



**OREGON WATER RESOURCE DEPARTMENT  
WATER CONSERVATION, REUSE AND STORAGE  
GRANT PROGRAM**

RECEIVED

APR 10 2014

OWRD  
SALEM, OREGON

**I. Grant Information**

Study Name Silverton-Mt. Angel ASR Feasibility Study

Type of Grant Requested:  Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

*Note: A Water Conservation and Reuse study may be submitted as a joint application. All other applications must only include one application type.*

Program Funding Dollars Requested: \$ 17,500.00 Total cost of planning study: \$ 35,000.00

*Note: Request may not exceed \$250,000*

**II. Applicant Information**

<b>Applicant Name: City of Silverton</b>		<b>Co- Applicant Name: City of Mt. Angel</b>	
Address	306 S. Water	Address:	5 N. Garfield P.O.Box 960
	Silverton, OR 97381		Mt. Angel OR. 97362
Phone	503-873-5321	Phone:	503-845-9291
Fax:	503-873-3210	Fax:	503-845-6261
Email:	BWilloughby@Silverton.or.us	Email:	Estien@ci.mt-angel.or.us

<b>Principle Contact: Bob Willoughby</b>	
Address:	306 S. Water St.
	Silverton, OR 97381
Phone:	503-874-2205
Fax:	503-873-3210
Email:	BWilloughby@Silverton.or.us

**Certification**

I certify that this application is a true and accurate representation of the proposed work for a project planning study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department grant and are prepared to conduct the planning study if awarded.

Applicant Signature - Silverton: [Signature] Date: 4/8/14

Print Name: Robert S. Willoughby Title: City Manager

Applicant Signature - Mt. Angel: [Signature] Date: 4-8-14

Print Name: Eileen Stein Title: City Administrator

**III. Planning Study Summary**

Please give a brief summary of the planning study using no more than 150 words.

*The proposed planning study will evaluate the feasibility of developing an aquifer storage and recovery (ASR) system for the joint benefit of the cities of Silverton and Mt Angel, located in Marion County. The cities are jointly considering ASR as a water supply alternative to address redundancy, long-term sustainability, water quality and storage deficiency issues experienced by one or both entities. The study will utilize existing information to estimate the capacity and potential constraints of an ASR system located in the vicinity of the two cities, identify possible fatal flaws and key unknowns, develop an implementation road map and provide estimates of implementation costs. The study will involve evaluating the following elements: (1) the characteristics of the Columbia River Basalt aquifer system, (2) source water availability, including water rights and stream flow, (3) water quality, (4) infrastructure requirements, (5) cost, and (6) required grant elements, as necessary.*

## IV. Grant Specifics

### Section A. Common Criteria

**Instructions:** Answer all questions in this section by typing the answer below the question. It is anticipated that completed applications will result in additional pages.

1. Describe your goal (which must be based on evaluating the feasibility of developing a water conservation, reuse or storage project) and how this study helps to achieve the goal.

*The goal of this study is to evaluate the feasibility of developing a cost-effective alternative for subsurface storage of excess Silverton treatment plant capacity to provide a variety of water supply benefits for the cities of Silverton and Mt Angel, including redundant source capacity, water quality benefits for both cities; defer construction of additional surface storage for Silverton and reduce Mt Angel's groundwater withdrawals during the peak demand season. This planning study is designed to determine potential water availability, evaluate hydrogeologic feasibility and potential project capacity, identify water quality issues and infrastructure needs and lay out a pathway for implementing an ASR development program. This is a conceptual-level study that would analyze available data and identify alternatives that could be implemented in a practical manner.*

2. Describe the water supply need(s) that the project associated with the planning study is intended to meet. Applicant should reference supporting documentation that would be available upon request.

