

Advisory Committee Report Attachments:

- City of Bend Septic to Sewer Cost Scenarios presented 5/10/2018
- DEQ Chapter 340- Division 71 340-071-1060 Onsite Wastewater Systems:
Found at link:
<https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=1479>
- Bend Code Title 15-Sewer, Use of Public Sewers Required
- Fig. #1 Map of all 2,800 Septic Properties in the City of Bend
- Fig. #2 Graphic Illustrating Private Property and Public Right-Of-Way Work and Costs
- Fig. #3 Map of Project Area with the 339 25-year-old Septic Lots and 69 Lots Subject to the 300-foot Rule

SE Bend Septic to Sewer- Advisory Committee Analysis

Project Cost Sharing Scenarios - April 2018

Project Phase I: 503 of 2,800 unsewered lots citywide (estimated)

Project Area Homes on Septic	503
Project Area Homes with Stub Outs	96
Total # of Project Area Homes Unsewered	503

Low est	\$ 10,745	\$ 20,520	High est
Per homeowner private est			w/o financing

Private portion cost est \$ 5,404,735 \$ 10,321,560

Class V Project Cost- public portion \$ 32,000,000

	0% / 100%	25% / 75%	33% / 67%	50% / 50%	67% / 33%	75% / 25%	85% / 15%	100% / 0%
Public Side Cost Share Scenarios								
Public Share in blue (4)	\$ -	\$ 8,000,000	\$ 10,560,000	\$ 16,000,000	\$ 21,440,000	\$ 24,000,000	\$ 27,200,000	\$ 32,000,000
Homeowner Share in red	\$ 32,000,000	\$ 24,000,000	\$ 21,440,000	\$ 16,000,000	\$ 10,560,000	\$ 8,000,000	\$ 4,800,000	\$ -
Individual Homeowner Cost Est (100% SEI)								
Public Property Share (1)	\$ 63,618	\$ 47,714	\$ 42,624	\$ 31,809	\$ 20,994	\$ 15,905	\$ 9,543	\$ -
Private Property Share (2)	\$ 15,633	\$ 15,633	\$ 15,633	\$ 15,633	\$ 15,633	\$ 15,633	\$ 15,633	\$ 15,633
Total Cost per Household	\$ 79,251	\$ 63,346	\$ 58,257	\$ 47,442	\$ 36,627	\$ 31,537	\$ 25,175	\$ 15,633
Monthly Homeowner Cost Est 20 years								
Public Property Share @5%	\$ 425	\$ 319	\$ 285	\$ 213	\$ 140	\$ 106	\$ 64	\$ -
Private Property Share @7% (5)	\$ 123	\$ 123	\$ 123	\$ 123	\$ 123	\$ 123	\$ 123	\$ 123
Utility Fee Adjustment (4)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Approx Avg 2017-18 Sewer Fee w/o annual adjust.	\$ 55	\$ 55	\$ 55	\$ 55	\$ 55	\$ 55	\$ 55	\$ 55
Total (3)	\$ 603	\$ 497	\$ 463	\$ 391	\$ 318	\$ 284	\$ 242	\$ 178

Notes:

- (1) Homeowner Share from Public Facilities Project
- (2) Average of High/Low Private Property Costs per Engineering Estimate 03/01/2018, page 9 (\$15,633)
- (3) Total monthly homeowner costs based on financing
- (4) To be determined through potential citywide STEP fee
- (5) City staff projection of 7% for private heloc financing in today's market; caution: financing for a shorter time period will significantly increase monthly

Bend Code Chapter 15.10

**Chapter 15.10
GENERAL SEWER REGULATIONS**

Sections:

15.10.005 Definitions.

15.10.010 Use of Public Sewers Required.

15.10.015 Private Sewage Disposal.

15.10.020 Building Sewer Connections and Responsibilities.

15.10.025 Use of Public Sewers.

15.10.030 Protection from Damage.

15.10.035 Inspection.

15.10.040 Penalties.

15.10.005 Definitions.

The following definitions apply in this chapter:

Biochemical oxygen demand (BOD) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five days at 20 degrees centigrade expressed in terms of weight and concentration (milligrams per liter (MG/l)).

Building drain means that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer, beginning five feet (one and one-half meters) outside the inner face of the building wall.

Building sewer means the sewer line extending from the building drain to the public sewer or other place of disposal. Building sewers include not only sewer lines on private property, but lines within rights-of-way up to the point where the line connects with a sewer main. Building sewers are not part of the public sewer and are not owned by the City, even if located in rights-of-way.

