APPLICATION REPORT EXAMPLE

A complete, well-organized application report facilitates review of your application.

This template provides example responses to questions found in Sections 2-12 of an Application for New Water Right. Sample responses for multiple project types and scenarios are included.

- If an application question is not relevant to your proposal, in your own report simply indicate that it is not applicable.
- For all applications, be sure to indicate which application subject or question is being addressed, e.g., “8.5 Development Schedule.”
- Use tables and lists to display quantitative data.
- Include a Table of Contents and use appendices to organize maps and related exhibits (e.g., well logs, technical memorandum, property ownership documents).

Supporting Document for Application for a New Water Right Permit

Prepared for [Applicant Name]

Prepared by [Name]

[Date]

ECY 040-1-14B
<table>
<thead>
<tr>
<th>Insert Stamp</th>
<th>Insert Stamp</th>
<th>Insert Stamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed: mm/dd/yyyy</td>
<td>Signed: mm/dd/yyyy</td>
<td>Signed: mm/dd/yyyy</td>
</tr>
</tbody>
</table>
Section 2 – Project Description ................................................................................................... 4
  2.1 – Narrative Description of Proposed Project .................................................................... 4
  2.2 – Reservoir Information ................................................................................................. 4
  2.3 – Compliance with the State Environmental Policy Act (SEPA) ..................................... 4
  2.4 – Measuring and Controlling the Rate and Volume of Water Diversion or Withdrawal . 4
Section 3 – Purposes(s) and Period of Use ................................................................................. 4
  Purpose of Use ........................................................................................................................ 4
  Section 3.1 – For domestic water supply systems proposals with fewer than 15 residential connections ............................................................................................................................. 5
  Section 3.2 – For domestic water supply systems with more than 15 residential connections ................................................................................................................................................. 5
  Section 3.3 – For stockwater purposes ................................................................................... 5
  Section 3.4 – For other farm uses ........................................................................................... 5
  Section 3.5 – For agricultural irrigation .................................................................................. 5
  Family Farm Water Act Compliance ...................................................................................... 5
  Section 3.6 – For hydropower uses ......................................................................................... 6
  Section 3.7 – For industrial/mining uses ............................................................................... 6
  Section 3.8 – For other uses .................................................................................................... 6
Section 4 – Point(s) of Diversion or Withdrawal Locations ....................................................... 7
Section 5 – Water Storage........................................................................................................... 7
  Section 5.1 – If storing 10 acre-feet or more or if the depth is greater than 10 feet and any part is above grade .................................................................................................................. 7
  Section 5.2 – Describe your impoundment, including the volume and maximum depth ...... 7
  Section 5.3 – Aquifer Storage and Recovery Project ............................................................. 7
Section 6 – Place of Use ............................................................................................................. 7
Section 7 – Related Water Rights ............................................................................................... 8
  General Information ................................................................................................................ 8
  Section 7.1 – List other water rights related to this application.............................................. 8
  Section 7.2 – Explain how the water rights listed above have been exercised...................... 9
Section 8 – System Design and Operation.................................................................................. 9
  Section 8.1 – Provide a description of the proposed water supply system from the point of diversion or withdrawal to the proposed place of use .......................................................... 9
  Section 8.2 – Provide preliminary design plans and specifications for the proposed use ..... 9
Section 8.3 – Provide the projected system efficiency ................................................................. 10

Section 8.4 – For surface water diversions, describe how your plans comply with WDFW fish screening requirements ................................................................................................................................. 10

Development Schedule ........................................................................................................... 10

Section 8.5 – Provide a general timeline that includes the steps needed to begin the project, complete the project, and put the water to full beneficial use. .............................................................................................................. 10

Section 8.6 – Identify and discuss other land-use or environmental permits required and the timeline to obtain those permits. .............................................................................................................. 10

Section 9 – Hydrogeological Analysis ...................................................................................... 11

General Information .................................................................................................................. 11

Section 9.1 – If known, describe the hydrogeological setting. Identify all ground water bodies and surface water bodies involved. .............................................................................................................. 11

Section 9.2 – If known, describe geographic recharge and discharge areas, seasonal variations, and interrelationships between surface water and groundwater, and between aquifers ................................................................................................................................. 11

Section 9.3 – Available well information .............................................................................. 12

Section 9.4 – If known, describe the Aquifer Characteristics ............................................... 12

Section 10 – Driving Directions ............................................................................................... 14

Section 10.1 – Site address, and detailed driving directions to the project site .................... 14

Section 11—Maps and Other Documentation .......................................................................... 14

General Information .................................................................................................................. 14

