



**CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION
AND ORDER**
for the

**UPRR Berkeley Drill Track Rehabilitation Project,
Berkeley, Alameda County**

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Permittee: Union Pacific Railroad
Attn: Kevin Rice, Senior Manager, MW Environmental
1400 Douglas Street
Omaha, NE 68179
Phone: (402) -544-2213
Email: kprice@up.com

Water Board Staff: Brian Wines
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: (510) 622-5680
Email: Brian.Wines@waterboards.ca.gov

ALEXIS STRAUSS HACKER, CHAIR | EILEEN M. WHITE, EXECUTIVE OFFICER

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Certification and Order Coverage

This Clean Water Act (CWA) section 401 Water Quality Certification (Certification) and Order (Order) is issued to Union Pacific Railroad (Permittee; UPRR).

Pursuant to CWA section 404, the Permittee is implementing the Project in accordance with authorization to fill and discharge to waters of the U.S. from the U.S. Army Corps of Engineers (Corps), Regulatory Branch, pursuant to a non-reporting Nationwide Permit (NWP) 3(a) (*Maintenance*).

The Permittee applied to the San Francisco Bay Regional Water Quality Control Board (Water Board) requesting Certification verifying that the UPRR Berkeley Drill Track Rehabilitation Project (Project) does not violate State water quality standards. The Permittee requested a pre-application meeting on September 20, 2022, and the meeting was held on November 13, 2023. The Water Board received the Project application on May 21, 2024.

The following sections are derived from the application materials received on May 21, 2024 (Application).

1. Project

The Project purpose is to rehabilitate an existing siding track on the Martinez Subdivision. The Martinez Subdivision runs from Stege to West Emeryville.

1.1 Site Description

The Project site consists of the portion of the siding track and adjacent right-of-way that runs from 0.48 miles northwest of the intersection of Gilman Street and the UPRR track in Berkeley to 0.17-mile northwest of the intersection of 67th Street and the UPRR track in Berkeley, in Alameda County (Lat. 37.88538; Long. -122.30675) (Att. A, Fig 1).

1.2 Project Components

During consultation with the Water Board, the Project design was revised to minimize impacts to waters of the State. These design revisions included the following measures:

- A 95-linear-foot retaining wall was incorporated into the Project design adjacent to creek feature OW-3 to avoid permanent impacts to this aquatic resource.
- Blading and compacting the existing track embankment was incorporated into the Project design where feasible to reduce the need for new fill to support embankments.
- The track embankment design height was reduced by about 2 feet to minimize the lateral extent of the track embankment and avoid permanent impacts to waters of the State.
- To reduce impacts to waters of the State, the Project footprint has been minimized by using 13- to 15-foot track centers along the length of the project. Typically, track offset spacing is greater than 20 feet (as measured from the centerline of the mainline track to the centerline of the new track) and with a proposed embankment

slope of 2:1 (horizontal to vertical). The revised Project design meets minimum standards for UPRR track construction as well as operational safety standards for mainline tracks. The 2:1 slopes were designed to avoid placing fill into waters of the State.

- Ancillary project elements, such as signal equipment, were placed to avoid permanent impacts to waters of the State.
- Temporary workspaces and access routes have been located in upland areas as much as practical. Existing roads and track embankments will be used for construction access to the extent feasible.

The revised Project design includes the following activities:

- Use of construction workspaces within the UPRR right-of-way.
- Rehabilitation of 7.22 acres of the track embankment. The track embankment will be bladed and compacted where feasible. In other areas, grading and fills will be used to accommodate the rehabilitated track.
- Removal of 12,708 linear feet of siding track.
- Removal of 1,821 linear feet of fencing.
- Removal of a 1,398-linear-foot retaining wall.
- Installation of a 95-linear-foot retaining wall.
- Installation of 12,900 linear feet of track adjacent to the existing mainline track.
- Rehabilitation of five road crossings.
- Installation of other ancillary railroad features (e.g., signal equipment).

2. Impacts to Waters of the State

The Water Board independently reviewed the Project record to analyze impacts to water quality and the environment and designated beneficial uses within the Project's watershed.

2.1 Fill and Discharge

The Project will not permanently impact waters of the State. Project construction will temporarily impact of 0.504 acres of wetlands and 0.006 acres of riparian creek habitat, extending over 73 linear feet.

