



Technical Memorandum

To: Wade Johns – Alamo Manhattan
From: Joshua Owens, PE
Copies: File
Date: August 14, 2020
Subject: Alamo Manhattan Blocks Bank Stabilization Code Requirements
Project No.: 19050

Introduction

Alamo Manhattan ("AM") has requested that we analyze whether the bank stabilization activities, in-water pier removal work and environmental remediation of the riverbank and greenway trail that AM will perform as a part of the Greenway improvements are required by the minimum greenway standards found in PCC 33.510.253.D (Required South Waterfront Greenway improvements) and PCC 33.510.253.E (Development Standards).

In short, bank stabilization¹ is not a specific requirement of 33.510.253 (Greenway Overlay Zone in South Waterfront Subdistricts). Instead, the bank stabilization activities are efforts that AM is undertaking as a means to restore and enhance the natural area, create fish and wildlife habitat, and enhance the function of the greenway for human use. PCC 33.851.300.C.

Summary of Bank Stabilization Activities

The bank stabilization work generally includes:

- Install turbidity curtain to isolate the site
- Remove derelict piles with a barge mounted excavator
- Environmental remediation of the riverbank by excavating existing materials in the lower portion of the bank below ordinary low water and remove wood pier. Cap with armoring riprap and top dress with river rock
- Excavate and lay back upper portion of the bank with 2H:1V max slopes from ordinary low water to ordinary high water and 3H:1V max slope from ordinary high water to top of bank.
- Install riprap armoring with large woody debris from ordinary low water to ordinary high water
- The bank from ordinary high water to top of bank will be soil
- Install plantings from 3 ft above ordinary low water to top of bank with native groundcovers, shrubs, and trees.
- Retaining walls above ordinary high water will be used in some areas to support the river-related trail use adjacent to the top of bank.
- Remove existing greenway fill and replace with clean topsoil

Bank Stabilization Code Summary

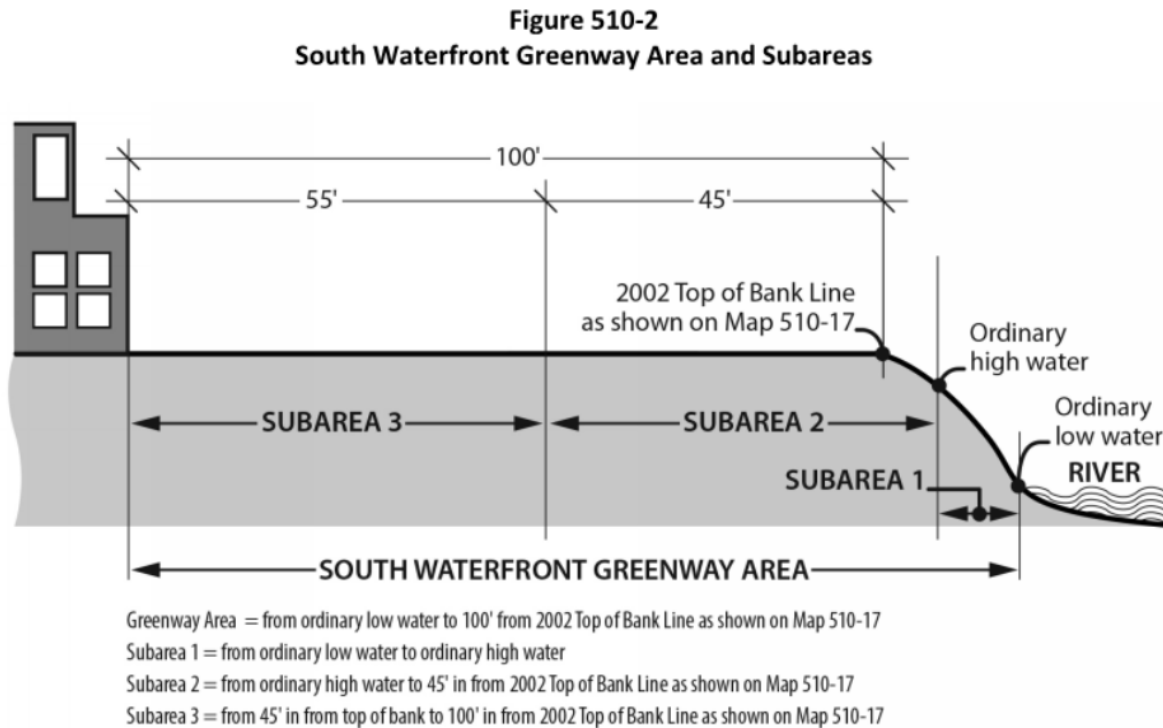
Bank stabilization is not an explicit requirement of Portland Code section 33.510.253 (Greenway Overlay Zone in South Waterfront Subdistricts), which describes the minimum greenway standards. Instead, the bank stabilization work is proposed as part of South Waterfront Greenway Review (PCC 33.851). The greenway review standards

¹ Alamo Manhattan's summary of greenway improvements includes separate line items for demolition of the wooden pier/removal of piles from the river, stabilization of the riverbank, environmental remediation of the riverbank and environmental remediation of the greenway. Our memo refers to all of these activities as "bank stabilization."