*The cities of Silverton and Mt Angel have differing, but complementary supply needs that an ASR project could meet. The City of Silverton derives its supply from a surface water reservoir on Abiqua Creek, and from Silver Creek. Previously, Silverton used to operate a groundwater supply well. Silverton experiences seasonal variability in the quality of its supply source, lacks a redundant source in the event of temporary loss of its surface supply, and has additional storage needs within the City (Water Master Plan, Keller Associates, 2011: <http://www.silverton.or.us/DocumentCenter/Home/View/830>).*

*Mt Angel derives its water supply solely from groundwater pumped from three wells completed in the Columbia River Basalt aquifer system (City of Mt. Angel Water Master Plan, Murray Smith & Associates, 2010: [http://www.ci.mt-angel.or.us/sites/default/files/fileattachments/general/page/1649/city\\_of\\_mt\\_angel\\_wsmp\\_and\\_wmcp\\_08-10.pdf](http://www.ci.mt-angel.or.us/sites/default/files/fileattachments/general/page/1649/city_of_mt_angel_wsmp_and_wmcp_08-10.pdf)). The City's wells also produce water of less desirable quality, and all of the City's wells are experiencing declining water levels. Two of the City's wells are located within the Mt Angel Groundwater Limited Area, limiting development of future source capacity from this area.*

3. Explain how the project associated with the planning study will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50% of your need will be met).

*A joint ASR system would provide a high quality source for Silverton to blend with its surface water to improve the aesthetic quality of water delivered to its customers when needed, and would also provide a redundant source to meet the Silverton's short-term needs in the event of interruption or reduction of its surface supply. Further, the ASR system would provide storage that may allow the City to defer construction of a recommended storage tank (Keller, 2011). An ASR system would provide Silverton with access to 80 MG or more of high quality water for blending, to defer system storage needs and as a longer-term emergency source in the event the City's surface source could not be operated.*

*The ASR system would provide Mt Angel with source redundancy and substitute source capacity that could be used to reduce the City's overall groundwater withdrawals, particularly during the summer peak demand season. Delivery of up to 80 MG from an ASR system could supply one-half or more of the demand during the summer and fall seasons, and would reduce the current annual volume of groundwater pumping by over half.*

4. Describe the technical aspects of the planning study and why your approaches are appropriate for accomplishing the goal of the planning study.

*The primary technical aspects to be evaluated for this planning study are to determine the feasibility of ASR, including the hydrogeology of the Columbia River Basalt aquifer system, water availability, water quality, infrastructure and required planning study elements.*

*The hydrogeologic evaluation will use existing information regarding the extent and nature of the Columbia River Basalt aquifer system to assess the suitability of the aquifer system for implementing ASR in the vicinity of Silverton and Mt Angel. The planning study will utilize a relatively rich data set from Mt Angel's municipal supply wells (including an area-wide aquifer test), OWRD observation well and study data, published geologic mapping, U.S. Geological Survey study reports and the City of Silverton's inactive basalt well. This available information will be used to evaluate key factors affecting the hydrogeologic feasibility of ASR, including the geologic framework, which determines recharge feasibility and the fate (recoverability) of recharged water; aquifer hydraulic characteristics, which determine storage volumes and recharge and recovery rates; water quality; and the presence of nearby pumping wells and potential connections with surface water, which may affect recovery rates and volumes (loss of stored water).*

*Silverton holds several senior water rights on Silver and Abiqua creeks, including a 1911 certificate for diversion from Silver Creek right and a 1916 permit for diversion from Abiqua Creek. This portion of the study will evaluate seasonal varying flows and potential impacts on water availability from Abiqua Creek since the project may exceed 500 AF of storage and involve increased diversion during winter/spring months under the permit for the creek.*

*The planning study will have the benefit of surface source water quality data from Silverton's drinking water treatment plant, as well as native groundwater quality data from the City of Mt Angel's groundwater production wells to preliminarily assess compliance with water quality regulations, potentially a preliminary evaluation of geochemical compatibility and recovered water quality, and to identify potential data needs to fully assess compatibility.*

