you regarding this project. If additional information is required to meet the requirements of the Shoreline Master Program exemption process, do not hesitate to contact me at 208-955-8277 or tjones@mcmjac.com.

Sincerely,

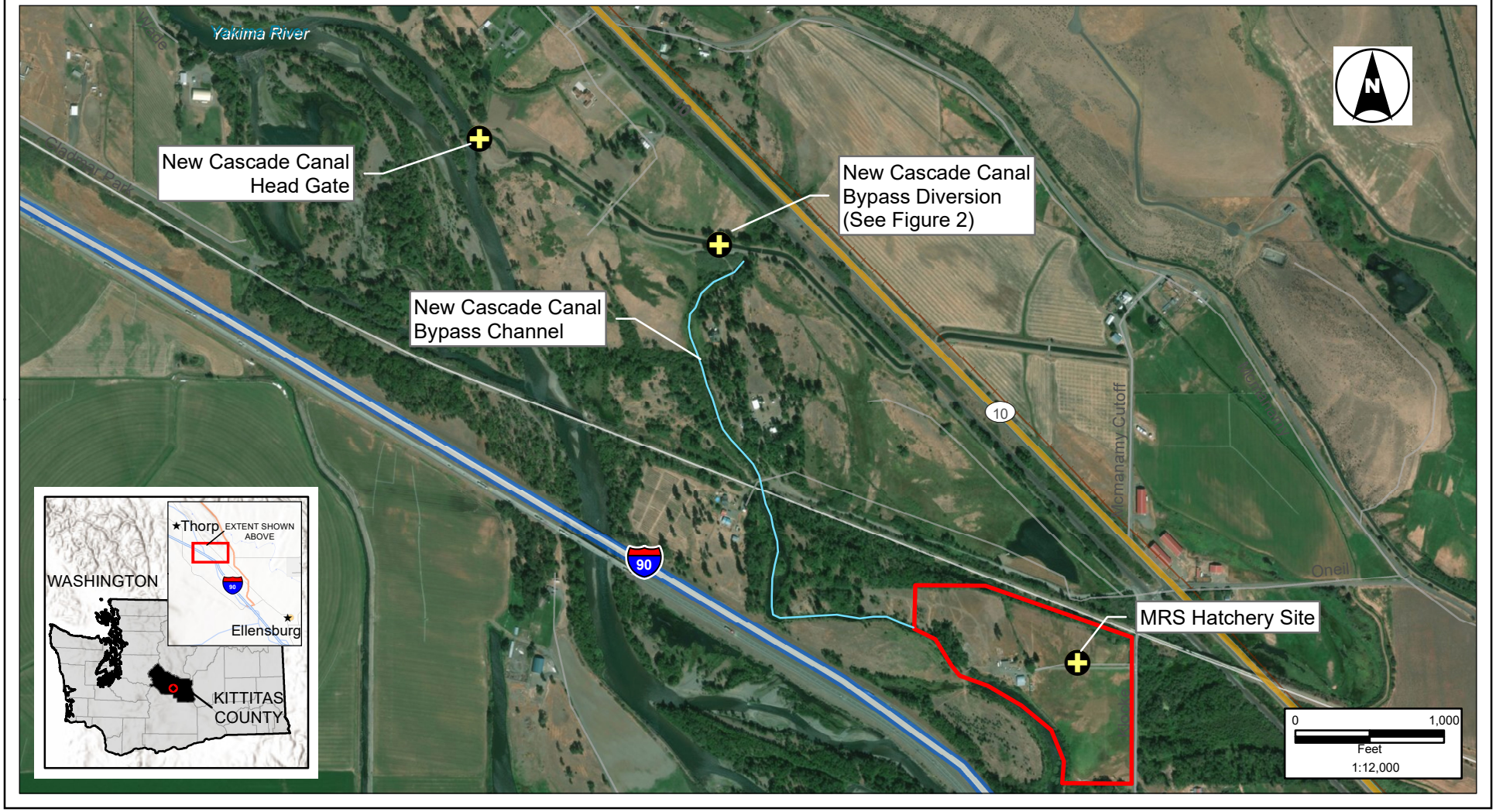
Thad Jones
Natural Resources & Permitting

cc: Lindsey Ozbolt – Kittitas County
Kevin Jensen – McMillen Jacobs Associates

Attachments:

Attachment A – Figures
Attachment B – WDFW Project Letter

ATTACHEMENT A
FIGURES



McMILLEN JACOBS ASSOCIATES

NAD1983 State Plane
Washington South

Source: Esri, USGS
Image: DigitalGlobe Sept 2015

Project Sites

March 2018

Figure 1

Location Map

Melvin R. Sampson Hatchery
Yakama Nation

Document Path: C:\Users\tjones\Box\GIS\Project_Based\Sampson_Hatchery\Reports\Fig1_LocationMap.mxd

McMILLEN JACOBS ASSOCIATES

NAD 1983 StatePlane
Washington South (Feet)

Source: Esri, USGS
Image: DigitalGlobe Sept. 2015

Impact Type

- Permanent
- Temporary

March 2018

Figure 2

New Cascade Bypass Canal
Bypass Diversion Structure

Melvin R. Sampson Hatchery
Yakama Nation

Document Path: C:\Users\tjones\Box\GIS\Project_Based\Sampson_Hatchery\Reports\Impact Locations_Bypass.mxd

ATTACHMENT B
WDFW PROJECT LETTER

Washington Department of FISH and WILDLIFE

Fish Program, Fish Management Division
Region 3 Headquarters, 1701 S. 24th Ave., Yakima, WA 98902
Phone: (509)-457-9330 Fax: 575-2474 e-mail: eastejae@dfw.wa.gov

