

State of Washington
Trust Water Right Report of Examination

CS4-01467@10sb3a
WR Doc ID 4700525

Add or Change Purpose of Use	Change Place of Use
PRIORITY DATE June 30, 1883	WATER RIGHT NUMBER Yakima Adjudication No. 01467
APPLICANT Washington Water Trust	MAILING ADDRESS 222 East 4 th Ave Ste 109 Ellensburg WA 98926-3163

Purpose and Quantity

Primary Reach A

Up to 7.60* cubic feet per second (cfs) (May 1 through July 6) and 4.80 cfs (July 7 through September 15), and 1,519.10 acre-feet per year (ac-ft/yr) to be used for the purpose of instream flow.

Primary Reach B

Up to 7.60* cfs (May 1 through July 6) and 1.45 cfs (July 7 through September 15), and 943.35 ac-ft/yr to be used for the purpose of instream flow.

Note:

*The total combined instantaneous diversion rate (Masterson + Mundy + instream flow) shall not exceed 7.60 cfs.

Trust Water Right Place of Use (See Attached Map)

Primary Reach A – Begins at a point approximately 900 feet south and 350 feet east from the north quarter corner of Section 25, T. 20 N., R. 16 E.W.M., and ends at a point 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, T. 20 N., R. 16 E.W.M.

Primary Reach B – Begins at a point 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, T. 20 N., R. 16 E.W.M., and ends at a point 2,200 feet south and 420 feet east of the northwest quarter corner, of Section 3, T. 19 N., R. 16 E.W.M.

REACH	WATERBODY	RIVER MI	TWN	RNG	SEC	LATITUDE	LONGITUDE
Begin Primary Reach A	Teanaway River	4.4	20	16	25	47°12'3.65"N	120°46'55.96"W
End of Primary Reach A and Begin Primary Reach B	Teanaway River	2.0	20	16	34	47°11'14.82"N	120°49'9.76"W
End Primary Reach B	Teanaway River	0.1	19	16	3	47°10'7.47"N	120°50'4.08"W

Datum: WGS84

Provisions Related to the Trust Water Right

Real Estate Excise Tax

This decision may indicate a Real Estate Excise Tax liability for the seller of water rights. The Department of Revenue has requested notification of potentially taxable water right related actions, and therefore will be given notice of this decision, including document copies. Please contact the state Department of Revenue to obtain specific requirements for your project. E-mail: REETSP@DOR.WA.GOV Department of Revenue, Real Estate Excise Tax, PO Box 47477, Olympia WA 98504-7477, (360) 570-3265, <http://dor.wa.gov/>.

**PORTION OF WATER RIGHT
NOT PLACED INTO TRUST UNDER
WRTS File #: CS4-01467@10sb3a**

PRIORITY DATE June 30, 1883	WATER RIGHT NUMBER Yakima Adjudication No. 01467
NAME OF PARTY CONVEYING RIGHT TO TRUST Estate of Harry Masterson	MAILING ADDRESS 381 Masterson Road Cle Elum WA 98922

Purpose and Quantity

3.35 cfs and 575.75 ac-ft/yr for irrigation of 235 acres, May 1 through September 15; and 0.045 cfs and 0.11 ac-ft/yr (consumptive use) for stock water, year round.

Source Location

COUNTY	WATERBODY		TRIBUTARY TO			WATER RESOURCE INVENTORY AREA	
Kittitas	Teanaway River		Yakima River			39	
SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Point of Diversion No. 2	20-16-34010-0009	20	16	34	NE¼NE¼	47°11'14.82"N	120°49'9.76"W

Point of Diversion No. 2 - 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, being within the northeast quarter of the northeast quarter of Section 34, T. 20 N., R. 16 E.W.M.

Point of Diversion No. 1 was damaged in 1996 and has been replaced by the No. 2 diversion approximately two miles downriver. It is located 900 feet south and 350 feet east from the north quarter corner of Section 25, being within the northwest quarter of the northeast quarter of Section 25, T. 20 N., R. 16 E.W.M.

Place of Use (See map on Attachment 2)

Those portions of S1/2SW1/4, SW1/4SE1/4 of Section 28, and N1/2NW1/4, N1/2NW1/4NE1/4 of Section 33, lying southerly and westerly of Masterson Ditch and the portions of parcels numbered 293236, 093236, and 063236 in the N1/2SW1/4 of Section 28 lying south of the tree line, ALL being within T. 20 N., R. 16 E.W.M., Kittitas County, Washington.

Description of Water System

The point of diversion (No. 2) consists of two 75 horsepower (hp) pumps equipped with a self cleaning intake screen, each capable of diverting approximately 900 gallons per minute (gpm). From the point of diversion, water is conveyed through a 10-inch pipe west to the Masterson Ditch alignment. The conveyance pipe continues in the ditch for a total distance of 2.5 miles to the Masterson property. At the Masterson Property, the mainline bifurcates into a series of laterals with riser connections for the wheel line irrigation system. A series of wheel lines irrigate 4 separate pastures.