*Several key infrastructure elements for an ASR project are already in place, including recharge source water diversion and treatment facilities with excess available capacity, potentially suitable groundwater wells and local distribution facilities. However, additional infrastructure would be needed for a joint ASR project, most notably a pipeline between the two cities. Both cities have completed water master plans within the past four years, providing current information on existing infrastructure upon which to base an evaluation of infrastructure needs and costing for an ASR system.*

*The final technical area will include evaluation of grant elements including identification of environmental impacts resulting from the potential implementation of the studied alternatives and assessment of potential alternative methods for supplying water. The assessment of alternative methods for supplying water will utilize work from existing water master and management and conservation planning documents. Evaluation of environmental impacts will utilize existing state, county and city documents and data to consider land use, important farmland/formally classified lands, floodplains, wetlands, cultural resources, biological resources, water quality issues, socio-economic/environmental justice issues, and other miscellaneous applicable issues.*

5. Describe how the planning study will be performed. Include:
  - a. General summary statement that describes the study progression.
  - b. When the planning study could begin.
  - c. Listing of Key Tasks to be accomplished with each task having:
    - i. Title
    - ii. Timeline for completion
    - iii. Description of the activities to be performed in this key task

Example: Seepage Loss Measurements: June to July – Measurements will be taken to determine... (Key Tasks listed here are to be placed in Section VI. Project Planning Study Schedule for a quick reference “graphical” representation of the schedule.)

*The planning study would start in September 2014 with a draft study completed by the end of January 2015 for review by project stakeholders. A final report would be delivered by the end of March 2015. The following tasks would be performed as part of the planning study.*

1. *Hydrogeologic Assessment (September – October 2014) - This task will include the following elements:*

*Compilation and review of available geologic and hydrogeologic information, including published studies from OWRD, the USGS, DOGAMI, the cities of Silverton and Mt Angel and Marion County; logs of wells completed within the Columbia River Basalts in the vicinity of Mt Angel and Silverton; production, water quality and water level data from the City of Mt Angel municipal supply wells; water level data from OWRD observation wells; reconnaissance of the City of Silverton’s existing, unused well; irrigation water rights and points of appropriation in the CRB in the vicinity of Silverton and Mt Angel.*

*Evaluation of CRB aquifer characteristics, including lateral and vertical distribution of potential water-bearing zones (basalt interflow structures), hydraulic characteristics, boundaries (flow pinch-outs and faults) and water levels (current and historical trends).*

*Identification of the distribution and approximate amount of pumping from nearby municipal and agricultural wells that that might affect recovery rates and result in loss of stored water.*

*Evaluate potential fatal flaws and estimate potential recovery/injection rates and storage volumes of an ASR system, on the basis of the above work.*

2. *Source Water Availability (September 2014) – This task will include the following elements:*

*Review of the Silverton’s water rights with regard to current authorized rates, volumes and durations available for diversion during off-peak demand seasons.*

*Evaluation of seasonally-varying flows and potential implications regarding water availability.*

3. *Water Quality Review (September – October 2014) – This task will include the following elements:*

*Review available water quality data for Mt Angel’s municipal supply wells, Silverton’s groundwater production well (if available) and Silverton’s water treatment plant and compare to ASR water quality standards.*

*Identify potential data gaps for assessment of geochemical compatibility between native groundwater and injection source water, and recovered water quality.*

4. *Infrastructure Evaluation (October – November 2014) – This task will include the following elements:*

*Review of current water master planning and other water system documents describing the two cities’ systems and assessment of a pipeline between the communities.*

*Identification of infrastructure needs, costs and assumptions for completing an ASR system within Silverton and/or somewhere between the two communities.*

5. *Evaluation of water conservation opportunities and environmental impacts of implementing storage project (November – December) – This task will include the following elements:*

*Review of current water management and conservation documents for the two cities and identify potential benefits and costs of additional conservation alternatives.*

*Identify potential environmental impacts of implementing an ASR project.*

6. Documentation (December – January) – This task will include the following work elements:  
*Prepare a draft written report summarizing the results of the study, a preliminary feasibility determination, conceptual system parameters (rates and volumes), key uncertainties, a roadmap for program development and conceptual costs of implementation.*

6. Provide data and information on the associated project and the project's sources of water supply:

- a. The location of the associated project. (Include the basin, county, township, range and section.)

