OREGON WATER RESOURCES DEPARTMENT
WATER SUPPLY DEVELOPMENT ACCOUNT
LOAN AND GRANT APPLICATION

I. Project Information

Project Name: *City of Haines Water System Compliance Project*

Type of Project: *Water system improvements to meet regulatory compliance, PSI compliance, water conservation*
☐ Check box if project type includes storage

Funding Request Type: ☐ Loan ☒ Grant

Funding Amount Requested: $ $5,372,220 Total cost of project: $ $7,262,169

Note: Grant funding requests must demonstrate cost match of at least 25% of total project cost. This may include in-kind.

II. Applicant Information

Principal Contact: *Valerie Russell*				**Fiscal Officer:**	
Address:	*819 Front St.*			Address:	
	Haines, OR 97833				
Phone:	*541-856-3366*	Fax:	*541-856-3812*	Phone:	Fax:
Email:	*haines@cascadeaccess.com*			Email:	

Involved Landowner 1:		**Involved Landowner 2:**	
Address:		Address:	
Phone:	Fax:	Phone:	Fax:
Email:		Email:	

Please include a supplementary document that lists all additional involved landowners if applicable.

Certification:

I certify that this application is a true and accurate representation of the proposed project work 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 funding award and are prepared to implement the project if awarded.

Applicant Signature: Valerie Russell Date: 1/19/2016

Print Name: Valerie Russell Title/Organization: City Recorder - City of Haines

III. Project Summary

Please provide a description of the need, purpose and nature of the project. Include what the applicant intends to complete and how the applicant intends to proceed.

The City of Haines operates a water system that includes elements over 100 years old, including the 50,000 gallon water tank installed in 1910. It is out of compliance with Oregon Health Authority (OHA) and Safe Drinking Water Act regulations, while various system elements are failing and are beyond their useful life, which poses risks to the environment, public health, safety, and inhibits economic growth. Outdated and ineffecient supply elements also leave the City ill-prepared for climate change and lowered groundwater levels. Due to the increasing frequency of water breaks, an OHA Compliance letter, and increased water production despite reductions in population, the City decided to

proceed with the water compliance project, which includes a new 800 gpm well and a 0.35 million gallon (MG) standpipe tank to provide reliable system supply, storage, and pressures; replacing of all water pipe that was installed prior to 1980; and replacing of all water services and meters within the public right of way, which will allow the City bill water service based on consumption.

The project is shovel-ready. The City is merely awaiting funding before beginning the project and bringing the system into sustainable, reliable compliance. Final design and agency approved plans for sustainable compliance have been completed by J-U-B Engineers, with the exception of the culvert replacement that can be completed before bidding and construction on the rest of the project that will require the CDBG award.

The City has secured a $50,000 ODOT grant and will apply for a FY2016 CDBG Grant through Oregon's Infrastructure Finance Authority. Upon award from OWRD and IFA, the City can achieve reliable and sustainable compliance while maintaining affordable rates. With ODOT grant funds, the City can advance the culvert design and permitting to contract documents and bidding. The CDBG grant will be awarded in 2Q or 3Q in 2016, and the City will be ready to bid the water system project immediately upon award in Fall or Winter 2016. Construction will take approximately 18-24 months and the culvert replacement would advance on the same timeline. Without substantial debt from construction, the City will be able to afford Operation & Maintenance (O&M) on their system for decades.

The purpose of the Haines water compliance project is to: bring the City into reliable, sustainable compliance with OHA regulations, to safeguard the health and safety of Haines' residents, to safeguard the health of the aquifer, to improve the City's infrastructure on Rock Creek, promote fish passage, and to bring the City's water infrastructure to a place that can support economic development and adapt flexibly to the demands of climate change over the next century. Many businesses in Haines cannot consider expanding their businesses while the water system is in its current state and they have testified (see Letters of Support) that the water compliance project will enable them to begin growing again.

PROJECT ELEMENTS:
• Formally abandon Well No 1 and the previously disconnected Well No. 2.
• Update the City's Water Rights; transfer water rights from Well No. 2 to the City's active wells and verify the water rights are written in a manner that allows for diversion for existing and future usage.
• Upgrade the existing primary well (Well No. 3) to provide for auxiliary power; a new disinfection system with 30 minutes of contact time, new well controls, and provide for pump to waste piping.
• Construct a new 800 gallon per minute (gpm), 300 +/- foot deep primary well (Well No. 4), and pump house at a parcel on 2nd and Olsen (Tax Lot #600) to satisfy existing water system demands.
• Construct a new 0.35 million gallon (MG) standpipe tank to replace the 0.05 MG tank built in 1910 on a parcel on 2nd & School St, which will provide the required volume to maintain 20 psi at all times per OARs (Tax Lot #1600).
• Install approximately 248 water services and meters to public works standards within the public right of way.
• Replace the water pipe that was installed prior to 1980 (16,050 linear feet of 2", 4", 6" and 8" pipe asbestos concrete, cast iron, and ductile iron pipe) and 19 new fire hydrants. The water pipe replacement will require three stream crossings and one railroad crossing via pipe jacking to reduce or eliminate environmental impacts.

In order to complete the project, achieve compliance, and remain solvent, the City must secure a funding package that maintains affordable utility rates.

System deficiencies were cataloged during the 2006 Water Master Plan and solution refined by J-U-B Engineer's 2013 Water Master Plan Update:

1. The water tank (installed 1910) is undersized and, during water break events, the tank is drained and pressure falls below 20 psi. This has occurred twelve times in the last ten years in the City of Haines, which leaves its residents vulnerable. Additionally, the undersized tank leaves the town's infrastructure vulnerable to fires because the current tank can only maintain fire supression for twenty minutes. On March 29, 2013 the City received a Compliance Letter from the Oregon Health Authority Drinking Water Program regarding non-compliance .

