



May 2025
Cabrillo Beach Eelgrass Mitigation Project

Advance Permittee-Responsible Mitigation Plan

Prepared for Port of Los Angeles

May 2025
Cabrillo Beach Eelgrass Mitigation Project

Advance Permittee-Responsible Mitigation Plan

Prepared for
City of Los Angeles Harbor Department
Environmental Management Division
425 South Palos Verdes Street
San Pedro, California 90731

Prepared by
Anchor QEA
301 East Ocean Boulevard, Suite 1860
Long Beach, California 90802

TABLE OF CONTENTS

1	Introduction and Objectives	1
2	Consistency with USACE Regulations and NMFS Mitigation Policies	1
	2.1.1 U.S. Army Corps of Engineers.....	1
	2.1.2 National Marine Fisheries Service.....	2
3	Site Selection Approach	3
	3.1 Ecological Criteria.....	3
	3.2 Watershed Approach.....	3
4	Site Protection	3
5	Determination of Credits	4
	5.1 Ecological Lift Over Baseline	4
	5.2 Credit Evaluation	4
6	Long-Term Management Plan	5
	6.1 Long-term Monitoring and Reporting.....	5
	6.2 Long-Term Performance Standards.....	6
	6.3 Adaptive Management	6
7	Long-Term Financial Assurances	7
8	Geographic Use Area	8
9	Appropriate Use	8
10	References	9

TABLES

Table 1	Process for Requesting Use of APRM Credits	9
---------	--	---

FIGURE

Figure 1	Cabrillo Beach Advance Permittee-Responsible Eelgrass Mitigation Site
----------	---

APPENDICES

Appendix A	Eelgrass Transplant and Monitoring Plan
Appendix B	Site Protection
Appendix C	Pre-Construction Eelgrass Survey
Appendix D	Eelgrass Monitoring Reports
Appendix E	U.S. Army Corps of Engineers Nationwide Permit 27
Appendix F	Cabrillo Beach Eelgrass APRM Credit Ledger
Appendix G	Template Assignment/Assumption Agreement
Appendix H	Template Final APRM Use Plan
Appendix I	Template Conceptual Mitigation Plan for Using Credits from the Cabrillo Beach Eelgrass APRM Site

ABBREVIATIONS

APRM	advance permittee-responsible mitigation
Board	Board of Harbor Commissioners
CEMP	<i>California Eelgrass Mitigation Policy and Implementing Guidelines</i>
CFR	<i>Code of Federal Regulations</i>
City	City of Los Angeles
CLUA	Conservation Land Use Agreement
GP	General Permit
LOP	Letter of Permission
MLLW	mean lower low water
NMFS	National Marine Fisheries Service
Port	Port of Los Angeles
SIP	Standard Individual Permit
USACE	U.S. Army Corps of Engineers
VAE	vegetated areal extent

1 Introduction and Objectives

This Advance Permittee-Responsible Mitigation (APRM) Plan is to describe the Cabrillo Beach eelgrass mitigation site as an APRM site for the City of Los Angeles (City). The location of the eelgrass mitigation site at the Port of Los Angeles (Port) is shown in Figure 1. The goal of this APRM Plan is to document the successful establishment of eelgrass (*Zostera marina*) at the site, as well as the City's long-term commitment to manage the site so that it may be used by the City for future mitigation needs as originally proposed in the *Eelgrass Transplant and Monitoring Plan in Support of the Inner Cabrillo Beach Eelgrass Mitigation Project Port of Los Angeles, California* (August 2014; Appendix A).

2 Consistency with USACE Regulations and NMFS Mitigation Policies

2.1.1 U.S. Army Corps of Engineers

The use of APRM for eelgrass is consistent with U.S. Army Corps of Engineers (USACE) regulations, 33 *Code of Federal Regulations* (CFR) 332, which establishes standards and requirements for permittee-responsible mitigation, mitigation banks, and in-lieu fee programs. 33 CFR 332.4c describes the general requirements for mitigation plans. A mitigation plan is required for all forms of compensatory mitigation, including APRM. This APRM Plan contains all the required components identified in 33 CFR 332.4(c) and the additional information required for an advance mitigation site identified in the *Interagency Regulatory Guide for Advance Permittee-Responsible Mitigation* (USACE et al. 2012):

1. **Objectives:** As stated in Section 1 of this APRM Plan, the goal of this effort is to document the successful establishment of eelgrass at the APRM site so that it may be used by the City for future mitigation needs.
2. **Site selection:** Section 3 of this APRM Plan describes the watershed approach used for selection of the APRM site. The APRM site and impact sites are located within the Port.
3. **Site protection instrument:** Long-term protection of the APRM site would be governed by a Conservation Land Use Agreement (CLUA). Site protection is discussed in Section 4 and a sample CLUA is included in Appendix B.
4. **Baseline information:** Baseline conditions at the APRM site are discussed in the pre-construction eelgrass survey conducted in 2016 (Appendix C).
5. **Determination of credits:** Section 5 contains a credit evaluation for determining the amount of credits at the APRM site.
6. **Mitigation work plan:** The mitigation work plan is described in the Eelgrass Transplant and Monitoring Plan (Appendix A, page 4).

7. **Maintenance plan:** The mitigation maintenance plan is described in the Eelgrass Transplant and Monitoring Plan (Appendix A, page 8).
8. **Performance standards:** Performance standards are described in the Eelgrass Transplant and Monitoring Plan (Appendix A, page 8).
9. **Monitoring requirements:** Five years of post-mitigation monitoring have already been conducted at the APRM site. The 60-month monitoring report and an additional 72-month survey report are included in Appendix D. The monitoring requirement for the eelgrass establishment was complete after the 60-month survey.
10. **Long-term management plan:** Long-term management is described in Section 6 of this APRM Plan.
11. **Adaptive management plan:** Adaptive management is discussed in the context of the long-term management plan in Section 6.3 of this APRM Plan.
12. **Financial assurances:** The APRM site has already been constructed and monitored for 5 years, so short-term assurances are unnecessary. The City has committed to long-term financial support of the APRM site as described in Section 7 of this APRM Plan.
13. **Geographic use area:** The appropriate geographic area within which it would be appropriate to use the APRM credits for future impacts are described in Section 8 of this APRM Plan.
14. **Appropriate use:** The appropriate use of the APRM credits and the process for requesting and using the credits are described in Section 9 of this APRM Plan.

2.1.2 *National Marine Fisheries Service*

The National Marine Fisheries Service (NMFS) released the *California Eelgrass Mitigation Policy and Implementing Guidelines* (CEMP) in 2014. Recommendations for in-kind mitigation for impacts to eelgrass are described in Section II.F of the CEMP. The following relevant recommendations of the CEMP were adhered to for this APRM Plan:

- Eelgrass habitat mitigation sites should be similar to the impact site. To the extent feasible, mitigation should occur within the same hydrologic system as the impacts.
- Generally, mitigation of eelgrass habitat should be based on replacing eelgrass habitat extent at a 1.2 (mitigation) to 1 (impact) mitigation ratio for eelgrass.
- Site selection should consider the similarity of the physical environments between the donor site and the transplant receiver site and should also consider the size, stability, and history of the donor site. No more than 10% of an existing donor bed should be harvested for transplanting purposes.
- NMFS recommends that a mitigation plan be developed for in-kind mitigation efforts.
- Monitoring should determine the area of eelgrass and density of plants at 0, 12, 24, 36, 48, and 60 months after completing mitigation. These intervals will provide yearly updates on the establishment and persistence of eelgrass during the growing season. NMFS biologists should receive monitoring reports and spatial data after the completion of each monitoring period.

3 Site Selection Approach

3.1 Ecological Criteria

Ecological criteria for the successful establishment of eelgrass at the APRM site are outlined in the Eelgrass Transplant and Monitoring Plan (Appendix A, page 1). The boundary of the APRM site is depicted in the legal description (Appendix B) and in Figure 1 and is based on the restoration area identified in the post-construction eelgrass monitoring reports (Appendix D). The APRM site boundary varies slightly from the conceptual site plans shown in the original Eelgrass Transplant and Monitoring Plan (Appendix A) and the Nationwide Permit 27 Verification (Appendix E), which were developed prior to final design. The APRM site boundary in the legal description and in Figure 1 accurately depicts the post-construction site condition and the area surveyed to determine the acreage of eelgrass credits.

3.2 Watershed Approach

Projects within the Port can have adverse impacts to eelgrass and eelgrass habitat. To date, there has not been a holistic and comprehensive strategy to mitigate these impacts, and the lack of a comprehensive strategy can cause delays in the permitting process. Establishment of advance eelgrass mitigation provides an important resource management tool for the City to address eelgrass mitigation needs and for the USACE to track eelgrass mitigation.

33 CFR 332.3(c)(2)(v) states that a watershed approach is not appropriate in marine areas, where watershed boundaries do not exist. In such cases, mitigation should occur at an appropriate spatial scale to replace lost functions and services within the same ecological system, such as a littoral cell. The APRM site was created within the Port and would be used to mitigate impacts to eelgrass within the Port. The location of the APRM site is shown in Figure 1. Because the APRM site and potential impacts would occur within the Port boundary, lost ecological functions and services would be replaced within an appropriate local spatial scale, which is consistent with 33 CFR 332.3(c). The APRM would also be considered in-kind and on-site permittee-responsible mitigation consistent with 33 CFR 332.3(b)(5).

4 Site Protection

The APRM site is approximately 4.65 acres as described in Appendix B. The City proposes that site protection will be provided through a CLUA (Appendix B), which is an appropriate site protection mechanism for the APRM site because it is located on submerged lands held in trust by the City.

5 Determination of Credits

5.1 Ecological Lift Over Baseline

A pre-construction eelgrass survey (Appendix C) was completed in February 2016. The survey consisted of eelgrass aerial coverage and density investigations. Eelgrass distribution data were collected using sonar and a remotely operated vehicle. Survey results showed no eelgrass mapped within the APRM site construction area. Native eelgrass was found adjacent to the site. The reference site was also surveyed, and it was found to have unexpected sand overrun from the sand shoal that builds along the southern portion of Inner Cabrillo Beach.

Required monitoring was completed over 60 months in 6- to 12-month intervals. The final 60-month survey (Appendix D-1) revealed that the eelgrass planting units were healthy, fully consolidated from the initial transplant condition, and meeting or exceeding the established performance standards. The 60-month survey showed approximately 14,703 square meters (3.633 acres) of eelgrass vegetated areal extent (VAE), which exceeded the performance standards for eelgrass shoot density.

The City performed an additional survey of the eelgrass APRM site in October 2022 using the same methodology as the required post-construction annual surveys in support of credit evaluation for the use of the site for advanced permittee-responsible mitigation (Appendix D). Using the 4-point rolling mean method described in Section 5.2 to calculate the eelgrass credits using results from the four surveys from 2019 to 2022 results in 14,863 square meters (3.673 acres) of initial credits available at the APRM site (Appendix F). Appendix B contains a legal description of the APRM site.

5.2 Credit Evaluation

The total number of credits available for use at the APRM site are calculated as the mean VAE at the site over the most recent 4 years surveyed, from 2019 to 2022, such that one credit would equal 1 acre. The October 2019 survey showed approximately 3.670 acres of eelgrass VAE. The October 2020 survey showed approximately 3.593 acres of eelgrass VAE. The October 2021 survey showed approximately 3.633 acres of eelgrass VAE. The October 2022 survey showed approximately 3.794 acres of eelgrass VAE. Therefore, the total number of credits available at the APRM site is 3.673 acres. This available credit acreage is used as the initial value in the proposed credit ledger (Appendix F), which the City will use to track the debiting of credits.

All credits from the APRM site occur in waters of the United States and include special aquatic sites (eelgrass) as defined in 40 CFR 230 Subpart E; the credits may be used as compensatory mitigation for impacts to eelgrass. The eelgrass APRM is considered "Establishment" because the physical and biological characteristics of the APRM site were manipulated through authorized placement of fill material and planting of eelgrass in an area where eelgrass could not otherwise exist. Prior to the advance mitigation activities, eelgrass did not occur within the boundaries of the APRM Site.

The USACE will determine the mitigation ratio on a project-specific basis and may use tools such as the National Oceanic and Atmospheric Administration and USACE mitigation calculators or tools that might be developed in the future. Based on the recommendations for typical mitigation ratios found in the CEMP, it is anticipated that for all impacts occurring after 2019 (the first year the APRM site achieved the performance standards and 3-years after the site was constructed), the ratio of APRM credits to be used to mitigate for the permanent loss of eelgrass would be 1:1 in the absence of special factors.

6 Long-Term Management Plan

The eelgrass mitigation site has already been designed, constructed, and monitored for 5 years following construction. The eelgrass establishment, maintenance, and monitoring was performed in accordance with the Eelgrass Transplant and Monitoring Plan (Appendix A), which was approved by the USACE in 2014, and construction was authorized under Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities in November 2014 (Appendix E). Monitoring reports were submitted to the USACE according to the schedule described in the Eelgrass Transplant and Monitoring Plan (Appendix A). The site has been meeting or exceeding the established performance standards since 2019 (Appendix D). Long-term management of the 4.65-acre APRM site includes actions that would be taken by the City to manage, maintain, and report on the status of the APRM site in such a way as to preserve its habitat and conservation values.

6.1 Long-term Monitoring and Reporting

The City proposes to perform annual monitoring of the APRM and its reference site consistent with methods described in the Establishment Monitoring section of the Eelgrass Transplant and Monitoring Plan (Appendix A, starting on page 7). To account for fluctuations in eelgrass due to environmental variations, the same reference site that has been used to monitor the APRM site will be incorporated into the annual surveys. The reference site is described in Appendix A, starting on page 4. For surveys completed during or after unusual climatic events (e.g., high fluvial discharge periods or El Niño conditions), the USACE should be contacted to determine if any modifications to the standard survey period are warranted.

The City will prepare annual monitoring reports for each monitoring interval, which will be submitted to the USACE within 30 days of completion of the monitoring survey. Monitoring reports will include all the information described in the Establishment Monitoring section of the Eelgrass Transplant and

Monitoring Plan (Appendix A, starting on page 7). In addition, the monitoring reports will achieve the following:

- Identify any areas of concern or maintenance and management issues, such as changes in the substrate; presence of invasive species; and documentation of debris, refuse, or site damage (e.g., anchor scars or any other changes that affect the restoration value of the site).
- Identify any actions necessary to correct areas of concern or damage to the site and a plan to implement the corrective actions.

6.2 Long-Term Performance Standards

A 4-point rolling mean of the eelgrass VAE within the APRM site will be calculated to document that the site continues to support no less than the amount of eelgrass VAE credits deducted from the credit ledger. The 4-point rolling mean will be calculated annually using the four most recent annual survey results to ensure that the APRM site contains eelgrass to support debited credits and to calculate the number of credits still available for use. For each annual survey (or survey point), the eelgrass VAE will be determined in square meters and reported in acres (to the thousandth of an acre). This 4-point mean provides a more realistic representation of the long-term viability of an eelgrass site than a single monitoring survey. A 4-point rolling mean is also appropriate to capture the variable nature of eelgrass growth over time. Eelgrass growth and expansion outside the APRM site boundary is not considered part of the APRM acreage.

6.3 Adaptive Management

The APRM site will be managed as eelgrass habitat to provide ecological and restoration values to offset loss of eelgrass as a result of projects proposed to be undertaken within the Port. In general terms, the APRM site will be managed to preserve the ecological value of eelgrass habitat while also serving low-intensity uses such as public recreation. The CLUA (Appendix B) describes reserved rights and prohibited uses of the APRM site. Per Section 7 of the CLUA, if the City finds that other events not prohibited by Section 5 of the CLUA have reduced the amount of eelgrass at the APRM site to less than 3.673 acres, the City shall notify USACE and determine what next steps, if any, are appropriate. Potential options include, but are not limited to, development and implementation of a restoration plan, changes in long-term management activities, changes in reserved rights, or a reduction in credits available at the APRM site. If the acreage of eelgrass at the APRM site falls below the acreage debited from the ledger, the City will be responsible for any mitigation requirements that are assessed under the previously issued or verified permits for which mitigation using the APRM site was approved.

7 Long-Term Financial Assurances

As allowed in the USACE regulatory program (33 CFR 332.3[n][1]), the District Engineer may determine that financial assurances in the form of securities or endowments are not necessary in cases where an alternate mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g., a formal, documented commitment from a government agency or public authority). This section describes the Harbor Department's ability to ensure its commitment to implement this APRM Plan.

The Harbor Department is a self-supporting proprietary department of the City. The Port is held in trust for the people of the State of California pursuant to a series of tideland grants and administered by the City under the City Charter. As such, the Harbor Department operates semi-independently, administering and controlling its own funds and assets segregated from the City's General Fund and assets. The Harbor Department is under the control of a five-member Board of Harbor Commissioners (Board) appointed by the Mayor, subject to the oversight of the City Council, and administered by an executive director. The Harbor Department currently holds credit ratings of AA, Aa2, and AA from Standard & Poor's, Moody's, and Fitch Ratings, respectively, the highest credit ratings of any container port not backed by taxes in the nation. These high ratings reflect a variety of factors, including the Port's excellent competitive position on the West Coast, deep-draft waterways, state-of-the-art facilities, large local service area, excellent intermodal transportation links to regional and inland markets, and historically strong fiscal management. The Harbor Department is funded by the Harbor Revenue Fund, which is a separate fund segregated from the City's General Fund, as established by the City Charter. All fees, charges, rentals, and revenues from every source collected by the Harbor Department from Harbor Assets and shipping services are deposited in the Harbor Revenue Fund. This financial construct allows the Harbor Department to establish and maintain secure, long-term funding mechanisms. The advance mitigation site would be financed by the Harbor Department's capital improvement budget, a Board-approved budget within the Harbor Revenue Fund.

The APRM site is subject to the provisions of the City Charter, which, among other things, precludes the City from making any expenditure of funds or incurring any liability, including contractual commitments, in excess of the amount appropriated thereof. The capital budget for the APRM Plan will be set upon the Board's approval of the APRM Plan and be subject to appropriation in its annual budget.

If the City transfers its rights with regard to the APRM site, financial assurances and site protection deemed appropriate by the USACE will be required of the transferee.

8 Geographic Use Area

Available credits in the APRM site may be used to mitigate for eelgrass impacts within the Port of Los Angeles only.

9 Appropriate Use

The APRM site will not be used to compensate for non-eelgrass impacts to waters of the United States. Only the City would be eligible to use the APRM site. The City is solely responsible for the long-term management, protection, and performance of the APRM site. If a Port tenant receives a permit from the USACE that authorizes permanent impacts (loss) to eelgrass, the City may allow the Port tenant to transfer the compensatory mitigation obligations to the City through execution of an assignment and assumption agreement (template in Appendix G). The agreement would formalize the roles and responsibilities of the Port tenant and the City for use of the credits.

Potential types of eelgrass impacts for which the credits at the APRM site might be used are as follows:

- Impacts to eelgrass from permitted maintenance and development activities
- Impacts to eelgrass from activities that commonly include pile driving and dredging activities
- Impacts to eelgrass from activities permitted under the following:
 - Existing Regional General Permits for wharf maintenance, including pile driving and maintenance dredging (Regional General Permit 65, Port of Los Angeles Structural Maintenance; Regional General Permit 29, Port of Los Angeles Regional General Permit for Maintenance Dredging; or successor permits)
 - Standard individual permits for capital development projects, including capital dredging, slope revetment repair/creation, and placement of fill that impacts eelgrass

Pending and future projects for which the City may apply to use the APRM site include the Berth 183-186 Wilmington Waterfront Promenade and Berths 74-83.

The process for the City or a Port tenant to request to use APRM credits was developed by the USACE and is described in Table 1. The process would depend on who the applicant is, when the impacts to eelgrass are identified, and the type of permit authorizing the impact.

Table 1
Process for Requesting Use of APRM Credits

Applicant or Permittee	When Eelgrass Impact Was Identified	Permit Type	Process
City	After construction was complete	Any	Submit a draft of the final APRM use plan (template in Appendix H) for USACE approval. Continue following the requirements of the standard eelgrass monitoring condition.
City	Before the permit was authorized	Any	The City submits a draft of the final APRM use plan and USACE approves it during permit review. Authorization includes a special condition requiring that mitigation be completed in accordance with the final APRM use plan.
Tenant	After construction was complete	Any	The tenant submits a draft conceptual APRM use plan (template in Appendix I) and draft assignment and assumption agreement (template in Appendix G) for USACE approval. After the assignment and assumption agreement is executed, the City submits a draft of the final APRM use plan for USACE approval. Continue following requirements of the standard eelgrass monitoring condition.
Tenant	Before the permit was authorized	GP	The tenant submits a draft conceptual APRM use plan and draft assignment and assumption agreement, and USACE approves them during permit review. Verification includes special conditions that require: 1) a final APRM use plan; 2) a signed assignment and assumption agreement; and 3) mitigation completed in accordance with the final APRM use plan. After the assignment and assumption agreement is executed, the City submits a draft final APRM use plan.
Tenant (City must be co-applicant)	Before the permit was authorized	LOP or SIP	Follows same process as when the City is the applicant.

Note:

Table 1 was developed by the USACE to describe the process for the City or a Port tenant to request use of the APRM credits.

10 References




NOAA Fisheries (National Oceanic and Atmospheric Administration), 2014. *California Eelgrass Mitigation Policy and Implementing Guidelines*. October 2014. Available at: https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf.

USACE (U.S. Army Corps of Engineers), Washington State Department of Ecology, and Washington State Department of Fish and Wildlife, 2012. *Interagency Regulatory Guide for Advance Permittee-Responsible Mitigation*. Ecology Publication No. 12-06-015. December 2012.

Figure

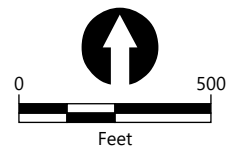


LEGEND:

-  Mitigation Site
-  Reference Site
-  Existing Eelgrass Bed

NOTES:

1. Aerial imagery: Esri (2021)
2. Mitigation Site: Port of Los Angeles
3. Reference Site: Merkel & Associates, Inc.
4. Existing Eelgrass Bed: Merkel & Associates, Inc.



Publish Date: 2024/10/30, 12:10 PM | User: tweldy
 Filepath: \\GSTFile01\GIS\Jobs\PortofLA_0711\Maps\MitigationPlan\MitigationPlan.aprx



Figure 1
Cabrillo Beach Advance Permittee-Responsible Eelgrass Mitigation Site
 Cabrillo Beach Eelgrass Advance Permittee-Responsible Mitigation Plan

Appendix A

Eelgrass Transplant and Monitoring Plan

**EELGRASS TRANSPLANT AND MONITORING PLAN
IN SUPPORT OF THE
INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT
PORT OF LOS ANGELES, CALIFORNIA**

Prepared for:

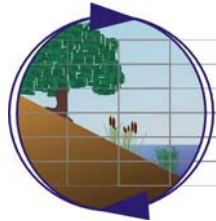
Port of Los Angeles Environmental Management Division

425 S Palos Verdes Street
San Pedro, CA 90733-0151
Attn: Katherine Prickett
Phone: (310) 732-3951

and

AMEC Environment and Infrastructure

9210 Sky Park Court, Suite 200
San Diego, CA 92123
Attn: Barry Snyder
Phone: (858) 300-4320



Prepared by:

Keith W. Merkel, Principal Consultant
Merkel & Associates, Inc.
5434 Ruffin Road
San Diego, CA 92123
(858) 560-5465

August 2014

A handwritten signature in black ink that reads "Keith W. Merkel".

Keith Merkel, Principal Consultant

TABLE OF CONTENTS

INTRODUCTION 1

TRANSPLANT SITE 1

 TRANSPLANT SITE LOCATION 1

 TRANSPLANT SITE DESCRIPTION 3

 TRANSPLANT SITE DREDGING/GRADING 3

EELGRASS MITIGATION REQUIREMENTS..... 3

EELGRASS PLANTING PLAN 4

 TRANSPLANT SITES..... 4

 DONOR SITES 4

 REFERENCE SITES..... 4

RESTORATION METHODS 4

 LETTER OF AUTHORIZATION AND NOTIFICATIONS 4

 PLANT COLLECTION..... 6

 TRANSPLANT UNITS 6

 PLANTING EELGRASS UNITS..... 6

TIMING OF THE RESTORATION WORK 7

MONITORING PROGRAM 7

 ESTABLISHMENT MONITORING..... 7

 MITIGATION SUCCESS CRITERIA..... 8

MONITORING PROGRAM SCHEDULE..... 8

REFERENCES 9

LIST OF FIGURES

FIGURE 1. PROJECT LOCATOR MAP 2

FIGURE 2. EELGRASS MITIGATION SITE GRADING PLAN..... 1

FIGURE 3. MITIGATION CROSS SECTIONS 2

FIGURE 4. EELGRASS PLANTING LOCATION 4

LIST OF APPENDICES

APPENDIX A. SOUTHERN CALIFORNIA EELGRASS MITIGATION POLICY

**Eelgrass Transplant and Monitoring Plan in Support of the
Inner Cabrillo Beach Eelgrass Mitigation Project
Port of Los Angeles, California**

Merkel & Associates, Inc.

August 2014

INTRODUCTION

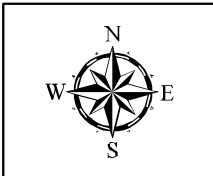
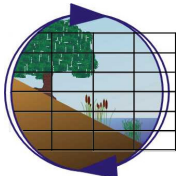
The Port of Los Angeles (Port) is proposing to develop an eelgrass mitigation site in the Inner Cabrillo Beach area. The site is being constructed primarily to mitigate impacts to eelgrass associated with the maintenance dredging of the Berth 24 Boat Ramp Basin and secondarily will be used to offset outstanding eelgrass mitigation obligations associated with the Cabrillo Way Marina Phase II dredging. The Port is coordinating with the U.S. Army Corps of Engineers (Corps) to establish the appropriate mechanism to make use of surplus mitigation existing beyond the identified needs of these two projects.

TRANSPLANT SITE

TRANSPLANT SITE LOCATION

The selection of an eelgrass mitigation site has been driven by a number of factors. These include compatible land and water uses, proximity to existing eelgrass beds, logistics and cost of site construction, and anticipation of no future conflicts within the Port. The selected site is located east of Inner Cabrillo Beach and west of the Cabrillo Beach Fishing Pier. The site is also north of the Outer Cabrillo Beach parking lot (Figure 1). The mitigation site is located adjacent to existing eelgrass beds at Inner Cabrillo Beach.

This site provides many benefits to eelgrass in that it is associated with larger eelgrass beds. The site is also located in an area of the Port that has been established for recreational and habitat functions. The site is located adjacent to the heavily recreationally utilized Inner Cabrillo Beach and is separated from deep draft navigational uses by the Cabrillo Shallow Water Habitat sites that rise from the harbor floor to depths shallower than -20 feet. The presence of these larger mitigation sites helps to ensure that navigational maintenance will not be required in this area in the future. Further, the large parking lots and broad Cabrillo Beach adjacent to the work area simplify access and provide means to bring land based equipment onto the site without any damage to public or private property improvements.



Project Locator Map
Donor Beds, Reference Site, and Transplant Site
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 1

TRANSPLANT SITE DESCRIPTION

The proposed site is constructed across an area that transitions from a supratidal and intertidal active sand shoal to a soft bottom harbor environment. The current elevation range at the site extends from +9 feet MLLW to -11 feet MLLW. The shoal has a predominately flat surface at approximately the highest high tide line (Figure 2). The sides of the shoal slope steeply to the bay floor. Bathymetric data collected in September 2013 and July 2014 have been used to verify that the shoal is slowly migrating to the west where it is overrunning the existing eelgrass bed along its northwest margin.

To the west and north of the shoal, eelgrass extends across the harbor bottom from a depth of approximately -2 ft to -8 ft MLLW with the predominance of the eelgrass occurring within a range of -4 feet to -6 feet MLLW. To the east of the shoal, the harbor bottom slopes down below elevations supporting eelgrass, -9 feet to -11 feet MLLW. Within the project area, the sand shoal and shallower portions of the beach surrounding the shoal support abundant small sand wave ripples. In deeper portions of the site, sand supports a layer of fine sediment over the top. Benthic organism burrowing was noted in areas outside of the shoal.

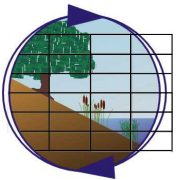
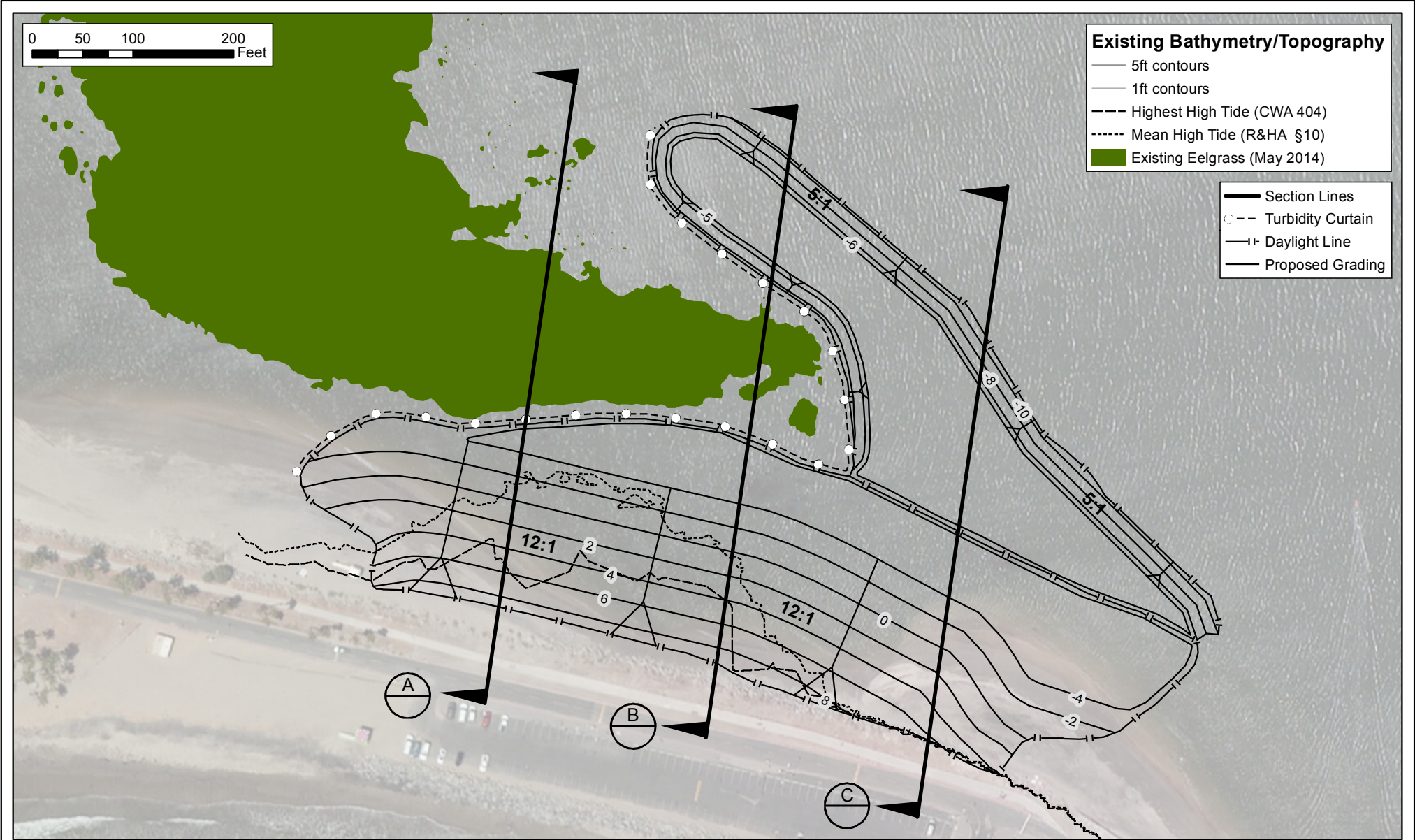
TRANSPLANT SITE DREDGING/GRADING

Design

The proposed eelgrass mitigation site would be constructed by excavating 11,150 cubic yards of sand from the shoal and placing it in the adjacent waters to raise the elevation of the bottom up to elevations suitable to support eelgrass. The shoal would be cut back toward the shoreline to match the adjacent beach at the top elevations. Small fillet fills would be placed to transition the edges of the beach back to the exposed revetment in order to reduce scouring at the beach terminus. The slope of the beach would be laid back to 12:1 to create a gentle beach gradient down to an elevation of -4 feet MLLW where a flat bench would be developed. By flattening the slope on the beach and removing the shoal, the functional intertidal beach face would be expanded in area.

