File No. G4-33098
WR Doc ID 5965681

State of Washington Department of Ecology Office Of Columbia River Report of Examination for New Ground Water Right Application

PRIORITY DATE	APPLICATION NUMBER
October 28, 2013	G4-33098

MAILING ADDRESS
Methow Valley Irrigation District
PO Box 860
Twisp, WA 98856

SITE ADDRESS (IF DIFFERENT)

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
6,016	GPM	2,684†

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE ADDITIVE	WITHDRAWAL OR DIVERSION RATE NON-ADDITIVE	UNITS	ANNUAL QUANTITY (AF/YR) ADDITIVE	ANNUAL QUANTITY (AF/YR) NON-ADDITIVE	PERIOD OF USE (mm/dd)
Irrigation	5,396		GPM	2,435.6		04/15 – 10/15
Municipal	620		GPM	248.4		Year round

IRRIGATED ACRES ADDITIVE	IRRIGATED ACRES NON-ADDITIVE
1036.7 less the acres irrigated under S4-33097*	

REMARKS

† The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft. The total annual quantity for G4-33098 and S4-33097 is limited to 5,592 ac-ft/yr.

* The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Okanogan	Groundwater	Twisp & Methow Rivers	48 – Methow

SOURCE FACILITY/DEVICE	TWP	RNG	SEC	QQ Q
Up to 100 Wells				
Town of Twisp Well #1	33N.	22E.W.M.	8	SW, SW
Town of Twisp Well #2	33N.	22E.W.M.	17	NW, NW
Town of Twisp Well #3	33N.	22E.W.M.	17	NE, SW
Town of Twisp Well #4	33N.	22E.W.M.	17	SW, NE

All other wells located within Sec 12, T. 33N., R. 22E.W.M.;
Sections 7, 17, 18, 20, 21, 27, 28, 34, and 35, T. 33N., R. 22E.W.M.;
Sections 2, 3, 9, 10, 16, and 20, T. 32N., R. 22E.W.M.

Place of Use

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Irrigation lands within the Methow Valley Irrigation District (see Figure 1).

Area served by the Town of Twisp in its most recent approved Water System Plan. If the criteria in RCW 90.03.386(2) are not met and Water System Plan was approved after September 9, 2003, the place of use of this municipal portion of the water right reverts to the service area described in that document. If the criteria in RCW 90.03.386(2) are not met and no Water System Plan has been approved after September 9, 2003, the place of use reverts to the last place of use described by the Department of Ecology in a water right authorization.

Proposed Works

Water historically diverted will be left instream in the Methow and Twisp Rivers and Alder Creek and will be conveyed to the Department of Ecology's Trust Water Rights Program with a trust water right agreement to establish the MVID Water Bank. The consumptive use and a portion of the non-consumptive use is intended to serve as mitigation for new water rights to be issued to MVID for beneficial use for the realigned district facilities.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
April 1, 2015	October 1, 2016	October 1, 2021

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm or cfs)

Provisions

Limitations betweenG4-33098 and S4-33097

1. The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft.
2. The total annual quantity for all purposes of use under G4-33098 is limited to 2,684 ac-ft. The total annual quantity for G4-33098 and S4-33097 is limited to 5,592 ac-ft/yr.
3. The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Water Service Contract

Use of municipal water under this permit or certificate is contingent upon the Town of Twisp's execution and compliance with the Water Service Contract (Contract) between the Ecology's Office of Columbia River and the Town of Twisp for reimbursement of funds associated with developing water supplies. The municipal use portion of the permit will not issue until a Water Service Contract is executed between Ecology's Office of Columbia River and the Town of Twisp. Failure to comply with the terms of the Contract will result in cancellation of the permit or revocation of the certificate, as outlined in the contract.

Measurements, Monitoring, Metering and Reporting

1. An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.
2. Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.
3. No later than January 31 every 5 years, starting in 2020, MVID shall estimate and report to the Department of Ecology and its Members total combined consumptive water use. The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft. The total combined irrigated acreage under S4-33097 and G4-33098 does not exceed 1,036.7 acres for the non-municipal portion of these permits. MVID shall demonstrate and report its consumptive use for irrigation as follows:

a) Evaluate aerial photography, infrared imagery, or other remote sensing data sources to determine the land area irrigated with MVID water during the preceding irrigation season;
b) Determine the amount of water diverted or withdrawn from all sources used by MVID or its members to supply water to MVID lands using the combined metering reports from provision 2;
c) If the total irrigated land is not greater than 1036.7 acres AND the combined total water diversions and withdrawals for the year are less than 4146.8 ac-ft, the consumptive quantity demonstration would be satisfied. If either the irrigated acreage is larger, or the quantity of water diverted or withdrawn is greater, then the following additional analysis must be performed and submitted to the Department of Ecology:

    i. Using the procedures in PRO-1210, estimate the water use per acre irrigated during that year and calculate the consumptive portion of the total water diverted and withdrawn;
    ii. Multiply the consumptive use calculated per acre irrigated by the total acreage irrigated during the preceding irrigation season.

4. The consumptive use (124.2 ac-ft) quantity associated with the municipal portion of G4-33098 will be equal to the total annual diversion minus the quantity of return flow via the Twisp wastewater treatment plant and pipe leaks. The Department of Ecology will verify Twisp's measurement in cooperation with the Department of Health through review of water system planning documents, SEPA and annual metering submittals. These planning documents must describe the coordinated monitoring and management of the proposed water and sewer utilities to ensure the consumptive use limit will be observed in perpetuity. An accounting of the previous years' compliance shall be addressed within all future Twisp Water System Plans, which is approximately every 6 years.

5. Each year no later than January 31, MVID shall demonstrate the acres allocated to G4-33098 and S4-33097. Water savings on a per acre-feet basis originating from Trust Water ROE CS4-MVID156 (Twisp River) may only be allocated to S4-33097 (Methow River) if they are offset by an equal per acre-foot savings from efficiency improvements to the East Canal or transfer of former East Canal uses to groundwater under G4-33098; otherwise the acreage is limited to what the Qi (12.28 cfs) from the Trust Water ROE CS4-MVID156 can support.

Well Construction Standards

All wells constructed in the state shall meet the "Minimum Standards for the Construction and Maintenance of Wells" (WAC 173-160) and "Water Well Construction" (RCW 18.104). In general, wells shall be located at least 100 feet from sources of contamination and at least 1,000 feet of the boundary of a solid waste landfill. Any well which is unusable, abandoned, or is an environmental, safety, or public health hazard shall be decommissioned.

All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port is required as described in WAC 173-160- 291(3).

Overlap with Twisp Change Authorization CS4-SWC945 & CS4-WRC003935

This authorization will create a temporary water right overlap of 262 acre-feet associated with existing 2001 change authorization CS4-SWC945. This authorization will create a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935. The municipal portion of this water right authorization shall not be exercised in addition to the 2001 change

authorizations. If the change authorizations CS4-SWC945 & CS4-WRC003935 subsequently cancel, this provision shall not apply.

General

For regulation purposes, the effective priority date of this authorization shall be the same as the mitigation provided for in the water bank. See Trust Water Right Agreement (Appendix C). Any valid priority calls against the source Trust Water Rights CS4-MVID@155, CS4-MVID@156 and CS4-11827CL, based on local limitations in water availability, will result in temporary curtailment of the use of water under the permit until the priority call for water ends.

295 acre-feet of this permitted quantity under S4-33097 and G4-33098 shall not be allocated to new uses until MVID provides supplemental verification that canals have been abandoned and/or riparian vegetation has been removed or died. MVID can submit this verification incrementally as construction occurs and the project is implemented. If appropriate a supplemental order would authorize that portion of the 295 acre-feet verified for allocation as provided under these permits.

MVID may assign portions of this permit to a 3rd Party provided such assignment is in accordance with RCW 90.03.310 and the Trust Water Agreement. In such case, MVID shall propose and the Department of Ecology shall approve appropriate provisions from the parent permit that apply to the assigned portion.

The irrigation portion of this authorization to use public waters of the state is classified as Family Farm Public Entity Permit in accordance with chapter 90.66 RCW. This means the land being irrigated under this authorization shall comply with the following definition: Family Farm - a geographic area including not more than 6,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 6,000 acres of irrigated agricultural lands in the state of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm.

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right change authorization by this Department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

Final beneficial use calculations, well locations and irrigated acreage totals for each water right G4-33098 and S4-33097, shall be determined during the investigation at the Proof of Appropriation stage.

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and

the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the water right. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions. The water right holder may obtain the services of a certified water rights examiner (CWRE) to carry out proof of appropriation.

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 concur with the investigator that water is available from the source in question; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest. I further concur that, to the extent this application may result in impairment of existing rights in the form of instream flows, approval of the application will serve the overriding considerations of the public interest.

Therefore, I ORDER approval of Application No. G4-33098 and that a permit issue, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by RCW 43.21B and WAC 371-08. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW, Ste 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

Signed at Yakima, Washington, this 28th day of October 2014.

Mark C. Schuppe

Mark C. Schuppe, Operations Manager
Office of Columbia River

INVESTIGATOR'S REPORT
Application for New Ground Water Right – Methow Valley Irrigation District
Water Right Control Number G4-33098
Melissa Downes, Department of Ecology and Daniel Haller, Aspect Consulting

INVESTIGATOR'S REPORT ORGANIZATION

A draft Investigator's Report was authored by Dan Haller, P.E. of Aspect Consulting as part of a front-loaded application process, which was subsequently reviewed, amended, and formatted for use by Ecology as part of the formal decision-making process for the MVID Instream Flow Improvement Project. This Report is organized as follows:

- Background
  - MVID History
  - MVID Instream Flow Improvement Project Description
  - MVID Water Bank
  - MVID – Twisp Purchase and Sale Agreement
  - Summary of Proposed New Water Rights
- Legal Requirements for Application Processing
- Investigation (S4-33097 and G4-33098)
  - Beneficial Use
  - Water Availability
  - Impairment
  - Public Interest
- Findings and Conclusions
- Recommendations
- Appendices
  - Appendix A: SEPA Checklist
  - Appendix B: MVID – Twisp Purchase and Sale Agreement
  - Appendix C: TWRA

BACKGROUND

On October 28, 2013, the Methow Valley Irrigation District (MVID) submitted two water right applications to the Washington State Department of Ecology (Ecology), one for a new appropriation of groundwater and one for a new appropriation of surface water that will be offset by MVID's existing water rights that are being placed in Washington's Trust Water Rights Program (TWRP). The applications were accepted and assigned Application Nos. G4-33098 and S4-33097.

The proposed project is to develop a more efficient water distribution system for MVID and to increase the water supply for the Town of Twisp. This is proposed to be accomplished by placing MVID's existing water rights into trust for water banking purposes, and to use the banked water as mitigation to offset new surface and groundwater appropriations for MVID and Twisp. The groundwater application, G4-33098, requests up to 100 points of withdrawal, including four existing wells for irrigation and municipal supply purposes for the Town of Twisp, with the remaining 96 points of withdrawal being individual MVID wells for irrigation purposes. Attributes of the application are presented in Table 1. The surface water application, S4-33097, requests the existing East Canal point of diversion on the Methow River for irrigation. Attributes of this application are presented in Table 2.

MVID History

The MVID historically encompassed an area of approximately 2,276 acres of land on the floor of the Methow Valley, generally between the Towns of Twisp and Carlton. MVID uses two canals to divert and

transport water. The west canal diverts water from the Twisp River at River Mile (RM) 4.3 and serves lands lying west of the Methow River. The east canal diverts water from the Methow River at RM 44.8 and serves lands lying east of the Methow River.

The MVID system was constructed at the turn of the 20th Century and supplied water to orchards and other lands that principally used flood irrigation methods. Many orchards were severely damaged by cold weather in 1968 and were cut down. The majority of current water use in the MVID is for alfalfa, grass hay, pasture, lawn, and orchard. Sprinkler systems are now commonly used throughout MVID.

During the 1980s and 1990s, MVID evaluated several alternatives to improve their water use efficiency and provide more reliable water service to its patrons. During 2000, 115 applications for change were processed by Ecology for those individuals that were conditionally excluded from MVID and converted to individual wells. Ten of the applications were denied and 105 applications were approved, totaling approximately 712.7 acres of irrigation. These changes provided reliable water supply to those users at the lower ends of both canals, however these exclusions reduced the number of assessed acres and MVID patrons.

Project Description

In 2012, MVID signed a Memorandum of Agreement with the Washington Water Project of Trout Unlimited to provide technical assistance on the MVID Instream Flow Improvement Project (MVID Project). The purpose of the MVID Project is to improve the MVID delivery system near Twisp, Washington with resulting benefits to instream flows and fish habitat in the Twisp River, Methow River, and Alder Creek, improved service for MVID members, and additional public water supply for the Town of Twisp (also an MVID member). A comprehensive description of the MVID Project is provided in Alternative 5 of the *Methow Valley Irrigation District Alternatives Evaluation Report*, Anchor QEA (August 2013)[1], with additional detail and updated descriptions of changes since August 2013 in Section 11 of the MVID Project SEPA Checklist (Appendix A). The following is a general project overview:

- West Canal: The West Canal will be reconfigured into shorter pressurized pipe systems (North Satellite Systems) serving approximately 141 assessed acres supplied by MVID production wells, with the remainder of former west canal members served by individual or group wells. A new end spill/drain will be created for system flushing and route any in-season operational water to the Methow River. The existing diversion structure on the Twisp River will be abandoned.
- East Canal: Portions of the East Canal will be converted to a pressurized pipe system, with several individual or group well conversions. Some laterals will be rehabilitated to improve efficiency. New East Canal spills will be created at the end of the system and near the canal/pipe interchange to route operational water (e.g. Barkley spill that currently enters the MVID East Canal) to the Methow River.
- Alder Creek: The Alder Creek diversion structure will be abandoned and formerly-diverted quantities will remain in the creek.
- Town of Twisp: 262 acre-feet is currently authorized under change authorization CS4-SWC945 for use for irrigation in Twisp. This quantity will continue to be conveyed through the new system by MVID for irrigation in Twisp, subject to a lease between MVID and Twisp. 138 acre-feet is currently authorized under change authorization CS4-WRC003935 for irrigation in Twisp. This quantity is subject to a 2014 Purchase and Sale Agreement (PSA) between MVID and Twisp (Appendix B).

[1]See www.mvid.org

Town of Twisp

Twisp is fully integrated into the MVID Project as a water service provider, permitter, funder, and watershed planning representative to the project. For example, Twisp has the following roles and responsibilities:

- MVID and Twisp have a shared water service area within the district boundaries and town retail service area.
- Twisp will need to issue a conditional use permit and waive well drilling prohibitions within the town limits.
- A portion of the lease between MVID and Twisp is being restructured into a permanent water right sale that meets both MVID member needs and Twisp municipal growth needs, pursuant to Twisp's determined future development. Twisp's purchase of a portion of the leased water quantity in perpetuity provides funds of $276,000, which allows MVID to continue to pursue water system/delivery improvements.
- Twisp is one of the initiating governments of watershed planning in the Methow Basin (WRIA 48) and has endorsed this MVID project as consistent with watershed planning objectives.

MVID Water Bank

Three water right change applications submitted by MVID were reviewed by Ecology and changes of purpose of use to instream flow and mitigation were approved on August 14, 2014. These water right changes are CS4-MVID@155 (SWC 945), CS4-MVID@156 (S4-003935CL) and CS4-118277CL (S4-118277CL). Combined, the three water rights represent a total consumptive use of 2995.9 ac-ft/yr.

Prior to initiation of the water bank, the three MVID water rights will be conveyed to Ecology's Trust Water Right Program (TWRP). They will be managed by Ecology under the terms of the trust water right agreement negotiated between Ecology and MVID. See Appendix C.

The trust water right agreement provides the procedures and substantive requirements to enable MVID to request and obtain new water right permits for groundwater or surface water uses consistent with Alternative 5 of the MVID Instream Flow Improvement Project. The agreement also provides Ecology with the now-changed MVID water rights to improve instream flows within the lower Twisp River and in Alder Creek. The consumptive use associated with all new permits Ecology would issue to MVID (or its members) would be offset by the three above-mentioned water rights held in trust by Ecology, up to a combined maximum consumptive use of 2995.9 ac-ft/yr.

The quantity being banked for the East Canal is 12.28 cfs and 3,206 acre-feet. These quantities were estimated based on 426.2 acres (838.2 combined MVID/Barkley acres less 412 Barkley acres), an on-farm application of 2.83 acre-feet per acre, a reasonable canal efficiency based on the 2003 Waste Order, and 262 acre-feet associated with the Twisp Lease under Change Authorization CS4-SWC395.

The quantity being banked for the West Canal is 10.93 cfs and 2,854 acre-feet. These quantities were based on the 2,716 acre-feet delivered to 455.1 acres under the 2003 Water Order, which accommodated an on-farm application of 2.83 acre-feet per acre, a reasonable canal efficiency, and 138 acre-feet associated with the Twisp Lease under Change Authorization CS4-003935CL. The 10.93 cfs estimate is slightly less than the 11 cfs described in the 2003 Waste Order because the trust quantities were calculated based on monthly averages instead of a daily peak flow.

MVID – Twisp Purchase and Sale Agreement

In 2001, MVID leased 400 acre-feet to the Town of Twisp, and Ecology approved two change applications associated with the lease in June 2002: Application Nos. CS4-SWC945 and CS4-WRC003935. The 400 acre-feet leased to the Town of Twisp was comprised contractually of two 200-acre-foot portions of these two water rights. However, the 2001 water right changes divided these amongst MVID's Twisp and Methow River rights in proportion to the acreages MVID has served under

Certificate No. 945 and Claim No. 003935: 262 acre-foot (from Certificate SWC945, Methow River) and 138 acre-foot (from Claim 003935, Twisp River). These two rights continued to be for seasonal irrigation and were changed to be withdrawn from the Town's wells for use within the Twisp service area. Both change authorizations remain subject to development schedules and are considered to be in compliance with the development schedules. These two 2001 change authorizations will be cancelled when new water rights are issued to MVID and/or the Town of Twisp for municipal use from the MVID water bank. Until such time, there will be a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935 and an overlap of 262 acre-feet associated with existing 2001 change authorization CS4-SWC945. Four hundred (400) acre-feet of these trust water authorizations shall not be exercised in addition to the 2001 change authorizations.

On February 25, 2014, MVID and Twisp executed a Purchase and Sale Agreement (PSA) to permanently integrate their mutual planning responsibilities within the Twisp service area. Key elements include:

- Reservation of 262 acre-feet for irrigation use in the Twisp service area to be supplied under the redesigned MVID system.
- Sale of 138 acre-feet to Twisp for municipal use in Twisp, with said quantity determined to be surplus to MVID member irrigation needs within Twisp.
- Preservation of an asserted Determined Future Development (DFD), for an exception to relinquishment, dating to the 2002 Change Authorizations and 2001 Leases.

Summary of Proposed New Water Rights

MVID has applied for two new water rights that will rely on the MVID Water Bank for mitigation. If issued, the new groundwater permit will be a general permit that will allow MVID, MVID members within MVID, and the Town of Twisp to withdraw groundwater from numerous points of withdrawal. Table 1 describes the attributes of groundwater Application No. G4-33098 and Table 2 describes the attributes of surface water Application No. S4-33097.

Table 1 Attributes of Water Right Application No. G4-33098

Applicant Name	Methow Valley Irrigation District	
Priority Date	10/28/2013	
County	Okanogan	
WRIA	48	
Source	Up to 100 Wells	
Purpose	**Irrigation**	**Municipal**
Place of Use	Within Boundaries of MVID	Town of Twisp service area
Points of Withdrawal	Within Sec 12, T. 33N., R. 22 E.W.M.; Sections 7, 17, 18, 20, 21, 27, 28, 34, and 35, T. 33N., R. 22E.W.M.; Sections 2, 3, 9, 10, 16, and 20, T. 32N., R. 22E.W.M.	SW¼SW¼, Section 8, T. 33N., R. 22E.W.M. NW¼NW¼, Section 17, T. 33N., R. 22E.W.M. NE¼SW¼, Section 17, T. 33N., R. 22E.W.M. SW¼NE¼, Section 17, T. 33N., R. 22E.W.M.
Acres	616 ac	Domestic, Lawn & Garden
Instantaneous Rate (Q_i)	18.29 cfs	3.94 cfs
Annual Quantity (Q_a)	4,316 ac-ft/yr	400 ac-ft/yr
Period of Use	April 15 to October 15	Year Round

Table 2 Attributes of Water Right Application No. S4-33097

Applicant Name	Methow Valley Irrigation District
Priority Date	10/28/2013
County	Okanogan
WRIA	48
Source	Methow River
Purpose	**Irrigation**
Place of Use	Within Boundaries of MVID
Point of Diversion	NE¼, NE¼ Section 25, T. 34N., R. 21E.W.M.
Acres	752 ac
Instantaneous Rate (Q_i)	12.7 cfs
Annual Quantity (Q_a)	3,309 ac-ft/yr
Period of Use	April 15 to October 15

Legal Requirements for Application Processing

The following requirements must be met to process a water right application and issue a water right permit

Water Resources Statutes and Case Law

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340 and RCW 90.44.050. In accordance with RCW 90.03.290, determinations must be made on the following four criteria in order for an application for a water right permit to be approved:

- Water must be available
- There must be no impairment of existing rights
- The water use must be beneficial
- The water use must not be detrimental to the public interest

RCW 90.42.100(1) states that Ecology is authorized to use the TWRP for water banking purposes.

RCW 90.42.100(2)(a) states that water banking may be used to mitigate for any beneficial use under chapters 90.03, 90.44 or 90.54 RCW, consistent with any terms and conditions established by the transferor, except that return flows from water rights authorized in whole or in part for any purpose shall remain available as part of total water supply available and to satisfy existing rights for other downstream uses and users.

RCW 90.90.020 directs Ecology to develop new water supplies to improve instream flow and out-of-stream uses, including irrigation (i.e. MVID) and municipal use (i.e. Twisp).

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted, and used. Notice of this application was published in Methow Valley News on November 20 and November 27, 2013. A copy of the affidavit of publication is on file with Ecology. No comments or protests were received by Ecology during the 30-day comment period.

State Environmental Policy Act (SEPA)

This project required SEPA review under WAC 197-11-310. Ecology and Okanogan County, acting as co-lead agencies for this project, reviewed a SEPA checklist prepared by the applicant (Appendix A). A

Mitigated Determination of Non-Significance was issued on May 21, 2014. A Final Mitigated Determination on Non-Significance was issued on July 30, 2014.

Expedited Processing

This application qualifies for priority processing under WAC 173-152-050(2)(g) whereby water right applications may be processed prior to applications submitted at an earlier date when the proposed water use is water budget neutral as defined in WAC 173-152-020(18). This project will use water banking to offset the new appropriation of water.