2. The distribution system is leaky and prone to failures and ruptures across 45% of the system. Lack of reliable pressure also makes the system vulnerable to infiltration. The leaky system, and lack of functioning water meters, also means the City cannot bill based on consumption, which has a substantial impact on conservation.

3. The uncontained alluvial aquifer that supplies the City's water is vulnerable to contamination from multiple sources within the Haines water system:
- 3a. Improper abandonment of Well #1 leaves the aquifer vulnerable to contamination from a fuel supply.
- 3b. Improper abandonment of Well #2 leaves the aquifer vulnerable to contamination from high-water/flooding events on Rock Creek and a backup fuel supply.
- 3c. Leaking non-gasketed pipe, meters, and inadequate or leaking isolation valves in the distribution system threaten the water supply with infiltration during low-pressure events.

4. The City's water system is vulnerable to contamination from a number of sources:
- 4a. Improper abandonment of Well #1 leaves the water system vulnerable to contamination from a fuel supply.
- 4b. Improper abandonment of Well #2 leaves the water system vulnerable to contamination from high-water/flooding events on Rock Creek and an unadequate containment on a backup fuel supply.
- 4c. Leaky pipes (45% of distribution) place the system at risk for infiltration contamination.
- 4d. Well #3, the City's primary source, is downgradient from the railroad and highway, putting it at risk for contamination from spills. Proposed project provides alternate supplies in case of spills.

5. Three culverts in Rock Creek are not in line with fish passage requirements; they are under-sized exacerbating flooding events; and one of the water lines the culverts accomodates is exposed in the streambed. Culvert Improvements in this project allow for a) better fish passage, b) hydrograph closer to its natural state of flow through the City, and c) installation of the waterline under the streambed & culverts meeting public works standards. One waterline crossing is exposed in the streambed creating a public health and safety issue and an additional fish barrier. The location of the other two waterline crossings is unknown but likely doesn't meet public works standards since these waterline crossing were installed approximately at the same timeframe (pre 1970).

A schematic of the City's system that illustrates the system deficiencies is provided in the attachments. Refer to the 2013 Water Master Plan Amendment in Attachment #2 for greater detail.

IV. Project Specifics

Instructions: Answer all questions in this section by typing the answer below the question, using additional space as needed.

1. **Describe how the project will provide public benefits in each of the three public benefit categories.** Project applications will be scored and ranked based on the economic, environmental and social/cultural public benefits identified below. Describe the conditions prior to and after project implementation to demonstrate changes resulting from the project. Descriptions should be quantitative when possible. Information provided must be sufficient to allow evaluation of the public benefits of the project. **Please see the Public Benefit and Evaluation Guidance document for a description of how public benefits will be evaluated.** Applications that do not demonstrate public benefit in each of the three categories (economic, environmental, social/cultural) will be deemed incomplete. Leave blank any categories that are not applicable to project.

Economic Benefits ORS 541.673(2)

(a) Job creation or retention:
This project will maintain the local economy, retain 2.9 City employees threatened by system insolvency, and provide short-term construction boom for 18-24 months. Without funding the system improvements through grants, or principle-forgiveness loans, the City of Haines water system will face either system failure or rates far above the affordability rate ($41). Funding scenarios offered at the One-Stop for Haines in 2015 estimated rate increases of $26-64/resident with rates already at $35/month for water service. If rates increase beyond $41/month, City Staff believes many residents will begin leaving.

The current water system handicaps multiple industries and businesses in town ,and they will not consider expansion or growth while the system is out of compliance and unreliable. The many letters of support attached demonstrate the importance of the project to any growth in the City. Population growth and economic development will occur in Haines once the water compliance project is completed.

The City completed a HUD and IFA-approved Community Income Survey that identified 56% of the City's residents as LMI-Persons falling under the Federal Low-to-Moderate Income classification. Elderly residents on fixed incomes will face paying 10% or more of their gross income to a single utility. With only 208 rate-payers currently, every resident lost will place the water system that much closer to insolvency and/or non-compliance (if O&M cannot be maintained because of lost rate-payer base). Saddling the City with unsustainable debt will create cost-prohibitive water rates for many of Haines' residents - driving them from the City. Not only will the project mitigate growing population loss, but it will provide the foundation for future economic growth - of firms located in Haines now and those firms that will consider Haines a good location to set up shop.

(b) Increases in economic activity:
Updating the City's water system will enable current businesses to expand, create infrastructure to support water-intensive industries and agriculture, and will likely lead to long-term population growth. Without an updated water system, Haines is not an attractive place to locate a business. City Staff reports that some people specifically move to Haines for its low cost of living. Currently, property values fall, utility rates rise, while fire insurance rates rise because of the City's under-sized water tank. With a reliably compliant water system and affordable utility and insurance rates, Haines will once again become somewhere people want to move and open businesses.

The Haines Stampede & Rodeo Association reports that "with the system that is in existence now, growth is just not possible" at their facility despite desires to expand. Dust abatement processes, Fourth of July Fireworks fire suppression activity, and water pressure at the facility would be greatly improved by an upgraded system. Not only will the Rodeo save resources with the new system, but they will have adequate infrastructure to expand their operation.

The influx of construction crews will tremendously benefit local businesses and provide of consistent work for contractors for ~18 months. Local restaurants, coffee shop, and the Sell-Rite (grocery) will have surges in sales during construction. The impact will be extraordinary as the City budget was only $55,000 in 2013-2014 and construction will be approximately $5.5 million.

