CITY OF ASHLAND

Ashland Canal Piping Project

Community Meeting

January 31, 2019

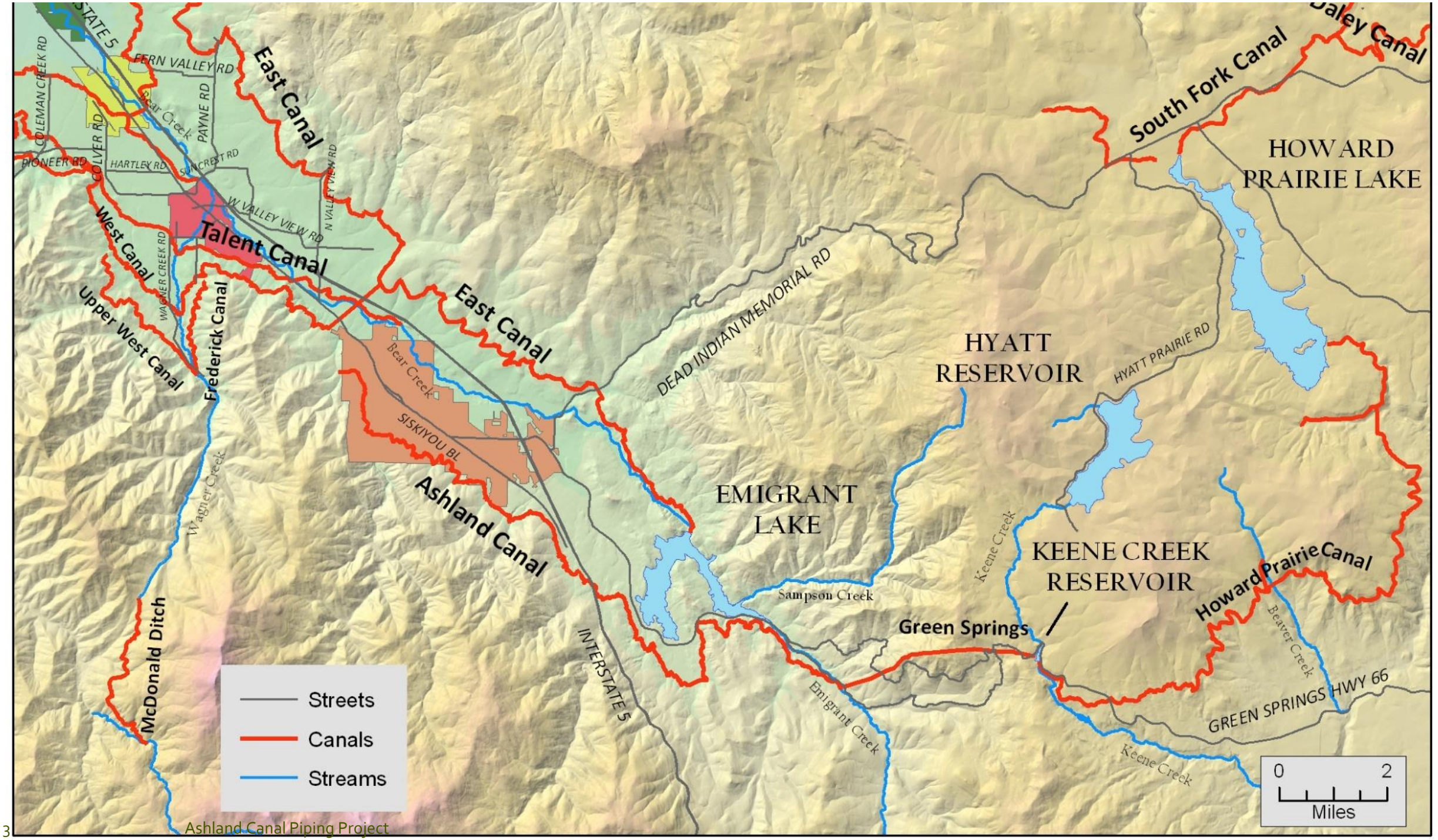
PROJECT PURPOSE & BENEFITS

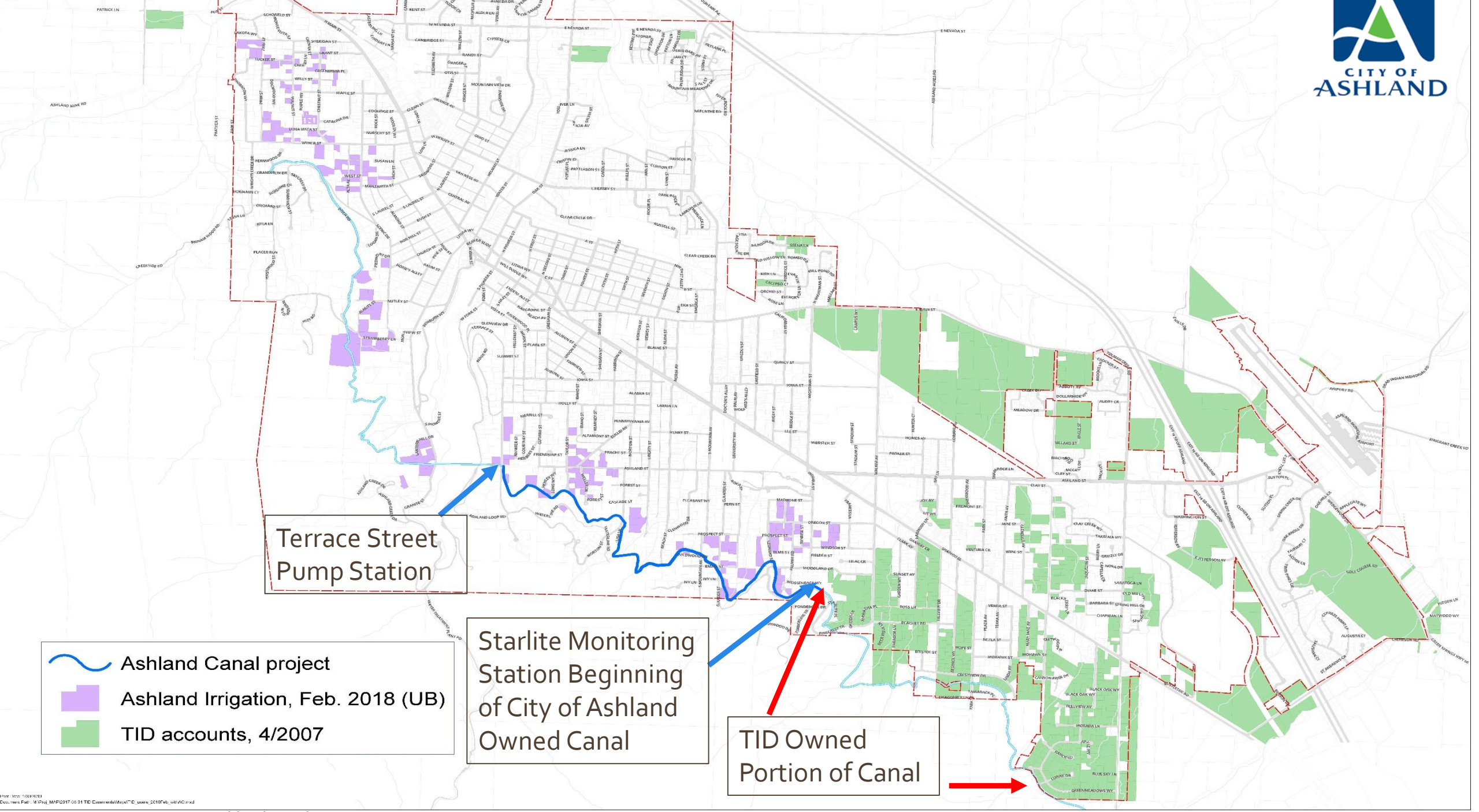
Purpose:

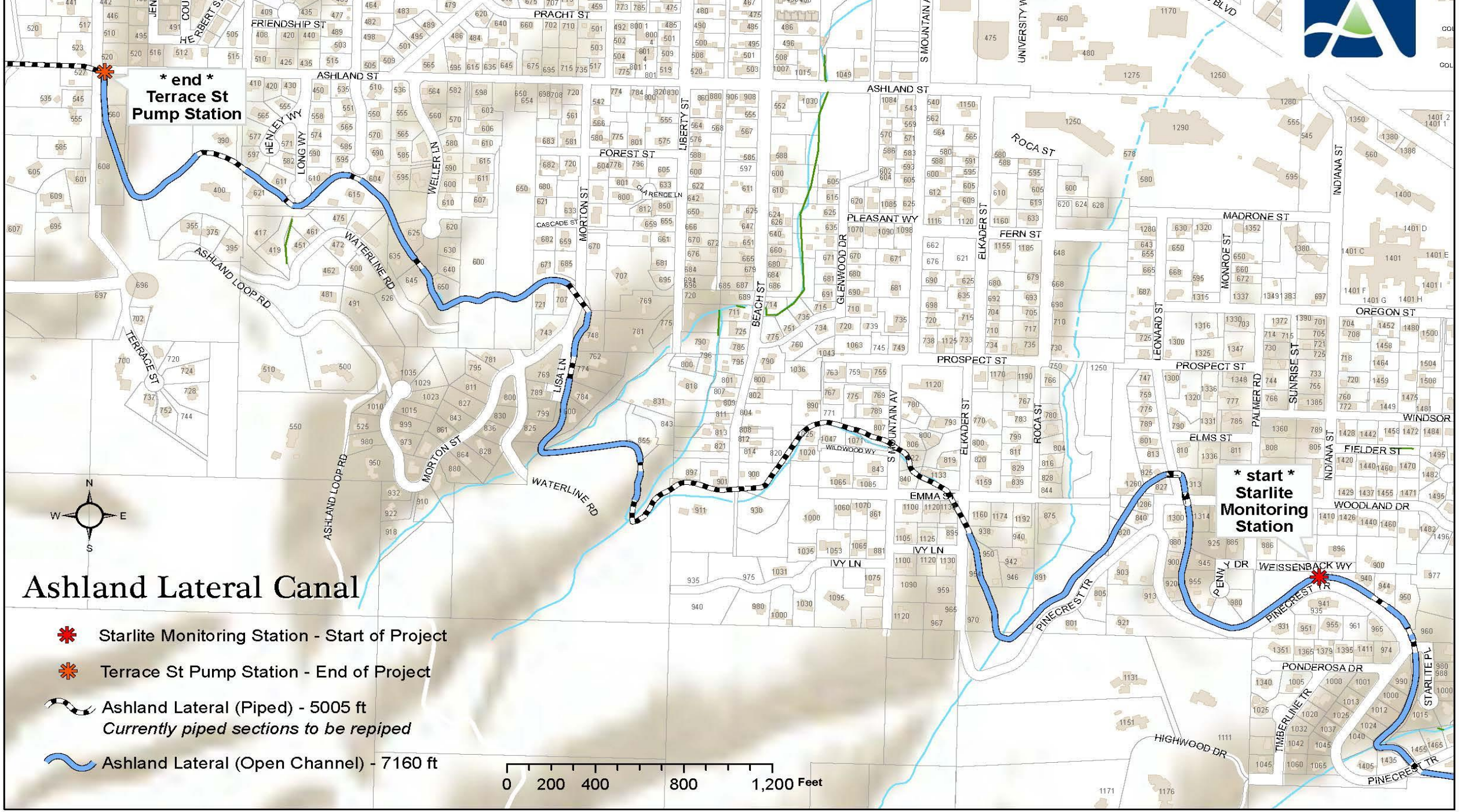
- Replace 10,700 feet of open-channel irrigation canal from Starlite Place to Terrace Street with below-ground pipe(s) to improve the water quality in Ashland Creek and to assist the City's goal for overall water conservation.

