**BES Public Works Standard Notes**

Revision - May 2021

***Instructions: General Notes*** *are used on the cover sheet of BES Public Works (PW) Sewer projects. They are not used for joint BES PBOT PW projects without sewer pipe.*

**General Notes:**

1. Errors and omissions are the responsibility of the “Engineer of Record”. If errors or omissions are found after the permit has been issued, the permittee or its contractor or representative must contact the engineer of record (John Doe of ABC engineering at 503-555-1212) to have the corrections made. All changes will require the approval of the BES Chief Engineer prior to the work beginning.
2. All Construction must conform to 2010 City of Portland Standard Construction Specifications (SCS). Contractor and/or subcontractor must have a minimum of one set of approved plans and City of Portland Standard Construction Specifications on the job site at all times during construction.
3. Elevations are based on City of Portland datum using benchmark(s) No. \_\_\_\_\_\_\_\_, Elevation \_\_\_\_\_\_\_\_, Located \_\_\_\_\_\_\_\_.
4. ATTENTION EXCAVATORS: Oregon Law requires you to follow rules adopted by Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 Through OAR 952-001-0090. You may obtain copies of these rules from the center by calling (503) 232-1987. If you have any questions about the rules, you may contact the call center. YOU MUST NOTIFY THE CENTER AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. Call 811 or 1-800-332-2344.
5. Contractor must maintain flows in the existing system at all times.
6. All Sewer trench lines and excavations must be properly shored and braced to prevent caving as required by Oregon Occupational Safety and Health (OSHA) and Section 00405.41(f) of the City of Portland Standard Construction Specifications.
7. Excavated sewer trench spoil material must be disposed of at a proper landfill, or Permittee/contractor must obtain a fill permit from the Bureau of Development Services before being disposed of on-site. A copy of the grading permit and plan must be provided to the Bureau of Environmental Services for construction inspection at the pre-construction meeting. Any work outside the public right of way, including cuts fills grading and clearing may require permits from Bureau of Development Services.
8. Unanticipated contamination encountered during construction in City Right of Way.

### The permittee/contractor is responsible for all costs associated with proper characterization, identification analysis, management and disposal of contaminated media encountered within the city right-of-way or on City property. The permittee/contractor is also responsible for all resultant delays.

B) The permittee/contractor will provide the City (Engineer and Inspectors) with copies of all disposal permits from the permitted disposal facility, analytical results used to gain acceptance of the contaminated media and disposal receipts/daily weigh slips. Daily weigh slips amounts must be checked against inspector’s Daily Reports. The permittee/contractor must use an Oregon Department of Environmental Quality- approved disposal facility for disposal of the contaminated media.

1. Foundation stabilization may be necessary as per City of Portland Standard Construction Specifications and approved by BES.
2. Maintain Minimum of 36” of cover over all pipe in unpaved easement areas.
3. The contractor must install marker balls on all storm and sanitary sewer mainline pipe and laterals. See specification Section 00446.
4. Mark ends of all stub outs and laterals w/continuous pressure treated 2” x 4”. Top 12’ to be painted white and stenciled with black ‘ST’ for storm or painted green and stenciled black “SS” for sanitary and with pipe size, material type, and pipe depth. Bury 2” x 4” to i.e. of stub or lateral.
5. City of Portland maintenance of house branches end at the curb line in rights-of-way and at the end of the tee in easements.
6. Install lateral curb markers on all new laterals per specification 00446.11.
7. Bureau of Development Services (BDS) Plumbing Division approvals and permits are required for privately maintained sewer, inlets, inlet leads & service laterals constructed outside of public right-of-way or sewer easement. All work approved under plumbing permits must be privately owned and maintained.
8. Street restoration must be per the requirements of the PBOT Street Opening Permit.

**Pipe Testing Requirements:**

1. All storm and sanitary sewers will be air tested and must be subject to other testing requirements as outlined in the City of Portland Standard Construction Specifications.
2. Sewer must be video inspected (TV’d) at the sole expense of the permittee/contractor.
3. Mandrel testing is required on all HDPE and PVC pipe. A 30-day waiting period is required on all mandrel testing.

**Preconstruction Requirements:**

1. A temporary traffic control plan (TTCP) is required before any work can commence within the public right of way. The TTCP is part of the temporary use of the right of way permit. The application can be found at the following link:

http://www.portlandoregon.gov/transportation/article/174124

1. A copy (either electronic or paper) of the approved TTCP must be provided to the inspector before any street or sidewalk closures. Contact Ben Baldwin at Tri-Met 14-days prior to starting construction at 503-962-2140.
2. Site erosion control plans to be approved and controls in place prior to grading and working in the right of way. Contractor to put up all required erosion control signage prior to ground disturbance. A CD with all required erosion control signs will be provided at pre-construction meeting.
3. Locations of existing structures and utilities are for information purposes only. Permittee/Contractor is responsible for verifying the location and depth (elevation) of existing utilities and other field conditions prior to construction.
4. \*Contractor to submit utility support plan to BES Construction Services 14-days prior to starting work.