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are subjective and there are many ways to meet the requirements that do not require bank stabilization. AM has elected to implement bank stabilization as a means to address greenway review.

Bank Stabilization Code Narrative²



PZC Section 33.510.253 Greenway Overlay Zone in the South Waterfront Subdistrict

[...]

D. Required South Waterfront Greenway improvements. Adjustments and modifications to this subsection are prohibited.

[...]

2. Bank improvements. In subarea 1, when there is any regrading, bank stabilization, or other activities affecting the contours and composition of soil, the requirements of Paragraph E.5.f for subarea 1 must be met.

Response: PCC 33.510.253.D.2 does not require bank stabilization work. Instead, if bank stabilization in subarea 1 is proposed, then the planting requirements of 33.510.253.E.5.f are required.

E. Development standards. Generally, proposals are subject to design review. In most instances, applicants may choose between meeting development standards or going through South Waterfront greenway review. In some instances, South Waterfront greenway review is required.

[...]

3. South Waterfront greenway review. South Waterfront greenway review is required for the following:
a. New development or exterior alterations that do not meet the standards of Paragraph E.5 and are not exempted by Paragraph E.4;

² Only criteria that relate to bank stabilization are included. Note that the application addressed the pre-CC2035 code as vested by the 2017 land division.

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b. New development, or changes to the land or structures, riverward of top of bank, including excavations and fills, bridges, and docks, unless exempted by Paragraph E.4.

Response: The following items did not meet the standards of Paragraph E.5 and were not exempted by Paragraph E.4, requiring South Waterfront Greenway review:

- Proposed fence (guard rail) over 3 feet high, and less than 45 feet from top of bank
- Segments of the greenway trail less than 12 feet wide

Additionally, greenway review was required because AM's proposed greenway improvements offered to address the greenway review approval criteria include the following work riverward of top of bank:

- Removal of dilapidated wooden pilings and pier structure from the river
- Excavating, regrading, armoring the riverbank, and placing large woody debris below top of bank

[...]

5. Development standards. *The following development standards must be met unless the applicant chooses South Waterfront greenway review. Adjustments and modifications to these standards are prohibited.*

[...]

c. Fences and walls. *Fences and walls are allowed in subarea 3 of the South Waterfront Greenway Area if they are no more than 3 feet in height and do not obstruct the required pedestrian connections and trails. Fences and walls are not allowed in subareas 1 and 2 of the South Waterfront Greenway Area.*

d. Trails and pedestrian connections.

(2) Public recreational trails. Public recreational trails must meet the following standards. [...]

- *Width. The trail must consist of two paths, each at least 12 feet in width;*

[...]

Response: The proposed development includes fences and walls within Subarea 2 and portions of the trail that are 10 ft. rather than 12 ft wide so that the trail aligns with and matches the existing greenway trail to the north and south. Therefore, South Waterfront Greenway Review was required.

f. Landscaping

[...]

(3) Required landscaping in subarea 1. *In subarea 1, the area beginning 3 feet above the ordinary low water line must meet the following requirements:*

- *Shrubs. At least 80 percent of the required landscaped area must be planted in shrubs;*
- *Trees. Trees are not required, but are allowed;*
- *Ground cover. All of the required landscaped area that is not planted with shrubs or trees must be fully covered with ground cover plants;*
- *Plant list. Only plants listed in Table 510-2, Subarea 1 Plant List, may be planted; and*
- *Installation of landscaping. All planting must be of a sufficient size and number to meet the coverage standards within five years. Restoration size plant material, including bare-root, is allowed and recommended. Planting is not required to meet the size and spacing requirements of*
- *33.248.030, Plant Materials. Planting is not allowed during the summer.*

Response Subarea 1 consists of the bank area below the Ordinary High Water (OHW). Currently, much of the existing bank is below the OHW line, therefore the landscaping requirements of E.f.3 above would not apply to most of Subarea 1 in its existing condition.

The bank stabilization work that AM is pursuing for South Waterfront Greenway Review flattens the slope and expands the subarea 1 planting area by converting a portion of subarea 2 to subarea 1. This expanded subarea 1 triggers the required landscaping in this section, which AM has met.