(c) Increases in efficiency or innovation:
The water system improvements will lead to water conservation because of pump and distribution system effeciency, result in time-savings for City Staff from installation of radio-read meters, and drilling a well and installing a new well house will establish compliant system redundancies for critical components.

Water conservation will result from more efficient intake and distribution of the City's groundwater. Pumping less water from the aquifer and using a more efficient drawdown system conserves energy and water. Installation of radio-read water meters will enable the City to bill based on consumption, which will translate to increased effeciency and water conservation. Radio-read meters will also lead to time-savings for the City's Public Works.

If water utility prices rise over $41/month, businesses, ranchers, farmers, and local residents will be more likely to drill their own water wells - further stressing the aquifer and increasing energy demands.

The current system does not provide for redundancy of critical components of the system (wells and emergency power). While the existing well controls are at or near their design life and are at risk of failure, they currently are able to provide water during normal operations. However during an emergency such as a power outage, the wells and storage can only supply water for forty-two (42) minutes at Peak Hour demand or eleven (11) minutes if a power outage is coupled with a fire at a commercial building before the system pressure would drop below 20 psi. Therefore at the current demands well # 1 is not considered an adequate backup supply source although the well has a manual start back-up generator. The new Well #4 will function as the primary pumping well, but Well #3 will serve as a redundant back-up with 90% the capacity of the planned Well #4.

There are no feasible options to inter-tie.

(d) Enhancement of infrastructure, farmland, public resource lands, industrial lands, commercial lands or lands having other key uses:
Bringing the system into compliance with a right-sized tank and 19 new hydrants will upgrade public infrastructure to provide fire protection, which will also raise property values. The franchise utility service provided by Reliance Connects will be improved through this project.

Reliable system pressure and adequate fire storage protects the city's structures while current storage and lack of pressure leaves the City vulnerable. In 2012, two separate water breaks drained the reservoir and there have been twelve water breaks in the last ten years in the City. Haines Rural Fire Protection District has made it clear that increased water pressure and tank size is vital to maintaining infrastructure in the case of a fire - especially in downtown and at the school. Haines' school is also concerned about fire protection.

Currently, the City's water storage can maintain fire suppression efforts for twenty minutes and the fire plan involves trucking water in from Baker City for storage in portable tanks to continue suppression efforts after twenty minutes. Draining the tank after twenty minutes of fire suppression will also result in a boil order. The new tank will have nearly ten times the capacity, can enable the required two hours of fire suppression, and will be left with appropriate reserve levels. The lack of adequate or compliant fire protection results in a consistent degradation of the ISO fire protection rating used to calculate fire insurance rates. In 2006, ODF's report "Oregon Communities at Risk Assessment" assigned the Haines Fire Protection District a High "overall" and High "hazard" ratings. 40% of the ISO rating derives from adequate water storage, thus the upgrade will have a significant positive impact on the rating. The Fire Chief expects a substantial decrease in fire insurance rates as a result of a compliant water system.

Differences between ratings can mean 50-200% increases in annual rates and, without intervention in Haines, their rating will only increase and mean higher insurance rates for businesses ("Ratings may up rural fire premiums," Bend Bulletin, February 25, 2006). With non-compliant fire protection in the City, especially downtown, it is difficult to attract new businesses. Completing the water system improvements without significant debt will create a sustainable, reliable public utility that can protect the City from fires and will correspondingly raise proporty values.

Direct improvement to commercial land, and the value of that land, will be the Haines Stampede & Rodeo Association. They want to expand, but are handicapped in their current operation by the water system. Dust abatement processes, Fourth of July Fireworks fire suppression activity, and water pressure at the facility would be greatly improved by an upgraded system. Not only would the Rodeo save resources with the new system, but they will have adequate infrastructure to expand their operation.

Reliance Connects reports that significant time, in addition to public and private resources, are wasted maintaining, upgrading, and repairing their communication infrastructure located adjacent to, or crossing, water infrastructure and the aging system has numerous vulnerabilities that threaten their communication infrastructure. Upgrading the system would solve these threats to communication infrastructure.

Other businesses located in Haines include: Rodeo, Frontier Saloon, Haines Steak House, Western East Sales Corporation, Treeline Woodworking, Haines Mercantile, Overland Stage Trading, Bain Equipment Repai, Elkhorn Grande, and Apex Sheet Metal.

(e) Enhanced economic value associated with tourism or recreational or commercial fishing, with fisheries involving native fish of cultural significance to Indian tribes or with other economic values resulting from restoring or protecting water instream:

Culvert replacement will improve connectivity in the North Powder watershed between Rock Creek and the North Powder, and will remove fish passage barriers. One of the species benefiting from the culvert replacement are Bull Trout, which are a First Food and culturally significant to some Tribes. As a whole, a compliant water system keeps the City solvent and Haines will continue to be a stopping point for recreators travling to Anthony Lakes or the Elkhorn Mountains. Without water system upgrades, the downtown will continue to become a significant fire risk and businesses and residents will be pushed out as utility and insurance rates rise.

Ranching and farming are the main industries in the City (Bar 20 Ranches, Brown Ranch, Wagon Tracks Quarter Horses and Allen Farms). Two steakhouses in the downtown attract both out of town foodies and outdoor recreators: Haines Steak House and Frontier Saloon. A 2010 travel guide featured Haines and the Haines Steak House as part of a tour of the Blue Mountains (Bao, "Washington, Oregon, and the Pacific Northwest," pg. 345). To access Anthony Lakes from the southeast (Boise), the shortest route is directly through Haines. Haines is a common place to stop and eat on the way to, and from, recreation spots at Anthony Lakes. Both the USFS Anthony Lake Campground and County-owned Anthony Lakes Mountain Resort are located there.