Garbage means solid wastes from the domestic and commercial preparation, cooking and dispensing of food, and from the handling, storage and sale of produce.

Natural outlet means any outlet into a watercourse, pond, ditch, lake or other body of surface or groundwater.

Public sewer means any sewer main owned and controlled by the City. A building sewer is not a sewer main and is not a public sewer.

Sanitary sewer means a sewer which carries sewage and to which storm, surface and groundwaters are not intentionally admitted.

Sewage means the water-carried wastes from residences, business buildings, and institutions.

Sewage treatment plant means any arrangement of devices and structures used for treating sewage.

Sewage works means all facilities for collecting, pumping, treating and disposing of sewage.

Sewer means a pipe or conduit for carrying sewage.

Slug means any discharge at a flow rate or concentration which could cause a violation of the discharge standards of this code or any discharge of a nonroutine, episodic nature including an accidental spill or a non-customary batch discharge.

Storm sewer means a sewer which carries storm and surface waters and drainage, but excludes sewage and industrial wastes, other than unpolluted cooling water.

Suspended solids means a total suspended matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by laboratory filtering.

Watercourse means a channel in which a flow of water occurs, either continuously or intermittently. [Ord. NS-2182, 2012; Ord. NS-2146, 2010]

15.10.010 Use of Public Sewers Required.

A. Except for properties to which City sewer service is not available, no person shall construct any new private sewage disposal system. Existing private sewage disposal systems may be used and maintained if connection to City service is not available or if continued connection is authorized under subsection (B) of this section. Any system not operated by the City is a private sewage disposal system.

B. Unless otherwise permitted by this section, all property used for human occupancy or employment within 300 feet of a public sanitary sewer with available capacity shall be hooked up to the sewer. The property shall be hooked up to the public sanitary sewer within 90 days after the date official notice is given to hook up, unless the City agrees in writing to extend the deadline. The City will agree to extend the deadline for connection if the property owner had

constructed a private sewer system because of a lack of capacity in the City sewer system. The extension may not extend beyond 20 years from the date of construction of the private sewer system, and connection shall be required at any time that repairs are required to the private sewage disposal system. The hookup shall be accomplished in compliance with all applicable Federal, State and City laws, regulations and policies.

C. City water service may be terminated to any property that has not hooked up to the sewage system in compliance with the provisions of this title or any other applicable law, rule or regulation.

D. All persons receiving sewer service from the City shall pay the fee for the service established by Council resolution. The Council may set rates based on type of use, on volume discharged, on strength of the discharge, and/or on any other basis the Council determines to be appropriate. [Ord. NS-2182, 2012]

15.10.015 Private Sewage Disposal.

A. Where a public sanitary sewer is not available, the building sewer shall be connected to a private sewage disposal system complying with this chapter and State regulations.

B. All applicable State and County permits and approvals must be obtained before commencement of construction of a private sewage disposal system.

C. A private sewage disposal system shall not be used until the installation is approved by responsible State and County departments.

D. The type, capacities, location and layout of a private sewage disposal system shall comply with all State regulations. No private sewage disposal system may discharge into any natural outlet.

E. When a property with a private sewage disposal system is connected to the public City sewer, the private sewage disposal facilities shall be abandoned in accordance with State regulations.

F. The owner shall operate and maintain private sewage facilities in a sanitary manner at all times. [Ord. NS-2182, 2012]

15.10.020 Building Sewer Connections and Responsibilities.

A. No unauthorized person shall uncover, connect with, use, alter or disturb any public sewer without a written permit from the City.

B. Applications for a sewer connection shall be on City forms. The permit application must be accompanied by plans and specifications and any other information requested by the City.

- C. The owner is responsible for all costs and expenses relating to the installation and connection of the building sewer. The owner shall indemnify the City from any loss or damage that may directly or indirectly result from the installation of the building sewer.
- D. A separate and independent building sewer shall be provided for each lot or parcel.
- E. Old building sewers may be used in connection with new buildings only if the City determines that they meet all requirements of this chapter.
- F. The connection of the building sewer into the public sewer shall conform to the requirements of the State Building and Plumbing Codes and City Standards and Specifications.
- G. The applicant for the building sewer permit shall notify the City when the building sewer is ready for inspection and connection to a public sewer. The connection shall be made under the supervision of the City.
- H. All excavations for building sewer installation shall comply with the City Standards and Specifications related to work zone protection.
- I. Streets, sidewalks, and other public property disturbed in the course of the work shall be restored in accordance with the City Standards and Specifications unless the City approves otherwise in writing.
- J. The owner of property served by a building sewer shall be responsible for maintenance and repair of the building sewer to the point where the building sewer is connected to a City sewer main. This responsibility includes responsibility for any costs of maintenance or repair. In the event of any break, leak or other damage to a building sewer, the owner of the property served by the building sewer shall cause repairs to be made immediately to minimize any sewer spillage.
- [Ord. NS-2182, 2012; Ord. NS-2146, 2010]

