

ARB-ENB-4.17 – Sanitary System Connection Administrative Rules

SANITARY SYSTEM CONNECTION ADMINISTRATIVE RULES

Administrative Rule Adopted by Bureau Pursuant to Rule-Making Authority

ARB-ENB-4.17

1. Purpose

To provide guidance and requirements for the proper preparation, materials and connection of private sewer laterals to public sewer services and governance for permit requirement.

2. Authority

Chapter 17.32 “Sewer Regulations” of Portland City Code requires BES authorization under the Public Works Permit process before any public sewer construction or alteration is allowed. This process is detailed in the BES Sewer and Drainage Facilities Design Manual, Chapter 2 – Project Delivery, Permitting, and General Procedures, Section 2.5, Pages 2-6 to 2-10.

3. Organization

- a. Applicability. This section addresses the applied rules and definitions to permit private sewer connection to public sewer services.
 - b. General Rules. This section details the administrative procedures for determining sanitary SDC charges for a particular customer.
 - c. Submittal Criteria
 - d. Rules Specific to Sewer Connections in the Public Right-of-Way or in Public Sewer Easements
 - e. Rules Specific to Sewer Connections on Private Property
 - f. OAR 340-71-185: Decommissioning of Systems
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4. Applicability

Sewer connections must be made in accordance with the City's Standard Construction Specifications (including current Bureau of Environmental Services (BES) Supplemental Specifications and associated Project Special Provisions), the BES Sewer and Drainage Facilities Design Manual, the City Code, and the following rules. Any deviation must be approved by the Bureau of Environmental Services. City Code, Chapter 17.32 “Sewer

Regulations,” requires BES authorization under the Public Works Permit process before any construction or alteration of a public sewer is allowed. This process is detailed in the BES Sewer and Drainage Facilities Design Manual, Chapter 2 – Project Delivery, Permitting, and General Procedures, Section 2.5, Pages 2-6 to 2-10. Contact BES at (503) 823-7761 to obtain copies of the codes, provisions, and standard specifications identified in these sewer connection rules.

5. General Rules

- a. City of Portland sewer connection permits shall be required for:
 - i. Sewer repairs in the public right of way
 - ii. All connections to the public sewer main and sewer service laterals
 - iii. Relocations of existing sewer service laterals (from curb line to the main)
 - iv. Connections to existing sewer service laterals extended to private property
 - v. Construction and/or extension of sewer service laterals to private property for future use
 - vi. Repair of private lines in the public right of way
 - vii. Short (less than 100 feet) mainline extensions, as approved by BES
- b. City of Portland sewer connection permits shall be obtained by and sewer connections shall be installed by:
 - i. The legal owner of the property
 - ii. A plumbing contractor, licensed and registered with the state of Oregon and the City of Portland
 - iii. A sewer contractor, licensed and registered with the state of Oregon and the City of Portland.
 - iv. The general contractor, licensed and registered with the state of Oregon and the City of Portland.
- c. The permittee is required to read and follow the rules specified in this document before commencing work.
 - i. Deviation from these rules will only be granted by BES and will require independent review and approval under the City of Portland building permit process before being allowed.
 - ii. Upon BES approval, the permittee will be solely responsible for verifying location and elevation of existing sewer service laterals.

****Definition: Sewer Service Lateral is a City-maintained sewer to serve private property extending from the main, or manhole, to the*

curb line in improved public streets or the proposed standard curb location in an unimproved public right-of-way.

- d. It is required that a thorough determination be made by the permittee in the field that the sewer service lateral is clear of obstructions before connection of a new line or when repairing an existing line (This shall include adjacent lengths of pipe to the area of work.). Oregon Law also requires the permittee to follow rules adopted by the Oregon Utility Notification Center (rules pertain to OAR 952-001-0010 through 0090). If you have questions or want to obtain a copy of the OAR rules, contact the Center by calling (503) 232-1987. You must notify the Center at (503) 246-6699 at least two business days, but not more than 10 business days, in advance before starting an excavation.
- e. All sewer service lateral connection work must adhere to the following procedures (also see *Section B. Rules Specific o Sewer Connections in the Public Right-of-Way or in Public Sewer Easements*). The permittee shall be responsible for the completion of these procedures and cost for repairs or corrections made in the field as directed by a City Inspector will be mandated at the expense and cost of the permittee:
 - i. The permittee must verify existing sewer services related to the job site by contacting BES at (503) 823-7761 before construction. All applicable City of Portland building permit requirements and fees will apply as appropriate. Construction permits are obtained at the BDS Development Services Center located at 1900 SW 4th Ave. The Development Services Center is open Monday through Friday from 7:30 a.m. to 3:00 p.m.
 - ii. Sewer connections must be made in accordance with the City's Standard Construction Specifications (including current BES Supplemental Standard Specifications and associated Project Special Provisions). Specific design requirements to make facilities locatable must be met per BES Supplemental Standard Specifications.
 - iii. Prior to installing any piping, the permittee must verify all the information provided on the Sewer Connection permit.
 - iv. The permittee must expose the downstream connection point to verify that as-built information is correct prior to any plumbing installation.
 - v. Potholing will be required at the downstream connection point to verify the location and to determine the elevation, or depth, of the line to be connected to.