INVESTIGATION

MVID is located in the Methow River Basin (WRIA 48). MVID submitted these new groundwater and surface water applications on behalf of its current members to convert some members over to a groundwater source in lieu of its current surface water diversion on the Twisp River and provide more reliable service to all its members. The groundwater application requests to drill up to 100 wells for irrigation purposes within MVID, and municipal supply purposes for the Town of Twisp. The applicant proposes to mitigate these new groundwater withdrawals with water from the MVID water bank. Applications for changes of MVID's water rights to change the purpose of use to instream flow and mitigation have been investigated and approved by Ecology. Additional details describing how MVID may operate its water bank are contained in the trust water right agreement (Appendix C).

Water right Application No. G4-33098 requests to serve 616 acres of irrigation located within the MVID boundaries and 400 ac-ft/yr for municipal supply purposes. The use of water for municipal water supply purposes and irrigation purposes are defined in statute as beneficial uses (RCW 90.54.020(1)). Irrigation use is seasonal (April 15 to October 15), whereas municipal use is year-round (365 days). On the west side, 141 acres will be served by a ground water well(s) through pressurized pipe system and laterals. In addition, 445 acres will be served by individual wells. On the east side, approximately 30 acres will be switching over to individual wells. A combination of new and existing wells is proposed. Water right Application No. S4-33097 requests to serve 752 acres of land located within the MVID boundaries with water for irrigation, utilizing the existing MVID East Canal diversion located on the Methow River.

Site Visit

A site visit was performed by Melissa Downes on January 7, 2014.

Overlapping water rights

The proposed municipal portion of G4-33098 is additive to Twisp's portfolio of water rights. The Town of Twisp has the following water rights in its municipal portfolio:

1. Groundwater Certificate 6151-A, having a priority date of February 16, 1967, authorizes an instantaneous rate of 500 gpm and an annual quantity of 224 ac-ft for year-round municipal supply associated with well No. 2.
2. Groundwater Certificate G3-00139, having a priority date of November 16, 1971, authorizes an instantaneous rate of 1100 gpm and an annual quantity of 224 ac-ft for year-round municipal supply associated with well Nos. 1, 3 and 4.

There are approximately 333 existing groundwater rights (permits, certificates, claims, water right change authorizations, etc...) within the boundaries of MVID. These authorizations for irrigation lands within MVID being sought through these applications are non-additive to existing groundwater rights for irrigation within the boundaries of the MVID.

Four Statutory Tests

This Investigator's Report evaluates whether the statutory tests for issuing new permits based on applications G4-33097 and G4-33098 are met. To approve the application, Ecology must issue written

findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In the Supreme Court case *Ecology v. Grimes* (1993)[2], the Court held that "for the purposes of appropriated water rights, 'beneficial use' has two elements: (1) the purposes or types of activities for which the water may be used and (2) the amount of water that may be used as limited by the principle of 'reasonable use' ". Reasonable use of water is determined by analysis of the factors of water duty and waste.

The applications request seasonal irrigation and year-round municipal use. The uses of water for irrigation and municipal supply purposes are defined in statute as beneficial uses (RCW 90.54.020(1)). Thus, these applications meet the requirement that the purposes or types of activities for which the water will be used are beneficial.

Water Duty

Water duty is typically estimated by using published sources of evapotranspiration, and then adjusting it for the type of water delivery system to be used. The closest weather stations to MVID where evapotranspiration is monitored are Winthrop and Omak. Several published estimates for crop irrigation requirement (i.e. evapotranspiration less effective rainfall) are available in this area.

Depending on the published source which all use varying data and methodology, results vary. These include:

<u>Winthrop Stations</u>

- Irrigation Requirements for Washington (1982): Pasture/Turf (26")[3] and Apples w/Cover (32").
- Washington Irrigation Guide (1985): Pasture/Turf (18.61") and Apples w/Cover (23.5").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (28.5") and Apples w/Cover (29.8").

<u>Omak Stations</u>

- Irrigation Requirements for Washington (1982): Pasture/Turf (34") and Apples w/Cover (41").
- Washington Irrigation Guide (1985): Pasture/Turf (26.89") and Apples w/Cover (31.67").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.6") and Apples w/Cover (26.8").
- Bureau of Reclamation AgriMet[4] (2013 Data): Grass (29.8 inches).

<u>Methow Stations</u>

- Washington Irrigation Guide (1985): Pasture/Turf (26.49") and Apples w/Cover (31.25")
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.1") and Apples w/Cover (25.7").

MVID Members irrigate many different crops each year, including grass, hay, lawn, garden and apples. Ecology's Water Resource Program Procedure PRO-1210 (Ecology, 2005) and Guidance GUID-1210 (Ecology, 2010) allow for use of multiple data sources to estimate site-specific crop irrigation requirements. The crop irrigation requirement value for Pasture/Turf in the Washington Irrigation

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[2] http://www.ecy.wa.gov/programs/wr/caselaw/images/pdf/grimes.pdf.
[3] The symbol " represents a water equivalency of acre-inches per acre
[4] http://www.usbr.gov/pn/agrimet/monthlyet.html.

Guide (1985) is 8 to 16 inches less than all other data sources, and Ecology believes this to be an outlier. The average values of all remaining crop irrigation requirements, excluding provisional 2014 Washington Irrigation Guide data, equates to approximately 28.6". Crop irrigation requirements from the above listed data are consistent with the provisional/pending 2014 Washington Irrigation Guide data. Therefore, irrigation water use for these water rights is calculated using the value for grass (28.5"), which is in the range of the published sources available and amongst the crop types grown by MVID members.

Given MVID's objective to increase its current water duty from 2.83 acre-feet/acre to as much as 4 acre-feet/acre, Ecology considered the relative efficiencies and consumptive use of these water duties. In summary, a range of water duties from 2.83 acre-feet to 4 acre-feet for pasture irrigation corresponds to a range of efficiencies spanning 59% to 84% (63% to 88% for apples). Ecology's GUID 1210 provides ranges of sprinkler efficiency across numerous application methods. Generally, a range of 55% to 85% is common for sprinkler application efficiency.
For this analysis, the crop irrigation requirement for MVID lands is estimated to be 28.5". This is consistent with the crop irrigation requirement used in the MVID Trust Water Right Report of Examination (ROE). The estimated consumptive use of water for irrigation under both applications (G4-33098 and S4-33097) is:

- The total available consumptive use quantity to mitigate for new water supply from MVID water bank is 2995.9 ac-ft.
- Crop irrigation water requirement (CIR) is 2.375 ac-ft/ac for seasonal irrigation (April 15 to October 15).
- The total irrigation water requirement (TIR) = CIR/Ea = 2.375/0.593 or 4.0ac-ft/ac.
- The irrigation efficiency (E_a) is 59.3% based on Ecology's Guidance GUID 1210 for sprinkler irrigation at the intended 4 ac-ft/ac application rate.
- Based on GUID 1210, the percent consumptive use is 59.3% + evaporative loss of 10%, or 69.3%.
- The total consumptive use per acre is 4.0 x 0.693 or 2.77 ac-ft/ac.
- The consumptive use for the Town of Twisp is estimated at 124.2 ac-ft (138 ac-ft x 90% Consumptive Use = 124.2 ac-ft).
- The total number of acres that can be irrigated (less the quantity allocated to Twisp) without exceeding the consumptive use available in the MVID Water Bank would be 2871.7 ac-ft/2.77 ac-ft/ac, or 1036.7 ac.

The Town's average use over the last 11 years has been about 285 gpcd. In 2012, it was 195 gpcd. Both of these rates are used to project future water needs for the Town. These projections are based on the Town's baseline firm water rights totaling 224 acre-feet, as noted in the overlapping water right section above.

- Projections include lower and higher potential growth rates: 2% and 3.4%.
- Projected planning horizons of 2020 and 2030 (which equates to 7 and 17 years out) are used, which is slightly different than the 6 and 20 year planning norms under DOH guidelines.
- At a low growth rate (2%) and low demand rate (195 gpcd) through 2030, the Town needs an additional 61 acre-feet.
- At a high growth rate of (3.4%) and a high demand rate (285 gpcd) through 2030, the Town needs an additional 311 acre-feet.
- Other combinations of demand, growth rate, and planning horizon generally fall within the 61 acre-foot to 311 acre-foot range.

Reasonable Use

MVID's requested quantity of water for Application No. S4-33097 is 12.7 cfs and 3,309 acre-feet for seasonal irrigation. MVID's requested quantity of water for Application No. G4-33098 is 10,009 gpm and

4,716 acre-feet for seasonal irrigation and continuous municipal use. To determine whether this is a reasonable quantity of water for the intended purposes, Ecology first considered the amount of water being trusted in the MVID Water Bank under Trust Water ROE's CS4-MVID155, CS4-MVID156, and CS4-118277CL. The collective trust quantities total 2,995.9 acre-feet of consumptive use and 6,420 acre-feet of total use.

Under the MVID Project, several aspects of MVID deliveries to its customers are expected to change.

- First, the on-farm duty is expected to increase to a maximum of 4 acre-feet per acre, which was recognized in the *MVID I* case as a reasonable on-farm water duty.
- Second, some water users are expected to be converted to wells.
- Third, some assessed, but currently non-irrigated lands are expected to become irrigated based on consumptive use savings associated with riparian canal vegetation from canal abandonment.
- Finally, 400 acre-feet of water formerly delivered under the Twisp Lease will continue be delivered to the Town and MVID members with the Town, but with some contractual restructuring.

Because the design of the project and the process to identify individual MVID member service preferences are proceeding concurrently with the permitting, there is some uncertainty associated with the final service characteristics of the project. These uncertainties include the final number of well conversions and their locations (east side versus west side), final canal/pipe lengths/efficiency, and final project funding. Additionally, the East Canal is a shared service canal to both MVID and Barkley lands, and Ecology is aware that Barkley is considering a rehabilitation project that may alter or discontinue end-spill into the MVID Canal. These uncertainties were considered in determining whether the requested quantities are reasonable.

Ecology evaluated a number of alternatives for the East Canal, all consistent with the 2003 Waste Order requirements that future deliveries must include a reasonable on-farm water duty and canal conveyances at least equal to that evaluated by the Court in the several waste cases (e.g. *MVID I* and *MVID II*). Table 3 summarizes East Canal service area configurations to compare to Application No. S4-33097. All of these scenarios would be governed by trust water consumptive use accounting for the MVID Water Bank. S4-33097 is the surface authorization for the project and would be limited to the final East Canal design.

Table 3: Anticipated Use Under S4-33097 for Various Surface Water (East Canal) Improvements

Improvement	Qi (cfs)[1]	Qa (ac-ft)[1]	Acres
Application No. S4-33097	*12.7*	*3,309*	--
Trust ROE CS4-MVID155	*12.28*	*3,206*	--
2003 Waste Order based on service to 838.2 combined Barkley and MVID acres	*20*	*4,909*	*838.2*
New System Assumptions (excluding Barkley Lands)			
If on-farm duty increases to 4 ac-ft/acre on MVID lands and East Canal piped with 10% pipe loss below Mill Hill, with remaining losses in existing canal from waste order.[2]	13.4	2,946	488.7
If on-farm duty increases to 4 ac-ft/acre on MVID lands, entire East Canal piped with 10% pipe loss, 35 acres converted to wells, and 106.5 acres[3] of new lands added.	15.3	3,377	560.2
If on-farm duty increases to 4 ac-ft/acre on MVID lands, entire East Canal piped with 10% pipe loss, and all 615 assessed, irrigable acres served on East Side (current Reclamation design criteria).[4]	16.9	3,707	615

1. All quantities shown are "less Barkley Inflow" per the 2003 Waste Order.

2. Qa based on 2003 Waste Order assumptions for East Canal, as modified by proposed project, including 4 ac-ft/acre on 488.7 acres (426.2 acres from Order plus 62.5 acres of MVID service in Twisp), plus 10% pipe loss below Mill Spill, existing cumulative conveyance loss of 27% of canal above Mill Spill, and 10% spill: (4) x (488.7) x (1.1) x (1.37). Qi based on (0.02 cfs/acre) x (488.7 acres) x (1.37).
3. Based on all 295 acre-feet of former canal riparian consumptive use and 2.77 acre-feet/acre CU within a 4 ac-ft/acre on-farm duty, (see 2014 Haller Technical Memo, Page 23). Note that the 106.5 acres identified here would be added in some combination to east and west side MVID
4. Members, not both. However, this Investigator's Report evaluates the beneficial use and impact of this allocation occurring on either side of the river. Qa = (4) x (560.2) x (1.1) x (1.37). Qi = (0.02 cfs/acre) x (560.2 acres) x (1.37).
5. Qa = (4) x (615) x (1.1) x (1.37). Qi = (0.02 cfs/acre) x (615 acres) x (1.37).

Table 3 compares the quantities requested in S4-33097 to various design and allocation scenarios. Application No. S4-33097 requests 12.7 cfs and 3,309 acre-feet, which is in the range of reasonable alternatives evaluated. The final quantities perfected will ultimately be constrained by the consumptive trust water quantities available for allocation from the MVID Water Bank and reasonable beneficial use for the final system constructed.

Ecology evaluated a number of alternatives for the West Canal, all consistent with the 2003 Waste Order requirements that future deliveries must include a reasonable on-farm water duty and pipe conveyances at least equal to that evaluated by the Court in the several waste cases (e.g. *MVID I* and *MVID II*). Table 4 summarizes West Canal service area configurations to compare to Application No. G4-33098. All of these scenarios would be governed by trust water consumptive use accounting for the MVID Water Bank. Since well conversions could include MVID Members from both the east and west canal, G4-34098 could debit trust water quantities originating from Trust Water ROE's CS4-MVID155 and CS4-MVID156.

Table 4: Anticipated Use Under Various Groundwater (East and West Canal) Improvements

Improvement	Qi (gpm)	Qa (ac-ft)	Acres
Application No. G4-33098	*10,009 gpm*	*4,716*	--
Trust ROE CS4-MVID155 (Methow River)	*5,511 gpm (12.28 cfs)*	*3,206*	--
Trust ROE CS4-MVID156 (Twisp River)	*4,906 gpm (10.93 cfs)*	*2,854*	--
2003 Waste Order based on service to 455.1 MVID acres	*4,937 gpm (11 cfs)*	*2,716*[1]	*455.1*
2003 Waste Order based on service to 838.2 combined Barkley and MVID acres (quantities less Barkley Inflow)	*8,976 gpm (20 cfs)*	*4,909*	*838.2*
New System Assumptions			
If on-farm duty increases to 4 ac-ft/acre on MVID lands, 94 west-side acres are served by piping with 10% loss, 35 east side acres to wells[2], and 248.4 acre-feet allocated to Twisp[3].	5,058 gpm (11.3 cfs)	2,258	493.1
If on-farm duty increases to 4 ac-ft/ac on MVID lands, 94 west-side acres are served by piping with 10% loss, 35 east side acres to wells, 106.5 acres[4] of new lands added served by wells, and 248.4 acre-feet allocated to Twisp.	6,016 gpm (13.4 cfs)	2,684	599.6

1. Note, the waste order quantity of 2,716 ac-ft did not account for the Twisp leased quantity, which is the difference in the Trust ROE for CS4-MVID 156 of 2,854 ac-ft.

2. Acres = 455.1 acres from Order, plus 35 acres from East Side, plus 3 acres of the 65.5 acres under the Twisp PSA. Qa = (493.1 acres) x (4 ac-ft/ac) x (10% x 94 acres x 4 ac-ft/ac) + (248.4 ac-ft). Qi = (9 gpm/ac) x (493.1 acres) + 620 gpm.
3. Twisp allocation of 248.4 ac-ft is based on a consumptive use of 124.2 and 50% municipal return flow. Instantaneous rate is based on 620 gpm based on MVID / Twisp PSA relating to 1.38 cfs change authorization.
4. Based on 295 acre-feet of former canal riparian consumptive use and 2.77 acre-feet/acre CU within a 4 ac-ft/acre on-farm duty, (see 2014 Haller Technical Memo, Page 23). Note that the 106.5 acres identified here would be added in some combination to east and west side MVID Members, not both. However, this Investigator's Report evaluates the beneficial use and impact of this allocation occurring on either side of the river. Qa = (599.6 acres) x (4 ac-ft/ac) x (10% x 94 acres x 4 ac-ft/ac) + (248.4 ac-ft). Qi = (9 gpm/ac) x (599.6 acres) + 620 gpm.

Table 4 compares the quantities requested in G4-33098 to various design and allocation scenarios. The applied for quantities exceed the reasonable range of alternatives evaluated, because at the time the applications were made, there was the potential for more MVID Members to be served by wells. As the design has matured, the largest anticipated diversion is 6,016 gpm and 2,684 acre-feet from groundwater. These annual quantities are reasonable, and will ultimately be constrained by the consumptive trust water quantities available for allocation from the MVID Water Bank.

Finally, 248.4 acre-feet of the groundwater quantity allocated under G4-33098 is intended to be assigned to the Town of Twisp to cover their municipal water needs. Based on historic growth and the Town's success in achieving its water conservation goals, the Town estimates that it needs 150 acre-feet to 400 acre-feet over the next 20 years. The 248.4 acre-foot quantity is reasonable based on the Town's planning projections.

In summary the total maximum reasonable beneficial use for the project (Application Nos. S4-33097 and G4-33098) is 26.1 cfs (11,716 gpm) and 5,592 ac-ft based on the following:

- The total number of acres that can be irrigated (less the quantity allocated to Twisp) without exceeding the consumptive use available in the MVID Water Bank would be 2871.7 ac-ft/2.77 ac-ft/ac, or 1036.7 ac.
- An on-farm water duty of 4 acre-feet/acre.
- Reasonable conveyance losses and spill (0% for individual wells, 10% for pipe, 27% for existing east canal leaks, and 10% for east canal spill).
- Twisp municipal system = 248.4 ac-ft and 620gpm.
- 5,592 ac-ft based on:
    - 3,309 ac-ft (Application Quantity under S4-33097)
    - Plus 2,684 acre-feet (largest anticipated reasonable groundwater withdrawal under G4-33098)
    - Less 401 ac-ft, which accounts for partial double-counting of the former canal riparian quantity for each separate application, since the division of those acres has not yet been determined. 401 ac-ft is derived by taking the 106.5 acres at 4 ac-ft/acre plus the 10% pipe loss, or 469 acres, less the 68 ac-ft already deducted because Application No. S4-33097 is less than the supply need for this alternative (e.g. 3,377 less 3,309 ac-ft = 68 ac-ft).
- 12.7 cfs (based on application Quantity under S4-33097) plus 6,016 gpm (largest anticipated reasonable groundwater withdrawal under G4-33098).
- These quantities are subject to the collective trust water right quantities totaling 2,995.9 acre-feet of consumptive use.

Availability of Water

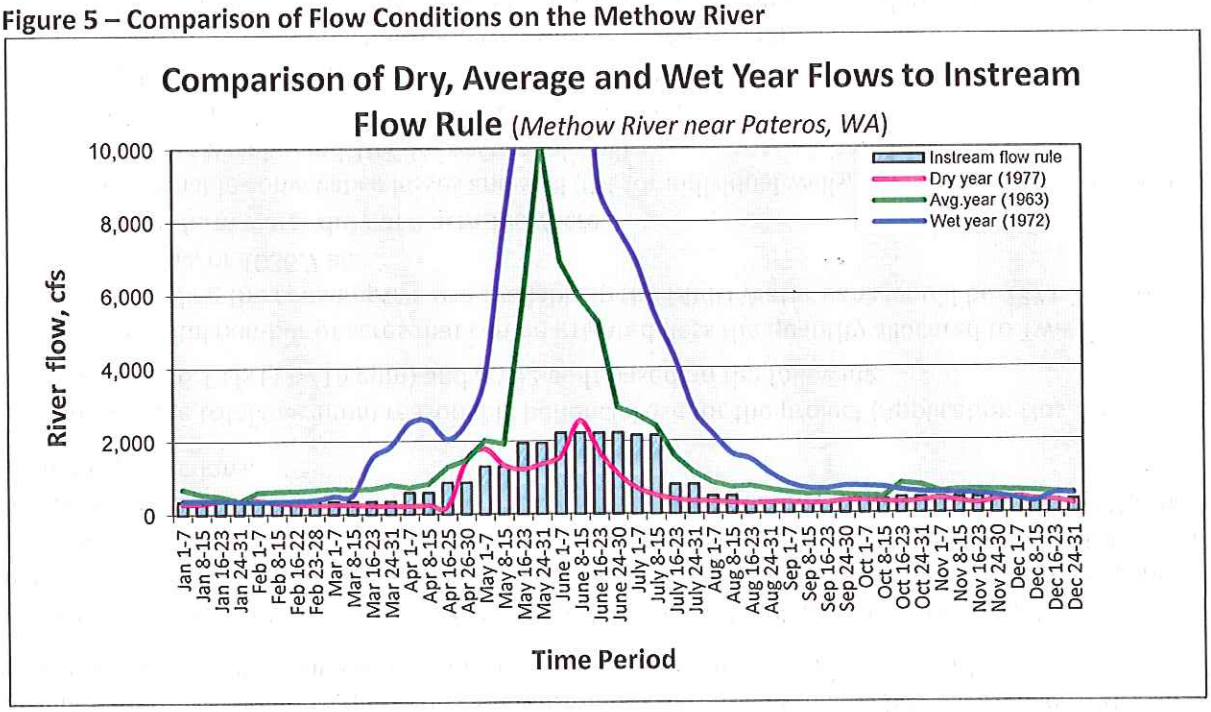
Water must be physically and legally available in order to issue permits for S4-33097 and G4-33098. This section will describe the physical availability of the Methow River and its adjacent groundwater aquifers, and the legal availability of water rights emanating from the MVID Water Bank.

Physical Availability

This Investigator's Report considers whether water is physically available for appropriation from the Methow River and from adjacent groundwater aquifers. Application No. S4-33097 requests 12.7 cfs and 3,309 acre-feet from the Methow River in the vicinity of the Town of Twisp. Application No. G4-33098 requests 10,009 gpm and 4,716 acre-feet from groundwater supplies in continuity with the Methow River.

The USGS maintains a stream gage downstream of this location. Annual, wet, and dry year stream flows for this gage are shown on Figure 5 along with the adopted instream flow levels in WAC 173-548.

Figure 5 – Comparison of Flow Conditions on the Methow River



Surface water is physically available in the quantities requested in the Methow River.

Ecology Hydrogeologist Ron Dixon completed a Technical Memorandum evaluating physical availability of groundwater for G4-33098. A copy of this Memo is provided in the file G4-33098 and excerpts are incorporated into this Investigator's Report.

The MVID project area contains an unconsolidated sediment aquifer comprised of glaciofluvial and minor alluvial sediments. This aquifer has been study extensively by the USGS (Konrad, et al, 2003), by Ecology when it issued 115 change authorizations in the late 1990s as part of a previous MVID rehabilitation project, and by Anchor QEA (2013) as part of the feasibility for this project. The water storage capacity of the Methow Valley unconsolidated sedimentary aquifer is considerably greater than the annual withdraw proposed under the subject application. Basin-wide drawdown from the proposed permitting action is expected to be less than 4.4 feet, and will be fully offset in the Methow River by trust water quantities managed in the MVID Water Bank. Groundwater is physically available in the quantities requested from the aquifer within the project area.