*Add note 6 only if specifically requested by PWB:*

1. \*Contractor to submit engineered support plan for crossing the water line to BES Construction Services 14-days prior to starting work.
2. \*Contractor to submit engineered shoring plan to BES Construction Services for excavations 20’ deep or greater a minimum of 14 days prior to construction.
3. PRECONSTRUCTION MEETING REQUIRED. Permittee/Contractor to contact BES a minimum of 4 business days prior to commencement of construction to schedule meeting. Follow instructions on “permit issuance” email to schedule a meeting.

\*OPTIONAL NOTES TO BE USED ONLY WHEN APPLICABLE

***Instructions: Additional Notes*** are use when an individual note applies to a project. They are added to the cover sheet notes on BES PW Projects. An exception is the final bulleted note that applies only to joint BES PBOT PW projects and is added to the cover sheet notes.

**Additional Notes:**

* All cost of sanitary sewer construction borne by all lots in (name of subdivision and/or legal description).
* Public street improvements, inlets and inlet leads to be constructed under Portland Bureau of Transportation Permit Job No.\_\_\_\_\_\_\_
* This project was reimbursed for legal description(s).

*For joint BES OT PW Projects only*

* Permittee/Contractor is responsible for the inspection, maintenance, and watering of the green street facilities and regional or neighborhood facilities constructed as public works improvements as prescribed in the approved 2-Year Maintenance Warranty Plan after its completion and acceptance by the City.

***Instructions: Sump Notes*** *are added to a sheet with a proposed sump system.*

**Sump Notes:**

1. Design flows reflect a factor of safety of 2.
2. All sumps must be tested by the contractor as directed and approved by the BES Field Inspector.
3. Sump testing must take place after sump construction is complete and before the construction of the sedimentation manhole. Should a sump test fail to verify adequate capacity, an additional sump, constructed in series with the first sump (a maximum of two sumps per system) is required. Should a test of two sumps in series fail to verify adequate capacity, an alternative public stormwater destination is required, as approved by BES.
4. Notify BES field inspector and BES Construction Manager at least 48 hours before beginning sump testing. A BES representative must be present during all sump capacity tests.
5. BES will contact the Portland Water Bureau or applicable water district to arrange for sump test water supply and obtain the necessary permits. Upon receipt of hydrant permit, the Contractor can contact BES Materials Testing Laboratory (MTL) and make arrangements to lease sump testing equipment. Contractor can also lease similar testing equipment from any vendor with BES approval.
6. MTL Sump testing equipment is subject to leasing conditions and fees. Note that sump capacity tester is available on a first come – first served basis. The tester and pipe trailers may be rented per day for a maximum of two days per written application. Contact MTL, located at 1405 N River, at (503) 823-2340. Insurance on the MTL leased equipment is required.
7. Provide water flow from fire hydrants to sump being tested using an 8-inch nominal diameter pipe. Deliver clean potable water to sumps. Introduction of sediment is not acceptable and may result in failure of sump capacity test and reconstruction of sump.
8. The test may be completed using flow from one fire hydrant. However, a second fire hydrant may be necessary to complete the sump test. If fire hydrants are not available in the area or adequate flow rate is not achievable, other water sources can be used upon approval by BES Field Inspector.
9. The closest fire hydrant for sump testing is located at the intersections as shown in the Sump Data Table
10. Fill sump with water at an initial rate of 300 gallons per minute (gpm), and record water elevation below sump rim after five minutes. Maintain initial flow rate and continue taking recordings of the water elevation at five-minute intervals until the water surface reaches a constant elevation. Then increase flow rate by 300 gpm and record the water elevation at the new flow rate as described in the initial process. Continue the sump test by increasing the flow rate at increments of 300 gpm until the sump has reached its maximum capacity.
11. Upon completion of each sump test, compare tested sump capacity flow rate to the minimum flow rate noted in the plans. Notify Owner immediately if tested flow rate is less than the minimum flow rate listed.
12. Contractor must sign the sump testing results and submit to the BES field inspector.

***Instructions: Stormwater Facility Notes*** *are added to joint BES PBOT PW projects on the sheet with the vegetated facility details.*