11.1 – Water Right Maps ...................................................................................................... 14

Section 12 -- Signatures ............................................................................................................ 19

Attachment A – Drought Authorizations .................................................................................. 20

General Information .................................................................................................................. 20

A.1 – Describe Specific Circumstances Pertaining to Water Shortage ................................ 20

A.2 – Describe How the Water Right Proposed Will Address these Impacts .......... 20

A.3 – Any Previous Drought-Specific Authorizations for the Subject Parcels ............... 20

A.4 – Irrigation only – What Types of Crop(s) Are Being Grown and How Will the Water Shortage Impact Them .......................................................... 20

Attachment B – Mitigation Plan ............................................................................................... 21

General Information .................................................................................................................. 21

B.1 – Identify the source of supply for the proposed mitigation water ............................. 22

B.2 – Estimate the consumptive quantity of water for the proposed use. ....................... 22
B.3 – Describe how the proposed mitigation would offset the impacts of the proposed withdrawal or diversion ................................................................. 23

B.4 – Describe the measures that will be taken to ensure mitigation will be maintained for the duration of the water right authorization........................................ 23

B.5 – Provide copies of the agreements between you and other parties regarding mitigation for impacts, if applicable................................................................. 23

B.6 – Describe the benefits and costs, including environmental effects, of any water impoundment or other resource management technique that is included as a component of the application........................................................................................................ 23

B.7 – For surface water, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting diversion impacts................................................... 23

B.8 – For groundwater, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting the impact of the diversion of surface water. ........ 24

B.10 – If you intend to offset your new use, describe how and when non-consumptive water returns to ground water or surface water, and explain how this volume was estimated. Specifically describe how the quantity, timing and location of return flow would change if the proposed permit is approved................................................................. 24

Tables
Table 3.3 – Family Farm Act Water Rights Used by the Applicant
Table 7.1 – Associated Water Right Information

Figures
Figure 1 – Map of Proposed Water Right Attributes
Figure 2 – Map Showing Infrastructure Associated with Proposed Water Use
Figure 3 – Map Showing Proposed Irrigated Acres within Proposed Place of Use
Figure 4 – Map Showing Related Water Rights

Appendices
Appendix A – State Environmental Policy Act Documents
Appendix B – Water System Planning Documents
Appendix C – Water Well Reports and Testing Reports
Appendix D – Technical Specifications on Equipment
Appendix E – Property Ownership Documents
Appendix F – Streamflow Records
Appendix G – Other Supporting Documents
Section 2 – Project Description

General Information

2.1 – Narrative Description of Proposed Project

The City is seeking a new water right for a new well to increase the available water supply and improve system redundancy in case of a well failure. The proposed point of withdrawal will be located on the west side of the City, while the existing point of withdrawal is on the east side of the City. See maps as described in Section 11.

2.2 – Reservoir Information

NA. The City does not have any structures that require a reservoir permit.

2.3 – Compliance with the State Environmental Policy Act (SEPA)

The water right being requested would authorize withdrawal of 2,500 gallons per minute for municipal supply. WAC 197-11-800(4) identifies this rate of withdrawal as exceeding the water right categorical exemption of 2,250 gpm.

The completed SEPA checklist for this project is included in Appendix A, along with the mitigated determination of nonsignificance (MDNS) finding, as issued by the City on June 4, 2019.

2.4 – Measuring and Controlling the Rate and Volume of Water Diversion or Withdrawal

The City is requesting a new water right authorizing the withdrawal of 250 gpm and 200 acre-feet of water per year. The proposed new well will have a pump installed for a design pumping rate of 250 gpm. The SCADA system will monitor the operation of the new well which is expected to operate about half of the time.

The volume of water pumped from the well will be recorded on a weekly basis to verify that the authorized annual volume is not exceeded in a year. The data will be retained and made available to Ecology upon request.

Section 3 – Purposes(s) and Period of Use

Purpose of Use

[Sample Text]
Section 3.1 – For domestic water supply systems proposals with fewer than 15 residential connections

The proposed B & B water system will serve 11 homes at full buildout. A subset of relevant pages from the approved 2019 Small Water System Management Program is included in Appendix B.

Section 3.2 – For domestic water supply systems with more than 15 residential connections

The Ajax Water System currently serves 1,520 people. The estimated population served in 2040 will be 2,200. The water rights for this system thus qualify as being for municipal water supply purposes and the purveyor is a municipal water supplier. The system’s water system plan was approved by the Washington State Department of Health on August 15, 2017. The Water System Identification Number is 00111. A subset of relevant pages from the most recent approved Water System Plan is included in Appendix B.