2.2 Beneficial Uses

The *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan) defines the beneficial uses of waters of the State. The Project will impact seasonal wetlands and a creek channel within the watershed of the Berkeley Aquatic Park Lagoon. The beneficial uses designated for the Berkeley Aquatic Park Lagoon include estuarine habitat, fish migration, fish spawning, wildlife habitat, contact water recreation, and non-contact water recreation. By the tributary rule, the beneficial uses assigned to a water body are assumed to apply to its tributaries.

3. Mitigation

Temporary impacts to waters of the State will occur as a result of temporary construction workspaces (see Tables 1 and 2 and Att. A, Fig. 2). The Project will restore its temporary impacts to 0.504 acres of wetlands and 0.006 acres of riparian creek habitat, extending over 73 linear feet, by the successful implementation of the *Berkeley Drill Track Rehabilitation Project Martinez Subdivision, Alameda County, California, Temporary Impact Restoration Plan, Final* (MMP) (Jacobs, May 2024). The MMP describes the maintenance and monitoring that will be conducted to ensure that the restored wetland, creek, and tree planting areas attain their Year 10 performance criteria.

Table 1. Temporary Wetland Impacts

Feature (See Fig. 2, Sheets 10 and 11 of 13 in Att. A)	Fill/Excavation (Acres)
W-2	0.113
W-3	0.219
W-4	0.172
Total	0.504

Table 2. Temporary Creek Impacts

Feature (See Fig. 2, Sheet 12 of 13)	Fill/Excavation (Acres)	Fill/Excavation (Linear Feet)
OW-3	0.006	73
Total	0.006	73

Temporary impact restoration areas are shown in Fig. 3, Sheets 1 of 3 through 3 of 3 in Att. A. Restoration areas include:

- Wetland Restoration Area – restores 0.504 acre of temporarily impacted wetlands W-2, W-3, and W-4.
- Stream Riparian Restoration Area – restores 73 LF (0.006 acre) of temporarily impacted creek OW-3.
- Tree Planting Area – establishes a 0.034 acre tree planting area adjacent to creek OW-1.

Prior to construction, geotextile fabric will be placed over temporarily impacted aquatic resources. Following construction, temporary construction workspaces will be graded to pre-construction elevations using proper segregated soil replacement techniques.

Temporarily impacted waters of the State will be revegetated via sowing native wetland species seed and/or installation of native wetland species container stock. The planting palette in Table 3 is based on existing vegetation at the Project site and typical

depressional palustrine emergent wetlands and riparian areas within the Bay Area. The mitigation planting species were also selected to reduce current and future conflicts with existing utility lines within the UPRR ROW.

Table 3. Wetland Restoration and Creek Riparian Restoration Area Planting Palette

Common Name	Scientific Name	Container Size ^[a]	Lb./acre	PLS/Sqft
Santa Barbara Sedge	<i>Carex barbarae</i>	D-16	1	8
Baltic Rush	<i>Juncus balticus</i>	D-40	0	22
Toad Rush	<i>Juncus bufonius</i>	D-16	0	83
Mexican Rush	<i>Juncus mexicanus</i>	1-gal	0	37
Beardless Wildrye	<i>Elymus triticoides</i>	1-gal	5	14

Note:

^[a] Container size based on current nursery availability and may change based on locally available stock.:

Lb./acre = pounds per acre.

PLS/Sqft = pure live seed per square foot

The Tree Planting Area will be planted with native container stock (Table 4).

Table 4. Tree Planting Area Planting Palette

Common Name	Scientific Name	Container Size ^[a]	Spacing (feet on-center)	Number of Plantings
Arroyo willow	<i>Salix lasiolepis</i>	TP4 or cuttings	8	18
Coyote brush	<i>Baccharis pilularis</i>	1-gal	8	5
Mulefat	<i>Baccharis salicifolia</i>	D-40	8	2
Blue elderberry	<i>Sambucus nigra</i>	TP4	16	2
California wild rose	<i>Rosa californica</i>	1-gal	6	2
California blackberry	<i>Rubus ursinus</i>	1-gal	10	5
Mugwort	<i>Artemisia douglasiana</i>	D-40	4	10
Total				44

Note:

^[a] Container size estimated based on current nursery availability and may change based on locally available stock during planting.