Legal Availability

When evaluating the legal availability of water for Application Nos. S4-33097 and G4-33098, Ecology considered the administrative framework of the basin and the mitigation proposed by the applicant.

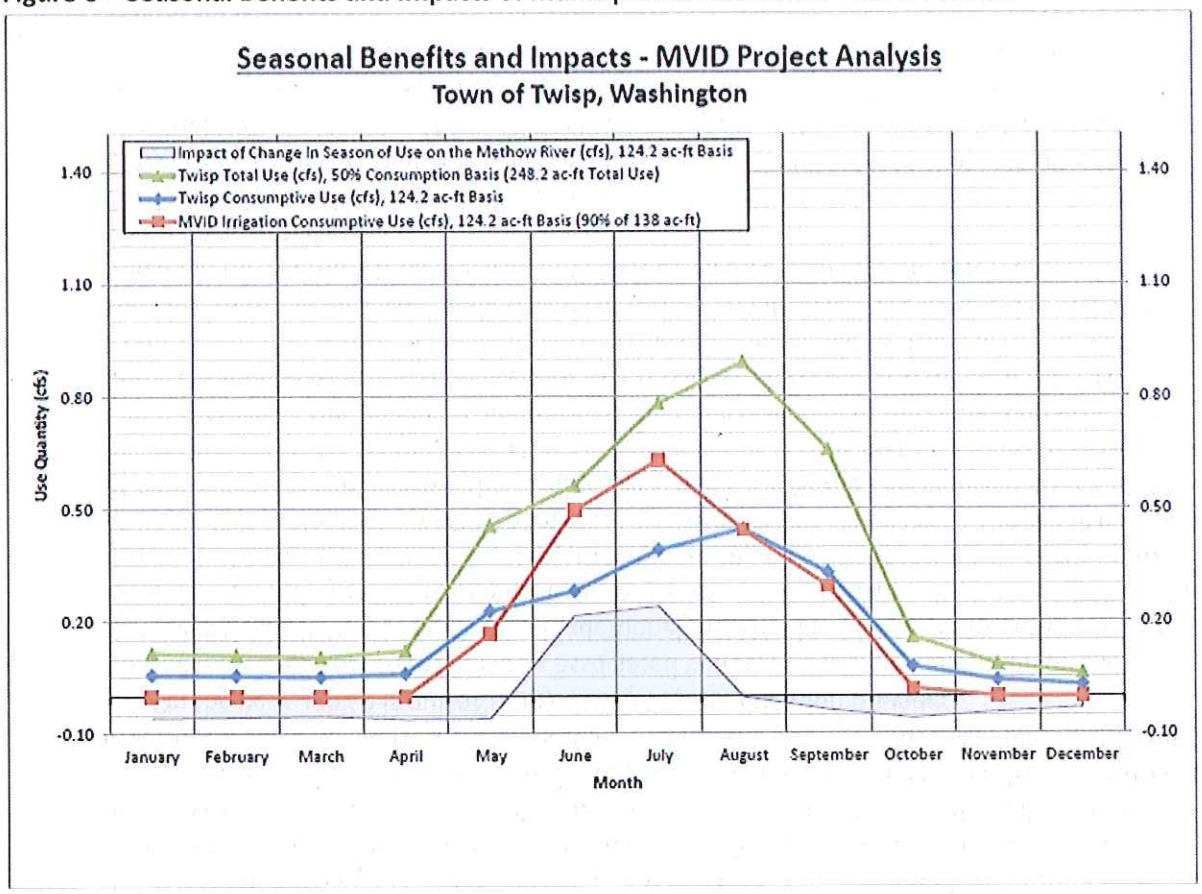
The Methow River is governed by WAC 173-548, which established minimum instream flows and governs the regulation of junior water users whose diversions and withdrawals are interruptible to those flows. The Methow River and associated groundwater under WAC 173-548-060 is open for new appropriations. Ecology has, over the last 3 decades, issued several hundred water rights that are interruptible when the minimum instream flows are not met because uses during those times would conflict with the instream flows. If a proposed diversion would not conflict with adopted instream flows, then they are not subject to those flows under WAC 173-548-020(5). Under the same section of the rule, Ecology may issue a new appropriation that is in conflict with the instream flows if overriding consideration of the public interest (OCPI) would be served.

In this project, MVID and joint funders are proposing a project that is water budget neutral as to annual consumptive use, but is slightly out-of-time and out-of-place because, at certain times, water use under the permits will reduce instream flows at times they are not met. However, notwithstanding such flow reductions, the project will provide significant out-of-kind benefits, including benefits to habitat, fish passage, water quality, and summer time instream flows.

The mitigation proposed is in-kind (water-for-water), largely in-time (day-for-day), and largely in-space (location unchanged). However, the proposed demand does not exactly match the proposed supply from the MVID Water Bank. This offset was described in Ecology and the County's SEPA MDNS and is summarized here.

- A significant portion of the project is associated with a surface to groundwater transfer. At the end of the irrigation season when wells are turned off, there will be carry-over impacts beyond the irrigation season on the Methow River. For example, Ecology modeled different well location / transmissivity pairings and concluded that 90% recovery for some wells is likely to occur in October to November, while others might occur in February of the following year. 100% recovery would take longer. These impacts would be offset by similar benefits during the irrigation season. In short, the irrigation demand on the river becomes attenuated and shifts later in the year, which is out-of-time relative to the mitigation provided.
- Approximately 295 acre-feet of water associated with canal riparian vegetation on the West Canal will be available for new uses. If additional irrigated land from this quantity occurs on the west side, then there will be no out-of-space impacts. Rather there will be a benefit from the former Twisp River diversion downstream to where the groundwater impacts occur on the Methow River. However, if MVID allocates this water to East Canal users, there will be a benefit of approximately 4 miles from the former Twisp diversion to the confluence with the Methow River, then an upstream impact on the Methow River of approximately 4 miles back to the East Canal diversion. This would be an out-of-space impact relative to the mitigation provided. This impact would be reduced for every acre that is converted to wells on the east side. For example, the 295 acre-feet available corresponds to approximately 106.5 acres. If 50 acres is transferred to the east side, and 50 acres of former canal-service is converted to wells, then no impact in the Methow River between the East Canal diversion and the confluence with the Twisp River would occur.
- Finally, 248.4 acre-feet of G4-33098 is requested for year-round municipal use to meet demand in the Town of Twisp. However, the mitigation provided in the MVID Water Bank is from seasonal irrigation rights. Although the total and consumptive quantities will remain the same, there will be out-of-time impacts. Figure 6 below depicts a flow benefit from the end of May through the middle of August of up to 0.2 cfs, with an impact in the remaining months of the year of up to 0.05 cfs.

Figure 6 – Seasonal Benefits and Impacts of Municipal use associated with G4-33098



Another aspect of legal availability is certainty that the mitigation will occur and be available to offset new uses. MVID currently has insufficient water rights to meet the irrigation needs of all of its assessed lands. With the rehabilitation of the system, the West Canal will be decommissioned and replaced in part by a piped system. This decommissioning will eliminate canal evaporation, and associated evapotranspiration from vegetation adjacent to the canal. In some cases, foliage will be directly removed as part of the infrastructure project, and in other cases it would die from the elimination of canal seepage.

Anchor QEA evaluated extensive vegetation surveys, GIS evaluations, and site reconnaissance as part of the effort to produce the 3 trust water ROE's related to the MVID Water Bank, and concluded that 295 acre-feet of water is consumed as a result of direct evaporation and evapotranspiration from vegetation along the canals. Some portions of this water budget are relatively certain, such as diminished evaporation from canal abandonment and reduced evapotranspiration from cottonwoods that are physically cut down. Others are less so, such as the extent to which foliage will die adjacent to the canal from reduced canal seepage. Ecology must have sufficient certainty to permit new uses to ensure mitigation offsets are legally available.

In summary, Ecology has the authority to:

1. Condition new uses based on the minimum instream flows under WAC 173-548.
2. Provision these water rights to require an acre-foot for acre-foot offset of impacts in the Methow River above the Twisp River confluence. For every acre-foot that is converted to groundwater on the east side or saved through pipe efficiency, an equal number of acre-feet can be transferred from the west side to the east side.
3. Provision these water rights to require performance monitoring to ensure that projected mitigation is actually available and implemented.

4. Under WAC 173-548-020(5) make an OCPI finding and determine that the permit applications can be approved even though there would be conflicts with instream flows at certain times.
5. Administer the MVID water bank under RCW 90.42.100, provided it does not impair existing water rights.
6. Define the priority date of a water right originating from the MVID Water Bank as the priority date of the underlying water right under RCW 90.42.120(2).

Impairment of Other Existing Water Rights

Under RCW 90.03.290, a water right permit cannot be approved if it would cause impairment of other existing water rights. In considering impact to existing water right holders and the instream flows established under the Methow Basin Instream Flow Rule, one must consider actual river operations, particularly in drought years when water availability issues are most acute. One must also consider well interference for existing and proposed water rights associated with wells in the project area. In the context of this Investigator's Report, there are several classes of water users that must be considered:

- Water right holders with priority dates senior to those seeding the MVID Water Bank, which include dates ranging from 1908 to 1919;
- Uninterruptible water rights with priority dates junior to the MVID Water Bank;
- The instream flow water rights established through adoption of the State's December 28, 1976 Methow River Basin Instream Flow Rule; and
- Interruptible water rights with priority dates junior to the State's December 28, 1976 Instream Flow Rule.

In principle, allocation of new uses associated with Application Nos. S4-33097 and G4-33098 from the MVID Water Bank based on consumptive use equivalents should not cause impairment to any of these classes of water users. If consumptive use is not diminished for water users, then their appropriation will be unaffected.

Water rights senior to the subject water rights will not be impaired by this trust decision, because water availability will increase or remain neutral to those users. These senior users can also call against these rights in times of shortage. Water rights junior to these subject rights, but senior to the instream flow rule will also not be impaired, because their availability will not decrease. The State Instream Flow will benefit from increased water availability under this decision at certain times, because more water will remain instream; however, that benefit will be between control stations so no change in river regulation will occur. Junior water users will not bear any risk of increased curtailment, because the MVID Water Bank will run on consumptive use equivalents and their availability will not decrease.

If the MVID Water Bank were to perfectly match supply and demand, then all of the above statements on impairment would hold. However, as described in the water availability section, because of changes in source location and season, there is potential for impairment if the MVID Water Bank does not have appropriate management controls to prevent it, or if the new permits are not appropriately conditioned to avoid it. Each of these risks are considered below.

MVID seeks to expand acreage and water duty as a part of this project. Both are permissible under the water code and can be done without impairing other uses if consumptive use does not increase. Some of the elements necessary to ensure no increase in consumptive use include:

1. Proper protocols for accounting of consumptive use required by the Trust Water Right Agreement (TWRA) and in these permit authorizations.
2. Verification through a demonstration that project construction and new MVID Member irrigation choices proceed as predicted.

3. Long-term tracking of water use and the estimated consumptive use to ensure that, over time, water bank integrity does not allow the actual consumptive use to exceed the supply of consumptive use credits available.

MVID seeks to alter sources and uses in a way that will shift some water demand outside of the irrigation season. This will create new impacts in the winter and spring each year that have the potential to impair both interruptible users and adopted instream flows. Ecology considered the following relative to this potential impact:

1. Instream flows are less reliably met or exceeded during the irrigation season compared to the non-irrigation season.
2. Out-of-stream demand for water from the Methow River is highest in the summer and fall.
3. Consumptive use will not increase as a result of the project.
4. A shift of water demand from summer to winter is generally a move from a period of lower availability to higher availability.
5. Ecology curtails interruptible water right users during the irrigation season. To-date, Ecology has not needed to curtail such users during the winter and spring.
6. The impacts are small relative to Methow River flows. Impacts are expected to be on the order of 2 cfs immediately after the end of the irrigation season and then diminish quickly to tenths of a cfs over the next weeks to months.
7. Ecology cannot allow impacts to private water right users, but can accept limited impacts to instream flows when it is demonstrated that OCPI will be served.
8. No private, existing water right holder will see their use diminish in a way that prevents them from exercising their water right.

While the uses above are expected to shift impacts later in the season, the irrigation efficiency portion of the project is expected to move impacts earlier in the season. Currently, water diverted from the Methow River for East Canal users creates an immediate impact that is then diminished by return flow from canal seepage that return to the river weeks to months later. However, by piping all or a portion of the East Canal, that water will stay in the river immediately. This will create greater spring and summer benefits, to the detriment of late summer and fall returns. These impacts are expected to generally occur within the irrigation season. Again, no private user will see their use diminish in a way that prevents the full exercise of their water right. Further, no third party can require MVID to maintain an inefficient system even if they have benefited from transitory return flows in the past that have resulted from inefficient water use by MVID. They can benefit from them while they exist, but retaining them instream and not diverting them in the first place cannot constitute impairment.

As discussed in the water availability section, MVID proposes the ability to transfer some water savings from its West Canal diversion on the Twisp River upstream to its East Canal diversion on the Methow River. This could diminish flows in the reach above the Twisp River / Methow River confluence. No private user would see their use diminish as a result of this transfer, but the instream flow would be impacted. Ecology could condition this decision to prevent this potential impairment.

Ecology also considered groundwater impacts associated with the transfer of former surface diversions to wells. Ron Dixon evaluated regional aquifer impacts and well interference potential in a Technical Report. A copy of this report is available in Ecology's files. In summary, Mr. Dixon found the following:

1. The extent of the Methow River Valley aquifer is larger than the modeled aquifer and basin-wide drawdown from the proposed permitting action is expected to be less than 4.4 feet.
2. Drawdown modeling, based on actual pump tests, indicate that water level declines associated with any single withdrawal are expected to be less than 6 feet at a distance of 10 feet from the pumping well and less than 3 feet at a distance of 250 feet from the pumping well.

Ecology can condition these water right authorizations to reduce the likelihood of well interference by requiring well setbacks. In order to assert impairment under WAC 173-150-030, wells must reasonably develop the aquifer and be considered qualifying works. Ecology understands that a portion of the MVID design includes a contingency for wells that are inadvertently located too close, so that they can be relocated to avoid interference.

Overriding Consideration of Public Interest (OCPI)

RCW 90.03.290 requires that a water right permit application cannot be approved if it would cause detriment to the public interest. In evaluating the public interest test, Ecology typically looks to project benefits and project impacts, legislative policy preferences adopted in statute, local government policy preferences adopted in watershed plans, public comment, and applicant intent.

An overriding consideration of the public interest (OCPI) determination under RCW 90.54.020(3)(a) must be made to permit a water right that would otherwise be subject to curtailment when adopted minimum instream flows are not met or would have to be denied if there are surface water body closures. An OCPI determination requires a higher standard than whether approval of a permit application would cause detriment to the public interest. The Washington Supreme Court has pronounced that RCW 90.54.020(3)(a) provide a narrow exception to the requirement to not impair instream flows, and that OCPI determinations can be made only when there are "extraordinary circumstances". *Swinomish Indian Tribal Community v. Department of Ecology*, 178 Wn.2d 571, 311 P.3d 6 (2013).

The following environmental impacts were disclosed in the SEPA checklist and threshold determination. They are the result of somewhat imperfect matching of supply and demand under the MVID Water Bank. These environmental impacts include:

- A bypass reach of approximately 4 miles resulting from a shift in demand from the historic Twisp River diversion to the Methow River East Canal.
- A reduction in flow of the Methow River in the weeks following the end of the irrigation season from switching about half the irrigation district service from surface water to groundwater.
- Approximately 0.05 cfs and 21 ac-ft reduction in flow of the Methow River during the non-irrigation season due to the withdrawal of 124.2 acre-feet of annual consumptive use to meet Twisp public water supply demand.

Ecology considered the instream flow impacts associated with the potential demand shift from the Twisp River diversion that will no longer be used to the Methow River East Canal, which would create a new bypass reach of 4 miles from the mouth of the Twisp River upstream on the Methow River to the East Canal headworks. However this impact is avoided by limiting diversion amounts to no more than is in the East Canal waste order. Therefore, the amount of water savings on a per acre-feet basis originating from Trust Water ROE CS4-MVID156 (Twisp River) may only be allocated to S4-33097 (Methow River) if they are offset by an equivalent per acre-foot savings from efficiency improvements to the East Canal or by the transfer of former East Canal uses to groundwater under G4-33098. Otherwise, the acreage is limited to what the Qi (12.28 cfs) from the Trust Water ROE CS4-MVID156 can reasonably support.

Ecology considered the impacts to the Methow River following the end of the irrigation season caused by replacing the existing Twisp River source of supply with up to 100 wells. The lag time impact felt by the Methow River, and to a much lesser extent the Twisp River, is discussed in more detail earlier in the impairment section above. For example, currently, water diverted from the Methow River for East Canal users creates an immediate impact that is then diminished by return flow from canal seepage that return to the river weeks to months later. However, by piping all or a portion of the East Canal, that water would not be diverted and would not seep into the ground to emerge at a later time in the Methow River. This would create relatively greater spring and summer flow in the Methow River, and

somewhat less contribution to the late summer and fall Methow River Flows. Similarly, the reduced surface diversions on the Twisp and Methow Rivers in August and September provide an immediate improvement to the Twisp River and Methow River flows.

WAC 173-548-020(5) states, "Future appropriations of water which would conflict with base flows shall be authorized, by the director, only in those situations when it is clear that overriding considerations of the public interest will be served." As the administrator of WAC 173-548, Ecology considers multiple factors when evaluating whether a future appropriation would conflict with the base flows protected under an instream flow rule. Some of the factors Ecology considers in this evaluation include the type of project, whether the functions and values associated with flows would be advanced, and legislative directives. Factors considered with respect to MVID's permit applications include the following:

- RCW 90.42 and the Irrigation Efficiencies Grants Program (IEGP), this statute and this program, encourages the development and implementation of conservation projects, through state funding, that create these same types of return flow impacts. For example, an irrigation efficiency project will typically reduce late season return flow in exchange for increase instream flow in the spring and summer.
- The Legislature appropriates money annually, and federal funding is made available, for acquiring water rights and fallowing land in fish critical areas. Fallowing former irrigation land also creates acceptable reductions to instream flows during certain time periods in exchange for increased instream flows at different time periods.
- DOH, WDFW, and Ecology have historically encouraged surface to ground water right source changes where feasible to facilitate meeting the goal of safe public and reliable public water supplies , reducing fish mortality associated with fish impingement on screened surface water diversion structures, removing or avoiding headworks and diversion dams that inhibit fish migration, and for attenuating peak stream flow impacts associated with surface diversions during the later portions of the irrigation season.

Given these factors, Ecology does not believe this surface to groundwater source exchange portion of this project is in conflict with the instream flows in WAC 173-548.

Ecology considered the impact of Twisp's year-round water use on the Methow River and found it conflicts with the adopted instream flows. In the following section Ecology describes in detail the public process it pursued and the stakeholders it consulted to determine whether the public benefits overwhelmingly offset the consumptive use impacts to instream flows during the non-irrigation season for the year-round municipal use.

Ecology and the County circulated a SEPA checklist that included a comprehensive accounting of project benefits and impacts. The SEPA checklist summarized the following potential impacts and benefits associated with the MVID Water Bank:

- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in the Twisp River of approximately 11 cfs from the historic point of diversion downstream. The wells supplying the new north end system for the west canal may decrease this water savings near the confluence of the Twisp and Methow Rivers.
- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in Alder Creek of 2 cfs. MVID will eliminate diversions on Alder Creek.
- Approved trust water rights and new permits from the MVID Water Bank may result in an increase in flow from the confluence of the Twisp and Methow Rivers to the end of the MVID canal system spill locations on the east and west sides, due to irrigation efficiency benefits. The Methow River flow benefit to the environment is a function of the final design, MVID and individual member choices about what land will be returned to irrigation, how to deal with Barkley inflow, and other factors.

- Approved trust water rights and new permits from the MVID Water Bank may increase or decrease flows in the roughly 4 miles of the Methow River above the confluence with the Twisp River to the East Canal diversion location. Flow may decrease because some East Canal users will be converted to wells and there will be irrigation efficiency improvements. Flows may decrease, because some consumptive use savings from the west canal may be transferred to MVID members on the east side. Until design and full coordination is realized, a final water balance is only estimated.
- Approved trust water rights and new permits from the MVID Water Bank will allow removal of diversions on Twisp and Alder Creek, which will eliminate the annual in-river push-up dam construction that occurs through the irrigation season, and cessation of end-of-year fish trapping on the west side. Note, currently WDFW helps MVID move out any fish that are in the area of the diversion/fish bypass before the fish screen, so they don't get dewatered.
- Approved trust water rights and new permits from the MVID Water Bank may shift the season of impacts of irrigation diversions on the Methow Rivers. Historically, surface diversions from the East and West Canal created instantaneous impacts on surface water. By shifting some of this demand to groundwater, there will be a lag of impacts for weeks or longer depending on well construction, well proximity to the river, and subsurface conditions. For example, Ecology has preliminarily estimated that for some of the wells proposed to be constructed, 90% of pumping impacts on the Methow River will have been eliminated approximately 3 weeks after the end of the irrigation season. Some wells may recover faster or take longer depending on the factors described above (Ecology, Dixon, 2014). An equal or greater amount (based on irrigation efficiency) will benefit the river during the spring and summer due to the pumping lag.
- Approved trust water right and new permits from the MVID Water Bank will increase groundwater withdrawals and could create local well interference. Drawdown modeling by Ecology (Ecology, Dixon, 2014), based on actual pump tests, indicate that the water level declines associated with any single withdrawal are expected to be less than 6 feet at a distance of 10 feet from the pumping well and less than 3 feet at a distance of 250 feet from the pumping well. Cited pump tests results indicate that aquifer drawdown at distances of 250 feet or greater from a pumping well will likely be less than 0.5 feet. Basin-wide drawdown of a conservatively modeled aquifer as a result of the proposed project was estimated to be 4.4 feet. However, it is expected, based on the actual physical parameters of the aquifer, that the drawdown within the project area would likely be less. Based on the analysis presented above, any groundwater drawdown that might occur as a result of the permitting action is not expected to interfere with the ability of nearby well owners to fully utilize their well(s).
- Approved trust water rights and new permits from the MVID Water Bank will reduce groundwater recharge of the Methow River from previous canal seepage. There will be no net decrease in seepage. Rather the water won't be diverted and will instead remain instream. The USGS Report (Konrad, 2005) "Hydrogeology of the Unconsolidated Sediments, Water Quality, and Ground-Water/Surface-Water Exchanges in the Methow River Basin, Okanogan County, Washington," examined the flow of water between rivers and aquifers in the Methow River Basin. The report identified groundwater discharges to the Methow and Twisp Rivers and aquifer recharge by the Methow and Twisp Rivers. The report evaluated seepage from unlined irrigation canals and found them to be a source of recharge to the unconsolidated aquifer during the late spring and summer. Seepage from 13 unlined irrigation canals in the study, including MVID's canals, "would represent about 9 percent of annual non-fluvial ground-water recharge in the basin as simulated by the model for water years 1992-2001." Converting a portion of the MVID West and East

Canals to wells and piped conveyances will reduce groundwater contributions by a small amount.