15.10.025 Use of Public Sewers.

- A. No person shall discharge, or cause to be discharged, any stormwater, surface water, groundwater, roof runoff, subsurface drainage, unreasonably large amounts of uncontaminated cooling water or unpolluted process waters to any sanitary sewer.
- B. Stormwater and all other unpolluted drainage shall be discharged to storm sewers, or to a natural outlet approved by the City. Industrial cooling water or unpolluted process waters may be discharged to a storm sewer or natural outlet if the discharge is approved in writing by the City and Oregon DEQ.

C. No person shall discharge, or cause to be discharged, any of the following described waters or wastes to any public sewers:

1. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
2. Any waters or wastes containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the effluent disposal system of the sewage treatment plant, including but not limited to cyanides in excess of 0.5 mg/l as CN in the wastes as discharged to the public sewer.
3. Any water or wastes having a pH lower than 5.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works.
4. Solid or viscous substances in quantities or of such size capable of causing obstruction of the flow in sewers, or other interference with the proper operation of the sewage works including, but not limited to: ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, etc., either whole or ground by garbage grinders.

D. No person shall discharge or cause to be discharged the following described substances, materials, waters or wastes if it appears likely in the opinion of the City that such wastes can harm either the sewers, sewage treatment process or equipment, have an adverse effect on the effluent disposal system, or can otherwise endanger life, limb, public property or constitute a nuisance. In review of the acceptability of these wastes, the City will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant and other pertinent factors. The substances prohibited are:

1. Any liquid or vapor having a temperature higher than 149 degrees Fahrenheit (65 degrees Celsius).
2. Solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the wastewater treatment facilities such as, but not limited to: grease, garbage with particles greater than one-half inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshings, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble, dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass grinding, or polishing wastes.

3. Any waters or wastes containing iron, chromium, copper, zinc, lead and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment works exceeds established City limits.
4. Any waters or wastes containing phenols or other taste or odor producing substances, in such concentrations exceeding limits which may be established by the City as necessary, after treatment of the composite sewage, to meet the requirements of the State or Federal Government.
5. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the State or Federal regulations.
6. Any waters or wastes having a pH in excess of 11.0.
7. Materials which exert or cause:
 - a. Unusual concentrations of inert suspended solids, (including but not limited to: fuller's earth, lime slurries, and lime residues) or of dissolved solids (including, but not limited to, sodium chloride and sodium sulfate).
 - b. Excessive discoloration (including, but not limited to, dye wastes and vegetable tanning solutions).
 - c. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.
 - d. Unusual volume of flow or concentration of wastes constituting slugs.
8. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of the State and Federal agencies having jurisdiction over discharge to the receiving water. [Ord. NS-2182, 2012]

15.10.030 Protection from Damage.

No unauthorized person shall break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the City's sewage treatment system. [Ord. NS-2182, 2012]