Performance Criteria

Performance criteria for restoration of temporarily impacted wetlands consist of achieving vegetative cover criteria, and meeting three-parameter wetland criteria per the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Corps, 2010) (Table 5). Vegetative cover will be calculated relative to baseline conditions within an applicable reference site within the proposed planting areas prior to construction. During annual monitoring events, biologists will determine if wetlands are on trajectory to meet full three-parameter wetland conditions. If based on best professional judgment they are determined to not be on that trajectory, remediation measures will be developed to improve wetland performance.

Table 5. Performance Criteria for Wetland Restoration Areas

Performance Criteria	Years 1 through 3	Years 4 through 5 / Final Stabilization
Total Vegetative Cover ^[a]	>50%	>75%
Percent Native Cover ^[a]	>10%	>20%
Percent Invasive Cover ^{[a], [b]}	<70%	<50%
Meets Corps Hydrophytic Vegetation Indicator(s)	Yes	Yes
Meets Corps Hydric Soil Indicator(s)	Yes	Yes
Meets Corps Wetland Hydrology Indicator(s)	Yes	Yes

Notes:

^[a] Relative to baseline conditions within the established reference site.

^[b] Invasive cover will correspond to species rated “moderate” to “high” by the California Invasive Plant Council (Cal-IPC) (<https://www.cal-ipc.org/plants/inventory/>).

Performance criteria for the creek restoration area are summarized in Table 6, below. Performance criteria for restoration of temporarily impacted creeks consists of achieving vegetative cover criteria within the riparian area. Vegetative cover will be calculated relative to baseline conditions within an applicable reference site prior to construction. During annual monitoring events, biologists will determine if stream riparian vegetation is on trajectory to meet performance criteria. If based on best professional judgment they are determined to not be on that trajectory, remediation measures will be developed to improve stream riparian area performance.

Performance criteria for the tree planting area are summarized in Table 7, below. Performance criteria for tree plantings consists of survival of planted woody stock. During annual monitoring events, biologists will assess if the tree planting area is on trajectory to meet Year 10 performance criteria. If based on best professional judgment it is determined not to be on that trajectory, remediation measures will be developed.

Table 6. Performance Criteria for Stream Riparian Restoration Area

Criteria	Years 1 through 3	Years 4 through 5 / Final Stabilization
Total Vegetative Cover	>50%	>75%
Percent Native Cover ^[a]	>10%	>20%
Percent Invasive Cover ^{[a], [b]}	<70%	<50%

Notes:

^[a] Relative to baseline conditions within the established reference site.

^[b] Invasive cover will correspond to species rated “moderate” to “high” by the California Invasive Plant Council (Cal-IPC) (<https://www.cal-ipc.org/plants/inventory/>).

Table 7. Performance Criteria for Tree Planting Area

Performance Criteria	Years 1 through 6	Year 8	Year 10 / Final Stabilization
Survival	>75%	>50%	>50%

Temporarily impacted waters of the State will also be monitored for erosion. If necessary, remediation measures (e.g., soil replacement, re-grading to pre-construction contours, erosion control blanket installation) will be implemented until final sediment stabilization is achieved.

Maintenance activities will be undertaken, as necessary, and may include weed management, re- application of seed or plant material, supplemental irrigation, or application of soil amendments. Supplemental watering of the proposed wetland may occur via water truck or other forms to promote survival of vegetation.

During monitoring, maintenance needs will be identified and characterized. Remedial measures will be developed as necessary to meet performance criteria and/or to address problem areas within the temporarily impacted areas. Potential remedial measures include, but are not limited to:

- Weed management, including hand pulling, herbicide application, or other measures.
- Repair of areas showing evidence of significant erosion.
- Re-planting as necessary, including re-application of seeds and reinstallation of container stock, as needed to meet cover goals.
- Application of other soil amendments (e.g. gypsum) where lab tests suggest soil conditions are constraining revegetation success.
- Reassessing wetland grade and providing additional excavation as needed.
- Modifying planting approach with alternative propagule methods, species selection, and planting density.

