APPENDIX D.3 SIMPLIFIED APPROACH SUBMITTAL GUIDE

When the Simplified Approach is used to design stormwater facilities (see Section 2.2), the minimum submittal requirements are as follows.

- 1. **Scaled Site Plans** must include the following information (at a minimum):
 - Minimum scale of 1 inch to 10 feet
 - North arrow
 - Elevations and topography
 - Property lines
 - Lot area and setbacks
 - Footprints of structures
 - Easements and driveways
 - Wells and septic systems
 - Utility lines

- Width of right-of-way and curb height
- Impervious areas
- Type, location and size of stormwater facility
- Existing and proposed surface drainage
- Proposed discharge point

See Bureau of Development Services site plan checklist www.portlandonline.com/bds

- 2. **Cross Section and Details** of the proposed facility must be included with the plan set. Where sites are topographically varied, it may be imperative to show elevations of inlets, outlets, and discharge points on the cross-section to show how gravity drainage will be met.
- 3. The **Simplified Approach Form** (see next page) must be completely filled out. The form includes tables for the required infiltration testing and instructions on how to perform an open pit test. See **Appendix F.2** for further details about infiltration testing and options. The form also provides the simplified sizing for the facilities.
- 4. The **O&M Form** (see **Appendix D.6**) must be recorded with the appropriate county and submitted to BES Document Services at 1900 SW 4th Ave. Portland, OR 97201.
- 5. The **O&M Specification** (see **Section 3.3**) must be recorded with the O&M Form and submitted to BES.
- 6. Landscape plans are required (see Section 2.3.2 and Appendix D.1).

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1 SIMPLIFIED APPROACH

The state of the s	Date:	
	Permit Number:	
If total impervious area for submitted development proposal is less than 10,000 squar form may be used for sizing stormwater facilities.	are feet, the Simplified Approach	
If total impervious area for submitted development proposal is equal to or greater that street improvements, the Presumptive or Performance Approach must be used and a Stormwater information, refer to the 2008 Stormwater Management Manual (SWMM) So	Stormwater Management Report will be required	
1 Site Address:		
2 State Property ID (R number):	-	
3 Brief Description of Proposed Development		
4 Total Amount of Proposed Impervious Area:	_	
Site Evaluation Please refer to Stormwater Management Manual (SWMM) References and Resources section for (including soil drainage class, slopes and groundwater).	or site evaluation maps	
S1 NRCS Soil Drainage Class:		
S2 Is the slope anywhere on the project area greater than 20%?	□ yes □ no	
S3 Are there known seeps, springs, or a high groundwater table in the project area?	yes 🗆 no	
If answered yes to questions S2 or S3, then a flow-through or partial infiltration facility is required in the second of the sec	ired with overflow to an approved discharge point.	
S4 Required Infiltration Testing: Applicant may conduct a simple open pit test or any prescribed for the Presumptive Approach. (See Appendix F.2 for specifications.)	ny of the infiltration testing methods	
Please Note: Each individual tax lot is required to manage the stormwater it generates of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement, the applicant must submit a Special Control of the proposal is unable to meet this requirement.		

Form 1 - SIMPLIFIED APPROACH

Simplified Approach Infiltration Testing Instructions (Open Pit Test):

- 1 A simple open pit infiltration test should be conducted where the facility is proposed, or within the direct vicinity.
- **2** Excavate a test hole to the depth of the bottom of the proposed facility (up to 4 feet). The test hole can be excavated with small excavation equipment or by hand using a shovel, auger, or post-hole digger.
- **3** If you encounter a layer that is hard enough to prevent further excavation, or if you come across noticeable moisture/water in the soil, stop and measure this depth from the surface and record S5 below. Proceed with the test at this depth.
- **4** Fill the hole with water to a height of about 12 inches from the bottom of the hole (or to one half the maximum depth of the proposed facility), and record the exact time. Check the water level at regular intervals (every 1 minute for fast-draining soils to every 10 minutes for slower-draining soils) for a minimum of one hour or until all of the water has infiltrated. Record the distance the water has dropped from the top edge of the hole.
- **5** Repeat this process two more times, for a total of three rounds of testing. These tests should be performed as close together as possible to accurately portray the soil's ability to infiltrate at different levels of saturation. The third test should provide the best measure of the saturated infiltration rate.