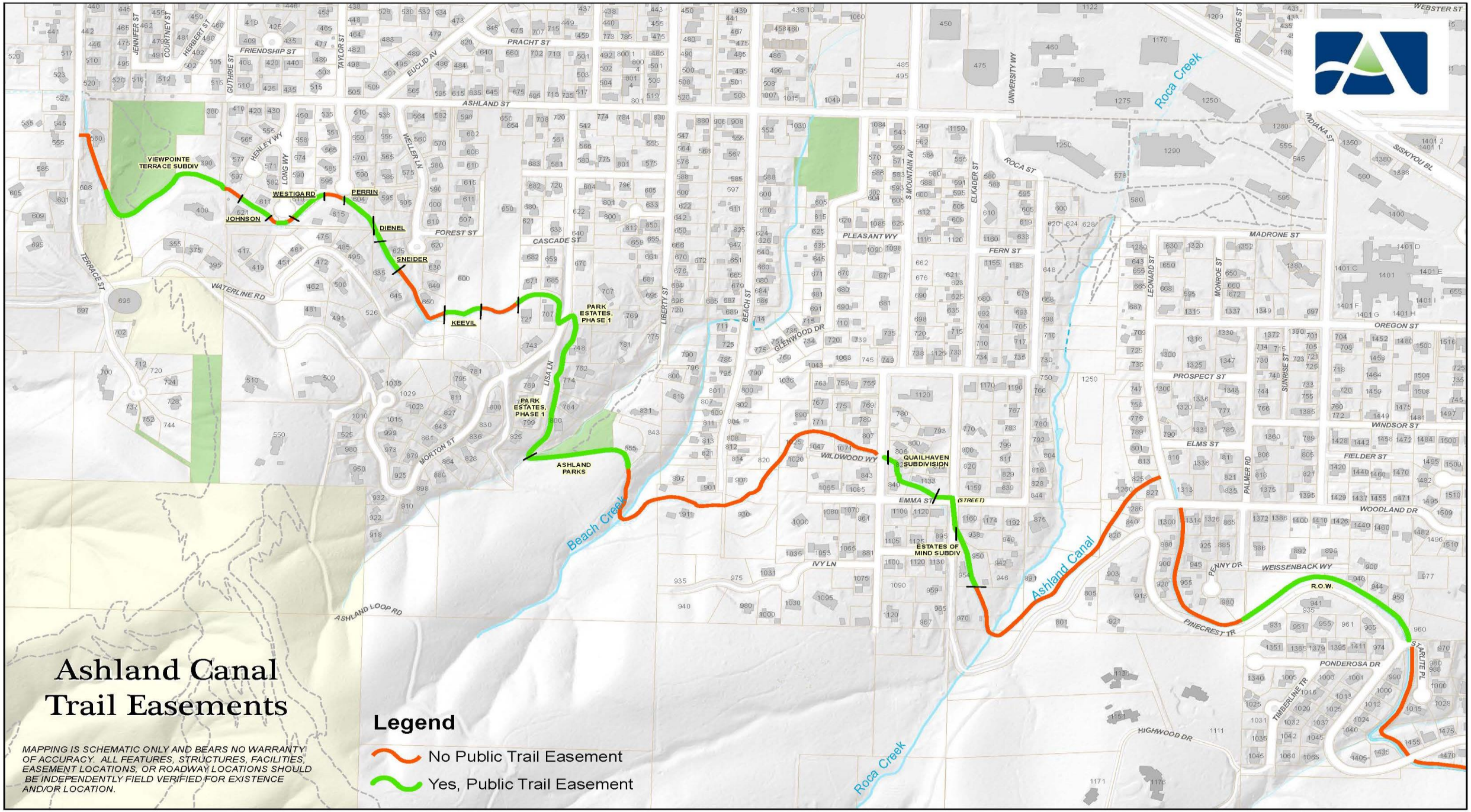
Benefits:

- Minimize water pollution and health risks in Ashland Creek
- Reduce water loss due to seepage and evaporation
- Maximize water resource – *Right Water Right Use*
- Protect drinking water resources