Anthony Lakes is home to a wide variety of recreation in all seasons. In the winter, Anthony Lakes has some of the best powder in the Pacific Northwest and was included in a New York Times article featuring the "9 Things Every Skiier Should Know This Winter" (Dec. 12, 2015). PDX Monthly argued that this description from 1969 was still accurate in 2012:"The most loveable ski area in America, doesn't have a half-dozen restaurants and bars to warm your feet, two-mile aerial tramway, or a four-color brochure to woo you. [The] powder-rich little ski hill in Oregon ... is living proof that a ski area doesn't have to be glamorous to win the favor of skiers" (Dec. 17, 2012).

Rock Creek (HUC 170502-0304), which runs east down the Elkhorns and through the north part of Haines before connecting to the North Powder River, is designated as a "Bull Trout Spawning and Juvenille Rearing" Fish Use (Oregon DEQ in Figure 206A: Fish Use Designations Powder Basin, Oregon). Bull Trout is culturally significant to many Tribes and considered First Food (USFWS & Jones, et al, "Umatilla River Vision," Confederated Tribes

of the Umatilla Indian Reservation, 2008). The population on Rock Creek is one of a few in the watershed and any increased connectivity will improve habitat.

The culvert replacement on Rock Creek will provide fish pasable culverts, remove a barrier, and mitigate imapcts from the outdated and undersized culverts currently installed. A number of locations within and near the City are popular fishing spots in the spring and improving connectivity will lead to greater fishing opportunities in and near Haines.

(f) Increases in irrigated land for agriculture:
Increased supply and distribution efficiency means ranchers and farmers can use more water for irrigation and not tax the aquifer above the levels it is being tapped currently. The increased acreage would be approximately 10-15% of the total amount of land served by City Water Service (110 acres), excluding right of ways and the railroad. From water conservation and effeciency alone, during April-October the City's irrigable land would grow by 10-15 acres from 14.1 MG of conserved volume (43.4 acre-feet). Total conserved water volume after the project is completed should be 30+/-% based on J-U-B Engineers's experience. The new well and wellhouse will result in greater drawdown effeciency from the aquifer, and the distribution system upgrades will eliminate the systematic leaking in 45% of the distribution system.

Environmental Benefits ORS 541.673(3)

(a) A measurable improvement in protected streamflows that accomplishes one or more of the following:
(A) Supports the natural hydrograph;
(B) Improves floodplain function;
(C) Supports state- or federally-listed sensitive, threatened or endangered fish species;
(D) Supports native fish species of cultural importance to Indian tribes; or
(E) Supports riparian habitat important for wildlife:
N/A

(b) A measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas:
Haines is not located in an official groundwater restricted area, but the region faces very small annual ranfail - 6.38 inches most recently. With climate change negatively impacting snow-pack, rainfall, and thus groundwater levels, 30+/-% conservation in the City's groundwater use is substantial. New radio-read meters, upgraded distribution system, and new well, wellhouse, and well casing will result in substantial water conservation (30+/-%).

The City currently extracts water from an unconfined shallow alluvial aquifer. The water wells and distribution system is old and ineffecient with 45% of the distribution system prone to leakage. While the City's population has decreased 6%, water use has increased 20% during the same period. The City has not been able to bill based on consumption since 1998.

(c) A measurable improvement in the quality of surface water or groundwater:
The City's water system and region's aquifer is currently vulnerable to contamination from multiple sources within the City's system. The proposed project will mitigate the following vulnerabilities by properly abandoning existing wells, updating the distribution system, and completing a new well and wellhouse. This is especially important in a County where there was a cryptosporidium outbreak in Baker City's municipal water system resulting from contaminated reservoir in the Elkhorns. To avoid another outbreak in Baker County, potentially across the aquifer, this water system must be upgraded and the source risks mitigated.

A 2003 Source Water Assesment Report completed by DHS and DEQ identified both Well #1 and the aquifer as vulnerable to viral contamination. Properly abandoning Well #1 will mitigate the aquifer's vulnerability to contamination from the fuel source.

Well #2 requires two elements to mitigate contaminiation risks: the construction of a secondary containment for the backup fuel supply and the proper abandonment of the well. Nearby Rock Creek is prone to high water and flood events, which can infiltrate the aquifer through improperly abandoned Well #2. Rock Creek can also infiltrate an exposed waterline near one of the culverts that the project will replace.

Current Well #3 is downgradient from the Union-Pacific railroad line and Highway 30. According to George Chadwick's November 2014 hydrogeology report, placing the new well (as the project does) upgradient from the railroad and highway will mitigate this potential contamination sources. Construction of Well #4 upgradient from the railway and highway provides the City with a water souce less vulnerable to contamination from spills on these main transportation routes.

Lastly, the system is at risk of contamination because of the leaky distribution system. Leaking non-gasketed pipe, leaking meters, and inadequate number of working isolation vales all pose source contamination risks.

(d) Water conservation:

Radio read meters, an updated distribution system with isolation valves and modern piping, and a new well and wellhouse will result in 30+/-% water conservation. Almost half of the distribution system is prone to leakage and much of it is asbestos concrete or cast iron. From 2006-2012, the City's population has decreased 6%, while water use increased 20%, illustrating substantial water waste. According to J-U-B Engineers' experience, Introducing radio-read meters alone will lead to a 10-15% conservation and it compounds with the conservation gains from the new well, wellhouse, and distribution system to total 30+/-%.