- vi. Before contacting the inspector for assistance in finding a sewer service lateral, excavating to explore for the end of the sewer service lateral must be extended a minimum of 3 feet in all directions (horizontally and vertically) at the expense of the permittee and verified by the public right-of-way inspector.
- vii. In the field, the permittee is required to verify the workability of the line and to ensure that it is open and in good condition. If defects or debris are found, the contractor shall communicate that information to the public right-of-way Inspector, who will then communicate with the Bureau of Maintenance (BOM).
- viii. The permittee must determine the elevation difference between the ground at the sewer service lateral and the lowest floor to be drained.

Exceptions to the minimum slope requirement (2%) on private property may be allowed upon review and approval of the Bureau of Development Services (BDS). The maximum slope in the public right-of-way (without special engineering) is one foot to one foot. A sewer line with a slope less than the minimum grade and/or proposals to install private pump systems must be approved by BDS and BES.

- ix. If the available fall appears to be less than the minimum required or the permittee has excavated to the above limits and still cannot find the end of the branch, contact PDOT Right of Way Inspections at (503) 823-7002.

The permittee must be prepared to shore the excavation to OSHA standard excavation rules and allow access to the excavated pipe and the building so the City can accurately investigate the situation. If the City's investigation verifies the sewer connection installer's findings, the City will work with the property owner and/or sewer connection installer to resolve the problem.

- f. The City is not required to provide gravity service. A design variance process is available only under a case-by-case basis as detailed in the BES Sewer and Drainage Facilities Design Manual, under Section 2.6.2, "The Design Variance Process – Requesting a Change from these Standards".
- g. Pipes must be inspected before backfill. Inspections in the public right-of-way may be scheduled by calling (503) 823-7002. Four hours notice is required for inspections in the public right-of-way. For manhole taps, the right-of-way inspector will require 24 hours notice. For inspection on

private property, you must call to request an inspection prior to 7:30 a.m. on the day the inspection is requested at (503) 823-7000.

- h. All work shall be protected in accordance with the requirements of the Traffic Engineer and the City's Standard Construction Specifications including current Bureau of Environmental Services (BES) Supplemental Specifications and associated Project Special Provisions.
- i. Per City Code 17.32, the City of Portland disclaims all liability or damage to privately-owned sewers in the public right of way and on private property. "Privately-owned sewers" are defined as sewers that are not owned by the City of Portland and are used for draining of one or more buildings, under one or more owners, and conveys the discharge to a sewer service lateral, public sewer, private sewage disposal system, or other point of disposal. The definition of privately-owned sewers shall also include those that convey to privately-owned sewer systems.
- j. The permittee agrees to protect and hold harmless the City of Portland, its officers, agents, and employees from any and all injury to persons or damage to property that may result from or in any manner arise out of the action of the applicant or permittee making changes, improvements, or alterations pursuant to this permit on or within any public street or other right-of-way in which a public sewer is found.
- k. The permittee is responsible for any repair or cost to repair damage to the main sewer or a public manhole when making a new connection to the City sewer system. Verification of existing City sewer services must be made before construction by contacting BES Development Services staff at (503) 823-7761. If damage has occurred, PDOT Right of Way Inspections must be contacted at (503) 823-7002 before any repairs are made.
- l. Streets should be restored in accordance with City of Portland, Standard Construction Specifications, Section 204.3.13B. Streets paved within the past 5 years must be restored to moratorium standards per Title 17.24.100.
- m. For sewer connections where the City is providing a tap, tee, or wye, the permittee may be subject to additional service charges by BOM if the area of excavation does not meet the standards specified in these rules or its supporting regulations.
- n. Insurance and Street Opening Bond requirements can be obtained at the Trade Permits counter of the Development Services Center, located at 1900 SW 4th, or can be faxed or emailed by calling (503) 823-7614. Both general liability insurance and a City of Portland Street-Opening Bond are required to connect or repair a sewer line within the public right-of-way.