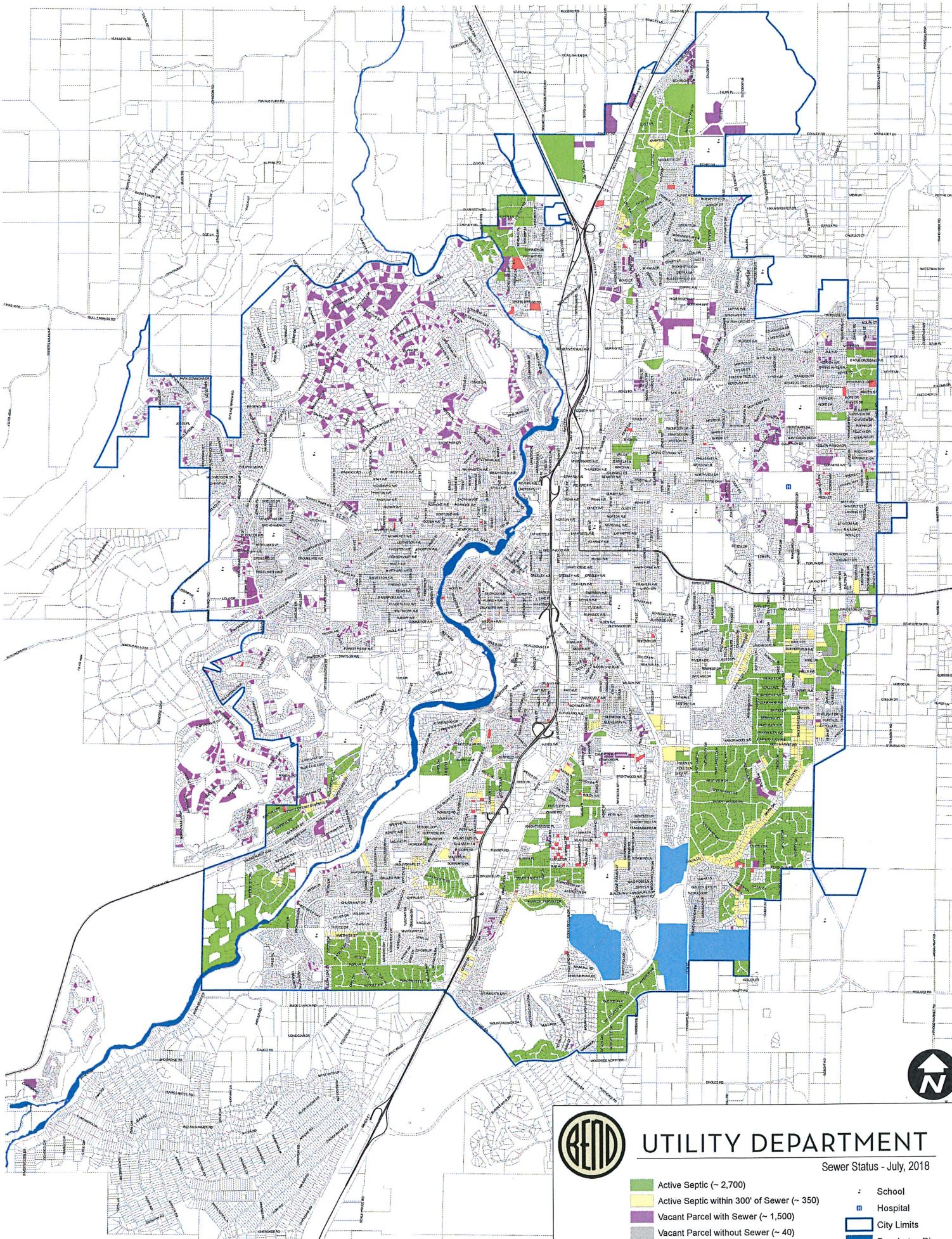
15.10.035 Inspection.

A. The City shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this chapter.

B. The City shall be permitted to enter all private properties through which the City holds an easement for the purposes of, but not limited to, inspections, observation, measurement, sampling, repair and maintenance of any portion of the sewage works lying within the easement. All entry and subsequent work, if any, on the easement, shall be done in full accordance with the terms of the easement. [Ord. NS-2182, 2012]

15.10.040 Penalties.

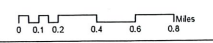
Failure to comply with this chapter or any regulation or order issued under this chapter is a Class A civil infraction. Each day on which a violation occurs or continues is a separate violation. [Ord. NS-2182, 2012]



UTILITY DEPARTMENT

Sewer Status - July, 2018

- Active Septic (~ 2,700)
 - Active Septic within 300' of Sewer (~ 350)
 - Vacant Parcel with Sewer (~ 1,500)
 - Vacant Parcel without Sewer (~ 40)
 - Future Sewered Development
 - Field Verification Needed
- School
 - Hospital
 - City Limits
 - Deschutes River