*The project is located in Marion County, within the Willamette Basin. The planning study will assess ASR feasibility within sections 2,3,9,10,11, 14,15,16,21,22,23,26,27,28,33,34,35 of Township 6 South, Range 1 East.*

- b. The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.

*Source water for the project would be diverted from Silver Creek and Abiqua Creek, tributaries of the east fork of the Pudding River.*

- d. Whether the project will be off-channel or on-channel.

*Off Channel (subsurface storage)*

- e. Water availability to meet project storage. (Typically, the Department evaluates new storage projects using a 50 percent water availability analysis.)

*Water would be diverted under existing authorizations, including permits S-3226 and S-36714 and Certificate 2400.*

- f. Proposed purposes and uses of stored water.

*The stored water would be recovered for municipal uses in the cities of Silverton and Mt Angel for various purposes, including to improve water quality, provide each city with source redundancy, increase the long-term sustainability of Mt Angel's groundwater supply and allow Silverton to defer construction of an additional storage tank.*

- g. Environmental flow needs and water quality requirements of supply source water bodies.

*These elements will be evaluated as part of the planning study.*

7. What local, state or federal project permitting requirements/issues/approvals do you anticipate in order for the planning study to be conducted? If approvals are required, indicate whether you have obtained them. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them.

*There are no known local, state or federal permitting requirements or approvals required to complete this study.*

8. Describe the level of involvement, interest and/or commitment of different entities associated with the planning study (attach letters of support). Describe how these entities will benefit or be impacted by the planning study.

*See Attached Resolutions From Silverton and Mt. Angel.*

9. Identify when matching funds will be secured and the term of matching funds availability.

*Matching funds will be available July 1, 2014. See Attached Resolutions.*

10. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the planning study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the planning study.

*Contract with a consultant that has a wide experience and in depth knowledge of all aspects associated with ASR development and operation as well as other related topics.*

COPY

**CITY OF SILVERTON**  
**RESOLUTION**  
**14-19**

**A RESOLUTION OF THE SILVERTON CITY COUNCIL AUTHORIZING CITY STAFF TO SUBMIT A GRANT REQUEST TO THE OREGON WATER RESOURCES DEPARTMENT FROM THE WATER CONSERVATION, REUSE AND STORAGE PROGRAM FOR A \$ 35,000 AQUIFER SYSTEM RECOVERY FEASIBILITY STUDY**

**WHEREAS**, the Silverton City Council has the responsibility for the provision of basic services for the people of Silverton; and

**WHEREAS**, the availability of treated clean throughout the year is a basic service; and

**WHEREAS**, Silverton's primary water source is Abiqua Creek; and

**WHEREAS**, the Silverton Water Master Plan of February 2011 identifies as a priority 1A.1 need for the water system as additional clean water storage; and

**WHEREAS**, Jeff Barry of Groundwater Solutions Inc., a recognized expert in ASRs, has opined, based on an initial review of the geology, that the prospects for a successful ASR are good; and

**WHEREAS**, the City of Mt. Angel has expressed interest in the possibility of participating in a successful ASR; and

**WHEREAS**, the information provided by an ASR Feasibility Study would be critical to policy makers in deciding how to meet the need for additional clean water storage.

**NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SILVERTON, AS FOLLOWS:**

**Section 1:** The City of Silverton authorizes City Staff to submit an application for a \$ 17,500 Water Feasibility Study Program grant to OWRD from OWRD's Water Conservation, Reuse and Storage Investment Fund (the Grant) to provide funding for a \$ 35, 000 ASR Feasibility Study (the Study).