- Ecology's waste order allows 11 cfs and 2,716 acre-feet to be diverted from the Twisp River, with an overall canal efficiency of 56% (e.g. 56 out of every 100 gallons reaches the farm). Therefore, the total groundwater contribution from seepage on the West Canal is 44% of 2,716 acre-feet, or approximately 1,195 acre-feet. For a 183 day irrigation season, this represents an average groundwater contribution of 3.3 cfs (1,481 gpm). Some groundwater seepage will continue under the new piping system on the west side (e.g. Department of Health acceptable leakage standards for municipal systems is 10% or less).
- The decrease in groundwater seepage from improvements on the East Canal will depend upon the total well conversions. The East Canal also receives contributions from Barkley Canal spill, and serves Barkley lands. MVID is aware of a potential improvement project for the Barkley Canal that could improve that system, which could in turn affect the quantity of spill and service currently supplies by the East Canal, but no project has been formally acted on by the Barkley Canal directors or has been funded to date. Based on these uncertainties, the total decrease in groundwater seepage cannot be directly estimated. Ecology's waste order limits a combined MVID and Barkley East Canal service of 4,909 acre-feet for 838 acres (combined). At 4 acre-feet/acre on-farm duty, the on-farm total is 3,352 acre-feet, with 1,557 acre-feet remaining for canal losses. This quantity could represent the total diminishment of groundwater seepage from the canals if the entire east canal were converted to wells. If a portion remains piped and in existing canal, per Alternative 5, this quantity would be less. All groundwater seepage losses are offset at the Twisp and Methow Rivers by a commensurate increase in instream flow that would not be diverted.
- Approximately 124 acre-feet of consumptive use from MVID irrigation supplies designated for use within the Town of Twisp by 2001 Change Application No. CS4-WRC003935 will be converted to year-round municipal use. This shift creates benefit to instream flows in the Methow River (from withdrawals from Town of Twisp wells) in the summer of approximately 0.20 cfs (mid-May to mid-August), and a decrease in instream flows in the Methow River in the winter of approximately 0.05 cfs (January to mid-May and mid-August to December). Anchor QEA evaluated the overall project benefits compared to conversion of up to 138 acre-feet of consumptive seasonal irrigation to year-round municipal use (Anchor QEA, 2014). Using an IFIM method and a point-based model, they concluded that even when considering streamflow impacts associated with winter diversions associated with season of use change, and groundwater attenuation from previous surface diversions, the project has overwhelming instream flow and habitat benefits for critical life stages of fish.
- The proposed permit assigned by MVID to Twisp would include requirements to not increase consumptive use beyond the approximately 124 acre-feet of consumptive use purchased by Twisp. This would include a requirement that any wastewater returned to the Methow River from Twisp's municipal wastewater treatment plant under this permit not be diverted or reclaimed for a new use. A new permit issued to Twisp would include provisions to track and enforce the consumptive use limit to ensure that water that is expected to remain or return to the river in perpetuity can be verified.

Ecology considered its Mitigation Policy 2035 in evaluating the appropriateness of OCPI. The policy reinforces that mitigation should first be in-kind, in-time, and in-place. If that is not possible, then out-of-kind mitigation can be considered. In rare circumstances, OCPI can be applied to address unavoidable instream flow impacts. In this project, MVID and joint funders are proposing a project that is water budget neutral as to annual consumptive use, but is slightly out-of-time. However, the project

will result in significant out-of-kind benefits, including benefits to habitat, fish passage, water quality, and summer time instream flows.

The Town of Twisp's water use will be public in nature and will provide public benefits. The Town is a public municipality and MVID is a quasi-municipal irrigation district. Under RCW 90.54.020(8), Ecology has a mandate to encourage water supply systems that provide water to the public in regional areas. Twisp is the sole municipal water supply in the area, and the additional year-round supply of water provided is in the public interest. Twisp has been under periodic moratoria due to inadequate water rights since the 1997 Supreme Court ruling in OWL v. Twisp. The inadequacy of regional public water supplies leads to proliferation of exempt wells, which are not in the public interest. This project will ensure reliable water supply for approximately 20 years in the area.

Additionally, since the reduction in Twisp's water rights in the OWL v. Twisp case, Twisp has enacted a number of supply and demand conservation strategies to meet its obligations to provide water to its retail service area. These strategies have included leak detection, conservation-based water rates, and evaluating and implementing some water reuse strategies. Twisp's lost and unaccounted for water has generally been on a downward trajectory towards the DOH conservation goal of 10%. Twisp lost water percentage has dropped from nearly 30% in 2009 to 19% in 2012. In 2011, Twisp found a large leak that spiked their lost water for that year, but Twisp promptly addressed the issue. Moving forward, Twisp is preparing to develop an update to its water system plan and plans to continue tracking and improving its water system to meet the 10% lost water goal.

An OCPI analysis can consider economic benefits, but they should not be the sole basis for finding that OCPI would be served. New growth for the Town of Twisp will create economic benefits to Okanogan County. Based on the Office of Financial Management (OFM) Input – Output calculator, a new 248.4 acre-foot water right for Twisp will:

- Create approximately $33 million dollars in tax base benefit.
- Create 192 short-run jobs.

Under RCW 90.82.130(4), Ecology shall rely on adopted watershed plans as a primary consideration in determining the public interest related to water right decisions. The Okanogan County Commissioners adopted the Methow Watershed Plan in June 2005. Plan recommendations included:

- Increase water supplies to provide for future out-of-stream uses while satisfying minimum instream flows for fish.
- Added clarity and information to support an amendment to the existing instream flow rule.
- Aquifer storage projects.
- Protection for ground water recharge from unlined irrigation ditches.
- Mechanisms to reduce relinquishment of water rights.

This project addresses many plan priorities, including improving summer instream flows, improving public water supply, and adopting a water bank that reduces relinquishment risk. The project does diminish groundwater recharge to accomplish some of these goals, which was fully disclosed by Okanogan County as part of its SEPA determination.

This project is a publicly funded project, having been reviewed by key state, local, and tribal fisheries co-managers. Projects qualifying for public funding are an expression of the public interest. Funding agencies include the Department of Ecology Office of Columbia River, the Priest Rapids Coordinating Committee, and the Salmon Recovery Funding Board. The project is managed and sponsored by Trout Unlimited, which advocates for fisheries restoration projects.

Climate change is a factor that should be considered when evaluating the public interest. Climate change predictions are not expected to significantly alter the amount of water in the Methow Basin, but are expected to move the supply hydrograph to the left (i.e. higher spring flows, lower late summer flows). This project moves a small amount of the impact of water use and some direct use by Twisp out

of the summer to the winter months. The effect of this project will be more supply available in the summer.

The project meets numerous statutory and policy criteria that are expressions of the public interest. In addition those discussed above, these include:

- RCW 90.90.005: development of water supplies that meet both instream and out-of-stream needs.
- RCW 90.90.020: development of new municipal and irrigation supply.
- The "Statewide Strategy to Recover Salmon" (1999): It is the intent of the Legislature to begin activities required for the recovery of salmon stocks. In this case, there are overwhelming benefits to the Twisp River, which contains threatened and endangered salmonids.

When all the public interest benefits are compared to the potential harm to instream flows on the Methow River, it becomes evident that these permit applications involve extraordinary circumstances where withdrawing groundwater in continuity with the Methow River clearly serves overriding considerations of the public interest. The net effect of slightly reducing the Methow River instream flows (approximately 0.05 cfs and 21 ac-ft) during the non-irrigation season months, coupled with the extensive positive Endangered Species Act (ESA) listed fish habitat and flow improvements and reducing fish mortality during the irrigation season, will provide overwhelming net ecological benefits. Ecology determines that there are extraordinary circumstances demonstrating that it is in the public interest to override any minor detriment to the instream flows in the Methow River during the non-irrigation season. Therefore, Ecology determines for the subject groundwater application (G4-33098) that OCPI are served and that waiver of the instream flows on the Methow River, as prescribed in WAC 173-548, during the non-irrigation season for the municipal portion of the project, is appropriate.

Public Interest

RCW 90.03.290 requires that a water right permit application cannot be approved if it would cause detriment to the public interest. The public interest test includes analyzing harm to fish and wildlife, effects on endangered or threatened species, impacts to wetlands, recreation, water quality, fish habitat and any other concerns expressed by third parties. Approval of these applications would not be detrimental to the public interest for the same reasons that OCPI are served to override impairment of the instream flows.

Consultation

Ecology sent correspondence dated July 8, 2014, with the Washington State Department of Health (DOH) regarding MVID's proposal and its benefits to the Town of Twisp. DOH verbally concurred that they support the project on July 18, 2014.

On March 3, 2014, Ecology met with the Washington State Department of Fish and Wildlife (WDFW) regarding the subject proposal by MVID. WDFW communicated its concurrence of the project on July 11, 2014.

Ecology met with the National Marine Fisheries Service regarding the subject proposal by MVID on multiple occasions over the past several years. NMFS supports the project and issued a letter of support on July 11, 2014.

Ecology and the City met with the Yakima Nation regarding the subject proposal by MVID during the week of July 14, 2014. The Yakima Nation indicated they did not object to the proposal.

On June 27, 2014, Ecology and the City met with the Confederated Tribes of the Colville Reservation regarding the subject proposal by MVID.

Ecology sent correspondence dated June 24, 2014, to United States Bureau of Reclamation, requesting a release of waters for wells in the vicinity of the Methow River, tributary to the Columbia River, and upstream of Priest Rapids Dam where Reclamation has established a reserve of water for use in the Yakima Basin. Ecology informed Reclamation that the project would not create any additional diversionary authority by virtue of consumptive use offsets through the MVID Water Bank. Reclamation informed Ecology on June, 27, 2014, that they did not have concerns with the project.

Ecology and Okanogan County issued an MDNS on May 21, 2014, for the project that fully disclosed the proposed project benefits and impacts, and the potential use of OCPI to cover imperfect supply and demand matching associated with the project. No adverse comments were received in response to the MDNS. Additionally, Ecology, MVID, TU, and Twisp have given numerous presentations on the proposed project to solicit public comment, including to the Columbia River Policy Advisory Group, Methow Watershed Council, and Methow Salmon Recovery Foundation.

Conclusions

The conclusions based on the above investigation are as follows:

1. The proposed appropriations for irrigation and municipal use are for beneficial uses of water;
2. The maximum combined Qi, 26.1 cfs (11,713.7 gpm) and Qa 5,592 ac-ft is available for appropriation;
3. The new appropriations will intermittently impair existing water rights in the form of instream flows during times of low flow, but approval of the year-round municipal use by Twisp will serve overriding consideration of the public interest;
4. The new appropriation will not be detrimental to the public interest.

RECOMMENDATIONS

Based on the information presented above, the authors recommend that the requests to appropriate the following for permit:

- G4-33098 up to 6,016 gpm and 2,684 ac-ft/yr be approved with the limitations and provisions provided for on pages 1-4 of G4-33098 report.
- S4-33097 up to 12.7 cfs and 3,309 ac-ft/yr be approved with the limitations and provisions provided for on pages 1-4 of S4-33097 report.
- The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft.
- The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Report by: Daniel R. Haller — 10/28/2014

Daniel R. Haller, P.E.
Aspect Consulting, LLC
Date

Report by: Melissa Downes — 10-28-2014

Melissa Downes, LHG, Office of Columbia River
Department of Ecology
Date

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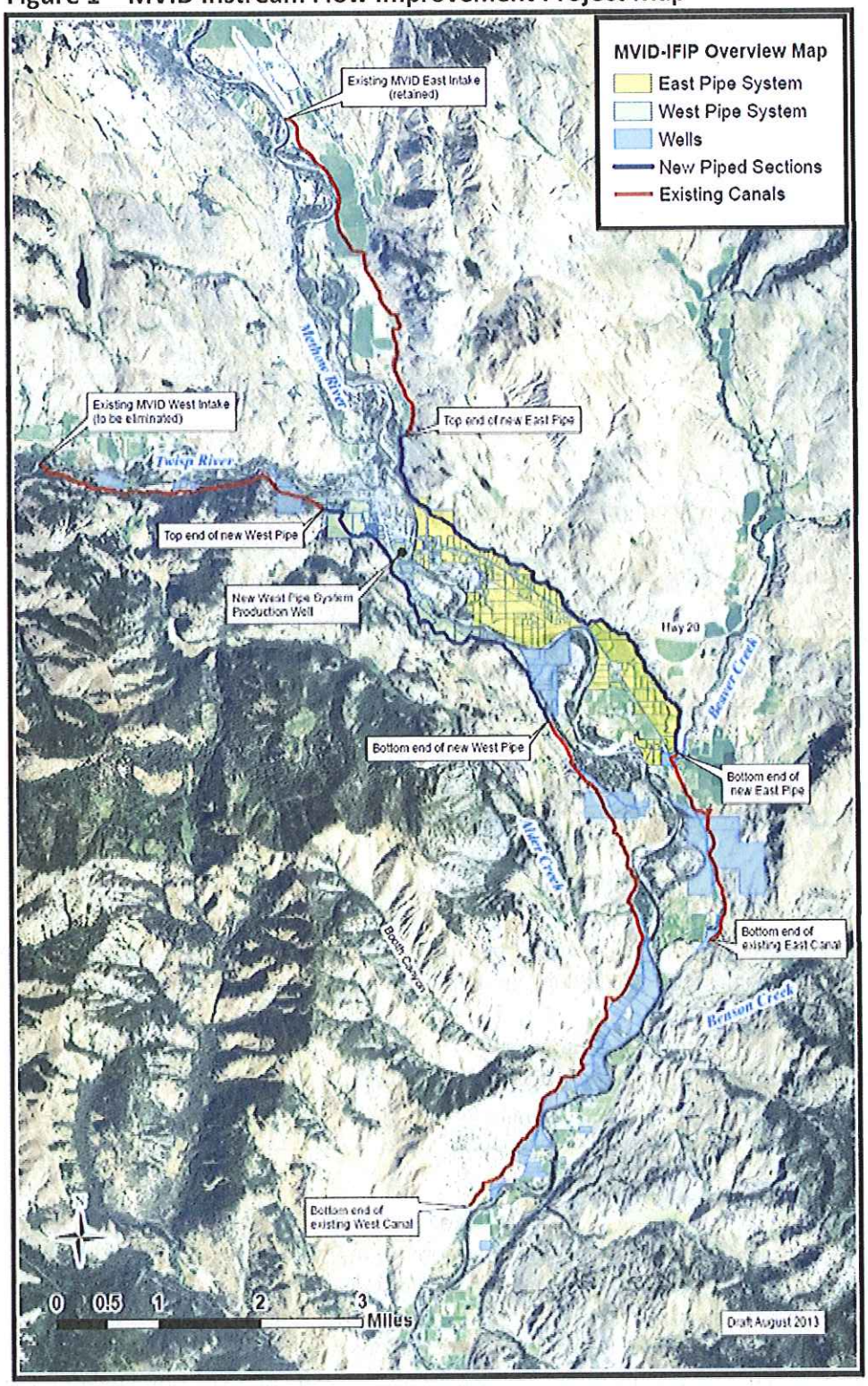
Figure 1 – MVID Instream Flow Improvement Project Map



Appendix A: SEPA checklist

WAC 197-11-960 Environmental checklist.

ENVIRONMENTAL CHECKLIST

Purpose of checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable: Methow Valley Irrigation District Instream Flow Improvement Project

2. Name of applicant: Methow Valley Irrigation District and Office of Columbia River (OCR)

3. Address and phone number of applicant and contact person:
John Richardson, Methow Valley Irrigation District Board Member, 509-341-4584

Jeri Timm, (Permit Technician) Trout Unlimited, PO Box 1128, Twisp, WA 98856, 509-881-7690, jtimm@tu.org
Melissa Downes, Ecology OCR, 15 West Yakima Avenue, Suite 200, Yakima, WA 98902-3452, 509-454-4259, mnih461@ecy.wa.gov.

4. Date checklist prepared: March 18, 2014

5. Agency requesting checklist: Department of Ecology, Office of Columbia River

6. Proposed timing or schedule (including phasing, if applicable):

Construction is anticipated to begin in the spring of 2014 and the majority of construction is expected to end in 2015. Some continued construction and operational testing may continue through 2017.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. Additional proposal elements may include ongoing maintenance and repair, and potential removal of the diversion infrastructure, conveyance infrastructure, and restoration of impacted areas.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

The Methow Basin is the subject of extensive environmental study by federal, state, tribal, and private entities. This SEPA checklist assembled a body of references that help clarify the state of the existing environment for the project to meaningfully evaluate project benefits and impacts.

The MVID canal system was the subject of numerous previous studies, reports, and environmental documents. Central to these is the development of a Final Environmental Assessment (EA) to satisfy NEPA compliance for a previous incarnation of this project by the Bonneville Power Administration (BPA) in 1997. That project included many similar project elements, including canal-to-pipe conversions, canal-to-well conversions, lateral and diversion reconfigurations, and infrastructure abandonment. The EA addressed many of the same impacts being considered herein, such as groundwater and river flow effects on the environment, including fish life and loss of vegetation and wildlife habitat associated with canal abandonment, shifts in land use, potential for future growth and development, loss of canal seepage, valley aesthetics, wetland impacts, and cultural and historic impacts. Additionally, in 2004 BPA completed an EA for screening the West and East Canals. This SEPA checklist incorporates the 1997 EA and 2004 EA and its analyses by reference. Specific sections of the project setting and potential environmental impacts are incorporated into this checklist from the two BPA EA's.

The bibliography of documents in support of disclosure of environmental impacts of the project includes:

- Barksdale, J.D., 1975, Geology of the Methow Valley, Okanogan County, Washington. State of Washington Department of Natural Resources, Bulletin No. 68.

- Kauffman, K.G. and Bucknell, J.R. 1976, Water Resources Management Program Report of the Methow River Basin. Washington Department of Ecology River Basin Program Series Publication No. 4, December 1976.

- The Columbia Basin System Planning Salmon and Steelhead Production Plan, Methow and Okanogan Rivers Subbasin (WDW et al., 1990)

- Water Management Plan for Methow Valley Irrigation District (Klohn Leonoff, 1990).

- Report to Economic and Engineering Services, Inc. on Water Budget for the Methow Basin (Golder, 1991-3).

- Caldwell, B, Atterson, D., Washington Department of Ecology, 1992, Methow River Basin Fish Habitat analysis Using the Instream Flow Incremental Methodology, August 1992, online at http://www.mvid.org/documents/92082.pdf .

- Methow River Basin Fish Habitat Analysis Using the Instream Flow Incremental Methodology (WDOE, 1992).

- Draft Methow Basin Plan (Methow Valley Water Pilot Planning Project 1994).

- Parametrix, 1994, Wetland Assessment for the Methow Valley Irrigation District Water Conservation Plan, November 16, 1994.

- Montgomery Water Group, Inc., 1996, Methow Valley Irrigation District Water Supply Facility Plan, June 1996.

- Bonneville Power Administration, 1997, Methow Valley Irrigation District Project Final Environmental Assessment, online at http://www.mvid.org/documents/1997_MVID_FONSI_DOE_EA-1181.reduced.pdf

- Andonaegui, C., 2000, Salmon, Steelhead, and Bull Trout Habitat Limiting Factors, Water Resource Inventory Area 48, Final report, Washington State Conservation Commission, July 18, 2000.

- Department of Ecology, Administrative Order DE02WRCR-3950, April 29, 2002, online at http://www.mvid.org/documents/2002_Admin_Order.pdf

- Northwest Power Planning Council, 2002, Methow Subbasin Summary, Draft Report, May 17, 2002.

- Haller, D., Department of Ecology, 2003 Re-examination of the Methow Valley Irrigation District Irrigation System, December 16, 2003, online at http://www.mvid.org/documents/2003_DOE_engineering_analysis_text.pdf

- Konrad, C.P., 2004, Simulated Water-management Alternatives using the Modular Modeling System for the Methow River Basin, Washington, United States Department of the Interior Geological Survey Water-Open File report 2004-1051.

- Bonneville Power Administration, 2004, Methow Valley Irrigation District Project Final Environmental Assessment East and West Diversion Screening Proposal, March 12, 2004, online at http://www.mvid.org/documents/BPA_EA-1486-FEA-2004.pdf

- Methow Basin Planning unit, 2005, Methow Basin (WRIA 48) Watershed Plan. June 20, 2005.

- Konrad C.P., Drost, B.W., and Wagner, R.J., 2005, Hydrogeology of the Unconsolidated Sediments, Water Quality, and Ground-Water/Surface-Water Exchanges in the Methow River Basin, Okanogan county, Washington, United States Department of the Interior Geological Survey Water-Resources Investigations Report 2003-4244, August 4, 2005.

- Flood Hydrology and Meteorology Group Technical Service Center, 2006, Memorandum: Methow River Drainage Basin, Hydrology Data and GIS for the Methow River, Instream Habitat Restoration Project, July 5, 2006, online at http://www.usbr.gov/pn/programs/fcrps/thp/ucao/methow/hydrodata/methow.pdf

- Upper Columbia Salmon Recovery Board, 2007, Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan, August 2007, online at http://www.ucsrb.com/UCSRP%20Final%209-13-2007.pdf

- Anchor Environmental, L.L.C, and IRZ Consulting, 2007, Methow Valley Irrigation District Canal Management Plan, December 2007, online at http://www.mvid.org/documents/MVID_Canal_Management_Plan.pdf

- United States Bureau of Reclamation (USBR), 2008, Methow Subbasin Geomorphic Assessment, Okanogan County, Washington, February 2008, online at http://www.usbr.gov/pn/programs/fcrps/thp/ucao/methow/hydrodata/methow.pdf

- United States Bureau of Reclamation (USBR), 2008, Methow Subbasin Geomorphic Assessment, Okanogan County Technical Appendices, Department of the Interior Bureau of Reclamation, February 2008.

- Methow Watershed Council, 2009, Final Detailed Implementation Plan, Methow River Basin (WRIA 48). October 29, 2009.

- United States Bureau of Reclamation (USBR), 2010, Geomorphology and Hydraulic Modeling for the Middle Methow River from Winthrop to Twisp, January 2010, online at http://www.usbr.gov/pn/programs/fcrps/thp/ucao/methow/hydrodata/methow.pdf

- United States Bureau of Reclamation (USBR), 2010, Middle Methow Reach Assessment, United States Department of the Interior Bureau of Reclamation, August 2010.