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually, by January 31st of each calendar year.
What volume should be reported?	Total Annual Volume
What rate should be reported?	Monthly Peak Rate of Diversion in cfs.

Provisions Related to the Portion of the Water Right Not Placed in Trust

The Masterson portion of Court Claim No. 01467 shall be reduced to a maximum of 3.35 cfs and 575.75 ac-ft/yr for irrigation of 235 acres, May 1 through September 15; and 0.045 cfs and 0.11 ac-ft/yr (consumptive use) for stock water, year round.

The remainder of Court Claim No. 01467 shall comply with the *Order Requiring Metering Measuring, and Reporting Requirements, All Subbasins (1-31) in Benton, Kittitas, and Yakima Counties* entered September 15, 2005, in the Yakima Adjudication. A copy of the order is included with hard copies. The order may be viewed at the following web site:

<http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/order772014845.pdf>

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above provisions, and to inspect at reasonable times any measuring device used to meet the above provisions.

The intake(s) shall be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program.

Phone (360) 902-2534 if you have questions about screening criteria.

<http://www.wdfw.wa.gov/reg/regions.htm>

Findings of Facts

Upon reviewing the investigator's report, I find all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not be detrimental to existing rights or detrimental to the public interest.

Therefore, I ORDER the requested change of place and purpose of use under Trust Water Right Application No. CS4-01467@10sb3a, be approved subject to existing rights and the provisions specified above.

This Decision may be appealed pursuant to RCW 34.05.514(3), RCW 90.03.210(2), and Pretrial Order No. 12 entered in *State of Washington, Department of Ecology v. James Acquavella, et al.*, Yakima County Superior Court No. 77-2-01484-5 (the general adjudication of surface water rights in the Yakima River Basin). The person to whom this Decision is issued, if he or she wishes to file an appeal, must file the notice of appeal with the Yakima County Superior Court **within thirty (30) days of receipt of this Decision**. Appeals must be filed with the Superior Court Clerk's Office, Yakima County Superior Court, 128 North 2nd Street, Yakima WA 98901, RE: Yakima River Adjudication. Appeals must be served in accordance with Pretrial Order No. 12, Section III ("Appeals Procedures")

The content of the notice of appeal must conform to RCW 34.05.546. Specifically, the notice of appeal must include:

- The name and mailing address of the appellant;
- Name and address of the appellant's attorney, if any;
- The name and address of the Department of Ecology;
- The specific application number of the decision being appealed;
- A copy of the decision;
- A brief explanation of Ecology's decision;
- Identification of persons who were parties in any adjudicative proceedings that led to Ecology's decision;
- Facts that demonstrate the appellant is entitled to obtain judicial review;
- The appellant's reasons for believing that relief should be granted; and
- A request for relief, specifying the type and extent of relief requested.

The "parties of record" who must be served with copies of the notice of appeal under RCW 34.05.542(3) are limited to the applicant of the decision subject to appeal, Ecology and the Office of the Attorney General.

All others receiving notice of this Decision, who wish to file an appeal, must file the appeal with the Yakima County Superior Court within **thirty (30) days of the date the Order was mailed**. The appeal must be filed in the same manner as described above.

Signed at Yakima, Washington, this 9th day of AUGUST 2011.



Robert F. Barwin, Acting Section Manger
Water Resources Program/CRO

BACKGROUND**Description and Purpose of Proposed Change**

On October 20, 2010, Washington Water Trust (WWT) of Ellensburg, Washington, filed an application with the Washington State Department of Ecology (Ecology) to place a portion of water used under Yakima Adjudication Court Claim No. 01467, Subbasin No. 3, into the State of Washington's Trust Water Right Program (TWRP). WWT requests a permanent transfer to the TWRP for instream flow purposes in the Teanaway River. The application was accepted and assigned Application No. CS4-01467@10sb3a.

Court Claim No. 01467 was confirmed to Harry James Masterson and Mary Lou Masterson (Masterson), and neighboring Wilbur H. Mundy and Mary Ann Mundy (Mundy). Masterson's portion of the claim included a maximum instantaneous diversion rate (Qi) of 4.8 cubic feet per second (cfs) and a cumulative annual quantity (Qa) of 1,527.50 acre-feet per year (ac-ft/yr) for irrigation of 235 acres and stock water, May 1 through September 15. Mundy's portion includes 0.90 cfs (Qi) and 292.50 ac-ft/yr (Qa) for irrigation of 45 acres and stock water, May 1 through September 15. Masterson and Mundy share 1.0 cfs and 5.0 ac-ft/yr (consumptive use) for stock water, September 16 through April 30. In addition, when surplus water is available in excess of what is needed to satisfy all existing rights, the claim is provisioned to allow for the diversion of up to 7.60 cfs (Masterson) and 1.80 cfs (Mundy). These surplus quantities are not additive and the total diversion rate for Court Claim No. 01467 may not exceed 7.60 cfs at any time. The surplus water is typically only available during the spring freshet (May to mid-July).