4. California EcoAtlas

Regional, state, and national studies have determined that tracking of mitigation and restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. To effectively carry out the State's Wetlands Conservation Policy of no net loss to wetlands, the State needs to closely track both losses and successes of mitigation and restoration projects affecting wetlands and other waters of the State. The Water Board must also track project performance in Bay Area creeks subject to routine repair and maintenance activities, such as recurring instabilities. Therefore, we adopted the digital interactive mapping tool called *EcoAtlas*.¹ EcoAtlas is a web-based tool that integrates maps, project plans, site conditions, restoration efforts, and other elements on a project-by-project basis based on data inputs. Accordingly, we require the Permittee to upload their Project information to EcoAtlas with the Project Tracker tool at <https://ptrack.ecoatlas.org>. The California Wetlands Monitoring Workgroup developed EcoAtlas and maintains detailed instructions for Project Tracker on its website at <https://ptrack.ecoatlas.org/instructions>.

5. California Environmental Quality Act (CEQA) Compliance

The Water Board, acting as CEQA lead agency, reviewed the Project's potential environmental impacts pursuant to CEQA and determined that the Project was categorically exempt from the requirements of CEQA, pursuant to the following:

- Class 1 Categorical Exemption. Pursuant to CEQA Guidelines § 15301(d), the project consists of the rehabilitation of deteriorated . . . structures, facilities, or mechanical equipment to meet current standards of public health and safety.
- Class 2 Categorical Exemption. Pursuant to CEQA Guidelines § 15302[b], the Project is categorically exempt from the requirements of CEQA as a project that constitutes the replacement or reconstruction of [an existing railroad], where the new structure will be located on the same site as the structure replaced, and will have substantially the same purpose and capacity as the structure replaced.
- Statutory Exemption. Pursuant to CEQA Guidelines §15275 and Public Resources Code §21080[b][10], the Project is statutorily exempt from the requirements of CEQA as a Project that consists of the institution or increase of passenger or commuter services on rail or highway right-of-way already in use, including modernization of existing stations and parking facilities.

On October 29, 2024, the Water Board filed a Notice of Exemption (NOE) for the Project with the State Clearinghouse.

The Water Board has determined that the Project's impacts to waters of the State have been appropriately evaluated and that compliance with the mitigation activities

¹ Source: California Wetlands Monitoring Workgroup (CWMW), 2019. *EcoAtlas*. Accessed May 14, 2019. <https://www.ecoatlas.org>. The California Wetland Monitoring Workgroup (CWMW) provides technical oversight on the development of content and functionality of EcoAtlas. As a member of CWMW, San Francisco Estuary Institute provides day-to-day support and management of EcoAtlas, and can be contacted by email to ptrackadmin@sfei.org.

described in the body of this Certification will mitigate the Project's impacts to waters of the State to a less than significant level.

6. Conditions

I, Eileen M. White, Executive Officer, do hereby issue this Order certifying that any discharge from the proposed Project will comply with the applicable provisions of CWA sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards), and with other applicable requirements of State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this Order, including the following:

6.1 Regulatory Compliance and Work Windows

1. **Design Conformance**. The Project shall be constructed in conformance with the Project description provided in the Application, the body of this Certification, and the figures in Att. A. Any changes to designs provided in the Application must be submitted to the Water Board and receive Executive Officer approval before the changes may be implemented;

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and final restoration work has been conducted in accordance with the permit and all applicable conditions. (California Water Code (CWC) section 13264).*

2. **Work Window**. Construction in waters of the State is restricted to the April 15 to October 31 dry season. The work window may be extended in increments of no more than five days with the approval of the Water Board. Requests for an extension must be accompanied by a weather forecast that predicts no chance of measurable precipitation in the following five days. Extensions may be granted to complete work in progress. No work may start after October 31. Work shall be conducted between one half hour after sunrise and one half hour prior to sunset;
3. **Worker Educational Awareness Program**. Prior to Project commencement, a Worker Environmental Awareness Program (WEAP) shall be implemented to educate all construction personnel of the area's environmental concerns and conditions, including special-status and listed species, site contamination prevention, and other relevant environmental concerns and appropriate work practices, including spill prevention, emergency response measures, protection of special-status resources, and proper implementation of best management practices (BMPs), to all construction and maintenance personnel. Any new workers who arrive

after construction has started shall be trained under the WEAP within two days of starting work at the Project site;

4. **Precipitation and Construction Planning**. Precipitation forecasts shall be considered when planning construction activities. The Permittee shall monitor the 72-hour forecast from the National Weather Service at <https://www.weather.gov>. When there is a forecast of more than 40% chance of rain, or at the onset of unanticipated precipitation, the Permittee shall remove all equipment from aquatic features and shall implement erosion and sediment control measures (see Condition 6), and all Project activities shall cease, and can resume once precipitation has stopped for a 12-hour period, and there is not a 40% chance of rain in the next 72 hours;