**Section 2:** The City of Silverton, subject to the annual budget process, hereby commits \$ 11,700 toward any local match requirement for the Grant, provided that the City of Mt. Angel commits \$ 5,800 toward any local match requirement, and provided further that the Oregon Water Resources Department (OWRD) approves a \$ 17,500 grant for the two cities to conduct the Study.

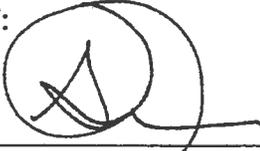
2014

Section 3: That this resolution is and shall be effective after its passage by the City Council.

Resolution adopted by the City Council of the City of Silverton, this 7<sup>th</sup> day of April, 2014.

  
\_\_\_\_\_  
Mayor, City of Silverton  
Stu Rasmussen

ATTEST:



\_\_\_\_\_  
City Manager/Recorder, City of Silverton  
Bob Willoughby

**CITY OF MT. ANGEL  
RESOLUTION NO. 1421**

**A RESOLUTION APPROVING AN APPLICATION TO THE OREGON WATER  
RESOURCES DEPARTMENT FOR AN AQUIFER STORAGE AND RECOVERY  
FEASIBILITY STUDY.**

**WHEREAS**, the Mt. Angel City Council has the responsibility for the provision of basic services to the residents of Mt. Angel, including the provision of drinking water; and

**WHEREAS**, Mt. Angel's municipal water is sourced from ground wells; and

**WHEREAS**, Mt. Angel's municipal water is commonly known to have a high mineral content in its groundwater which has long been criticized for its undesirable taste and effect on the municipal and domestic water infrastructure and household appliances and plumbing; and

**WHEREAS**, the City of Silverton's primary water source is surface water from Abiqua Creek; and

**WHEREAS**, Abiqua Creek water has more desirable consumer qualities than Mt. Angel's; and

**WHEREAS**, Mt. Angel could potentially improve the quality of its domestic water system by substituting its primary supply from groundwater to surface water via Abiqua Creek; and

**WHEREAS**, an Aquifer Storage and Recovery (ASR) would be central to a regional water system allowing both Mt. Angel and Silverton an ample supply of high quality drinking water; and

**WHEREAS**, an initial evaluation of the geology indicates that the prospects for a successful ASR for the two cities are good; and

**WHEREAS**, the information provided by an ASR Feasibility Study would be critical to policy makers in deciding whether or not an ASR should be developed for clean water storage; and

**WHEREAS**, the City of Mt. Angel will commit \$5,800 and the City of Silverton will commit \$11,700 to provide the local match for a \$35,000 ASR Feasibility Study.

**NOW, THEREFORE BE IT RESOLVED** by the City Council of the City of Mt. Angel:

**SECTION 1.** The City of Mt. Angel requests the Oregon Water Resources Department approve a grant from Water Conservation, Reuse and Storage Program for a \$35,000 ASR Feasibility Study.

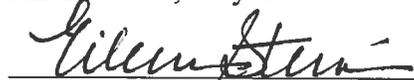
Passed by the City Council this 7<sup>th</sup> day of April, 2014 by a vote of:

**AYES: 5                      NAYS: 0**

APPROVED BY THE MAYOR this 7<sup>th</sup> day of April, 2014.

  
\_\_\_\_\_  
Andrew Otte, Mayor

ATTESTED BY:

  
\_\_\_\_\_  
Eileen Stein, City Administrator

## Section B. Unique Criteria

**Instructions:** Answer the set of questions below that applies to the type of planning study that this grant will fund.

### Water Conservation or Reuse

1. Water Conservation or Reuse projects that may result from this planning study are requested to be included in the Water Resources Department's "Inventory of Potential Conservation Opportunities". Though you may have already submitted this information earlier in the year through a separate survey, we ask that all applicants complete the information on the form provided at the end of this application.  
 I have filled out the application or  I have not filled out the application.
2. Explain how the associated project will mitigate the need to develop new water supplies and/or use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.