- Washington Department of Fish and Wildlife and Ecology, 2011, Columbia River Instream Atlas Project Final Report, Ecology Publication Number 11-12-015.

- Natural Resources Conservation Service (NRCS), 2012, Web Soil Survey, 2012 online at http://websoilsurvey.nrcs.usda.gov/app/

- Washington Department of Fish and Wildlife, 2012, Priority Species Habitat on the Web, online at http://wdfw.wa.gov/mapping/phs/

- Kohr, Jonathan, WDFW, 2012, Draft Assessment of Twisp River weighted usable area (WUA) considering possible increased flows of 11 cfs, July 27, 2012.

- Washington Department of Natural Resources Division of Geology and Earth Resources, 2012, Washington Interactive Geologic Map, 2012, online at http://wigm.dnr.wa.gov/

- Washington Water Project of Trout Unlimited, 2012, Methow Valley Irrigation District Efficiency Alternatives Analysis, December 2012, online at http://www.mvid.org/documents/MVID_Alternatives_Analysis_Final.pdf .

- RTT (Regional Technical Team), 2013, A biological strategy to protect and restore salmonid habitat in the Upper Columbia Region. A Draft Report to the Upper Columbia Salmon Recover Board. From the Upper Columbia Regional Technical Team.

- Gregg, 2013, MVID Vegetation Consumptive Water Use Survey, prepared for Methow Valley Irrigation District, 2013.

- Anchor QEA, 2013, Methow Valley Irrigation District Alternatives Evaluation Report, Prepared for Bureau of Reclamation, August 2013, online at: www.mvid.org.

- Anchor QEA, 2013, Consumptive Water Use for Vegetation along MVID Canals, Prepared for Bureau of Reclamation, August 2013.

- United States Bureau of Reclamation (USBR), 2013, Hydrogeologic Summary Report, Drilling and Testing of Methow Valley Irrigation District Test Well, Methow River Basin, Washington, November 2013.

- United States Bureau of Reclamation, 2014, Methow Valley Irrigation District Instream Flow Improvement Project Draft Value Engineering Study, January 2014.

- Aspect Consulting, 2014, Evaluation of Methow Valley Irrigation District (MVID) Water Rights, January 2014.

- United States Bureau of Reclamation, 2014, MVID Test Well Report, 2014 pending.

- Anchor, 2014, Evaluation of MVID Project Benefits, 2014.

- Washington State Department of Ecology, Dixon, 2014, Hydrogeologic analysis of the proposed water use under Application G4-33098, January 2014.

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. Yes. Some additional applications or governmental approvals may be necessary for removal of diversion infrastructure and affected area restoration.

10. List any government approvals or permits that will be needed for your proposal, if known.

State:

- Department of Ecology Trust Water Applications CS4-MVID@155, CS4-118277CL, and CS4-MVID@156.
- Department of Ecology New Water Right Permit Applications S4-33097 and G4-33098.
- Construction Stormwater General Permit needed for drain to Beaver Creek at end of the reconfigured East Canal (no permit other than Construction Stormwater General Permit anticipated based on agency preconsultation)
- DAHP approval / Governor's Executive Order 05-05 Compliance-needed for any area of disturbance
- Department of Transportation Road Crossing Permits for piping and lateral work
- Washington Department of Fish and Wildlife Hydraulic Project Approval—is needed for instream projects, such as alterations to points of diversion, return flow structures within OHWL, depending on final design
- WSDOT road crossing permit—may be necessary depending on lateral reconfiguration

County:

- Building Permit-Required for well houses
- Site Analysis-Required for well houses
- Public Works Road Crossing permit for piping and lateral work.
- Floodplain Development Plan—some construction will occur in the 100-year floodplain, such as lateral construction/rehabilitation construction at Mill Hill to re-route the Barkley Spill, and well construction for some parcels.
- County Public Works Permit—may be needed depending on lateral reconfiguration
- Grading-No grading permit is required in Okanogan County; however, projects grading more than 100 cubic yards (CY) of material require County SEPA input. This proposal is anticipated to require several thousand CY of material.

City:

- Town of Twisp Shoreline Permit—may be needed depending on lateral reconfiguration
- Town of Twisp Conditional Use Permit well-drilling waiver—an existing waiver was granted for testing the well for the north end system. A waiver may be needed for permanent use of the wells and for drilling additional wells.

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.)

Background:

The purpose of this project is to improve the MVID delivery system near Twisp, Washington with resulting benefits to instream flows and fish life in the Twisp River, Methow River, and Alder Creek, improved reliability for MVID members, and additional public water supply for the Town of Twisp (also an MVID member). MVID's gravity-fed, open-canal irrigation system has helped supply the Methow Valley's agricultural production since the MVID was organized and the system became operational in the early 1900s. Water is diverted from the Methow River approximately 4 miles upstream of the Town of Twisp and supplies the east side of the valley between Twisp and Carlton via the East Canal. Water is diverted from the Twisp River approximately 3.5 miles upstream of the Town of Twisp and supplies the west side in the same area via the West Canal (see Figure 1).

Following years of litigation, the Department of Ecology and MVID entered into a Settlement Agreement to reduce diversions from the Twisp River to 11 cubic feet per second (cfs) by 2016. MVID also agreed to reduce diversion from the Methow River to 20 cfs less inflow from the Barkley Ditch. This project includes infrastructure improvements to both canals systems to meet these goals, with additional planned water savings further benefiting instream flows and fish life, member irrigation, and Twisp public water supply.

Project Goals:

- Increase instream flows in the impaired lower 4.5 miles Twisp River by adding 11 CFS for the mutual benefit of fish life restoration and recreational opportunities, including but not limited to fishing, swimming, kayaking, and wildlife viewing. .
- Improve instream flows by abandoning the Alder Creek diversion.
- Improve instream flows by creating irrigation efficiency improvements that benefit the Methow River, fish life and recreational opportunities.
- Improve instream flows by converting surface diversions to groundwater sources, which removes fish screens and reduces peak irrigation impacts on the Twisp and Methow Rivers.
- Prevent impacts to ESA-listed fish species and resident stocks, and eliminate annual instream and riparian habitat impacts at MVID's diversions.
- Improve access to spawning and rearing habitat for ESA-listed fish species, and reduce injury to juvenile fish species.
- Allow for future instream and riparian habitat improvements at the MVID Twisp River and Alder Creek points of diversion.
- Provide a reliable water supply for MVID members who have been affected (at times) by uncertain deliveries to their lands.
- Restore MVID member water duty from 2.83 acre-feet/acre to 4.0 acre-feet/acre as it was in the 1990s.
- Make some surplus consumptive use available to MVID members not currently irrigating

their assessed land.

- Convert surplus seasonal consumptive use associated with the Twisp / MVID lease to year-round municipal use, providing for greater public water supply in the Town of Twisp service area.

Reduced diversions would be accomplished through the conversion of the majority of West Canal users, and users at the downstream end of the East Canal, to individual groundwater wells. West Canal users in and near the Town of Twisp would be served through a smaller pressurized pipe system supplied from groundwater wells. Much of the MVID East Canal system would be replaced with gravity-fed pipe system under Alternative 5, or converted to groundwater wells under Alternative 4. Options for Lateral E1 users would include 1) being served irrigation water through the Town of Twisp potable water distribution system or 2) through a new lateral system supplied by a groundwater well, or connection to the East Canal pipeline. Lateral E1 is currently piped and the piping and valves for Lateral E1 and other East Canal laterals could be upgraded as a result of this project.

The canal conversions described above will require water right applications and approval from the Department of Ecology (DOE). In total, two new water right applications will be submitted to DOE (surface water right application no. S4-33097 for irrigation use and groundwater right application no. G4-33098 for irrigation and municipal use). These two new water right applications will be offset and mitigated for through three trust water right applications that will replace three water rights, currently held by MVID to serve its members. These three water rights currently authorize diversions on the Twisp River (West Canal), Alder Creek (West Canal), and Methow River (East Canal). This suite of water right approvals is collectively called the MVID Water Bank, and will be governed by a Trust Water Agreement between MVID and the Department of Ecology. MVID will assign portions of its permit to excluded members, to Twisp for surplus water transferred to municipal use, and will retain the balance for service of the remaining westside piped system and eastside canal/pipe system.

Project Elements:

The following sections contain a description of the proposed project. The project is being evaluated through a Value Engineering Study that may alter some project elements. The Value Engineering Study is described in greater detail at the end of this section. Project elements and their nomenclature may change slightly as the Value Engineering Study progresses.

North Satellite System: The North satellite system will consist of a pressurized pipe/pump system designed to deliver approximately 2.8 cfs to 141 assessed acres within the MVID. The system will extend from a point above the Lookout Mountain Road at approximately Sta 130+50 (Anchor map stationing) down to about Sta 333+00 below the Archambeault property. It will drain and flush into the West Canal and thence to an existing spill into the beaver ponds along the Twisp Carlton Road. MVID members located within the town of Twisp who are not served by the E-1 lateral system will be supplied by the North Satellite system.

The water source will be a production well(s) with a withdrawal rate of approximately 900 gpm located on the Schulz Property within the Town of Twisp at the north end of the system. North Satellite system laterals will be evaluated and may be replaced and relocated as needed as part of this project.

Well Conversions: Approximately 79 MVID parcels with a total assessed acreage of approximately 420 acres on the south end of the canal system will be converted to individual groundwater wells in continuity with the Methow River. In addition, approximately 6 parcels located above the upper end of the North Satellite system pipe will also be converted to wells. The canal from the existing river intake down to the satellite system and the canal below the south end of the satellite system will be abandoned. The abandoned canal sections will be evaluated for potential risks from ephemeral drainage collecting in the abandoned canal and resulting in failure and will be mitigated as part of project design and implementation. Finally, under the Alternative 5 preferred alternative, approximately 8 parcels with a total assessed acreage of 29.68 acres beyond the lower end of the East Canal pipe at Beaver Creek spill will be converted to wells. Additional well conversion on the east side is being considered by MVID in response to potential funding limitations to fully implement Alternative 5. This could include the entirety of the East Canal service area, and was reviewed under the Alternatives Analysis as Alternative 4.

E-1 Lateral System: The Alternative 5 preferred alternative in the 2013 Anchor Report presumed that an agreement would be reached between the Town of Twisp and MVID for a water delivery contract. MVID members located within the Town presently served or potentially served by the E-1 lateral system (134.78 assessed acres/ 2.7 cfs) would remain within the District and would be supplied using the Town's existing infrastructure. The source for this system would be the Town's existing W-4 well located on the Lloyd property. More recent discussions between MVID and the Town identify renovation of the E-1 lateral based on connection to the East Canal pipe and retained under MVID service control. Either option, or a combination thereof, remain viable at this time, although the current proposal suggests that MVID-operation of E-1 is more cost-effective.

East Canal Pipe: Under Alternative 5, the East Canal system would be a pressurized pipe supplying approximately 617 assessed acres. The design flows at the Loop Spill intake would be approximately 10 cfs. The pipe would be designed considering the pressures that may result if the canal is eventually piped from the existing MVID Methow River headgate to Beaver Creek. This project would pipe the section of the canal from approximately 2400 feet above the Loop Spill (Sta 190+30) to Beaver Creek (Sta 451+00). Users on the E-14 lateral near Beaver Creek would be served by extending the lateral to the end of pipe at Beaver Creek or to the E-13 lateral. The trestle at Beaver Creek would be abandoned.

East Canal system laterals (with the possible exception of E-1) will be evaluated and replaced and relocated as needed as part of this project.

In response to potential funding limitations to fully implement Alternative 5 for the East Canal, potential piping and well conversion modifications are being considered by MVID. Piping could instead (or in addition) start at the canal diversion and proceed down-canal to Barkley Spill (or beyond depending on available funding).

Spills and Terminuses: There will be a main spill and two terminuses of the pipe system. The first is an irrigation drain on the Methow Valley Irrigation District west canal which will go into existing Beaver Ponds (see Figure 2 and 3). This drain will only be operated a couple times a year for approximately 4 hours in duration to clean out the sediment from the pipe.

There is an irrigation spill from the Methow Valley Irrigation District east canal which will drain into an alcove (see Figure 3). This spill may operate more than the west canal spill because it will be turned on in case of issues in the lower portion of the ditch such as a blowout. There could be as much as 20 cfs coming out of this spill.

The MVID East Canal will terminate at Beaver Creek drain (see Figure 3). There will be a discharge pipe that will allow water to flow into the existing concrete structure, to dissipate the energy associated with the water discharge, and then seep into the ground, and which will eventually end up in Beaver Creek. There will be no disturbance in Beaver Creek. This drain again will only be operated a couple times a year for approximately 4 hours in duration to clean out the sediment from the pipe.

A new spill may be required to be constructed near Mill Hill to route excess Barkley water back to the Methow River. Currently, this water often is conveyed further downstream to the end of the East Canal. The new spill is shown on Figure 4.

MVID, TU, and Reclamation convened a 4-day Value Engineering Study of the 30% design for the MVID Project. Six (6) central ideas were identified for evaluation that could alter the project, along with 25 additional lesser modifications. The 6 main ideas were:

- Assess and possibly pressure-test the east side laterals, which could avoid their replacement.
- Eliminate service meters.
- Relocate the intake structure on the ease main pipeline, which would reduce installed piping.
- Trench pipe in the canal or pipe at the invert with minimum cover.
- Lengthen the construction season.
- Manage the project as a design-build method.

These options and lesser modifications to both the supply and conveyance systems may continue to be evaluated as design progresses. Phased implementation of design modifications may occur as this project will span several construction seasons. Depending on how the project is implemented, the project description may change in response to the ideas set forth in the Value Engineering Study. However, the overall elements (e.g. well conversions, canal to piping improvements, and removal of Twisp and Alder Creek diversions) are not expected to change.

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.

Under the proposal, the District's service area will encompass approximately 1,300 assessed acres between the communities of Twisp and Carlton in Okanogan County. The proposed groundwater well fields will be located along the Twisp River in Twisp, the Methow River in Twisp, and the Methow River near Alder Creek. The East Canal service area will extend from Twisp to one-half mile downstream of Loup Spill. The West Canal service area will extend from Twisp to one-half mile downstream of Roach Spill and from Alder Creek to the End Spill. The revised service area is shown on Figure 1.

B. ENVIRONMENTAL ELEMENTS

1. **Earth**

a. General description of the site.

Project area topography is characterized largely by flat terrain in the Methow River Valley, with some areas of rolling terrain and steep slopes.

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

The steepest slope on site is 100%. There is a wide range of slope in the project area from 0%-100%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Glaciation greatly influenced the water resources in the Methow Valley. The glaciers originally carved U-shaped valleys into the mountain's basalt. As the continental ice sheet receded, deposits of glacial till and outwash filled the valleys, providing a broad, shallow alluvial aquifer. This aquifer is very permeable allowing water to flow underground as groundwater, and in rivers and streams as surface water. The sediments of glacial till and outwash have since been reworked along major streams and tributaries resulting in coarsely textured and permeable soils. Konrad et al. (2003) further discusses the geology and hydrogeological interpretation for the Methow Basin. Most soils are gravelly sandy loams or stoney fine sandy loams. (BPA 2004)

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Sections of the existing canals are located on steep slopes subject to erosion. These areas include the East Canal at and above Twisp, and the West Canal between the intake and Twisp. One

purpose of the project is to improve the reliability of the water system by abandoning canal sections in areas that have unstable slopes and reducing canal seepage in other areas, thereby reducing the risk of canal washout.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Grading and/or filling will be required in converting sections of open canals and laterals to enclosed pipe. Several thousand cubic yards of material grade/fill is anticipated and would trigger County SEPA input. Reclamation is currently refining the overall grading and fill for the project from the several thousand cubic yard estimate. The final design will determine these quantities, which are heavily influenced by the decision for the East Canal to retain Alternative 5 (a portion of East Canal converted to pipe and retain upper canal) or move to Alternative 4 (move completely to wells and decommission East Canal in its entirety).

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Limited erosion could occur as a result of filling and grading during construction. However, the project area is fairly arid (15 to 20 inches annual precipitation) and rainfall is light, limiting the potential for erosion. Most areas subject to construction disturbance are flat, and activities will be limited to backfilling the pipe within the existing canal depression. Best Management Practices (BMPs) that minimize erosion impacts will be employed.

g.About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Minimal impervious surfaces associated with the wells (roof, concrete pad) are anticipated, in addition to potential storage tanks. New impervious surface quantity is likely on the order of several hundred square feet.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Based on preconsultation with Ecology, the project is anticipated to be covered under Ecology's Construction Stormwater General Permit. Compliance with the permit requirements will include development and implementation of a Stormwater Pollution Prevention Plan, water quality monitoring as applicable, and use of established BMPs to implement temporary erosion and sedimentation control (TESC) measures for construction activities. Final site stabilization will be achieved to fulfill the stormwater permit requirements.

The end of the MVID West ditch will spill into beaver ponds twice at the beginning of the season to remove sediment build up from the pipe, and once at the end of the season to prevent freezing. The end of the MVID East ditch will spill into Beaver Creek twice at the beginning of the season

to remove sediment build up from the pipe, and once at the end of the season to prevent freezing. Drains will include erosion prevention control measures.

a. **Air**

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Temporary automobile and dust emissions would occur during construction. No long-term emissions are expected.

b. **Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Dust abatement during construction is expected (e.g. spray water control of roads and staging areas).

3. **Water**

a. Surface:

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.

The MVID is located in the Methow Subbasin of the Okanogan Highland physiographic providence in north central Washington State. The subbasin is entirely within Okanogan County and includes the towns of Twisp, Winthrop, Methow, Pateros, and Carlton. The Methow River Valley drains approximately 1,772 square miles of the eastern slopes of the Cascade Range and joins with the Columbia River at Pateros, Washington. The Twisp River is a primary tributary to the Methow River; their confluence is at the Town of Twisp. The legal descriptions of the East Canal, West Canal, and Alder Creek diversions are as follows.

- East Diversion, Methow River, T. 34 N., R. 22 E.W.M., Section 30 (SW ¼, NW ¼)
- West Diversion, Twisp River, T. 33 N., R. 21 E.W.M., Section 10 (SW ¼, SE ¼)
- Alder Creek Diversion, Alder Creek, T. 32 N., R. 22 E.W.M., Section 3 (NE ¼, NW ¼)

The Twisp River, Methow River, and Alder Creek are perennial surface water bodies. Wetland and riparian areas occur in the floodplain of these streams. Tributaries to the Methow River in the reach between Twisp and Carlton include Beaver, Benson, Canyon, Texas, and Alder Creeks. MVID maintains a diversion on Alder Creek, Twisp River, and Methow River. Wetland and riparian vegetation is present within and along both the East and West Canals and is sustained in part by leakage from the canals. Beaver ponds are present near the east and west canals. Wetland maps

and analyses of wetlands are contained in the June 1996 Methow Valley Irrigation District Water Supply Facility Plan.

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.

Alternative 5 will include conversion of the majority of West Canal users and users at the downstream end of the East Canal to individual groundwater wells. West Canal users in and near the Town of Twisp would be served through a smaller pressurized pipe system supplied from a groundwater well. Most of the MVID East Canal system would be replaced with a gravity-fed pipe system. The two different options for Lateral E1 users include 1) most users would be served irrigation water through the Town of Twisp potable water distribution system or 2) through a new lateral system supplied by a groundwater well or connection to the East Canal pipeline. The Twisp River and Alder Creek diversions will be decommissioned. Design plans are underway by Reclamation and are subject to final decisions regarding the level of well conversions.

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.

No filling or dredging of wetlands is anticipated. Fill will be placed in the existing canals adjacent to the Twisp and Methow Rivers at the West Canal intake. Areas to be filled are artificial canals and are not subject to jurisdiction by the U.S. Army Corps of Engineers.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

There will be no new net surface water withdrawals or diversions. MVID will abandon the West Canal and Alder Creek diversions. Removal or modification of the Twisp River diversion is anticipated to be completed, under a separate proposal managed by the MSRF between 2016 and 2018. SEPA review for these actions may be completed under separate applications if necessary. Members formerly served by these diversions will be served by groundwater wells ultimately diverting less water (with the balance conveyed to the State Trust Water Program). MVID East will continue use of their existing diversion with any water savings from well conversions / piping not used by MVID Members being conveyed to the State Trust Water Program.

The water right permitting approach for the project contains a new surface water application for the East Canal and groundwater application for the East and West Canals, that will be offset by trust water quantities transferred to the MVID Water Bank (e.g. RCW 90.42) from MVID's Twisp River, Methow River, and Alder Creek water rights. The purpose of the trust water right applications is to create a water bank for the two new water right applications. The elements of the MVID Water Bank is summarized by the combined public notice for the 3 trust water change

applications and two new permit applications (see Appendix A). The following summarize the potential impacts and benefits associated with the MVID Water Bank:

- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in the Twisp River of approximately 11 cfs from the historic point of diversion downstream. The wells supplying the new north end system for the west canal may decrease this water savings near the confluence of the Twisp and Methow Rivers.
- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in Alder Creek of 2 cfs. MVID will eliminate diversions on Alder Creek.
- Approved trust water rights and new permits from the MVID Water Bank may result in an increase in flow from the confluence of the Twisp and Methow Rivers to the end of the MVID canal system spill locations on the east and west sides, due to irrigation efficiency benefits. The Methow River flow benefit to the environment is a function of the final design, MVID and individual member choices about what land will be returned to irrigation, how to deal with Barkley inflow, and other factors.
- Approved trust water rights and new permits from the MVID Water Bank may increase or decrease flows in the roughly 4 miles of the Methow River above the confluence with the Twisp River to the East Canal diversion location. Flow may decrease because some East Canal users will be converted to wells and there will be irrigation efficiency improvements. Flows may decrease, because some consumptive use savings from the west canal may be transferred to MVID members on the east side. Until design and full coordination is realized, a final water balance is only estimated.
- Approved trust water rights and new permits from the MVID Water Bank will allow removal of diversions on Twisp and Alder Creek, which will eliminate the annual in-river push-up dam construction that occurs through the irrigation season, and cessation of end-of-year fish trapping on the west side. Note, currently WDFW helps MVID move out any fish that are in the area of the diversion/fish bypass before the fish screen, so they don't get dewatered.
- Approved trust water rights and new permits from the MVID Water Bank may shift the season of impacts of irrigation diversions on the Methow Rivers. Historically, surface diversions from the East and West Canal created instantaneous impacts on surface water. By shifting some of this demand to groundwater, there will be a lag of impacts for weeks or longer depending on well construction, well proximity to the river, and subsurface conditions. For example, Ecology has preliminarily estimated that for some of the wells proposed to be constructed, 90% of pumping impacts on the Methow River will have been eliminated approximately 3 weeks after the end of the irrigation season. Some wells may recover faster or take longer depending on the factors described above (Ecology, Dixon, 2014). An equal or greater amount (based on irrigation efficiency) will benefit the river during the spring and summer due to the pumping lag.
- Approved trust water right and new permits from the MVID Water Bank will increase groundwater withdrawals and could create local well interference. Drawdown modeling by Ecology (Ecology, Dixon, 2014), based on actual pump tests, indicate that the water level

declines associated with any single withdrawal are expected to be less than 6 feet at a distance of 10 feet from the pumping well and less than 3 feet at a distance of 250 feet from the pumping well. Cited pump tests results indicate that aquifer drawdown at distances of 250 feet or greater from a pumping well will likely be less than 0.5 feet. Basin-wide drawdown of a conservatively modeled aquifer as a result of the proposed project was estimated to be 4.4 feet. However, it is expected, based on the actual physical parameters of the aquifer, that the drawdown within the project area would likely be less. Based on the analysis presented above, any groundwater drawdown that might occur as a result of the permitting action is not expected to interfere with the ability of nearby well owners to fully utilize their well(s).

