

WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

APPLICATION NO. or COURT CLAIM NO. CS4-00648CTCL		
APPLICANT NAME Washington Water Trust	CONTACT NAME Greg McLaughlin	TELEPHONE NO. 509 844-4146
WATER RIGHT HOLDER'S NAME (if different) First Creek Water users Association - JP Roan,		EMAIL greg@washingtonwatertrust.org

DATE OF APPLICATION 11/21/16	PRIORITY DATE November 2, 1877 and June 2, 1881
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WATER SOURCE: First Creek	CROP: Hay/Pasture
See attached table for description of water rights.	
PERIOD OF USE: April 1 – October 15 (198 days)	
PLACE OF USE: <u>Trust Water Affected Reaches:</u> Primary Reach begins at the historic point of diversion on First Creek, extends to the confluence with Swauk Creek, down Swauk Creek to the Yakima River, and in the Yakima River downstream to the confluence with Reecer Creek (where return flows historically returned to surface flow). The Secondary Reach extends down the Yakima River, to the Columbia River. <u>Historic Place of Use:</u> All in T. 19 N., R. 18 E.W.M.; 30.05 acres including the SE ¹ / ₄ of Section 17, a portion of W ¹ / ₂ E ¹ / ₂ of Sec 20, NE ¹ / ₄ SW ¹ / ₄ , N ¹ / ₂ N ¹ / ₂ SE ¹ / ₄ SW ¹ / ₄ and a portion of the N ¹ / ₂ of Section 21; and 5.08 acres within the NE ¹ / ₄ SW ¹ / ₄ , N ¹ / ₂ N ¹ / ₂ SE ¹ / ₄ SW ¹ / ₄ and a portion of the N ¹ / ₂ of Section 21, as further described in draft schedule of rights.	PURPOSE OF USE: Instream Flow Irrigation and Stock Water
IRRIGATION METHOD: Flood and Rill	

CONSUMPTIVE USE CALCULATION: See attached table for consumptive use calculations.

NARRATIVE DESCRIPTION OF PROJECT: The First Creek water rights acquisition project will add up to 1.6 cfs and 428 acre-feet/year in the lower 11.4 miles of Swauk and First Creeks. This will provide significant benefits to listed Mid-Columbia steelhead and bull trout by positively affecting limiting factors of low flow and high temperatures, particularly in late summer when these creeks are at risk of dewatering. The instream flow benefit in the secondary reach (estimated at 0.49 cfs and 89.86 acre-feet/year of consumptive-use water) extends to the Columbia River and beyond.