(e) Increased ecosystem resiliency to climate change impacts:

The project will increase ecosystem resiliancy by reducing strain on the aquifer with a new well, wellhouse, and distribution system, improving stream connectivity with culvert replacements, mitigate multiple source contamination risks, and improving the hydrograph of Rock Creek by right-sizing culverts to reduce flooding during high-water events.

As climate change impacts increase over the course of the 21st century, aquifers will become more vulnerable to shortage because of population driven demand increases, disrupted rain patterns, reduced snowpack, and earlier spring melt. Currently, rainfall averages 5-12" annually. Snowmelt enters the region's aquifer, which runs downgradient towards Rock Creek and the North Powder Watershed. In 2015, Baker County faced record low snow-pack and below average rainfall in the spring months. Effeciently using the current aquifer increases the reliability and stability of groundwater supply as the peak stream-flows and snowmelt occurs earlier and earlier in the spring season. With an inefficient, leaky system, the City is more vulnerable to climate change's negative impacts on groundwater availability and less able to adapt to the negative impacts. The City's outdated and improperly abandoned wells also pose substantial threats to the unconfined aquifer.

"Groundwater availability issues in the [Columbia Plateau Regional Aquifer System] basin include widespread water-level declines caused by pumping, corresponding reductions in base flow to rivers and associated effects on water temperature and quality, and effects of climate change on groundwater recharge, base flow, and groundwater availability" ("Groundwater Availability of the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho" Kahle, Burns, et al., Geological Society of America, 2010, p. 200).

(f) Improvements that address one or more limiting ecological factors in the project watershed:

The proposed project will improve fish passage, habitat for ESA-protected Bull Trout in one of ten populations in the watershed, and remove an exposed waterline from the creekbed. The City is requesting funds to design, bid, and construct three culverts that meet fish passage standards and improve Rock Creek

within City Limits. The current culverts impede fish passage and are a facet of the City's water system because the culverts accommodate water lines. One water line is exposed in the creek bed, creating a fish passage barrier and a public health risk from potential infiltration. The culvert replacements would improve connectivity in the North Powder River Basin and meet public works standards.

Rock Creek (HUC 170502-0304), which runs east down the Elkhorns and through the north part of Haines before connecting to the North Powder River, is designated as a "Bull Trout Spawning and Juvenille Rearing" Fish Use (Oregon DEQ in Figure 206A: Fish Use Designations Powder Basin, Oregon).

The 2005 Oregon Native Fish Status Report published by ODF&W listed connectivity in the Powder Subbasin as a major factor in Bull Trout habitat. Improving connectivity, as this project does, will improve Bull Trout habitat. The FWS 2010 Bull Trout Critical Habitat Justification describes populations within the Powder River Basin as follows: "The draft revised recovery plan (Service 2004a, p. 21) identified nine local populations in the Powder River Basin, although another local population (in Rock Creek) was added during the 2008 core area assessments. All are located in headwater streams draining the Elkhorn Mountain Range and persist in areas where the habitat is still suitable." (USFWS, 2010)

A 2003 Source Water Assesment Report completed by DHS and DEQ identified both Well #1 and the aquifer as vulnerable to viral contamination. Properly abandoning Well #1 will mitigate the aquifer's vulnerability to contamination from the fuel source.

Social/Cultural Benefits ORS 541.673(4)

(a) The promotion of public health and safety and of local food systems:
Haines' water system deficiencies pose threats to public health and safety. In addition to possible contamination of the system and aquifer, the under-sized tank and lack of sufficient hydrants handicaps local emergency response. A right-sized tank and 19 new hydrants means adequate and compliant fire protection. With the new tank, the City can control fires and maintain psi. The new well, wellhouse, and distribution system will also protect drinking water in the system and in the aquifer.

First, Well #1 is at high risk for source contamination because its backup fuel generator lacks secondary containment as required by OAR 333-061-0050. The City's system improvements will formally abandon Well #1 and protect from contamination. Second, Well #2 is prone to flooding from Rock Creek and vulnerable to viral contamination. The City's proposed improvements will mitigate these significant health risks. Third, a 2003 Source Water Assesment Report completed by DHS (now OHA) and DEQ identified both Well #1 and the aquifer as vulnerable to viral contamination. Oregon's Integrated Water Resources Strategy identified eastern Oregon as a region particularly vulnerable to groundwater contamination. Fourth, Well #3 is downgradient from the railroad and Highway 30. According to George Chadwick's November 2014 hydrogeology report, placing the new well (as the project does) upgradient from the railroad and highway will mitigate potential contamination from spills on the highway or railway sources. Fifth, the current tank is not large enough enough to maintain 20 psi during water break events (fire and non-fire) and this undermines public safety. Between 2004-2014, the City experienced seven fire emergencies and three non-fire events to repair the system due to lack of working isolation valves, which drained the tank twice and reduced psi to non-compliant levels. Such reductions impact fire-prepardedness and can make boil orders mandatory for the town to protect public health and safety. The Fire Protection District Chief has also voiced his concerns about the system being inadequate to effectively fight fires.

(b) A measurable improvement in conditions for members of minority or low-income communities, economically distressed rural communities, tribal communities or other communities traditionally underrepresented in public processes:
The City completed a HUD and IFA-approved Community Income Survey that identified 56% of the City's residents as LMI Persons falling under the Federal Low-to-Moderate Income classification. As a result, the City's

project meets federal Community Development Block Grant criteria for "LMI Area Benefit." Substantial rate hikes will directly impact the LMI Persons in Haines, and funding scenarios without WRD funding result in rate increases of 74-182% to achieve compliance - rising from $35 to $61-99/month. City Staff believes residents will leave if rates rise more than 15% and every lost resident places increased strain on the water system and the City's solvency.