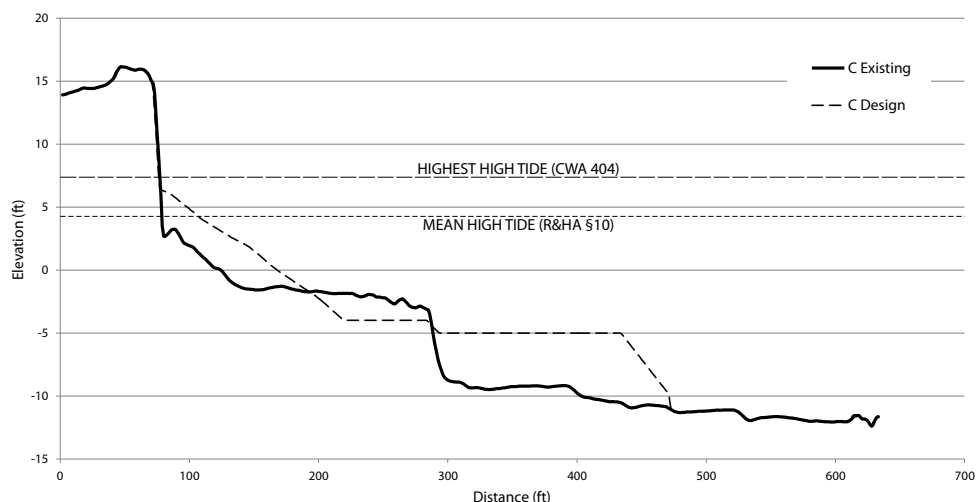
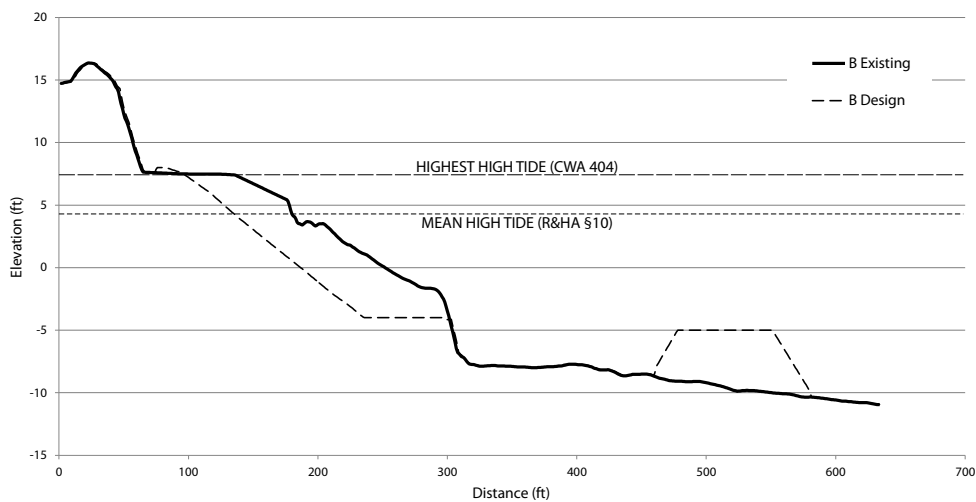
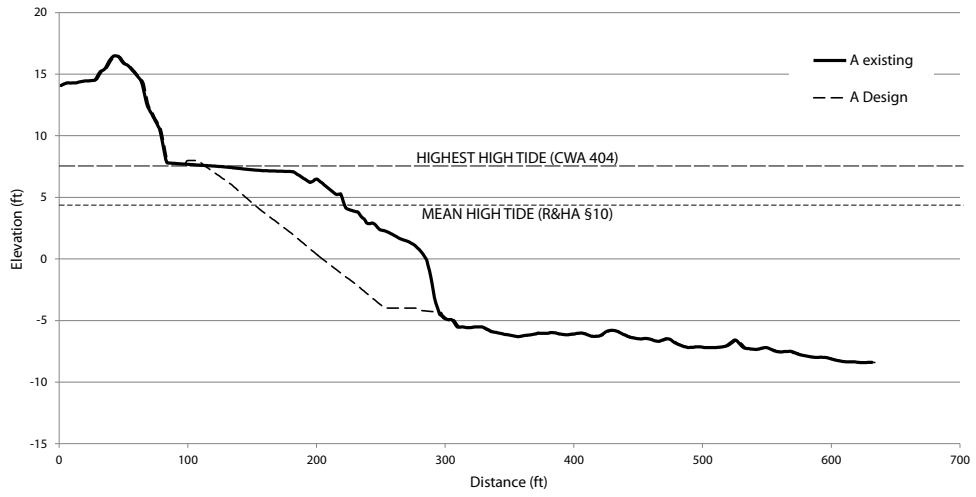
The sand removed from the shoal would be placed in the deeper waters adjacent to the site. A contiguous daylight line exists between cut and fill areas. Within the fill areas, the bottom would be raised to a plateau at an elevation of -5 feet MLLW. This plateau would be a balanced fill with the 11,150 cubic yards of cut. The maximum depth of cut from the site is 8 feet while the maximum fill depth is 6 feet. The resultant site configuration would generate more stable beach slopes and stepped plateaus at -4 feet and -5 feet MLLW (Figure 2 and Figure 3).

The site is to be graded to variable tolerances to meet the project objectives. For intertidal beach grading, the slope shall be cut to elevations that are +/-0.5 foot with a consistent smooth slope of 12:1. Horizontal limits of work shall be +/-20 feet with the broad allowance intended to address lateral termination needs, recognizing that the shoal and adjacent beach are active and may vary somewhat between design and construction conditions. For subtidal work, the beach slope shall maintain the same 12:1 slope as through the intertidal zone with an acceptable vertical tolerance of +/-0.5 foot over 80% of the area and +/-1.0 foot over 100% of the subtidal beach slope. For the subtidal plateaus at -4 and -5 feet MLLW, the vertical tolerances shall be not more than +/-1.0 foot over any portion of the site and surface elevation variation on the plateaus shall be limited such that no more than 8:1 slopes occur. There are no vertical tolerance requirements for the 5:1 slopes, which have been identified as a stable



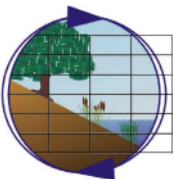
Eelgrass Mitigation Site Grading Plan
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 2



Mitigation Cross Sections
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 3



angle of repose for the sand to be placed. Horizontal placement tolerances to construct the planting plateaus are +/- 20 feet except along the boundary with eelgrass where no encroachment into existing beds is allowed.

Construction

It is anticipated that site construction will be accomplished by a combination of standard land-based earthmoving equipment including an excavator and bulldozer as well as a clamshell dredge. The sand excavation and contouring of the beach between the shoreline and existing eelgrass is expected to be performed by land based equipment using extreme low-tides to access the outer portions of the shoal. It is anticipated that removal of the shoal will be performed with an excavator while pushing sand to the east where it may be picked up for placement using a clamshell dredge on a flat barge. Given the vertical tolerances and surface variability requirements, the contractor may be required to sweep the clamshell over the surface during placement, or subsequently drag the surface to achieve acceptable surface conditions.

To protect existing eelgrass beds from damage, self-centering buoys or driven posts will be placed by the project biologists at the edge of the eelgrass to guide the contractor in setting post anchored turbidity curtains a distance of 5 feet from the bed edge marking. All curtain support posts will be placed by the contractor prior to initiation of earthwork. However, because the work area is within proximity (less than 50 feet) of the existing eelgrass beds for a length of 750 feet, a shorter moving turbidity curtain of not less than 200 feet may be used instead of placing the full length protection at the beginning of the project. This shorter curtain would then be repositioned as needed to maintain a barrier between the eelgrass and the work area.

Prior to acceptance of the final site construction, a detailed bathymetric and topographic survey shall be completed to document the site as-built conditions.

EELGRASS MITIGATION REQUIREMENTS

It is anticipated that the maintenance dredging for Berth 24 would require development of approximately 277-310 m² (0.07 ac) of replacement eelgrass to be developed (Merkel & Associates 2013). The final impact and mitigation determination would be based on the results of the pre-dredging and post-dredging surveys required under the Southern California Eelgrass Mitigation Policy (SCEMP) (NMFS 1991, as revised).

In constructing the Cabrillo Way Marina Phase II project, dredging was conducted to lower the bottom elevation beneath the marina to depths of -12 and -15 feet MLLW within different areas of the marina. Impacts to eelgrass within this area were determined to be 1,133 m² (0.28 ac) (Merkel & Associates 2009). This would generate a mitigation need of 1,360 m² (0.34 ac).

The mitigation site is designed to support a 3-acre eelgrass transplant; however, the final yield of eelgrass bed development is expected to be less than this initial planting scale. Anticipated losses due to cut beach instability and shoal redevelopment would be expected to curtail the overall site yield. The selection of target restoration depths that are centered on those represented by the core of the existing Cabrillo Beach eelgrass beds are expected to foster site success. As a result, some residual eelgrass habitat is anticipated to be developed by the mitigation site development. To make use of surplus

mitigation existing beyond these identified needs of these two projects, the Port is Coordinating with the Corps to establish the appropriate mechanism to utilize the surplus.

EELGRASS PLANTING PLAN

TRANSPLANT SITES

The transplant site to be used for mitigation purposes is shown in Figures 1 and 4. The proposed transplant area is 3.0 acres. The site extends across the lower beach and -4 plateau cut. The planting area also extends outward over the -5 foot plateau. Finally, the planting area extends slightly to the east onto an existing hard packed and wave rippled sand bench at an elevation ranging from -2 to -4 feet. This unmanipulated site shows characteristics of high energy scour that may restrict eelgrass establishment, but which may allow for mature eelgrass persistence and expansion.

DONOR SITES

Donor eelgrass for the transplants of eelgrass is to be derived from eelgrass beds along Boy Scout Beach to the north, as well as beds along the northwestern edge of Inner Cabrillo Beach (Figure 1). These donor beds have been primarily selected based on a number of factors:

- 1) Proximity to the transplant receiver site that favors both logistic convenience and selection of appropriate plant materials for the area;
- 2) Suitability of donor site size and eelgrass density to provide necessary transplant materials;
- 3) Recovery potential for the donor site; and,
- 4) Accessibility of the donor site and diver safety.

REFERENCE SITES

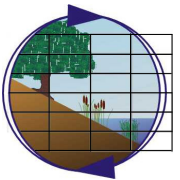
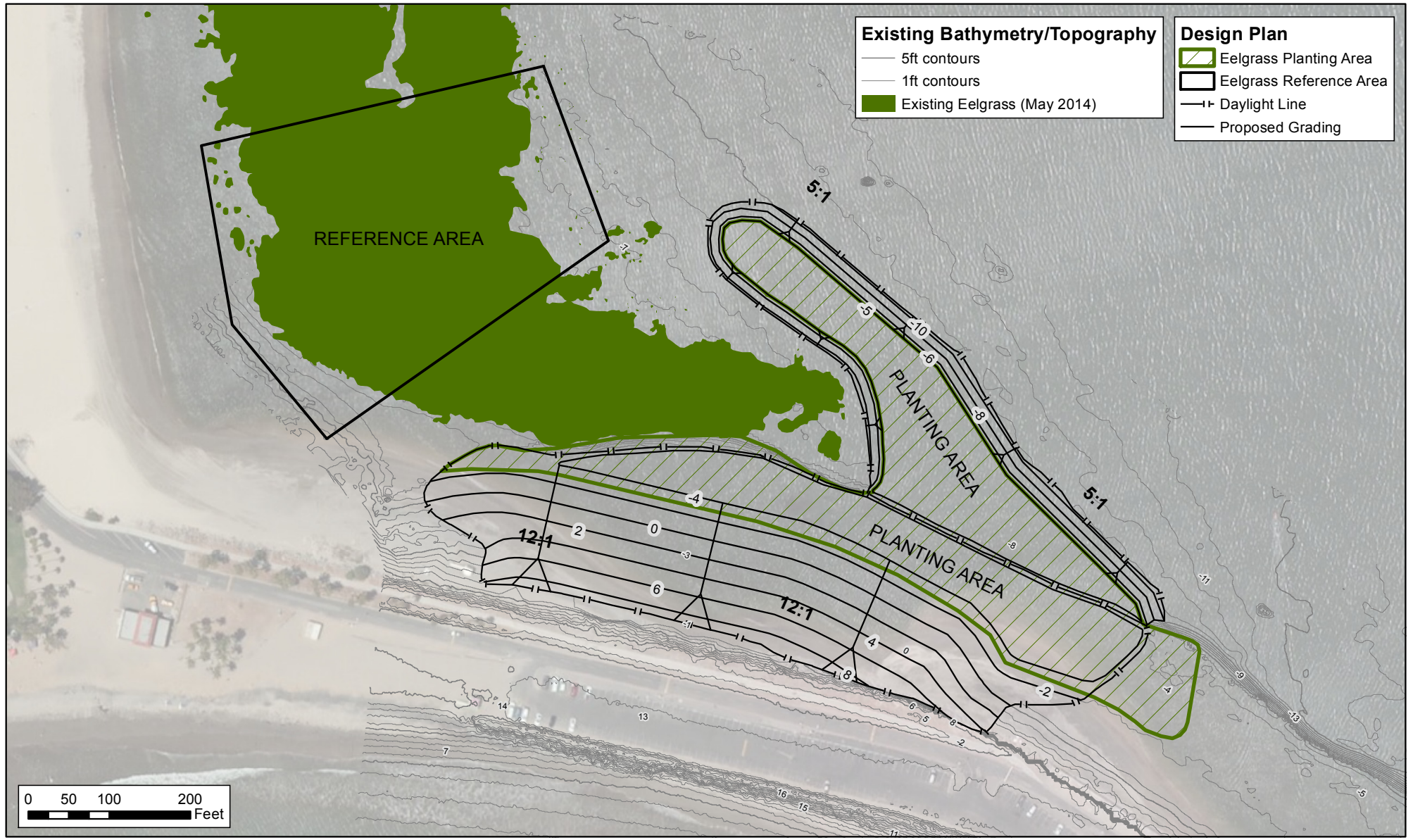
An eelgrass reference site has been established in an adjacent area north west of the transplant site (Figure 1). The site has been selected based on proximity to and similarity in physical and biological characteristics to the proposed transplant site. Monitoring of the reference site should be conducted coincident with the monitoring of the transplant site. Changes in the reference site over time will be considered to represent natural environmental variability when evaluating the performance of the transplant site (see Monitoring Program sections).

RESTORATION METHODS

LETTER OF AUTHORIZATION AND NOTIFICATIONS

Prior to commencing eelgrass transplantation work, a letter of authorization to plant eelgrass will be obtained from the California Department of Fish and Wildlife (CDFW) pursuant to §6400 of the California Fish & Game Code. The 3.0-acre planting program will require 12,138 planting units to be planted. The units will be comprised of 6-8 turions each.

Following receipt of the planting authorization letter, a minimum five days notification and a preliminary transplanting schedule must be provided to CDFW prior to commencement of the transplant work.



Eelgrass Planting Location
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 4

PLANT COLLECTION

Bare-root eelgrass plant material will be salvaged from the donor bed by "raking" rhizomes out of the surface sediment layers and loosely filling a mesh bag with salvaged material. In collecting eelgrass, care will be taken to work the rhizomes free as opposed to ripping the plants free of the sediment. This will preserve as much root material as possible. Salvaging is a mobile exercise and divers will move systematically through an area and collect/groom no more than 10% of the turions and associated rhizome and root material from any given square meter of the donor bed. Salvaged materials should consist of no less than three healthy internodal segments with well-developed root initiates and vigorous shoots. More intact rhizome segments and roots are preferred for use in the planting unit bundles.

Where donor material is removed, rhizomes of the donor plants almost always separate at rhizome nodes. Where this occurs, nodes generally scar over and rebud from meristem tissues within the node. Where damage at the severed node is more severe or the meristem is removed, the preceding node typically branches. The result is initiation of more extensive rhizome branching at the locations of plant material collection.

Collected material will be held in a flow-through seawater source or mesh bags suspended in the harbor until it is processed into planting units. No material will be stored for over 12 hours from harvesting to unit preparation. Once units are prepared, they will be stored in open water for no longer than 24 hours prior to planting.

TRANSPLANT UNITS

The proposed mitigation plan will utilize anchored bare-root transplant units. Bare-root transplants are the preferred means of transplanting eelgrass in most situations, and anchored bare-root units are the principal planting units used in large-scale restoration projects at the current time. The survival of such planting units has been shown to be quite high when properly prepared (Fonseca *et al.* 1982; Merkel 1987, 1990a). Similarly, bare-root units have shown an ability to rapidly expand and colonize bare substrate (Merkel 1990b). In addition to offering high unit survival and rapid expansion rates, bare-root units can be prepared with limited damage to the donor bed. Unlike plug extractions, bare-root units can be prepared using materials collected without substantial sediment disturbance. Each transplant unit for the project work will consist of 6-8 turions.

The anchors used in this program will be biodegradable and pliable anchors such as those developed initially for transplants in Mission Bay's Sail Bay (Merkel 1987) and which have subsequently been used in more than 65 eelgrass restoration projects throughout California, Oregon, Washington, and Alaska.

PLANTING EELGRASS UNITS

Shoreline staging and work areas will be situated on Inner Cabrillo Beach near the transplant site. A grid system will be used to control planting on the site. The grid will be laid out to control plant distribution, track progress on the restoration effort, and assist in completion of quality control inspections.

The plant materials will be planted by excavating a hole in the sediments with a small trowel or by hand. The anchor will be planted parallel to the sediment surface and the root/rhizome bundle will be planted approximately 1 to 2 inches below the sediment surface with the anchor being placed approximately 5 inches below the sediment surface. During planting, spot checks of the plantings will be made to ensure proper planting depth and firmness of the anchoring system.

Planting unit spacing is typically determined by balancing the rate of bed establishment with the cost of the transplant project. In some instances, rapid bed establishment is required to minimize potential storm damage or scouring of unconsolidated rhizome mats. In other cases, rapid recovery rates are desirable to meet bed establishment milestone objectives. Taking into account the rate of eelgrass growth, a planting unit spacing of one meter on center will be used for the present transplant.

TIMING OF THE RESTORATION WORK

The proposed mitigation project will be implemented in two phases, followed by a monitoring program scheduled to extend over a 5-year post-planting period. The first phase of work is the grading of the mitigation site. This work is scheduled to be conducted in Fall 2014. Site grading is anticipated to require two to six weeks, depending upon availability of suitable tides to work at lower site elevations.

Once graded, a period of site stabilization and fill consolidation would be allowed. The site planting would occur during the Spring 2015. Because early season growth can sometimes be delayed, planting would be planned for March 2015, but may be initiated later in the spring, if there is slow growth initiation in the donor beds. It is anticipated that planting would be initiated prior to May 2015 under any circumstances. Planting is anticipated to require two to three weeks to complete, based on difficulty of harvesting and planting transplant units.

Monitoring would be initiated following planting and would extend for a 5-year period as outlined below.

MONITORING PROGRAM

ESTABLISHMENT MONITORING

Upon completion of the planting effort, a monitoring program would be initiated and continued for a 60-month (5-year) period as outlined in the SCEMP. Areal extent and density of the transplanted eelgrass and natural reference sites should be monitored using interferometric sidescan sonar acoustic survey techniques that have been applied to eelgrass mapping within the harbor and impact assessment. The spatial distribution of eelgrass derived from acoustic survey will be supplemented with bed condition data collection including turion density, leaf length, epiphytic loading, and disease observations.

The monitoring program would be conducted at intervals of 0, 6, 12, 24, 36, 48, and 60-months post-transplant. When monitoring dates fall outside of the normal eelgrass-growing season, dates will be shifted to coincide with the growing season to ensure that valuable information on growth and survival is collected. For each monitoring interval, a summary report will be prepared and submitted to the Port, resource agencies, and regulatory agencies within 30 days of completion of the monitoring survey. M&A is currently under contract to AMEC through completion of the 12-month survey and reporting. Subsequent contracting for the 24- through 60-month surveys will be determined at a future time.

Monitoring reports will include information from previous monitoring intervals, including numerical comparisons and graphical presentations of changing bed configurations. The monitoring report will include an analysis of any declines or expansions in eelgrass coverage based on physical conditions of the site, as well as any other significant observations. Finally, the monitoring report will provide a prognosis for the future of the eelgrass bed and will identify the timing for the next monitoring period.

MITIGATION SUCCESS CRITERIA

Mitigation will be deemed successful when it has met the success criteria outlined in the SCEMP. Criteria for determination of transplant success will be based upon a comparison of vegetation coverage (area) and density (turions per square meter) between the reference sites and the transplant sites. The extent of vegetation cover is defined as the area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density of shoots is identified as the number of turions per meter, as measured from representative areas within the control or transplanted beds. Key success criteria are as follows:

- A) A minimum of 70 percent areal coverage and 30 percent density should be achieved after the first year.
- B) A minimum of 85 percent areal coverage and 70 percent density should be achieved after the second year.
- C) A minimum of 100 percent areal coverage and 85 percent density should be achieved for the third, fourth, and fifth years.

Areas that do not meet the above success criteria may be revegetated, and again monitored until the final goal is achieved. Should replanting of the areas at the project site fail to meet the success criteria; reconstruction of portions of the mitigation site may be required to carry out this revegetation. Should the reference area fail or decline alongside the mitigation area for reasons outside the control of the Port, the Port should not be held responsible for similar declines in the mitigation area.

MONITORING PROGRAM SCHEDULE

Based on the presently planned transplant window, the schedule of work is anticipated to be as follows:

ACTIVITIES	TIME PERIOD	REPORTING PERIOD
1. Complete 0-Month Survey	April 2015	May 2015
2. Complete 6-Month Survey	October 2015	November 2015
3. Complete 12-Month Survey	April 2016	May 2016
4. Complete 24-Month Survey	April 2017	May 2017
5. Complete 36-Month Survey	April 2018	May 2018
6. Complete 48-Month Survey	April 2019	May 2019
7. Complete 60-Month Survey	April 2020	May 2020

Should planting delays occur, the monitoring program would be modified as needed.

REFERENCES

- Fonseca, Mark S., W. Judson Kenworthy, G. W. Thayer. 1982. A Low-Cost Planting Technique for Eelgrass (*Zostera marina* L.). Coastal Engineering Aid No. 82-6. U. S. Army Engineer Coastal Engineering Research Center, Fort Belvoir, Virginia. 15 pp.
- Merkel, Keith W. 1987. Use of a New Bio-Degradable Anchor Unit for Eelgrass (*Zostera marina*) Revegetation. Presented at the First California Eelgrass Symposium, Tiburon, California. 8-9 May 1987. Pages 28-42.
- Merkel, Keith W. 1990a. Eelgrass Transplanting in South San Diego Bay, California. In: K. W. Merkel and R. S. Hoffman, eds. Proceedings of the California Eelgrass Symposium, Chula Vista, California, May 27-28, 1988. Pages 28-42.
- Merkel, Keith W. 1990b. Growth and Survival of Transplanted Eelgrass: the Importance of Planting Unit Size and Spacing. In: K. W. Merkel and R. S. Hoffman, eds. Proceedings of the California Eelgrass Symposium, Chula Vista, California May 27-28, 1988. Pages 70-78.
- Merkel & Associates, Inc. 2013. Second Pre-Construction Eelgrass Survey in support of the Cabrillo Way Marina Project, Port of Los Angeles, San Pedro, California (ADP No. 970711-108, Agreement. No. 2562, PD No. #7). November 20, 2009.
- Merkel & Associates, Inc. 2013. Port of Los Angeles Berth 24 Cabrillo Beach Boat Launching Ramp Maintenance Dredging Baseline Eelgrass Survey, San Pedro, California. May 31, 2013
- National Marine Fisheries Services. 1991, as revised. Southern California Eelgrass Mitigation Policy. Revision 11.

APPENDIX A. SOUTHERN CALIFORNIA EELGRASS MITIGATION POLICY, REVISION 11

SOUTHERN CALIFORNIA EELGRASS MITIGATION POLICY

(Adopted July 31, 1991)

Eelgrass (*Zostera marina*) vegetated areas are recognized as important ecological communities in shallow bays and estuaries because of their multiple biological and physical values. Eelgrass habitat functions as an important structural environment for resident bay and estuarine species, offering both predation refuge and a food source. Eelgrass functions as a nursery area for many commercially and recreationally important finfish and shellfish species, including those that are resident within bays and estuaries, as well as oceanic species that enter estuaries to breed or spawn. Eelgrass also provides a unique habitat that supports a high diversity of non-commercially important species whose ecological roles are less well understood.

Eelgrass is a major food source in nearshore marine systems, contributing to the system at multiple trophic levels. Eelgrass provides the greatest amount of primary production of any nearshore marine ecosystem, forming the base of detrital-based food webs and as well as providing a food source for organisms that feed directly on eelgrass leaves, such as migrating waterfowl. Eelgrass is also a source of secondary production, supporting epiphytic plants, animals, and microbial organisms that in turn are grazed upon by other invertebrates, larval and juvenile fish, and birds.

In addition to habitat and resource attributes, eelgrass serves beneficial physical roles in bays and estuaries. Eelgrass beds dampen wave and current action, trap suspended particulates, and reduce erosion by stabilizing the sediment. They also improve water clarity, cycle nutrients, and generate oxygen during daylight hours.

In order to standardize and maintain a consistent policy regarding mitigating adverse impacts to eelgrass resources, the following policy has been developed by the Federal and State resource agencies (National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the California Department of Fish and Game). While the intent of this Policy is to provide a basis for consistent recommendations for projects that may impact existing eelgrass resources, there may be circumstances (e.g., climatic events) where flexibility in the application of this Policy is warranted. As a consequence, deviations from the stated Policy may be allowed on a case-by-case basis. This policy should be cited as the Southern California Eelgrass Mitigation Policy (revision 11).

For clarity, the following definitions apply. "Project" refers to work performed on-site to accomplish the applicant's purpose. "Mitigation" refers to work performed to compensate for any adverse impacts caused by the "project". "Resource agencies" refers to National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG).

1. **Mitigation Need.** Eelgrass transplants shall be considered only after the normal provisions and policies regarding avoidance and minimization, as addressed in the Section 404 Mitigation Memorandum of Agreement between the Corps of Engineers and Environmental Protection Agency, have been pursued to the fullest extent possible prior to the development of any mitigation program. Mitigation will be required for the loss of

existing vegetated areas, loss of potential eelgrass habitat, and/or degradation of existing/potential eelgrass habitat. Mitigation for boat docks and/or related work is addressed in section 2.

2. Boat Docks and Related Structures. Boat docks, ramps, gangways and similar structures should avoid eelgrass vegetated or potential eelgrass vegetated areas to the maximum extent feasible. If avoidance of eelgrass or potential eelgrass areas is infeasible, impacts should be minimized by utilizing, to the maximum extent feasible, construction materials that allow for greater light penetration (e.g., grating, translucent panels, etc.). For projects where the impact cannot be determined until after project completion (i.e., vessel shading, vessel traffic) a determination regarding the amount of mitigation shall be made based upon two annual monitoring surveys conducted during the time period of August to October which document the changes in the bed (areal extent and density) in the vicinity of the footprint of the boat dock, moored vessel(s), and/or related structures. Any impacts determined by these monitoring surveys shall be mitigated per sections 3-12 of this policy. Projects subject to this section must include a statement from the applicant indicating their understanding of the potential mitigation obligation which may follow the initial two-year monitoring.

3. Mitigation Map. The project applicant shall map thoroughly the area, distribution, density and relationship to depth contours of any eelgrass beds likely to be impacted by project construction. This includes areas immediately adjacent to the project site which have the potential to be indirectly or inadvertently impacted as well as potential eelgrass habitat areas. Potential habitat is defined as areas where eelgrass would normally be expected to occur but where no vegetation currently exists. Factors to be considered in delineating potential habitat areas include appropriate circulation, light, sediment, slope, salinity, temperature, dissolved oxygen, depth, proximity to eelgrass, history of eelgrass coverage, etc.

Protocol for mapping shall consist of the following format:

1) Bounding Coordinates

Horizontal datum - Universal Transverse Mercator (UTM), NAD 83, Zone 11 is the preferred projection and datum. If another projection or datum is used, the map and spatial data must include metadata that accurately defines the projection and datum.

Vertical datum - Mean Lower Low Water (MLLW), depth in feet.

2) Units

Transects and grids in meters.

Area measurements in square meters/hectares.

3) File format

A spatial data layer compatible with readily available geographic information system software must be sent to NMFS and any other interested resource agency when the area mapped has greater than 10 square meters of

eelgrass. For those areas with less than 10 square meters, a table must be provided giving the bounding x,y coordinates of the eelgrass areas. In addition to a spatial layer or table, a hard-copy map should be included within the survey report. The projection and datum should be clearly defined in the metadata and/or an associated text file.

All mapping efforts must be completed during the active growth phase for the vegetation (typically March through October) and shall be valid for a period of 60 days with the exception of surveys completed in August - October. Surveys completed after unusual climatic events (i.e., high rainfall) may have modified requirements and surveyors should contact NMFS, CDFG, and USFWS to determine if any modifications to the standard survey procedures will be required. A survey completed in August - October shall be valid until the resumption of active growth (i.e., in most instances, March 1). After project construction, a post-project survey shall be completed within 30 days. The actual area of impact shall be determined from this survey.

4. **Mitigation Site.** The location of eelgrass transplant mitigation shall be in areas similar to those where the initial impact occurs. Factors such as, distance from project, depth, sediment type, distance from ocean connection, water quality, and currents are among those that should be considered in evaluating potential sites.

5. **Mitigation Size.** In the case of transplant mitigation activities that occur concurrent to the project that results in damage to the existing eelgrass resource, a ratio of 1.2 to 1 shall apply. That is, for each square meter adversely impacted, 1.2 square meters of new suitable habitat, vegetated with eelgrass, must be created. The rationale for this ratio is based on, 1) the time (i.e., generally three years) necessary for a mitigation site to reach full fishery utilization and 2) the need to offset any productivity losses during this recovery period within five years. An exception to the 1.2 to 1 requirement shall be allowed when the impact is temporary and the total area of impact is less than 100 square meters. Mitigation on a one-for-one basis shall be acceptable for projects that meet these requirements (see section 11 for projects impacting less than 10 square meters).

Transplant mitigation completed three years in advance of the impact (i.e., mitigation banks) will not incur the additional 20 percent requirement and, therefore, can be constructed on a one-for-one basis. However, all other annual monitoring requirements (see sections 8-9) remain the same irrespective of when the transplant is completed.

Project applicants should consider increasing the size of the required mitigation area by 20-30 percent to provide greater assurance that the success criteria, as specified in Section 10, will be met. In addition, alternative contingent mitigation must be specified, and included in any required permits, to address situation where performance standards (see section 10) are not likely to be met.

For potential eelgrass habitat, a ratio of 1 to 1 of equivalent habitat shall be created.

Degradation of existing eelgrass vegetated habitat that results in a reduction of density greater than 25 percent shall be mitigated on a one-for-one basis. For example, a 25

percent reduction in density of a 100 square meter (100 turions/meter) eelgrass bed to 75 turions/meter would require the establishment of 25 square meters of new eelgrass with a density at or greater than the pre-impact density. All other provisions of the Policy would apply.

6. Mitigation Technique. Techniques for the construction and planting of the eelgrass mitigation site shall be consistent with the best available technology at the time of the project. Donor material shall be taken from the area of direct impact whenever possible, but also should include a minimum of two additional distinct sites to better ensure genetic diversity of the donor plants. No more than 10 percent of an existing bed shall be harvested for transplanting purposes. Plants harvested shall be taken in a manner to thin an existing bed without leaving any noticeable bare areas. Written permission to harvest donor plants must be obtained from the California Department of Fish and Game.

Plantings should consist of bare-root bundles consisting of 8-12 individual turions. Specific spacing of transplant units shall be at the discretion of the project applicant. However, it is understood that whatever techniques are employed, they must comply with the stated requirements and criteria.

7. Mitigation Timing. For off-site mitigation, transplanting should be started prior to or concurrent with the initiation of in-water construction resulting in the impact to the eelgrass bed. Any off-site mitigation project which fails to initiate transplanting work within 135 days following the initiation of the in-water construction resulting in impact to the eelgrass bed will be subject to additional mitigation requirements as specified in section 8. For on-site mitigation, transplanting should be postponed when construction work is likely to impact the mitigation. However, transplanting of on-site mitigation should be started no later than 135 days after initiation of in-water construction activities. A construction schedule which includes specific starting and ending dates for all work including mitigation activities shall be provided to the resource agencies for approval at least 30 days prior to initiating in-water construction.