Section 3.3 – For stockwater purposes

The farm will include 15 head of cattle which are raised for beef production. Water is also used for wash-down of the barn and cattle holding areas.

Section 3.4 – For other farm uses

The ranch will use water for dust suppression on unpaved roads within the orchard. Water will be pumped into water trucks and delivered from those trucks to the roads through a spray bar attached to the truck. Dust suppression is crucial for minimizing the amount of dust adhering to the crop.

Section 3.5 – For agricultural irrigation

The water right application requests water for agricultural irrigation of 20 acres of grass/hay, which is used for feeding the cattle on the farm.

Family Farm Water Act Compliance

The permit being sought for irrigation will be subject to the Family Farm Water Act (FFWA) which became effective on December 8, 1977. Table 3.3 identifies all the irrigation water rights held by the applicant, in the State of Washington, that are subject to the Family Farm Water Act.
Table 3.3. Family Farm Water Act Water Rights Utilized by the Applicant

<table>
<thead>
<tr>
<th>Water Right Number</th>
<th>Original Permit Issuance Date</th>
<th>Irrigated Acres</th>
<th>Current Document Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2-24785C</td>
<td>9/5/1978</td>
<td>130</td>
<td>Certificate</td>
<td>Family Farm Permit</td>
</tr>
<tr>
<td>S1-28795P</td>
<td>9/15/2015</td>
<td>2,050</td>
<td>Permit</td>
<td>Family Farm Permit</td>
</tr>
<tr>
<td><strong>Subtotal of existing FF permits</strong></td>
<td></td>
<td><strong>2,180</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBD</td>
<td>NA</td>
<td>20</td>
<td>Application</td>
<td>This Application</td>
</tr>
<tr>
<td><strong>Proposed combined total</strong></td>
<td></td>
<td><strong>2,200</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The requested additional acres to be added under this water right are 20, which will bring the total FFWA water rights held by the applicant to 2,200 acres. This is less than the 6,000 acres threshold under chapter 90.66 RCW.

**Section 3.6 – For hydropower uses**

The project will consist of a diversion dam and a powerhouse with an 800-foot penstock leading from the diversion to the powerhouse. The diversion and penstock will be able to capture and convey up to 10 cfs. There will be total of 150 feet of head and the plant will produce 127 theoretical kilowatts of power using a pelton wheel and a generator. From the powerhouse, water will return to Swift Creek via a 100-foot tailrace flume at a location approximately 1,125 feet downstream from the diversion point. The flume will be screened to WDFW standards at the creek to prevent fish from entering the tailrace. Power produced will be sold to the electrical grid.

The project is currently under review by the Federal Energy Regulatory Commission (FERC) and has been assigned pending license number P-11925 (Appendix G).

**Section 3.7 – For industrial/mining uses**

The mine will be an open-pit mine for gravel extraction. Water will be used for washing gravel, creating concrete, dust suppression, wheel-wash, cleaning equipment, and for on-site domestic water for personnel.

**Section 3.8 – For other uses**

Water will be used for a fish hatchery. Water use will be diverted from Big Fish Creek above a natural falls that act as a fish passage barrier, will be routed 1,200 feet to the facility, and will be returned to Big Fish Creek in the pool at the base of the falls.
Section 4 – Point(s) of Diversion or Withdrawal Locations

Information on the proposed points of withdrawal (three wells) are contained within the tables in the application. Water well construction reports and testing reports for the three proposed points of withdrawal can be found in Appendix C.

Section 5 – Water Storage

Section 5.1 – If storing 10 acre-feet or more or if the depth is greater than 10 feet and any part is above grade
Complete an “Application for Permit to Construct a Reservoir” and a “Dam Construction or Decommissioning Permit Application.

The proposed reservoir will store 15 acre-feet and I am submitting the additional required applications at the same time as the water right application.

Section 5.2 – Describe your impoundment, including the volume and maximum depth

The reservoir will be created by constructing an earthen berm across an intermittent channel. The core of the dam will be clay, while the exposed faces of the dam will be armored with rip-rap. The dam will be 15 feet high at its highest point (dam crest at elevation of 2,235 feet). The dam will have an emergency spillway constructed of concrete over a low point in the dam that is capable of passing 50 cfs. The surface area of the reservoir will be 4 acres at full pool. The reservoir will be able to store 18 acre-feet of water at full pool with a the maximum depth of 15 feet. All water stored in the reservoir will be active storage.

Section 5.3 – Aquifer Storage and Recovery Project

Aquifer Storage and Recovery (ASR) is being proposed. See Attachment B.