This report is specific to Application No. CS4-01467@10sb3a, pertaining to Masterson's portion of Court Claim No. 01467. WWT proposes to transfer a portion of Claim No. 01467 to instream flows. The portion proposed for transfer is the nonconsumptive water associated with leakage from the earthen, unlined 3.0-mile long Masterson Ditch (conveyance loss) and the reduction of on-farm demand (efficiency savings) by switching from flood to wheel-line irrigation to benefit instream flows in the Teanaway River. Masterson will retain the quantities required to irrigate 235 acres of timothy hay with wheel lines.

Mundy's portion of Court Claim No. 01467 will not be affected by the proposed transfer.

The Masterson Ditch was damaged in 1996 following a flood that damaged many of the diversion structures and ditches in the Teanaway River Basin. In 2002, a request for change was approved, moving the point of diversion approximately 2 miles downriver, which coincided with changing irrigation methods from flood to wheel line. The new point of diversion (No. 2) consists of two 75 horsepower (hp) pumps equipped with self cleaning intake screens, each capable of approximately 900 gallons per minute (gpm). From the point of diversion, water is conveyed through a 10-inch pipe west to the original Masterson Ditch alignment. The conveyance pipe continues in the ditch for a total distance of 2.5 miles to the Masterson property. At the Masterson property, the mainline bifurcates into a series of laterals with riser connections for the wheel line irrigation system. A series of wheel lines irrigate 4 separate pastures.

Expedited Processing

This application qualifies for expedited processing under WAC 173-152-050(3)(a) whereby water right change applications may be processed prior to applications submitted at an earlier date when the proposed water use, if approved, would substantially enhance or protect the quality of the natural environment. Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by Aspect Consulting, LLC (Aspect Consulting) under Ecology Cost-Reimbursement Assignment No. ASP010 (Master Contract No. C1000185).

This proposed change would increase instream flows, improving fish access to habitat in the upper Teanaway River basin.

Table 1: Attributes of Court Claim No. 01467 and Proposed Change

Attributes	Existing	Proposed
Name	Harry James Masterson and Mary Lou Masterson	Washington Water Trust
Priority Date Date of Application for Change	Priority Date – June 30, 1883	Application Date – October 20, 2010
Instantaneous Quantity		Trust Water Portion: Not specified. Remaining Portion: Not specified for irrigation; 1.0 cfs for stock water.
Annual Quantity	1,527.50 ac-ft/yr for irrigation; 5.0 ac-ft/yr for stock water (consumptive use).	Trust Water Portion: 950.75 ac-ft/yr. Remaining Portion: 575.75 ac-ft/yr for irrigation; 5.0 ac-ft/yr for stock water (consumptive use).
Source	Teanaway River	Teanaway River
Point of Diversion/Withdrawal	No. 1 - NW¼NE¼ Section 25, T. 20 N., R. 16 E.W.M.; and No. 2 - NE¼NE¼ Section 34, T. 20 N., R. 16 E.W.M.	Trust Water Portion: N/A Remaining Portion: No. 2 - NE¼NE¼ Section 34, T. 20 N., R. 16 E.W.M.
Purpose of Use	Irrigation and stock water	Trust Water Portion: Instream Flow Remaining Portion: Irrigation and stock water
Period of Use	May 1 through September 15 for irrigation; September 16 through April 30 for stock water.	Trust Water Portion: May 1 through September 15 Remaining Portion: May 1 through September 15 for irrigation; September 16 through April 30 for stock water.
Place of Use	See Attachment 1	Trust Water Portion: Not specified. Remaining Portion: See Attachment 1

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change in Water Right Change Application No. CS4-01467@10sb3a.

- **Public Notice**
Notice of the proposed appropriation was published in the *Daily Record* of Ellensburg, Washington, on April 2 and 9, 2011. No protests were received by Ecology.
- **State Environmental Policy Act (SEPA)**
This project required a SEPA review under WAC 197-11-800(4). Ecology, acting as the SEPA lead agency for this project, determined that it will not have a probable significant adverse impact on the environment and issued a Determination of Nonsignificance (DNS) on April 2 and 9, 2011.
- **Water Resources Statutes and Case Law**
A transfer to instream flows in the Yakima Basin is governed by RCW 90.38. RCW 90.38.040(1) states that all trust water rights acquired by the Department of Ecology (Ecology) shall be placed in the Yakima River Basin Trust Water Right Program to be managed by Ecology. Ecology shall issue a Certificate of Water Right in the name of the state of Washington for each trust water right it acquires.

INVESTIGATION

In consideration of this application, Aspect Consulting reviewed available documents pertaining to the historic use of water, site conditions, WWT's calculations, and the potential effect on existing water rights. This included information submitted by the applicant and pertinent Ecology records including stream gage data, adjudication and water rights records, and water resource policy and guidance documents.

On February 4, 2011, Tyson Carlson of Aspect Consulting met with Jason McCormick of WWT, Kelsey Sinclair Collins (Ecology), and Stan Isley (Court Appointed Water Master for the Teanaway River) to locate the original point of diversion, the Masterson Ditch alignment, place of use, and observe Masterson's irrigated acreage.