8. Mitigation Delay. If, according to the construction schedule or because of any delays, mitigation cannot be started within 135 days of initiating in-water construction, the eelgrass replacement mitigation obligation shall increase at a rate of seven percent for each month of delay. This increase is necessary to ensure that all productivity losses incurred during this period are sufficiently offset within five years.

9. Mitigation Monitoring. Monitoring the success of eelgrass mitigation shall be required for a period of five years for most projects. Monitoring activities shall determine the area of eelgrass and density of plants at the transplant site and shall be conducted at initial planting, 6, 12, 24, 36, 48, and 60 months after completion of the transplant. All monitoring work must be conducted during the active vegetative growth period and shall avoid the winter months of November through February. Sufficient flexibility in the scheduling of the 6 month surveys shall be allowed in order to ensure the work is completed during this active growth period. Additional monitoring beyond the 60 month period may be required in those instances where stability of the proposed transplant site is questionable or where other factors may influence the long-term success of transplant.

The monitoring of an adjacent or other acceptable control area (subject to the approval of the resource agencies) to account for any natural changes or fluctuations in bed width or density must be included as an element of the overall program.

A monitoring schedule that indicates when each of the required monitoring events will be completed shall be provided to the resource agencies prior to or concurrent with the initiation of the mitigation (see attached monitoring and compliance summary form).

Monitoring reports shall be provided to the resource agencies within 30 days after the completion of each required monitoring period and shall include the summary sheet included at the end of this policy.

10. Mitigation Success. Criteria for determination of transplant success shall be based upon a comparison of vegetation coverage (area) and density (turions per square meter) between the **adjusted project impact area** (i.e., original impact area multiplied by 1.2) and **mitigation site(s)**. Extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density of shoots is defined by the number of turions per area present in representative samples within the original impact area, control or transplant bed. Specific criteria are as follows:

- a. the mitigation site shall achieve a minimum of 70 percent area of eelgrass and 30 percent density as compared to the adjusted project impact area after the first year.
- b. the mitigation site shall achieve a minimum of 85 percent area of eelgrass and 70 percent density as compared to the adjusted project impact area after the second year.
- c. the mitigation site shall achieve a sustained 100 percent area of eelgrass bed and at least 85 percent density as compared to the adjusted project impact area for the third, fourth and fifth years.

Should the required eelgrass transplant fail to meet any of the established criteria, then a Supplementary Transplant Area (STA) shall be constructed, if necessary, and planted. The size of this STA shall be determined by the following formula:

$$STA = MTA \times (|A_t + D_t| - |A_c + D_c|)$$

MTA = mitigation transplant area.

A_t = transplant deficiency or excess in area of coverage criterion (%).

D_t = transplant deficiency in density criterion (%).

A_c = natural decline in area of control (%).

D_c = natural decline in density of control (%).

The STA formula shall be applied to actions that result in the degradation of habitat (i.e., either loss of areal extent or reduction in density).

Five conditions apply:

- 1) For years 2-5, an excess of only up to 30% in area of coverage over the stated criterion with a density of at least 60% as compared to the project area may be used to offset any deficiencies in the density criterion.
- 2) Only excesses in area criterion equal to or less than the deficiencies in density shall be entered into the STA formula.
- 3) Densities which exceed any of the stated criteria shall not be used to offset any deficiencies in area of coverage.
- 4) Any required STA must be initiated within 120 days following the monitoring event that identifies a deficiency in meeting the success criteria. Any delays beyond 120 days in the implementation of the STA shall be subject to the penalties as described in Section 8.
- 5) Annual monitoring will be required of the STA for five years following the implementation and all performance standards apply to the STA.

11. **Mitigation Bank.** Any mitigation transplant success that, after five years, exceeds the mitigation requirements, as defined in section 10, may be considered as credit in a "mitigation bank". Establishment of any "mitigation bank" and use of any credits accrued from such a bank must be with the approval of the resource agencies and be consistent with the provisions stated in this policy. Monitoring of any approved mitigation bank shall be conducted on an annual basis until all credits are exhausted.

12. **Exclusions.**

1) Placement of a single pipeline, cable, or other similar utility line across an existing eelgrass bed with an impact corridor of no more than 1 meter wide may be excluded from the provisions of this policy with concurrence of the resource agencies. After project construction, a post-project survey shall be completed within 30 days and the results shall be sent to the resource agencies. The actual area of impact shall be determined from this survey. An additional survey shall be completed after 12 months to insure that the project or impacts attributable to the project have not exceeded the allowed 1 meter corridor width. Should the post-project or 12 month survey demonstrate a loss of eelgrass greater than the 1 meter wide corridor, then mitigation pursuant to sections 1-11 of this policy shall be required.

2) Projects impacting less than 10 square meters. For these projects, an exemption may be requested by a project applicant from the mitigation requirements as stated in this policy, provided suitable out-of-kind mitigation is proposed. A case-by-case evaluation and determination regarding the applicability of the requested exemption shall be made by the resource agencies.

(last revised 08/30/05)

Southern California Eelgrass Mitigation Policy Monitoring and Compliance Reporting Summary

PERMIT DATA:

Permit (Type, Number)	Issuance Date	Expiration Date	Agency Contact
ACOE:			
CDP:			
Other:			

EELGRASS IMPACT AND MITIGATION REQUIREMENTS SUMMARY:

Permitted Eelgrass Impact Estimate	(m ²)	
Actual Eelgrass Impact	(m ²)	(post-const. survey date)
Eelgrass Mitigation Requirement	(m ²)	(mitigation plan ref.)
Impact Site Location		(location)
Impact Site Center Coordinates		(define projection and datum)
Mitigation Site Location		(location)
Mitigation Site Center Coordinates		(define projection and datum)

PERMITTEE CONTACT INFORMATION:

Project Name	(same as permit ref.)
Permittee Information	(permittee name)
	(mailing address)
	(city, state, zip)
	(permittee contact)
Mitigation Consultant	(phone, fax., e-mail)
	(consultant contact)
	(phone, fax., e-mail)

PROJECT ACTIVITY DATA:

Activity	Start Date	End Date	Reference Info.
<i>Eelgrass Impact</i>			
Installation of Eelgrass Mitigation			
<i>Initiation of Mitigation Monitoring</i>			

MITIGATION STATUS DATA:

Mitigation Milestone	Scheduled Survey	Survey Date	Area (m ²)	Density (turions/m ²)	Reference Info.
<i>Requirement</i>					
<i>0-month</i>					
6-month					
12-month					
24-month					
36-month					
48-month					
60-month					

FINAL ASSESSMENT:

Was mitigation met?	
Were mitigation and monitoring performed timely?	
Was delay penalty required or were supplemental mitigation programs necessary?	

Appendix B
Site Protection

**THIS AGREEMENT IS NOT TO BE RECORDED IN ANY COUNTY RECORDER'S
OFFICE OF THIS STATE**

CONSERVATION LAND USE AGREEMENT

BETWEEN THE

CITY OF LOS ANGELES

AND THE

UNITED STATES ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

This CONSERVATION LAND USE AGREEMENT ("**Agreement**") is dated for reference purposes as of this _____ day of _____, 2025, by the City of Los Angeles, a municipal corporation ("**City**"), acting by and through its Los Angeles Board of Harbor Commissioners ("**Board**"), and the Los Angeles District of the United States Army Corps of Engineers ("**ACOE**"), collectively, referred to herein as the "**Parties**."

RECITALS

A. The City, acting by and through its Board, possesses, manages, supervises, and controls approximately 4,300 acres of surface land and 3,200 acres of submerged lands and water located in San Pedro Bay, City and County of Los Angeles, State of California ("**Port of Los Angeles**," "**POLA**," or "**Port**"). The Port is generally shown on **Exhibit A** and legally described in the City of Los Angeles Charter, Article VI, Section 651 and the California Tidelands Trust Act, Chapter 656, Statutes 1911, as amended. The City intends to conserve and protect an approximately 4.65-acre portion of the Port (the "**Conserved Land**" or "**Advance Permittee-Responsible Mitigation Site**"). The Conserved Land is legally described and depicted on **Exhibit B** attached hereto and incorporated by reference.

B. The Conserved Land possesses fish and habitat values of great importance to the Parties, and the people of the state of California and United States (see **Exhibit C**, a biological survey of the Conserved Land titled *2022 Eelgrass Monitoring Report in Support of the Inner Cabrillo Beach Eelgrass Mitigation Project*). The Conserved Land provides eelgrass, a species of submerged aquatic vegetation that performs valuable biological, physical, and chemical ecosystem functions, that supports numerous fish species. Individually and collectively, these fish and habitat values comprise the "**Conservation Values**" of the Conserved Land.

C. The Conserved Land provides advance permittee-responsible mitigation to offset unavoidable adverse impacts to eelgrass associated with City capital improvement and maintenance projects within the Port. The advance permittee-responsible mitigation measures, including maintenance, management, monitoring, surveying, and reporting activities, are described in this "Cabrillo Beach Eelgrass Mitigation Project Advance Permittee-Responsible Mitigation Plan," dated May 2025 prepared by Anchor QEA ("**APRM plan**").

D. Upon execution of this Agreement, 3.673 eelgrass establishment Credits that have been generated on the Advanced-Permittee Responsible Mitigation Site will be available for use by the City. "**Credits**" are units of measure in increments of an acre representing the accrual,

attainment, or protection of aquatic functions on the Advanced-Permittee Responsible Mitigation Site.

NOW THEREFORE, the Parties agree as follows:

AGREEMENT

1. Authority

(a) The City enters into this Agreement pursuant to the Tidelands Trust (Los Angeles City Charter, Article VI, Section 601; California Tidelands Trust Act, Chapter 656, Statutes 1911, as amended) and the California Coastal Act (Public Resources Code Division 20 Section 30700 et seq.).

(b) The ACOE enters into this Agreement for the use of waters of the United States, navigable waters of the United States, and the land beneath it, pursuant to section 404 of the Clean Water Act, as amended (33 U.S.C. § 1344), section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403), and its implementing regulations, including but not limited to 33 C.F.R. § 332.7.

2. Purpose

(a) The purposes of this Agreement are to ensure the Conserved Land will be managed and preserved in a natural condition (defined below) and to prevent any use of the Conserved Land that will impair or interfere with the Conservation Values of the Conserved Land. The Parties intend that this Agreement will confine the use of the Conserved Land to such activities that are consistent with such purposes, including, without limitation, those involving the preservation, restoration, and enhancement of native species and their habitats.

i. For purposes of this Agreement, the term “natural condition” means the condition of the Conserved Land as described in Exhibit C, as well as changes to the Conserved Land that occur directly as a result of long-term maintenance obligations that are to be performed to maintain the ecological functions of the Conserved Land set forth in Section 7, below, activities described in Sections 3 and 6, below, and natural changes to the Conserved Land over time, and changes occurring due to acts beyond the City’s control described in Section 6(f), below.

(b) If a controversy arises with respect to the Conservation Values of the Conserved Land, none of the Parties shall be foreclosed from utilizing any and all other relevant documents, surveys, photographs or other evidence or information to assist in the resolution of the controversy.

3. City’s Duties

City shall:

(a) Cooperate with ACOE in the protection of the Conserved Values of the Conserved Land;

(b) Perform long-term maintenance of the Conserved Land set forth in Section 7, below; and

(c) Obtain any applicable governmental permits and approvals for any activity or use permitted by this Agreement, before undertaking such activity, and any activity or use shall be undertaken in accordance with all applicable federal, state, local and administrative agency statutes, ordinances, rules, regulations, orders or requirements.

4. Prohibited Uses

Any activity on or use of the Conserved Land that is inconsistent with the purposes of this Agreement is prohibited. Without limiting the generality of the foregoing, the following uses and activities by the City, City's respective employees, contractors, representatives, agents, assignees, invitees, and third parties are expressly prohibited:

- (a) Commercial, institutional, or industrial structures or uses;
- (b) Construction, reconstruction, expansion, location, relocation, installation, or placement of any structure or improvement of any kind;
- (c) Intentional deposition or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other material, excluding natural movement of sediments and biological matter in the water column;
- (d) Intentional introduction or dispersal of non-native or exotic plant or animal species;
- (e) Filling, dumping, excavating, draining, dredging, mining, drilling, removing or exploring for or extraction of minerals, loam, gravel, soil, rock, sand or other material on or below the surface of the Conserved Land, or granting or authorizing any of these purposes;
- (f) Altering the general bathymetry of the Conserved Land;
- (g) Manipulating, impounding or altering any natural watercourse, body of water or water circulation on the Conserved Land, and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters unless the manipulation of such a water body returns the system to a natural functioning condition;
- (h) Transferring, encumbering, selling, leasing, or otherwise separating the mineral or air rights for the Conserved Land;
- (i) Engaging in any use or activity that may violate, or may fail to comply with, relevant federal, state, or local laws, regulations, or policies applicable to the City, the Conserved Land, or the use or activity in question; and
- (j) Any and all other activities and uses which ACOE determines may adversely affect any purpose of this Agreement.

5. Reserved Rights

The City reserves all rights accruing from its control of the Conserved Land, including the right to engage in or to permit or invite others to engage in all uses of the Conserved Land that are not prohibited or limited by, and are consistent with, the purposes of this Agreement.

6. Enforcement

(a) If ACOE determines that a violation of the terms of this Agreement has occurred or is threatened, ACOE shall give written notice to the City of such violation and demand in writing the cure of such violation (“*Notice of Violation*”).

(b) If City fails to cure the violation within forty-five (45) days after receipt of the Notice of Violation, or if the cure reasonably requires more than forty-five (45) days to complete and City fails to begin the cure within the forty-five (45)-day period or fails to continue diligently to complete the cure, ACOE may bring an action at law or in equity in a court of competent jurisdiction for any or all of the following: to recover any damages to which ACOE may be entitled for violation of the terms of this Agreement or for any injury to the Conservation Values of the Conserved Land; to enjoin the violation, *ex parte* as necessary, by temporary or permanent injunction without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies; to pursue any other legal or equitable relief, including, but not limited to, the restoration of the Conserved Land to the condition in which they existed prior to any such violation or injury; or to otherwise enforce this Agreement. The City may interpose any and all defenses at law or equity that it deems appropriate in response to any such action. Without limiting the liability of City, ACOE shall apply any damages recovered to the cost of undertaking any corrective action on the Conserved Land.

(c) If ACOE, in its sole discretion, determines that circumstances require immediate action to prevent or mitigate injury to the Conservation Values of the Conserved Land, ACOE may pursue its remedies under this Agreement without prior notice to City or without waiting for the period provided for cure to expire. ACOE’s rights under this section apply equally to actual or threatened violations of the terms of this Agreement. The City may assert any and all defenses at law or equity that it deems appropriate in response to any such action. The remedies described in this Section shall be cumulative and shall be in addition to all relief now or hereafter existing at law or in equity.

(d) Enforcement of the terms of this Agreement or the right to terminate the Agreement in the event of uncured violation shall be at the discretion of ACOE.

(e) Any forbearance by ACOE to exercise its rights in the event of any breach of any term of this Agreement shall not be deemed or construed to be a waiver by ACOE of such term or of any other term of this Agreement. Nor shall such forbearance be deemed or construed to be a waiver of any rights of ACOE to enforce the terms of this Agreement in the case of any subsequent breach of the same or any other term of this Agreement. No delay or omission by ACOE in the exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

(f) Nothing contained in this Agreement shall be construed to entitle ACOE to bring any action against City for any injury to or change in the Conserved Land resulting from: (i) any natural cause beyond City's control, including, without limitation, fire not caused by City, flood, storm, or earth movement, or any prudent action taken by City under emergency conditions to prevent, abate, or mitigate significant injury to the Conserved Land resulting from such causes, provided that once the emergency has abated, City promptly takes all reasonable and necessary actions to restore the Conserved Land to the condition they were in immediately prior to the emergency; or (ii) acts by third parties beyond the control of the City. Notwithstanding the foregoing, City must obtain any applicable governmental permits and approvals for any emergency activity or use permitted by this Agreement, and undertake any such activity or use in accordance with all applicable federal, state, local, and administrative statutes, ordinances, rules, regulations, orders, and requirements.

7. Long-term Management of Conserved Land

(a) Upon execution of this Agreement, the City shall be responsible for ongoing, long-term maintenance of the Conserved Land as described in Section 6 of the APRM plan including but not limited to:

i. The City shall prepare an annual survey and maintenance report documenting activities performed under this Section 7(a), and shall submit reports to the ACOE; and

ii. The City shall be responsible for restoration of the Conserved Land damaged by any activities prohibited by Section 5. Such restoration shall be conducted in compliance with a restoration plan prepared by a qualified Biological Monitor and approved in writing by ACOE (“*Restoration Plan*”). Upon completion of restoration as specified in the approved Restoration Plan, City shall have a Biological Monitor prepare a detailed monitoring report, and City shall make the report available to ACOE within thirty (30) days of completion of repair or restoration activities. City and the Biological Monitor shall sign the monitoring report. The monitoring report shall document the Biological Monitor’s name and affiliation, dates Biological Monitor was present on site, activities observed and their location, Biological Monitor’s observations regarding the adequacy of repair or restoration performance in accordance with the approved Restoration Plan, and corrections recommended and implemented. As used herein, the term “*Biological Monitor*” shall mean an independent third-party consultant with knowledge of aquatic resources in the Port and expertise in the field of marine biology.

(b) If the City finds that other events not prohibited by Section 5 have reduced the amount of eelgrass at the Conserved Land, the City shall notify the ACOE and determine what next steps, if any, are appropriate to restore the eelgrass. Potential options, include, but are not limited to, development and implementation of a restoration plan, changes in long-term management activities, or a reduction in credits available at the Advanced Permittee Responsible Mitigation Site.

8. Interagency Communications

To provide for consistent and effective communication between the City and the ACOE, each party will appoint a Principal Representative to serve as its central point of contact on matters relating to this Agreement. Additional representatives may also be appointed to serve as points of contact on specific permit actions. Each party will issue a letter to the other designating the Principal Representative for each party within fifteen (15) days of execution of this Agreement. The Principal Representative for each party may be changed upon written notification to the other party.

9. Costs and Liabilities

(a) City retains all responsibilities and shall bear all costs and liabilities of any kind related to the possession, supervision, operation, upkeep, management, cures, and maintenance of the Conserved Land. City agrees ACOE shall not have any duty or responsibility for the operation, upkeep, management, cures, or maintenance of the Conserved Land, the monitoring of hazardous conditions thereon, or the protection of the City, the public, or any third parties from risks relating to conditions on the Conserved Land. The City remains solely responsible for obtaining any applicable governmental permits and approvals for any activity or use permitted by this Agreement, and any activity or use shall be undertaken only in accordance with all applicable federal, state, local and administrative agency statutes, codes, ordinances, rules, regulations, orders, and requirements.

(b) Notwithstanding the above, this Agreement does not confer any liability upon the City for claims payable by ACOE under the Federal Torts Claims Act, provided further that nothing in this Agreement is intended or will be construed to create any rights or remedies for any third party and no third party is intended to be a beneficiary of this Agreement.

(c) ACOE shall be responsible for coordinating with the Department of Justice as appropriate involving litigation which may result in potential liability of any kind on the United States. ACOE shall notify the City of any such litigation and afford the City an opportunity to review and comment on the litigation proceedings and any resulting settlement negotiations.

10. Transfer of Conserved Land

(a) City shall give written notice to the ACOE of the City's intent to transfer any interest in the Conserved Land at least sixty (60) days prior to the date of such transfer, subject to the right of the State of California to rescind, cancel, or terminate the Tidelands Grant, as amended.

(b) Transfer of the Conserved Land shall provide for the future conservation protection of the Conserved Land pursuant to the intent of this Agreement. Although ACOE is not authorized under section 10 of the Rivers and Harbors Act or section 404 of the Clean Water Act to hold an interest in mitigation land either in fee or as a holder of an easement, it does have authority pursuant to section 404 of the Clean Water Act to enforce the protection of the waters of the United States on the Conserved Land. Therefore, if the Conserved Land is transferred, the ACOE must approve a new means for protection of the Conserved Land prior to transfer.

11. Assignment of Agreement

This Agreement is not assignable by the City, either in whole or in part, without the prior consent of the ACOE in the form of a formal written amendment to this Agreement.

12. Notices

Any notice, demand, request, consent, approval, or other communication that either party desires or is required to give to the other shall be in writing and be served personally or sent by recognized overnight courier that guarantees next-day delivery or by first class United States mail, postage prepaid, addressed as follows:

To City: Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, California 90731
Attn: General Counsel; Director of Environmental Management

To ACOE: U.S. Army Corps of Engineers, Los Angeles District
Ventura Field Office
60 South California Street, Suite 201
Ventura, California 93001
Attn: Chief, Regulatory Division

or to such other address as City or ACOE shall designate by written notice to the other. Notice shall be deemed effective upon delivery in the case of personal delivery or in the case of delivery by overnight courier or, in the case of delivery by first class mail, five (5) days after deposit into the United States mail.

13. Amendment and Modification

This Agreement may be modified or amended only by written, mutual agreement of the Parties. Any such amendment shall be consistent with the purposes of this Agreement and shall not alter or remove this provision.

14. Termination

(a) The City may terminate this Agreement any time prior to the use (i.e., debiting) of the first Credit, or a fractional Credit. Upon use of the first Credit, or a fractional Credit, the City's right to terminate shall be extinguished.

(b) This ACOE may terminate this Agreement, without or without cause, upon thirty (30) days' written notice to the City.

(c) In the event of termination, any unused Credits, if any, shall be extinguished and will no longer be available for use.

15. General Provisions

(a) Applicable Laws

All applicable statutes, regulations, policies, and procedures of the United States, the State of California, and the Los Angeles City Charter and ordinances, disregarding the conflicts of laws principles of such state, shall govern the interpretation and performance of this Agreement.

(b) Local Courts

The Parties agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated exclusively in the federal courts located in the County of Los Angeles, State of California, in the judicial district required by court rules.

(c) No forfeiture

Nothing contained herein shall result in a forfeiture or reversion of the City's control of the Conserved Land in any respect.

(d) No waiver of sovereign immunity

This Agreement shall not be construed as a waiver of the sovereign immunity of the United States. The United States reserves all defenses and immunities to suit under applicable federal laws.

(e) Liberal Construction

Any general rule of construction to the contrary notwithstanding, this Agreement shall be liberally construed to accomplish the purposes of this Agreement. If any provision in this Agreement is found to be ambiguous, an interpretation consistent with the purposes of this Agreement that would render the provision valid shall be favored over any interpretation that would render it invalid.

(f) Severability

If a court of competent jurisdiction voids or invalidates on its face any provision of this Agreement, such action shall not affect the remainder of this Agreement. If a court of competent jurisdiction voids or invalidates the application of any provision of this Agreement to a person or circumstance, such action shall not affect the application of the provision to other persons or circumstances.

(g) Captions

The captions in this Agreement have been inserted solely for convenience of reference and are not a part of this Agreement and shall have no effect upon construction or interpretation.

(h) Entire Agreement

This Agreement together with the attached exhibits and any documents referred to herein sets forth the entire agreement of the Parties with respect to the Agreement and supersedes all prior discussions, negotiations, understandings, or agreements of such Parties relating to the Agreement. No alteration or variation of this Agreement shall be valid or binding unless contained in an amendment in accordance with Section 13.

(i) No Hazardous Materials Liability

(1) City represents and warrants to the ACOE that it has no knowledge or notice of Hazardous Materials (defined below) or underwater tanks existing, generated, treated, stored, used, released, disposed of, deposited or abandoned in, on, under, or from the Conserved Land, or transported to or from or affecting the Conserved Land.

(2) City hereby releases and agrees to indemnify, protect and hold harmless the ACOE against any and all liabilities, penalties, costs, losses, damages, expenses, (including, without limitation, reasonable attorneys' fees and experts' fees), causes of action, claims, demands, orders, liens, or judgements (each a "**Claim**" and collectively, "**Claims**") arising from or connected with any Hazardous Materials or underwater tanks present, alleged to be present, released in, from or about, or otherwise associated with the Conserved Land at any time. This release and indemnification includes, without limitation, Claims for (i) injury to or death of any person or physical damage to any property; and (ii) the violation or alleged violation of, or other failure to comply with, any Environmental Laws (defined below).

(3) Despite any contrary provision of this Agreement, the Parties do not intend this Agreement to be, and this Agreement shall not be, construed such that it creates in or gives ACOE any of the following:

(i) The obligations or liabilities of an "owner" or "operator," as those terms are defined and used in Environmental Laws (defined below), including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Section 9601 et seq.; hereinafter, "**CERCLA**"); or

(ii) The obligations or liabilities of a person described in 42 U.S.C. Section 9607(a)(3) or (4); or

(iii) The obligations of a responsible person under any applicable Environmental Laws; or

(iv) The right or duty to investigate and remediate any Hazardous Materials associated with the Conserved Land; or

(v) Any control over City's ability to investigate, remove, remediate or otherwise clean up any Hazardous Materials associated with the Conserved Land.

(4) The term "**Hazardous Materials**" includes, without limitation, (i) material that is flammable, explosive or radioactive; (ii) petroleum products, including by-products and fractions thereof; and (iii) hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Resource Conservation and Recovery Act (42 U.S.C. Section 6901 et seq.; hereinafter "**RCRA**"); the Hazardous Materials Transportation Act (49 U.S.C. Section 5101 et seq.; hereinafter "**HTA**"); the Hazardous Waste Control Law (California Health & Safety Code Section 25100 et seq.; hereinafter "**HCL**"); the Hazardous Substance Account Act (California Health & Safety Code Section 25300, et seq.; hereinafter "**HSA**"), and in the regulations adopted and publications promulgated pursuant to them, or any other applicable Environmental Laws now in effect or enacted after the date of this Agreement.

(5) The term “*Environmental Laws*” includes, without limitation, CERCLA, RCRA, HTA, HCL, HSA, and any federal, state, local or administrative agency statute, code, ordinance, rule, regulation, order or requirement relating to pollution, protection of human health or safety, the environment or Hazardous Materials. City represents, warrants and covenants to ACOE that all activities upon and use of the Conserved Land by City, its agents, employees, invitees and contractors will comply with all Environmental Laws.

(j) Additional Interests

City shall not grant any easements, rights-of-way, permits, or other interests in the Conserved Land (other than a security interest that is expressly subordinated to this Agreement), without first giving written notice to ACOE. This Section shall not prohibit transfer of a fee interest in the Conserved Land that complies with Section 10 of this Agreement.

(k) Recordation

This Agreement shall be considered a standing agreement of the Board by the City within 30 days from the Effective Date.

16. Effective Date and Duration

This Agreement is effective on the date of the last signature and is effective for sixty-six (66) years (“*Expiration Date*”); however, after the first use (i.e., debiting) of any of the 3.673 Credits, the Expiration Date shall renew automatically, without amendment, for additional sixty-six (66)-year terms in perpetuity upon the same terms and conditions contained herein unless terminated by the ACOE pursuant to Section 14(b). It being the intention of the parties that upon use of one or more, or any fraction thereof, of the Credit(s) that duties and obligations contained in this Agreement shall become perpetual.

///

///

///

IN WITNESS WHEREOF, the City of Los Angeles, acting by and through its Board of Harbor Commissioners, and the U.S. Army Corps of Engineers, Los Angeles District, acting by and through its authorized officer, executes this Agreement. Each of the undersigned certifies that he or she has full authority to bind the party that he or she represents for purposes of entering into this Agreement.

CITY OF LOS ANGELES, a municipal corporation,
acting by and through its Los Angeles Board of Harbor Commissioners

By: Eugene D. Seroka
Executive Director
Harbor Department

Date

Attest: _____
Amber M. Klesges
Secretary

APPROVED AS TO FORM AND LEGALITY

_____, 2025
Hydee Feldstein Soto, City Attorney
Steven Y. Otera, General Counsel

By _____
Joy M. Crose, Assistant General Counsel

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: Aaron Allen, PhD
Chief, Regulatory Division

Date

Exhibit A

Port of Los Angeles Boundary

C:\Jobs\100711-01_01_Port_of_Los_Angeles_Mitigation_Bank\Maps\Exhibits\Exhibit B-1 Service Area.mxd nkoehie 6/20/2016 1:38:09 PM



Aerial Imagery: Los Angeles Harbor Department, 2013

Exhibit B

Description and Depiction of the Conserved Land

Conserved Land (Advance Permittee-Responsible Mitigation Site)

**Legal Description
Inner Cabrillo Beach Eelgrass Mitigation Site**

Those portions of the tide and submerged land in the City of Los Angeles, County of Los Angeles, State of California within the Rancho Los Palos Verdes, Inner Bay of San Pedro and Pacific Ocean as shown on the Map recorded in Book 2, pages 543 through 545, of Patents, together with those portions within the Rancho San Pedro as shown on the Map recorded in Book 1, pages 119 through 121, of Patents, both in the office of the County Recorder of said County, bounded and described as follows:

Commencing at U.S. Pierhead Point 101 as shown on Los Angeles Harbor Department Drawing No. 1-1241-2A on file in the office of the Chief Harbor Engineer of the City of Los Angeles Harbor Department; thence South 84°58'54" East, a distance of 94.80 feet to the most Southerly corner of said land, also known as the POINT OF BEGINNING.

Thence, proceeding the following forty-seven (47) courses:

1. North 57°08'39" West, a distance of 37.87 feet;
2. North 86°07'17" West, a distance of 20.96 feet;
3. North 38°07'48" West, a distance of 41.91 feet;
4. North 51°05'45" West, a distance of 25.97 feet;
5. North 46°34'36" West, a distance of 54.67 feet;
6. North 58°03'48" West, a distance of 125.32 feet;
7. North 55°48'28" West, a distance of 129.00 feet;
8. North 56°44'44" West, a distance of 77.58 feet;
9. North 57°01'50" West, a distance of 15.63 feet;
10. North 61°18'18" West, a distance of 76.78 feet;
11. North 75°04'07" West, a distance of 55.03 feet;
12. North 69°10'34" West, a distance of 44.37 feet;
13. South 74°37'25" West, a distance of 29.41 feet;
14. North 55°52'02" West, a distance of 84.60 feet;
15. North 37°56'12" East, a distance of 47.54 feet;
16. North 03°38'58" West, a distance of 139.70 feet;
17. North 03°38'58" West, a distance of 3.29 feet;
18. North 27°31'20" West, a distance of 18.10 feet;
19. North 57°16'59" East, a distance of 2.08 feet;
20. North 51°44'35" East, a distance of 17.90 feet;
21. North 40°12'41" East, a distance of 17.22 feet;
22. North 03°10'42" West, a distance of 37.84 feet;
23. North 04°01'10" West, a distance of 19.60 feet;
24. North 35°59'04" West, a distance of 72.58 feet;
25. North 64°00'39" East, a distance of 50.83 feet;
26. South 55°48'16" East, a distance of 57.75 feet;
27. South 24°51'49" East, a distance of 27.67 feet;
28. North 66°48'05" East, a distance of 101.91 feet;

29. South 22°51'52" East, a distance of 1.35 feet;
30. North 82°53'17" East, a distance of 0.08 feet;
31. South 11°38'01" West, a distance of 0.51 feet;
32. South 30°20'36" East, a distance of 38.79 feet;
33. South 26°17'06" East, a distance of 74.68 feet;
34. South 36°07'10" East, a distance of 74.80 feet;
35. South 41°06'15" East, a distance of 40.37 feet;
36. South 45°00'00" East, a distance of 43.88 feet;
37. South 44°10'11" East, a distance of 39.84 feet;
38. South 45°00'00" East, a distance of 54.28 feet;
39. South 45°28'22" East, a distance of 44.88 feet;
40. South 24°02'31" East, a distance of 65.46 feet;
41. South 50°15'45" East, a distance of 137.42 feet;
42. South 50°11'40" East, a distance of 46.41 feet;
43. South 64°42'16" East, a distance of 68.53 feet;
44. South 57°08'01" East, a distance of 47.77 feet;
45. South 51°45'37" East, a distance of 97.14 feet;
46. South 29°25'40" West, a distance of 115.40 feet;
47. South 53°58'53" West, a distance of 54.44 feet to the POINT OF BEGINNING.

Having an area of 4.65 acres, more or less.

This description was prepared by me or under my direct supervision.