**Above-Ground Storage**

Please answer the following three questions **BEFORE** proceeding:

- Will the project divert greater than 500 acre-feet of surface water annually?  Yes  No
- Will the project impound surface water on a perennial stream?  Yes  No
- Will the project divert water from a stream that supports sensitive, threatened or endangered species?  Yes  No

*If you answered "Yes" to any one of these questions, by signature on this application, you are committing to include the following required elements in your planning study.*

**Describe how you intend to address the required elements in your planning study:**

- a) **Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.**
  
- b) **Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.**
  
- c) **Analyses of environmental harm or impacts from the proposed storage project.**
  
- d) **Evaluation of the need for and feasibility of using stored water to augment in-stream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.**

**Is the proposed storage project for municipal use?**

- Yes  No

**If you answered "Yes," then describe how you intend to address the following required element in your planning study:**

- e) **For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.**

**Proceed in answering the following questions:**

1. Describe when and to what extent the project associated with the planning study includes provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values.
  
2. Present convincing argument that there are no other reasonably achievable alternatives that would be able to meet the water supply need(s). Applicant may reference supporting documentation that would be available upon request.

**Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]**

Please answer the following three questions **BEFORE** proceeding:

- |  |                         |
|--|-------------------------|
| Will the project divert greater than 500 acre-feet of surface water annually?                          | Yes                     |
| Will the project impound surface water on a perennial stream?  | No                      |
| Will the project divert water from a stream that supports sensitive, threatened or endangered species? | Yes?? Need to verify... |

*If you answered "Yes" to any one of these questions, by signature on this application, you are committing to include the following required elements in your planning study.*

**Describe how you intend to address the required elements in your planning study:**

- a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.**

*Analyses of seasonal-varying flows and impacts of the project on those flows will be evaluated in general accordance with the February 2014 guidance document prepared by the Senate Bill 839 Science Sub-group. The evaluation will utilize a percentage of flow approach using existing stream flow data from Abiqua and Silver creeks.*

- b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.**

*A comparative analysis of alternative means of supplying water will rely on information from current water master and management and conservation planning documents for the two cities, as well as other relevant county and basin planning documents. A comparative analysis of alternative means of supplying water will rely on information from current water master and management and conservation planning documents for the two cities, as well as other relevant county and basin planning documents.*

- c) Analyses of environmental harm or impacts from the proposed storage project.**

*Potential for long-term impacts due to increased water diversions will be addressed through evaluation of seasonal varying flows and water availability. Sensitive areas that could be affected by the construction and/or operation of an ASR facility, including agricultural lands, wetlands and other sensitive areas, will be identified. Impacts from construction, including increased noise and transportation, may result from this project but are expected to be temporary.*

- d) Evaluation of the need for and feasibility of using stored water to augment in-stream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.**

*This element will be evaluated by discussion with OWRD and ODFW staff regarding in-stream flow deficiencies during certain times of year, and assessment of the infrastructure needs and cost to provide flow augmentation.*

**Is the proposed storage project for municipal use? Yes**

**If you answered "Yes," then describe how you intend to address the following required element in your planning study:**

- e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.**

*This proposed project was conceived within the framework of existing and planned water supply projects described in current water master planning, and water management and conservation documents prepared for the two cities. The project will be developed in part using information from these documents, and will be evaluated relative to the cities' water supply needs and resulting capital*

*improvement planning recommendations identified in the documents.*

**Proceed in answering the following questions:**

1. Water Conservation or Reuse projects that may result from this planning study are requested to be included in the Water Resources Department's "Inventory of Potential Conservation Opportunities". Though you may have already submitted this information earlier in the year through a separate survey, we ask that all applicants complete the information on the form provided at the end of this application.

I have filled out the application or  I have not filled out the application.

2. Present convincing argument that there are no other reasonably achievable alternatives that would be able to meet the water supply need(s). Applicant may reference supporting documentation that would be available upon request.