Rationale: *Conditions 2, 3, and 4 are necessary to ensure avoidance and minimization of impacts to waters of the State and associated Beneficial Uses from construction activities (CWC section 13369(b)(1)(B) and (C); Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) ch. 4.19).*

6.2 General Construction

5. **Discharge Prohibition**. No unauthorized construction-related materials or wastes (e.g., debris, soil, silt, excessive bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life) shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into waters of the State. When construction is completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be discharged to waters of the State. The Applicant shall obtain coverage under and comply with the Statewide NPDES Construction Stormwater General Permit (State Water Resources Control Board Order No. 2009-0009-DWQ, as amended, and the reissued permit, Order No. 2022-0057-DWQ, consistent with its effective date). This includes the following requirements;
 - a. Prior to the start of the rainy season, the Applicant shall ensure that disturbed areas of waters of the State and disturbed areas that drain to waters of the State are protected with correctly-installed and maintained erosion control measures (e.g., jute, straw, coconut fiber erosion control fabric, coir logs), and/or revegetated with propagules (seeds, cuttings, divisions) of locally collected native plants. Erosion control textiles that include plastic monofilament netting are prohibited from use at the Project Site or at the Mitigation Site;
 - b. Where areas of bare soil are exposed during the rainy season, appropriate erosion and sediment control measures shall be used where sediment and/or earthen fill threaten to enter waters of the State, consistent with the requirements. Sediment control structures

shall be monitored for effectiveness and shall be repaired or replaced as needed. Buildup of soil behind silt fences shall be removed promptly and any breaches or undermined areas repaired at once;

6. **Equipment Cleaning and Maintenance.** Prior to use, all equipment must be cleaned to remove external oil, grease, dirt, or mud. Wash sites must be located in upland locations so that wash water does not flow into waters of the State. Project personnel shall remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires, and all other surfaces;
7. **Equipment Maintenance Prohibition.** No fueling, cleaning, or maintenance of vehicles or equipment shall take place within waters of the State, or within any areas where an accidental discharge to waters of the State may occur; and construction materials and heavy equipment must be stored outside of the active flow of the creek or other waters of the State;
8. **Impacts to Beneficial Uses.** All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat; measures shall be employed to minimize disturbances along waters of the State that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the Project;

Rationale: *Conditions 5 through 8 are necessary to ensure avoidance and minimization of impacts to waters of the State from construction activities (CWC section 13376 et seq.). These conditions are also necessary to minimize adverse impacts to water quality from construction activities to the maximum extent practicable (State Board Resolution No. 68-16; 40 CFR part 131.12 (a)(1); CWC section 13369; Basin Plan ch. 2.1.14), to ensure that Project implementation does not impact water quality in ways that impair the designated beneficial uses of waters of the State (Basin Plan chs. 3 and 4), to ensure minimization of impacts to waters of the State, and, as well as to ensure successful restoration of all temporary impacts authorized (State Board Resolution No. 68-16; 40 CFR part 131.12 (a)(1); CWC sections 13264 and 13369; Basin Plan chs. 3 and 4).*

6.3 Pre-Construction Reporting and Other Requirements

9. **EcoAtlas.** The Permittee shall input Project information to EcoAtlas within 14 days from the date of this Order. The Project information shall be added to the Project Tracker tool in EcoAtlas online at <https://ptrack.ecoatlas.org>. Instructions for adding information to EcoAtlas are available at <https://ptrack.ecoatlas.org/instructions>, or by contacting the San Francisco Estuary Institute by email at ptrackadmin@sfei.org, or the Water Board case manager listed on the cover page of this Order. The Executive Officer may grant an extension to the 14-day deadline if the Permittee submits a request in writing to the Water Board case manager

listed on the cover page of this Order. The extension request may be submitted via electronic mail. If any changes to the Project occur, the Permittee shall revise EcoAtlas information for the Project, accordingly. In cases when EcoAtlas must be revised, the Permittee shall meet the same schedule and notification requirements required for the initial EcoAtlas information);