- Approved trust water rights and new permits from the MVID Water Bank will reduce groundwater recharge of the Methow River from previous canal seepage. There will be no net decrease in seepage. Rather the water won't be diverted and will instead remain instream. The USGS Report (Konrad, 2005) "Hydrogeology of the Unconsolidated Sediments, Water Quality, and Ground-Water/Surface-Water Exchanges in the Methow River Basin, Okanogan County, Washington," examined the flow of water between rivers and aquifers in the Methow River Basin. The report identified groundwater discharges to the Methow and Twisp Rivers and aquifer recharge by the Methow and Twisp Rivers. The report evaluated seepage from unlined irrigation canals and found them to be a source of recharge to the unconsolidated aquifer during the late spring and summer. Seepage from 13 unlined irrigation canals in the study, including MVID's canals, "would represent about 9 percent of annual non-fluvial ground-water recharge in the basin as simulated by the model for water years 1992-2001." Converting a portion of the MVID West and East Canals to wells and piped conveyances will reduce groundwater contributions by a small amount.

Ecology's waste order allows 11 cfs and 2,716 acre-feet to be diverted from the Twisp River, with an overall canal efficiency of 56% (e.g. 56 out of every 100 gallons reaches the farm). Therefore, the total groundwater contribution from seepage on the West Canal is 44% of 2,716 acre-feet, or approximately 1,195 acre-feet. For a 183 day irrigation season, this represents an average groundwater contribution of 3.3 cfs (1,481 gpm). Some groundwater seepage will continue under the new piping system on the west side (e.g. Department of Health acceptable leakage standards for municipal systems is 10% or less).

The decrease in groundwater seepage from improvements on the East Canal will depend upon the total well conversions. The East Canal also receives contributions from Barkley Canal spill, and serves Barkley lands. MVID is aware of a potential improvement project for the Barkley Canal that could improve that system, which could in turn affect the quantity of spill and service currently supplies by the East Canal, but no project has been formally acted on by the Barkley Canal directors or has been funded to date. Based on these uncertainties, the total decrease in groundwater seepage cannot be directly estimated. Ecology's waste order limits a combined MVID and Barkley East Canal service of 4,909 acre-feet for 838 acres (combined). At 4 acre-feet/acre on-farm duty, the on-farm total is 3,352 acre-feet, with 1,557 acre-feet remaining for canal losses. This quantity could represent the total diminishment of groundwater seepage from the canals if the entire east canal were converted to wells. If a portion remains piped and in existing canal, per Alternative 5, this quantity would be less. All groundwater seepage losses are offset at the

Twisp and Methow Rivers by a commensurate increase in instream flow that would not be diverted.

- Approximately 124 acre-feet of consumptive use from MVID irrigation supplies designated for use within the Town of Twisp by 2001 Change Application CS4-WRC003935 will be converted to year-round municipal use. This shift creates benefit to instream flows in the Methow River (from withdrawals from Town of Twisp wells) in the summer of approximately 0.20 cfs (mid-May to mid-August), and a decrease in instream flows in the Methow River in the winter of approximately 0.05 cfs (January to mid-May and mid-August to December), see Figure 5. Anchor QEA evaluated the overall project benefits compared to conversion of up to 138 acre-feet of consumptive seasonal irrigation to year-round municipal use (Anchor QEA, 2014). Using an IFIM method and a point-based model, they concluded that even when considering streamflow impacts associated with winter diversions associated with season of use change, and groundwater attenuation from previous surface diversions, the project has overwhelming instream flow and habitat benefits for critical life stages of fish.

  The proposed permit assigned by MVID to Twisp would include requirements to not increase consumptive use beyond the approximately 124 acre-feet of consumptive use purchased by Twisp. This would include a requirement that any wastewater returned to the Methow River from Twisp's municipal wastewater treatment plant under this permit not be diverted or reclaimed for a new use. A new permit issued to Twisp would include provisions to track and enforce the consumptive use limit to ensure that water that is expected to remain or return to the river in perpetuity can be verified.

The Report of Examinations (ROEs) that will be prepared by Ecology for the new water right applications will analyze surface water effects, including whether or not proposed wells are in hydraulic continuity with the Methow or Twisp Rivers, the extent of groundwater attenuation of historic irrigation diversions, and impacts on the State instream flow rule and private water rights.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Some of the construction actions will occur within the 100-year floodplain, including potential lateral reconfiguration, and some parcels that will receive wells. Structures will be designed in accordance with County flood hazard regulations. The general location of the well fields are shown on Figure 1.

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.

Yes. The portion of the MVID water right converted to Twisp year-round municipal use will be served by the municipal wastewater treatment system (surface discharge). Discharges will be pursuant to the Town's NPDES permit.

b. Ground:

1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

Yes. Groundwater will be withdrawn from the reconfigured west-side pressurized system managed by MVID, and from private well owners on the east and west side that are no longer served by MVID. Under the MVID Water Bank, MVID will assign portions of its groundwater permit to excluded members. The MVID Water Bank will operate on consumptive use equivalents, so there will not be an increase in water use (groundwater or surface water). A summary of Groundwater Application G4-33098 is provided in Appendix A.

Project Details:

West Canal Improvements

Replacement of canal system from Station 161+00 to Station 329+05 with a smaller pressurized pipe system supplied through a groundwater production well near the Methow River. Canal users upstream of 161+00 and downstream 329+05 would be converted to individual well systems (MVID Alternatives Evaluation Report, Anchor QEA, August 2013).

A Test Well was drilled on September 26-27, 2013. Aquifer testing was conducted between October 30 and November 1, 2013. The Test Well was completed to 66 feet and was pumped at an average rate of 512 gpm with 7.59 feet of drawdown. Water levels were recorded for the Test Well and in four observation wells (Town of Twisp #3 Well, the Schulz Well, the Simms Well, Hollbrook Well).

Results of the Test Well analysis showed the Methow River acts as a no-flow boundary between the north-west side wells and the south-east side wells. Further, there was minimal drawdown in the three wells on the same side of the river as the Test Well and drawdowns do not extend across the river to the Town of Twisp #3 Well. The findings conclude with 10 days of pumping the yield from the Test Well will be coming more from the River than from Storage in areas under high hydraulic conductivity conditions. In areas under low hydraulic conductivity conditions, it is after 30 days of pumping the yield from the Test Well will be coming more from the Methow River than from Storage.

East Canal Improvements

Some East Canal piping improvements will affect groundwater by reducing the magnitude of canal seepage. Under Alternative 5, this project may include the installation of pipeline to replace the MVID East Canal from Station 193+00, approximately 2,400 feet upstream of the Mill Spill, to the Beaver Creek Spill at Station 453+00. The system would be supplied by gravity through an inlet structure constructed in the existing East Canal. The

pipeline would operate full under pressure by closing a valve at the downstream end and maintaining submergence at the inlet. Approximately eight water users that are currently served from the MVID East Canal downstream of Lateral E14 would be converted to individual wells (MVID Alternatives Evaluation Report, Anchor QEA, August 2013).

The following summarize the potential groundwater impacts and benefits associated with the MVID Water Bank:

- Removal of leaky canal structures for water delivery – Eliminating portions of the canal will result in a potential decrease of groundwater contributions from a leaky canal.
- Converting surface supply to groundwater – Groundwater withdrawals will increase in proportion to the consumptive use issued from the MVID Water Bank that was formerly diverted from the Twisp and Methow Rivers. Groundwater impacts are concentrated in the area of the former west canal (greatest number of users converted).
- In the reach of the Methow River below the confluence with the Twisp River to the end of the canals, there is currently a net increase in groundwater flow to the Methow River. Following reconfiguration of the system, the Methow River will likely supply water to shallow groundwater, which will be offset by trust water conveyances from the MVID Water Bank. While the magnitude on a consumptive basis is expected to be offset one-for-one, the exact timing of the discharge-recharge relationship cannot be predicted. In general, it is expected that there will be a shift on the order of several weeks to later in the season (e.g. October, November) for the majority of the impacts (e.g. on the order of 90%), with some continuing small impacts (e.g. less than 10%) persisting for a longer duration.
- In the vicinity of Alder Creek, there is likely a net increase in groundwater recharge as the 2 cfs Alder Creek water right is left instream instead of being diverted.
- There is the potential for some well interference if wells are not sited property. Ecology is expected to specify controls/setbacks to minimize interference potential when issuing the new groundwater permit from the MVID Water Bank.

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.

No waste material is anticipated to be discharged to groundwater. The portion of the MVID water right transferred to Twisp year-round municipal use will be served by the municipal wastewater treatment system (surface discharge). As new houses are constructed, there will be a proportionate increase in wastewater discharge under Twisp's NDPES permit.

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.**

The Methow Valley Irrigation District Instream Flow Improvement Project will result in minimal increase in impervious surfaces (production well roofs and concrete pads, and pressure tank(s)) and no runoff. Standard construction techniques will be used to control stormwater during project implementation.

Approximately 124.2 acre-feet of consumptive use water will be transferred for municipal use in the Town of Twisp, which will result in new home construction. No specific subdivisions or development plans are proposed as part of this Project. Any new development would be subject to Town development regulations, which include BMPs for stormwater control.

Water draining from the reconfigured canal and piping system is described in the project description. Water quality will be materially the same as current spills of canal water back into the Twisp and Methow Rivers, but may include surface infiltration, discharge to Beaver Creek, and discharge to Beaver Ponds. No adverse change in water quality is expected as a result of the proposed project, although lack of exposure to the sun and air temperature from an open canal (as opposed to a pipe) may result in a beneficial temperature reduction.

2) **Could waste materials enter ground or surface waters? If so, generally describe.**

No unregulated discharge of waste materials to ground or surface water will occur. Twisp has an approved NPDES permit and will continue to maintain required levels of treatment for any portion of irrigation water converted to municipal supply.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Groundwater impacts will be mitigated by surface water trust holdings, and by adequate setbacks for wells to minimize interference.

4. **Plants**

The BPA 2004 Final Environmental Assessment (BPA 2004) documented wetland, shrub step vegetation occurring in the project area.

The Okanogan Highlands Province is characterized by moderate slopes, broad rounded summits, and broad river valleys (Franklin and Dyrness, 1988), and the primary natural plant community consists of high desert steppe. This association is characterized by bunchgrasses and threetip sagebrush. The steppe is arid to semiarid, with low precipitation, warm-to-hot summers, and relatively cold winters.

The project landscape is largely confined to the valley bottoms, and lies adjacent to the Methow and Twisp Rivers. The Methow Valley is predominantly agricultural bottomland and upland steppe. Most of the valley bottom vegetation communities are croplands that grow hay, alfalfa, wheat, peas or orchards. Steppe communities are located upslope of the existing canals where native vegetation is relatively undisturbed. Dominant vegetation along the canals consists of both

species that are drought-tolerant and those that tolerate both moist and dry conditions. The habitat at the East diversion and fish screen site shows evidence of past disturbance. Small rocks and bare ground without vegetation represent an estimated 35 percent of the surface. The West diversion and fish screen site is well vegetated along the canal banks and in the immediate vicinity of the existing screens. Some plant species observed during an October 28, 2003 site visit included the following:

East Site

Red alder	Box Elder
Bitterbrush	Phacelia sp.
Horsetail	Bulbous bluegrass
Mannagrass	Calamagrostis sp

West Site

Willow sp.	Mannagrass
Snowberry	Horsetail
Birch (dark)	Orchardgrass
Goldenrod	Rose sp.
Bitterbrush	Bentgrass

Riparian zones are areas that are located adjacent to aquatic systems with flowing water and that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other. Some portions of the canals resemble natural riparian characteristics because water is contained within them during the irrigation season and other parts of the year, as well. A 1996 survey of riparian vegetation along the canals conducted for the MVID Water Supply Facility Plan identified hydrophytic, facultative, and drought-tolerant species (Parametrix, 1995, in MWG, 1996). Most of the riparian areas within or next to the canals contain relatively low species richness and a predictable list of species.

More recently an independent vegetation survey was completed and is summarized in the MVID Vegetation Consumptive Water Use Survey (Gregg 2013). The crew surveyed canal and vegetation widths every 1,000 feet from Station 200+00 to Station 400+00 on the MVID East Canal and from Station 0+00 to 160+00 on the MVID West Canal. The crew also characterized vegetation by type as deciduous, conifer, or shrub/grass. The density of each type of vegetation was characterized as low (0 to 50 percent of total cover), medium (50 to 80 percent of total cover), and high (80 to 100 percent of total cover). Vegetation was characterized along the East Canal from Station 197+00 to Station 491+00 (upstream of the Mill Spill to downstream of the Beaver Spill) and along the West Canal from Station 0+00 to Station 674+00 (diversion at Twisp River to the end of the canal).

b. What kind and amount of vegetation will be removed or altered?

Minor vegetation consisting primarily of grasses will be cleared at the pump station and/or wells, storage tanks, and pipeline. Tree and shrub mortality along the piped canal section of the West and East Canals is anticipated as a direct impact of construction. In addition, mortality of established trees and shrubs in areas down gradient of abandoned canals is expected. The total removed/altered vegetation is estimated to be approximately 85 acres. This estimate was developed by Anchor QEA based on existing vegetation survey data (Anchor QEA, 2013). Anchor determined that approximately 63 acres of vegetation would be removed or no longer receive subsurface irrigation from the West Canal system, and a corresponding 22 acres from the East Canal system. Canal fill areas may provide area for additional plant growth.

Some of the riparian areas that have developed along the open canals are likely to revert to drier upland conditions following conversion. Where supplemental irrigation is not provided by private landowners, species such as black cottonwood (*Populus trichocarpa*), quaking aspen (*P. tremuloides*), and red-osier dogwood (*Cornus stolonifera*) will die over time and be replaced by native upland species such as big sagebrush (*Artemesia tridentate*) and bluebunch wheatgrass (*Agropyron spicatum*).

The proposed changes to the MVID canal system will result in a loss of riparian vegetation, ponds and marshes along the MVID east and west canals. These riparian vegetation, ponds, and marshes are primarily supported by canal seepage, and are quantified in the Anchor QEA analysis (2013). These losses will result from reduced diversions from the Twisp and Methow River diversion structures, converting portions of the west and east canals to a closed pipe system, and moving some water users from surface diversions to groundwater diversions. However, increased instream flows are expected to at least partially offset these losses by improving riparian and vegetation conditions along the natural river and creek corridors.

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

The BPA 2004 Final Environmental Assessment (BPA 2004) documented that although one ESA-listed plant, Ute ladies' tresses, is potentially found in the area, this species was not found in the area during two separate botanical surveys. Chapter 5.2 of the 2004 EA has a detailed discussion on ESA consultation for this and other listed species. No additional species listings have occurred since that time.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Native grass species will be reseeded along the backfilled canal and any areas used for temporary construction staging.

5. **Animals**

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Common	Name
mule deer	songbirds
white tail deer	pileated woodpecker
coyote	amphibians
squirrels	bald eagle
common loon	golden eagle
mallard	osprey
Canada geese	red tailed hawk
great blue heron	Northern Spotted Owl

red winged blackbird	gray wolf
grizzly bear	Canada lynx
black bear	wolverines
brown bear	moose
spring Chinook salmon	Coho salmon
summer steelhead	summer Chinook salmon
bull trout	lamprey

b. List any threatened or endangered species known to be on or near the site.

Common Name	Federal Status
spring Chinook salmon	Endangered
summer steelhead	Endangered
bull trout	Threatened
Coho salmon	Unlisted
summer Chinook salmon	Unlisted
northern spotted owl	Threatened
gray wolf	Threatened
Grizzly bear	Threatened
Canada lynx	Threatened

c. Is the site part of a migration route? If so, explain.

Deer migrate through the project area. Anadromous fish are present in the Twisp and Methow Rivers. All anadromous fish life stages migrate to some degree in the fluvial environment. Bald eagle are known to use the Methow River as a primary migratory flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

The project is intended to preserve or enhance wildlife as follows:

- Improve instream flow in the flow–impaired lower 4.5 miles of Twisp River by adding approximately 11 cfs.
- Contribute towards salmonid recovery by eliminating impacts to ESA-listed fish species and reduce habitat impacts at MVID's Twisp River Point of Diversion.
- Eliminate fish impacts associated with MVID's annual actions required to maintain the Twisp River pushup dam, fish screen operations, and the stranding of redds (fish egg placement and incubation sites) and juvenile fish in the MVID.
- Allow for the future removal of the West Canal intake and fish return channel.
- Eliminate the low-flow fish passage barrier associated with annual maintenance of the MVID West pushup dam. Improvements provide access for fish to their spawning and rearing grounds upstream of the diversion.
- Allow for the future removal of the Alder Creek diversion and improve flow in Alder Creek. Lower Alder Creek is juvenile fish rearing habitat.

This project will increase instream flows in the Twisp River. Flow improvements will benefit all aquatic species, but particularly the federal listed ESA Upper Columbia River Spring Chinook and the Upper Columbia River Steelhead.

As identified by the Yakama Nation's stream reach assessment for the Lower Twisp River Basin, both low instream flow and water temperatures are contributing factors to a degraded fish habitat. During the time frame of 07/01 to 10/15 is the most critical for adult migration and spawning of ESA species. Degraded fish habitat and an increase in barriers are caused by instream flow reductions. A major reason for the reduction in instream flow along the lower Twisp River is diversion by MVID. This project proposes to work with the MVID to reduce their diversion, thus improving fish passage and habitat.

Portions of the Twisp River are on Washington State's 303(d) list for both temperature and instream flow. The Yakama Nation's stream reach assessment for the Lower Twisp River Basin identifies a restoration objective of using practical and feasible means to increase instream flows in the Twisp River. This objective was identified in effort to prevent further habitat degradation and improve existing habitat. Enhancing low base flows during summer months will help improve water temperature barriers that currently impact fish migration.

6. **Energy and natural resources**

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.**

Well pumps and/or surface pump stations including booster pump stations will use electrical power.

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:**

Variable frequency drive pumps/motors are being considered for production wells as part of the project.

7. **Environmental health**

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.

None are anticipated.

1) Describe special emergency services that might be required.

None required by the project. However, during construction, in the unlikely event of an accident, local emergency services would be used.

2) Proposed measures to reduce or control environmental health hazards, if any:

No environmental health hazards are anticipated.

b. **Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None anticipated.

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.

Impacts from temporary noise related to construction activities may occur from dawn to dusk approximately 12 hours per day. Pumps and/or wells will create minor noise upon project completion.

3) Proposed measures to reduce or control noise impacts, if any:

Temporary construction noise will be mitigated by limiting activity to standard working days and hours. Noise associated with pumps and/or wells will be mitigated by placing them in a station structure at the discretion of individual land owners.

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties?

The current use of most of the site and adjacent properties is agriculture, residential, and commercial. In addition a variety of recreational activities take place nearby.

b. Has the site been used for agriculture? If so, describe.

Yes, a majority of the site has been and will continue to be in agriculture use. This project is to improve the irrigation system of an irrigation district that serves water to its Members. The majority of the crops are irrigated pasture, grass hay, and alfalfa with some in orchard.

c. Describe any structures on the site.

Throughout the length of both MVID West and MVID East there are numerous structures. The MVID East and West system includes structures for diversion and control of flow, fish screen facilities and various gates flumes and control structures required for conveyance of flows. Structural improvements will be impacted on both the East and West systems. The ditch construction will take place within the existing easements and landowner approved areas. There are no structures on the site where the new MVID West production wells will be installed. This site is 300 feet south of the Hanks Grocery store and more than 400 feet west of the closest residence. Individual land owners will site wells on their properties near power supplies and structures at their discretion.

d. Will any structures be demolished? If so, what?

Various aspects of the surface conveyance canals and controls will be abandoned and or obliterated by this project. Other aspects of the East and West diversion and delivery systems may require future work efforts to reduce or mitigate impacts associated with abandonment. For example, the West Canal diversion is expected to be addressed under a subsequent project by MSRF. Alder Creek's diversion may also be removed under a separate project.

e. What is the current zoning classification of the site?

Most of the MVID system is located in unincorporated Okanogan County in either the Methow Valley Review District's Uplands zoning district (20-acre minimum lot size) or the MVRD 5 zone (5-acre minimum lot size). The well location for MVID West is located within the Town of Twisp in the zoning district R3 Residential. A portion of the delivery system (E-1) lateral is located within the Town of Twisp

f. What is the current comprehensive plan designation of the site?

Lands within the District fall within the Intensive Agricultural, Unclassified, and Urban Comprehensive Plan designations.

g. If applicable, what is the current shoreline master program designation of the site?

The Methow River is designated in the Master Program for Okanogan County Shoreline Management (Shoreline Master Program) as Rural Environment.

i. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Okanogan County adopted critical area regulations under the State's Growth Management Act of 1990, as amended, to protect wetlands, areas with critical recharging effects on potable water, frequently flooded areas, geologically hazardous areas and fish and wildlife habitat conservation areas. The existing and proposed MVID facilities are located in some of these areas. Ecology and MVID will continue to coordinate the proposed actions with the county planning department to specifically address any concerns regarding zoning or conflict with critical areas.

i. Approximately how many people would reside or work in the completed project?

Existing MVID members reside in the project area, which is expected to remain the same.

The approximately 124 acre-feet of consumptive use that will be converted from seasonal irrigation to year-round municipal use will allow new house construction in Twisp over time (likely on the order of a few percent a year). The final portion of the permit assigned or issued to Twisp will depend on the final consumptive use math Ecology establishes for the MVID Water Bank. Because Twisp has a higher return flow percentage than the historic MVID irrigation use (e.g. wastewater returns, system lost water), Twisp may receive more than 138 acre-feet in their new permit based on a "consumptive use equivalents" model under the MVID Water Bank. Currently, a house in Twisp uses approximately 202 gpd/house. At that rate, approximately 4 houses can be constructed for each acre-foot of water transferred (subject to no increase in consumptive use).

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Not applicable.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project has been developed through extensive coordinating with landowners potentially impacted by the project to ensure their irrigation needs provide for continued agriculture. The wells and pump station will be located in a remote portion of a largely undeveloped parcel. The pipeline will be buried.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

New houses in Twisp is subject to the final consumptive metrics established for the MVID Water Bank. No specific houses will be constructed as part of this project. The project includes new water rights for Twisp which will create future housing opportunities within the Town's water service area.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

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

Not applicable.