In order to engage the City's residents and LMI persons, the City has held a number of public meetings about the water system project and the Community Income Survey. The City has had two public hearings specifically concerning the water project: November 12, 2013 and September 8, 2015. The Water Compliance Project has been on Council Meeting Agenda continually since February 12, 2013. Public notice for the community income survey was published in the local paper for three weeks prior to the May 15, 2015 survey. City residents volunteered to conduct the Community Income Survey under the direction of Portland State University.

(c) The promotion of recreation and scenic values:
According to Haines' resident and Public Works Supervisor Josh Proebstel, there are also a number of recreational fishing locations near Haines - Rock Creek, the Haines Pond along Highway 30, the Powder River just outside town, and about 20 alpine lakes in the Elkhorn Mountains accessed through Haines. Increasing connectivity in the Powder Basin Watershed through the culvert replacements will promote recreational fishing across the region and near Haines. Improving connectivity in the Basin also conforms with OWEB's Conservation Principle #6 "Improving Connectivity."

(d) Contribution to the body of scientific data publicly available in this state:
Substantial monitoring will take place after the completion of water system improvements. Installation and operation of radio-read water meters will create a record of consumption along with new master flow meters on all the wells. Additionally, there will be extensive monitoring of the wells, and drawdowns on the aquifer. All data will be maintained by the City of Haines, publicly available upon request, and transmitted monthly to OHA.

(e) The promotion of state or local priorities, including but not limited to the restoration and protection of native fish species of cultural significance to Indian tribes:
This project supports a number of local and state priorities, including protection of fish species with cultural significance to Indian tribes, increasing water conservation, promoting healthier fish habitat in Rock Creek, and promoting health and public safety by mitigating contamination risks to the aquifer and system.

Bull Trout is culturally significant to many Tribes in eastern Oregon and is considered First Food (Jones, et al, 2008). The culvert replacement on Rock Creek will provide fish pasable culverts and mitigate impacts from the outdated and undersized culverts currently installed.

(f) The promotion of collaborative basin planning efforts, including but not limited to efforts under Oregon's Integrated Water Resources Strategy:
A number of project elements align with Oregon's Intergrated Water Resources Strategy. On a basic level, the project will bring the system into compliance with state and federal regulatory requirements. Two of the cross-cutting issues, groundwater quality and availbility and climate change resiliancy, are focuses of this project. Not only will there be 30+/-% conservation of water, but the entire system will be protected from many different vulnerabilities that threaten to contaminate the aquifer and the City's system. The project footprint is in the driest portion of Oregon, which averages less than 10" annually (6.38 inches last year), where any aquifer conservation is important. It also promotes healthy ecosystems and protects sensitive fish species and habitat on Rock Creek. Upgrades to the Haines system will also meet priorities in the Water Resources Strategy to collect additional data on consumption and drawdown. Improving connectivity in the Basin also conforms with OWEB's Conservation Principle #6 "Improving Connectivity."

During the project, the City has collaborated with agencies including OHA Drinking Water Authority, Infrastructure Finance Authority, and Oregon Department of Fish and Wildlife. The City has also engaged the public in meetings about the project and conducted a Community Income Survey with the assistance of Portland State University to determine residents' accurate income levels. In order to engage the public, the

City has held a number of public meetings about the water system project and the Community Income Survey. The City has had two public hearings concerning the water project: November 12, 2013 and September 8, 2015. The Water Compliance Project has been on Council Meeting Agenda continually since February 12, 2013. Public notice for the community income survey was published in the local newspaper for three weeks prior to the May 15, 2015 survey.

The project also conforms with Baker County's Natural Resources Plan, which emphasizes the "wise management and use or the County's surface and groundwater." It also encourages improvements in water quality and conservation/effeciency (September 2015, p. 38-39).

2. Identify Project Location.

(a) Attach map of project implementation area if appropriate. List map(s) in this space and attach to application.
Exhibit #1: Project Outline
Exhibit #2: System Deficiencies
Exhibit #3: Project Timeline

(b) Township Range Section Quarter-Quarter Section
T7S *R39E* *S33*

(c) Tax Lot Number(s)
The City owns both these properties and the rest of the project work will occur on City property or in Right of Way.

The standpipe will be constructed on Tax Lot #1600 (map 07S-39E-3AD)
The new well and wellhouse will be constructed on Tax Lot #600 (map 072-39E-33CA)

(d) Latitude/Longitude
44.911534/ -117.938829

(e) County
Baker

(f) Watershed
Powder River Watershed, North Powder River Subbasin

(g) River/Stream Mile (where applicable)
Culvert Replacement - Rock Creek RM 0.5-2.0

3. *(a)* Will the project result in a physical change on private land? ☐ Yes ☒ No

If yes, attach evidence that landowners are aware of and agree to the proposal. List attachments below.
There are two Tax Lots impacted by the project: the standpipe will be constructed on Tax Lot #1600 and the new well on #600. The City has purchased #1600 and the deed is included in Attachment #9. The City is in the process of purchasing #600 and a letter from the owner and a Title Report (Elkhorn Title Co.) is included in Attachment #9.

Attachment 9: Property Acquisition Documents

***(b)* Will the project result in monitoring on private land? ☐ Yes ☒ No**

If yes, attach evidence that landowners agree to the proposal and are aware that monitoring information is public record. List attachments below.

No.

4. Provide a project schedule, including beginning and completion dates. Use the following table as a guide. Attach a separate sheet to application if needed.