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13267).*

10. **Commencement of Construction.** The Permittee shall submit a Start of Construction Report at least seven days prior to start of initial ground disturbance activities. The Report shall reference **SOC_456995_BerkeleyDrillTrackRehabilitation** and shall be sent via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead);

Rationale: *This condition is necessary to assist in scheduling compliance inspections to ensure compliance with the permit and applicable conditions (CWC section 13267).*

11. **Photo-Documentation Points.** Prior to the start of construction, the Permittee shall establish a minimum of 10 photo-documentation points at the Project site. The locations of these photo-documentation points will be selected to monitor the vegetation and stability of wetlands W-2, W-3, and W-4 (Att. A, Fig. 3, Sheets 2 of 3 and 3 of 3), other water OW-3 (Att. A, Fig. 3, Sheet 3 of 3), and the tree planting area adjacent to creek OW-1 (Att. A, Fig. 3, Sheet 1 of 3). These photo-documentation points shall be used to track the successful revegetation of the site and the stability of the channel and wetlands. The Permittee shall prepare a site map(s) with the photo-documentation points clearly marked. Pre- and post-construction photographs from each of the required photo-documentation points shall be submitted, along with the as-built report (See Condition 12);

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267).*

6.4 Active Construction and Post-Construction Reporting Requirements

12. **As-Built Report** Not later than 60 days after completing Project activities that impact waters of the State, the Permittee shall submit an as-built report to the Water Board. The report shall include a description of the areas of actual disturbance during Project construction and the photographs and map specified in Condition 11. The as-built report shall include the 100 percent construction plans, marked with the contractor's field notes, that clearly depict any deviations from the design sheets that

were made during construction. The as-built report shall provide a written explanation of the need for any deviations from the approved Project plans. The As-Built report shall reference

AsBuilt_456995_BerkeleyDrillTrackRehabilitation and shall be sent via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead);

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267).*

13. **Project Construction Completion Report.** No later than 30 days after completing Project construction activities, the Permittee shall submit, acceptable to the Executive Officer, a Notice of Project Construction Completion. The Notice shall include the date Project construction activities (defined as Project construction and vegetation) were completed and reference **NOC_456995_BerkeleyDrillTrackRehabilitation**. The Notice shall be sent via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead);

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267).*

6.5 Mitigation Requirements

14. **Implementation and Documentation of Mitigation.** The Permittee shall implement the temporary impact restoration measures described in the *Berkeley Drill Track Rehabilitation Project Martinez Subdivision, Alameda County, California, Temporary Impact Restoration Plan, Final* (MMP) (Jacobs, May 2024), including the maintenance and monitoring measures described in MMP Section 3.6. Documentation of the restoration and vegetation of temporarily impacted wetlands and creeks, as well as the tree planting area, shall be included in the Project's As-Built Report (See Condition 12), including pre- and post-construction photographs from the photo-documentation points required in Condition 11. Survival of trees shall be monitored for at least 10 years. Monitoring of percent cover by vegetation and creek and wetland stability shall occur in Years 1 through 5. Monitoring shall continue until the Year 5 wetland vegetation performance criteria and the Year 10 performance criteria for tree survival in the discussion of Mitigation in the body of this Certification are attained. Mitigation program success shall be determined by the Water Board Executive Officer;