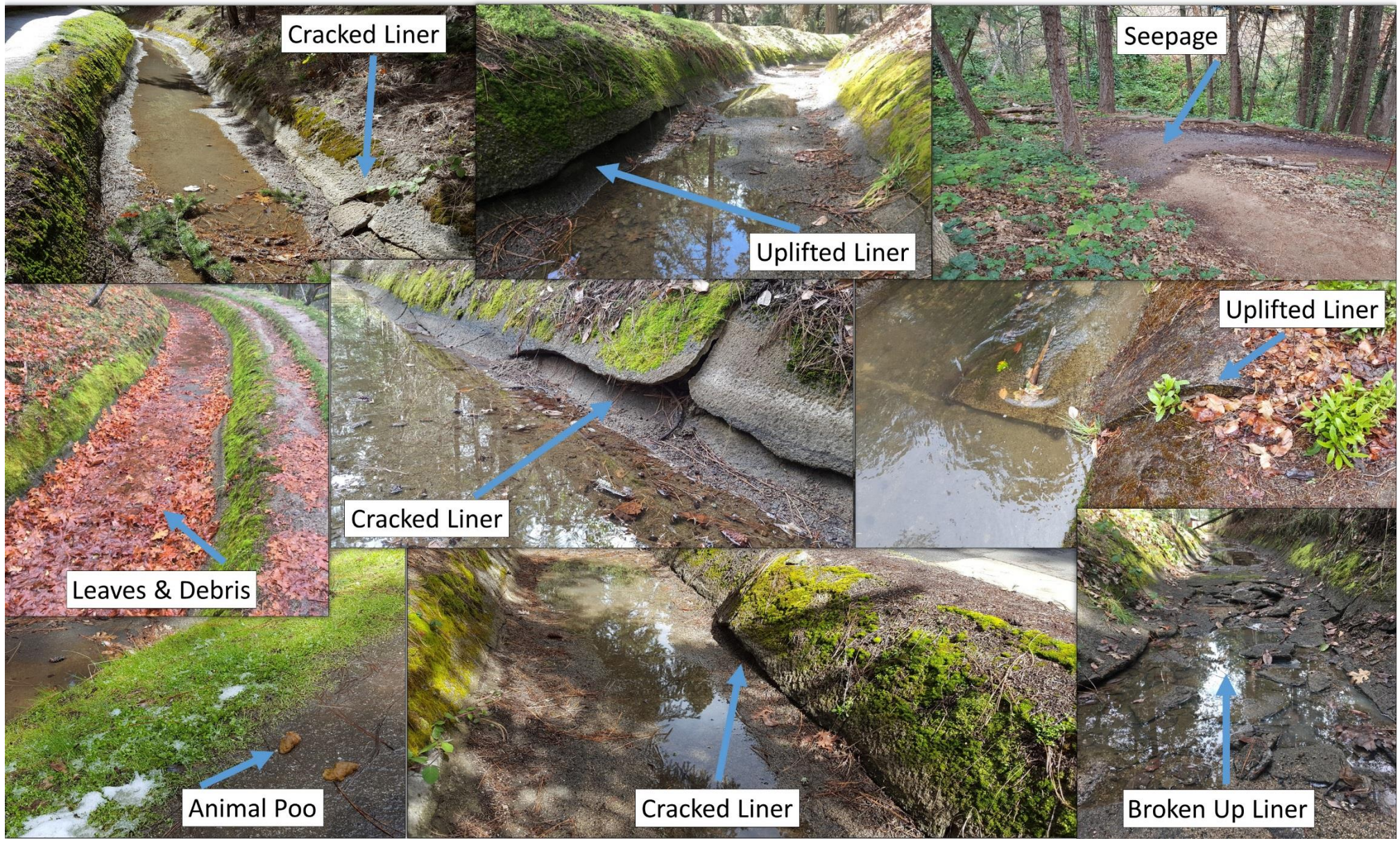

East Canal
South Fork Canal
Talent Canal
West Canal
Upper West Canal
Frederick Canal
Ashland Canal
McDonald Ditch
HOWARD PRAIRIE LAKE
HYATT RESERVOIR
EMIGRANT LAKE
KEENE CREEK RESERVOIR
Howard Prairie Canal
Green Springs
DEAD INDIAN MEMORIAL RD
HYATT PRAIRIE RD
GREEN SPRINGS HWY 66
INTERSTATE 5
FERN VALLEY RD
PAYNE RD
COLEMAN CREEK RD
COLVER RD
PIONEER RD
HARTLEY RD
SUNCREST RD
W VALLEY VIEW RD
N VALLEY VIEW RD
WAGNER CREEK RD
SISKIYOU BL
Bear Creek
Wagner Creek
Sampson Creek
Keene Creek
Beaver Creek
Emigrant Creek
Streets
Canals
Streams
0
2
Miles


Terrace Street Pump Station
Starlite Monitoring Station Beginning of City of Ashland Owned Canal
TID Owned Portion of Canal
Ashland Canal project
Ashland Irrigation, Feb. 2018 (UB)
TID accounts, 4/2007
CITY OF ASHLAND


* end *
Terrace St
Pump Station
* start *
Starlite
Monitoring
Station
Ashland Lateral Canal
Starlite Monitoring Station - Start of Project
Terrace St Pump Station - End of Project
Ashland Lateral (Piped) - 5005 ft
Currently piped sections to be repiped
Ashland Lateral (Open Channel) - 7160 ft
0 200 400 800 1,200 Feet
N
W
E
S
ASHLAND ST
FRIENDSHIP ST
PRACHT ST
FOREST ST
CASCADE ST
CLARENCE LN
WELLER LN
LIBERTY ST
MORTON ST
HENLEY WY
LONG WY
WATERLINE RD
ASHLAND LOOP RD
TERRACE ST
LISA LN
BEACH ST
GLENWOOD DR
PLEASANT WY
ROCA ST
FERN ST
ELKADER ST
MADRONE ST
MONROE ST
INDIANA ST
OREGON ST
LEONARD ST
PROSPECT ST
SUNRISE ST
PALMER RD
WINDSOR
ELMS ST
FIELDER ST
WOODLAND DR
WEISSENBACK WY
PINECREST TR
PONDEROSA DR
STARLITE PL
TIMBERLINE TR
HIGHWOOD DR
S MOUNTAIN AV
WILDWOOD WY
EMMA ST
IVY LN
UNIVERSITY W
BLVD