Table: Trust Water Proposed for Transfer**Primary Reach**

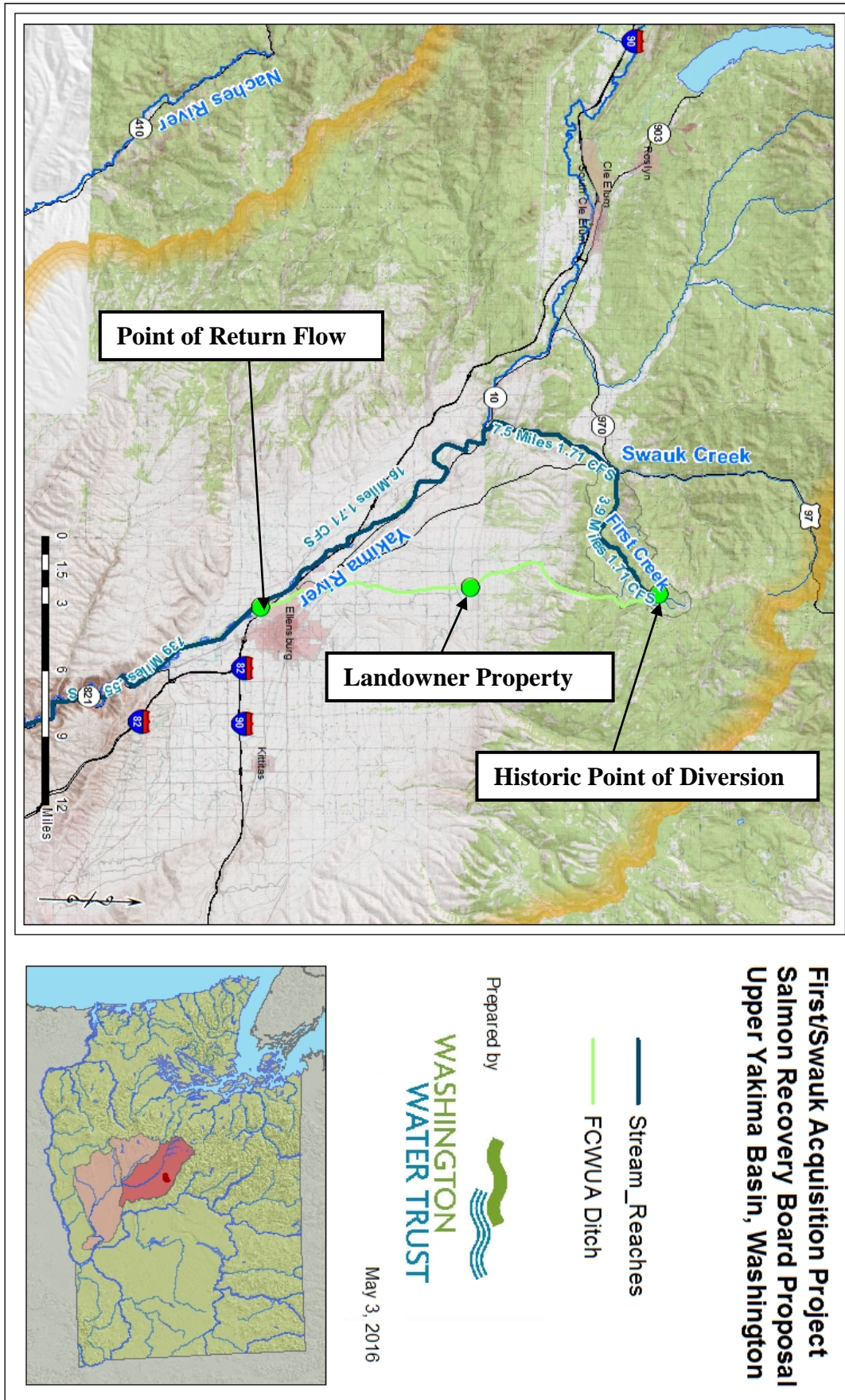
The total amount of water historically diverted for irrigation and conveyance purposes, when placed in the TWRP, benefits flow in the primary reach. The following table shows the amount of water available for protection as instream flow in the primary reach.

WR #	Purpose	Acres	Qi (cfs)	Qa (afy)
CS4-00648(AA)sb4-c	Irrigation	30.05	0.867	165.20
	Conveyance		0.527	206.97
Totals			1.394	372.17
CS4-00648(BA)sb4-c	Irrigation	5.08	0.131	27.94
	Conveyance		0.071	27.88
Totals			0.202	55.82
GRAND TOTAL		35.13	1.596	427.99