**Vegetated Stormwater Facility Notes:**

1. Stormwater facility construction to be inspected by BES Construction inspector.
2. Contractor to contact BES Construction 48-hours prior to starting construction on the stormwater facility. Any work on the facility without inspections will be rejected.
3. Contractor to provide BES Construction with testing data as per City of Portland Standard Construction Specifications section 01040.13 – Soil Testing 14 days prior to construction.
4. See City of Portland Standard Construction Specifications Section 01040.14(d) – Stormwater Facility Blended Soil for Vegetated Stormwater Systems, or most current SCS Special Provision Revision.
5. Install Blended Soil in a manner that ensures adequate infiltration. Place in no fewer than two equal lifts to reach finished grade per plan. In unlined facilities, fracture and loosen native soil before placing Blended Soil or aggregate. Do not roto-till. Lifts must not be mechanically compacted. Lifts must be placed in a manner to reduce excessive erosion or settlement; lifts may be hand-tamped, lightly watered to encourage natural compaction, or rolled with a water-filled landscape roller.
6. After stormwater facility construction begins, BES Construction inspector to check on the progress of the job as necessary until the facility has been planted. BES Revegetation Program inspector to check subgrade preparation, soil placement, depth, and grade prior to placement of erosion control fabric or planting. Construction delay will result in additional fees.
7. Permanent or below-ground irrigation systems are not allowed. Hand-watering using truck- or trailer-mounted mobile irrigation units is generally preferred. Above-ground irrigation (i.e., “drip” systems) may be installed as a temporary measure only during the 2-year warranty period. BES Revegetation Program must approve all proposed temporary above-ground irrigation design plans prior to installation.
8. Installation of temporary irrigation must not alter standard construction design or vegetation plans of the stormwater facility (e.g., no holes drilled in the walls, liner, or check dams). Temporary irrigation system maintenance and repair, as well as repair of damage to vegetation or soils due to irrigation malfunction, is the sole responsibility of the permittee/contractor. Irrigation systems must be completely removed by the permittee/contractor without damaging vegetation or soil prior to warranty acceptance by the City.
9. Following stormwater facility construction, contractor must place erosion control fabric over stormwater facility and surrounding area to prevent erosion during wet weather conditions prior to planting. Secure with 12" wooden EcoStake (18" on-center). Fabric must be 100% biodegradable double net erosion control blanket with 100% coconut fiber matrix meeting Type 4 specification requirements established by the Erosion Control Technology Council (ECTC). Cover Blended Soil entirely with erosion control fabric if construction is completed outside of the planting time periods as specified in Item 11.
10. Contractor must submit proof of plant purchase order to BES Revegetation Program for approval prior to plant procurement. Plants must be inspected and approved by BES Revegetation Program prior to planting. Alternatively, planting and maintenance during the warranty period may be done by the BES Revegetation Program. Contact the BES Public Works Inspector.
11. Planting must occur between October 1 and December 1, or between February 1 and May 1. If construction is completed during these time periods, planting must occur immediately per specification Section 1040.43e. Plants must be installed as early as possible during the successive planting time periods as specified above. All weeds must be removed prior to planting. At the discretion of the BES Revegetation Program Inspector, erosion control fabric may be planted through or removed prior to planting.
12. Permittee/contractor is responsible for submitting a Public Works 2-Year Maintenance Warranty Form and complying with the outlined 2-Year Maintenance Warranty Plan, ensuring the survival of all plant material and the performance of the vegetated stormwater facility.

***Instructions: Erosion Control and Sediment Fence Notes*** *are added to the erosion control sheet of both joint BES PBOT PW projects and BES sewer projects.*

**Erosion Control Notes:**

1. Approval of this erosion sediment and pollution control plan (ESPCP) does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.)
2. The implementation of this ESPCP and the construction, maintenance, replacement and upgrading of these ESPCP facilities is the responsibility of the permittee/contractor until all construction is completed and approved, vegetation/landscaping is established.
3. The boundaries of the clearing limits shown on this plan must be clearly flagged in the field prior to construction. During the construction period, no disturbance beyond the flagged clearing limits must be permitted. The flagging must be maintained by the permittee/contractor for the duration of construction.
4. The ESPCP facilities shown on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to ensure that sediment and sediment laden water do not enter the drainage system roadways or violate applicable water standards.
5. The ESPCP facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESPCP facilities must be upgraded as needed for unexpected storm events, and to ensure that sediment and sediment-laden water does not leave the site.
6. The ESPCP facilities must be inspected daily by the permittee/contractor and maintained as necessary to ensure their continued functioning.
7. The ESPCP facilities on inactive sites must be inspected and maintained a minimum of once a week or within the 24 hours following a storm event.
8. Stabilized construction entrances must be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.
9. Permittee/ Contractor to put up all required erosion control signage prior to ground disturbance. A CD with all required erosion control signs will be provided at the pre-construction meeting.

**Sedimentation Fence Notes:**

1. The filter fabric fence must be installed to follow the contours where feasible. The fence posts must be spaced a maximum of 6’ apart and driven securely into the ground a minimum of 24”.
2. The filter fabric must be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth must be spliced together only at a support post, with a minimum 6” overlap, and both ends securely fastened to the post, or overlap 2” x 2” posts and attach as shown on detail sheet 4-3A of the Erosion Control Manual.
3. The filter fabric must have a minimum vertical burial of 6”. All excavated material from filter fabric installation must be backfilled and compacted along the entire disturbed area.
4. Standard or heavy-duty filter fabric fences must have manufactured stitched loops for 2” x 2” post installation. Stitched loops must be installed on the up hillside of the sloped area.
5. Filter fabric fences must be removed when they have served their useful purpose, but not before the upslope area has been permanently protected and stabilized.
6. Filter fabric fences must be inspected by permittee/contractor immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs must be made immediately.