

City of Seattle – Simple Infiltration Test Checklist (DRAFT)

Call before you dig – Utility Locates 811

Project Address: _____ Date: _____

Permit Number: _____ Contact Information: _____

Include site map or drainage control plan, with test locations clearly marked.

The intent of this checklist is to provide a summary of stormwater BMP infiltration testing requirements associated with the Simple Infiltration Test. All projects and associated plans are also subject to the minimum requirements outlined in the City of Seattle Stormwater Manual and SMC Chapters 22.800 – 22.808, as well as the specific infiltration testing requirements outlined in Volume 3, Chapter 3 and Appendix D. This checklist does not preclude the use of professional judgment to evaluate and manage risk associated with design, construction, and operation of infiltration BMPs.

See Appendix C for Site Constraints that preclude infiltration facility feasibility (such as site slope > 8%).

Before you start call Utility Locates 811 to request locates of utilities at your site.

PRE-TEST SITE SOILS INVESTIGATION:

1. Is the infiltration test within the footprint of the proposed infiltration facility? Yes No
2. If “no,” is the test within 50 feet of the proposed infiltration facility? Yes No
Explain why: _____
3. What is the total proposed new plus replaced impervious area (not including permeable pavement surfaces) infiltrated on the site? _____ ft²
4. Date and time of test(s): _____
 - If performed November through March, one test is required.
 - If performed April through October, two tests are required.
 - Tests must be in the same hole within 2-days.
 - Space the beginning of each test 24-hours apart.
5. Dig a hole at least 3-foot deeper than the proposed infiltration facility approximately 5-feet from the proposed infiltration facility. (Recommend using a post hole digger.)
6. While digging the hole, did you:
 - a. Hit hard pan? (hard pan is like concrete) Yes No
 - b. Encounter standing water or seepage in the hole? Yes No
7. If you answered “yes” to either (6a) or (6b), the infiltration is not feasible for this site. Test is finished.

INFILTRATION TESTING:

8. Dig an infiltration test hole at least 2-feet deeper than the proposed infiltration facility (4-feet deeper if done during the dry season) and 2-feet across (Note: this hole is separate from the 3-foot deep hole in Step 6 above)
9. Diameter of test hole (2-foot minimum): _____
10. Total depth of test hole (2-foot minimum or 4-foot if done May through September): _____
11. Describe soil type and texture (e.g., sand, clay, gravel.): _____
12. **Pre-soak period**
 - a) Add water to the 12-inch mark. (Measure depth using a ruler, scale, or tape measure). Stabilize water depth? Add water until depth is maintained at a minimum of 12-inches?.
 - b) Record the number of inches the water has fallen in 1 hour: _____ inches

- c) Record the number of inches the water has fallen from hour 1 to hour 2: _____ inches
- d) What is the smaller of the two numbers in row 12b and 12c above? (check only one box below)
 - > 3-inches (use Table 1 below – 15-minute intervals)
 - Between 1-inch and 3-inches (use Table 2 below – 30-minute intervals)
 - < 1-inch (use Table 3 below – 60-minute intervals)

This is your “testing period”.

13. Testing period

Based on the answer to 12d above, use either Table 1, 2 or 3 below and:

- Refill the hole to the 12-inch mark.
- Immediately record the time and depth of water in the appropriate table below.
- Based on your time interval (answer to 12d above):
 - ✓ Record the time and depth of water in the hole at the specified intervals.
 - ✓ Complete the table by recording six measurements (in addition to the starting depth).
 - ✓ If the hole empties prior to the six measurements, refill to the 12-inch mark and continue recording until you have completed the table.
- Using the depth of water recorded at each interval, calculate the infiltration rate:
 - Table 1: Infiltration Rate = Change in depth between each interval x 4
 - Table 2: Infiltration Rate = Change in depth between each interval x 2
 - Table 3: Infiltration Rate = Change in depth between each interval x 1

Table 1 (15-min)

Time (15-min)	Depth of Water (inches)	Infiltration Rate (in/hr)
	12	---

Table 2 (30-min)

Time (30-min)	Depth of Water (inches)	Infiltration Rate (in/hr)
	12	---

Table 3 (60-min)

Time (60-min)	Depth of Water (inches)	Infiltration Rate (in/hr)
	12	---

- The lowest infiltration rate from the table above = _____ in/hr (Measured infiltration rate)
 - If the lowest measured infiltration rate is less than the minimum rate associated with an infiltration BMP, that BMP cannot be used.
 - If the measured infiltration rate is less than all minimum infiltration rates for infiltration BMPs, no further investigation is required.

Design infiltration rate = Measured infiltration rate x 0.5 = _____ in/hr