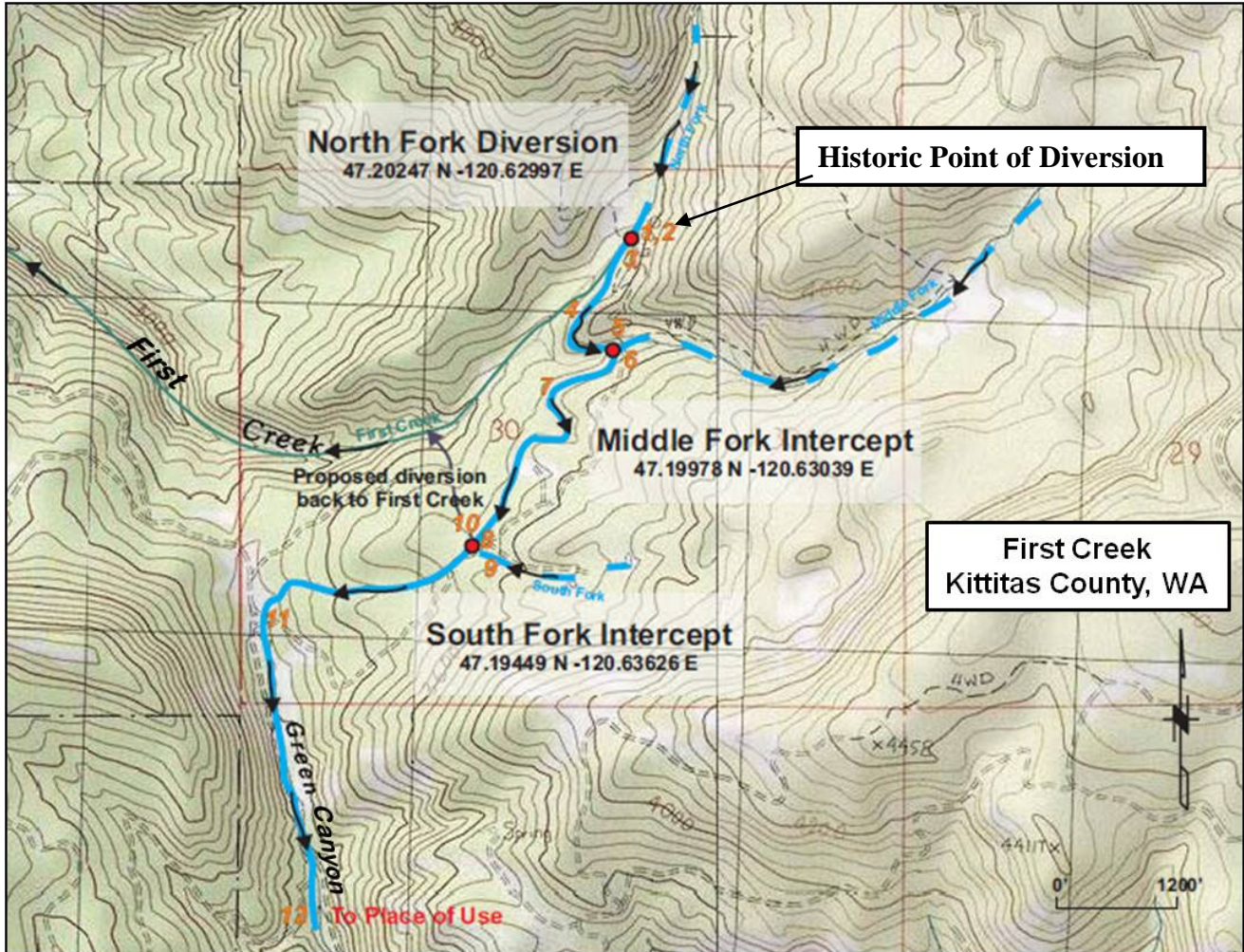
Secondary Reach (estimated totals from 35.13 acres of irrigation. Actual totals may be more or less than this based on application of Guidance Documents and best available tools for calculating consumptive use.) Consumptive use is estimated using methods presented in Ecology's Guidance Document (GUID-1210) *Determining Irrigation Efficiency and Consumptive Use* using the *Washington Irrigation Guide* (WIG) data for crop types in geographic stations. Crop Irrigation Requirement (CIR) for pasture/turf near Ellensburg is 31.46 inches per acre per year. Consumptive use is calculated using CIR, Total Irrigation Requirement (TIR), aka water duty and Application Efficiency (Ea) with the $TIR = CIR/Ea$ relationship. Consumptive Use (CU) is a percentage of the TIR. In this case the CIR is 2.621 feet per acre (31.46 inches / 12 = 2.621 feet) and TIR is 5.5 af/ac. Ea equates to 0.48 as $2.621 / 5.5$. The WIG breaks CIR up into monthly amounts, the following table showing CU in cfs (Qa) and cumulative amounts in acre-feet (Qa). A 5% evaporation factor is added to the CU in the following table.