Ashland Canal
Trail Easements
MAPPING IS SCHEMATIC ONLY AND BEARS NO WARRANTY OF ACCURACY. ALL FEATURES, STRUCTURES, FACILITIES, EASEMENT LOCATIONS, OR ROADWAY LOCATIONS SHOULD BE INDEPENDENTLY FIELD VERIFIED FOR EXISTENCE AND/OR LOCATION.
Legend
No Public Trail Easement
Yes, Public Trail Easement
VIEWPOINTE TERRACE SUBDIV
WESTIGARD
PERRIN
JOHNSON
DIENEL
SNEIDER
KEEVIL
PARK ESTATES, PHASE 1
ASHLAND PARKS
ESTATES OF MIND SUBDIV
QUAILHAVEN SUBDIVISION
R.O.W.
ASHLAND ST
PRACHT ST
FRIENDSHIP ST
FOREST ST
CASCADE ST
WATERLINE RD
ASHLAND LOOP RD
MORTON ST
WILDWOOD WY
EMMA ST
IVY LN
ROCA ST
PLEASANT WY
FERN ST
GLENWOOD DR
MADRONE ST
OREGON ST
PROSPECT ST
ELMS ST
WINDSOR ST
FIELDER ST
WOODLAND DR
WEISSENBACK WY
PINECREST TR
PONDEROSA DR
HIGHWOOD DR
TIMBERLINE TR
PENNY DR
Beach Creek
Roca Creek
Ashland Canal
WEBSTER ST
SISKIYOU BL
INDIANA ST
UNIVERSITY WY
S MOUNTAIN AV
ELKADER ST
LEONARD ST
MONROE ST
SUNRISE ST
PALMER RD
BRIDGE ST
HENLEY WY
LONG WY
WELLER LN
LISA LN
LIBERTY ST
BEACH ST
TERRACE ST
JENNIFER ST
COURTHEY ST
HERBERT ST
GUTHRIE ST
TAYLOR ST
EUCLID AV

Ashland Canal Maintenance Issues



ARTISTIC REPRESENTATION OF COMPLETED PROJECT

WORK COMPLETED
Public Outreach

- Neighborhood Meeting
  - March 6, 2018
- Neighborhood "Backyard Visits"
  - 20 on-site interviews
- Community Meetings
  - April 18, 2018
  - January 31, 2019
- Parks Master Plan Open House
  - May 2, 2019
- Canal Tour (ACAG and staff)
  - November 13, 2018
- Ashland Canal Advisory Group
  - April 2, 2018
  - October 9, 2018
  - December 20, 2018
- City Source Articles
- TV & Radio Interviews
- Project website
- Email notification list (70 citizens)
- Meetings, emails and phone communications with community members

FEEDBACK & INPUT

- Impacts on vegetation
- Aesthetics of water “feature”
- Not a community priority
- Impacts on wildlife
- Homeowner access during construction
- Water efficiency / quality
- Disturbance and removal of homeowner bridges, fencing, rocks, driveways, etc.
- Project costs
- Trail Access
- Drainage
- Wildfire
- Privacy
- Property Values

ASHLAND CANAL ADVISORY GROUP
Members

- Ashland Water Advisory Committee
- Tree Commission
- Conservation Commission
- Historic Commission
- Homeowners along the canal
- Community members
- Ashland Trails Association

Additional Consultants

- WISE project representatives
- Siskiyou Bio Survey
- SOU Biology
- City of Ashland Fire
- Parks Department
- GIS Department

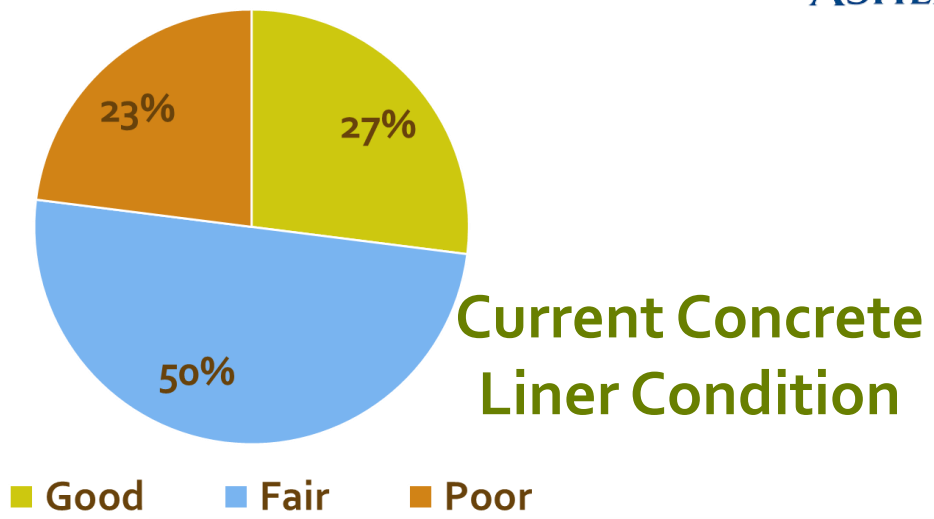
PROJECT WORK COMPLETED

- Preliminary engineering phase (survey and field work)
- Hydraulic Analysis
- Water Quality Testing
- Natural Resource Analysis
  - Wildlife
  - Wildfire
  - Vegetation
- Water Loss Study
- Alternatives Analysis
- Southern Oregon University Biology Analysis