Section 6 – Place of Use

The proposed place of use includes the five parcels identified on the water right application. See Section 11 for maps showing the proposed place of use and Section 12 for information on parcel ownership.
Section 7 – Related Water Rights

General Information

Section 7.1 – List other water rights related to this application

Table 7.1 lists all irrigation water rights associated with Green Fern Farm within the place of use of the proposed water right.

<table>
<thead>
<tr>
<th>Water Right</th>
<th>Sources</th>
<th>Instantaneous Rate (gpm)</th>
<th>Instantaneous Rate (gpm)</th>
<th>Annual Volume (AF/Y)</th>
<th>Irrigated Acres</th>
<th>Irrigated Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Additive</td>
<td>Non-Additive</td>
<td>Additive</td>
<td>Additive</td>
<td>Non-Additive</td>
</tr>
<tr>
<td>G2-23564C</td>
<td>Well Nos. 1 and 4</td>
<td>250</td>
<td>0</td>
<td>50</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>G2-24589C</td>
<td>Well Nos. 2 and 3</td>
<td>250</td>
<td>0</td>
<td>50</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Existing Total</td>
<td></td>
<td>500</td>
<td>-</td>
<td>50</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>New Application</td>
<td>Proposed Well Nos. 5 and 6</td>
<td>300</td>
<td>0</td>
<td>60</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>Proposed Combined Total</td>
<td></td>
<td>800</td>
<td>-</td>
<td>110</td>
<td>85</td>
<td>-</td>
</tr>
</tbody>
</table>

The place of use of G2-23564C and G2-24589C are the same. G2-23564C was the original water right obtained for irrigation of the farm. G2-24589C was granted later and allows for withdrawal of an additional 250 gpm from Well Nos. 2 and 3 for irrigation of the same 25 acres authorized under G2-23564C. The maximum annual volume currently authorized to be withdrawn from Well Nos. 1, 2, 3, and 4 is 50 ac-ft/yr.

The water right requests the ability to withdraw water from two proposed wells at a rate of 300 gpm and 60 ac-ft/yr for irrigation of 30 acres. The proposed water right will be additive to the existing water rights.

The attributes of the associated water rights, and the water right being requested, are depicted on the Figure 4 map.
Section 7.2 – Explain how the water rights listed above have been exercised.

[Sample Text]

Green Fern Farm has used all four existing wells (Well Nos. 1, 2, 3, and 4), which are connected to a common mainline, for irrigation of 25 acres within the place of use of each water right. The instantaneous pumping rate of each well is consistent with the rates authorized in the water rights and as shown in Table 7.1. Based on source metering data, the annual volume withdrawn from each well is shown in more detail in Table 7.2.

Table 7.2. Water Meter Data Summary (all measurements are in acre-feet)

<table>
<thead>
<tr>
<th>Year</th>
<th>Well No. 1</th>
<th>Well No. 2</th>
<th>Well No. 3</th>
<th>Well No. 4</th>
<th>Total</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>24.2</td>
<td>4.0</td>
<td>20.7</td>
<td>0.0</td>
<td>48.9</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>26.5</td>
<td>2.0</td>
<td>17.9</td>
<td>5.1</td>
<td>51.5</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>22.0</td>
<td>2.3</td>
<td>20.4</td>
<td>3.2</td>
<td>47.9</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>21.6</td>
<td>3.5</td>
<td>18.6</td>
<td>5.0</td>
<td>48.7</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>27.1</td>
<td>1.5</td>
<td>20.9</td>
<td>1.0</td>
<td>50.5</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>12.5</td>
<td>0.0</td>
<td>9.5</td>
<td>0.0</td>
<td>22.0</td>
<td>Half of field fallowed</td>
</tr>
<tr>
<td>2013</td>
<td>19.8</td>
<td>4.5</td>
<td>22.3</td>
<td>5.5</td>
<td>52.1</td>
<td></td>
</tr>
</tbody>
</table>

Section 8 – System Design and Operation

Section 8.1 – Provide a description of the proposed water supply system from the point of diversion or withdrawal to the proposed place of use

[Sample Text]

Water will be pumped from a well located in the NE ¼ NW ¼ of Section 12, T22N, R4E W.M. The water will be treated with chlorine and pumped into the water system’s distribution system to the existing 800,000 gallon storage tank from which it will flow into the distribution system and our customer’s homes and businesses.

Section 8.2 – Provide preliminary design plans and specifications for the proposed use

[Sample Text]

Technical specifications for equipment including the well pump and motor, are included in Appendix D.

The system mainlines will be 12-inch diameter high density polyethylene (HDPE).
Section 8.3 – Provide the projected system efficiency

Per Department of Health requirements under the Municipal Water Law, we will maintain a distribution system leakage of less than 10 percent. Therefore, the system efficiency will be 90 percent or greater.