- o. PDOT will require that cleanouts located within the pedestrian right-of-way shall have a cover with non-slip surfaces. The permittee shall refer to City of Portland Standard Construction Specifications, 308.2.07 “Utility Access Doors – Slip Resistance” for the specific criteria.
 - p. Cleanout fitting requirements for private property are referenced in Section C of this document and will be required as part of the building permit review process and must meet BDS Plumbing approval.
 - q. Mainline extensions greater than a 100 ft are required to have a Public Works Permit for the work. Mainline extensions less than 100 feet in length will require evaluation by BES Development Review to determine if a City of Portland Public Works permit will be needed. Sewer extension work allowed without a Public Works permit will be subject to the conditions of approval as reviewed by BES staff on a project by project basis and CAN NOT involve the following criteria. (Exceptions may be granted on a case-by-case basis by BES Development Engineering)
 - i. Sewer main proposed is greater than 18 feet deep
 - ii. Extensions from brick manholes
 - iii. Extensions from City storm sewers, interceptor lines, or combination sewers where the proposed pipe size will need to be engineered.
 - iv. Extensions of brick or clay sewers
 - v. Conflict with standard proximity rules pertaining to utilities
 - vi. Excavations at or near structures and/or retaining walls
 - vii. Excavation close to water bodies or involving groundwater areas
 - viii. Outside public right-of-ways.
 - r. BES Development Review staff shall reserve the right to withhold approval based on the presence of additional site-specific conditions that may necessitate review under the City’s Public Works permitting process.
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6. Submittal Criteria: BES approval for mainline extensions less than 100 feet not involving the items above can be obtained by permit at the BDS Development Services Center located at 1900 SW 4th Ave. The permittee is required to submit engineer-stamped drawings to BES Development Review with the following information:

- a. A complete site plan indicating pre and post construction conditions
- b. Sewer pipe profiles and elevations
- c. Pipe invert elevations at manholes

- d. Up-to-date utility information for the area of work must be indicated by plan and profile
- e. Pipe sizes, lengths, and fitting types
- f. Pipe material, bedding, and slope
- g. Street grades
- h. All existing and proposed sewer connections
- i. Label streets and the location of all applicable easements
- j. Erosion control methodology

7. Rules Specific to Sewer Connections in the Public Right-of-Way or in Public Sewer Easements

TABLE 1: Allowed Pipe Materials and Minimum Pipe Sizes for New Connections to Public Sewers in the Public Right-of-Way

	1 & 2 Family Dwellings		Commercial, Industrial & Multi-Family	
Material	Min. Size	Sewer Type	Min. Size	Sewer Type
Concrete	6"	Sanitary/Storm	6"	Sanitary/Storm
Ductile Iron	4"	Sanitary/Storm	6"	Sanitary/Storm
PVC	4"	Sanitary/Storm	6"	Sanitary
HDPE	4"	Sanitary/Storm	6"	Sanitary/Storm
HDPE = High Density Polyethylene PVC = Polyvinylchloride				

Table 1 Notes:

Refer to City of Portland Drainage, Facilities and Sewer Design Manual; Table 4.1 Gravity Sewers - Standard Pipeline and Joint Materials for ASTM Standards.

- a. All pipe material shall conform to the standards shown in the City of Portland, Standard Construction Specifications Manual and the City of Portland Drainage Facilities and Sewer Design Manual. All sewer service lateral repair work in the public right-of-way shall extend to the face of the curb.

- i. ABS pipe is not acceptable in the public right-of-way, any public sewer easement area, and/or all areas that the City maintains.
- b. The top of the sewer lateral must be a minimum of 7 feet below the top of the existing or future curb line, or meet the existing branch from the main sewer. The designation of “7 feet” will depend on the depth of the main line. The permittee is required to submit a range-variance when site conditions exist outside of this range (See Section A, Line 11 for reference to the “Design Variance Process”).
- c. The top of the sewer service lateral must be a minimum of 2 feet below the street grade at the property line.
- d. No bend greater than 1/16 (22 ½ degrees) is allowed; not to exceed a total of 4 bends in the public right-of-way. This maximum of 4 bends does not include the bend required at a wye connection. A Minimum of 3 feet of straight pipe is required between each bend. An exception may be allowed for a 45 degree bend if the sewer main line is positioned too close to the curb. The exception for the 45 degree bend must meet PDOT Right of Way approval before being allowed.
- e. Sewer taps, wyes, and branches must be installed perpendicular to the main sewer on uniform line and grade. The connection must allow the sewer flow to merge with the existing sewer flow in the main line.
 - i. Wyes installed at the curb to serve separate properties are allowed only by exception and will be reviewed and approved by BES on a case-by-case basis.
- f. Bedding, backfill and compaction of trenches must be made in conformance with the City's Standard Construction Specifications and Title 17 of the Code of the City of Portland (4-01).
- g. Storm connections to combination sewer lines require approval from BES. For approved combination connections, the storm and sanitary sewer lines may combine at the curb and must leave the property separately to simplify future storm line work. Under this situation, the sanitary line is “straight” and the storm line is “wyed” before connection at the curb. Storm-only and sanitary-only lines must remain in parallel and at the same grade in the right-of-way wherever possible.
- h. Shoring and trench protection shall be installed as required by OSHA Standards Chapter 437, Rule 1926.650 through 652 and City of Portland Standard Construction Specification Section 204.3.140.
- i. The permittee is responsible for de-watering the excavation in accordance with the City of Portland, Standard Construction Specifications Section