WATER LOSS/SEEPAGE STUDY

Methodology – Ponding test

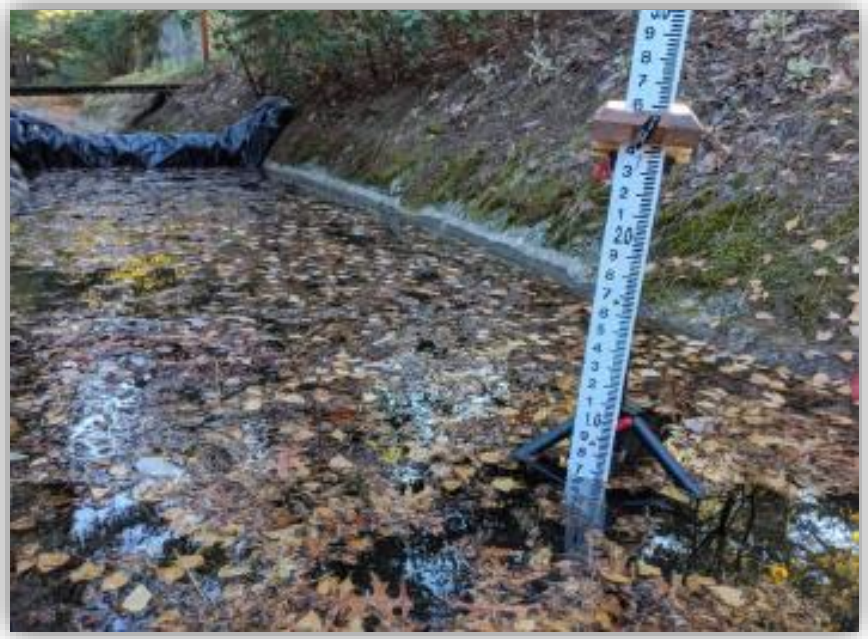
- Measures how fast water seeps from the canal into the ground.
- Three ponding tests were conducted between Starlite Place and Elkader Street.
  - 100 foot section of canal tested in each of the three rated canal conditions



Current Concrete Liner Condition

Results

- Total flow rate loss during an irrigation season is estimated to be 23%.
  - 21% seepage; 2% evaporation
  - Does not include transpiration
- Equivalent to 190 acre feet or 61,911,690 gallons per season (or 62 million).



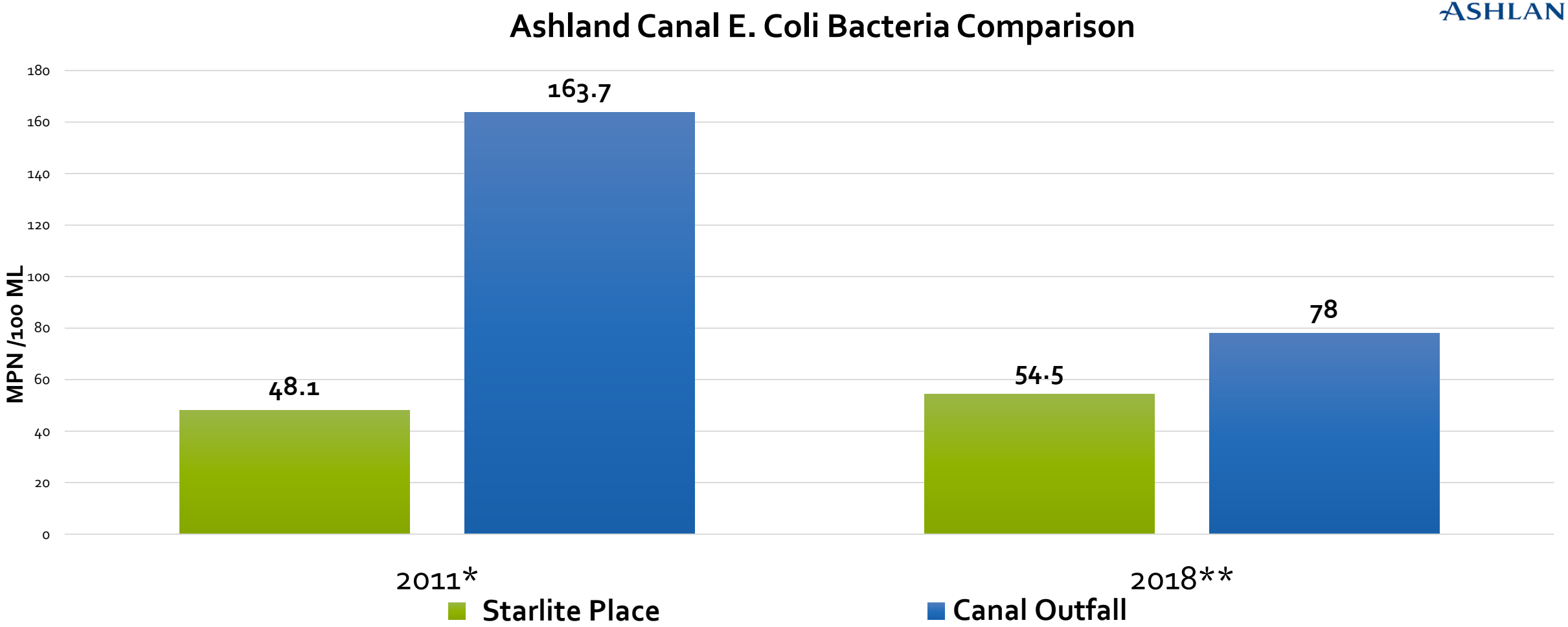
E. COLI BACTERIA STUDIES

Water Sampling Sites

Starlite Place Monitoring Station

Ashland Creek – Ashland Canal Outfall

E. COLI BACTERIA STUDIES



All figures are geometric mean. All units are MPN/100 ML
***2011 data from Rogue Riverkeeper Ashland Creek Bacteria Study (62 samples taken)**
****2018 data from City of Ashland and RVCOG (30 Samples taken)**

