



## 2019 Update of the C.3 Technical Guidance

The revisions that were made to the C.3 Technical Guidance in September 2019 are summarized below, listed according to the name of the applicable chapter, section, or appendix.

### Cover Page

- The title page was revised to identify this as version 7 of the C.3 Technical Guidance.

### Local Contacts

- Deleted names and contact information of former staff members.

### Glossary

- In the Glossary Table, updated reference to the Bay Area Hydrology Model (BAHM) to remind readers that the current version is BAHM 2013.
- Added a definition for “green stormwater infrastructure.”

### Chapter 1, Introduction / How to Use this Handbook

- In Section 1.3, How to Use this Handbook, revised description of Appendix M to mention ACCWP’s Example GI Typical Details.

### Chapter 3, Preparing Permit Application Submittals

- In Section 3.2.2, Planning Permit Submittals: Step-by-Step, *Step 4* (Measure Pervious and Impervious Surfaces), updated to include link to the online map showing areas within the county that are susceptible to hydromodification.
- In Section 3.2.2, Planning Permit Submittals: Step-by-Step, *Step 8* (Preliminary Design of Treatment/HM Measures), updated reference to the Bay Area Hydrology Model (BAHM) to remind readers that the current version is BAHM 2013.

### Chapter 4, Site Design Measures

- In Section 4.2, Self-Retaining Areas, revised the discussion of landscaped self-retaining areas to help avoid confusion between the design objective to “retain the first one-inch of rainfall without producing any runoff” and the design guidance to “create a 3-inch ponding depth.”
- In Section 4.2, Self-Retaining Areas, updated reference to the Bay Area Hydrology Model (BAHM) to remind readers that the current version is BAHM 2013, and to provide the weblink.
- In Section 4.5, Tree Preservation/Planting and Interceptor Tree Credits, added a placeholder at the discussion of Silva Cells, indicating that more information will be provided when received from the Silva Cell manufacturer.
- In Section 4.5.3, Tree Planting in Dense, Urban Areas, discussions of Silva Cells were revised to add “or approved equal,” noting that the evaluation of product equivalency is anticipated to include a wide range of topics, such as technical specifications, maintenance requirements, warranties, and all other relevant considerations.

## **Chapter 5, General Guidance for Treatment Measures**

- At the end of Section 5.7, Plant Selection and Guidance, added a new subsection titled “Irrigation of Biotreatment Facilities.” This addresses the need to use “smart irrigation” controllers and to provide separate irrigation control for stormwater treatment facilities that use biotreatment soil.
- In Section 5.8, Mosquito Control, changed the allowable time for standing water in treatment measures from “four days” to “72 hours,” based on current recommendations of the Alameda County Mosquito Abatement District.
- In Section 5.9, Incorporating Hydromodification Management, updated reference to the Bay Area Hydrology Model (BAHM) to remind readers that the current version is BAHM 2013, and to provide the weblink.

## **Chapter 6, Technical Guidance for Specific Treatment Measures**

### **Section 6.1, Bioretention Areas**

- In the introductory paragraph, added reference to (and where to access) ACCWP’s Example GI Typical Details.
- Added a new figure, showing an example of how a “pedestal” of native soil may be included with a tree planted in a bioretention area.
- Under the heading “Drainage Area and Setback Requirements,” added a bullet point to indicate there should be one bioretention area per drainage management area.
- Under the heading “Vegetation,” revised the discussion of irrigation to state that separate irrigation control should be provided, and to advise the use of smart irrigation systems and drip emitters.
- Under the heading, “Soil and Drainage Considerations for all Biotreatment Systems,” revised the discussion of mulch to clarify that non-dyed mulch should be used.
- Under the heading, “Construction Requirements for All Biotreatment Systems,” added guidance that all debris should be removed from bioretention area excavation pit prior to soil scarification.

### **Section 6.2, Flow-through Planter**

- Made the same changes under the headings of “Vegetation” and “Soil and Drainage Considerations for all Biotreatment Systems” as for Section 6.1, Bioretention Areas.

### **Section 6.3, Tree Well Filter**

- Made the same changes under the headings of “Vegetation” and “Soil and Drainage Considerations for all Biotreatment Systems” as for Section 6.1, Bioretention Areas.
- Discussion of Silva Cells was revised to add “or approved equal.”

### **Section 6.5, Extended Detention Basin**

- Under the heading, “Treatment Dimensions and Sizing,” changed the allowable time for standing water in treatment measures from “four days” to “72 hours,” based on current recommendations of the Alameda County Mosquito Abatement District.
- Corrected typo under the heading, “Construction Requirements.”

### **Chapter 7, Hydromodification Management Measures**

- In Section 7.2, Which Projects Need to Implement HM?, updated to include link to the online map showing areas within the county that are susceptible to hydromodification.
- In Section 7.4.3, Bay Area Hydrology Model (BAHM), which was previously 7.4.4, updated reference to the BAHM to remind readers that the current version is BAHM 2013.
- In Section 7.5, HM Control Submittals for Review, provided the same link as in Section 7.2.

### **Chapter 8, Operation and Maintenance**

- Revised discussions of the allowable time for standing water in treatment measures from “four days” to “72 hours,” per current recommendations of the Alameda County Mosquito Abatement District.

### **Appendix B, Plant List and Planting Guidance**

- The Plant List was updated based on experience in Alameda County with plant species that tolerate biotreatment soil.
- In Section B.5, under the heading of “Erosion Control,” revised the discussion of mulch for consistency with discussions of non-dyed, floating resistant mulch in Section 6.1, Bioretention Areas, in Chapter 6.
- In Section B.5, under the heading, “Irrigation Systems,” added information about the need for separate irrigation control and other information included in Section 5.7, Plant Selection and Guidance, in Chapter 5.

### **Appendix G, Mosquito Control Guidelines**

- Revised all discussions of the allowable time for standing water in treatment measures from “four days” to “72 hours,” per current recommendations of the Alameda County Mosquito Abatement District.

### **Appendix H, Operation and Maintenance Document Templates**

- Revised all Maintenance Plan Templates to revise the discussions of the allowable time for standing water in treatment measures from “four days” to “72 hours,” per current recommendations of the Alameda County Mosquito Abatement District.

### **Appendix I, Hydromodification Management Susceptibility Map**

- Removed text in the introduction page explaining the future availability of the HM Susceptibility Map, and updated to include link to the online version of this map, which shows areas within the county that are susceptible to hydromodification.

### **Appendix M, Green Streets**

- Included Attachment M-1, ACCWP’s Example Green Infrastructure (GI) Typical Details.
- On page M-1, added ACCWP’s Example GI Typical Details to the Table of Contents
- In Section M.1, Introduction, added references to the Example GI Typical Details.
- In Section M.1, Introduction, added statement referring readers to local GI Plans for guidance regarding the design of GI facilities that will treat stormwater runoff from existing streets.
- In Section M.4, Resources, updated various links to Green Street planning, design, construction and maintenance from other cities around the U.S.