*The collective and complementary needs of the two cities cannot be reasonably achieved by another project because additional groundwater capacity development for Mt Angel is not a feasible long-term water supply alternative and development of a surface storage project to supply the City with high quality water would require new water rights and development of a treatment plant and a pipeline, whereas the proposed project would leverage existing surface water rights, reservoir, diversion and treatment facilities. Silverton alone could, through potential costly treatment plant upgrades and construction of a costly storage tank, address a portion of their needs; however, there are no other viable alternatives for providing source diversification and redundancy.*

## V. Match Funding Information

Applicants must demonstrate a minimum dollar-for-dollar match based on the total funding request. The match may include a) secured resources, b) previously expended resources, and/or c) pending resources. For secured funding, you must attach a letter of support from the match funding source that specially mentions the dollar amount shown in the "Amount/Dollar Value" column. For pending resources, documentation showing a request for the matching funds must accompany the application. For resources that have been previously expended, the expenditure must have occurred on or after July 1, 2013. Resources expended prior to July 1, 2013 are not eligible for match purposes.

The Type of matching funds may include:	The Status of matching funds may include:
<ul style="list-style-type: none"> <li>The value of in-kind labor, equipment rental and materials essential to the planning study provided by the applicant or partner*.</li> </ul>	<ul style="list-style-type: none"> <li>Secured funding commitments from other sources.</li> </ul>
<ul style="list-style-type: none"> <li>Cash is direct expenditures made in support of the planning study by the applicant.</li> </ul>	<ul style="list-style-type: none"> <li>Associated and documented expenditures for the planning study from non-program sources incurred on or after July 1, 2013.</li> </ul>
	<ul style="list-style-type: none"> <li>Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.</li> </ul>

\*"Partner" means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed planning study. OAR 690-600-0010.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type ( <input checked="" type="checkbox"/> One)	Status ( <input checked="" type="checkbox"/> One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
City of Silverton	cash	Secured	\$ 11,700	July 1, 2014
City of Mt. Angel	cash	Secured	\$ 5,800	July 1, 2014
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		

## VI. Project Planning Study Schedule

**Estimated Project Duration: September 2014 to January 2015**

Place an "X" in the appropriate column to indicate when each Key Task of the project will take place.

Project Planning Study Key Tasks	2014				2015				2016 & Beyond
	1 <sup>st</sup> Q <sub>r</sub>	2 <sup>nd</sup> Q <sub>r</sub>	3 <sup>rd</sup> Q <sub>r</sub>	4 <sup>th</sup> Q <sub>r</sub>	1 <sup>st</sup> Q <sub>r</sub>	2 <sup>nd</sup> Q <sub>r</sub>	3 <sup>rd</sup> Q <sub>r</sub>	4 <sup>th</sup> Q <sub>r</sub>	
<i>Hydrogeologic Assessment</i>			X	X					
<i>Source Water Availability</i>			X						
<i>Water Quality Review</i>			X	X					
<i>Infrastructure Evaluation</i>				X					
<i>Evaluation of Required Elements</i>				X					
<i>Documentation</i>				X	X				

## VII. Project Planning Study Budget

### Section A

Please provide an estimated line item budget for the project planning study. An example would include: labor, materials, equipment, contractual services and administrative costs.

Line Items	Number of Units* (e.g. # of Hours)	Unit Cost(e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Staff Salary/Benefits						
Contractual	300	\$120		\$17,500	\$17,500	\$35,000
Equipment		\$1000	\$1000			
Other:		NP				
Administrative Costs**						0
<b>Total for Section A</b>				\$17,500	\$17,500	\$35,000
<b>Percentage for Section A</b>						

\* Note: The "Unit" should be per "hour" or "day" – not per "project" or "contract."  $Units \times Unit\ Costs = Total\ Cost$

\*\* Administrative Costs may not exceed 10% of the total funding requested from the Department

### Section B

If Grant amount requested is \$50,000 or greater, you **MUST** complete Section B. Key Tasks in Section B should be the same as the Key Tasks in Section VI (Project Planning Study Schedule).

Project Planning Study Key Tasks	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
<b>Total for Section B</b>				

Totals in Section B must match the totals in Section A