Section 8.4 – For surface water diversions, describe how your plans comply with WDFW fish screening requirements

The water right applicant has worked with WDFW’s fish screening expert, [NAME], to make sure the proposed diversion meets or exceeds the standards. [NAME] approved the screening plan by email on [DATE].

Development Schedule

Section 8.5 – Provide a general timeline that includes the steps needed to begin the project, complete the project, and put the water to full beneficial use.

Table 8.5 identifies the anticipated timeline for the development of water use once the permit has been issued.

Table 8.5. Proposed Development Schedule

<table>
<thead>
<tr>
<th>Stage</th>
<th>Time after New Permit Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start the project</td>
<td>1 year</td>
</tr>
<tr>
<td>Construct all infrastructure to allow for full use of the water right</td>
<td>2 years</td>
</tr>
<tr>
<td>Fully use the rate and volume of water authorized under the water right</td>
<td>7 years</td>
</tr>
</tbody>
</table>

Section 8.6 – Identify and discuss other land-use or environmental permits required and the timeline to obtain those permits.

Table 8.6 identifies the anticipated timeline for obtaining other permits after issuance of the water right permit.
Table 8.6. Additional Permitting Schedule

<table>
<thead>
<tr>
<th>Permit</th>
<th>Time after New Permit Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic Project Approval</td>
<td>3 months</td>
</tr>
<tr>
<td>Building Permit</td>
<td>3 months (concurrent)</td>
</tr>
</tbody>
</table>

Section 9 – Hydrogeological Analysis

The interpretation of the hydrogeologic setting will often require the assistance of a licensed geologist/hydrogeologist. We advise that prospective applicants first consult with the Department of Ecology in a pre-application meeting before filing an application. Ecology can advise whether professional services will be necessary or whether staff may be likely to process the application using their own experience and internal resources. In some cases it will be more efficient to work directly with an Ecology staff hydrogeologist to complete the technical assessments. For more complex projects Ecology may advise the use of private professional services in collecting pertinent project data. The examples provided below demonstrate how a hydrogeologist could go about describing the hydrogeologic setting and evaluating the project. Assessments are typically made using published resources, existing technical reports, and available well log information. Ecology will advise applicants if additional studies are required.

General Information

Section 9.1 – If known, describe the hydrogeological setting. Identify all ground water bodies and surface water bodies involved.

[Sample Text]

The area of the proposed well is covered with glacial till. Beneath this glacial till is advance outwash, which forms the regional aquifer and is the source of water to be withdrawn under the water right being sought. The advance outwash aquifer in the vicinity of the proposed point of withdrawal is anticipated to be approximately 20 feet thick. The aquifer is confined at this location by the overlying glacial till.

Section 9.2 – If known, describe geographic recharge and discharge areas, seasonal variations, and interrelationships between surface water and groundwater, and between aquifers.

Identify barriers to flow and hydrological boundaries, if known.

[Sample Text]

The advance outwash aquifer is exposed at ground surface where surficial streams and rivers have eroded the till. Groundwater elevation contours prepared by the United States Geological Survey (USGS) show that the groundwater in the advance outwash aquifer is recharged through the glacial till from precipitation, flows to the southeast in the vicinity, and naturally discharges...
to tributary streams and the Skagit River. There are no barriers to groundwater flow in the vicinity of the proposed point of withdrawal. Groundwater is hydraulically connected to surface water.

**Section 9.3 – Available well information**

If available, provide the following:

- Water well report
- Well diameter, and depth
- Motor and pump specifications
- Pump test data
- Well locations

[Sample Text]

The well has not yet been drilled so no well-specific data is available. However, Tables 9.3.1 and 9.3.2 contain approximate information, as extrapolated from sources including neighboring well logs and USGS regional studies.

**Table 9.3.1. Estimated Point of Withdrawal Construction Information**

<table>
<thead>
<tr>
<th>Well</th>
<th>Well Tag</th>
<th>Casing Diameter (inches)</th>
<th>GS Elevation (feet)</th>
<th>Well Depth (feet)</th>
<th>Bottom of Well Elevation (feet)</th>
<th>Screened Interval (feet)</th>
<th>Elevation of Screened Interval (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>-</td>
<td>12*</td>
<td>106</td>
<td>105*</td>
<td>1*</td>
<td>90 to 100*</td>
<td>16 to 6*</td>
</tr>
</tbody>
</table>

GS = Ground Surface
GS elevation obtained from site survey
* = Estimated values for proposed well