NATURAL RESOURCES

Wildlife – SOU Biology

- Evaluate wildlife use and impacts from piping
- The canal does not function as a riparian corridor for wildlife.
- Wildlife shift to alternate water sources during the irrigation "off season."
- Attractive Nuisance

Fire

- The piped canal corridor can be used as an improved fuel break to increase wildfire resilience.
- Allows better access if there were a fire in the area

NATURAL RESOURCES

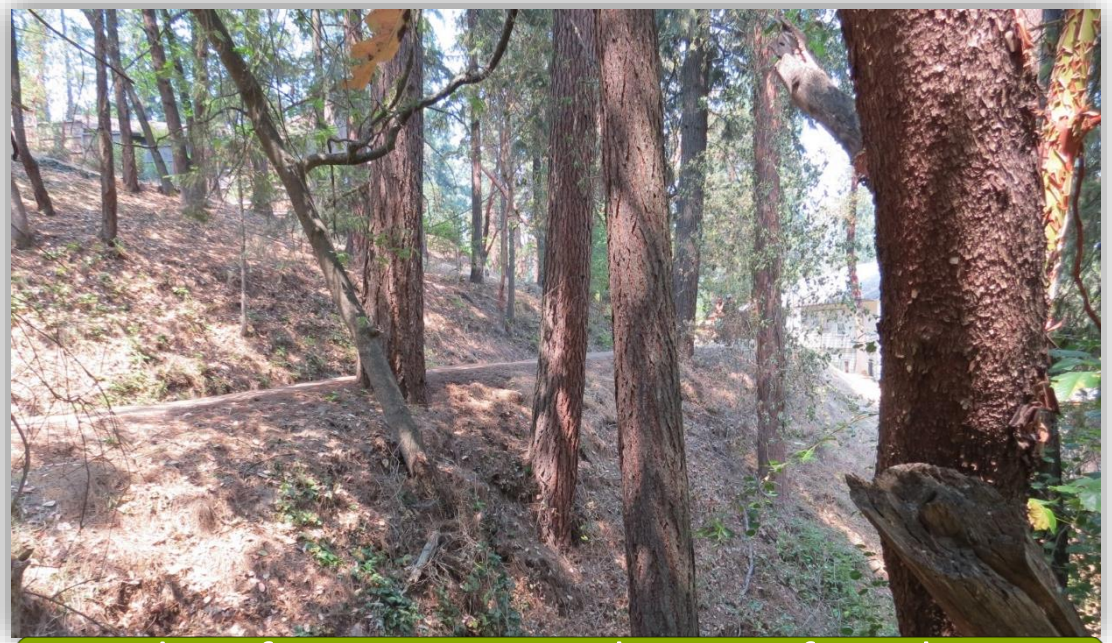
Ecological Analysis – Siskiyou Bio Survey

- Evaluate risks to existing vegetation
- Identify mature trees at risk from piping
- Propose mitigation measures and recommendations

Findings

- Seepage has created an unnatural environment
- Douglas Firs are less resilient than pines and hardwoods
- Trees below the canal are larger than others in the watershed

VEGETATION SURVEY RESULTS



Decades of water seepage has significantly altered the habitat around the canal creating an unusual abundance of large Douglas Firs. It is uncommon to find trees of these sizes upslope of the canal.

Large numbers of specimen trees occur near the canal. The quantities of large sizes are unusual in such a concentrated area.

ALTERNATIVES

Alternative Criteria

- Meet design criteria of 7.2 cfs (cubic feet per second flow rate) minimum for flow and a maximum upstream water elevation of 2,327.05 feet.

- Alternatives 1-3 assume the City will apply for grant funding as appropriate and/or secure addition funds from the DEQ as necessary

ALTERNATIVE #1
Replace the entire canal with new 24" pipe

- Reduce pollution inputs into Ashland/Wrights/Bear creeks from the canal
- Maximize water resources
- Remove trees within the existing easement (approximately 285 trees)
- Requires the most excavation (includes removing piped sections)

ESTIMATED INITIAL CAPITAL COST: $3,095,000

ALTERNATIVE #2

Replace only the open canal with a new pipe and rehab the existing large piped sections:

- Reduce pollution inputs into Ashland/Wrights/Bear creeks from the canal.
- Maximize water resources
- More expensive than alternative 1, requires less tree removal (approximately 260 trees)
- Higher costs due to more fill required, larger pipe, etc.

ESTIMATED INITIAL CAPITAL COST: $3,950,000

ALTERNATIVE #3
Replace the existing concrete liner and rehab the piped sections:

- More expensive lifecycle costs (including repairs to the liner, debris cleanout, etc.)
- This alternative does not address the water quality elements of project but will help with water efficiency
- Tree removal quantities will be similar to other options to protect the investment in the new liner (approximately 260 trees)

ESTIMATED INITIAL CAPITAL COST: $2,429,000

ALTERNATIVE #4
Do Nothing

- Does nothing to remove pollutants from Ashland/Wrights/Bear creeks
- Water loss will increase as the liner and piped sections continue to degrade
- Deferred tree maintenance will continue to increase (increased fuel load)
- Safety of the canal and downstream properties could be compromised

ESTIMATED COST:

- Ongoing operations and maintenance costs would continue (currently $50,000 annually)
- Deterioration will continue and repair costs will increase.