January 23, 2014

Mark Kemner, Section Manager
Water Resources Program
Washington Department of Ecology
15 W. Yakima Ave., Suite 200
Yakima, WA 98902

Subject: Hillis Rule Priority Water Right Processing for Application Nos. **S4-33084** and **G4-33083**

Dear Mr. Kemner:

The Washington Department of Fish & Wildlife (WDFW) is the fisheries co-manager with the Yakama Nation (YN) and a Yakima/Klickitat Fisheries Project (YKFP) partner with YN and BPA. The YKFP partners are developing a coho salmon hatchery at the Holmes Ranch property which is owned and operated by the YN several miles west of Ellensburg city limits. In June 2013, the YN applied for the above-referenced surface and groundwater rights to operate the hatchery. The purpose of this letter is to request priority processing of the two applications pursuant to WAC 173-152-050 (Hillis Rule).

Application No. **S4-33084**

The YN proposes to use the U.S. Bureau of Reclamation (USBR) headgate at the Cascade Irrigation District (CID) canal point-of-diversion to divert **10 cfs** of Yakima River water for fish propagation use at the Holmes Hatchery **annually from November 1 – March 1**. USBR has approved the use of their headgate for this purpose during the non-irrigation season. River water would flow 2,300 feet down the CID canal and then be routed down the CID fish screen bypass channel to the Holmes Hatchery site. The 10 cfs would be diverted by gravity from the fish bypass channel through the adjacent hatchery rearing vessels and returned to the bypass channel to re-enter the Yakima River. There would be no consumptive use…all water diverted at the CID headworks would return to the Yakima R.

The fish bypass channel is a semi-natural, open channel with natural riparian vegetation on the banks that carries surface flow and juvenile fish a distance of 1.25 miles from the CID canal fish screen back to the Yakima River. During the irrigation season, the bypass channel conveys approximately 25 cfs of fish bypass flow, but after the irrigation season the flow declines to a base level of approximately 5 cfs supplied by groundwater infiltration. This 80% reduction in flow significantly reduces the habitat value of the bypass channel for over-wintering wild anadromous and resident fish. Adding 10 cfs of flow for Holmes Hatchery non-consumptive use would cut the normal fall/winter flow reduction in half and would provide about 1 mile of high quality winter side channel fish habitat…a substantial enhancement to the natural environment, while having minimal impact to fish habitat in the much larger mainstem Yakima River. In addition, adult coho salmon returning to the bypass channel are able to spawn naturally in one section that has high quality spawning gravel. Salmon spawning is currently hindered by the existing 5 cfs base flow, whereas a 15 cfs total flow in the bypass channel in Nov.- Dec. will allow more adult coho to spawn successfully.

The proposed gravity surface diversion would reduce the Yakima R. flow by 10 cfs in a 1.5 mile bypass reach. However, to WDFW's knowledge, there are no other adjudicated senior water rights diverting from the river bypass reach during the Nov. – Mar. non-irrigation season that would be adversely impacted by approving S4-33084. Approval will substantially enhance the quality of the natural environment in over a mile of the CID fish bypass channel creating complex, high quality, off-river rearing habitat that will increase survival of juvenile salmon, steelhead and possibly bull trout. High quality side channel habitat with controlled flow is particularly important for juvenile salmonids and incubating eggs and fry when winter flood events occur on the mainstem Yakima River. This improvement in the CID side channel habitat more than offsets any reduction in habitat in the main river channel.

Additionally, the Yakama Nation has put the existing property water right (No. CS4-00487CTCLsb@1) into trust until 12/31/2016. Once the new water rights are issued, the existing water right will be put into trust permanently, thereby making this a neutral water exchange. The season of use of the applied for surface water right is during fall and winter; the existing water right is for the normal spring-fall irrigation season.

Application No. **G4-33083**

A salmon hatchery that incubates/hatches eggs and rears swim-up fry requires cold, high quality groundwater that is not degraded by suspended sediments from storm events like surface water or subject to higher than ideal water temperature. The YN is proposing to develop a system of shallow wells on the Holmes Hatchery property to pump up to 1,125 gpm (2.5 cfs) continuously on a year-round basis. Well water will be used for egg incubation and early fry rearing and summer smolt rearing. There is also a need for a continuous, reliable supply of back up water in case of an emergency.

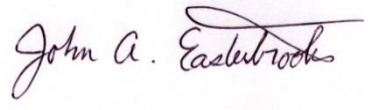
This hatchery will be a multi-purpose facility. Approximately, 200,000 coho smolts (yearlings) will be reared on- station for nearly 12 months and be released in the spring. An additional 400,000 coho juveniles (sub-yearlings) will be reared and released from the facility during the summer throughout the Naches and Upper Yakima drainages. The use of colder groundwater is essential to successfully raising these salmon during late spring, summer and early fall. Adult coho returning to the CID bypass channel adjacent to the Holmes Hatchery will provide marine-derived nutrients that will benefit the aquatic and terrestrial ecosystem. Plans may also include using hatchery effluent water for growing native plant species for habitat restoration projects in the Yakima Basin.

The majority of well water will be used from June through early October when groundwater is most plentiful; therefore, groundwater impacts to the unconfined shallow aquifer will be limited. The unconfined shallow aquifer is close to the river. Pump tests showed very rapid recharge in the cone of depression down to ~28 feet. There is little likelihood that substantial local impacts to aquatic habitats will result as a result of the groundwater withdrawal.

Consequently, WDFW supports the Yakama Nation's request for Hillis Rule priority processing for G4-33083 and S4-33084.

If you have any questions, please give me a call.

Sincerely,



John A. Easterbrooks
Regional Fish Program Manager - Region 3