204.3.15. Authorization to discharge de-watering water into the City's sanitary or storm sewer systems must be obtained prior to releasing the discharge. Contact BES Source Control staff at (503) 823-5320 for assistance in obtaining a discharge permit. Fees and/or monitoring requirements may apply.

Table 2: Required Connections — Sewer Service Laterals to Public Sewer Pipes (When a City Sewer Service Lateral, Tee, or Wye is not available)

Sewer Service Lateral Size	Main Sewer Material					
	VSP, CSP, PVC, HDPE					MH
	6"	8"	10"	12"	>12"	N/A
4"	*BOM: TEE	Insert-a-tee	Insert-a-tee	Insert-a-tee	*BOM TAP	*BOM TAP
6"		*BOM: TEE	*BOM: TEE	Insert-a-tee		
8"	N/P	N/P	*BOM: TEE	*BOM: TEE		

Table 2 Notes:

*BOM will be "Contractors of Last Choice." In event of BOM performing work, permittee will be required to pay for tap fee. (Refer to line 16 below)

VSP = vitrified sewer pipe

CSP = concrete sewer pipe

MH = manhole

HDPE = High Density Polyethylene

Size = main sewer and/or connection size

BOM = Bureau of Maintenance

TEE = factory manufactured sani-tee or wye

TAP = tap installed in the field

PVC = Polyvinylchloride

N/P = not permitted

Insert-a-tee = factory manufactured tap and/or approved equivalent (may be installed by contractor)

- j. Installation of manholes greater than 48 inches will be allowed by Public Works Permit only. All contractor manhole taps will require core drilling and/or saw cutting of the manhole wall at penetration prior to breakout of the manhole wall.
- k. Multiple connections to manholes will require 12 inches of separation (outside diameter to outside diameter) and concrete must be in good condition in-between connection points when allowing new connections.

- l. A permittee with equipment to make an insert-a-tee connection may tap the main line. The sewer tap size shall not exceed one-half main diameter of the main sewer. ALLOWED EXCEPTION: 8 inch to 15 inch.
- m. The permittee must schedule sewer taps and tee installations to be constructed by the City directly with the BOM a minimum of 1 working day in advance. For locations east of the Willamette River, call (503) 823-1780. For locations west of the Willamette River, call (503) 823-1744. If no one is available at these phone numbers, please call the BOM Communications Center at (503) 823-1700. Calls for scheduling taps need to be made Monday through Friday, 7:00 a.m. to 4:00 p.m.
- n. The permittee is responsible for providing and adequately shoring the excavation and furnishing all materials required for the City to install the tap or tee.
- o. Written approval must be obtained from BES and PDOT prior to boring or tunneling in the public right-of-way. Before boring or tunneling, all utilities must be located and a positive connection must be made at the curb. Notify PDOT at (503) 823-7002 prior to boring or tunneling under the public right-of-way.
- p. Any repair or connection to a new system within the public right-of-way (property line to curb) will require that the repaired or replacement pipe to be of the same material. Spot repairs are not allowed within the public right-of-way area and the pipe must be new throughout. A positive connection is required at the downstream end of every new pipe or repair. (See also Page 1, Section A, Lines 1 and 2.)
- q. Replacement of street pavements (except concrete) in City areas must be made by the City or as approved by PDOT. If trenching and restoration occurs within a sidewalk, the sidewalk must be replaced to the nearest joint in all directions. If trenching and restoration occurs within a driveway, the driveway must be replaced to its full original width (City of Portland, Standard Construction Specifications, 204.3013B). A variance review process is available only under a case-by-case basis (See Section A, Line 11 for reference to the "Design Variance Process".)
- r. The repair of existing sewer service laterals using the slip-lining method shall be permitted provided that the following conditions are met:
 - i. The slip-lining repair shall extend to the face of the curb and shall require a positive connection to the City's sewer service lateral at the curb.