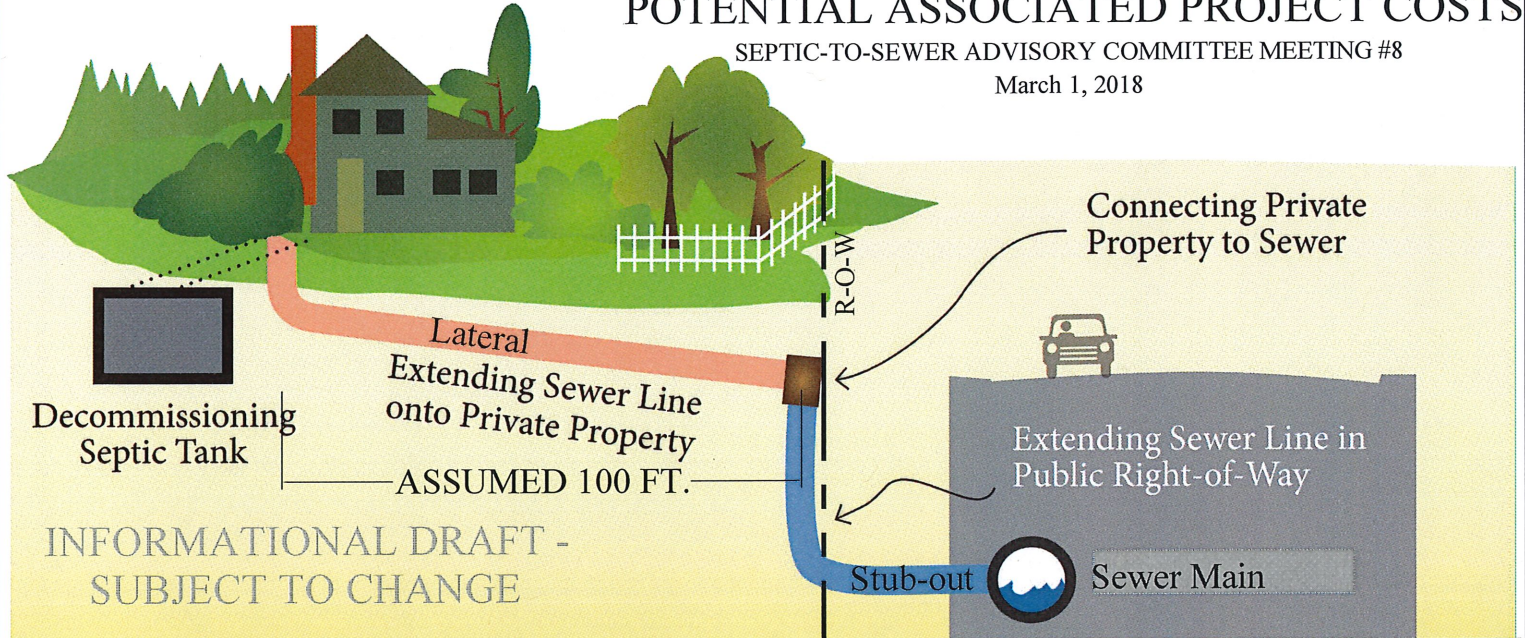
This map is for reference purposes only. The information was derived from Deschutes County G.I.S. and City of Bend land records. Care was taken in the creation of this map, but it is provided "AS IS". Please contact the City of Bend to verify map information or to report any errors.

Figure 1

POTENTIAL ASSOCIATED PROJECT COSTS

SEPTIC-TO-SEWER ADVISORY COMMITTEE MEETING #8

March 1, 2018



INFORMATIONAL DRAFT -
SUBJECT TO CHANGE

Private Property	Approximate Range	
Septic Tank Decommission	\$1,200	\$2,400
New Service Lateral to Right of Way	\$3,200	\$10,000
Additional Plumbing Upgrades	\$1,500	\$3,000
2017/18 System Development Charges	\$4,655	\$4,655
2017/18 City Permitting***	\$115	\$115
2017 County Permitting	\$175	\$350
Sub-total	\$10,845	\$20,520
Connection Fee*	Unknown	
Pump (where required)	\$6,000	\$10,000

Public Right of Way	Approximate Range (Class IV)	
Sewer Main	\$16,300,000	
Manholes	\$1,700,000	
Sewer Stub-out to Right of Way	\$3,700,000	
Roadway Reconstruction	\$6,700,000	
Right of Way Restoration	\$1,600,000	
Class IV Sub-total	\$30,000,000	
% of Sub-total by Owner**	0%	100%
Connection Fee*	Unknown	

Class IV Cost Estimate = \$30 Million

* Connection fee represents the portion of the Public Right of Way costs to be shared by the Private Property. "Connection Fee" is used as a generic term and could take many forms including, but not limited to a connection fee, LID, monthly surcharge, etc.

** % by Property Owner is unknown at this time, and will be part of the Advisory Committee outcome and recommendation to City Council.

*** City of Bend Sewer Service Permit 2.3.07 is \$99.07 for the first 100 ft. or fraction thereof and \$57.99 for each additional 100 ft. or fraction thereof. Includes 4% Long Range Planning surcharge, 12% State of Oregon Surcharge, and 0.33% Affordable Housing surcharge.

Figure #2