15. **Monitoring Vegetation at Mitigation Sites**. Percent cover by grasses and shrubs shall be monitored in Years 1 through 5. Monitoring of the survival of trees shall occur in Years 1 through 6, 8, and 10. Percent cover by vegetation must attain the Year 5 performance criteria in the discussion of Mitigation in the body of this Certification. Only plants that have survived for at least three years without irrigation may be used to demonstrate compliance with Year 10 tree survival performance criterion. If interim and/or Year 10 performance criteria are not achieved, dead plants must be replaced in kind, unless the Permittee demonstrates that the site is not conducive to survival of a plant species, in which case alternate native wetland or riparian plant species may be used, upon obtaining the approval of the Executive Officer. Replacement plantings must be made within one year of survival rates or percent coverage failing to meet the specified performance criteria. Replacement grasses, forbs, and shrubs shall be monitored for five years from the date of replanting, and replacement trees other than willows shall be monitored for 10 years from the date of replanting. Replacement plants are subject to the same performance criteria as the initial plantings;
16. **Monitoring Stability at Mitigation Sites**. Monitoring reports shall include an evaluation of restored wetland and creek stability. Monitoring reports shall document and assess any signs of rilling, slumping, toe erosion, or significant sediment accumulation. If channel instability is observed during the monitoring, appropriate stabilization methods, such as the installation of erosion control fabric or rock armoring, shall be implemented. The Permittee shall coordinate with the Water Board to evaluate potential sources of the instability and review proposed remedial actions. If deemed necessary by the Water Board, remedial actions shall be implemented and funded by the Permittee;
17. **Monitoring of Invasive Species at Mitigation Sites**. During monitoring, the wetlands, creek, and tree planting areas shall be monitored for woody invasive species and herbaceous invasive species that are rated “moderate” to “high” by the California Invasive Plant Council (Cal-IPC) (<https://www.cal-ipc.org/plants/inventory/>). Invasive species shall be controlled so that they do not exceed the performance criteria in Table 6 in the body of this Certification. Invasive plant control activities may include mowing, cutting, hand-removal, and/or herbicide application. Trash and other undesirable debris shall be removed from the mitigation features at least once per year throughout the initial monitoring period. Weed control and debris management, including the names and quantities of any herbicides used at the Project site, shall be summarized in the monitoring report for that year (See Condition 18);
18. **Monitoring Reports**. Monitoring reports shall be submitted to the Water Board by January 31 following years 1, 2, 3, 4, 5, 6, 8, and 10 after Project construction and planting. The reports shall include information on the

survival and percent cover of mitigation plantings in the mitigation features. Reports shall summarize each year's monitoring (See Conditions 15, 16, and 17), including the need for any remedial actions (e.g. re-planting, rock riprap stabilization, or invasive species control). Reports shall describe any maintenance activities performed in the prior year, including, but not limited to, any removal of debris from the mitigation features, any stabilization measures implemented, management of invasive plant species, and replanting or reseeding of vegetation. The reports shall compare data to previous years and detail progress towards meeting Year 5 and Year 10 performance criteria in the discussion of Mitigation in the body of this Certification. At the end of Year 10, a comprehensive final report shall be prepared that includes summaries of the monitoring data, representative photos, and maps. Monitoring reports and the comprehensive final report shall include photographs from the photo-documentation points specified in Condition 11. The final report shall document if the mitigation tree plantings have attained the Year 10 performance criteria and wetland vegetation has attained Year 5 performance criteria. If a performance criterion is not met in any of the monitoring years, or if Year 10 performance criteria are not met at the end of Year 10, the Permittee shall work with the Water Board to prepare an analysis of the cause of the failure. Remedial actions may include re-planting of shrubs and trees, reseeding of bare soil surfaces, adjustments to rock armoring, and an extension of the monitoring period. After proposed remedial actions are approved by the Water Board's Executive Officer, remedial actions shall be implemented in the first dry season after receiving approval for physical modifications and in the first rainy season after receiving approval for supplemental vegetation plantings. Success of mitigation shall be determined by Water Board staff. Annual Monitoring Reports shall be submitted via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead) and reference **AMR_456995_BerkeleyDrillTrackRehabilitation** in the subject line when sent electronically or in the cover letter for hard copy submissions;

Rationale: *Conditions 14 through 18 are necessary to ensure avoidance and minimization of impacts to waters of the State, as well as ensure successful compensatory mitigation and replacement of the functions of the aquatic environment that would be lost as a result from the construction of the proposed project (23 CCR sections 3013 and 3861(d), Dredge or Fill Procedures section IV. A.2(d) & B.4. CWC section 13267; 33 CFR parts 332.4(a)(C)(4) and 332.6(a)(1)).*

6.6 Administrative and General Compliance

19. **Site Access.** The Permittee shall grant Water Board staff or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to: (1) enter upon the Project site or compensatory mitigation site(s) where a regulated facility or activity is

located or conducted, or where records are kept; (2) have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order; (3) inspect any facilities, equipment, practices, or operations regulated or required under this Order; and (4) sample or monitor for the purposes of assuring Order compliance;

Rationale: *This condition is necessary to assist in scheduling compliance inspections and to ensure compliance with the permit and applicable conditions (CWC section 13267).*

20. **Certification and Order at Site.** A copy of this Order shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of this Order shall remain at the Project site for the duration of this Order. The Permittee shall be responsible for work conducted by its consultants, contractors, and any subcontractors;

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions (CWC sections 13170 and 13245).*

21. **Ownership Change Notification.** The Permittee shall provide a signed and dated notification to the Water Board of any change in ownership or interest in ownership of the Project area at least 45 days prior to the transfer of ownership. If the Project area is transferred to another entity, the transferee shall submit an application for a revised Certification that names the entity as the new permittee. Unless this Certification and Order has been modified to name the transferee as the permittee, the Permittee shall continue to be responsible for all requirements set forth in this Certification and Order.