Estimated Project Duration: November 1, 2016 to November 1, 2018

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

	20*16*				20*17*				20*18*
Project Key Tasks	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**& Beyond**
Culvert Design, Approval, W/L Improvement			X	X					
CDBG 2Q Award			X						
Bidding				X					
Construction Admin				X	X	X	X	X	X
Construction (individual project element installation schedule set by contractor)				X	X	X	X	X	X
Facility start-up									X

5. Describe any conditions that may affect the completion of the project.

Completion of the project depends on securing funding from IFA's Community Development Block Grant fund. The City cannot apply for CDBG funds before securing all other funding, thus this grant must be applied for first. After applying for the WRD and CDBG grants, the City will assess viability of filling the remaining funding gaps with low-interest loans if rates can remain affordable for residents. Taking on too much debt will mean insolvency. The City has already expended cash from the budget to purchase the parcels needed to complete the project and has advanced the project to shovel-ready. To illustrate the magnitude of the land acquisition costs for the City of Haines, the $32,542 in costs equates to 58% of the usual yearly budget expenditures for the water fund.

6. Attach a completed feasibility analysis if one has been completed.

Attachments:

#2 2013 WMP Amendment

#4. Selected Plans (complete set is 90 pages of plans and 200+ of technical specs)

#5. 2015 Agency Approval Letter for Plan Set

#6. Opinion of Probable Cost

7. Provide suggestions for interim and long-term project performance benchmarks.

Completion of culvert designs, agency approval

Bidding

Construction

OHA and CWA Compliance

8. Provide letters of support for the proposed project (list in this space and attach to application).

Gina D. Perkins, Record-Courier

Colleen Taylor, Haines Stampede & Rodeo Association

Bill Randall, Reliance Connects

Jerry Hampton, Fire Chief of the Haines Fire Protection District

9. Describe partnerships and collaborative efforts associated with the project.

The City of Haines has worked closely with the Haines Fire District and School District to design the system to meet their needs. Infrastructure Finance Authority has also been involved in the project from inception in 2013.

10. Consultations/communications with affected Indian tribes and with the Legislative Commission on Indian Services regarding the project.

Has the Legislative Commission on Indian Services been contacted to identify tribes affected by the project?

☒ **Yes** ☐ **No**

Please provide correspondence as an attachment to this application.

LCIS was contacted regarding the project and the relevant communication is included in Attachment #11. In addition, the Haines completed a Cultural Assesment in consultation with the Confederated Tribes of the Umatilla Indian Reservation in 2015, which is included in Attachment #12.

Has there been consultation/communications with affected Indian tribes?

☒ **Yes** ☐ **No**

Please provide a description of consultation/communication that occurred and attach documents to this application if applicable.

The Burns Paiute and Warm Springs tribes were contacted using the email addresses provided by Karen Quigley of LCIS. No response was received. Emails are included in Attachment #11.

11. Provide a description of:

***(a)* Required local, state and/or federal permits and/or authorizations for project implementation that have been secured to date. Please attach secured permits/authorizations to the application.**

None secured to date. Funding is a precondition of permitting and water rights transfers.

***(b)* Required local, state and/or federal permits and/or authorizations that will be secured in the future to implement the project. Describe efforts to date in securing these permits and/or authorizations.**

Water Rights

J-U-B and the City of Haines have completed water rights transfer documentation, pending construction funding. After funding award(s), the City will sign the Ground Water Registration Modification and the Permanent Water Rights Transfer applications, with copies of the Land Use Form and Well Logs as attachments to both applications. Upon submitting the applications to the Oregon Water Resources Department (OWRD), the City will pay the $1,200 fee for the Ground Water Registration Modification and the $3,200 fee for the Permanent Water Rights Transfer.

A precondition of the water rights transfer is the construction of Well #4. Therefore the applications will be submitted after construction funding is secured.

UPRR Crossing Permit

Schedule B includes a railroad pipeline crossing permit. A precondition of the Union Pacific crossing permit is construction funding. Once construction funding is secure, an application will be completed and obtain prior to installation.

Culvert Installation: USACOE/WRD Permits

We anticipate a Biological Assessment, Cultural Resources, USACOE permit, and State permits. Permitting and monitoring requirements will be determined during the culvert design process and all permit applications will be completed during the design phase, prior to installation.

Building Permits

A building permit application for the standpipe tank and/or the well house will be submitted prior to the start of construction.

Well Drilling Permit

The well driller will file a Notice of Intent to drill with WRD before drilling the new well.

12. Provide any additional supplemental materials to demonstrate ability to implement the project. Examples include project plans and specifications, engineering details and water availability analysis. List documents in this space and attach to application.

#2. 2013 WMP Amendment

#3. System Deficiencies Diagram

#4. Selected Plans

#5. 2015 Agency Approval Letter for Plan Set

#6. Opinion of Probable Cost

#7. Construction Outline (Schedule A & B)

#8. Proposed Project Timeline

#9. Property Acquisition Documents

#10. ODOT Grant Award - Special City Allotment Project (for culvert de-sign)

V. Storage Project Requirements (if not a storage project continue to Section VI)

For any storage project please contact Water Resources Grant Administrator, Jon Unger, at (503) 986-0869 prior to completing the application.

13. Storage Project Type: ☐ **Above Ground** ☐ **Below Ground**

14. If above-ground storage, would the proposed storage project be located in-channel?

☐ **Yes** ☐ **No** ☒ **N/A**

15. Identify the capacity in acre-feet of the proposed storage project.

16. Has a water right application been filed for the proposed storage project?

☐ Application not yet made.

☐ Water right application made; permit not yet issued Application #

☐ Permit issued. Application # Permit #

For Questions 17 & 18 answer the following:

(a) Does the proposed storage project impound surface water on a perennial stream?