This project was presented at the Water Transfer Working Group (WTWG). This group represents private, federal, state and tribal groups interested in water right changes in the Yakima Basin. No objections were received from the WTWG.

History of Water Use

A water right with attributes described in the table above was confirmed under Court Claim No. 01467 to Harry James Masterson and Mary Lou Masterson, in the Yakima River Basin Water Rights Adjudication for Subbasin No. 3, Teanaway River drainage basin, with a Conditional Final Order (CFO) signed on February 8, 2001. A water right was also confirmed to Wilbur H. Mundy and Mary Ann Mundy under the same priority date and claim number.

In order to make a water right change decision, Ecology must make a tentative determination on the extent and validity of the right. Under RCW 90.14.160 any portion of a water right or water right claim not exercised for a period of five successive years, without sufficient cause, shall be relinquished and revert to the state.

Court Claim No. 01467 includes a provision that authorizes Masterson and Mundy to divert additional water during the spring freshet. Masterson and Mundy together are limited to an additional 7.60 cfs of which Mundy is limited to 1.80 cfs. Inspection of available flow data from the Bureau of Reclamation for the lower Teanaway River over the last 6 years indicate the spring freshet on the Teanaway River typically begins by late March, peaking at around 650 to 800 cfs, then declining to summer baseflow condition by mid-July (approximately 20 cfs). During the 6-year period, the additional 7.60 cfs is estimated to be available at least 75 days (beginning May 1). 69 days (through July 6) of diverting at 7.60 cfs are required to satisfy the full annual quantities confirmed to Masterson and Mundy. Therefore, the full claim would be satisfied in most water years.

In 2001, Masterson leased 1,527 acre-feet (af) to the Roza Irrigation District to offset their use during the statewide drought emergency. This transaction was authorized in an *Order Pendente Lite (OPL)* signed on May 24, 2001. Since 2001, Masterson's water right has been exercised through leases that placed the right temporarily into the TWRP. In 2005, Ecology leased 1,514.50 acre-feet for instream flow in the Teanaway River, documented by an *OPL* signed on April 28, 2005. Authorization for irrigation of up to 2 acres from a well was subsequently authorized in an Emergency Drought Permit (No. CS4-01467CTCL@3) for 20 gpm (0.04 cfs) and 4.6 acre-feet (dated June 8, 2005). Approximately 8.4 acre-feet was not protected in 2005 (difference between the surface and groundwater adjudicated water duty). In 2009 and 2010, WWT leased the entire 1,527.50 acre-feet for instream flow purposes. The *OPL(s)* were signed on June 11, 2009 and April 8, 2010, respectively.

During the intervening years between leases, the Mastersons irrigated portions of the 235 acre place of use, utilizing a maximum of 267.79 acre-feet as supported by metering records. In 2009, the Teanaway River again flooded and destroyed the electrical service to the pumps, concrete pad, and associated lines and piping for the newly established point of diversion. The damaged infrastructure has since been repaired and the pumps are ready for installation when needed.

Review of aerial photos from the years 2003, 2005, 2006, and 2009 indicate that since issuance of the CFO, Masterson's authorized place of use has either been irrigated or fallowed (under lease) as described above. Irrigation and/or fallowing of the acreage was also supported by the review of Landsat imagery over a similar time span.

Since 1996, the Mastersons used stock water from the surface water diversion from May 1 to September 15, and a well from September 16 to April 30. Over the previous five year period (2006 to present), a maximum of 9 horses have been on farm, year round. Although the Mastersons did not seek to change the point of diversion and add the well (this stock watering use is otherwise consistent with the requirements of the ground water code under the permit exemption). A-de facto change from surface water to groundwater for stock watering from September 16 to April 30 is consistent with Water Resources Program Policy POL-1120. Ecology can recognize the beneficial use of stock watering in its extent and validity determination, however, the Mastersons will need to apply for a change to add a point of withdrawal if they wish to rely on their water right and its June 30, 1883 priority date.

The withdrawal rate of the well is approximately 20 gallons per minute (or 0.045 cfs). Stock water use estimates are based on the water demand requirements listed in the Washington State Department of Health Water System Design Manual (DOH 2009). The listed stock water requirement for horses is 12 gallons per day per head. Therefore, based on the maximum number of stock on farm (year round) in the last five years, the annual stock water use is estimated at 0.12 acre-feet.

Stock water is mostly consumptive, through respiration and evaporation, but a small portion of return flow is associated with animal waste. Limited data on the consumptive use of stock water have been identified. Provisional stock water use data available from the USGS Washington Water Science Center presents stock water use by county in 1995. Based on this data, consumptive use associated with stock water in Kittitas County is estimated at 87 percent. Therefore, the consumptive use associated with the Masterson nine horses is 0.11 ac-ft/yr.

The Masterson Estate, represented by Kathleen Masterson, entered into an agreement with WWT to sell the nonconsumptive conveyance loss and efficiency savings portion of Court Claim No. 01467 and place it into trust on August 27, 2010.

Proposed Use

The applicant proposes to transfer a portion of Court Claim No. 01467 to trust for the purposes of instream flow in the Teanaway River.

