

Council Business Meeting

September 3, 2019

Agenda Item	Ashland Canal Piping Project Direction	
From	Paula Brown, PE Kevin Caldwell Julie Smitherman	Public Works Director Senior Project Manager Water Conservation Specialist
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SUMMARY

Staff is requesting a decision from Council on the Ashland Canal piping project.

Staff is proposing three alternatives:

- | | | |
|-------|--|-----------------------|
| Alt 1 | Underground 24” HDPE Pipe entire canal section | NPV cost: \$3,472,529 |
| Alt 2 | Underground 24” and 30” HDPE Pipe for all open canal sections and line existing piped sections | NPV cost: \$4,339,897 |
| Alt 3 | Canal Remains Open: Replace open sections of canal with new concrete channel and urethane under-liner, line existing piped sections: | NVP cost: \$4,334,379 |

PROJECT GOALS

The goals of the canal piping project are to:

- 1) conserve a significant amount of water currently lost primarily through seepage, and
- 2) reduce the amount of contaminants that enter the City owned section of the canal.

By replacing 10,700 feet (approximately two miles) of the existing, mostly open, canal with a below ground pipe, the City will be able to better protect a critical water source, better realize water conservation and efficiency goals, replace a vital piece of water infrastructure that delivers an alternate raw water supply to the City’s water treatment plant and remove a source of contamination from entering the canal and Ashland Creek. Only the piping alternatives fully meet both project goals of fully capturing all water loss from seepage and evaporation as well as reducing contaminants from entering the City’s open portion of the canal. All three proposed alternatives conserve water loss through seepage.

POLICIES, PLANS & GOALS SUPPORTED

City Council Goals (supported by this project):

- Goal 1: Develop current and long-term budgetary resilience -- Evaluate revenue streams
- Goal 2: Analyze City departments/programs to gain efficiencies, reduce costs and improve services
- Goal 3: Enhance and improve transparency and communication
 - Develop a robust program to engage with Ashland citizens about City priorities and our progress on those priorities

Maintain Essential Services - water

Continue to leverage resources to develop and/or enhance Value Services – conservation and climate change

Department Goals:

- Maintain existing infrastructure to meet regulatory requirements and minimize life-cycle costs
- Deliver timely life cycle capital improvement projects

- Maintain and improve infrastructure that enhances the economic vitality of the community
- Evaluate all city infrastructure regarding planning management and financial resources

PREVIOUS COUNCIL ACTION

Council approved the Water Master Plan in 2012 which included this canal piping project in the list of capital improvements. Council has heard updates on the project and has adopted this project as a part of the 2017-19 Biennial Budget (BN) and the 2019-21 BN.

At the [August 1, 2017 business meeting](#), Council authorized a DEQ Clean Water State Revolving Fund (CWSRF) loan of \$1.3 million to complete the Ashland Canal Piping project. At the January 16, 2018, business meeting, staff received Council approval to award a professional services contract to Adkins Consulting Engineering, LLP (\$192,257). In addition, staff entered into a contract with StingRay Communications (\$31,000) to assist with strategic communications and public outreach, and with Siskiyou BioSurvey (\$14,790) for a vegetation and tree assessment. The Southern Oregon University assisted with a wildlife survey. To date, the preliminary engineering and miscellaneous project expenses total \$295,564.41.

Council has held four study sessions specifically on this topic; February 4, 2019, April 1, 2019, Council Listening Session on June 17, 2019 and July 15, 2019. In addition, there have been several neighborhood and community meetings that began in March 2018.

BACKGROUND AND ADDITIONAL INFORMATION

The City of Ashland is fortunate to have three sources of water; the primary raw water source is Ashland Creek held in Reeder reservoir; the second raw water source through a contract to receive up to 1,369 acre-feet of water from the Talent Irrigation District (TID) originating at Hyatt and Howard Prairie Reservoirs and transported through the Ashland canal; and the third source is treated water from the Medford Water Commission through the City's TAP (Talent Ashland Phoenix) intertie pipeline. As the City continues to preserve this water for generations to come, we will be glad that we have taken steps to protect all of these precious water sources.

The City places priority on improving water quality and efficient water management. As identified in the City's adopted 2012 Comprehensive Water Master Plan, piping the front section of the Ashland Canal (approximately 10,700 lineal feet) from Starlite Place to Terrace Street is intended to meet the goal of improving overall water quantity and efficiency as well as improve water quality in Ashland Creek. In years when water supplies are limited, the Ashland Canal is used to transport TID water as a supplemental raw water source. The raw water is treated to drinking water standards at the City's Water Treatment Plant. Water in an open canal is vulnerable to contamination from a variety of sources. These contaminants reduce the water quality of Ashland Creek as the open ditch releases tail waters from the canal into the creek. Ashland Creek routinely exceeds the State's maximums for E.coli bacteria in the summer months. Additionally, open canals are susceptible to water losses through seepage and evaporation. Water losses in the Ashland Canal are approximately 23 percent (91 percent of the loss is from seepage and 9 percent from evaporation).

Staff and council have heard from many constituents that are not in favor of piping the canal. Reasons for not wanting to pipe the canal range from cost to potential tree loss within the easement to perceived loss in property values to the visual and aesthetic values of seeing water in the canal during irrigation season. Some dispute the data collected by staff and the City's consultants. Many just don't want to have the canal piped. One persistent misconception is that the trail will be turned into a "20-foot logging road" denuded of all vegetation – that is simply not the case; it will remain a trail.