Bobby Z. Rivera/PLS 9206

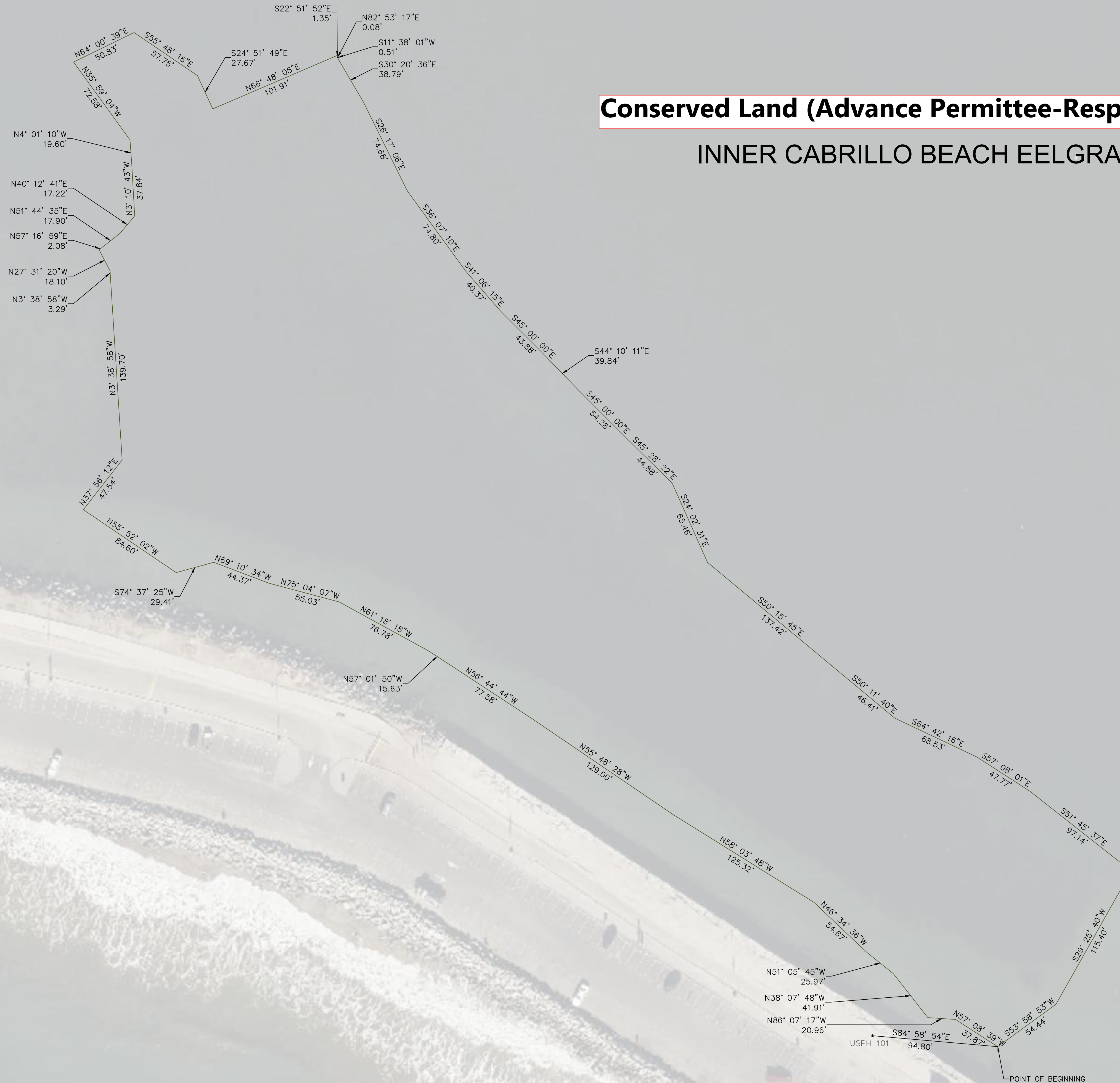
4/12/2022

Date



Conserved Land (Advance Permittee-Responsible Mitigation Site)

INNER CABRILLO BEACH EELGRASS MITIGATION SITE



REFERENCES:
 FB: *
 ENGR. DWGS: *
 FILES: *

CONTROL: POLA BASE NET 2010 (1991.35 EPOCH)
 HORIZ: NAD83 CA ZONE 5
 VERT: MILLW (BASED ON NGVD29 DATUM)
 BM: TIDAL 8 EL: 13.929'

INITIAL FILE: *	DATE: 06-APR-22
REVISIONS:	
▲ *	

SURVEYOR: *	EWO NO.: *	FILE: *.DWG
CHECKED: *	SPEC NO.: *	DISC: *
REVIEWED: AQUE	JOB NO.: *	PROJECT SCALE:
APPROVED: RIVERA	DIVISION: *	HORIZ 1"= 40'
COMPILED: *	PLAN	VERT 1"= *
		SHEET 1 OF 1

PORT OF LOS ANGELES
 CONSTRUCTION DIVISION SURVEY SECTION
 EXHIBIT "B"
 INNER CABRILLO BEACH EELGRASS MITIGATION SITE

Exhibit C

Biological Resources Survey

**2022 EELGRASS MONITORING REPORT
IN SUPPORT OF THE INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT**

Prepared for:

**Port of Los Angeles
Environmental Management Division**
425 S. Palos Verdes Street
San Pedro, CA 90731
Phone: (310) 732-3951
Attention: Ms. Katherine Prickett

Prepared by:

Merkel & Associates, Inc.
5434 Ruffin Road
San Diego, California 92123
Ph: (858) 560-5465

Work performed under:

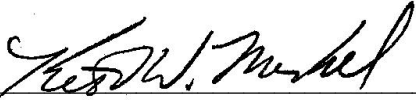
Agreement No. 22-9861, PD #6
APP: 211109-543W

M&A Project Number:

21-064-06

October 2022





Keith W. Merkel, Principal Consultant

TABLE OF CONTENTS

INTRODUCTION 1

SURVEY METHODOLOGY 3

MONITORING RESULTS 4

DISCUSSION..... 7

LITERATURE CITED..... 8

LIST OF FIGURES

Figure 1. Project Vicinity Map 2

Figure 2. Eelgrass Status – October 2022 5

Figure 3. Eelgrass Areal Extent Over Time..... 6

LIST OF TABLES

Table 2. 2022 Eelgrass bed metrics as defined under the CEMP. 4

**2022 EELGRASS MONITORING REPORT FOR THE
INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT**

Merkel & Associates, Inc.

October 2022

INTRODUCTION

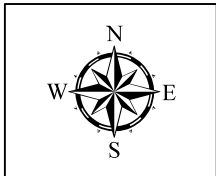
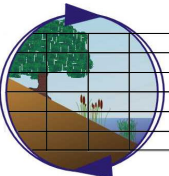
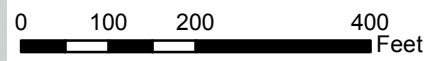
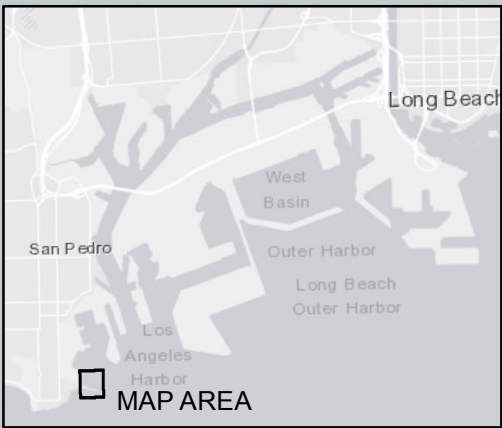
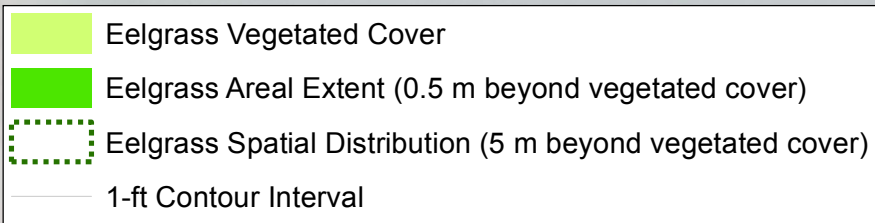
M&A was contracted by the Port of Los Angeles (Port) to prepare and implement a mitigation plan to offset impacts to eelgrass associated with the maintenance dredging of the Berth 24 Boat Ramp Basin, as well as to offset outstanding eelgrass mitigation obligations associated with the Cabrillo Way Marina Phase II Dredging Project. The Berth 24 Boat Ramp Basin project resulted in impacts to 22 m² of eelgrass (M&A 2015), and the Cabrillo Way Marina Phase II (CWMP II) Dredging Project resulted in impacts to 1,084 m² (0.27 acre) of eelgrass (M&A 2009). Combined, these two projects resulted in impacts to 1,106 m² (0.27 acre) of eelgrass. The California Eelgrass Mitigation Policy (CEMP) (NMFS 2014) required the successful establishment of eelgrass at a 1.2:1 mitigation ratio of restored eelgrass to lost eelgrass, resulting in a minimum mitigation need of 1,327 m² (0.33 acre) of eelgrass for the two projects.

A Final Eelgrass Mitigation and Monitoring Plan was developed in support of the Inner Cabrillo Beach Eelgrass Mitigation Project (M&A 2014). The restoration area is located east of Inner Cabrillo Beach, west of the Cabrillo Beach Fishing Pier, and north of the Outer Cabrillo Beach parking lot. It is also located adjacent to existing eelgrass beds at Inner Cabrillo Beach (Figure 1). The purpose-built mitigation site was designed and constructed to provide eelgrass habitat meet the mitigation needs of the identified projects as well as to provide a surplus of eelgrass to be used for future mitigation needs of the Port. Upon approval of the plan and receipt of a Letter of Authorization (LOA) from the California Department of Fish and Wildlife (CDFW 2016), the eelgrass transplant was completed in general accordance with the transplant plan during April and May 2016.

A total of 3.05 acres of eelgrass was transplanted to a core area of the unvegetated 4.65-acre restoration area at 1-meter on center spacing. Outside of the core planting area, eelgrass spacing was widened to 2 to 5-meter on center spacing to cover the fringes of the site that were anticipated to be more marginal in suitability, without substantially increasing required planting units over those initially intended for a 3-acre planting site. Since planting, the site has performed exceptionally well and met all success requirements, with a surplus of eelgrass being developed by the completion of the monitoring period.

As outlined in the CEMP, upon completion of the planting effort, a monitoring program was initiated and continued for a 60-month (5-year) period. Areal extent and density of the transplanted eelgrass and natural reference areas were monitored at 6, 12, 24, 36, 48, and 60-months post-transplant. At the time of the 60-month monitoring period, the mapped beds supported 1,108 percent of the mitigation need (Figure 1), and the transplant site mean density was 104 percent of that in the reference area (Merkel & Associates 2021).

Since satisfaction of the 5-year establishment monitoring period required for the Berth 24 Boat Ramp Basin maintenance dredging and the Cabrillo Way Marina Phase II (CWMP II) Dredging Project mitigation, the Port has initiated additional monitoring in order to track conditions of the eelgrass within the mitigation site for purposes of banking the surplus mitigation value of the site.



60-Month Post-transplant Eelgrass - May 2021
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 1

SURVEY METHODOLOGY

M&A conducted the 2022 eelgrass survey on October 3, 2022. The survey consisted of eelgrass areal coverage and turion density investigations within the eelgrass restoration and reference areas. Spatial data were collected using interferometric sidescan sonar, which provided an acoustic backscatter image of the seafloor within the project area. Interpretation of the backscatter data allowed for an assessment of the distribution of eelgrass. Sidescan backscatter data were acquired at a frequency of 468 kHz scanning out 31 meters on both the starboard and port channels for a 62-m wide swath. The rigid hull mounted interferometric sidescan system integrates motion sensors to control for heave pitch and roll as well as a dual RTK GPS antenna positioning system and electronic compass to control for vessel position and yaw. This rigid integration of the interferometric sidescan transducers within the positioning sensors provides significantly increased precision and accuracy over conventional towfish sidescan sonar equipment.

The survey was conducted by navigating parallel tracklines, spaced to allow for overlap between adjoining sidescan swaths. Survey swaths were navigated until the entirety of the survey area was captured in the survey report. All data were collected in latitude and longitude using the North American Datum of 1983 (NAD 83), converted to the Universal Transverse Mercator system in meters (UTM), and plotted on a geo-rectified aerial image of the project site. Following completion of the survey, sidescan sonar traces were joined together and geographically registered. Eelgrass was digitized as a theme over an aerial image of the project site to calculate spatial metrics defining the extent and distribution of eelgrass. Metrics determined for eelgrass from the acoustic survey include: vegetated cover, spatial distribution, areal extent, and percent vegetated cover within the areal extent of the beds.

Following the sidescan survey, the restoration and reference areas were examined by SCUBA to assess the eelgrass quality, verify the sidescan data, and measure the density of actively growing leaf shoots by conducting shoot counts within a 1/16-m² quadrat. Twenty replicate quadrats each were randomly placed within the eelgrass bed of the restoration and reference areas to obtain a mean shoot density for the eelgrass beds.

The reported metrics for eelgrass are as follows:

- **Vegetated Cover** – Vegetated cover is the tight boundary extent of eelgrass plants on the seafloor, prior to application of CEMP eelgrass bed definitions. The discrete mapping of plant boundaries is the basic building block for determining CEMP spatial metrics.
- **Areal Extent** – The eelgrass habitat areal extent is the quantified extent of the spatial distribution of the beds comprised of the mosaic of unvegetated and vegetated areas of the bed. The *vegetated areal extent* is defined as areas within the spatial distribution that support at least 1 turion per square meter of bottom. This is determined by performing a tight margin mapping of eelgrass plants present within the survey area (vegetated cover) and then buffering outward from the vegetated cover of plants by a distance of 0.5 meter such that any plant within 1 meter of another plant would be captured within the same contiguous vegetated areal extent boundary. The *unvegetated areal extent* is defined as the remainder of the spatial distribution that is not included in the vegetated areal extent.

- **Spatial Distribution** – The spatial distribution of eelgrass habitat is delineated by a contiguous boundary around all areas of vegetated eelgrass cover extending outward from the margins of plants by 5 meters, excluding areas that are unsuited to support eelgrass. This is determined by buffering out from the vegetated cover a distance of 5 meters and then clipping the resultant boundary to remove areas that are determined to be unsuited to supporting eelgrass based on elevation, substrate, slope, or existing overwater structures.
- **Percent Vegetated Cover** - The percent bottom cover within eelgrass habitat is determined by totaling the area of vegetated areal extent and dividing this by the total areal extent of the bed.
- **Turion (Shoot) Density** - Turion density is the mean number of eelgrass leaf shoots per square meter within mapped eelgrass vegetated cover. Turion density should be reported as a mean ± the standard deviation of replicate measurements. The number of replicate measurements (n) is reported along with the mean and deviation. Turion densities are determined only within vegetated areas of eelgrass habitat; and therefore, it is not possible to measure a turion density equal to zero.




In order to ensure consistency in analyses and reporting through time, the quantification of all metrics, inclusive of spatial extent and areal extent of beds that map extend beyond the bounds of the reference and transplant areas, is limited to areas within the initially established monitored sites. This precludes potential for either the reference or transplant areas to extend beyond the initially established boundaries.

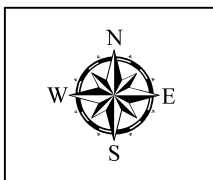
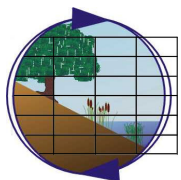
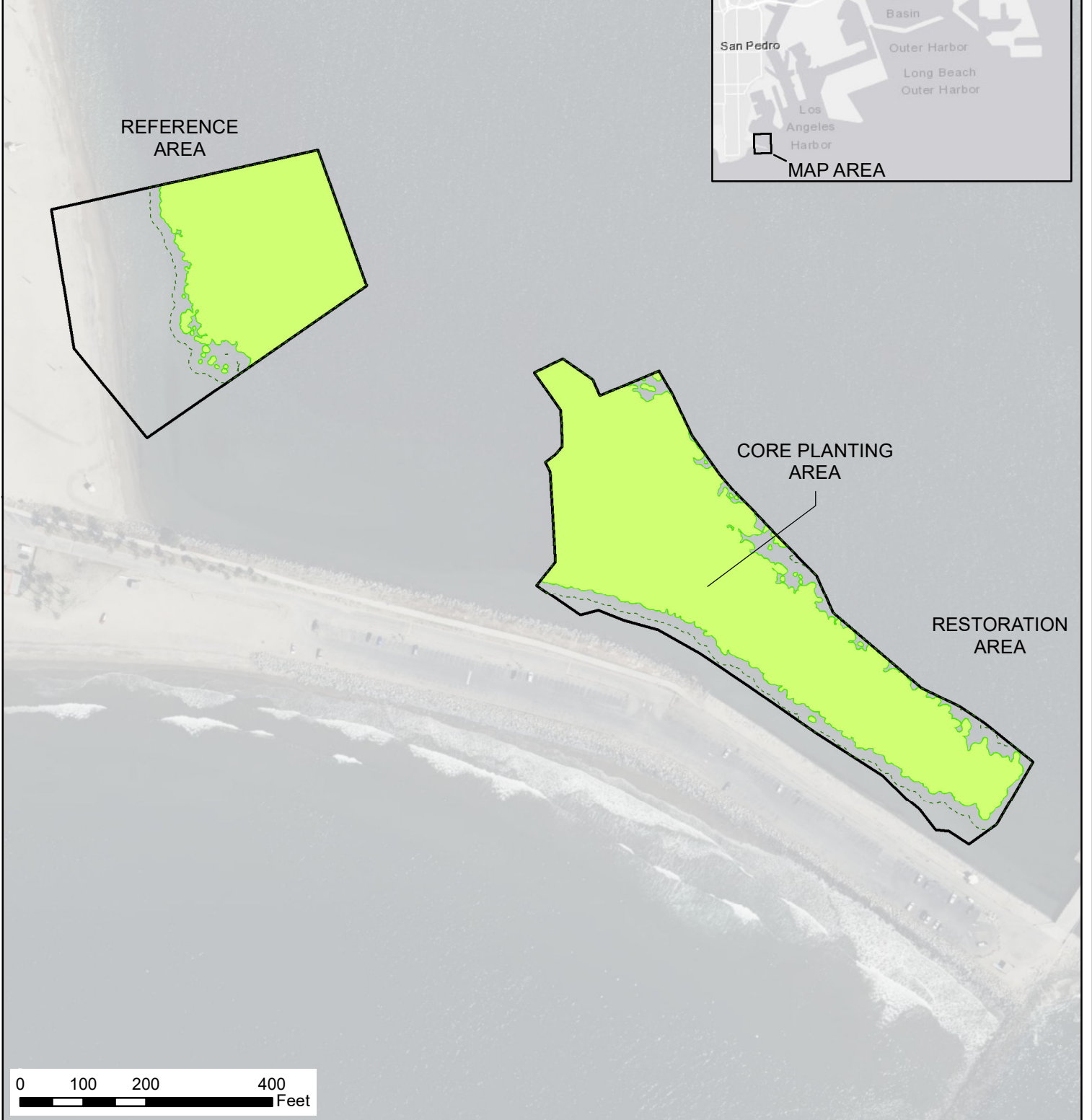
MONITORING RESULTS

Bed spatial and density metrics for the eelgrass restoration and reference areas are summarized in Table 1. The total areal extent of eelgrass within the eelgrass restoration area amounted to approximately 15,353 m² (3.84 acres) (Figure 2). This is a slight increase (approximately 4 percent) since the time of the 2021 60-month survey (Figure 3). The eelgrass was healthy in its appearance and exhibited no signs of disease. The site supported epiphytic and silt loading of approximately 40 percent. The leaf canopy extended approximately 0.9 meters off the bottom.

Table 1. 2022 Eelgrass bed metrics as defined under the CEMP.

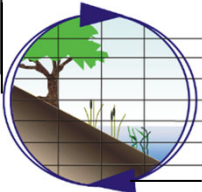
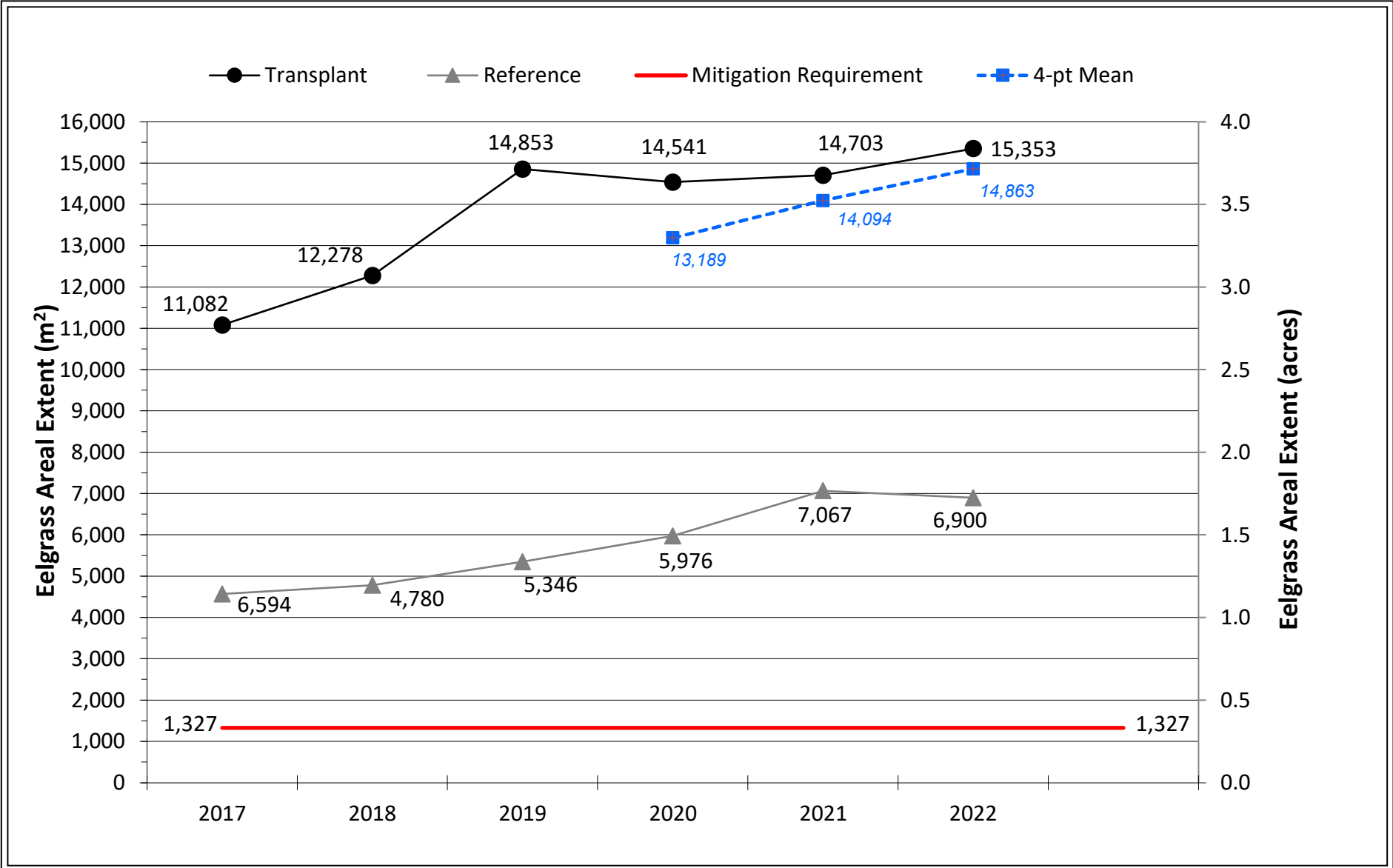
Location	Vegetated Cover	Eelgrass Vegetated Areal Extent	Spatial Distribution	Percent Vegetated Cover (VAE/SD * 100)	Density (turions/m ²) (# of replicates)
Restoration Area	15,067 m ² (3.72 ac)	15,353 m ² (3.84 ac)	17,818 m ² (4.40 ac)	86.2%	122.4±32.9 (n=20)
Reference Area	6,758 m ² (1.67 ac)	6,900 m ² (1.70 ac)	7,706 m ² (1.90 ac)	89.6%	119.2±41.0 (n=20)

-  Eelgrass Vegetated Cover
-  Eelgrass Areal Extent (0.5 beyond vegetated cover)
-  Eelgrass Spatial Distribution (5 m beyond vegetated cover)



2022 Eelgrass Status - October 2022
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 2



Restoration and Reference Areas Eelgrass Areal Extent Relative to Mitigation Requirements
 Inner Cabrillo Beach Eelgrass Mitigation Project
 San Pedro Bay, CA

Figure 3

The total areal extent of eelgrass within the reference area amounted to approximately 6,900 m² (1.70 acres) (Figure 2). This is a slight decrease of approximately 2.4 percent since the time of the 2021 60-month survey (Figure 3). The eelgrass was also healthy in its appearance and exhibited no signs of disease. The site supported epiphytic and silt loading of approximately 40 percent. The leaf canopy extended from 0.9 meters off the bottom.

DISCUSSION

The eelgrass mitigation site continues to perform well retaining all established eelgrass and showing slight additional expansion in coverage and slight reduction in density. A four-point mean was calculated for eelgrass cover as this mean provides a better overall estimate as to how a site is performing by dampening extreme bed dynamics that can occur due to stressful periods. The four-point mean is applied as a tool to establish available mitigation credits within the Navy's San Diego Bay Eelgrass Mitigation Bank.

LITERATURE CITED

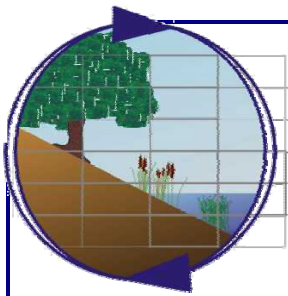
Merkel & Associates. 2014. Revised Eelgrass Transplant and Monitoring Plan in support of the Inner Cabrillo Beach Eelgrass Mitigation Project, Port of Los Angeles, California. Prepared for Port of Los Angeles Environmental Management Division, November 2014.

Merkel & Associates. 2021. 60-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2021.

National Marine Fisheries Service (NMFS). 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. October 2014.

Appendix C

Pre-Construction Eelgrass Survey



Merkel & Associates, Inc.

5434 Ruffin Road, San Diego, CA 92123

Tel: 858/560-5465 • Fax: 858/560-7779

e-mail: associates@merkeline.com

February 25, 2016

M&A #13-002-05

Ms. Katherine Prickett
Environmental Management Division
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, CA 90731

**RE: Port of Los Angeles Inner Cabrillo Beach Eelgrass Mitigation Site Construction Project
Pre-construction Eelgrass Survey, San Pedro, California
(ADP No. 130104-501 Agreement No. 13-3144, PD No. #5-1)**

Dear Ms. Prickett:

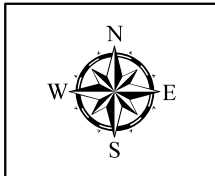
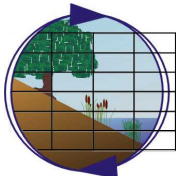
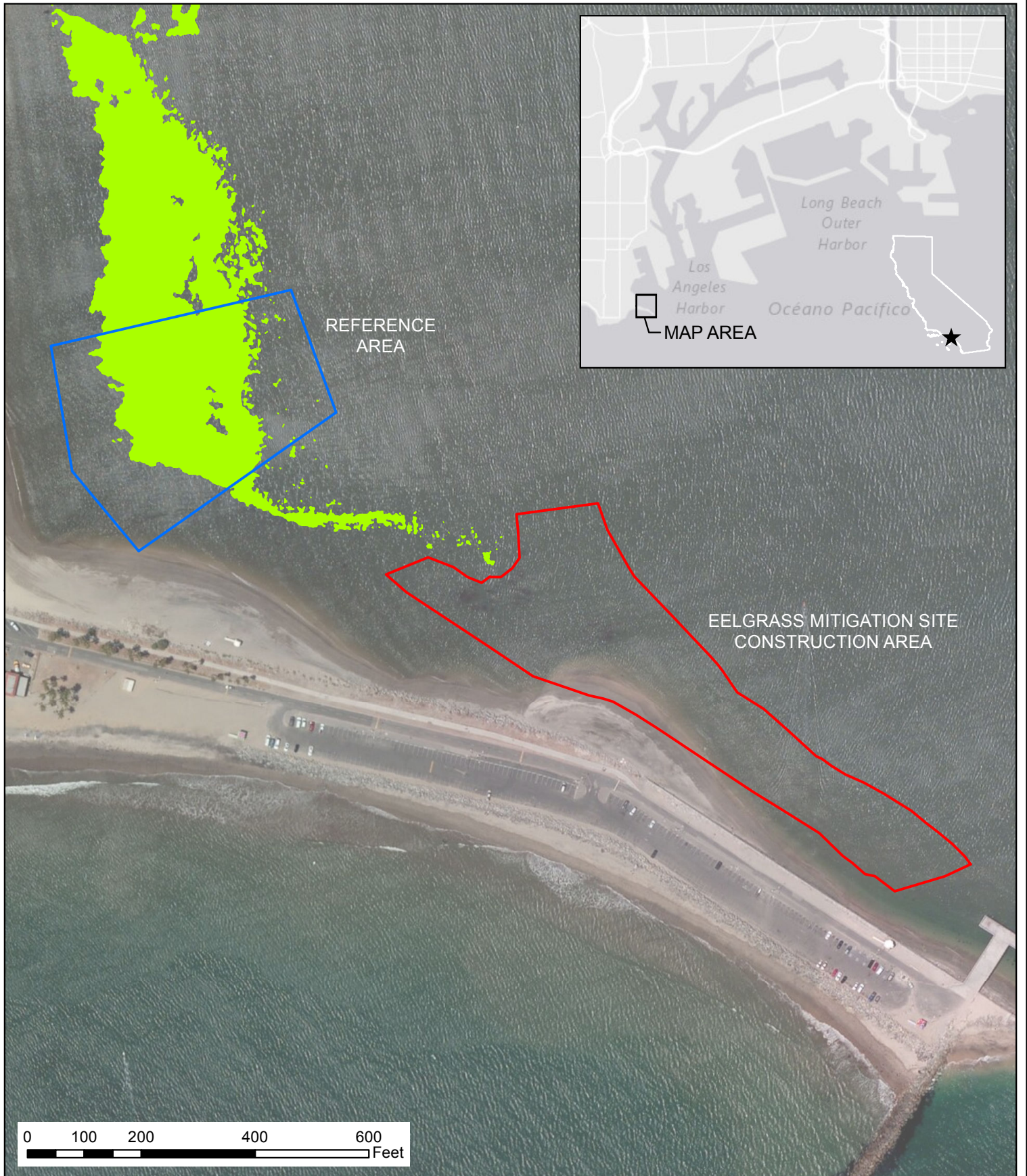
This letter serves to transmit information regarding the pre-construction eelgrass (*Zostera marina*) survey conducted for the Port of Los Angeles Inner Cabrillo Beach Eelgrass Mitigation Site Construction Project, San Pedro, California.

PURPOSE AND INTRODUCTION

Merkel & Associates, Inc. (M&A) was retained by the Port of Los Angeles to conduct a second pre-construction eelgrass survey in support of the Inner Cabrillo Beach Eelgrass Mitigation Site Construction Project. The purpose of this survey was to provide a quantitative assessment of the eelgrass communities within the vicinity of the project site in conformance with the California Eelgrass Mitigation Policy (CEMP). A pre-construction survey was previously conducted on March 6, 2015 (Merkel & Associates 2015); but due to delays in the commencement of mitigation site construction, the results are no longer considered valid under the CEMP. The mitigation site is being constructed primarily to mitigate impacts to eelgrass associated with the maintenance dredging of the Berth 24 Boat Ramp Basin and secondarily will be used to offset outstanding eelgrass mitigation obligations associated with the Cabrillo Way Marina Phase II dredging.

PROJECT LOCATION AND SURVEY AREA

The proposed project area is located east of Inner Cabrillo Beach and west of the Cabrillo Beach Fishing Pier within the Port of Los Angeles, in the City and County of Los Angeles, California. It is north of the Outer Cabrillo Beach parking lot and is located adjacent to existing eelgrass beds at Inner Cabrillo Beach. The survey covered all areas along the western shoreline of Inner Cabrillo Beach. This survey area provided an opportunity to document eelgrass adjacent to the mitigation site construction area as well as in the reference area that has been established in an adjacent area north west of the mitigation site construction area (Figure 1). As outlined in the CEMP, the reference area was selected based on proximity to and similarity in physical and biological characteristics to the mitigation area. The reference area will be used to monitor natural variability in eelgrass resources to account for any natural changes in the project bed area over the course of the mitigation site construction between pre-construction and post-construction surveys.



