



MEMORANDUM

DATE: January 3rd, 2012

TO: City of Portland Green Street Designers

SUBJECT: 2012 Revisions for the Public Works Details
(SWMM Appendix G.3 Green Streets Typical Details SW-300 Series)

This memo summarizes the revisions to the March 2010 Stormwater Management Manual's Typical Details (Details) for green streets, the SW-300 Series. These Details are modified by private engineers for public works projects due to development and by internal COP engineers for capital improvement and sustainable stormwater projects.

Green Streets Typical Detail Revisions for 2011

There are three general categories of revisions to the GS Typical Details:

1. **Changes that Apply Throughout the Details.**
2. **Significantly Changed Details**
3. **New Details and Deleted Details**

These revisions are summarized below.

1. Changes that Apply Throughout the Details.

"Notes" were separated into "Designer Information" and "Construction Notes." Designer Information is information for the designing engineer to apply when modifying the Details to their specific project. Construction Notes are to be included on the final plans for the contractor constructing the project.

Two sections were renumbered. The Detail Section *Curb Extensions* was renumbered to arrange curb extension section views in alphabetical order, and *Curb Inlets* was renumbered to group related details together. For example, the detail *Inlet & Outlet for Curb Extensions* was numbered adjacent to the *Modified Metal Inlet*. The *Modified Metal Inlet* is a new detail that covers curb extension inlets.

All Details were edited to improve their to-scale representation. Though the Details are still noted as "Drawing Not to Scale" all details are drawn to-scale.

2. Significantly Changed Details

SW-331 Concrete Inlet

The 2010 Details show the *Concrete Inlet* in plan and section views from only the street-side gutter pan to the back of curb. The designing engineer was to choose a splash pad from the 2010 *Splash Pad Alternatives*. The *Splash Pad Alternatives* included a concrete pad with wingwalls, concrete pad only and a rock splash pad. During the 2011 revision process, the Working Group eliminated the *rock splash pad* as a splash pad choice because of the maintenance problem of removing sediment from them. The two remaining splash pads were incorporated into the two current inlet details (see the New and Deleted Details section below).

SW-313 Planter Wall Details

The height of the Planter Wall was reduced to 22” from 36”, and the base was narrowed from 10” to 18”. PBOT structures reviewed the revised wall for overturning and found it to be acceptable.

SW-340 Rock Check Dam for Swales

The rock check dam reverted much to its 2008 Green Streets design with an internal clay core. This is not an ideal design as its durability is questionable; however, the clay core is needed to hold back water, and it does not allow stormwater to drain directly to the drainrock layer (if a facility has a drainrock layer). The Working Group determined that until an alternative check dam for swales has been tested in the field that the *Rock Check Dam for Swales* should remain an option. The clay core detail was improved to require that the clay core be keyed into topsoil and compacted.

*SW-350 Beehive Inlet Grate*¹

This detail was a new addition in 2010. The revisions include adding a securing devise to detour thefts. This was the preferred securing devise because of its easy access to the inlet for maintenance.

3. New and Deleted Details

SW-341 Wood Check Dam for Swales (New)

In order to provide an alternative to the rock check dam for swale, SWAT requested a wood check dam for swales be modeled after the wood checkdam built at NE Couch and Burnside (EO8585). This design uses a 6” by 6” concrete column on the sidewalk side to fix the wood check dam in place. An aluminum bracket connects the wood and concrete. A bracket detail was added with these revisions. It was developed from site visits to Sustainable Stormwater facilities and conversation with BOM. The same bracket detail was added to *Wood Check Dam for Planters*.

SW-351 Overflow Drain (New)

This detail was developed from development engineering projects. An overflow drain is required for the hybrid facilities, the Presumptive Approach Calculator’s (PAC) Configuration E (Category 2), to infiltrate the 10-year storm².

¹ Beehive Inlet Grate was the “Atrium Grate” on the 2010 Green Street SW-300 Series Details.

SW-330 Concrete Inlet with Wingwalls and SW-331 Concrete Inlet (New)

These two details could be considered “new” or “significantly changed.” As a result of the rock splash pad being eliminated, it was logical to incorporate the two remaining splash pads (concrete pad with wingwalls and concrete pad) into two inlet details with an added perspective view. The *Concrete Inlet with Wingwalls* is used in facilities with side slopes to keep topsoil out of the inlet and the *Concrete Inlet* is used with planters.

SW-334 Modified Metal Inlet Assembly (New)

This detail was developed in response to the concern of vehicles backing into or driving into curb extension inlets. It is a metal staple covering the curb cut of the inlet.

Splash Pad Alternatives (Deleted)

As mentioned previously, this detail showing three splash pads (splash pads with wingwalls, concrete pad and rock) was deleted when the rock splash pad was eliminated and then the other splash pads were incorporated into *Concrete Inlet with Wingwalls* and *Concrete Inlet* details.

² Presumptive Approach Calculator (PAC) facility Configuration E allows stormwater beyond the Pollution Reduction storm to bypass the topsoil directly to drainrock. These facilities must be registered as a UIC.