Trust Water Place of Use

Ecology typically manages its trust water rights by defining a primary and a secondary reach. The primary reach is the length of stream between the historic point of diversion and where any of the water diverted, not consumed, returns to the stream.

It is reasonable to assume that much of the leakage from the original Masterson Ditch along Red Bridge Road was collected by road-side ditches, the original or temporary alignment of the Seaton Ditch, and/or reused and conveyed down valley by other water users before returning to the Teanaway River. Once water was conveyed passed the subtle change in slope (located near Teanaway Heights Drive at ditch mile 2.9), the topographic divide directs water away from the Teanaway River. Local surface water (and shallow groundwater) west of this divide drains in one of two small drainages toward the southeast. The drainages merge, continue to the southeast, and eventually converge with the Teanaway River immediately upstream of the State Highway 10 bridge, approximately 550 feet from the confluence with the Yakima River.

Based on the divided return flows, the primary reach under this application will be divided into two reaches designated A and B. Primary reach A includes the full diversion rate confirmed for the Masterson Ditch for the reach of the Teanaway River between the original (No. 1) and the new (No. 2) points of diversion. Primary reach A begins approximately 900 feet south and 350 feet east from the north quarter corner of Section 25, T. 20 N., R. 16 E.W.M., and ends approximately 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, T. 20 N., R. 16 E.W.M.

Primary reach B protects only a portion of water associated with conveyance loss and the increase in irrigation efficiency. The break between the two reaches occurs at the existing point of diversion (No. 2, described above) where water will continue to be diverted to satisfy Masterson's retained irrigation of 235 acres on property. Primary reach B ends at the State Highway 10 bridge, at a point 2,200 feet south and 420 feet east of the northwest quarter corner, of Section 3, T. 19 N., R. 16 E.W.M.

The secondary reach typically begins at the downstream end of the primary reach and is defined as that length of stream which benefits from a reduction in consumptive use. Since the application only requests to transfer nonconsumptive quantities to instream flows, no secondary reach is identified.

Other Rights Appurtenant to the Place of Use

No other water rights for irrigation purposes are appurtenant to the Masterson's 235 irrigated acres.

However, in addition to the claim described above, additional authorization was confirmed under the same claim number to divert from an unnamed spring in the SW1/4NW1/4 of Section 21, approximately 675 feet north and 450 feet east from the west quarter corner, T. 20 N., R. 16 E.W.M. The claim was confirmed for 0.0022 cfs and 1.6 ac-ft/yr for continuous stock watering. The place of use is approximately that of the spring, limited to the NW1/4SW1/4NW1/4 of Section 21.

Trust Water Right Calculations

This section describes how the nonconsumptive and consumptive water use values were calculated to identify 1) how much water Masterson requires to continue irrigating 235 acres of timothy hay with wheel lines (and therefore the on-farm efficiency savings changing from flood to wheel lines); and 2) the quantity of nonconsumptive water associated with conveyance loss in Masterson Ditch. The savings from on-farm efficiency and ditch conveyance loss has been proposed to be transferred to the TWRP. These quantities under Court Claim No. 01467 were first evaluated by WWT and later updated by Aspect during this investigation.

Ecology uses various estimation methods such as the Washington Irrigation Guide (WIG) to estimate historic water use. The WIG data show the estimated average amount of water required by a crop above the portion of the requirement that might be met by antecedent moisture in the root zone under average climatic conditions (the amount of water a crop needs in excess of rainfall). The monthly WIG data indicate that the Crop Irrigation Requirement (CIR) for clover – the surrogate crop used for timothy hay near Cle Elum area – begins June 3 and ends October 7. Teanaway River adjudicated water rights were confirmed for a period of use from May 1 through September 15.

Using Ecology's *Guidance Document, GUID-1210, Determining Irrigation Efficiency and Consumptive Use*, Table 1, average application efficiency (Ea) for the Masterson's wheel line irrigation system was specified at 65 percent. The total irrigation demand (TIR) was then calculated based on the monthly CIR for clover in the Clem Elum area ($TIR = CIR/Ea$). The sum of the monthly TIR multiplied by the number of irrigated acres is the total quantity of water required to fully irrigate the Masterson place of use, equaling 575.75 ac-ft/yr at a maximum instantaneous diversion rate of 3.35 cfs (calculated July TIR). The monthly TIR (in acre-feet) is converted to an instantaneous rate (in cfs) by dividing by the number of days in each respective month, then by the conversion factor 1.9834 ac-ft/day/cfs.

The quantity of water lost through the approximate 3-mile long earthen, unlined Masterson Ditch was determined by the Court. During the adjudication process, evidence was presented to the Court indicating a leakage rate at 13 percent per mile, as described in the Supplemental Report of Referee (page 58). Assuming the maximum diversion of 1,519.10 acre-feet (1,527.50 – 8.4 ac-ft that were not leased in 2005), approximately 518.77 ac-ft/yr would be lost in leakage, resulting in delivery of approximately 1,000.33 ac-ft/yr to the Masterson place of use.