Pre-construction Eelgrass Survey - February 17, 2016
Inner Cabrillo Beach
Eelgrass Mitigation Site Construction Project

Figure 1

SURVEY METHODOLOGY

The field survey consisted of eelgrass areal coverage and density investigations within the project area (Figure 1). Eelgrass distribution data were collected using interferometric sidescan sonar that provided an acoustic backscatter image of the seafloor within the project and reference areas. Interpretation of the data allowed for an assessment of the distribution of the eelgrass.

Interferometric sidescan backscatter data were acquired at a frequency of 468 kHz scanning out 31 meters on both the starboard and port channels for a 62-m wide swath. The survey was conducted by running parallel transects that were spaced to allow for overlap between adjoining sidescan swaths. Transect surveys were performed until the entirety of the survey area was covered by sonar swaths. These methods allow for more precise mapping of eelgrass habitat for impact assessment than other methods, including aerial photographic surveys that tend to under represent deep beds, and standard sidescan sonar that introduces greater positional error due to layback variability and towfish direction and orientation error. All data were collected in latitude and longitude using the North American Datum of 1983 (NAD 83), converted to the Universal Transverse Mercator system in meters (UTM).

A remotely operated vehicle (ROV) was utilized to confirm the sonographic survey results and to visually inspect the seafloor for the presence of eelgrass. The ROV is equipped with a black and white, as well as a color, video camera. ROV navigation was aided by the use of an ultra-short baseline positioning system. The ROV was navigated over the mud-bottom to search for eelgrass along the toe of sand slope and to generally characterize the habitats.

This survey was completed out of the eelgrass growing season due to the timing needs for mitigation site construction. Under the CEMP, surveys conducted outside of the recognized growing season (1 March to 31 October) require pre-coordination with NMFS regarding means to mitigate potential dormancy or contracted bed conditions associated with completion of surveys outside of the active growing season. This was done with Bryant Chesney of NMFS by telephone on February 16. NMFS concurrence with the out of season survey suitability was predicated on the fact that the area has been the subject of numerous recent surveys associated with the 2014 and 2015 biological baseline surveys and a focused survey in March 2015, coupled with the understanding that acceptability would be based on representation of eelgrass in the beds at Cabrillo Beach in normal distribution patterns. The reference site and surrounding eelgrass at Cabrillo Beach was found to have met this caveat as is discussed below.

Following completion of the field surveys, the digital sonar traces (backscatter data) were joined together into a single mosaic and geographically registered using the recorded navigational data. The registered sonar mosaic was then overlaid on an aerial image of the project site and reviewed for accuracy. Eelgrass was then digitized by a geographic information systems (GIS) specialist, who inspected the sonar mosaic and delineated the eelgrass boundary using ESRI ArcGIS mapping tools.

SURVEY RESULTS

Project Area (Eelgrass Mitigation Site Construction Area)

At the time of February 2016 pre-construction eelgrass survey, no eelgrass was mapped within the eelgrass mitigation site construction area (Figure 1). The distribution of eelgrass along the toe of the sand shoal slope to the northwest of the site closely matched that of the prior March 2015 survey, petering out near the northwestern edge of the proposed restoration site. The trail of eelgrass approaching the northern end of the restoration site is driven by sand overrun of the shallow margin of the bed and depth restriction along the lower margin of the bed.

Reference Area

At the time of the February 2016 pre-construction survey, 6,217 m² of eelgrass was mapped within the reference site (Figure 1). Eelgrass turion densities (± 1 SD) within the reference area were 124.0 \pm 50.3 shoots per m² (n=20).

The reference area conditions are reduced from the March 2015 survey of 7,271 m² by a total of 1,054 m². The reduction in eelgrass within the reference site is reflective of sand overrun along the southerly margin of the bed from beach shoals within Cabrillo Beach, rather than seasonal decline in the bed along either the upper or lower margin of the bed. Eelgrass turion densities (± 1 SD) within the reference area were 95.2 \pm 47.6 shoots per m² (n=20).

PRELIMINARY IMPACT ANALYSIS AND RECOMMENDATIONS

While no eelgrass was mapped within the restoration area footprint, eelgrass was mapped adjacent to the restoration site. The extent of eelgrass adjacent to the site is substantially reduced from that occurring in early 2014 during the time of site design but it is consistent with that noted in March of 2015. Because the proposed site grading boundaries were established at the time of more expansive eelgrass, the present contracted native beds provide greater separation between construction and the natural beds. Much of the retrenchment of eelgrass that was observed in the present survey is believed to be related to a combination of heavy storm damage to the beds as a result of Hurricane Marie in 2014.

The surveyed reference site was established within the proposed eelgrass transplant and monitoring plan (Merkel & Associates 2014). This reference site was selected based on an expectation that it would perform similarly to the transplant site and provide a good regional reference that could be used to determine reference adjusted performance conditions for the mitigation site. Unfortunately, between March 2015 and February 2016, the southerly edge of the reference site exhibited unexpected sand overrun from the sand shoal that builds along the southerly portion of Inner Cabrillo Beach. While such losses within a reference site may be acceptable “natural conditions” under some circumstances, they are not acceptable for the present project evaluation, and we are proposing to shift the reference site to the north along Cabrillo Beach to move away from the shoaling conditions.

The reference site change is proposed to ensure that any shoaling losses within the transplant site are actually reflected as losses of eelgrass rather than a natural decline in the beds. The transplant plan relies on borrowing sand from the shoal that forms on the southerly margin of Inner Cabrillo

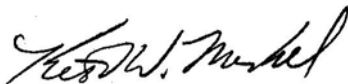
Beach to construct a shallow shoal away from the breakwater. Because this shoal is to be removed, the resulting depths provide an opportunity to plant additional eelgrass with the expectation that some eelgrass restoration area is likely to be garnered in this area. However, the plan also acknowledges that some degree of reduction in the final area of eelgrass will occur in this area when the shoal rebuilds near the northwest end of the site. However, if the shoal also encroaches into the reference site and consumes the reference bed, the shoal formation in the transplant may be found to be a natural reduction and would not be attributed to the designed expectations of some loss.

To address this issue, and with agency concurrence, the reference area will be shifted approximately 200 feet northward at the time of the post-construction survey. Because the entire Inner Cabrillo Beach bed has been surveyed and the shifted site would continue to overlap the existing reference site by a considerable margin, it is anticipated that all of the same pre-construction to post-construction comparisons can be made without requiring any additional data. Coordination on the recommended change will be conducted prior to completing the post-construction survey.

This survey completes your pre-construction eelgrass survey obligations and is valid for construction activities in the project area initiated by April 17, 2016. In accordance with the CEMP, a post-construction eelgrass survey will be conducted within 30 days of completion of site construction.

If you have any questions regarding this survey or the recommendations made, please do not hesitate to call.

Sincerely,



Keith W. Merkel
Principal Consultant

LITERATURE CITED

Merkel & Associates, Inc. 2015. Port of Los Angeles Inner Cabrillo Beach Eelgrass Mitigation Site Construction Project Pre-construction Eelgrass Survey, San Pedro, California Prepared for Port of Los Angeles. March 28, 2015.

Merkel & Associates, Inc. 2014. Revised Eelgrass Transplant and Monitoring Plan In Support of the Inner Cabrillo Beach Eelgrass Mitigation Project, Port of Los Angeles, California. Prepared for Port of Los Angeles. November 2014.

NOAA Fisheries, West Coast Region. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. October 2014.

Appendix D

Eelgrass Monitoring Reports

Appendix D-1
60-Month Post-Eelgrass Transplant
Monitoring Report

**60-MONTH POST EELGRASS TRANSPLANT MONITORING REPORT
IN SUPPORT OF THE INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT**

Prepared for:

**Port of Los Angeles
Environmental Management Division**

425 S. Palos Verdes Street

San Pedro, CA 90731

Phone: (310) 732-3951

Attention: Ms. Katherine Prickett

Prepared by:

Merkel & Associates, Inc.

5434 Ruffin Road

San Diego, California 92123

Ph: (858) 560-5465

Work performed under:

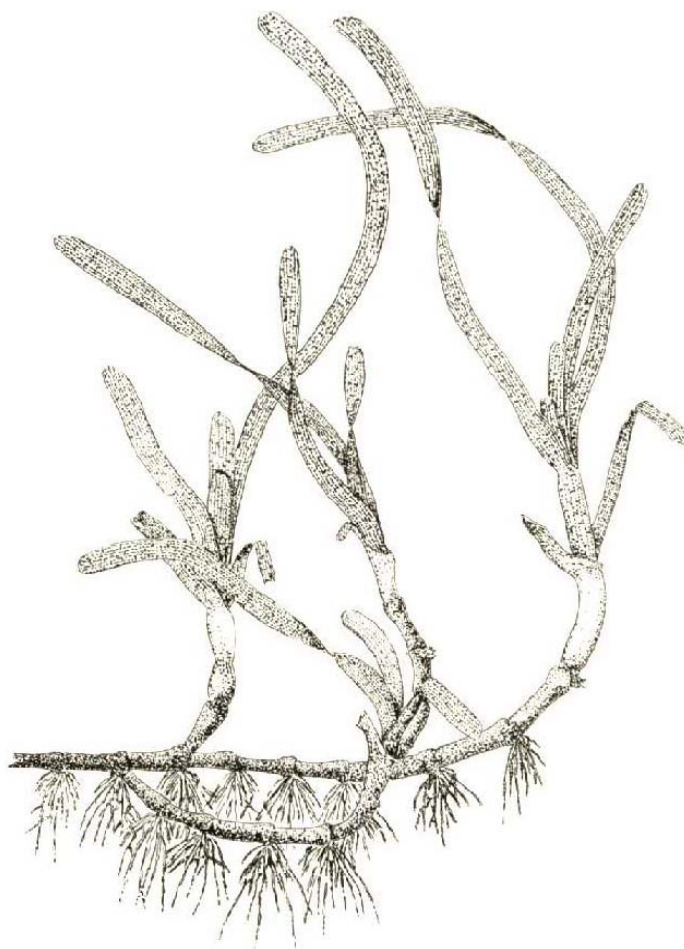
Agreement No. 19-3648, PD #9

APP: 140430-509W

M&A Project Number:

18-068-09

June 2021



Keith W. Merkel, Principal Consultant

TABLE OF CONTENTS

INTRODUCTION 1

RESTORATION METHODS..... 1

 Site Preparation 1

 Donor Beds 3

 Eelgrass Transplant..... 3

 Reference Area 3

EELGRASS MONITORING PROGRAM..... 3

 Mitigation Success Criteria 4

60-MONTH SURVEY METHODOLOGY 5

60-MONTH MONITORING RESULTS 7

DISCUSSION..... 10

LITERATURE CITED 17

LIST OF FIGURES

FIGURE 1. PROJECT LOCATOR MAP 2

FIGURE 2. 60-MONTH POST-TRANSPLANT EELGRASS - MAY 2021 8

FIGURE 3. 48-MONTH POST-TRANSPLANT EELGRASS - JUNE 2020 9

FIGURE 4. 36-MONTH POST-TRANSPLANT EELGRASS - MAY 2019 11

FIGURE 5. 24-MONTH POST-TRANSPLANT EELGRASS - MAY 2018 12

FIGURE 6. 12-MONTH POST-TRANSPLANT EELGRASS - MAY 2017 13

FIGURE 7. 6-MONTH POST-TRANSPLANT EELGRASS - OCTOBER 2016 14

FIGURE 8. EELGRASS AREAL EXTENT AT MITIGATION AND REFERENCE AREAS RELATIVE TO RESTORATION REQUIREMENTS 15

FIGURE 9. MITIGATION AREA EELGRASS SHOOT DENSITY RELATIVE TO REFERENCE AREA SHOOT DENSITY 16

LIST OF TABLES

TABLE 1. MITIGATION MONITORING SCHEDULE. 4

TABLE 2. 60-MONTH EELGRASS BED METRICS AS DEFINED UNDER THE CEMP. 7

LIST OF APPENDICES

APPENDIX A. CEMP MONITORING AND COMPLIANCE REPORTING SUMMARY

60-MONTH POST EELGRASS TRANSPLANT MONITORING REPORT FOR THE INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT

Merkel & Associates, Inc.

June 2021

INTRODUCTION

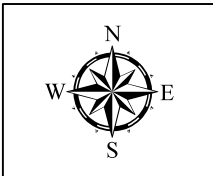
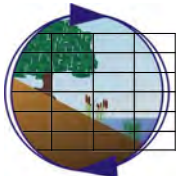
M&A was contracted by the Port of Los Angeles (Port) to prepare and implement a mitigation plan to offset impacts to eelgrass associated with the maintenance dredging of the Berth 24 Boat Ramp Basin, as well as to offset outstanding eelgrass mitigation obligations associated with the Cabrillo Way Marina Phase II Dredging Project. The Berth 24 Boat Ramp Basin project resulted in impacts to 22 m² of eelgrass (M&A 2015), and the Cabrillo Way Marina Phase II (CWMP II) Dredging Project resulted in impacts to 1,084 m² (0.27 acre) of eelgrass (M&A 2009). Combined, these two projects resulted in impacts to 1,106 m² (0.27 acre) of eelgrass. The California Eelgrass Mitigation Policy (CEMP)(NOAA Fisheries 2014) requires the successful establishment of eelgrass as a 1.2:1 mitigation ratio of restored eelgrass to lost eelgrass, resulting in a minimum mitigation need of 1,327 m² (0.33 acre) of eelgrass for the two projects. Due to delays in completion of the mitigation for the CWMP II project, additional mitigation may be required for this work.

A Final Eelgrass Mitigation and Monitoring Plan was developed in support of the Inner Cabrillo Beach Eelgrass Mitigation Project (M&A 2014). Upon approval of the plan and receipt of a Letter of Authorization (LOA) from the California Department of Fish and Wildlife (CDFW 2016), the eelgrass transplant was completed in general accordance with this transplant plan during April and May 2016. A total of 3.05 acres of eelgrass was transplanted to a core area of the unvegetated 4.65-acre restoration area at 1-meter on center spacing. Outside of the core planting area, eelgrass spacing was widened to 2 to 5-meter on center spacing as a means to cover the fringes of the site that were anticipated to be more marginal in suitability, without substantially increasing required planting units over those initially intended for a 3 acre planting site. The restoration area is located east of Inner Cabrillo Beach, west of the Cabrillo Beach Fishing Pier, and north of the Outer Cabrillo Beach parking lot. It is also located adjacent to existing eelgrass beds at Inner Cabrillo Beach (Figure 1). The oversizing of the transplant site provides capacity for some eelgrass losses to occur while still achieving the ultimate mitigation objectives. It also allows for expansion of beds to margins.

RESTORATION METHODS

SITE PREPARATION

The eelgrass transplant site is an engineered plateau constructed by excavation with a clamshell dredge and placement of excavated material in deeper waters adjacent to the site. The net result of the cuts and fills was to develop a site that was a nearly flat plateau at a nominal elevation of approximately -5.5 feet MLLW. Because the site was constructed by clamshell dredging, it had a high roughness to the surface following initial construction and was, therefore, flattened by dragging an I-beam with trailing chain-link fencing fabric over the site for three consecutive days, April 28-30, 2016, prior to initiation of site planting. While the dragging of the site did not fully eliminate ridges and valleys in the site surface, it knocked the high points down and shallowed up the site depressions such that potential for trapping debris and exacerbated surface erosion would be minimized during early site development.



Project Locator Map
Donor Beds, Reference Area, and Restoration Area
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 1

DONOR BEDS

Donor eelgrass for the transplant was derived from eelgrass beds along Boy Scout Beach to the north, as well as beds along the northwestern portion of Inner Cabrillo Beach (Figure 1). These donor beds were primarily selected based on a number of factors: 1) Proximity to the transplant receiver site that favors both logistic convenience and selection of appropriate plant materials for the area; 2) Suitability of donor site size and eelgrass density to provide necessary transplant materials; 3) Recovery potential for the donor site; and, 4) Accessibility of the donor site and diver safety. Due to the extensive kite surfing traffic and swimming activities at the southern end of Cabrillo Beach, this area was not used as a donor site.

EELGRASS TRANSPLANT

The eelgrass transplant took place on April 30-May 6 and May 16-20, 2016. A total of 3.05 acres of unvegetated bay bottom was planted on 1-meter centers with approximately 12,600 eelgrass planting units within the 4.65-acre restoration area. This eelgrass transplant was performed using transplant methods discussed in the final eelgrass mitigation and monitoring plan for the project.

The transplant made use of biodegradable soft anchors to fasten bare-root units to the bottom. Eelgrass was salvaged from natural donor beds along the Northern Cabrillo Beach. Eelgrass was harvested by hand and processed into planting units of 6-8 turions (leaf-shoots) per unit. These planting units were processed the same day that harvesting was completed and were planted within 24 hours. Harvesting and planting were accomplished by SCUBA divers, planting each unit on 1-meter centers for the core eelgrass transplant area and more sparsely to the extent of the constructed restoration area.

The transplant site is over 1,400 percent of the base mitigation requirement of 0.33 acres. The transplant area was enlarged to over 14 times the required mitigation area to account for greater, as yet not defined, mitigation needs to address planting delays for the CWMP II dredging project, anticipated losses of portions of the planting areas along the shoreline and slope margins, and to develop eelgrass for future mitigation needs for small Port project impacts.

REFERENCE AREA

A 3.25-acre eelgrass reference area was established in an adjacent area north west of the restoration area (Figure 1). The area was selected based on proximity to and similarity in physical and biological characteristics to the proposed restoration. Monitoring of the reference area will be conducted coincident with the monitoring of the restoration area. Changes in the reference area over time will be considered to represent natural environmental variability when evaluating the performance of the restoration area. At the time of the 2016 transplant, the reference area support an areal extent of 1.6 acres of eelgrass.

EELGRASS MONITORING PROGRAM

As outlined in the Eelgrass Mitigation Plan, upon completion of the planting effort, a monitoring program was initiated and has continued for a 60-month (5-year) period as outlined in the CEMP. Areal extent and density of the transplanted eelgrass and natural reference areas have been monitored using interferometric sidescan sonar acoustic survey techniques that have been applied to eelgrass mapping within the harbor and impact assessment. The spatial distribution of eelgrass

derived from acoustic survey has been supplemented with bed condition data collection including turion density, leaf length, epiphytic loading, and disease observations.

The monitoring program has been conducted at intervals of 0, 6, 12, 24, 36, 48, and 60 months post-transplant. For each monitoring interval, a summary report has been prepared and submitted to the Port, resource agencies, and regulatory agencies within 30 days of completion of the monitoring survey.

Monitoring reports have included information from previous monitoring intervals, including numerical comparisons and graphical presentations of changing bed configurations. The monitoring reports include an analysis of any declines or expansions in eelgrass coverage based on physical conditions of the site, as well as any other significant observations. Finally, the monitoring reports have provided a prognosis for the future of the eelgrass bed and identify the timing for the next monitoring period.

Monitoring of the restoration area commenced with the 0-month monitoring immediately following completion of the eelgrass transplant. The 6-month monitoring interval would normally have fallen in November 2016. As this was outside of the normal eelgrass-growing season (March - October), the survey was shifted to October 2016 to coincide with the growing season to ensure that valuable information on growth and survival was collected. The overall monitoring schedule anticipated at the time of the transplant is outlined in Table 1.

Table 1. Mitigation Monitoring Schedule.

ACTIVITIES	TIME PERIOD	REPORTING PERIOD
1. Complete Eelgrass Transplant	May 2016	
2. Complete 0-Month Survey	May 2016	June 2016
3. Complete 6-Month Survey	October 2016	November 2016
4. Complete 12-Month Survey	May 2017	June 2017
5. Complete 24-Month Survey	May 2018	June 2018
6. Complete 36-Month Survey	May 2019	June 2019
7. Complete 48-Month Survey	May 2020	June 2020
8. Complete 60-Month Survey	May 2021	June 2021

The mitigation requirements for the project work require the successful establishment of 1.2:1 replacement to impact areas for eelgrass lost due to the project implementation. This requires 0.33 acre of eelgrass to be successfully restored to compensate for the loss of approximately 0.27 acre of eelgrass impacted by the maintenance dredging project. It is anticipated that this goal will be met.

MITIGATION SUCCESS CRITERIA

Mitigation will be deemed successful when it has met the success criteria outlined in the CEMP. Criteria for determination of transplant success will be based upon a comparison of areal extent of eelgrass and density (leaf shoots per square meter) between the reference sites and the restoration sites. Key success criteria are as follows:

- Month 0 Monitoring should confirm the full coverage distribution of planting units over the initial mitigation site as appropriate to the geographic region.
- Month 6 Persistence and growth of eelgrass within the initial mitigation area should be confirmed, and there should be a survival of at least 50 percent of the initial planting units with well-distributed coverage over the initial mitigation site. For seed buoys, there should be demonstrated recruitment of seedlings at a density of not less than one seedling per four (4) square meters with a distribution over the extent of the initial planting area. The timing of this monitoring event should be flexible to ensure work is completed during the active growth period.
- Month 12 The mitigation site should achieve a minimum of 40 percent coverage of eelgrass and 20 percent density of reference site(s) over not less than 1.2 times the area of the impact site.
- Month 24 The mitigation site should achieve a minimum of 85 percent coverage of eelgrass and 70 percent density of reference site(s) over not less than 1.2 times the area of the impact site.
- Month 36 The mitigation site should achieve a minimum of 100 percent coverage of eelgrass and 85 percent density of reference site(s) over not less than 1.2 times the area of the impact site.
- Month 48 The mitigation site should achieve a minimum of 100 percent coverage of eelgrass and 85 percent density of reference site(s) over not less than 1.2 times the area of the impact site.
- Month 60 The mitigation site should achieve a minimum of 100 percent coverage of eelgrass and 85 percent density of reference site(s) over not less than 1.2 times the area of the impact site.

Areas that do not meet the above success criteria may require subsequent restoration with an associated extended five-year monitoring period, until the final goal is achieved.

60-MONTH SURVEY METHODOLOGY

M&A conducted the 60-month post transplant survey on May 4, 2021. The survey consisted of eelgrass areal coverage and turion density investigations within the eelgrass restoration and reference areas. Spatial data were collected using interferometric sidescan sonar, which provided an acoustic backscatter image of the seafloor within the project area. Interpretation of the backscatter data allowed for an assessment of the distribution of eelgrass. Sidescan backscatter data were acquired at a frequency of 468 kHz scanning out 31 meters on both the starboard and port channels for a 62-m wide swath. The rigid hull mounted interferometric sidescan system integrates motion sensors to control for heave pitch, and roll as well as a dual RTK GPS antenna positioning system and electronic compass to control for vessel position and yaw. This rigid integration of the interferometric sidescan transducers within the positioning sensors provides significantly increased precision and accuracy over conventional towfish sidescan sonar equipment.

The survey was conducted by navigating parallel tracklines, spaced to allow for overlap between adjoining sidescan swaths. Survey swaths were navigated until the entirety of the survey area was captured in the survey report. All data were collected in latitude and longitude using the North American Datum of 1983 (NAD 83), converted to the Universal Transverse Mercator system in meters (UTM), and plotted on a geo-rectified aerial image of the project site. Following completion of the survey, sidescan sonar traces were joined together and geographically registered. Eelgrass was digitized as a theme over an aerial image of the project site to calculate spatial metrics defining the extent and distribution of eelgrass. Metrics determined for eelgrass from the acoustic survey include: vegetated cover, spatial distribution, areal extent, and percent vegetated cover within the areal extent of the beds.

Following the sidescan survey, the restoration and reference areas were examined by SCUBA to assess the eelgrass quality, verify the sidescan data, and measure the density of actively growing leaf shoots by conducting shoot counts within a 1/16-m² quadrat. Twenty replicate quadrats each were randomly placed within the eelgrass bed of the restoration and reference areas to obtain a mean shoot density for the eelgrass beds.

The reported metrics for eelgrass followed the definition of survey parameters to be included as discussed under the California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP; NOAA 2014). These are as follows:

- **Spatial Distribution**

The spatial distribution of eelgrass habitat was delineated by a contiguous boundary around all areas of vegetated eelgrass cover extending outward a distance of 5 m, excluding gaps within the vegetated cover that have individual plants greater than 10 m from neighboring plants. Where such separations occur, either a separate area was defined, or a gap in the area was defined based on the bed geometry. The boundary of the eelgrass habitat was not extended into areas unsuited to support eelgrass based on such factors as depth, substrate, or existing structures

- **Areal Extent**

The eelgrass habitat areal extent is the quantitative area (e.g., square meters) of the spatial distribution boundary polygon of the eelgrass habitat. The total areal extent is broken down into extent of vegetated cover and extent of unvegetated habitat. Areal extent was determined using ESRI ArcGIS geo-spatial analysis software.

- **Percent Vegetated Cover**

Eelgrass vegetated cover exists when one or more leaf shoots (turions) per square meter is present. The percent bottom cover within eelgrass habitat should be determined by totaling the area of vegetated eelgrass cover and dividing this by the total areal extent of eelgrass habitat area.

- **Turion (Shoot) Density**

Turion density is the mean number of eelgrass leaf shoots per square meter within mapped eelgrass vegetated cover. Turion density should be reported as a mean \pm the standard deviation of replicate measurements. The number of replicate measurements (n) is reported along with the mean and deviation. Turion densities are determined only

within vegetated areas of eelgrass habitat and therefore, it is not possible to measure a turion density equal to zero. If different cover classes are used, a turion density is determined for each cover class.

The spatial distribution of eelgrass habitat was then determined by extending a consistent 5-meter (16-foot) buffer outward from all mapped eelgrass and then refining the buffered area to exclude areas where existing shoreline infrastructure, unsuitable depths, steep slopes, or substrate conditions would naturally preclude eelgrass establishment. The methods applied in this manner result in eelgrass distribution calculation allows for monitoring eelgrass trends at the project site with a substantial degree of accuracy and repeatability over time.

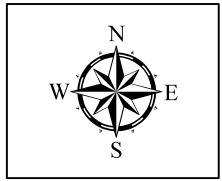
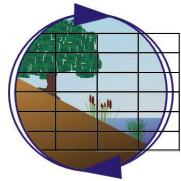
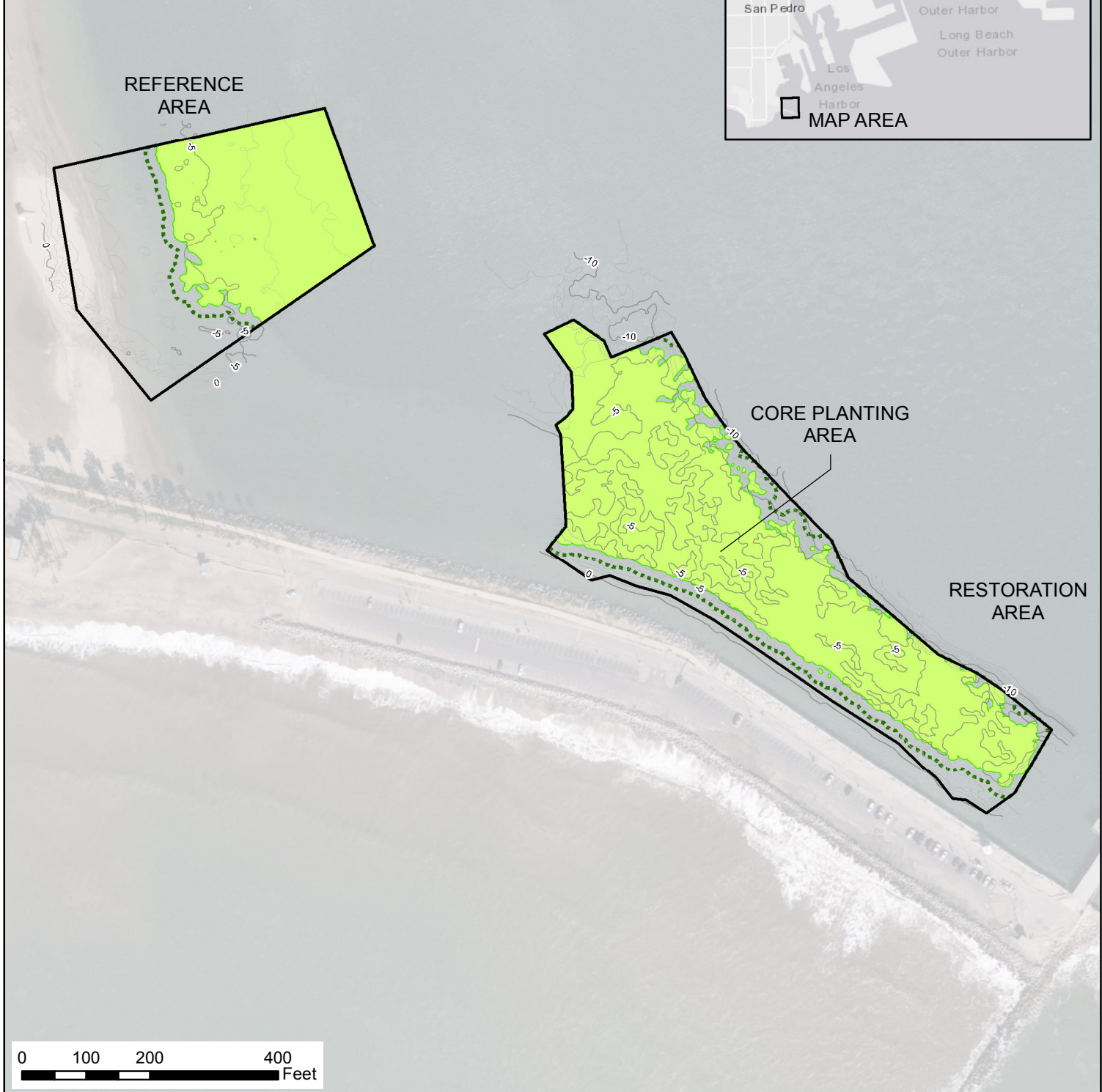
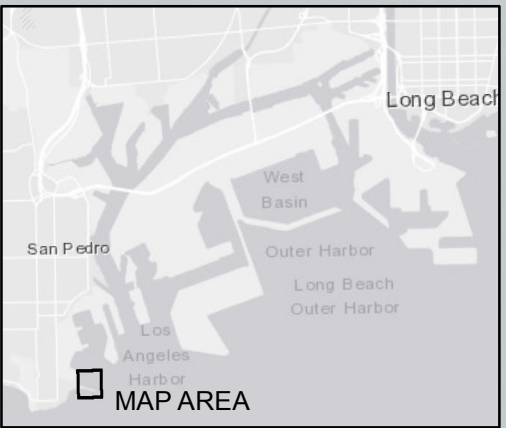
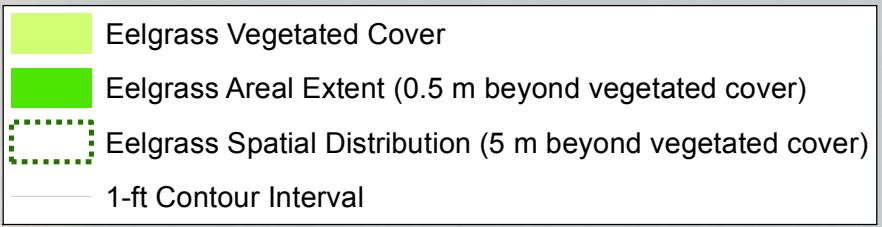
In order to ensure consistency in analyses and reporting through time, the quantification of all metrics, inclusive of spatial extent and areal extent of beds that map extend beyond the bounds of the reference and transplant areas, is limited to areas within the initially established monitored sites. This precludes potential for either the reference or transplant areas to extend beyond the initially established boundaries.

60-MONTH MONITORING RESULTS

Bed spatial and density metrics for the eelgrass restoration and reference areas are summarized in Table 2. The total areal extent of eelgrass within the eelgrass restoration area amounted to approximately 14,703 m² (3.63 acres) (Figure 2). This is a very slight increase (approximately 1 percent) since the time of the June 2020 48-month survey (Figure 3). The eelgrass was healthy in its appearance and exhibited no signs of disease. The site supported epiphytic loading of approximately 20-40 percent and no silt loading. The leaf canopy extended from 0.9 to 1.5 meters off the bottom.