This project has produced a significant amount of research and information, all of which is available on the City website (ashland.or.us/ashlandcanal). Detailed staff project summaries were presented at the February 4th and April 1st council study sessions. Links are available to all reports on the engineering options, ecological analysis of the trees, wildlife impacts, Ashland Canal Advisory Group (ACAG) meeting

presentation and meeting summary notes, answers to frequently asked questions, the project map and current trail easements locations.

FISCAL IMPACTS

The original budget estimate in 2012 was \$1.3 million to pipe the canal; this initial estimate did not include the specifics of being in an urban back yard setting. Current project estimates; including design, permitting, and construction, have grown to a range between \$2.4 to \$3.9 million depending upon the alternative. This range identifies the cost differences for the three final project alternatives including full pipe replacement, piping and partial pipe lining for the existing piped sections, or full canal lining and partial pipe lining for the existing piped sections. Staff is not recommending the 4th alternative which was to aggressively maintain and shotcrete/gunite the canal because this will only temporarily improve the conditions.

When the project was first put into the master plan in 2012, there was no scoping, it was costed as a standard piping project. As staff completed preliminary engineering, the project costs have increased largely due to the details of being in an urban area, in well-developed private property and a very constricted easement area of only 20 feet in width, necessary tree removal and property protection. For whatever option Council approves, costs will be refined during final engineering as the engineering team can get a better and more complete picture of the specific impacts for each property owner along the canal during the construction phase.

The following summary defines the capital costs, annual operation and maintenance cost the projected life of each construction option, salvage value (remaining life at the end of 60 years) and the resulting net present value (NPV). Alternative #3 has a lower initial capital cost, however the increase in required annual maintenance annualized over the 60-year life drives the resulting net present value costs up.

	Alternative #1	Alternative #2	Alternative #3
Method	Underground 24" Pipe entire section	Underground 24"/30" Pipe open sections; line existing piped portion	Canal Remains Open; Replace Liner; line existing piped portion
Material	Corrugated HDPE Pipe	Corrugated HDPE Pipe	Concrete/Urethane under
Capital Costs	\$3,095,000	\$3,950,000	\$2,429,000
Annualized OM&R	\$12,500	\$12,500	\$39,000
Life of Option	60 - 100 years	60 - 100 years	40 - 60 years
Salvage Value	\$354,280	\$335,560	\$0
Net Present Value *	\$3,472,579	\$4,339,897	\$4,334,379
	* Life Cycle Cost / Net Present Value from Adkins Final Report p. 49; based on 60 year life cycle; 2018 dollars		

As a piping project, it is 100 percent Systems Development Charge (SDC) eligible. However, as a liner project, costs will be operations and only some SDC eligible based on conserved water availability. The 2019-21 Biennium Water Fund Capital Improvement Project (CIP) budget includes \$2,000,000 with an additional \$1,500,000 in FY22 for this project (total in the CIP is \$3,800,000 which includes \$300,000 in prior years). Expenses for this project are intended to be reimbursed through a low interest (one percent) DEQ CWSRF loan of \$1.3 million. Additional sources of funding are available for piping alternatives. Staff’s preliminary research indicates probable loans and possible grant funding from Oregon Water Resources, Bureau of Reclamation and potentially IFA.

STAFF RECOMMENDATION

Staff recommends alternative #1 as it is the lowest cost of the piping options that meets both the water conservation and water quality goals of this project. Staff realizes this is unpopular with some residents and those that enjoy the water feature of the open canal. However, the need to maintain our water supply sources and to ensure that the City does not needlessly add contaminants to the Ashland Canal water source are the driving forces behind this recommendation. Either piping option would meet both the water quantity and water quality goals of this project, yet alternative 2 is more costly as it requires a larger pipe to maintain the hydraulic grade line for water flow as it maintains the size and placement of the existing piped sections.

The mayor's appointed Ashland Water Advisory Committee and the Conservation Commission have provided formal recommendations to pipe the canal, as well as the recommendation from the technical committee, ACAG, used to help ground and guide staff.

Once the preferred alternative is identified, final engineering will be completed with more detailed drawings, impacts and any additional right-of-way identified, and a final cost estimate will be prepared. Staff will identify specific additional revenue options to include grant and loan funding prior to returning to council for approval on construction.

Several additional ideas have come up with this process that staff will continue to pursue independent of the decision from Council:

- Better understanding of the demand and use of the irrigation water so that there is less tail water being released into Ashland Creek;
- Additional irrigation water users throughout the City so that there is less demand for potable water for irrigation use; and
- Continuing to work with Parks and Recreation to find ways to keep the area attractive and have walking trails.

ACTIONS, OPTIONS & POTENTIAL MOTIONS

1. I move to direct staff to proceed with final design on Alternative #1.
2. I move to direct staff to proceed with Alternative #__.
3. I move to direct staff to

REFERENCES

1. July 15, 2019 Council Study Session [staff report](#) and [minutes](#).
 - a. Letter of Support – Ashland Water Advisory Committee, pg 41 of staff report
 - b. Letter of Support – Ashland Conservation Commission, pg 42 of staff report
2. February 4, 2019 Council Study Session [staff report](#) and [minutes](#).
3. April 1, 2019 Council Study Session [staff report](#) and [minutes](#).
4. June 17, 2019 – Council Listening Session [minutes](#).
5. [2012 Comprehensive Water Master Plan](#), Carollo (see page 7-7)
6. [Atkins Engineering executive summary](#) (Full reports available at www.ashland.or.us/ashlandcanal)
7. [Siskiyou BioSurvey executive summary](#)
8. [SOU Letter \(Wildlife\)](#)
9. [ACAG presentation](#) and [ACAG meeting notes](#)
10. [FAQs](#)
11. [Project Map](#)
12. [Trail Easement Map](#)