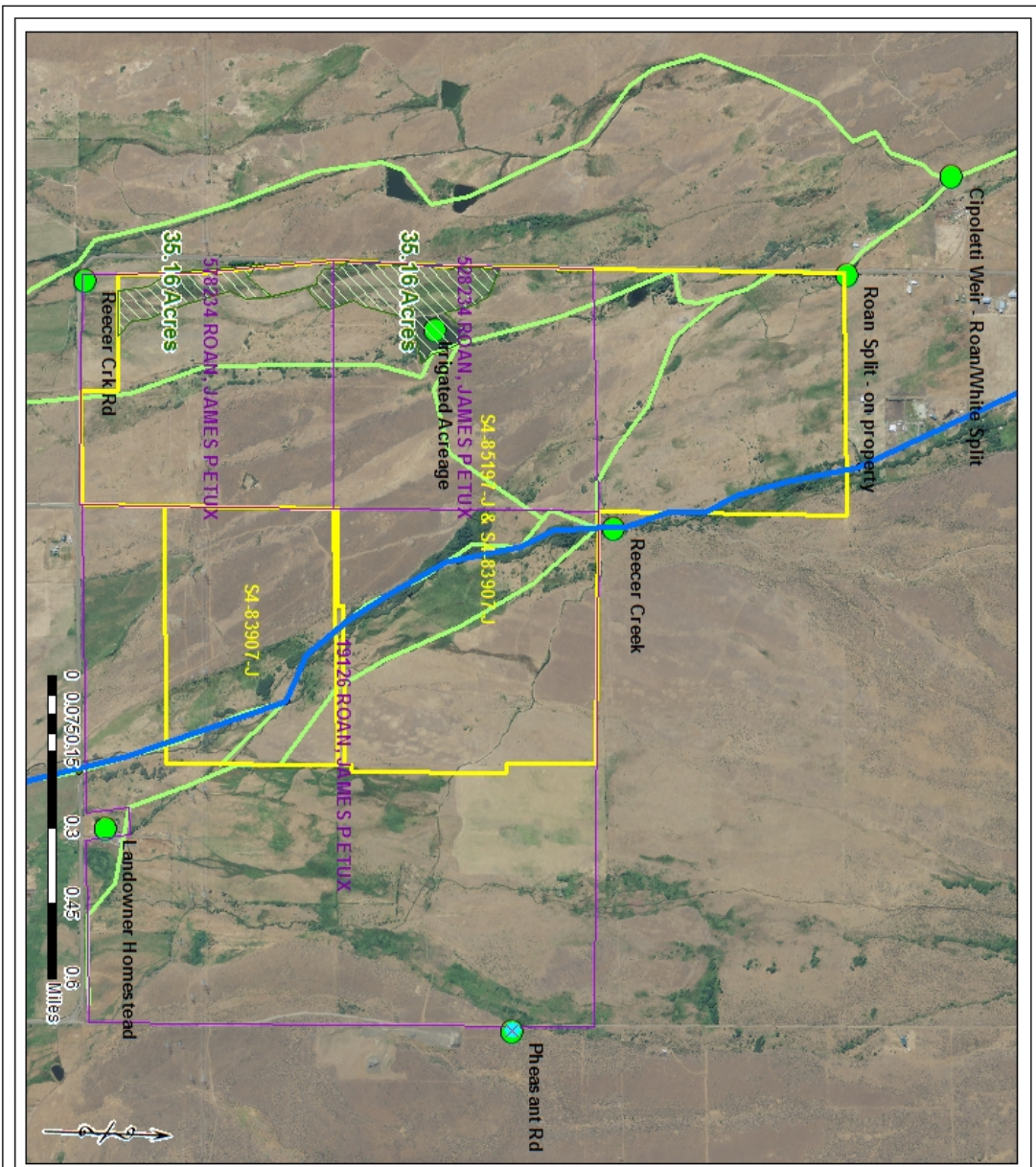
Purpose	Unit	May	Jun	Jul	Aug	Sept	Oct	Total
Instream Flow (30.05 ac)	af	8.49	18.81	25.79	20.56	11.70	1.66	76.86
Instream Flow (5.08 ac)	af	1.44	3.18	4.36	3.48	1.98	0.28	12.99
SUM		9.93	22.00	30.15	24.03	13.68	1.94	89.86
Average Qi (30.05 ac)	cfs	0.143	0.317	0.420	0.335	0.197	0.028	---
Average Qi (5.08 ac)	cfs	0.024	0.054	0.071	0.057	0.033	0.005	---
SUM		0.167	0.370	0.491	0.392	0.230	0.033	

EXHIBIT NO.1 – Map of Conveyance and Place of Use of Water Rights



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First/Swauk Acquisition Project Water Delivery System Map - 2009 Upper Yakima Basin, Washington

Legend

- Reecer Creek
- Key_Points
- FCWUA Ditch

Prepared by



January 4, 2017