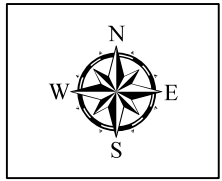
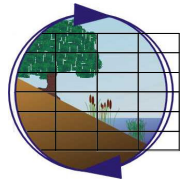
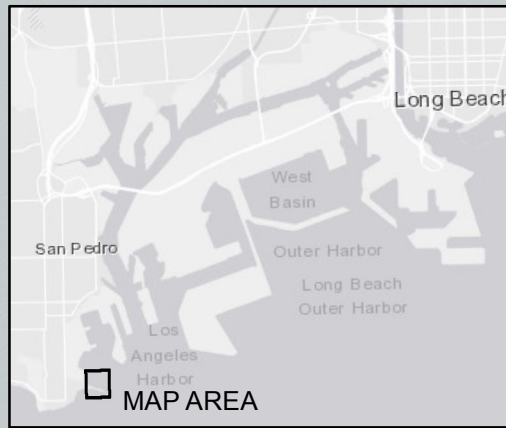
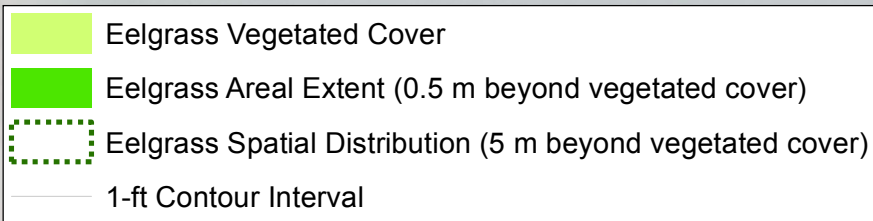
Table 2. 60-Month Eelgrass bed metrics as defined under the CEMP.

Location	Spatial Distribution (m ²)	Eelgrass Vegetated Areal Extent (m ²)	Vegetated Cover (m ²)	Percent Vegetated Cover	Density (turions/m ²) (# of replicates)
Eelgrass Restoration Area	17,186 m ² (4.24 ac)	14,703 m ² (3.63 ac)	14,215 m ² (3.51 ac)	96.7%	211.2±53.3 (n=20)
Reference Area	7,699 m ² (1.90 ac)	7,067 m ² (1.74 ac)	6,974 m ² (1.72 ac)	98.7%	201.6±47.4 (n=20)



60-Month Post-transplant Eelgrass - May 2021
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 2



48-Month Post-transplant Eelgrass - May 2020
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 3

The total areal extent of eelgrass within the reference area amounted to approximately 7,067 m² (1.74 acres) (Figure 2). This is an increase of approximately 18 percent since the time of the June 48-month survey (Figure 3) and is the most eelgrass observed within the reference area during the 60-month monitoring period. The eelgrass was also healthy in its appearance and exhibited no signs of disease. The site supported epiphytic loading of approximately 30-60 percent and no silt loading. The leaf canopy extended from 0.9 to 1.5 meters off the bottom.

DISCUSSION

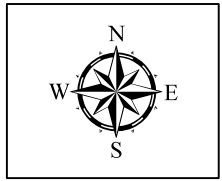
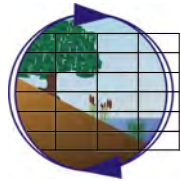
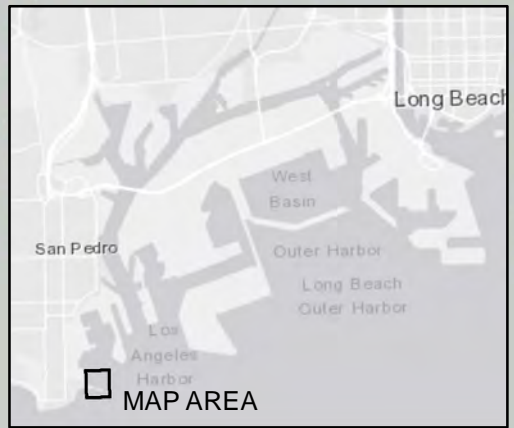
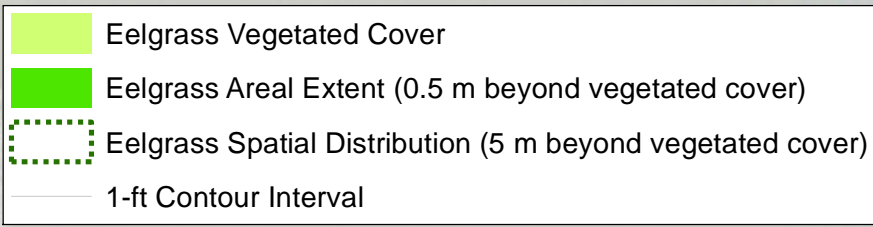
The status of the eelgrass distribution at each monitoring interval has been is exhibited in a temporal reverse order for the 60, 48, 36, 24, 12, and 6-month intervals (Figure 2-7). The 60-month survey revealed that the planting units continue to be healthy and fully consolidated from the initial transplant condition, with no evidence of the original planting grid being evident (Figure 2).

The site has had a more stable history since restoration than has been the case for the reference area. Eelgrass within the reference area has shown a continuing recovery from beach shoal sand overrun that were first manifested during the 6-month survey (Figure 7) and peaked during the 12-month survey (Figure 6). The principal source of variability in the reference site can be seen by examining the eelgrass distribution map, which has shown steady expansion along the upper margin since May 2017 12-month survey (Figure 6). Prior to this 12-month survey, the smooth convex shoreward margin of the bed reveals that sand burial of bed by littoral shoal development was already occurring during the October 2016 6-month survey (Figure 7). The reason for the reversal in the shoaling trend is not clear from the survey interval data, but is likely due to beach maintenance recapturing and repositioning sand on the public beach, allowing for recovery of eelgrass following the 12-month interval. During the same period from the 12-month to the 36-month survey, eelgrass expanded in the restoration area. Then from the 36-month to the 60-month survey there has been a plateauing of the eelgrass expansion in the restoration area as the site reached its reasonable carrying capacity (Figure 8). During the 60-month survey, the site remained at effective saturation capacity.

The transplant site was constructed to support much more eelgrass than the initial mitigation needs in order to ensure that adequate eelgrass is established to meet the mitigation needs and to develop additional eelgrass for future mitigation uses. The site has performed exceptionally well and has met the success requirements, with a surplus of eelgrass being developed.

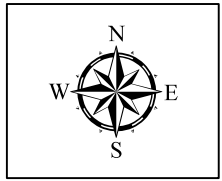
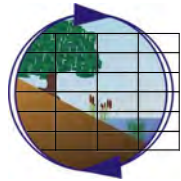
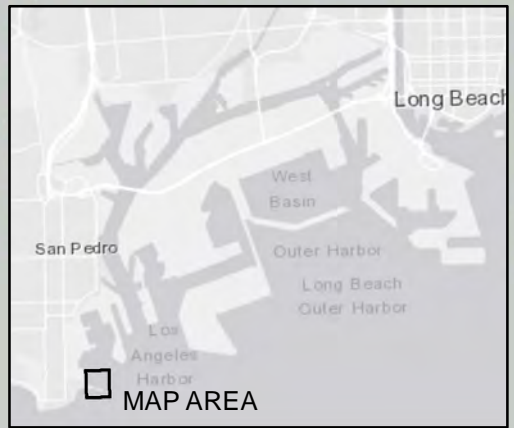
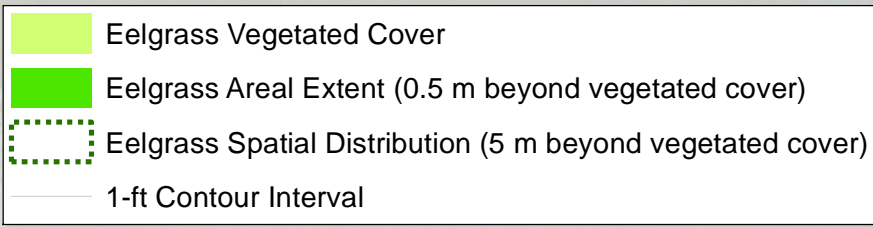
The CEMP outlines milestones for the 60-month monitoring interval of 100 percent areal coverage that should be achieved after the fifth year. At the present time, the mapped beds support 1,108 percent of the mitigation need, thus exceeding this progress milestone (Figure 8). The CEMP further establishes a standard of achieving 85 percent of the turion density within 60 months of the transplant. At the present time, the transplant site mean density is 104 percent of that in the reference area, thus exceeding this progress milestone as well (Figure 9).

In summary, the project Restoration Area has achieved and exceeded the required mitigation objectives.



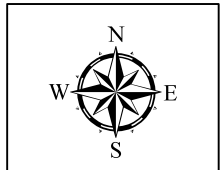
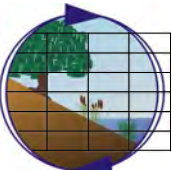
36-Month Post-transplant Eelgrass - May 2019
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 4



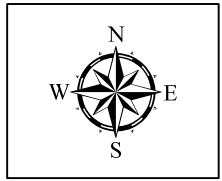
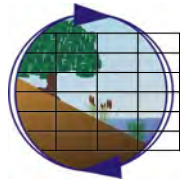
24-Month Post-transplant Eelgrass - May 2018
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 5



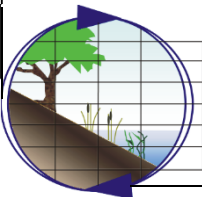
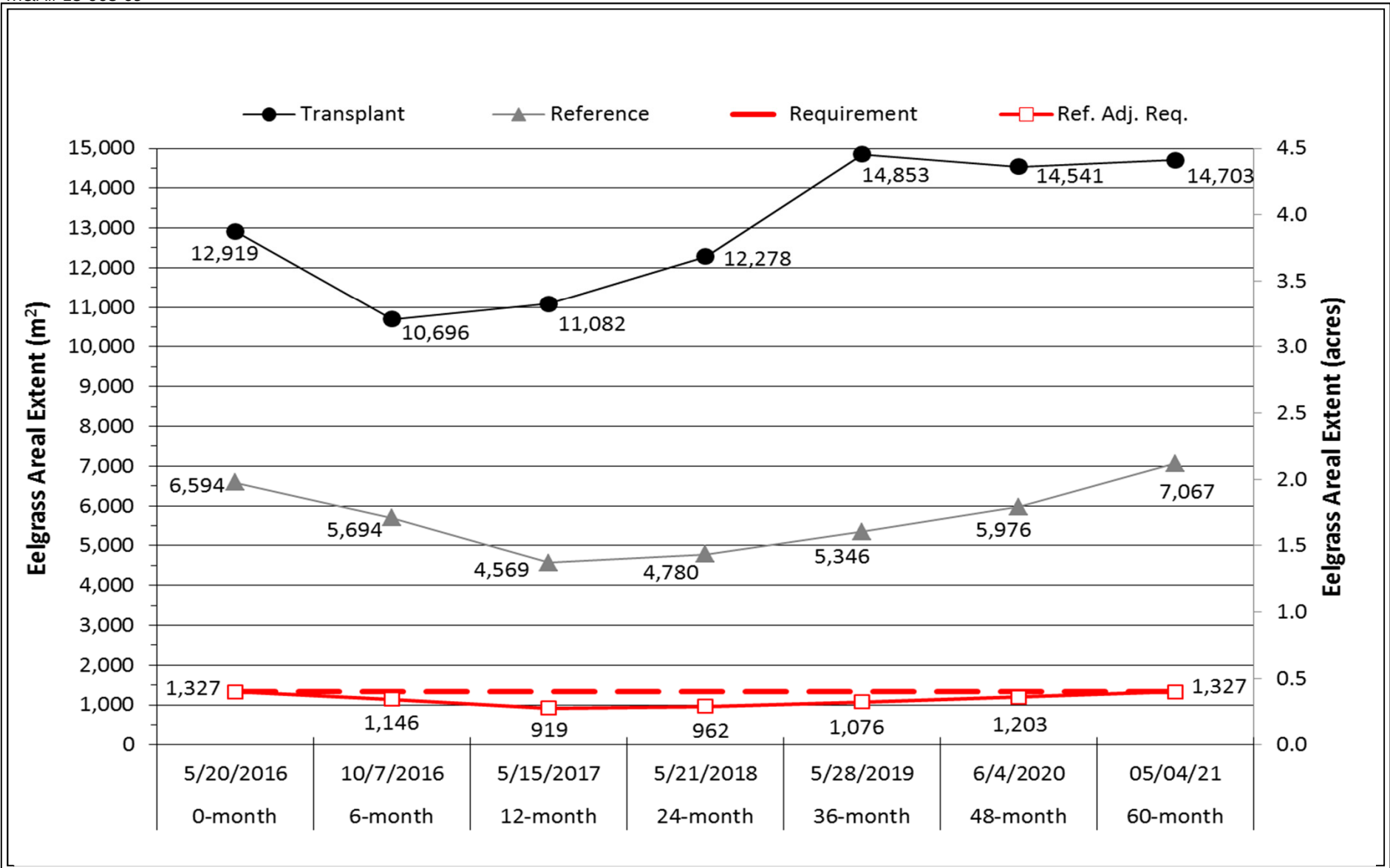
12-Month Post-Transplant Eelgrass - May 2017
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 6



6-Month Post-Transplant Eelgrass - October 2016
Inner Cabrillo Beach Eelgrass Mitigation Project

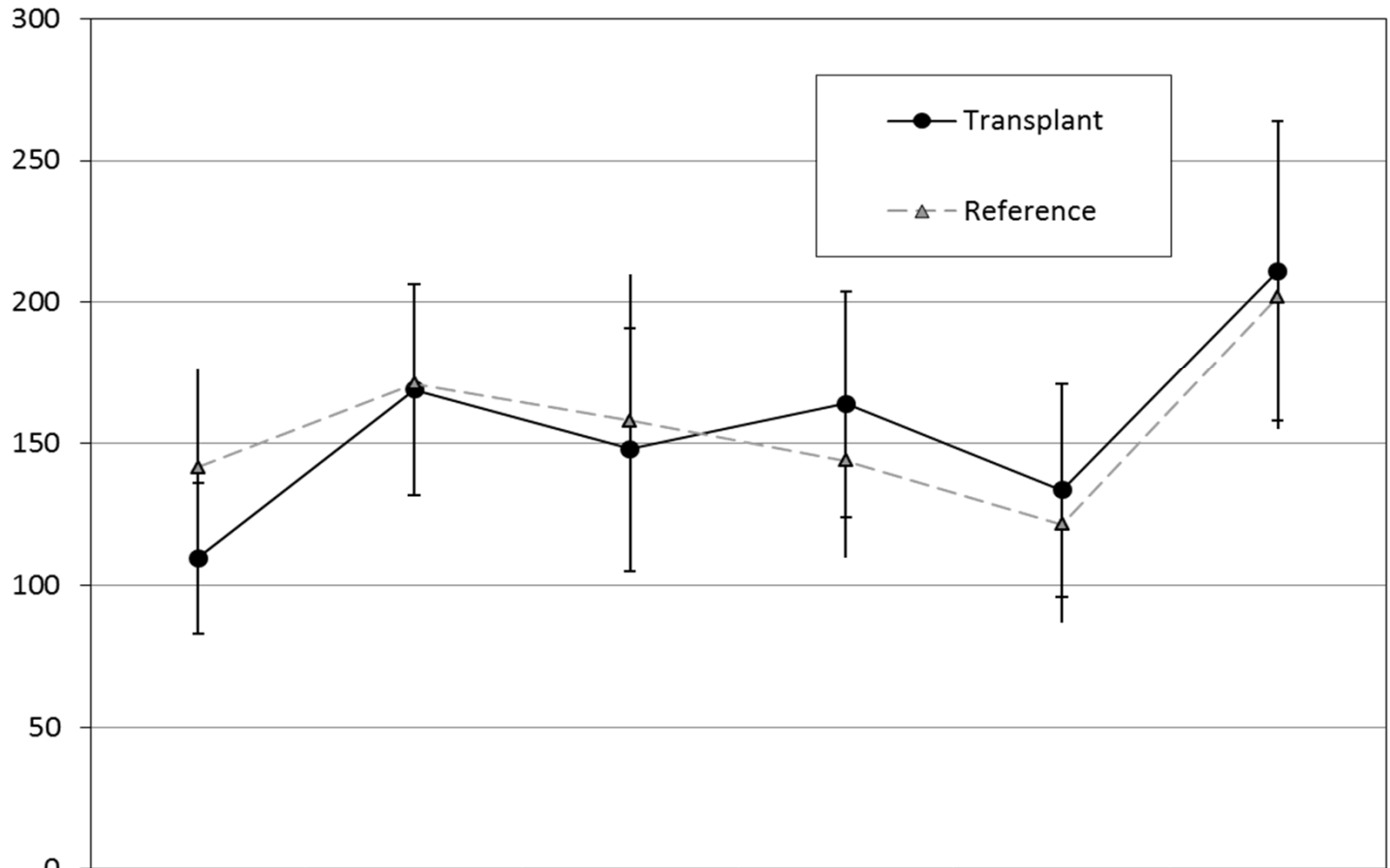
Figure 7



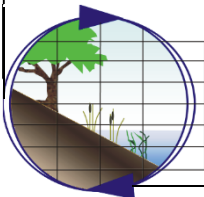
Restoration and Reference Areas Eelgrass Areal Extent Relative to Mitigation Requirements
 Inner Cabrillo Beach Eelgrass Mitigation Project
 San Pedro Bay, CA

Figure 8

Shoot Density (turions/m²)



	10/7/2016 6-month	5/15/2017 12-month	5/21/2018 24-month	5/28/2019 36-month	6/4/2020 48-month	05/04/21 60-month
● Transplant	110	169	148	164	134	211
▲ Reference	142	171	158	144	122	202
% Transplant/Reference	77%	99%	94%	114%	110%	104%



Mitigation Area Eelgrass Shoot Density Relative to Reference Area Shoot Density
 Inner Cabrillo Beach Eelgrass Mitigation Project
 San Pedro Bay, CA

Figure 9

LITERATURE CITED

- Merkel & Associates. 2009. Second Pre-Construction Eelgrass Survey in support of the Cabrillo Way Marina Project, Port of Los Angeles, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, November 2009.
- Merkel & Associates. 2014. Revised Eelgrass Transplant and Monitoring Plan in support of the Inner Cabrillo Beach Eelgrass Mitigation Project, Port of Los Angeles, California. Prepared for Port of Los Angeles Environmental Management Division, November 2014.
- Merkel & Associates. 2015. Port of Los Angeles Berth 24 Cabrillo Beach Boat Launch Ramp Maintenance Dredging Post-Construction Eelgrass Survey, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2015.
- Merkel & Associates. 2016a. Eelgrass Transplant Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2016.
- Merkel & Associates. 2016b. 6-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, December 2016.
- Merkel & Associates. 2017. 12-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, May 2017.
- Merkel & Associates. 2018. 24-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, May 2018.
- Merkel & Associates. 2019. 36-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2019.
- Merkel & Associates. 2020. 48-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2020.
- NOAA Fisheries, West Coast Region. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. October 2014.

**APPENDIX A.
CEMP Eelgrass Mitigation Reporting Short Form**

**CALIFORNIA EELGRASS MITIGATION POLICY
MONITORING AND COMPLIANCE REPORTING SUMMARY**

ACTION NAME

Inner Cabrillo Beach Eelgrass Mitigation
--

ACTION PARTY INFORMATION

NAME	Port of Los Angeles	ADDRESS	425 S Palos Verdes St
CONTACT NAME	Katherine Prickett	CITY, STATE, ZIP	San Pedro, CA 90731
PHONE	310-432-3951	FAX	
EMAIL	KPrickett@portla.org		

MITIGATION CONSULTANT

NAME	Merkel & Associates, Inc.	ADDRESS	5434 Ruffin Road
CONTACT NAME	Keith Merkel	CITY, STATE, ZIP	San Diego, CA 92123
PHONE	858-560-5465	FAX	858-560-7779
EMAIL	kmerkel@merkelinc.com		

PERMIT DATA

PERMIT	ISSUANCE DATE	EXPIRATION DATE	AGENCY CONTACT
SPL-2014-00488-TS ACOE			Theresa Stevens
R4-2014-0203 RWQCB			Jun Zhu

EELGRASS IMPACT AND MITIGATION NEEDS SUMMARY

PERMITTED EELGRASS IMPACT ESTIMATE (M²)	71 + 1,084*	B-24 and Cabrillo Marina Phase II Dredging Project	
ACTUAL EELGRASS IMPACT (M²),	1,104	ON	
EELGRASS MITIGATION NEEDS (M²)	1,327	MITIGATION PLAN REFERENCE	M&A 2014
IMPACT SITE LOCATION	Outer Los Angeles Harbor		
IMPACT SITE CENTER COORDINATES	381,104mE; 3,731,126mN, 11S and 381,667mE; 3,731,779mN, 11S		
MITIGATION SITE LOCATION	Inner Cabrillo Beach, San Pedro Bay, CA		
MITIGATION SITE CENTER COORDINATES	381,495mE, 3,730,675mN		

ACTION ACTIVITY DATA

ACTIVITY	START DATE	END DATE	REFERENCE INFO.
EELGRASS IMPACT			
INSTALLATION OF EELGRASS MITIGATION	04/30/16	05/20/16	M&A 2016
INITIATION OF MITIGATION MONITORING	05/20/16		M&A 2016

MITIGATION STATUS DATA

MITIGATION MILESTONE	SCHEDULED SURVEY	SURVEY DATE	EELGRASS HABITAT AREA (M ²)	BOTTOM COVERAGE (PERCENT)	EELGRASS DENSITY (TURIONS/M ²)	REFERENCE INFORMATION
0-MONTH	May 2017	05/20/16	12,919	65.5 %		M&A 2016
6-MONTH	October 2016	10/07/16	10,696	84.6 %	109.7±26.5	M&A 2016
12-MONTH	May 2017	05/15/17	11,082	88.4 %	169.1±37.5	M&A 2017
24-MONTH	May 2018	05/21/18	12,278	91.4%	148.0±43.1	M&A 2018
36-MONTH	May 2019	05/28/19	14,853	97.1%	164.0±40.2	M&A 2019
48-MONTH	May 2020	06/04/20	14,541	96.0%	133.6±37.5	M&A 2020
60-MONTH	May 2021	05/04/21	14,703	96.6%	211.2±53.3	M&A 2021

FINAL ASSESSMENT

WAS MITIGATION MET?	Yes
WERE MITIGATION AND MONITORING PERFORMED TIMELY?	Yes
WERE MITIGATION DELAY INCREASES NEEDED OR WERE SUPPLEMENTAL MITIGATION PROGRAMS NECESSARY?	No

Appendix D-2

2022 Eelgrass Monitoring Report

**2022 EELGRASS MONITORING REPORT
IN SUPPORT OF THE INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT**

Prepared for:

**Port of Los Angeles
Environmental Management Division**
425 S. Palos Verdes Street
San Pedro, CA 90731
Phone: (310) 732-3951
Attention: Ms. Katherine Prickett

Prepared by:

Merkel & Associates, Inc.
5434 Ruffin Road
San Diego, California 92123
Ph: (858) 560-5465

Work performed under:

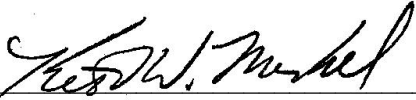
Agreement No. 22-9861, PD #6
APP: 211109-543W

M&A Project Number:

21-064-06

October 2022





Keith W. Merkel, Principal Consultant

TABLE OF CONTENTS

INTRODUCTION 1

SURVEY METHODOLOGY 3

MONITORING RESULTS 4

DISCUSSION..... 7

LITERATURE CITED..... 8

LIST OF FIGURES

Figure 1. Project Vicinity Map 2

Figure 2. Eelgrass Status – October 2022 5

Figure 3. Eelgrass Areal Extent Over Time..... 6

LIST OF TABLES

Table 2. 2022 Eelgrass bed metrics as defined under the CEMP. 4

**2022 EELGRASS MONITORING REPORT FOR THE
INNER CABRILLO BEACH EELGRASS MITIGATION PROJECT**

Merkel & Associates, Inc.

October 2022

INTRODUCTION

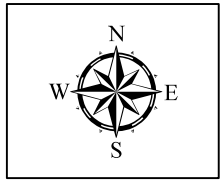
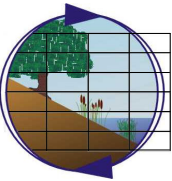
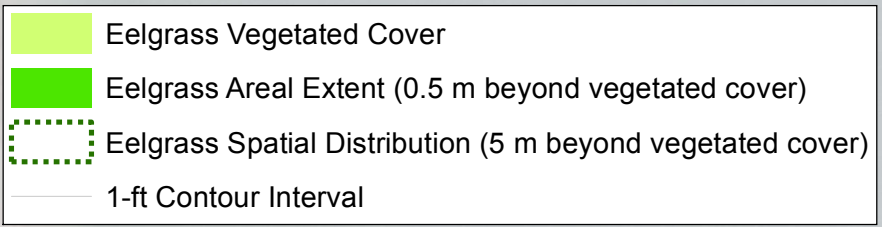
M&A was contracted by the Port of Los Angeles (Port) to prepare and implement a mitigation plan to offset impacts to eelgrass associated with the maintenance dredging of the Berth 24 Boat Ramp Basin, as well as to offset outstanding eelgrass mitigation obligations associated with the Cabrillo Way Marina Phase II Dredging Project. The Berth 24 Boat Ramp Basin project resulted in impacts to 22 m² of eelgrass (M&A 2015), and the Cabrillo Way Marina Phase II (CWMP II) Dredging Project resulted in impacts to 1,084 m² (0.27 acre) of eelgrass (M&A 2009). Combined, these two projects resulted in impacts to 1,106 m² (0.27 acre) of eelgrass. The California Eelgrass Mitigation Policy (CEMP) (NMFS 2014) required the successful establishment of eelgrass at a 1.2:1 mitigation ratio of restored eelgrass to lost eelgrass, resulting in a minimum mitigation need of 1,327 m² (0.33 acre) of eelgrass for the two projects.

A Final Eelgrass Mitigation and Monitoring Plan was developed in support of the Inner Cabrillo Beach Eelgrass Mitigation Project (M&A 2014). The restoration area is located east of Inner Cabrillo Beach, west of the Cabrillo Beach Fishing Pier, and north of the Outer Cabrillo Beach parking lot. It is also located adjacent to existing eelgrass beds at Inner Cabrillo Beach (Figure 1). The purpose-built mitigation site was designed and constructed to provide eelgrass habitat meet the mitigation needs of the identified projects as well as to provide a surplus of eelgrass to be used for future mitigation needs of the Port. Upon approval of the plan and receipt of a Letter of Authorization (LOA) from the California Department of Fish and Wildlife (CDFW 2016), the eelgrass transplant was completed in general accordance with the transplant plan during April and May 2016.

A total of 3.05 acres of eelgrass was transplanted to a core area of the unvegetated 4.65-acre restoration area at 1-meter on center spacing. Outside of the core planting area, eelgrass spacing was widened to 2 to 5-meter on center spacing to cover the fringes of the site that were anticipated to be more marginal in suitability, without substantially increasing required planting units over those initially intended for a 3-acre planting site. Since planting, the site has performed exceptionally well and met all success requirements, with a surplus of eelgrass being developed by the completion of the monitoring period.

As outlined in the CEMP, upon completion of the planting effort, a monitoring program was initiated and continued for a 60-month (5-year) period. Areal extent and density of the transplanted eelgrass and natural reference areas were monitored at 6, 12, 24, 36, 48, and 60-months post-transplant. At the time of the 60-month monitoring period, the mapped beds supported 1,108 percent of the mitigation need (Figure 1), and the transplant site mean density was 104 percent of that in the reference area (Merkel & Associates 2021).

Since satisfaction of the 5-year establishment monitoring period required for the Berth 24 Boat Ramp Basin maintenance dredging and the Cabrillo Way Marina Phase II (CWMP II) Dredging Project mitigation, the Port has initiated additional monitoring in order to track conditions of the eelgrass within the mitigation site for purposes of banking the surplus mitigation value of the site.



60-Month Post-transplant Eelgrass - May 2021
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 1

SURVEY METHODOLOGY

M&A conducted the 2022 eelgrass survey on October 3, 2022. The survey consisted of eelgrass areal coverage and turion density investigations within the eelgrass restoration and reference areas. Spatial data were collected using interferometric sidescan sonar, which provided an acoustic backscatter image of the seafloor within the project area. Interpretation of the backscatter data allowed for an assessment of the distribution of eelgrass. Sidescan backscatter data were acquired at a frequency of 468 kHz scanning out 31 meters on both the starboard and port channels for a 62-m wide swath. The rigid hull mounted interferometric sidescan system integrates motion sensors to control for heave pitch and roll as well as a dual RTK GPS antenna positioning system and electronic compass to control for vessel position and yaw. This rigid integration of the interferometric sidescan transducers within the positioning sensors provides significantly increased precision and accuracy over conventional towfish sidescan sonar equipment.

The survey was conducted by navigating parallel tracklines, spaced to allow for overlap between adjoining sidescan swaths. Survey swaths were navigated until the entirety of the survey area was captured in the survey report. All data were collected in latitude and longitude using the North American Datum of 1983 (NAD 83), converted to the Universal Transverse Mercator system in meters (UTM), and plotted on a geo-rectified aerial image of the project site. Following completion of the survey, sidescan sonar traces were joined together and geographically registered. Eelgrass was digitized as a theme over an aerial image of the project site to calculate spatial metrics defining the extent and distribution of eelgrass. Metrics determined for eelgrass from the acoustic survey include: vegetated cover, spatial distribution, areal extent, and percent vegetated cover within the areal extent of the beds.

Following the sidescan survey, the restoration and reference areas were examined by SCUBA to assess the eelgrass quality, verify the sidescan data, and measure the density of actively growing leaf shoots by conducting shoot counts within a 1/16-m² quadrat. Twenty replicate quadrats each were randomly placed within the eelgrass bed of the restoration and reference areas to obtain a mean shoot density for the eelgrass beds.

The reported metrics for eelgrass are as follows:

- **Vegetated Cover** – Vegetated cover is the tight boundary extent of eelgrass plants on the seafloor, prior to application of CEMP eelgrass bed definitions. The discrete mapping of plant boundaries is the basic building block for determining CEMP spatial metrics.
- **Areal Extent** – The eelgrass habitat areal extent is the quantified extent of the spatial distribution of the beds comprised of the mosaic of unvegetated and vegetated areas of the bed. The *vegetated areal extent* is defined as areas within the spatial distribution that support at least 1 turion per square meter of bottom. This is determined by performing a tight margin mapping of eelgrass plants present within the survey area (vegetated cover) and then buffering outward from the vegetated cover of plants by a distance of 0.5 meter such that any plant within 1 meter of another plant would be captured within the same contiguous vegetated areal extent boundary. The *unvegetated areal extent* is defined as the remainder of the spatial distribution that is not included in the vegetated areal extent.

- **Spatial Distribution** – The spatial distribution of eelgrass habitat is delineated by a contiguous boundary around all areas of vegetated eelgrass cover extending outward from the margins of plants by 5 meters, excluding areas that are unsuited to support eelgrass. This is determined by buffering out from the vegetated cover a distance of 5 meters and then clipping the resultant boundary to remove areas that are determined to be unsuited to supporting eelgrass based on elevation, substrate, slope, or existing overwater structures.
- **Percent Vegetated Cover** - The percent bottom cover within eelgrass habitat is determined by totaling the area of vegetated areal extent and dividing this by the total areal extent of the bed.
- **Turion (Shoot) Density** - Turion density is the mean number of eelgrass leaf shoots per square meter within mapped eelgrass vegetated cover. Turion density should be reported as a mean ± the standard deviation of replicate measurements. The number of replicate measurements (n) is reported along with the mean and deviation. Turion densities are determined only within vegetated areas of eelgrass habitat; and therefore, it is not possible to measure a turion density equal to zero.




In order to ensure consistency in analyses and reporting through time, the quantification of all metrics, inclusive of spatial extent and areal extent of beds that map extend beyond the bounds of the reference and transplant areas, is limited to areas within the initially established monitored sites. This precludes potential for either the reference or transplant areas to extend beyond the initially established boundaries.