Based on the rationale above, 1,000.33 ac-ft/yr was historically delivered to the Masterson place of use, of which 575.75 ac-ft/yr is required to satisfy the total irrigation requirement of the wheel line irrigation system at a maximum diversion rate of 3.35 cfs (July TIR). Therefore, it is reasonable to attribute 424.58 ac-ft/yr (1,000.33 – 575.75) in savings due to the increase in on-farm efficiency from switching from flood to wheel line irrigation. These calculations are summarized in Table 2 below.

Table 2 – Masterson Total Irrigation Requirement

Method	Unit	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Flood	af	0	0	185.30	358.05	264.87	192.11	0	1,000.33
	cfs	0	0	3.11	5.82	4.31	3.23	0	-
Wheel Line	af	0	0	106.65	206.08	152.45	110.57	0	575.75
	cfs	0	0	1.79	3.35	2.48	1.86	0	-
Difference (on-farm savings)	af	0	0	78.65	151.97	112.42	81.54	0	424.58
	cfs	0	0	1.32	2.47	1.83	1.37	0	-

In summary, the quantities associated with the Primary Reaches were calculated as follows:

Primary Reach A:

4.80 cfs and 1,519.10 ac-ft/yr are proposed to be attributed to Primary Reach A. 4.80 cfs is the authorized maximum diversion rate confirmed for Masterson and 1,519.10 ac-ft/yr is the maximum authorized annual quantity 1527.50 minus the 8.4 ac-ft that were not leased in 2005.

Primary Reach B:

1.45 cfs and 943.35 ac-ft/yr are proposed to be attributed to Primary Reach B. These quantities are derived from the on-farm efficiency savings (going from flood to wheel lines; 4.8 cfs minus 3.35 cfs required for Masterson’s continued irrigation equals 1.45 cfs. 1519.10 ac-ft/yr minus the 575.75 ac-ft/yr required for Masterson’s continued irrigation equals 943.35 ac-ft/yr.

Both reaches will be subject to the surplus water provision, allowing diversion of up to 7.60 cfs during the spring freshet.

Water Not Placed in Trust

The remaining portion of Court Claim No. 01467 which has not been sold and is not placed in trust will be retained by the Masterson Estate. Therefore, the portion of Court Claim No. 01467 described above will continue to be diverted from the Teanaway River at the current point of diversion (No. 2).

Trust Water Management

Due to the hydrologic uncertainty in locating where ditch leakage returns to the Teanaway River, the trust water right will be managed conservatively. Existing water right holders will not be regulated more frequently as the result of the subject transfer. The Court recognized a ditch conveyance loss of 13 percent per mile which could be attributed to the distance from diversion No. 1 to the surface water divide at Teanaway Heights Drive (2.9 ditch miles). By making a conservative assumption that 100 percent of the ditch leakage over this length (1.32 cfs) returned to the river before diversion No. 2, no authorized downriver diverters would be impacted.

Therefore, Primary Reach A will include 4.80 cfs, and Primary Reach B will include 1.45 cfs and 943.35 ac-ft/yr. However, Primary Reach B will be conservatively managed at a reduced rate of 0.13 cfs (1.45 cfs -1.32 cfs). These quantities assume the reaches will include a total surplus diversion rate up to 7.60 cfs during the spring freshet (Masterson + Mundy + instream flow). Even though Ecology intends to

manage the instream flow right at a reduced rate, the larger quantities are still considered instream and may be protected in the future.

Instream flows in the Teanaway River in Primary Reach B may be measured at the newly established Bureau of Reclamation's Lambert Road gage.

Impairment Considerations

Under RCW 90.38.040(5)(a), a trust water right may be exercised only if Ecology first determines that the authorization will not impair or injure any other water rights.

There are no other diversions authorized on the Teanaway River within Primary Reach A. The nearest downriver diverters(s) are located at the shared pump station presented in Table 3.

Table 3 –Shared Pump Station

Claim No.	Priority Date	Name
01467	June 30, 1883	Harry James Masterson and Mary Lou Masterson
01466	June 30, 1890	Wilbur H. Mundy and Mary Ann Mundy
01467	June 30, 1890	George L. and Penny L. Blackburn
		George L. and Penny L. Blackburn
		George L. and Penny L. Blackburn
02255	June 30, 1890	Donald W. & Gloria Walker
		Trendwest Resorts, Inc.

Immediately above the shared pump station the instream flow rate is reduced by continued on-farm demand and to conservatively account for the uncertainty in ditch leakage return flows.