**Table 9.3.2. Estimated Point of Withdrawal Water Level Information**

<table>
<thead>
<tr>
<th>Well</th>
<th>GS Elevation (feet)</th>
<th>MP Height (feet)</th>
<th>MP Elevation (feet)</th>
<th>Static DTW from MP (feet)</th>
<th>Static WL Elevation (feet)</th>
<th>Date of WL Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed</td>
<td>106</td>
<td>3.0*</td>
<td>109.0*</td>
<td>52.0*</td>
<td>57.0*</td>
<td>-</td>
</tr>
</tbody>
</table>

GS = Ground Surface. MP = Measurement Point (often top of casing)
GS elevation obtained from site survey
* = Estimated values for proposed well

**Section 9.4 – If known, describe the Aquifer Characteristics**

Include transmissivity, storage coefficient and specific yield, saturated thickness, aquitard leakage, flow boundaries, water-level hydrographs for wells, and associated water quality information

[Sample Text]
Analysis of a 24-hour constant-rate pumping test performed on Well No. 1 from [DATE] to [DATE] by [COMPANY] indicates that the transmissivity of the aquifer is 50,000 gallons per day per foot (gpd/ft) (Appendix C). After 24 hours of pumping at 100 gallons per minute, the drawdown in the well was 20 feet, for a 1-day specific capacity of 5 gallons per minute per foot. Well No. 2 was monitored during the pumping test, which allowed for a calculation of 0.0001 for the storage coefficient using the Cooper-Jacob approximation. After pumping had ceased, recovery in the pumped well was monitored. The well fully recovered after 48 hours.

The nearest well to the proposed point of withdrawal is a permit-exempt well associated with a single home located 500 feet from the well. To analyze for potential pumping impacts, the drawdown at a distance of 500 feet from the proposed well was calculated using the Cooper-Jacob approximation (Table 9.4.1).

### Table 9.4.1. Calculated Drawdown Over Time at Nearest Well

<table>
<thead>
<tr>
<th>Pumping Duration (days)</th>
<th>Calculated Drawdown (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>7</td>
<td>1.9</td>
</tr>
<tr>
<td>30</td>
<td>2.2</td>
</tr>
<tr>
<td>182</td>
<td>2.7</td>
</tr>
<tr>
<td>365</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Calculation used – Cooper-Jacob Approximation

\[
T = 50,000 \text{ gpd/ft} \\
S = 0.0001 \\
Q = 100 \text{ gpm} \\
\text{Distance from Proposed Well} = 500 \text{ feet}
\]

The available draw-down in the neighboring well between the static water level, as reported on the water well report, and the top of the screen is 25 feet. The calculated interference drawdown, when extrapolated out to durations longer than the well will be continuously operated, will not impair the ability of that well owner to withdraw enough water to meet their permit-exempt needs.

**Water Quality Information (may be applicable if groundwater resources are non-potable, or might become contaminated)**

[Sample Text]

Even though the aquifer to be tapped by the proposed well is below sea level and the distance from marine water is less than 1 mile, the chloride concentration as measured in the City’s other nearby Well Nos. 1 and 4 is low at approximately 5 mg/L and has not shown any increasing trend since water quality samples began to be collected in the year 2000, as shown in Table 9.4.2.
Table 9.4.2. Chloride Concentration Over Time

<table>
<thead>
<tr>
<th>Sample Date</th>
<th>Chloride Concentration (mg/L) Well No. 1</th>
<th>Chloride Concentration (mg/L) Well No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/7/2000</td>
<td>4.8</td>
<td>5.6</td>
</tr>
<tr>
<td>8/20/2002</td>
<td>5.8</td>
<td>5.0</td>
</tr>
<tr>
<td>9/1/2005</td>
<td>4.2</td>
<td>4.8</td>
</tr>
<tr>
<td>7/30/2009</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>8/15/2015</td>
<td>5.0</td>
<td>5.1</td>
</tr>
</tbody>
</table>

The chloride data contained in Table 9.4.2 suggests that seawater intrusion is not currently occurring into the existing wells.

Section 10 – Driving Directions

Section 10.1 – Site address, and detailed driving directions to the project site

[Sample Text]

From I-5 northbound, take Exit 255, Sunset Drive, and proceed East five miles to Frog Creek drive. Turn right and proceed to 18726 Frog Creek Drive. The property is located on the left (west) side of Frog Creek Drive. The well site is located behind the big white barn on the right.

Section 11—Maps and Other Documentation

General Information

11.1 – Water Right Maps

[Sample Text]

Map of Proposed Water Right Attributes
Refer to Figure 1.