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The well houses will be constructed to a height not to exceed 15 feet.

b. What views in the immediate vicinity would be altered or obstructed?

Views will potentially be altered along both the east and west canals as the seepage supported vegetation corridor dies or is removed and is slowly replaced by a lower native grass and shrub dominated assemblage

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

The majority of the project infrastructure will be buried.

11. **Light and glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The pump station and/or well house will include an outdoor light for safety of access during nighttime.

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?

Not applicable.

d. Proposed measures to reduce or control light and glare impacts, if any:

None proposed.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Twisp River supports a significant recreational fishery for rainbow, brown, and brook trout. The Twisp River drainage is the most extensively used area for recreation in the MVID project area also includes hiking, rafting, camping, mining, horseback riding, and birding.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No, increasing instream flows in the Twisp River will increase recreational opportunities.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None. There will not be significant impacts to recreation.

13. **Historic and cultural preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

Information on Tribal Rights and Traditional Uses can be found in the 1997 EA. In October 1996, BPA conducted a field investigation of the East and West canals. The possible pipeline, reservoir, and well locations for the 1997 Alternative 1 were also inspected, which generally overlap the Alternative 5 project area. Two artifacts were recorded. Although five cultural resource sites have previously been identified in the vicinity of the canal, only the Chilliwist Trail is within the project area. It is also known that unmarked Native American cemeteries are located in the area, and one known cemetery has been marked with a rock (Confederated Colville Tribal member, public meeting, 1996).

In November of 2003, a BPA archaeologist surveyed the East and West fish screen replacement proposal sites, including the fish and water bypass and electrical cable trenching areas. No cultural materials were found.

The MVID canal system has been determined to be eligible for inclusion on the National Register of Historic Places (National Register), under Criterion A (property associated with events that have made a significant contribution to the broad patterns of our history). The system has been the most significant irrigation feature in the Methow Valley. Although neglect and numerous changes in the structural materials have caused substantial deterioration, both the East and West canals are still mostly located in the original right-of-way. (BPA 2004)

In December 2013, a Methow Valley Irrigation District In-stream Flow Improvement Project Cultural Resources Survey was conducted by an archeologist with Cascadia Conservation District. The cultural resource identification consisted of a literature review and field inspections for archaeological sites and standing structures, through pedestrian survey and subsurface testing. The literature review revealed that the Methow Valley Irrigation District East and West Canals had been determined eligible for listing on the National Register of Historic Places in 1996. The current survey served to update the existing documentation on both the East and West Canals and identify additional cultural resources located within the projects proposed area of potential effect. Two additional cultural resources were identified; one historic mining shaft on the west canal and a historic debris scatter on the east canal. Both sites date to the historic period, i.e., greater than 50 years old. The mining shaft is located within a segment of the West

Canal that will be abandoned and will not be impacted by project activities. The debris scatter is located near a segment of ditch that will be piped, but is separated from proposed activities by a paved road and will not be impacted. An adverse effect to the Methow Valley Irrigation District East and West Canals has been determined, which will require additional consultation with representatives from the Department of Ecology and the Department of Archaeology and Historic Preservation.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

The East and West Canals are considered a landmark of cultural importance. In addition a few artifacts have been recorded in previous cultural resource surveys as described above.

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

The Methow Valley Irrigation District will work closely with the Washington State Department of Archeology and Historic Preservation and affected Tribes to reduce or control impacts through the cultural resource survey process. An anticipated mitigation for a portion of this project will be to leave portions of the historic ditch undisturbed through abandonment.

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The well stations will be accessed from the Twisp River Road, Twisp-Winthrop Eastside Road, Twisp Carlton Road, and/or Highway 20. Private wells will be accessed by landowners from their parcel access. Canal access and spills/drains will be accessed by MVID from established easements.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No. A limited public transportation system serves Okanogan County, WA.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Minimal parking spaces will be constructed at the pump station in accordance with the building permit for the structure.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

A gravel surfaced road accessing the wells and pump station will be constructed on private property. .

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Not applicable.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Occasional operational vehicular trips to project infrastructure and monitoring locations will occur but not on a daily basis.

g. Proposed measures to reduce or control transportation impacts, if any: Not applicable.

15. **Public services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

None are anticipated.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Not applicable.

16. **Utilities**

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Power is anticipated to be available to the property for the site of the proposed wells and/or pump stations.

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 will be required for the wells and/or pump stations.

17. **Cumulative Impacts (this section has been added for this specific proposal)**

There are other similar projects occurring nearby, they are not causally-related to this project. However, for completeness we considered the cumulative impacts associated with all these projects occurring in the same geographic area in the same time period. These include:

- Methow Basin Irrigation Efficiency Grant Program Projects. Ecology and the Conservation Commission coordinate to fund irrigation efficiency projects in the Methow Basin. The resulting water savings are trusted for instream flow. This type of project typically yields non-consumptive water savings that are protected in the primary reach of the Methow River and its tributaries via the trust water program.
- OCR Gold Creek Acquisition. Gold Creek is a key tributary of the Methow River that suffers from low instream flows. Tributaries are limited in the Methow River and are vital to the success of salmon, steelhead, and bull trout production. There are few landowners who have water rights out of this tributary. This project was a permanent acquisition that resulted in 79.08 acre feet per year (216.8 gallons per minute). This water is protected April 15th to September 15th, during the irrigation season. It can be reallocated to new uses, but is currently held in the trust water program.
- Barkley Ditch Improvements: Through various agreements and efficiencies in the system the Barkley Ditch in cooperation with Trout Unlimited (TU) has reduced the diversion quantity to approximately 19.6 cfs over the last several years. Continued improvements in this system could include improved ditch maintenance activities to reduce impacts to listed species in the Methow River mainstem and Barkley Diversion side-channel of the Methow River, further irrigation efficiency, and a potential downstream point of diversion move.
- Methow Wildlife Area (Big Valley Ranch): Through one of Trout Unlimited's NRCS Irrigation Efficiency grants the lessee on the Big Valley WDFW land was able to upgrade their irrigation system to pivots. A temporary point of diversion change was made to bring the water downstream for use; however current plans may include long-term donations of water to the trust water program.
- Chewuch/Bear Creek: This project coordinated by Trout Unlimited includes irrigation efficiency and diversion changes that could result in approximately 9.5 cfs of water savings trusted in the lower Chewuch. A DNS was issued for this project in 2012 by Okanogan County (SEPA 2012-3 Chewuch Canal Efficiency).
- WAC 173-548 Reserve Reallocation: The Methow Watershed Council is evaluating a proposal to reallocate the original reserve established in WAC 173-548 to better match reserve supply to reach-specific demands in the basin. Such a reallocation would have to occur by rule amendment.
- Twisp and Methow River Surface to Well Conversions: Trout Unlimited, Ecology and other entities continue to work on surface to well conversions in the Twisp and Methow Rivers, which help eliminate seasonal in-river construction work, fish screens, and attenuate demand over time.
- Twisp River Flood Plain Enhancement Project – The MSRF project is in the planning stages which may enhance and restore floodplain conditions within the reach segment including the MVID West diversion site.

The projects above are not directly related to the proposal herein. However, they have similar impacts and are in the same general proximity. Impacts will largely be beneficial and will include more instream flow in the Methow River and tributaries. Although as a whole the projects are

considered beneficial (and worthy of state and federal funding), some impacts do occur. For example, irrigation efficiency projects can reduce groundwater contributions to surface water, can reduce habitat in some areas, and generally result in more water available in the spring and summer, and less in the fall and winter, since groundwater return flow currently persists after the end of the irrigation season. Similarly, conversions of surface diversions to groundwater attenuate the demand hydrograph. The MVID proposal has impacts that are similar to those in the list above and are largely beneficial.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. The answers were compiled from the applicants (MVID and OCR) and a number of technical experts coordinating implementation of the project, including Trout Unlimited, Van Hees Environmental, Aspect Consulting, Forsgren Associates, and the Bureau of Reclamation. I understand that the lead agency is relying on them to make its decision.

Signature:

Date Submitted: .....

Signature: John Richardson

Date Submitted: 3/24/14

Appendix B: MVID – Twisp Purchase and Sale Agreement

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT ("Agreement") is entered into as of the 24 day of February, 2014 between the Town of Twisp, a municipal corporation ("Twisp" ") and the Methow Valley Irrigation District (MVID), a quasi-municipal corporation ("MVID""), collectively termed "The Parties".

A.
RECITALS

1. MVID has leased 400 acre-feet of water rights to Twisp since 2001 for irrigation use within the Twisp service area from four (4) Town wells. A copy of the lease ("lease") is provided in Attachment 1.
2. The 400 acre-feet quantity is authorized under two 2001 Change Reports of Examination (ROE's): CS4-SWC945 and CS4-WRC003935. Copies of these ROE's are provided in Attachment 2.
3. The combined total 400 acre-feet identified in the ROE's is the subject of a determined future development (DFD) for use within the Twisp service area.
4. The DFD is embodied in the ROE's, one authorizing 262 acre-feet (CS4-WRC003935) and the other authorizing 138 acre-feet (CS4-SWC945).
5. There is approximately 100 acres of undeveloped MVID Member land within Twisp. Upon development at 4 acre-feet / acre, this land is anticipated to require an irrigation demand of approximately 262 acre-feet (estimating 30% impervious surfaces/not irrigated).
6. Twisp has a duty to serve land within its retail service area, if possible. Twisp provides indoor water supply for all its residents and irrigation supply for residents not relying on MVID canal deliveries.
7. Based on recent engineering evaluations, undeveloped MVID Member land may be more economically served by MVID infrastructure instead of Twisp wells following redesign of the MVID system.
8. The Parties agree that designating the 262 acre-feet embodied in ROE CS4-WRC003935 to serve undeveloped MVID lands meets both Twisp and MVID service obligations and is consistent with the original DFD.
9. The Parties agree that the 138 acre-feet embodied in ROE CS4-SWC945 is surplus to the undeveloped MVID Member irrigation needs within Twisp, and shall be used for indoor and outdoor water use within Twisp consistent with the original DFD.
10. MVID and Twisp are desirous of restructuring their lease to allow for the sale contemplated herein. .
11. To facilitate, in part, MVID's ability to more effectively and economically effectuate its current redevelopment project, to facilitate the restructuring of the lease, and to more efficiently serve the Parties service areas, the Parties agree that the 138 acre-feet embodied in ROE CS4-SWC945 shall be sold to Twisp to make permanent the use of the water consistent with the original DFD.

B.
TERMS OF AGREEMENT

In consideration of the mutual covenants set forth herein, the Parties agree as follows:

1. Water Rights Retention and Sale.

MVID will retain all interest in ROE CS4-WRC003935 for service to the 262 acre-feet of supply to MVID Members within Twisp's service area.

MVID will assign ROE CS4-SWC945 to Twisp and sell 138 acre-feet to Twisp for municipal use within Twisp's service area. MVID will support Twisp in the use of the MVID Water Bank to convert this irrigation quantity to year-round municipal supply. Under the terms of the MVID Water Bank, no increase in the consumptive use of the 138 acre-feet, which is currently estimated at approximately 90%, or 124.2 acre-feet, is permissible, but a higher return flow fraction may be granted by Ecology.

If future development of service to MVID Members in Twisp's service area is less than the 262 acre-feet retained under CS4-WRC003935, MVID will assign and sell such balance to Twisp as set forth hereafter.

2. AssessmentsMVID Members will be assessed for their shares within Twisp's service area by MVID for service of the 262 acre-feet under ROE CS4-WRC003935 consistent with MVID's annual operating budget and assessments. No payment from Twisp to MVID is required for this service.

3. Purchase Price and Payment.

3.1 The purchase price for the 138 acre-feet under ROE CS4-SWC945 shall be on a per consumptive acre-foot basis. The price per consumptive acre-foot shall be $2,222.23 per acre-foot. MVID and Twisp agree that the consumptive fraction of the 138 acre-feet is 90%, or 124.2 acre-feet. The total price if all 138 acre-feet are transferred based on a 90% consumptive use fraction shall be $276,000. The total price shall be proportionately reduced if less consumptive water is determined to be eligible for transfer by Ecology or final appeal.

3.2 The Purchase Price shall be paid in full at Closing. This purchase is the subject of a Water Service Contract between Twisp and Ecology's Office of Columbia River (OCR). Payment for this purchase will be from OCR to MVID under a separate agreement. Twisp will reimburse OCR for the payment, subject to the terms of the Water Service Contract. These agreements, once executed are incorporated by reference in this Agreement and will be attached in Attachment 3.

3.3 If future development of MVID Members in Twisp's service is less than the 262 acre-feet retained by MVID under CS4-WRC003935, then MVID will assign and sell the surplus quantity to Twisp based on the same price as described for the 138 acre-feet under ROE CS4-SWC945. Such sale shall be contingent on Twisp acquiring sufficient funds for such

purchase. At such time as MVID notifies Twisp in writing of the surplus quantity available for purchase, Twisp shall notify MVID in writing within sixty (60) days of receipt of such notification of their ability to purchase such surplus. Closing shall occur within thirty (30) days of Twisp's notification to MVID of their ability to purchase, unless otherwise extended by MVID.

4. Water Right Applications and Assignments – Sale Contingencies.

This Agreement is subject to several future water right authorizations in connection with MVID's "Alternative 5" water delivery revision project incorporating instream flow enhancement requiring Ecology approval, which approvals are subject to appeal. These include trust water transfers for MVID's water rights, the creation of the MVID Water Bank via a trust water agreement between MVID and Ecology, issuance of two or more new reports of examination for MVID and MVID Member use of banked water as mitigation, and the issuance of a new water right for Twisp (or assignment of a portion of MVID's water right from the MVID Water Bank). The premises for this Agreement is that the permit necessary to effectuate implementation of the Alternative 5 redesign water delivery system incorporating instream flow enhancement will be approved and remain substantially as issued if appealed.

Once all permits and required authorizations are approved and issued as specified above, but less water is found to be available under a tentative determination of the extent and validity of MVID's water rights for the DFD totaling 400 acre-feet (262 acre-feet plus 138 acre-feet), then, subject to paragraph 2 above, quantities associated with the 262 acre-feet and 138 acre-feet shall be proportionately reduced to cover the deficit; however, a reduction other than proportionate may be mutually agreed to by the Parties.

If Twisp's new permit is not assigned by MVID or issued by Ecology, or is denied upon appeal, then Twisp and MVID agree that they will coordinate to retain authorization CS4-SWC945 under Twisp's control as a sale for 138 acre-feet of irrigation water under the financial terms herein.

The lease (Attachment 1) shall cancel at Closing, unless otherwise extended by the Parties.

5. Closing. The closing of this Agreement shall occur 30 days after Ecology has issued MVID and Twisp the permit and assignment authorizations described herein, and appeals on those water right authorizations (if filed) are resolved, and execution of a Payment Contract between OCR and MVID and a Water Service Agreement between OCR and Twisp are consummated, EXCEPT that the parties may mutually agree in writing to extend the closing date as herein provided.

At Closing, the following shall occur:

5.1. Twisp shall deliver or cause to be delivered to MVID:

5.1.1 Cash funds in the amount of the Purchase Price subject to the Payment Contract between OCR and MVID;

5.1.2 Real Estate Excise Tax Affidavit prepared for signature by the Parties;**5.1.3** Any other instruments reasonably necessary to close this Agreement, such as a closing statement.

5.2 MVID shall deliver or cause to be delivered to Twisp :

5.2.1 A copy of the Statutory Warranty Deed for water right S4-SWC945, duly executed and acknowledged by MVID, conveying the Water Right to Twisp; and

5.2.2 A copy of the Trust Water Agreement for the MVID Water Bank that governs the MVID Instream Flow Enhancement Project mitigation for the new permit issued to Twisp by Ecology or assigned by MVID;

5.2.3 Other instruments reasonably necessary to close this Agreement, such as a closing statement.

5.3 Twisp shall pay all costs associated with closing, including any assignment fees, recording fees, and real estate excise tax owing on transfer of the water rights, which are anticipated to be included in the terms of the Water Service Contract between OCR and Twisp.

6. Cooperation under Agreement.

6.1 MVID recognizes that Twisp will be purchasing the water rights with the intent and expectation of obtaining requisite administrative approvals for a New Permit to change the place, point, purpose, and/or season of use of the irrigation water rights via the MVID Water Bank. MVID agrees to reasonably and in good faith support Twisp's efforts to obtain approval of a new permit for municipal use. MVID's agreement to cooperate includes, but is not limited to: (a) responding promptly verbally or in writing to Twisp's reasonable requests for information about the nature and history of use of the water rights; (b) assisting Twisp in obtaining declarations or other testimony, if available, that establishes MVID's beneficial use of the water rights; and (c) granting Twisp's or Twisp's agents, upon reasonable advance notice from MVID, reasonable access to the property to which the water rights are appurtenant, for the limited purpose of performing scientific or engineering analysis associated with the water rights.

7. Default; Remedies.

Time is of the essence of this Agreement. If Twisp fails to perform any of its obligations hereunder either prior to or at Closing without legal excuse, MVID shall be entitled to recover damages for such breach by Twisp in an amount not to exceed the actual costs incurred by MVID in connection with this Agreement and this Agreement shall be terminated and of no further force or effect. If MVID fails to perform any of its obligations hereunder either prior to or at Closing without legal excuse, then Twisp's remedy for such breach by MVID, shall be limited to the remedy of specific performance.

8. Twisp's Representations and Warranties. Twisp hereby makes the following representations and warranties to MVID, which shall be deemed also made as of the Closing:

All requisite action has been taken by Twisp in connection with entering into this Agreement, the instruments referenced herein, and the consummation of the transaction contemplated hereby. Twisp has the right, power and authority to execute, deliver and perform this Agreement without obtaining any consents or approvals from, or the taking of any other actions with respect to, any third parties. This Agreement, when executed and delivered by the Parties, and all documents executed by Twisp pursuant hereto, will constitute the valid and binding agreement of the Parties.

The persons executing this Agreement and the documents contemplated hereby on behalf of Twisp have the power and authority to bind Twisp..

9. MVID's Representations and Warranties. MVID hereby makes the following representations and warranties to Twisp, which shall be deemed also made as of the Closing:

Except as set forth in this Agreement, MVID has not sold, transferred, encumbered, or entered a contract for sale of, the water rights described herein.

MVID will track development and use of the 262 acre-feet by MVID Members consistent with the development schedule required by Ecology and will report such progress to Twisp on a time period every 5 years, coordinated with Twisp water system planning requirements.

10. Notices All notices provided for or permitted to be given under this Agreement must be in writing and may be served by depositing same in the United States mail, addressed to the party to be notified, postage prepaid and registered or certified with return receipt requested, or by delivering the same in person to such party. Notice given in accordance herewith shall be effective upon receipt. For purposes of notice, the addresses of the parties shall be as follows:

If to Seller, to:	MVID Clerk / Treasurer Bunny Morgan P.O. Box 860, Twisp, WA 98856
If to Buyer, to:	Town Mayor Soo Ing-Moody P.O. Box 278 118 S. Glover Street, Twisp, WA 98856

11. Governing Law This Agreement shall be governed and construed in accordance with the laws of the State of Washington.

12. Entire Agreement This Agreement is the entire agreement between MVID and Twisp concerning the sale of the water rights and supersedes all prior term sheets,

letters of intent, agreements or understandings, written or oral, signed or unsigned concerning sale of the water rights.. No modification hereof or subsequent agreement relative to the subject matter hereof shall be binding on either party unless reduced to writing and signed by the Parties..

13. Severability The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision hereof.

14. Costs and Expenses Except as provided herein, each party hereto will bear its own costs and expenses in connection with the negotiation, preparation and execution of this Agreement and other documentation related hereto and in the performance of its duties hereunder.

In the event of an appeal on the MVID Permit, or that portion issued to or assigned to Twisp, each party may rely on the State Attorney General to defend the appeal on Ecology's decision, or may appeal or intervene with their own legal counsel and consultants. MVID shall not be required to appeal or intervene on an issue that solely affects Twisp interests; Twisp shall not be required to appeal or intervene on an issue that solely affects MVID interests.

15. Further Documentation The Parties agree to execute, acknowledge, and deliver upon request by the other party any document which the requesting party reasonably deems necessary or desirable to evidence or effectuate the rights herein conferred or to implement or consummate the purposes and intents hereof, so long as such imposes no different or greater burden upon such party than is otherwise imposed hereunder.

16. Headings The headings in this Agreement are for convenience only and do not in any way limit or affect the terms and provisions hereof.

17. Calculation of Time Periods Unless otherwise specified, in computing any period of time described in this Agreement, "days" means calendar days, and the day of the act or event after which the designated period of time begins to run is not to be included and the last day of the period so computed is to be included, unless such last day is a Saturday, Sunday or legal holiday. The final day of any such period shall be deemed to end at 5 p.m., Pacific Standard or Daylight time, as applicable.

18. WaiverA party may, at any time or times, at its election, waive any of the conditions to its obligations hereunder, but any such waiver shall be effective only if contained in a writing signed by such party. No waiver shall reduce the rights and remedies of such party by reason of any breach of any other party. No waiver by any party of any breach hereunder shall be deemed a waiver of any other or subsequent breach.

19. Attorneys' Fees In any suit, action, or proceeding, or any appeal therefrom, to enforce this Agreement or any term or provision hereof, or to interpret this Agreement, the prevailing party shall be entitled to recover its costs incurred therein, including reasonable attorneys' fees.

20. Counterparts This Agreement may be executed in multiple counterparts, all of which together shall constitute one agreement.

21. Attachments. Attachments referenced herein and attached hereto, are incorporated herein by this reference for all purposes.

EXECUTED in duplicate original as of the date and year first above written.

Twisp:

Soo Ing-Moody, Mayor

Attest:

Jackie Moriarty 2/25/14

MVID:

John Richardson Vice President

Greg Nordang, Chairman

Appendix C: Trust Water Right Agreement

Trust Water Right Agreement

This Trust Water Right Agreement (the "Agreement") is made and effective as of the 14 day of August, 2014, by and between the Washington State Department of Ecology, State Trust Water Right Program ("Ecology") and the Methow Valley Irrigation District, a quasi municipal Corporation, ("MVID").