Table 4 – Authorized diverters within Primary Reach B

Claim No.	Priority Date	Name
00553	June 30, 1882	Bruno Bonetto
12485	June 30, 1882	Bruno Bonetto
00553	June 30, 1882	June and Joe Riley McClure
01692	June 30, 1882	Ivan and Davene Osmonovich
02226	June 30, 1884	Beverly Miller
		Ron and Becky Montgomery
01286	June 30, 1885	Ivan and Davene Osmonovich
		Pratt, Tommy and Genine (Mary) Bergstrom
		Jim and Catherine Stephenson
02148	June 30, 1891	Robert and Debbie Cernick
02226	June 30, 1891	Beverly Miller
01284	June 30, 1891	Donald L. and Janice Osmonovich,
01201	June 30, 1891	Daryle Starkovich
		U.S. Bureau of Reclamation
01850	June 30, 1889	Gary Monroe
		Judith Torgeson

In addition to the water users described above, numerous TWRP instream flow rights are present in both primary reaches. However, based on the approach described in the Trust Water Management section above, downriver diverters (Table 4) or instream flows will not experience a reduction in the availability of water due to the subject transfer; therefore, transferring a portion of Court Claim No. 01467 to trust will not impair other water rights.

Consideration of Protests and Comments

No protest or comments were received for consideration.

CONCLUSIONS

A portion of Court Claim No. 01467 is appurtenant to the subject property. Review of the evidence provided within this report and proceedings within the Yakima River Basin Adjudication Court indicate that a total of 235 acres have been historically and beneficially used under Court Claim No. 01467, including conveyance and surplus water quantities.

In accordance with Chapter 90.38 RCW, the author makes a tentative determination that the Masterson portion of Court Claim No. 01467 represents a valid right to divert water from the Teanaway River in quantities up to 4.80 cfs and 1,519.10 acre-feet for the irrigation of 235 acres, from May 1 through September 15; and 0.045 cfs and 0.11 ac-ft/yr (consumptive use) for stock water, year round. In addition, when surplus water is available in excess of the needed to satisfy all existing rights, the claim is provisioned to allow for the diversion of up to 7.60 cfs.

Approval of this water right change request as provisioned will not enlarge the water right or impair existing water rights.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to CS4-01467@10sb3a be approved in the amounts and within the limitations described on page 1 and subject to the provisions beginning on page 2 of this Report of Examination.

Primary Reach A

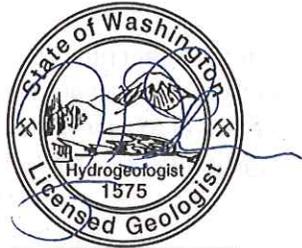
Up to 7.60* cfs (May 1 through July 6) and 4.80 cfs (July 7 through September 15), and 1,519.10 ac-ft/yr to be used for the purpose of instream flow. Beginning at a point approximately 900 feet south and 350 feet east from the north quarter corner of Section 25, T. 20 N., R. 16 E.W.M., and ending at a point 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, T. 20 N., R. 16 E.W.M.

Primary Reach B

Up to 7.60* cfs (May 1 through July 6) and 1.45 cfs (July 7 through September 15), and 943.35 ac-ft/yr to be used for the purpose of instream flow. Beginning at a point 650 feet south and 1,140 feet west from the northeast quarter corner of Section 34, T. 20 N., R. 16 E.W.M., and ending at a point 2,200 feet south and 420 feet east of the northwest quarter corner, of Section 3, T. 19 N., R. 16 E.W.M.

Note:

*The total combined instantaneous diversion rate (Masterson + Mundy + instream flow) shall not exceed 7.60 cfs.



Tyson D. Carlson

Report by:

Tyson D. Carlson, LHG, Aspect Consulting, LLC

August 9, 2011

Date

Reviewed by:

Kelsey Sinclair Collins
Water Resources Program

8/9/11

Date

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CITATIONS

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Report of Referee*, Subbasin No. 3 (Teanaway River). Signed January 25, 1996.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Supplemental Report of Referee*, Subbasin No. 3 (Teanaway River). Signed March 29, 1999.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Second Supplemental Report of Referee*, Subbasin No. 3 (Teanaway River). Signed August 3, 2000.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Conditional Final Order*, Subbasin No. 3 (Teanaway River). Signed February 8, 2001.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Third Order Approving Roza Irrigation District and Sunnyside Valley Irrigation District Motion for Order Pendente Lite for 2001 Drought Temporary Water Transfers*. Signed May 24, 2001.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Order Pendente Lite* Re: Water Right Claim No. 01467, Subbasin No. 3. Signed April 28, 2005.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Order Pendente Lite* Re: Lease of Masterson Water Right for Instream Flow Re: Court Claim No. 01467, Subbasin No. 3. Signed June 11, 2009.

State of Washington, Department of Ecology v. Acquavella, et al., Yakima County Superior Court Case No. 77-2-01484-5, *Order Pendente Lite* Re: Lease of Masterson Water Right for Instream Flow RE: Court Claim No. 01467, Subbasin No. 3. Signed April 8, 2010.

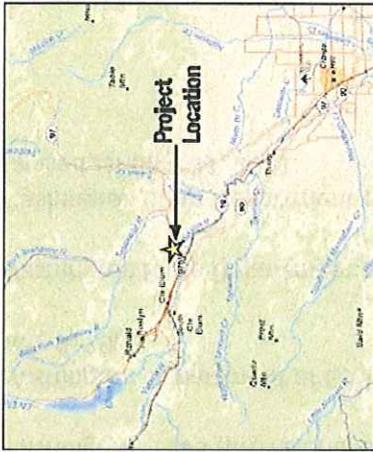
United States Geological Survey, Washington Water Science Center, Livestock water use, by county, for Washington, 1995 (provisional data). <http://wa.water.usgs.gov/data/wuse/main.cnty.95.txt>.