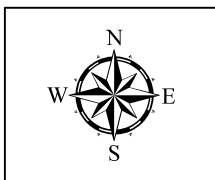
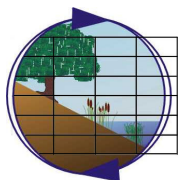
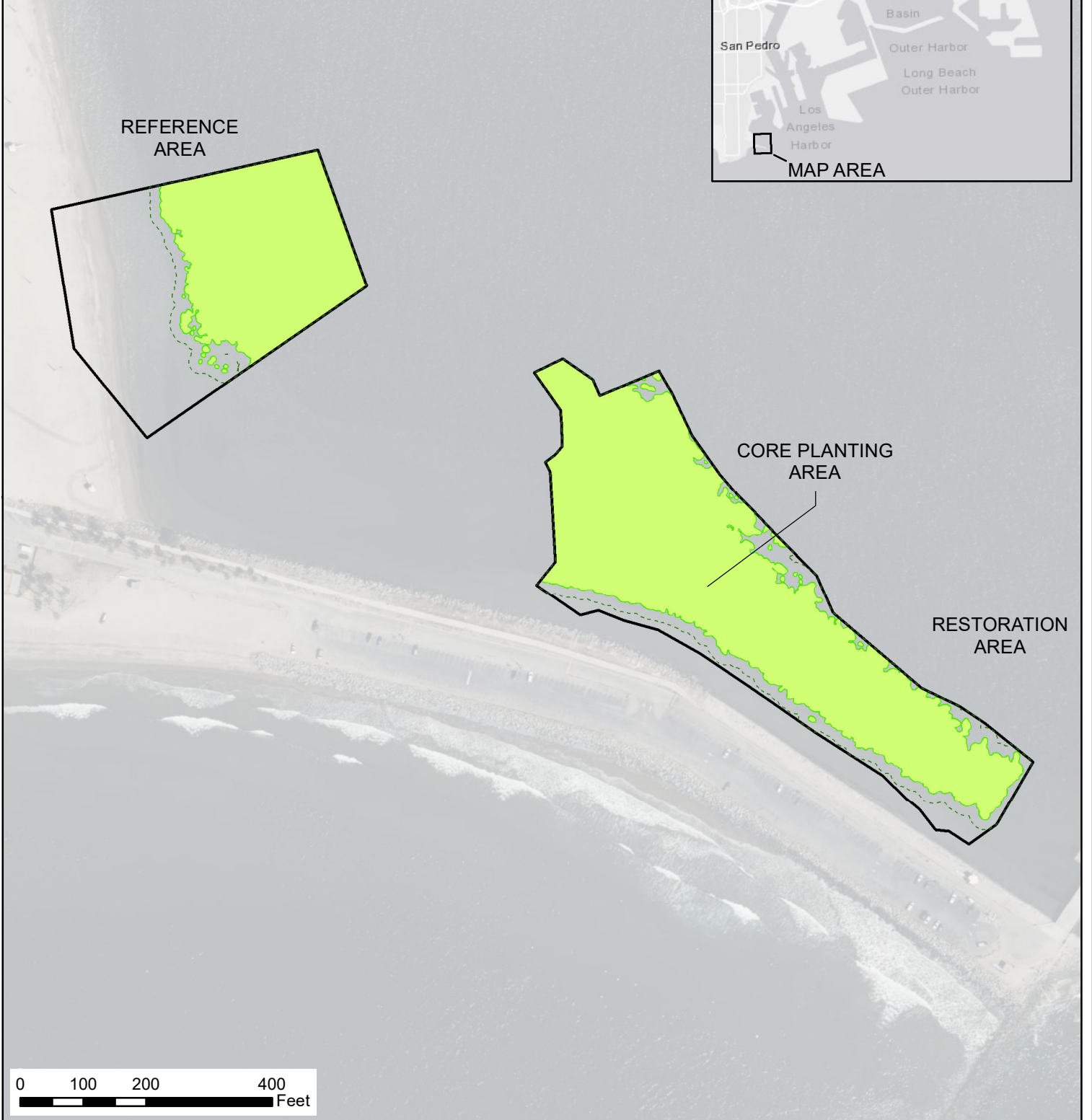
MONITORING RESULTS

Bed spatial and density metrics for the eelgrass restoration and reference areas are summarized in Table 1. The total areal extent of eelgrass within the eelgrass restoration area amounted to approximately 15,353 m² (3.84 acres) (Figure 2). This is a slight increase (approximately 4 percent) since the time of the 2021 60-month survey (Figure 3). The eelgrass was healthy in its appearance and exhibited no signs of disease. The site supported epiphytic and silt loading of approximately 40 percent. The leaf canopy extended approximately 0.9 meters off the bottom.

Table 1. 2022 Eelgrass bed metrics as defined under the CEMP.

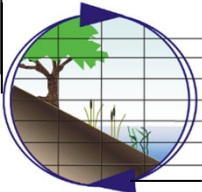
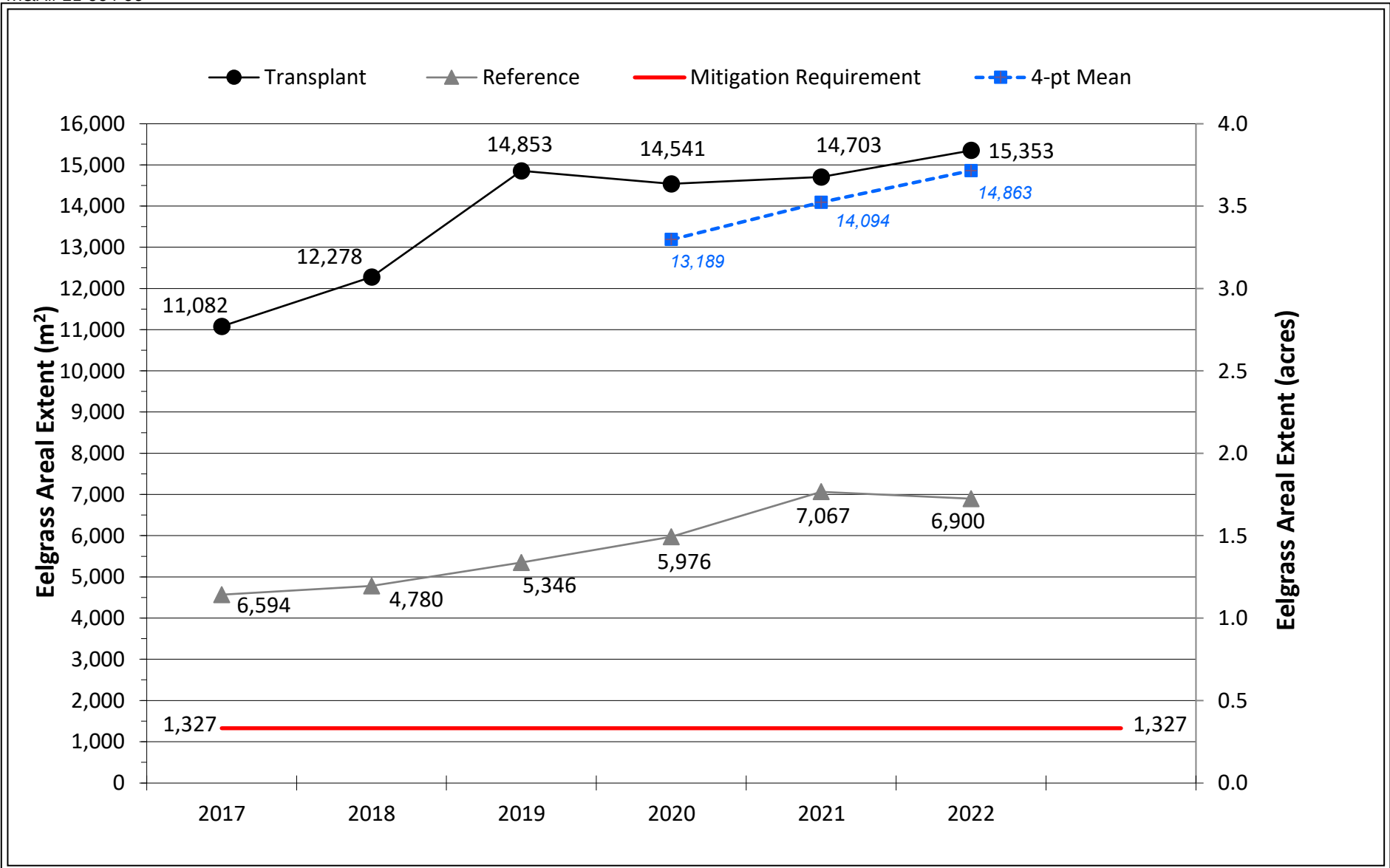
Location	Vegetated Cover	Eelgrass Vegetated Areal Extent	Spatial Distribution	Percent Vegetated Cover (VAE/SD * 100)	Density (turions/m ²) (# of replicates)
Restoration Area	15,067 m ² (3.72 ac)	15,353 m ² (3.84 ac)	17,818 m ² (4.40 ac)	86.2%	122.4±32.9 (n=20)
Reference Area	6,758 m ² (1.67 ac)	6,900 m ² (1.70 ac)	7,706 m ² (1.90 ac)	89.6%	119.2±41.0 (n=20)

-  Eelgrass Vegetated Cover
-  Eelgrass Areal Extent (0.5 beyond vegetated cover)
-  Eelgrass Spatial Distribution (5 m beyond vegetated cover)



2022 Eelgrass Status - October 2022
Inner Cabrillo Beach Eelgrass Mitigation Project

Figure 2



Restoration and Reference Areas Eelgrass Areal Extent Relative to Mitigation Requirements
 Inner Cabrillo Beach Eelgrass Mitigation Project
 San Pedro Bay, CA

Figure 3

The total areal extent of eelgrass within the reference area amounted to approximately 6,900 m² (1.70 acres) (Figure 2). This is a slight decrease of approximately 2.4 percent since the time of the 2021 60-month survey (Figure 3). The eelgrass was also healthy in its appearance and exhibited no signs of disease. The site supported epiphytic and silt loading of approximately 40 percent. The leaf canopy extended from 0.9 meters off the bottom.

DISCUSSION

The eelgrass mitigation site continues to perform well retaining all established eelgrass and showing slight additional expansion in coverage and slight reduction in density. A four-point mean was calculated for eelgrass cover as this mean provides a better overall estimate as to how a site is performing by dampening extreme bed dynamics that can occur due to stressful periods. The four-point mean is applied as a tool to establish available mitigation credits within the Navy's San Diego Bay Eelgrass Mitigation Bank.

LITERATURE CITED

Merkel & Associates. 2014. Revised Eelgrass Transplant and Monitoring Plan in support of the Inner Cabrillo Beach Eelgrass Mitigation Project, Port of Los Angeles, California. Prepared for Port of Los Angeles Environmental Management Division, November 2014.

Merkel & Associates. 2021. 60-Month Post-Transplant Eelgrass Report for the Inner Cabrillo Beach Eelgrass Mitigation Project, San Pedro, California. Prepared for the Port of Los Angeles Environmental Management Division, June 2021.

National Marine Fisheries Service (NMFS). 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. October 2014.

Appendix E

U.S. Army Corps of Engineers Nationwide
Permit 27



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
VENTURA FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CA 93001

November 26, 2014

Chris Cannon, Director
Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, California 90731



DEPARTMENT OF THE ARMY NATIONWIDE PERMIT VERIFICATION

Dear Mr. Cannon, Director:

I am responding to your request for a Department of the Army permit dated August 11, 2014, as amended September 26, 2014 and November 2014 (Corps File No. SPL-2014-00488-TS) for the proposed Inner Cabrillo Beach Eelgrass Mitigation Project, located in Los Angeles Harbor, Port of Los Angeles, in the city and county of Los Angeles, California (33° 42' 33" N latitude/ - 118° 16' 43" W longitude).

Because construction of this project would result in a discharge of dredged and/or fill material and consist of work (dredging/excavation) in or affecting navigable waters of the United States a Department of the Army permit is required pursuant to Section 404 of the Clean Water Act (33 USC 1344; 33 CFR parts 323 and 330) and Section 10 of the Rivers and Harbors Act (33 USC 403).

I have determined construction of the proposed project, if constructed as described in your permit application, would comply with Nationwide Permit (NWP) No. 27 *Aquatic Habitat Restoration, Establishment, and Enhancement Activities*.

Specifically, and as shown in the enclosed figure(s), you are authorized to:

1. In fall/winter 2014/2015, excavate/dredge up to 12,000 cubic yards of accumulated (shoaled) sand from inter- and supratidal beach area and place the dredged material in an adjacent subtidal area to establish an approximately 4.25-acre area of similar depth suitable to support transplanted eelgrass (*Zostera marina*). Once the dredged material is placed, the depth of the eelgrass mitigation site would range from -4 to -6 feet mean lower low water (MLLW) with a slope of approximately 12:1. The proposed maximum cut depth would be approximately five (5) feet and the proposed maximum fill depth would be approximately six (6) feet.
2. Complete eelgrass transplantation in the prepared subtidal area during the spring of 2015.
3. Maintain and monitor the project site and reference site in accordance with the approved work plan submitted with your permit application and amendment thereto.

For this NWP verification letter to be valid, you must comply with all of the terms and conditions in Enclosure 1. Furthermore, you must comply with the non-discretionary Special Conditions listed below:

1. This permit is contingent upon the issuance of a Coastal Zone Management Act (CZMA) consistency certification and section 401 Water Quality Certification (WQC). The Permittee shall abide by the terms and conditions of the CZMA consistency certification/Clean Water Act section 401 WQC. The Permittee shall submit the CZMA consistency certification/section 401 WQC to the Corps Regulatory Division (preferably via email) within two weeks of receipt from the issuing state agency. The Permittee shall not proceed with construction until receiving an e-mail or other written notification from Corps Regulatory Division acknowledging the CZMA consistency certification/Clean Water Act 401 WQC has been received, reviewed, and determined to be acceptable. If the RWQCB fails to act on a valid request for certification within two months after receipt of a complete application, please notify the Corps so we may consider whether a waiver of water quality certification has been obtained. If the California Coastal Commission fails to act on a valid request for concurrence with your certification within six months after receipt, please notify the Corps so we may consider whether to presume a concurrence has been obtained.

2. Within 45 calendar days of completion of authorized work in waters of the U.S., the Permittee shall submit to the Corps Regulatory Division a post-project implementation memorandum including the following information:

- A) Date(s) work within waters of the U.S. was initiated and completed;
- B) Summary of compliance status with each special condition of this permit (including any noncompliance that previously occurred or is currently occurring and corrective actions taken or proposed to achieve compliance);
- C) Color photographs (including map of photopoints) taken at the project site before and after construction for those aspects directly associated with permanent impacts to waters of the U.S. such that the extent of authorized fills can be verified;
- D) One copy of "as built" drawings for the entire project. Electronic submittal (Adobe PDF format) is preferred. All sheets must be signed, dated, and to-scale. If submitting paper copies, sheets must be no larger than 11 x 17 inches; and
- E) Signed Certification of Compliance (attached as part of this permit package).

3. The Permittee shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. shown in the enclosed drawings. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements

4. For this permit, the term dredging operations shall mean: navigation of the dredging vessel at the dredging site, excavation of dredged material within the project boundaries, and placement of

dredged material into a hopper dredge or disposal barge or scow, or by other means to create the mitigation site.

5. Dredging authorized in this permit shall be limited to the areas defined in the exhibit(s) included with your application. Up to 12,000 cubic yards of material are authorized for dredging from the Inner Cabrillo Beach shoaled area by the Permittee. No dredging is authorized in any other location under this permit. This permit does not authorize the placement or removal of buoys.

6. For this permit, the maximum dredging design depth (also known as the project depth or grade) shall be -8 feet below mean lower low water (MLLW), with no allowable overdredge depth. No dredging shall occur outside the project boundaries.

7. The Permittee is prohibited from dredging and disposing material in navigable waters of the U.S. that has not been tested and determined by the Corps Regulatory Division, in consultation with the Environmental Protection Agency Region IX (EPA), to be both clean and suitable for disposal in ocean waters. Re-testing of previously tested or dredged areas is required after three years from the date of sediment sampling. This time limit is subject to shortening given the occurrence of any event that may cause previously determined clean material to become suspect, at the discretion of the Corps Regulatory Division. Prior to each dredging episode, the Permittee must demonstrate that the proposed dredged materials are chemically and physically suitable for disposal in ocean waters according to the provisions of the Inland Testing Manual or Ocean Disposal Manual as appropriate. If the material does not meet the physical and chemical criteria for unconfined disposal in ocean waters, the dredged material shall be disposed in an upland disposal area. In the event re-testing is necessary in the future, a Sampling and Analysis Plan (SAP) shall be submitted to the Corps and EPA.

8. At least 15 calendar days before initiation of any dredging operations authorized by this permit, the Permittee shall send a dredging and disposal operations plan to the Corps Regulatory Division and EPA, with the following information:

A) A list of the names, addresses and telephone numbers of the Permittee's project manager, the contractor's project manager, the dredging operations inspector, the disposal operations inspector and the captain of each tug boat, hopper dredge or other form of vehicle used to transport dredged material to the designated disposal site.

B) A list of all vessels, major dredging equipment and electronic positioning systems or navigation equipment that will be used for dredging and disposal operations, including the capacity, load level and acceptable operating sea conditions for each hopper dredge or disposal barge or scow to assure compliance with special conditions on dredging and disposal operations.

C) The results of a detailed analysis of all material to be dredged pursuant to an approved SAP.

D) A detailed description of the dredging and disposal operations authorized by this permit.

Description of the dredging and disposal operations should include, at a minimum, the following:

i) Dredging and dredge material disposal procedures for approximately 12,000 cubic yards of dredged material determined by the Corps and EPA Region IX to be suitable for ocean disposal .

- ii) A schedule showing when the dredging project is planned to begin and end.
- E) A pre-dredging bathymetric condition survey (presented as a large format plan view drawing), taken within thirty (30) days before the dredging begins, accurate to 0.5-foot with the exact location of all soundings clearly defined on the survey chart. The pre-dredge survey chart shall be prepared showing the following information:
 - i) The entire dredging area, the toe and top of all side-slopes and typical cross sections of the dredging areas. To ensure that the entire area is surveyed, the pre-dredge condition survey should cover an area at least 50 feet outside the top of the side-slope or the boundary of the dredging area, unless obstructions are encountered.
 - ii) The dredging design depth, overdredge depth and the side-slope ratio.
 - iii) The total quantity of dredged material to be removed from the dredging areas and the side-slope areas.
 - iv) Areas shallower than the dredging design depth shall be shaded green, areas between the dredging design depth and overdredge depth shall be shaded yellow, and areas below overdredge depth that will not be dredged shall be shaded blue. If these areas are not clearly shown, the Corps may request additional information.
 - v) The pre-dredging survey chart shall be signed by the Permittee to certify that the data are accurate and that the survey was completed within thirty (30) days before the proposed dredging start date.
- F) A debris management plan to prevent disposal of large debris at all disposal locations. The debris management plan shall include: sources and expected types of debris, debris separation and retrieval methods, and debris disposal methods.

9. The Permittee shall not commence dredging operations unless and until the Permittee receives a Notice to Proceed, in writing, from the Corps Regulatory Division.

10. The Permittee shall maintain a copy of this permit on all vessels used to dredge, transport and dispose of dredged material authorized under this permit.

11. To ensure navigational safety, the permittee shall provide appropriate notifications to the U.S. Coast Guard as described below:

Commander, 11th Coast Guard District (dpw)
TEL: (510) 437-2980
E-mail: d11LNM@uscg.mil
Website: <http://www.uscg.mil/dp/lnmrequest.asp>

U.S. Coast Guard, Sector LA-LB (COTP)
TEL: (310) 521-3860
E-mail: john.p.hennigan@uscg.mil

A) The Permittee shall notify the U.S. Coast Guard, Commander, 11th Coast Guard District (dpw) and the U.S. Coast Guard, Sector LA-LB (COTP) (contact information shown above), not less than 14 calendar days prior to commencing work and as project information changes. The notification shall be provided by e-mail with at least the following information, transmitted as an attached Word or PDF file:

- 1) Project description including the type of operation (i.e. dredging, diving, construction, etc).
- 2) Location of operation, including Latitude / Longitude (NAD 83).
- 3) Work start and completion dates and the expected duration of operations. The Coast Guard needs to be notified if these dates change.
- 4) Vessels involved in the operation (name, size and type).
- 5) VHF-FM radio frequencies monitored by vessels on scene.
- 6) Point of contact and 24 -hour phone number.
- 7) Potential hazards to navigation.
- 8) Chart number for the area of operation.
- 9) Recommend the following language be used in the LNM: Mariners are urged to transit at their slowest safe speed to minimize wake, and proceed with caution after passing arrangements have been made.

B) The Permittee and its contractor(s) shall not remove, relocate, obstruct, willfully damage, make fast to, or interfere with any aids to navigation defined at 33 C.F.R. chapter I, subchapter C, part 66. The Permittee shall ensure its contractor notifies the Eleventh Coast Guard District in writing, with a copy to the Corps Regulatory Division, not less than 30 calendar days in advance of operating any equipment adjacent to any aids to navigation that requires relocation or removal. Should any federal aids to navigation be affected by this project, the Permittee shall submit a request, in writing, to the Corps Regulatory Division as well as the U.S. Coast Guard, Aids to Navigation office (contact information provided above). The Permittee and its contractor are prohibited from relocating or removing any aids to navigation until authorized to do so by the Corps Regulatory Division and the U.S. Coast Guard.

C) Should the Permittee determine the work requires the temporary placement and use of private aids to navigation in navigable waters of the U.S., the Permittee shall submit a request in writing to the Corps Regulatory Division as well as the U.S. Coast Guard, Aids to Navigation office (contact information provided above). The Permittee is prohibited from establishing private aids to navigation in navigable waters of the U.S. until authorized to do so by the Corps Regulatory Division and the U.S. Coast Guard.

D) The COTP may modify the deployment of marine construction equipment or mooring systems to safeguard navigation during project construction. The Permittee shall direct questions concerning lighting, equipment placement, and mooring to the appropriate COTP.

12. The Permittee shall ensure that the captain of any hopper dredge, tug or other vessel used in the dredging and disposal operations, is a licensed operator under USCG regulations and follows the Inland and Ocean Rules of Navigation or the USCG Vessel Traffic Control Service. All such vessels, hopper dredges or disposal barges or scows, shall have the proper day shapes, operating marine band radio, and other appropriate navigational aids.

13. The Permittee's contractor(s) and the captain of any dredge covered by this permit shall monitor VHF-FM channels 13 and 16 while conducting dredging operations.

14. Upon request, the Permittee and its contractor(s) shall allow inspectors from the Corps Regulatory Division, EPA, and(or) the USCG to inspect all phases of the dredging and disposal operations.

15. Upon request, the Permittee and its contractor(s) retained to perform work authorized by the permit or to monitor compliance with this permit shall make available to inspectors from the Corps Regulatory Division, EPA, and (or) the USCG the following: dredging and disposal operations inspectors' logs, the vessel track plots and all disposal vessel logs or records, any analyses of the characteristics of dredged material, or any other documents related to dredging and disposal operations.

16. If a violation of any permit condition occurs, the violation shall be reported by the Permittee to the Corps Regulatory Division within twenty-four (24) hours. If the Permittee retains any contractors to perform any activity authorized by this permit, the Permittee shall instruct all such contractors that notice of any violations must be reported to the Permittee immediately.

17. When using a hopper dredge, water flowing through the weirs shall not exceed 10 minutes during dredging operations. The level that a hopper dredge can be filled shall not exceed the load line to prevent any dredged material or water from spilling over the sides at the dredging site or during transit from the dredging site to the disposal site. No hopper dredge shall be filled above this predetermined level. Before each hopper dredge is transported to the disposal site, the dredging site inspector shall certify that it is filled correctly.

18. When using a disposal barge or scow, no water shall be allowed to flow over the sides. The level that a disposal barge or scow can be filled shall not exceed the load line to prevent any dredged material or water from spilling over the sides at the dredging site. No disposal barge or scow shall be filled above this predetermined level. Before each disposal barge or scow is transported to the disposal site, the dredging site inspector shall certify that it is filled correctly.

19. The Permittee shall use an electronic positioning system to navigate at the dredging site. The electronic positioning system shall have a minimum accuracy and precision of +/- 10 feet (3 meters). If the electronic positioning system fails or navigation problems are detected, all dredging operations shall cease until the failure or navigation problems are corrected. Any navigation

problems and corrective measures shall be described in the post-dredging completion report per Special Condition 20.

20. The Permittee shall submit a post-dredging completion report to the Corps Regulatory Division within 30 calendar days after completion of each dredging project to document compliance with all general and special conditions defined in this permit. The report shall include all information collected by the Permittee, the dredging operations inspector and the disposal operations inspector or the disposal vessel captain as required by the special conditions of this permit. The report shall indicate whether all general and special permit conditions were met. Any violations of the permit shall be explained in detail. The report shall further include the following information:

- A) Permit and project number.
- B) Start date and completion date of dredging and disposal operations.
- C) Total cubic yards disposed at the disposal site.
- D) Mode of dredging.
- E) Mode of transportation.
- F) Form of dredged material.
- G) Frequency of disposal and plots of all trips to the disposal site.
- H) Tug boat or other disposal vessel logs documenting contact with the USCG before each trip to the disposal site.
- I) A certified report from the dredging site inspector indicating all general and special permit conditions were met. Any violations of the permit shall be explained in detail.
- J) A detailed post-dredging hydrographic survey of the dredging area. The survey shall show areas above the dredging design depth shaded green, areas between the dredging design depth and overdredge depth (if any) shaded yellow, areas below overdredged depth (if any) that were not dredged or areas that were deeper than the overdredge depth before the project began as indicated on the pre-dredging survey shaded blue, and areas dredged below the overdredge depth or outside the project boundaries shaded red. The methods used to prepare the post-dredging survey shall be the same methods used in the pre-dredging condition survey. The survey shall be signed by the Permittee certifying that the data are accurate.
- K) The post-dredging report shall be signed by a duly authorized representative of the Permittee. The Permittee's representative shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

21. This Corps permit does not authorize you to take any threatened or endangered species, in particular the California least tern (*Sterna antillarum browni*) or adversely modify designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g. ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply).

22. The permitted activity shall not interfere with the right of the public to free navigation on all navigable waters of the United States as defined by 33 C.F.R. Part 329.

23. A pre-construction survey of the project area for *Caulerpa taxifolia* (Caulerpa) shall be conducted in accordance with the Caulerpa Control Protocol (see <http://swr.nmfs.noaa.gov/hcd/caulerpa/ccp.pdf>) not earlier than 90 calendar days prior to planned construction and not later than 30 calendar days prior to construction. The results of that survey shall be furnished to the Corps Regulatory Division, NOAA Fisheries, and the California Department of Fish and Game (CDFG) at least 15 calendar days prior to initiation of work in navigable waters. In the event that Caulerpa is detected within the project area, the Permittee shall not commence work until such time as the infestation has been isolated, treated, and the risk of spread is eliminated as confirmed in writing by the Corps Regulatory Division, in consultation with NOAA Fisheries and CDFG.

24. In accordance with the application and work plan (as amended September 26, 2014 and November 2014), the Permittee shall conduct pre- and post-construction eelgrass monitoring surveys in adjacent areas presently occupied by eelgrass. Surveys shall be conducted in accordance with the mapping guidelines in NOAA Fisheries' Southern California Eelgrass Mitigation Policy (Policy) (http://swr.nmfs.noaa.gov/hcd/policies/EELPOLrev11_final.pdf). All required post-construction monitoring surveys shall be submitted by the Permittee to the Corps and NOAA Fisheries within 30 calendar days of each survey completion date. Based upon the post-construction monitoring survey results and in accordance with the Policy, the Corps, in consultation with NOAA Fisheries may determine the need and/or amount of Essential Fish Habitat (EFH) mitigation required to offset adverse impacts to adjacent eelgrass habitat. The Corps will transmit its determination to the Permittee in writing. Within 60 calendar days of receiving the Corps' determination specifying the need and amount of mitigation, the Permittee shall submit a draft EFH mitigation plan to the Corps for review and approval. The EFH mitigation plan shall be prepared in accordance with the Policy and the Corps' Los Angeles District Mitigation Guidelines and Monitoring Requirements, dated April 19, 2004. The Permittee shall fully implement the final EFH mitigation plan as approved by the Corps.

25. The Permittee shall discharge only clean construction materials suitable for use in the oceanic environment. The Permittee shall ensure no debris, soil, silt, sand, sawdust, rubbish, cement or concrete washings thereof, oil or petroleum products, from construction shall be allowed to enter into or placed where it may be washed by rainfall or runoff into waters of the United States. Upon completion of the project authorized herein, any and all excess material or debris shall be completely removed from the work area and disposed of in an appropriate upland site.

26. The Permittee shall notify the Corps Regulatory Division of the date of commencement of operations not less than 14 calendar days prior to commencing work, and shall notify the Corps of the date of completion of operations at least five calendar days prior to such completion.

27. Within 30 calendar days of completion of the project authorized by this permit, the Permittee shall conduct a post-project survey indicating changes to structures and other features in navigable waters. The Permittee shall forward a copy of the survey, as well as a copy of this permit, to the Corps Regulatory Division (via e-mail at: Regulatory.SPL@usace.army.mil) and to the National Oceanic and Atmospheric Administration for updating nautical charts (via e-mail at: john.whiddon@noaa.gov). Post-project surveys/as-built plans should be provided electronically in two formats: .pts (xyz) and one of, .pdf, CAD, or GIS. Include the following header metadata: project name, surveyor's name and company, area surveyed (acres), type of survey method, date of survey, geographic control points (for example: latitude/longitude, plane coordinates), geographic coordinate system (use NAD83), geographic projection, units (use US Survey Feet), and tide gage location. For all subsurface structures and dredge projects include elevation (z coordinate) datum indicated as a negative below MLLW, and also indicate the survey system and bin sizes as appropriate.

28. The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the Corps of Engineers Regulatory Division, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

29. Pursuant to 36 C.F.R. section 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps' Regulatory Division (Theresa Stevens, Ph.D. at 805-585-214) and Corps' Archeology Staff within 24 hours (John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area surrounding the potential cultural resources until the Corps Regulatory Division re-authorizes project construction, per 36 C.F.R. section 800.13.

30. The Permittee shall submit monitoring reports as described in the final, approved mitigation plan by October 1 of each year following the construction of mitigation site. To assure mitigation success, you shall monitor the mitigation site for at least five (5) consecutive growing seasons after construction or until the Corps determines the final performance standards are met (monitoring shall be for a minimum of 5 years unless the Corps agrees earlier that success has been reached and maintained for a sufficient time period, or, if success is not demonstrated to the Corps satisfaction after the 5th year of monitoring, additional monitoring may be required by the Corps as determined at that time. The monitoring period shall commence upon completion of the construction of the mitigation site. Additionally, you shall demonstrate continued success of the compensatory mitigation site(s), without human intervention, for at least two consecutive years during which

interim and/or final performance standards are met. The compensatory mitigation project will not be deemed successful until this criterion has been met.

GIS DATA: Within 60 days following written Corps approval of the mitigation plan for General Permits, you shall provide to this office GIS data (polygons only) depicting the boundaries of all compensatory mitigation sites, as authorized in the above, final mitigation plan. All GIS data and associated metadata shall be provided on a digital medium (CD or DVD) or via file transfer protocol (FTP), preferably using the Environmental Systems Research Institute (ESRI) shapefile format. GIS data for mitigation sites shall conform to the Mitigation_SPD.xlsx data table, as specified in the Final Map and Drawing Standards for the South Pacific Division Regulatory Program dated August 6, 2012 (<http://www.spd.usace.army.mil/Portals/13/docs/regulatory/standards/map.pdf>), and shall include a text file of metadata, including datum, projection, and mapper contact information. Within 60 days following completion of compensatory mitigation construction activities, if any deviations have occurred, you shall submit as-built GIS data (polygons only) accompanied by a narrative description listing and explaining each deviation.

This verification is valid through **March 18, 2017**. If on March 18, 2017 you have commenced or are under contract to commence the permitted activity you will have an additional twelve (12) months to complete the activity under the present NWP terms and conditions. However, if I discover noncompliance or unauthorized activities associated with the permitted activity I may request the use of discretionary authority in accordance with procedures in 33 CFR § 330.4(e) and 33 CFR § 330.5(c) or (d) to modify, suspend, or revoke this specific verification at an earlier date. Additionally, at the national level the Chief of Engineers, any time prior to March 18, 2017, may chose to modify, suspend, or revoke the nationwide use of a NWP after following procedures set forth in 33 CFR § 330.5. It is incumbent upon you to comply with all of the terms and conditions of this NWP verification and to remain informed of any change to the NWPs.

A NWP does not grant any property rights or exclusive privileges. Additionally, it does not authorize any injury to the property, rights of others, nor does it authorize interference with any existing or proposed Federal project. Furthermore, it does not obviate the need to obtain other Federal, state, or local authorizations required by law.