☐ **Yes** ☒ **No** ☐ **Uncertain**

(b) Does the proposed storage project divert water from a stream that supports state- or federally-listed sensitive, threatened or endangered fish species?

☐ **Yes** ☒ **No** ☐ **Uncertain**

(c) Does the proposed storage project divert more than 500 acre-feet of water annually?

☐ **Yes** ☒ **No**

17. Water Dedicated Instream ☒ N/A

For above ground storage projects seeking <u>grant funding</u>: If you answered "yes" to any of the questions posed in a-c above a minimum volume of water equal to at least 25% of the stored water must be dedicated to instream use.

Identify percentage of stored water to be dedicated to instream use.

%

Note: Any storage project dedicating 25% of stored water to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score.

18. **Seasonally Varying Flow Prescription**

For all storage projects: If you answered "yes" to any of the questions posed in a-c above the project will need a **Seasonally Varying Flow (SVF) Prescription**, determining the duration, timing, frequency and volume of flows (including ecological baseflow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the official irrigation season. The initial step in defining the SVF for the project is to schedule an SVF meeting with OWRD. For assistance and more information please contact Water Resources Grant Administrator Jon Unger at (503) 986-0869.

Identify whether the storage project will need a Seasonally Varying Flow Prescription.

☐ **Yes** ☒ **No** ☐ **Uncertain**

VI. Environmental Public Benefit for Conservation Projects Dedicating Water Instream (if not a conservation project continue to Section VII)

19. Identify percentage of conserved water to be dedicated to instream use. ☒ N/A

%

Note: Any project that conserves water and dedicates at least 25% of the conserved water quantity to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score. Water dedicated to instream use must be permanently placed instream and protected by the Oregon Water Resources Department.

VII. Financial Information

For Loan Applicants – Since loan applications do not require cost match, loan applicants who do not offer a cost match need not complete Section A and can disregard the match funding columns in Sections B and C. Budget and costs of key tasks must be identified in sections B & C. Loan applicants will be required to provide additional financial information related to their ability to repay the loan. This request for information will take place after the scoring and ranking process for those projects that are recommended for funding.

For Grant Applicants – Complete Sections A, B and C.

Section A – Cost Match Information

Applicants must demonstrate a minimum 25% funding match based on the total project cost. The match may include: a) applicant funds or secured funding commitment from other sources; b) pending funding commitment from other sources; and/or c) the value of in-kind labor, equipment rental, and materials essential to the project. For secured funding, the applicant must attach a funding award letter from the match funding source that specifically 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. Funds expended prior to grant agreement are not reimbursable nor do they qualify for cost match without prior authorization by the Department.

In the Type column below matching funds may include:	**In the Status column below matching funds may have the following status:**
• **Cash** - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*.	• **Secured** - Funding commitments already secured from other sources.
• **In-Kind** - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner.	• **Pending** - 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.

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

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	**Type** (✓ One)	**Status** (✓ One)	**Amount/ Dollar Value**	**Date Match Funds Available** *(Month/Year)*
IFA CDBG Grant	☒ cash ☐ in-kind	☐ secured ☒ pending	*$1,980,179*	*11/2016*
ODOT Grant	☒ cash ☐ in-kind	☒ secured ☐ pending	*$50,000*	*1/1/2016*
City of Haines, Land Acquisition	☒ cash ☐ in-kind	☒ secured ☐ pending	*$32,542*	*March 16*
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		

Section B – Project Budget

Please provide a line item budget for the project; see example below. If significant additional detail is needed please complete separately and attach to completed application.

Line Items	**Number of Units*** *(e.g. # of Hours)*	**Unit Cost** *(e.g. hourly rate)*	**In-Kind Match**	**Cash Match Funds**	**OWRD Funds**	**Total Cost**
Materials						
Contractual/Services						
Staff Salary/Benefits						
Equipment (must be approved)						
Supplies						
Other:						
Full Opinion of Probable Cost in ATTACHMENT #7						
Total for Section B						
Percentage for Section B						***100%***

** Note: "Unit" should be per "hour" or "day" not per "project" or "contract." Number of Units x Unit Costs = Total Cost*

Section C – Key Task Cost

Complete Section C below. Key Tasks identified in Section C should be the same as the Key Tasks in Section IV(4) above.

Project Key Tasks	**In-Kind Match**	**Cash Match Funds**	**OWRD Funds**	**Total Cost**
Agency-Approved Culvert Design and W/L Improvements (Plans and Permitting)		*$13,000*	*$40,000*	*$53,000*
CDBG Grant Administration and Labor Standard Rev.			*$40,000*	*$40,000*
Legal and Fees			*$30,000*	*$30,000*
Construction Engineering			*$641,511*	*$641,511*
Cultural Monitoring during Construction			*$25,000*	*$25,000*
Environmental Mitigation			*$25,000*	*$25,000*
Construction				
Schedule A				
Culverts		*$37,000*	*$180,000*	*$217,000*
General (mobilization, de-mob, traffic control)			*$273,889*	*$273,889*
Distribution system			*$548,543*	*$548,543*
Water meters			*$573,980*	*$573,980*
Standpipe and Well #3			*$2,394,064*	*$2,394,064*
Well #4 & Wellhouse		*$1,807,407*	*586,657*	*$806,198*
Schedule B				
General (mob, de-mob, traffic control, etc)			*$125,759*	*$125,759*
Water distribution system			*$1,475,683*	*$1,475,683*
Land Acquisition		*$32,542*		
Total for Section C		*$1,889,949*	*$5,372,220*	*$7,262,169*