Map Showing Proposed Infrastructure Associated with Proposed Water Use
Refer to Figure 2.

Map Showing Proposed Irrigated Acres with the Proposed Place of Use
Refer to Figure 3.

Map Showing Related Water Rights within the Proposed Place of Use
Refer to Figure 4.
Figure 1

Proposed Water Right Attributes

T40N, R2E, Sections 27 & 28
WRIA 01, Whatcom County, WA
Figure 3

Proposed Irrigated Acres

T40N, R2E, Sections 27 & 28
WRIA 01, Whatcom County, WA
Figure 4

Related Water Rights

T40N, R2E, Sections 27 & 28
WRIA 01, Whatcom County, WA
Section 12 -- Signatures

Table 12.1 identifies all parcels within the proposed place of use, along with ownership of those parcels (Appendix E).

Table 12.1. Property Ownership within Proposed Place of Use

<table>
<thead>
<tr>
<th>Parcel Number</th>
<th>Parcel Owner</th>
<th>Relationship to Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>P12448</td>
<td>James Dunn</td>
<td>Applicant</td>
</tr>
<tr>
<td>P12449</td>
<td>James Dunn</td>
<td>Applicant</td>
</tr>
<tr>
<td>P12500</td>
<td>Dunn Ranch LLC</td>
<td>Applicant is Governor of LLC</td>
</tr>
<tr>
<td>P12501</td>
<td>Dunn Ranch LLC</td>
<td>Applicant is Governor of LLC</td>
</tr>
<tr>
<td>P12502</td>
<td>James Dunn</td>
<td>Applicant</td>
</tr>
</tbody>
</table>

The applicant is James Dunn. As confirmed on the Washington Secretary of State website, James Dunn is a governor for Dunn Ranch LLC (Appendix E). Therefore, James Dunn has signed the application as the applicant and legal owner of the place of use.
Attachment A – Drought Authorizations

You must have completed Sections 1 through 4, Section 6 and 7, and Sections 10 through 12 of the new water right application (Ecology Form No. ECY 040-1-14 (Rev 01-2020). In addition, you need to complete all sections in this Attachment.

General Information

A.1 – Describe Specific Circumstances Pertaining to Water Shortage

[Sample Text]
On [DATE], the Governor declared a drought for the entire State. We normally irrigate our orchard under a surface water right from a reservoir fed by Apple Creek. Due to the less than normal snowpack, and early melt, our reservoir is currently 5 feet lower than normal for this time of year and we do not believe that the reservoir water level will rise above this level due to the warmer than usual spring and early summer and forecasted lower precipitation. The low reservoir level means that we will have stored approximately half of the water that we need to irrigate our crops.

A.2 – Describe How the Water Right Proposed Will Address these Impacts

[Sample Text]
The application is requesting to utilize water from a nearby well for drought use. Being able to use the new well will allow us to make up the difference in our supply.

A.3 – Any Previous Drought-Specific Authorizations for the Subject Parcels

[Sample Text]
During the 2015 drought, a drought-specific authorization was approved for this same well. The drought authorization that year was G4-23432C. The current request is the same as occurred in 2015.

We were not contacted by Ecology or any other water right holders during the 2015 drought claiming that our drought authorization was causing impairment.

A.4 – Irrigation only – What Types of Crop(s) Are Being Grown and How Will the Water Shortage Impact Them

[Sample Text]
Ruby Red Orchard grows a variety of apples and cherries. These are perennial crops that must be irrigated, or the trees will die. If we have to limit our irrigation to one-half of our normal supply, we will have to focus on saving trees and our crop for this year will be a total loss.
Attachment B – Mitigation Plan

General Information

The proposed water right application will cause impairment if approved without a mitigation plan.

The water rights that would be impaired, by the City’s requested 2 cfs surface water right from Big Creek, are associated with the Big Creek Hydropower Project (Table B.1). The water rights associated with that hydropower project often exceed the flow in the stream during the irrigation season. Therefore, any reduction of the flow in the creek, when the flow is below 50 cfs, is considered an impairment of the hydropower water rights.

Table B.1. Water Rights that Could be Impaired Information

<table>
<thead>
<tr>
<th>Water Right</th>
<th>Sources</th>
<th>Instantaneous Rate (cfs) Additive</th>
<th>Instantaneous Rate (cfs) Non-Additive</th>
<th>Annual Volume (ac-ft/yr) Additive</th>
<th>Annual Volume (ac-ft/yr) Non-Additive</th>
</tr>
</thead>
<tbody>
<tr>
<td>S4-23564C</td>
<td>Big Creek</td>
<td>40</td>
<td>0</td>
<td>NS</td>
<td>0</td>
</tr>
<tr>
<td>S4-24589C</td>
<td>Big Creek</td>
<td>10</td>
<td>0</td>
<td>NS</td>
<td>0</td>
</tr>
<tr>
<td>Combined Total</td>
<td></td>
<td>50</td>
<td></td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

No annual volume specified on the water rights.