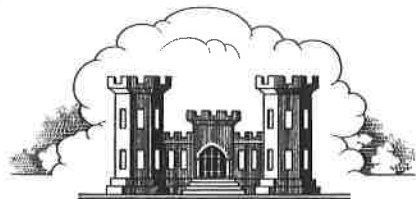
Thank you for participating in the regulatory program. If you have any questions, please contact Theresa Stevens, Ph.D. of my staff at 805-585-2146 or via e-mail at theresa.stevens@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

A handwritten signature in black ink that reads "Aaron O. Allen". The signature is written in a cursive style with a large, sweeping loop over the first name.

Aaron O. Allen, Ph.D.
Chief, North Coast Branch
Regulatory Division

Enclosure(s)



**LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS**

**CERTIFICATE OF COMPLIANCE WITH
DEPARTMENT OF THE ARMY NATIONWIDE PERMIT**

Permit Number: *SPL-2014-00488-TS*

Name of Permittee: *Los Angeles Harbor Department, Director Environmental Management Division*

Date of Issuance: *November 26, 2014*

Upon completion of the activity authorized by this permit and the mitigation required by this permit, sign this certificate, and return it by **ONE** of the following methods;

- 1) Email a digital scan of the signed certificate to theresa.stevens@usace.army.mil

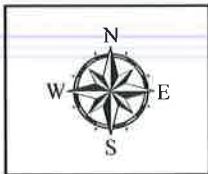
OR

- 2) Mail the signed certificate to
U.S. Army Corps of Engineers
ATTN: SPL-2014-00488-TS
2151 Alessandro Drive, Suite 110
Ventura, CA 93001

I hereby certify that the authorized work and any required compensatory mitigation has been completed in accordance with the NWP authorization, including all general, regional, or activity-specific conditions. Furthermore, if credits from a mitigation bank or in-lieu fee program were used to satisfy compensatory mitigation requirements I have attached the documentation required by 33 CFR 332.3(1)(3) to confirm that the appropriate number and resource type of credits have been secured.

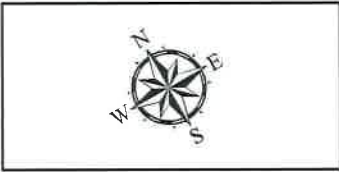
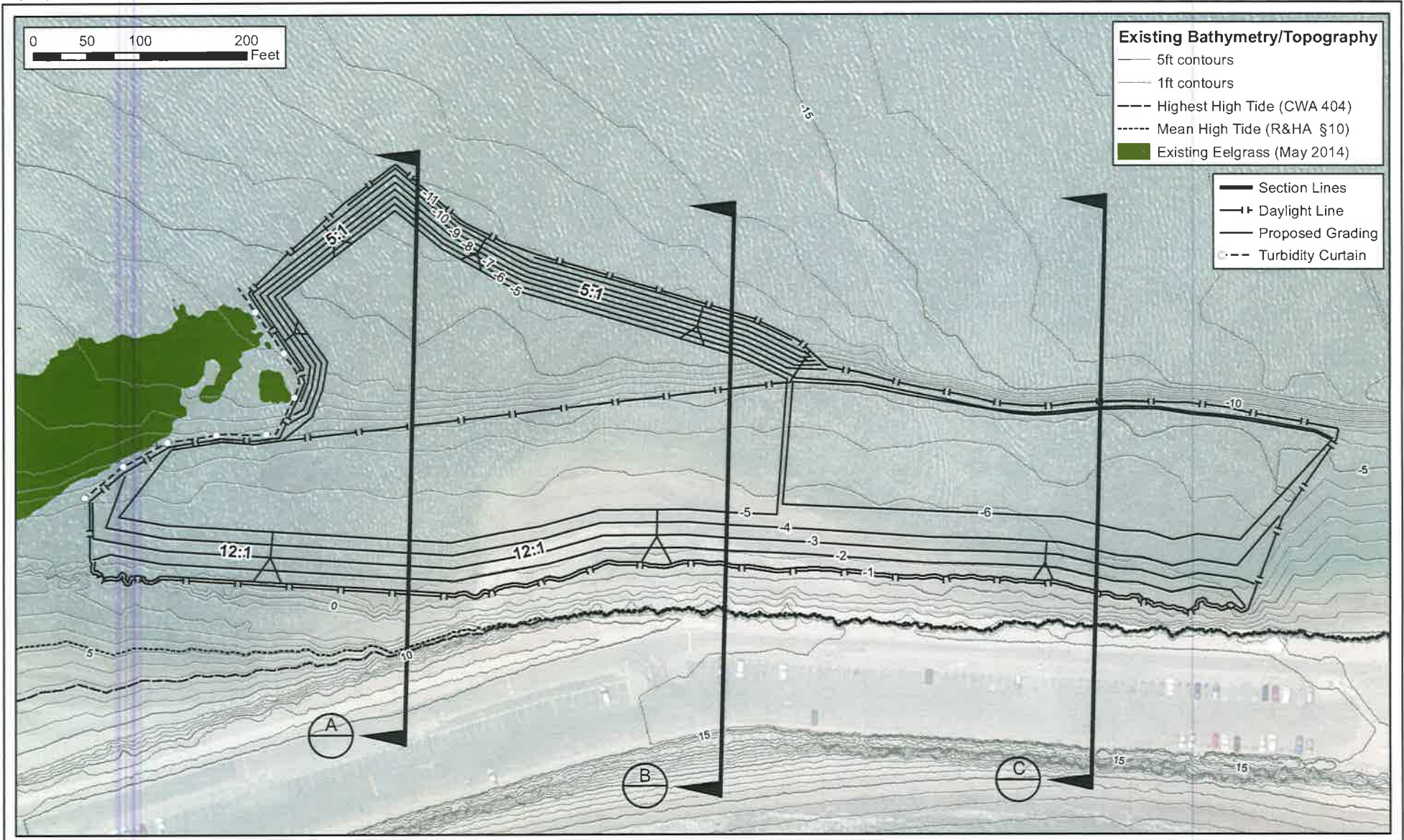
Signature of Permittee

Date



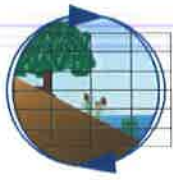
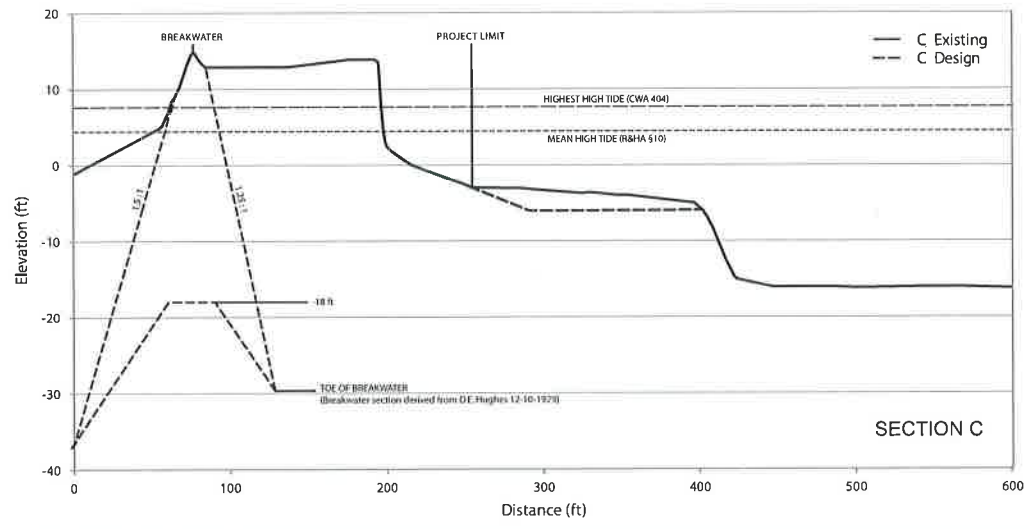
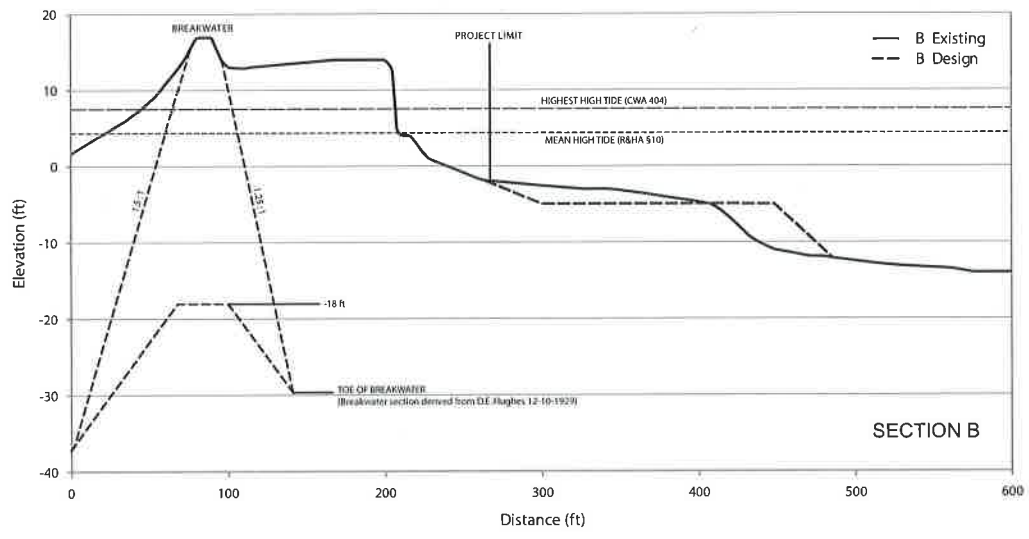
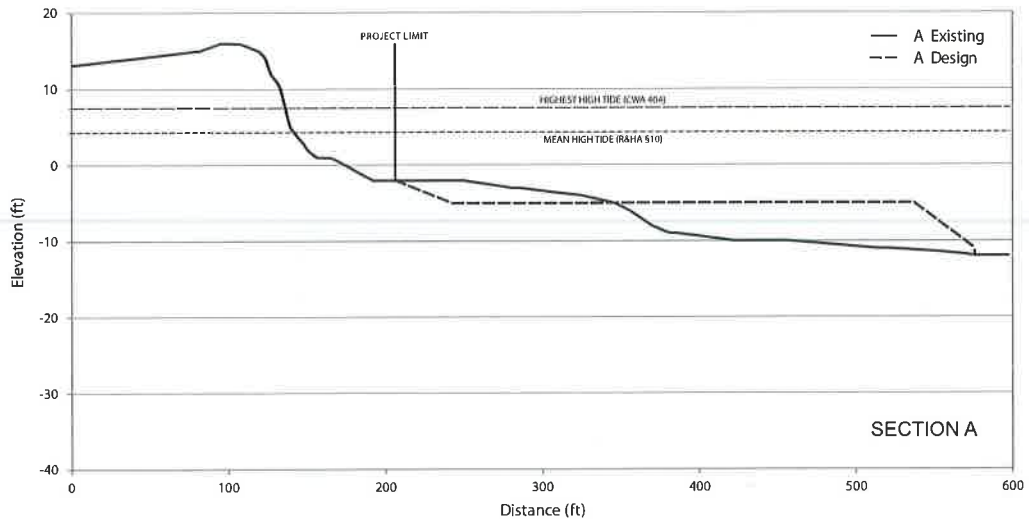
Project Locator Map
Donor Beds, Reference Site, and Transplant Site
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 1



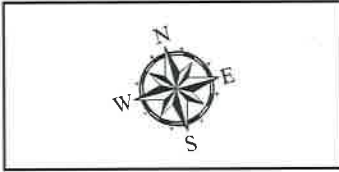
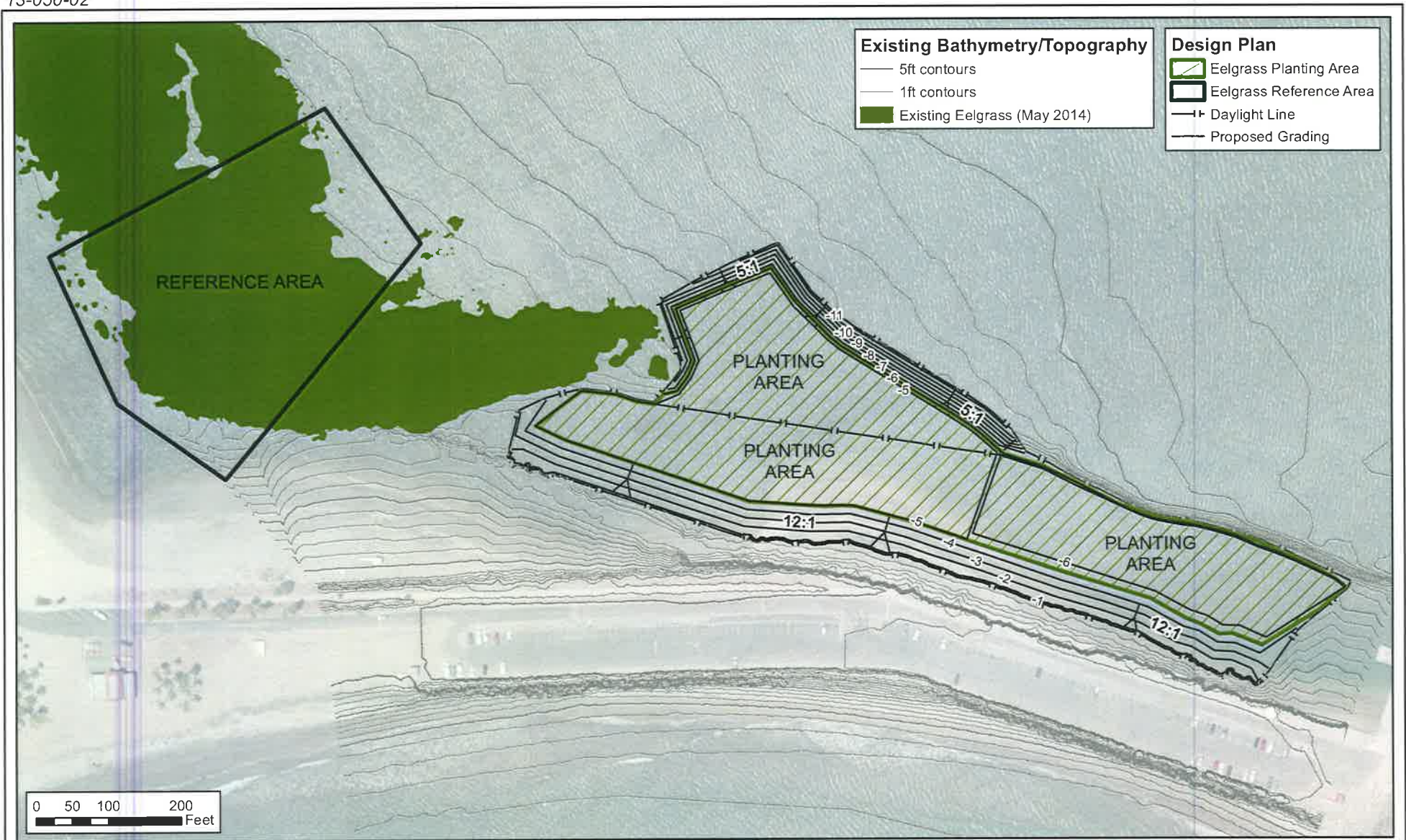
Eelgrass Mitigation Site Grading Plan
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 2



Mitigation Cross Sections
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 3



Eelgrass Planting Location
Inner Cabrillo Beach Eelgrass Mitigation Site

Figure 4

Enclosure 1: NATIONWIDE PERMIT NUMBER 27 *Aquatic Habitat Restoration, Establishment, and Enhancement Activities*

TERMS AND CONDITIONS

1. Nationwide Permit 27 Terms:

Your activity is authorized under Nationwide Permit Number 27 *Aquatic Habitat Restoration, Establishment, and Enhancement Activities*, subject to the following terms:

27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities. Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas and the restoration and enhancement of non-tidal streams and other non-tidal open waters, provided those activities result in net increases in aquatic resource functions and services. To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site. This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services. Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa) or uplands. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments. Reversion. For enhancement, restoration, and establishment activities conducted: (1) In accordance with the terms and conditions of a binding wetland enhancement, restoration, or establishment agreement between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), or their designated state cooperating agencies; (2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the OSM or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities). The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-

converted cropland that has not been abandoned or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity the permittee or the appropriate Federal or state agency must notify the district engineer and include the documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity result in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion. **Reporting:** For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) The binding wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSM or the applicable state agency. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP. **Notification.** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27), except for the following activities: (1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding wetland enhancement, restoration, or establishment agreement between the landowner and the U.S. FWS, NRCS, FSA, NMFS, NOS, or their designated state cooperating agencies; (2) Voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSM or the applicable state agency. However, the permittee must submit a copy of the appropriate documentation. (Sections 10 and 404) **Note:** This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee programs. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

2. Nationwide Permit General Conditions: The following general conditions must be followed in order for any authorization by an NWP to be valid:

1. **1. Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.
14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.
16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWP.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such “take” permits are required for a particular activity.
20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and

state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.
- (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
- (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.
23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:
- (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).
- (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
- (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.
- (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.
- (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.
- (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not

necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer

may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.
26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.
27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.
28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.
29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:
- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
 - (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(1)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
 - (c) The signature of the permittee certifying the completion of the work and mitigation.
31. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:
- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
 - (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer.
- However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;
- (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
- (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and
- (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

3. Regional Conditions for the Los Angeles District:

In accordance with General Condition Number 27, "Regional and Case-by-Case Conditions," the following Regional Conditions, as added by the Division Engineer, must be met in order for an authorization by any Nationwide to be valid:

1. For all activities in waters of the U.S. that are suitable habitat for federally listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed, unless determined to be impracticable by the Corps.
2. Nationwide Permits (NWP) 3, 7, 12-15, 17-19, 21, 23, 25, 29, 35, 36, or 39-46, 48-52 cannot be used to authorize structures, work, and/or the discharge of dredged or fill material that would result in the "loss" of wetlands, mudflats, vegetated shallows or riffle and pool complexes as defined at 40 CFR Part

230.40-45. The definition of "loss" for this regional condition is the same as the definition of "loss of waters of the United States" used for the Nationwide Permit Program. Furthermore, this regional condition applies only within the State of Arizona and within the Mojave and Sonoran (Colorado) desert regions of California. The desert regions in California are limited to four USGS Hydrologic Unit Code (HUC) accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).

3. When a pre-construction notification (PCN) is required, the appropriate U.S. Army Corps of Engineers (Corps) District shall be notified in accordance with General Condition 31 using either the South Pacific Division PCN Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. The PCN Checklist and application form are available at: <http://www.spl.usace.army.mil/missions/regulatory>. In addition, the PCN shall include:
 - a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
 - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for projects located within the boundaries of the Los Angeles District shall comply with the most current version of the *Map and Drawing Standards for the Los Angeles District Regulatory Division* (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/missions/regulatory/); and
 - c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the project site, and all waters proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be documented on the plan-view drawing required in subpart b of this regional condition.
4. Submission of a PCN pursuant to General Condition 31 and Regional Condition 3 shall be required for all regulated activities in the following locations:
 - a. All perennial waterbodies and special aquatic sites within the State of Arizona and within the Mojave and Sonoran (Colorado) desert regions of California, excluding the Colorado River in Arizona from Davis Dam to River Mile 261 (northern boundary of the Fort Mojave Indian Tribe Reservation). The desert region in California is limited to four USGS HUC accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).
 - b. All areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092)), in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: <http://www.swr.noaa.gov/efh.htm>.
 - c. All watersheds in the Santa Monica Mountains in Los Angeles and Ventura counties bounded by Calleguas Creek on the west, by Highway 101 on the north and east, and by Sunset Boulevard and Pacific Ocean on the south.
 - d. The Santa Clara River watershed in Los Angeles and Ventura counties, including but not limited to

Aliso Canyon, Agua Dulce Canyon, Sand Canyon, Bouquet Canyon, Mint Canyon, South Fork of the Santa Clara River, San Francisquito Canyon, Castaic Creek, Piru Creek, Sespe Creek and the main-stem of the Santa Clara River.

5. Individual Permits shall be required for all discharges of fill material in jurisdictional vernal pools, with the exception that discharges for the purpose of restoration, enhancement, management or scientific study of vernal pools may be authorized under NWP 5, 6, and 27 with the submission of a PCN in accordance with General Condition 31 and Regional Condition 3.
6. Individual Permits shall be required in Murrieta Creek and Temecula Creek watersheds in Riverside County for new permanent fills in perennial and intermittent watercourses otherwise authorized under NWP 29, 39, 42 and 43, and in ephemeral watercourses for these NWP 14 for projects that impact greater than 0.1 acre of waters of the United States. In addition, when NWP 14 is used in conjunction with residential, commercial, or industrial developments the 0.1 acre limit would also apply.
7. Individual Permits (Standard Individual Permit or 404 Letter of Permission) shall be required in San Luis Obispo Creek and Santa Rosa Creek in San Luis Obispo County for bank stabilization projects, and in Gaviota Creek, Mission Creek and Carpinteria Creek in Santa Barbara County for bank stabilization projects and grade control structures.
8. In conjunction with the Los Angeles District's Special Area Management Plans (SAMPs) for the San Diego Creek Watershed and San Juan Creek/Western San Mateo Creek Watersheds in Orange County, California, the Corps' Division Engineer, through his discretionary authority has revoked the use of the following 26 selected NWP within these SAMP watersheds: 03, 07, 12, 13, 14, 16, 17, 18, 19, 21, 25, 27, 29, 31, 33, 39, 40, 41, 42, 43, 44, 46, 49, and 50. Consequently, these NWP are no longer available in those watersheds to authorize impacts to waters of the United States from discharges of dredged or fill material under the Corps' Clean Water Act section 404 authority.
9. Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWP 29, 39, 40 and 42, 43, 44, 51 and 52 or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
 - a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characters observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line, or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the associated vegetation community (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information.
 - b. An analysis of the proposed impacts to the waterbody in accordance with General Condition 31 and Regional Condition 3;
 - c. Measures taken to avoid and minimize losses, including other methods of constructing the proposed project; and
 - d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be compensated, in accordance with 33 CFR Part 332.
10. The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the

authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.

4. Further information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (x) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (x) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - (a) This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - (b) This permit does not grant any property rights or exclusive privileges.
 - (c) This permit does not authorize any injury to the property or rights of others.
 - (d) This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - (a) Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - (b) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - (c) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - (d) Design or construction deficiencies associated with the permitted work.
 - (e) Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - (a) You fail to comply with the terms and conditions of this permit.
 - (b) The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - (c) Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 330.5 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may

in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. This letter of verification is valid for a period not to exceed two years unless the nationwide permit is modified, reissued, revoked, or expires before that time.
7. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition H below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
8. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Appendix F
Cabrillo Beach Eelgrass APRM Credit
Ledger

Appendix G
Template Assignment/Assumption
Agreement

ASSIGNMENT AND ASSUMPTION OF PERMIT OBLIGATIONS

City of Los Angeles Harbor Department and the TENANT NAME

USACE Permit No. _____

This ASSIGNMENT AND ASSUMPTION OF PERMIT OBLIGATIONS (“Assignment”) is dated as of _____, 20____, and is between TENANT NAME, a ___[entity type]___ (“Assignor”) and the City of Los Angeles, a municipal corporation, acting by and through its Board of Harbor Commissioners (“Assignee” or “City”) (collectively, the “Parties”).

RECITALS

A. Assignor is a tenant of City, at Berths _____ at the Port of Los Angeles (“POLA”) pursuant to Permit No. _____ (“POLA Permit”). [Add other information regarding Tenant’s POLA Permit and uses/ development triggering the mitigation] (the “Project”).

B. The City and Assignor have [commenced/completed] an environmental review of the Project under the California Environmental Quality Act.

C. The U.S. Army Corps of Engineers, Los Angeles District (“USACE”) issued [pick one: Department of the Army Permit No. _____ *or* conditionally verified Regional General Permit No. ____], attached as Exhibit A (the “USACE Permit”), to Assignor, authorizing [cite activities authorized by the USACE Permit] associated with the Project. USACE has completed an environmental review of the Project in accordance with the National Environmental Policy Act, public interest review, and the Clean Water Act 404(b)(1) Guidelines and issued a [pick one: Statement of Findings (i.e., Record of Decision or memorandum for the Record) on DATE.] [any other comment about either process or conclusions]

D. Special Condition(s) ____ of the USACE Permit requires that Assignor, as the USACE permittee, compensate for permanent impacts (loss) to eelgrass, through the establishment of ____ acres of eelgrass as part of the Project.

E. The City established 3.673 acres of eelgrass within a 4.65-acre eelgrass mitigation site within the POLA, referred to as the Inner Cabrillo Beach Eelgrass Mitigation project (“Eelgrass Mitigation Project”). USACE authorized construction of the Eelgrass Mitigation Project in accordance with the Nationwide Permit 27 verification letter dated November 26, 2014 for Department of the Army Nationwide Permit No. SPL-2014-00488-TS. The City has monitored the Eelgrass Mitigation Project for 5 years and has demonstrated successful eelgrass establishment by meeting the final performance standards prescribed in the NWP 27 verification letter, as defined below. _____ acres of eelgrass are currently available for mitigation.

F. On March 8, 2022, the City submitted a proposal to the USACE to establish the Cabrillo Beach Eelgrass Mitigation Project as Advance Permittee-Responsible Mitigation (“POLA APRM”) and submitted a draft APRM plan in June 2022.

G. On [DATE], the USACE approved the POLA APRM. The USACE's [DATE] transmittal letter and Memorandum for Record ("MFR") dated ____, 20__, are attached as Exhibit B. The POLA APRM establishes permittee-responsible advance eelgrass compensatory mitigation that will maintain and improve the quality and quantity of aquatic resources within the POLA. The POLA APRM provides compensatory mitigation for eelgrass impacts within the POLA.

H. The USACE's transmittal letter and MFR state that for purposes of projects within the POLA, if a POLA tenant receives a permit from the USACE that authorizes permanent impacts (loss) to eelgrass, the USACE permittee may transfer the compensatory mitigation obligations to the City through execution of an assignment and assumption agreement.

I. The Parties wish to enter into this Assignment to confirm Assignor's assignment and Assignee's assumption of certain obligations under the USACE Permit as contemplated in the USACE's transmittal letter and MFR for the POLA APRM.

ASSIGNMENT

NOW THEREFORE, in consideration of the provisions contained in this Assignment, and other consideration, the receipt and adequacy of which are hereby acknowledged, the Parties agree as follows:

1. Assignment. Assignor hereby assigns to Assignee all duties and obligations under the USACE Permit relating to eelgrass compensatory mitigation at Special Condition(s) __ of the USACE Permit (collectively, "Assigned Obligations").

2. Assumption. Assignee hereby accepts the assignment of the Assigned Obligations, and from and after the Effective Date, assumes the Assigned Obligations and agrees to comply therewith.

3. Obligations Not Assumed by Assignee. Except as described in Section 1 of this Assignment, Assignor does not assign, and Assignee does not assume any of Assignor's other rights, duties, and obligations under the USACE Permit.

4. Assignor Remains Liable. Assignee will be responsible only for compliance with the Assigned Obligations and Assignor will remain liable for the portion of the obligations under the USACE Permit that are not assigned to, and assumed by, Assignee under this Assignment.

5. POLA Permit Insurance. The Parties acknowledge and agree that the Assignor's insurance and indemnity covering the "Premises" under the POLA Permit shall in all cases apply to the POLA APRM site located thereon, under this Assignment.

6. Effective Date. Each of the undersigned certifies that he or she has full authority to bind the Party that he or she represents for purposes of entering into this Assignment. This Assignment will become effective on the date of signature by the last Party.

7. Counterparts. This Assignment may be executed in counterparts, each of which shall be an original and have the same effect as if both Parties executing the counterparts had executed a single instrument.

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the date written next to their signatures.

ASSIGNOR:

TENANT NAME,
a _____

_____ Date

By: _____
_____ Print Name and Title

ASSIGNEE:

THE CITY OF LOS ANGELES,
a municipal corporation,
by its Board of Harbor Commissioners

By: Eugene D. Seroka
Executive Director

_____ Date

Attest: _____
Amber M. Klesges
Board Secretary

APPROVED AS TO FORM AND LEGALITY
_____, 20__
Hydee Feldstein Soto, City Attorney
Steven Y. Otera, General Counsel

By _____
Joy M. Crose, Assistant General Counsel

Appendix H

Template Final APRM Use Plan

Overview

To offset X acre(s) of unavoidable [permanent/temporary] impacts to eelgrass (*Zostera spp.*) in the Port of Los Angeles (Port) associated with the [PROJECT NAME] (File No. SPL-20[XX-XXXX]) by applying [X] eelgrass establishment credits within the Cabrillo Beach Eelgrass Advanced Permittee-Responsible Mitigation (APRM) Site according to the approved Cabrillo Beach Eelgrass APRM Plan (File No. SPL-2022-00078).

Background Information

[Copy from Conceptual Plan]

Site Selection

[Copy from Conceptual Plan but replace the general references to Cabrillo Beach with a specific reference to the Cabrillo Beach APRM Site.]

APRM Site History

The City of Los Angeles established 3.673 acres of eelgrass within a 4.65-acre area within the POLA, referred to as the Cabrillo Beach Eelgrass APRM Site (Eelgrass Mitigation Project). The U.S. Army Corps of Engineers (USACE) authorized construction of the Eelgrass Mitigation Project in accordance with Department of the Army Nationwide Permit 27, USACE File No. SPL-2014-00488-TS, verified on November 26, 2014. The USACE-approved performance standards of 100 percent areal coverage (relative to the acres reserved for compensatory mitigation) and 85 percent density (relative to the reference site) was achieved in year three (2019). The site maintained greater than 3.5 acres vegetated areal extent and greater than 100 percent shoot density from year three through year five (2021), thus exceeding the final performance standards prescribed in the Eelgrass Transplant and Monitoring Plan.

The USACE approved the use of eelgrass establishment created by the Eelgrass Mitigation Project as APRM credits under the Cabrillo Beach Eelgrass APRM Plan on [DATE]. Based on survey results from the previous four years ([YEAR 1 – YEAR 4]) and using a 4-year rolling average, the site currently supports [3.673] acres of vegetated areal extent at [107.5%] of the density at the reference site. Therefore, ongoing annual monitoring demonstrates that the site [continues to meet or exceed] the final performance standards prescribed in the APRM Plan.

Credits Available

Pursuant to the APRM Plan, 3.673 credits generated by the Eelgrass Mitigation Project and one credit equals one acre of eelgrass establishment. The Cabrillo Beach APRM Credit Ledger indicates that, to date, [0.64] credits have been debited from the APRM Site, leaving [3.033] credits available.

Project-Specific Credit Needs

To adequately compensate for the unavoidable impacts to eelgrass, the City of Los Angeles will debit [X] eelgrass establishment credits from the APRM site for the [Project Name]. [Describe how the APRM mitigation adequately compensates for the unavoidable impacts to WOTUS].

Monitoring Plan and Performance Standards

The APRM site will continue to be monitored annually consistent with the APRM Plan.

Long-Term Management, Site Protection, and Financial Assurance

Long-term management, site protection, and financial assurance for the [X] acres of eelgrass establishment credits debited from the APRM site will be implemented consistent with the APRM Plan and the Conservation Land Use Agreement.

Appendix I

Template Conceptual Mitigation Plan for Using Credits from the Cabrillo Beach Eelgrass APRM Site

Overview

[X acre(s)] of unavoidable [permanent/temporary] impacts to eelgrass (*Zostera* spp.) associated with the [PROJECT NAME] (File No. SPL-20[XX-XXXX]) would be offset with [X] of eelgrass establishment within the Cabrillo Beach Eelgrass Advanced Permittee-Responsible Mitigation Site according to the approved Cabrillo Beach Eelgrass Mitigation Project Advanced Permittee-Responsible Mitigation (APRM) Plan (File No. SPL-2022-00078).

Background Information

[Describe impacts to eelgrass. Include acres impacted, functions lost, fish and wildlife species affected, and how impacts have been avoided and minimized.]

The impact site is located in the Port of Los Angeles, a man-made, semi-enclosed embayment at the mouth of the Los Angeles River. The impact site is not located within the service area of any mitigation bank or in-lieu fee program containing credits for impacts to eelgrass.

Site Selection

A permittee-responsible mitigation site in the Cabrillo Beach area is environmentally preferable to on-site permittee-responsible mitigation because... [add justification for why eelgrass mitigation on-site is not environmentally preferable for this project.] Even though the Cabrillo Beach site is not immediately adjacent to the impact site, it is within the same ecological system. Therefore, eelgrass established at Cabrillo Beach would adequately compensate for the unavoidable loss of ecosystem functions and services within the same ecological system as the impact site.