For each test pit required, submit all three testing results.

Test 1:	Test 2 :	Date: Time: Initial water depth: Final water depth: _ Duration of test:	
Date:			
Time:	Time:		
Initial water depth:	Initial water depth:		
Final water depth:	Final water depth:		
Duration of test:	Duration of test:		
Infiltration rate:	Infiltration rate:		

If the pit infiltration rate is greater than or equal to 2 inches per hour then onsite infiltration is required. Applicants may choose either a surface infiltration facility with overflow to a drywell or soakage trench or a surface infiltration facility with an overflow to an approved discharge point. If the tested infiltration rate is below 2 inches per hour, then a flow-through or partial infiltration facility is required with overflow to an approved discharge point.

Projects that infiltrate roof runoff with private soakage trenches or drywells are not required to provide pollution reduction prior to infiltration. This exemption does not apply to projects that discharge stormwater offsite. Single-family residential (up to three units) roofs and footing drains are excluded from UIC registration. Refer to Section 1.4 for specific pollution reduction requirements for UICs.

Form 1 - SIMPLIFIED APPROACH

Facility Sizing Worksheet

(The worksheet is on reverse side)

All facilities sized with this form are presumed to comply with the City's pollution and flow control requirements. Infiltration and discharge requirements are site specific and approved with the use of this form.

Instructions

- **1** Enter square footage (sf) of total impervious area being developed into BOX 1.
- **2** Enter square footage (sf) for impervious area reduction techniques.
- **3** Enter sum of the impervious area reduction techniques into BOX 2.
- 4 Subtract BOX 2 from BOX 1 to find BOX 3, the amount of impervious area that requires stormwater management.
- **5** Select appropriate stormwater management facilities based on infiltration rate (page 2).
- 6 Enter the square footage of impervious area managed that will flow into each facility type.
- 7 Check whether the planter, swale, basins, and filter strips are flow-through facilities.
- **8** Multiply each impervious area managed by the corresponding sizing factor. Enter this area as the facility surface area, which is the required size to manage the runoff.
- **9** Where selecting facilities that will overflow, select the final discharge location.
- **10** Enter the sum of the total of all the impervious area managed into BOX 4. Box 4 must be \geq Box 3.

Form 1 - SIMPLIFIED APPROACH

Total impervious area bei	ng developed or	redeveloped:		•••••		BOX 1
1 Impervious Area Reduc Ecoroof Pervious asphalt or concre Permeable pavers			sf sf sf			
Total Impervious Area Re	eduction:			•••••		BOX 2
Total impervious area req	uiring stormwate	r managemen	ıt:			BOX 3
2 Surface Facilities	Impervious Are	a Managed	Sizing Factor	F	acility Surface Area	
Planter	sf	х	0.06	=	sf	
Swale	sf	X	0.09	=	sf	
Basin	sf	Х	0.09	=	sf	
Vegetated Filter Strip for walks and driveways	sf	Х	0.20	=	sf	
		Over	flow will be dire	cted to	check all that apply):	
			ıbsurface facility ormwater sewer		Surface water Combined Sewer	
-	ial roofs. If stor	mwater is gen	erated from anytl	ning oth		ed independently to manage roofs, the facilities are subject to the
	•					
Drywell	sf				- Diameter	———— Depth
Soakage Trench			ious Area Manag	ed		BOX 4
					(BOX 4 should l	be greater than or equal to BOX 3
	afety and avoid p	roperty damag	ge. Depending on	site cor	nditions, this may inc	cribe where flows will drain to in clude storage in an overflow