Whereas, Ecology is the trustee of the State Trust Water Rights Program as authorized under Chapter 90.42 RCW (the "Trust Water Rights Program"); and

Whereas, MVID is the owner of certain water rights in the Methow River Basin as more particularly described and quantified in Exhibit A (the "Water") and presently appurtenant to the land legally described in Exhibit B (the "Land"), each such exhibit being attached hereto and incorporated herein; and

Whereas, MVID submitted three Water Right Change Applications to Ecology, Water Rights Tracking System (WRTS) File Numbers CS4-MVID@155 (Certificate SWC 945), CS4-118277CL (Claim 118277), and CS4-MVID@156 (Claim 003935) (collectively, the "Change Applications") in Exhibit A, to place these Water Rights (the "Water") into the Trust Water Rights Program for the purpose of enhancing in-stream flow and providing mitigation water to offset the permitting of new water rights to be used by MVID members for irrigation within the MVID boundaries and municipal water supply within the Town of Twisp water system service area as part of the MVID Instream Flow Improvement Project; and

Whereas, Ecology has accepted the Change Applications and is investigating the extent and validity of the Water in preparation to issue its Water Right Reports of Examination concerning the extent and validity of the Water (the "ROE's") and its trust water certificates (the "Certificates"). Following issuance of the ROE's, the Certificates will be incorporated into this Agreement and appended in Exhibit C to document Ecology's determination, including quantification of the consumptive use associated with the MVID's water rights; and

Whereas, subject to the terms of this Agreement and the Change Applications, Ecology confirms that it is willing, able and authorized to hold and manage the Water in the Trust Water Rights Program as provided for herein; and

Whereas, subject to the terms of this agreement, MVID confirms it is willing, able, and authorized to convey the Water to the Trust Water Rights Program as provided for herein; and

Whereas, MVID has submitted new "master" groundwater and surface water applications ("New Applications") to Ecology, WRTS File No's S4-33097 and G4-33098 in Exhibit D, to permit new MVID authorizations mitigated by the Water to be held in the Trust Water Rights Program. Following approval and issuance by Ecology of "New ROE's" and "New Permits" or "Other New Permits" in response to these New Applications, they

will be incorporated into this Agreement and appended in Exhibit D to document the new MVID diversionary authorization; and

Whereas, Ecology and MVID intend through this agreement to establish the MVID Water Bank; and

Whereas, the New Permits or other New Permits will be mitigated through permanent designation of such portions of MVID's beneficial interest in the Water as is reasonably required to offset the consumptive use associated with the use authorized by the New Permits and any Other New Permits to ensure there will be no impairment to the instream flows adopted in WAC 173-548, or to other senior water rights; and

Whereas, MVID may assign portions of the New Permits to its members to implement the MVID Instream Flow Improvement Project, and may also file "Other New Applications" during or following construction if unallocated water remains in the Trust Water Rights Program.

Definitions

"The Water" means the three water rights associated with Water Right Claim 003935, Water Right Claim 118277, and Surface Water Certificate 945.

"The Water Right Change Applications" means applications CS4-MVID@156 (Claim 003935), CS4-MVID@155 (Certificate SWC 945), and CS4-118277CL (Claim 118277).

"The Reports of Examination" means Ecology's Investigator's Reports and Findings of Fact and Order in response to the Water Right Change Applications.

"MVID Instream Flow Improvement Project" means Alternative 5 described in the Methow Valley Irrigation District Alternatives Report prepared by Anchor QEA as modified during design (see Attachment 1).

"The New Applications" or "New Applications" means Water Right Applications S4-33097 and G4-33098.

"The New Permits" or "New Permits" means Ecology's permit(s) issued in response to a New Application or New Applications.

"Other New Applications" means an application for a new water right filed by MVID on behalf of one or more MVID members, not including S4-33097 and G4-33098.

"Other New Permits" means Ecology's permit(s) issues in response to an "Other New Application."

"Assignment" means the process pursuant to RCW 90.03.310 for Ecology to acknowledge the change ownership from MVID to a MVID member of a portion or all of an unperfected New Permit or Other New Permit.

"Designation" means an allocation of any portion of The Water to offset the consumptive use of a new appropriation of public water requested in a New Application or Other New Application.

"Permanent Allocation to Instream Flow" means any portion of The Water committed to:

a) mitigate the consumptive impact associated with a New Permit or Other New Permit in good standing or has been superseded by a Certificate of Water Right; or,

b) be held by Ecology in the Trust Water Rights Program exclusively for instream flow improvement.

"MVID member" means the owner of land within the MVID boundaries and service area.

Now, therefore, in consideration of the forgoing, the mutual covenants and undertakings as hereinafter set forth, and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows:

1. The purpose of this Agreement and the primary reason MVID is willing to place the Water into the Trust Water Rights Program is in exchange for a fully funded and constructed "Instream Flow Improvement Project," the funding for which has been contracted between MVID and Trout Unlimited – Washington Water Project ("TU-WWP") pursuant to the contract dated August 14, 2014 and to provide a senior water right as off-setting mitigation ("MVID Water Bank") that will allow MVID members to apply for and receive new ground water withdrawal or surface water diversionary permits within the Methow River basin.

The primary purpose for Ecology to accept the Water into the Trust Water Rights Program is to provide instream flow benefit on the Twisp and Methow Rivers in exchange for grant funding of upgrades to MVID's irrigation system. Ecology's partner in implementing this project is Trout Unlimited (TU), which has negotiated an "*Agreement between Methow Valley Irrigation District and Trout Unlimited-Washington Water Project*" to facilitate implementation of the MVID Instream Flow Improvement Project.

1.1 Final quantities conveyed to the Trust Water Rights Program will be documented in the ROE's in Appendix A, and in the Deeds conveyed in Section 2.1 However, the general intent of this agreement is to provide the following quantities under this agreement, subject to final statutory decision-making by Ecology:

1.1.1 MVID's interest in Twisp River Water Right Claim 003935 from approximately RM 4 to the confluence of the Twisp and Methow Rivers for instream flow purpose, less that portion impacted by groundwater wells under the MVID Instream Flow Improvement Project.

1.1.2 MVID's interest in any non-consumptive water right quantity on the Methow River from MVID water rights Claim 003935, Certificate SWC 945, and Claim 118277 for instream flow purpose, except that quantity required to support reasonable return flow quantities associated with long-term lost and unaccounted for water associated with the redesigned conveyance system, reasonable return flow associated with a maximum of 4 acre-foot/acre on-farm water duty, and reasonable return flow associated with quantities conveyed/assigned to the Town of Twisp.

1.1.3 MVID's interest on Alder Creek from MVID water right Claim 118277 for instream flow purpose.

1.1.4 MVID's interest in any consumptive water right and reasonable non-consumptive right reserved under Section 1.1.2 from MVID water rights Claim 003935 and Certificate SWC 945 for irrigation, municipal, and water banking purposes.

2. This Agreement shall be effective upon its mutual execution. The term of this Agreement shall then be for so long as any portion of the Water remains in the Trust Water Rights Program (the "Term") unless terminated sooner as provided in this Agreement:

2.1 Prior to issuance of the New Permits by Ecology, MVID shall convey three (3) original signed Deeds to Ecology for the Water and record the Deeds with the Okanogan County Auditor. The Water shall permanently remain with Ecology's Trust Water Rights Program for management under this agreement unless the "Deed Reversion" provision in Paragraph 12.2.2 is triggered. One Deed shall be recorded for each of MVID's three water rights attached in Exhibit A.

2.2 Until the MVID Instream Flow Improvement Project for the upper west side system, is fully constructed, MVID retains the right to divert water from the Twisp River to meet MVID Member needs under a partially constructed system under the development schedule as set forth in Trust Water ROE CS4-MVID@156.

2.3 Ecology shall issue the New Permits under Applications S4-33097 and G4-33098 within 30 days of receipt and acceptance of the Deeds.

3. Once this agreement is executed and New Permits are issued in response to Applications S4-33097 and G4-33098, MVID may assign all or a portion of The Permits to the individual members it will serve as follows:

3.1 If MVID elects to assign MVID Members a portion of water under the "New Permits" or "Other New Permits" held by MVID:

3.1.1 MVID will adopt a framework that will govern assignment of portions of the New Permits or Other New Applications.

3.1.2 The Individual MVID Member assignments or Other New Applications will include the following information:

3.1.2.1 The peak instantaneous withdrawal rate and annual quantity of the Permit to be assigned, expressed as gallons per minute and ac-ft/yr, respectively.

3.1.2.2 The "firm" and "contingent" portion or portions of the Designated amount of Water (See 8.2)

3.1.2.3 Assignment shall be in a form consistent with the requirements of RCW 90.03.310, include responses to 3.1.2.1-3.1.2.2, and shall be filed and co-signed by MVID and the assignee.

3.1.3 Ecology agrees to timely process Permit assignments under this Agreement.

3.1.4 MVID Members assigned a portion of the New Permits would not need to file an application and receive a permit of their own for the use and amounts of water authorized by their assigned portion of the New Permit.

3.1.5 Upon satisfaction of the permit requirements consistent with RCW 90.03.330, Ecology shall issue a new certificate for each MVID Member (or MVID for the portion retained by the district).

3.2 <u>For New Individuals or Entities Designated by MVID (</u>"Other New Applications"): "Other New Applications" may also be filed at MVID's discretion if contingent or unallocated water remains in the Water Bank that is not already committed to other parties through the assignment process described in Section 3.1 (e.g. MVID members, instream flows). The process for MVID to file such applications is:

3.2.1 MVID or such third party member of MVID may make application to Ecology to appropriate surface or ground water at the desired location

and for the intended use and quantities, together with all regularly required supporting information. As part of the Other New Application, MVID will designate the specific quantity of the Water in the Trust Water Rights Program (MVID Water Bank) as required to offset the consumptive loss associated with the uses described on the application. In the case of a third-party applicant, MVID will also co-sign the Other New Application.

3.2.2 Upon receipt of a complete Other New Application, Ecology, pursuant to WAC 173-152-050(2)(g), shall accept and timely process it under RCW 90.03.260-.340 and Chapter 90.44 RCW utilizing such portion of the MVID Water Bank as reasonably needed under the quantity allocation set out in Exhibits A & C which, together with any other proposed mitigation measures, shall reasonably offset the impacts of such new withdrawal. Ecology agrees that expedited processing for water budget neutral projects such as the MVID Water Bank is appropriate under WAC 173-152-050(2)(g).

3.2.3 Ecology will prepare a public notice and send it to the applicant for publication in a newspaper with general circulation in the area as required by RCW 90.03.280.

3.2.4 The applicant must publish the notice and ensure that the newspaper transmits an affidavit of publication to Ecology. In the event Ecology prepares to issue an ROE for a New Application, it will publish the draft ROE on its internet site for a 30 day review period.

3.2.5 Ecology will investigate the Other New Application and prepare an ROE recommending issuance or denial of a permit based on applicable policy, rules, and law and the terms provided herein. Ecology's review of Other New Applications shall also include the following considerations:

> **3.2.5.1** In order to develop and confirm appropriate permit standards, MVID and/or such third party shall provide information to reasonably show or estimate, as the case may be, that the consumptive uses of the proposed project, when offset by the mitigation water allocated from the Trust Water Rights Program (MVID Water Bank) and any other proposed mitigation measures, do not increase the consumptive use of water. If the Trust Water Rights Program water ROE conditions a portion of the consumptive use eligible for mitigation upon certain performance (e.g. consumptive use assumptions born out via monitoring), then that conditioned portion of the mitigation shall not be allocated or assigned until such performance is met.

3.2.6 Following issuance of New Permits based on the Other New Applications in Appendix D that may subsequently be filed and approved,

MVID may assign portions of a Permit to new individuals or entities, provided such individual or entity may exercise that portion of the Permit consistent with the Permitted provisions, or such provisions are permissible for change under RCW 90.03.380 and RCW 90.44.100. In this event, an assignment form consistent with the requirements of RCW 90.03.310 and as provided in Exhibit E shall be filed and co-signed by MVID and the assignee. Ecology agrees to timely process permit assignments under this Agreement.

4. The New Permits relative to the New Applications and Other New Applications will specify the conditions and limitations on the use of water in a manner consistent with the Water held in the MVID Water Bank as mitigation. Conditions relating to measuring and reporting water use will also be included in the permit(s). Permits issued based on New Applications and Other New Applications will have a priority date based on the date filed (pursuant to RCW 90.03.340), provided however, that they will be provisioned to clarify that their priority date for purposes of regulation, adjudication, or any other challenge is equal to the water rights held in Trust Water Rights Program in the MVID Water Bank as set forth in Exhibit A.

5. Both the New Applications and Other New Applications, and their respective Permits once issued, shall be conditioned such that:

5.1 The forfeiture of a Permit or Certificate, or a subsequently issued certificate or portion thereof, does not disturb or prevent the assigned or associated portion of the Trust Water Right from further designation or use under this agreement.

5.2 In the event of forfeiture of a Permit or Certificate described above, Ecology shall notify MVID for the purposes of determining appropriate future designation or uses of the water right.

6. Upon development and beneficial use of water in accordance with Permits issued to MVID or an MVID-designated and assigned third party, the permit holder shall be issued a Certificate of Water Right consistent with the terms set forth herein. Certificates issued will have a priority date based on the date filed (pursuant to RCW 90.03.340), provided however, that they will be provisioned to clarify that their priority date for purposes of regulation, adjudication, or any other challenge is equal to the water rights held in Trust Water Rights Program in the MVID Water Bank as set forth in Exhibit C.

7. This agreement, including consideration of removal from the Water Bank of any Water that has not been and cannot be permanently assigned or designated due to circumstances beyond MVID's control, may be modified to incorporate changed circumstances or, alternatively, the agreement may be terminated as provided in paragraph 8. Those changed circumstances are as follows:

7.1 A lack of funding to fully implement the MVID Instream Flow Improvement Project. This provision shall have no effect once all, non-individual well construction contracts are signed and provided construction expenses do not exceed the construction budget determined to be adequate and available at the time construction contracts are signed.

7.2 An inability to obtain all necessary approvals from the various agencies with regulatory authority over the actions described herein.

7.3 An inability to implement any portion of the MVID Instream Flow Improvement Project or this Agreement because of any Court action, order, or other litigation. A Court action, order, or decision reducing MVID's authorized diversions below those contained in the ROEs is not a changed condition.

7.4 In the instances described in 7.1, 7.2 or 7.3 come to pass, and if MVID agrees, Ecology will convey from the water bank that portion of the water that cannot serve the purposes of this agreement back to MVID.

8. This agreement may be terminated due to any unforeseen circumstances only by mutual agreement of the parties:

8.1 As used in this paragraph, the term "unforeseen circumstances" means those circumstances not specifically described in paragraph 7.

8.2 Termination of this agreement due to unforeseen circumstances must be in writing and executed by all parties to this agreement.

8.2 In the event that the parties mutually agree to terminate this agreement due to unforeseen circumstances and do in fact terminate this agreement due to unforeseen circumstances, Ecology will convey from the water bank that portion of the water not already allocated under the terms of this agreement back to MVID.

9. During the Term and in its capacity as a fiduciary, Ecology shall hold and manage the Water in the Trust Water Rights Program pursuant to Chapter 90.42 RCW. Ecology:

9.1 Shall support its extent and validity determination and the findings in the ROE that the quantities and beneficial use of the Water is as stated in Exhibits A & C and paragraph 3 above, and this representation shall also apply to any Water removed from the MVID Water Bank.

9.2 Ecology will conservatively manage the portion of the Water represented by the estimated consumptive use reduction due to piping the east and west canals and replacing portions of the canals with wells ("contingent" water). An Adaptive Management Protocol (Protocol) for verifying the consumptive use estimates contained in the 2013 TU Vegetation Survey and 2013 Anchor QEA Evapotranspiration Report will be performed by MVID. This Protocol includes the following elements patterned after the 2013 analyses:

- Assessment of the condition of east side and west side water delivery infrastructure.
- Aerial photo review.
- Field verification and GPS recording of affected vegetation, wetlands, and ponds.
- Characterization of vegetation type.
- Evapotranspiration estimates.

This analysis is anticipated to be completed in 2019, but may be completed earlier, or incrementally, at MVID's discretion. Following completion of the Protocol, Ecology will timely review it, determine the verified consumptive use quantity, and subsequently exercise the trust water rights in accordance with the verified consumptive use quantity. Ecology would then timely respond to assignments or Other New Applications, as provided in 8.4, for MVID members assigned "contingent" water.

Ecology:

9.3 Shall, in addition to the protections against relinquishment in RCW 90.14.140(2)(h), manage, maintain, preserve and protect for the benefit of MVID and its successors, designees and assigns all aspects and attributes of the Water.

9.4 Shall process all New Applications and Other New Applications where portions of the Water is proposed as mitigation in accordance with the terms of this Agreement.

9.5 Shall not assess or charge MVID any costs or fees for maintaining the Water in the Trust Water Rights Program; provided that Ecology may charge member third parties its regular costs and fees for water right applications, assignments, transfers and investigations.

9.6 Shall use best efforts to seek and obtain funding sufficient for any costs for planning, design, permitting, and construction consistent with the MVID Instream Flow Improvement Project Alternative 5.

9.7 Shall provide technical assistance, where and when appropriate, to MVID to help identify and procure any necessary water right authority to implement the MVID Instream Flow Improvement Project.

9.8 Shall assist MVID in coordinating, permitting, and seeking funding for improvements to the East Canal System if Barkley Irrigation Company improves its system in a manner that reduces flow into the MVID East Canal.

10. In keeping with the purpose of this Agreement and as a material part of the consideration for this Agreement upon which its execution is dependent:

10.1 MVID makes the following undertakings, representations and warranties to Ecology:

10.1.1 MVID is a quasi-municipal corporation duly formed and authorized and fully able to enter into and perform all its obligations in this Agreement according to its terms.

10.1.2 Each individual executing this Agreement on behalf of MVID is duly authorized to execute and deliver this Agreement.

10.1.3 Upon its full execution, this Agreement is binding upon MVID in accordance with its terms.

10.1.4 MVID shall use its best efforts to fully and timely perform its obligations and actions contemplated by this Agreement.

10.2 Ecology makes the following undertakings, representations and warranties to MVID:

10.2.1 Ecology is a division of the State of Washington duly formed and authorized and fully able to enter into and perform all its obligations in this Agreement according to its terms.

10.2.2 Each individual executing this Agreement on behalf of Ecology is duly authorized to execute and deliver this Agreement.

10.2.3 Upon its full execution, this Agreement is binding upon Ecology in accordance with its terms.

10.2.4 Ecology shall use its best efforts to fully and timely perform its obligations and actions contemplated by this Agreement.

11. Upon alleged breach of this Agreement by any party, or other disputes arising hereunder, representatives of MVID and the Department of Ecology shall meet and confer in good faith to resolve their differences. In the event no resolution is reached, MVID may request a meeting with the Director of Ecology to occur within 30 days of the request in order to resolve those differences. In the event of any such alleged breach, or any other dispute, or if any term of this Agreement is found or believed by any party to

be void and unenforceable, the parties will meet and seek to reach a mutually agreeable modification. The parties may employ a mutually agreed upon mediator or other suitable facilitator if they believe this may help resolve their dispute. If, after a reasonable period of time, the parties are unable to resolve a dispute by the process outlined above, any party may seek appropriate relief.

12. If either party defaults in its obligations under this Agreement; or if this Agreement, or a material portion thereof, be declared illegal or unenforceable; or, either party, through no fault or action by such party, should be incapable or prevented from performing any material obligations or actions, the non-defaulting party in the event of a default or either party in any other event shall have the right to the following:

12.1 As the computation of damages may be difficult, continue this Agreement and bring an action to specifically perform this Agreement.

12.2 Declare the Agreement null and void, whereupon the parties shall cooperate to end the trust water right relationship in an orderly manner as follows, with MVID retaining the right to its original authorized points of diversion if the Agreement is terminated prior to start of construction:

12.2.1 MVID shall identify all in-process assignment agreements and inform Ecology of their status. MVID shall not make representations regarding in-process designations, and shall work with Ecology to determine whether an assignment should be completed in each instance. If Ecology agrees, the permit process will be completed promptly in accordance with applicable policies, rules, and law.

12.2.2 Ecology shall promptly convey to MVID or its designee the portion of the Trust Water Rights in the MVID Water Bank (i) not yet assigned as mitigation for individual ground water and surface water permits or associated with MVID's groundwater or surface water delivery systems or (ii) not permanently allocated to instream flow. If any reserve has been set aside to address uncertainty ("Contingent" water subject to the adaptive management plan) associated with the then-existing mitigated permits, Ecology will retain such reserve until it is either assigned to individual permits or Ecology determines some or all of the reserve is unnecessary. Any reserve not needed shall be promptly conveyed by Ecology to MVID.

12.2.3 Each party shall be responsible for their own costs associated with ending the trust water right relationship in an orderly manner.

12.3 Pursue any other remedy now or hereafter available.

13. This Agreement may be assigned by MVID upon the giving of written notice to Ecology. This Agreement is binding upon and inures to the benefit of the parties to the Agreement as well as upon and to the benefit of their respective heirs, personal representatives, assigns and other successors in interest. In the unlikely event of a dissolution of MVID, all interests in the water and rights herein, shall remain in good standing and be held by the then current members and water users of MVID.

14. Any notice or communication required by this Agreement between MVID and Ecology shall be given to the addresses set forth below:

To Ecology:

Washington Department of Ecology
Office of Columbia River
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, Washington 98902-3452

To MVID:

Attn: Bunny Morgan
PO Box 860
Twisp, WA 98856

14. This Agreement is contingent upon:

14.1 The contemporaneous approval and execution of a separate Agreement between MVID and TU-WWP.

15. No provision of this Agreement is severable from any and all other provisions of this Agreement. Should any provision of this Agreement be unenforceable for any reason outside the control of the parties, and subject to the provisions of Paragraph 8, the party finding itself unable to enforce the provision may, at its sole discretion, declare this entire Agreement to be null and void.

16. If either party fails to exercise its rights under this Agreement, it will not be precluded from subsequent exercise of its rights under this Agreement. A failure to exercise rights will not constitute a waiver of any other rights under this Agreement, unless stated in a letter signed by an authorized representative of the party and attached to the original Agreement.

17. Amendments to this Agreement must be in writing and signed by an authorized representative of each of the parties.

18. Each party shall protect, defend, indemnify, and hold the other harmless from and against their respective acts and omissions and for all third party claims arising out of or related to this Agreement.

19. This Agreement will be governed and enforced under the laws of the State of Washington.

20. Each party agrees to defend the validity of this Agreement. In the event any part of this agreement or the process described in this Agreement is challenged by way of administrative or judicial processes, Ecology agrees to assume the lead in defense thereof.

This Agreement is effective as of the date first above written.

Methow Valley Irrigation District

John Richardson
Name

8/14/2014
Date

Vice President
Title

Washington State Department of Ecology

Mark C. Schuppe
Name

8/14/2014
Date

Operations Manager - OCR
Title

Exhibit A

Reports of Examination: CS4-MVID@155, CS4-MVID@156, CS4-118277CL

Exhibit B

The "Land" Appurtenant to Water Right Claim No. 003935, Surface Water Certificate No. 945 and Water Right Claim No. 118277

Exhibit C

Future Trust Water Right Certificates for CS4-MVID@155, CS4-MVID@156, CS4-118277CL

Exhibit D

New Water Right Applications Nos. G4-33098 and S4-33097