- ii. If BOM determines that the City's sewer service lateral requires repair, the Contractor shall coordinate the slip-lining with BOM's planned repair.
- s. Written approval must be obtained from BES for all inside drop connections to manholes. Any proposed variances to these specifications must be reviewed and approved by the District Inspector before construction.
 - i. Minimum depth for the main sewer must be 15' (LF) for an inside drop connection.
 - ii. Inside drop installation shall conform to Standard Plan 4-27-1 or 4-27-2.

Contact BES at (503) 823-7761 for approval of inside drops to public manholes.

- t. Per ENB-4.07 Sewer Development Services Administrative Rules, each lot shall have individual gravity connections to a public sanitary sewer as approved by BES. Pumped connections will require written approval from BES before they will be allowed.

Pre-existing shared connections or "party sewers" requiring repair must seek independent connections to the City main line whenever possible. When separating party sewer connections, the property with direct frontage to the sewer main shall retain the original connection. Exceptions may be allowed when site conditions are present that overly complicate or make independent connections not possible. All party sewers will require BES review and approval before issuance of connection or repair permits.

- u. Taps to main sewers shall have a minimum separation of 3 feet from the outside diameter to the next lateral. Only one tap is permitted per pipe section for concrete and/or clay sewer pipe.
 - v. Per City Code 17.32 the City of Portland is responsible for maintenance of inspected sewer laterals to the curb line in the right-of-way and at the end of the tee or wye in easement areas. Beyond those areas, property owners are responsible for lateral maintenance.
 - w. Connection of unlike pipe material shall be made with an approved flexible coupling with stainless steel shear bands or an approved equal. The use of a 'donut' for sewer connections will not allowed.
 - x. The City of Portland shall maintain all tee and/or wye connections within public easement areas.

8. Rules Specific to Sewer Connections on Private Property

- a. The building sanitary sewer must be the same size as the main building drain (minimum 3" inside diameter) but may be larger if desired.
- b. A cleanout fitting is required for all new development and repair work. The cleanout must be located immediately inside or outside of the building and an additional cleanout may be required at the upper terminal of the building's drain system. An additional cleanout is required if the sewer offsets horizontally more than 135 degrees from the previous cleanout or if the sewer line is over 100 feet in length. A cleanout riser on a two-way cleanout is limited to three foot extensions to grade.
- c. Fittings permitted to be installed shall be 1/16 bend (22.5 degrees), 1/8 bend (45 degrees), 45 degree wye fittings, or fittings of equivalent sweep.
- d. A "test wye" fitting shall be installed at the point of connection to the City maintained portion of the sewer service lateral. A test balloon or ball shall be inserted and the entire sewer filled with water to the cleanout for the required inspection. The addition of a cleanout fitting shall be required at this location.
- e. Pipes shall be installed in trenches so that it rests on a solid and continuous bearing. Over excavated trenches shall be backfilled and compacted earth, sand, fine gravel or similar granular material. Piping may not be supported on rocks or blocks at any point.
- f. Care shall be exercised in backfilling trenches to avoid rocks, broken concrete, frozen chunks and other rubble until the pipe is covered by at least 12 inches of an approved backfill material. Backfill shall be placed evenly on both sides of the pipe and tamped to retain proper alignment. Clean native soil shall be carefully placed in the trench in 6-inch layers and tamped in place.
- g. Trenching installed parallel to footings shall not extend below the 45-degree bearing plane of the bottom edge of a wall or footing.

9. OAR 340-71-185 Decommissioning of Systems

- a. The owner shall decommission a system when:

- i. A sewerage system becomes available, the facility the system serves has been connected to that sewerage system, and the source of sewerage has been permanently eliminated; or
 - ii. the source of sewage has been permanently eliminated.
- b. Procedures required for decommissioning:
 - i. Tanks, cesspools, and seepage pits must be pumped by a licensed sewage disposal service to remove all septage.
 - ii. Tanks, cesspools, and seepage pits must be filled with reject sand, bar run gravel, or other material approved by the agent, or the container must be removed and properly disposed.
- c. If, in the judgment of the City inspector, compliance with Section D, 2 (a)(b) (excluding septic tanks) of this rule is not reasonably possible or necessary to protect health, welfare, safety, or public waters, the City inspector may waive one or both of those requirements. See required form for approved waivers; however, **all tanks** must be pumped and filled.