Washington Department of Ecology, Emergency Drought Change Authorization No. CS4-01467CTCL@3, June 8, 2005.

Washington State Department of Health, Water System Design Manual. Revised December 2009.

Washington State Department of Transportation, Lower Teanaway River: Reach and Site Assessment. Revised January 31, 2011.

ATTACHMENT 1



Comments: Place of use and point of diversion are defined on the cover sheet under the heading "LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED."

- Authorized Place of Use
- Authorized Point of Diversion
- Primary Reach A
- Primary Reach B
- USBR Lambert Rd. Gage
- Local Road
- Highway
- Interstate
- Railroad
- Sections (TRS)

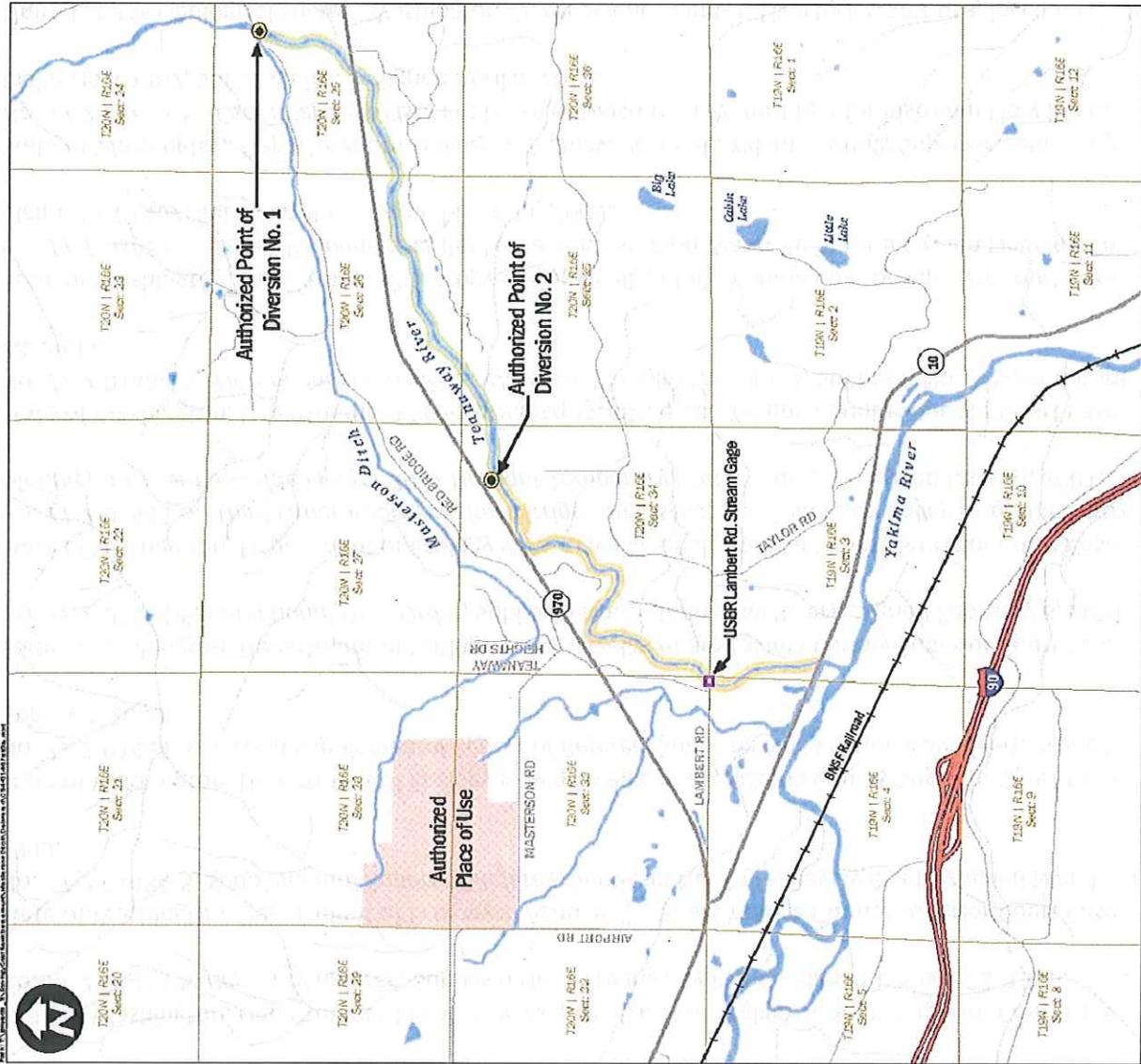


No. CS4-01467sb3a
 (Washington Water Trust)
 WRIA 39
 Kittitas County, Washington

Aspect
 CONSULTING

May, 2011
 SHEET NO. 090130
 TCC / PPW

ATTACHMENT NO.
1



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