The applicant has agreed to divert water for irrigation of his pasture only when minimum instream flows are met on the Skagit River as specified in WAC 173-503-040. The chart below identifies the probability that the minimum instream flows will not be met over the irrigation season. The applicant acknowledges and understands that water might not be available on any given day of the irrigation season.
There will be no impairment to the minimum instream flow established in the WAC since the applicant has agreed to allow its water right to be interruptible based on minimum instream flows. Therefore, no mitigation plan is needed.

**B.1 – Identify the source of supply for the proposed mitigation water**

[Sample Text]

The City has a pending purchase and sale agreement for a parcel of riparian property that has a senior water right on Big Creek upstream of the hydropower project. This water right diverts water seasonally from Big Creek at a rate of 2.5 cfs for irrigation of 100 acres.

**B.2 – Estimate the consumptive quantity of water for the proposed use.**

[Sample Text]

The City is proposing to divert 2 cfs of water on a year round basis, 0.2 miles upstream of the Big Creek Hydropower Project point of diversion under its new water right. This water will be fully consumptive to Big Creek since the City’s wastewater treatment facility discharges water directly to the marine water of Puget Sound.
B.3 – Describe how the proposed mitigation would offset the impacts of the proposed withdrawal or diversion

[Sample Text]

The City will purchase the upstream property and associated irrigation water right and permanently donate the water right into the Trust Water Rights Program. Water will no longer be diverted from Big Creek for irrigation during the summer months, which is the period during which mitigation is required. The donation of the 2.5 cfs water right and the diversion of 2.0 cfs by the City will provide a 0.5 cfs benefit to the flow of Big Creek.

B.4 – Describe the measures that will be taken to ensure mitigation will be maintained for the duration of the water right authorization.

[Sample Text]

Since the water right will be permanently donated to the Trust Water Rights Program, that water will remain as a source of mitigation in perpetuity.

B.5 – Provide copies of the agreements between you and other parties regarding mitigation for impacts, if applicable.

[Sample Text]

A copy of the pending purchase and sale agreement for purchase of the mitigation water is attached (Appendix G).

B.6 – Describe the benefits and costs, including environmental effects, of any water impoundment or other resource management technique that is included as a component of the application.

[Sample Text]

All mitigation proposed to offset impacts is based on acquisition and permanent donation of senior water rights into the Trust Water Rights Program.

B.7 – For surface water, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting diversion impacts.

[Sample Text]

All mitigation proposed to offset impacts is based on acquisition and permanent transfer of a portion of a senior water right into the Trust Water Rights Program. The donation of the 2.5 cfs water right and the diversion of 2.0 cfs by the City will provide a 0.5 cfs benefit to the flow of Big Creek.
B.8 – For groundwater, analyze whether there will be any increased water supply from the impoundment or technique, including recharge of groundwater, as a means of making water available or otherwise offsetting the impact of the diversion of surface water.

[Sample Text]

All mitigation proposed to offset impacts is based on acquisition and permanent transfer of a portion of a senior water right into the Trust Water Rights Program.

B.10 – If you intend to offset your new use, describe how and when non-consumptive water returns to ground water or surface water, and explain how this volume was estimated. Specifically describe how the quantity, timing and location of return flow would change if the proposed permit is approved.

[Sample Text]

The proposed point of diversion will cause impairment equivalent to the rate of water diverted under the City’s proposed water right, when flows in Big Creek are less than 50 cfs, since the City’s wastewater treatment facility discharges directly to marine water. The City’s water right request is for diversion of 2 cfs and 400 ac-ft/yr. The City’s diversion will operate on-demand year-round. Based on historic use of water within the City under other water rights, the City will divert approximately 250 ac-ft/yr during the months of July through September, when the full 50 cfs is not always available at the Big Creek Hydropower Project diversion. The remaining 150 ac-ft/yr will be diverted over the rest of the year, when the water supply is sufficient for all water users.

The water right to be acquired will more than offset for impact to the Big Creek Hydropower Project water rights due to the City’s requested water right.
Appendices
Appendix A

State Environmental Policy Act Documents
Appendix B

Water System Planning Documents
Appendix C

Water Well Reports and Testing Reports
Appendix D

Technical Specifications on Equipment
Appendix G
Other Supporting Documents