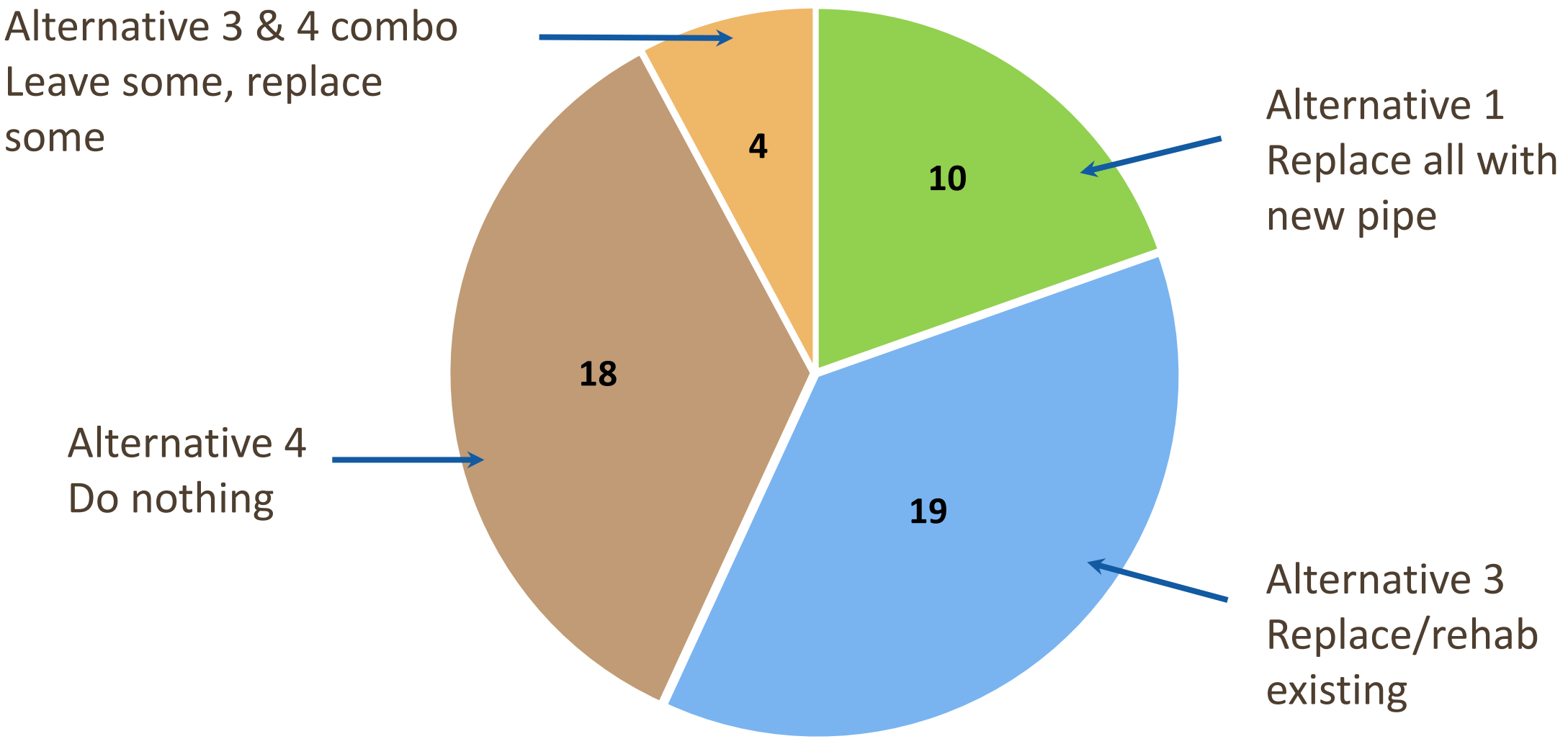
ALTERNATIVE COMPARISIONS

(2018 Costs)

	Alternative #1	Alternative #2	Alternative #3	Alternative #4
Method	All new 24" pipeline	30" & 24" Pipeline	Replace Canal Liner	Do Nothing
Pipe Material	Corrugated HDPE	Corrugated HDPE	Concrete & Urethane	
Capital Costs	$3,095,000	$3,950,000	$2,429,000	$0
Annual O & M	$12,500	$12,500	$39,000	$50,000
Life of Option	60 - 100 years	60 - 100 years	40 - 60 years	0 - 5 years
Salvage Value	$354,280	$335,560	0	0
Net Present Value *	**$3,472,579**	**$4,339,897**	**$4,334,379**	**$2,442,794**

* Life Cycle Cost / Net Present Value from Adkins Final Report p. 49

Summary of Audience Selected Alternatives From January 31, 2019 Listening Session



POTENTIAL GRANT OPPORTUNITIES

- Natural Resources Conservation Service
- Oregon Watershed Enhancement Board
- US Bureau of Reclamation
- Oregon Water Resources Department
- Rogue Basin Partnership

NEXT STEPS

Questions?

What have we missed?

What needs more clarity?

Interested in a canal tour?

<u>Next Meeting:</u>

March 5, 2019

Council Business Meeting

More Information: www.ashland.or.us/ashlandcanal

CITY OF ASHLAND

Thank you!

"We do not see things the way they are, we see them the way we are."

-- Anais Nin