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13264).*

22. **Water Quality Violations Notification.** The Permittee shall notify the Water Board of any event causing a violation of compliance with water quality standards as soon as practicable (ideally within 24 hours). Notification may be via telephone, email, delivered written notice, or other verifiable means.

Rationale: *This condition is necessary to minimize adverse impacts to water quality (CWC sections 13385 and 13267).*

23. **Discharge Change Notification.** In accordance with CWC section 13260, the Permittee shall file with the Water Board a report of any material change or proposed change in the ownership, character, location, or quantity of this waste discharge. Any proposed material change in operation shall be reported to the Executive Officer at least 30 days in advance of the proposed implementation of any change. This shall

include, but not be limited to, all significant new soil disturbances, all proposed expansions of development, or any change in drainage characteristics at the Project site. For the purpose of this Order, this includes any proposed change in the boundaries of the area of wetland/waters of the State to be impacted;

Rationale: *This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13264).*

24. **Individual Waste Discharge Requirements.** Should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue Waste Discharge Requirements pursuant to 23 CCR section 3857;
25. **Expiration.** This Order shall continue to have full force and effect regardless of the expiration or revocation of any federal license or permit issued for the Project;

6.7 Standard Conditions

26. **Certification and Order Modification.** This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330 and 23 CCR section 3867;
27. **Hydroelectric Facilities.** This Order does not apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought;
28. **Application Fee.** This Certification and Order is conditioned upon full payment of the required fee, including annual fees, as set forth in 23 CCR section 3833. The Project's \$13,570 required fee was calculated from the Project's status as a Category A – Fill & Excavation Discharges Project, in the 2023/2024 Water Quality Certification Dredge and Fill Application Fee Calculator, which was the appropriate Dredge and Fill Calculator on the date the application was received, with impacts to 0.51 acres of waters of the State. The Water Board received payment in full on November 20, 2024.

Rationale: *Conditions 26 through 28 are standard conditions that “shall be included as conditions of all water quality certification actions” (23 CCR section 3860(a)).*

6.8 Annual Fees

29. **Annual Fee Invoice.** In accordance with 23 CCR section 2200, the Permittee shall pay an annual fee to the Water Board each fiscal year (July 1 – June 30) until Project construction activities are completed and an acceptable Notice of Project Construction Completion is received by the Water Board (See Condition 13). In addition, an annual fee shall be paid to the Water Board until all required monitoring reports have been submitted (See Condition 18) and an acceptable Notice of Mitigation Monitoring Completion is received by the Water Board. Annual fees will be automatically invoiced to the Permittee. **The Permittee must notify the Water Board at Project and/or mitigation completion with a final report to request to terminate annual invoicing.** Notification shall reference **NOT_456995_BerkeleyDrillTrackRehabilitation** and should be sent to the staff listed at the bottom of this Order and to RB2-401Reports@waterboards.ca.gov. Water Board staff will verify conditions of the Certification have been met and may request a site visit at that time to confirm the Project's status and compliance with this Certification (Note: The Annual Fee may be changed by the State Water Board; at the time of Certification it was \$2,509 per year).

In addition to the information noted above, Conditions 1-8 and 14-18 are individually required to ensure compliance with narrative water quality objectives in the Basin Plan, the state anti-degradation policy (State Water Board Resolution No. 68-16), the California Wetlands Conservation Policy (Executive Order W-59-93, Basin Plan chs. 4 and 5), and Regional Water Board policies for the protection of wetlands and waters (Basin Plan ch. 4, including ch. 4.23).

The conditions above are individually authorized as noted above and by 23 CCR sections 3838 and 3859 and CWC Div. 7, Ch. 4, Article 4, Waste Discharge Requirements.

This Order applies to the Project as proposed in the application materials and designs referenced above in the conditions of Certification. Be advised that failure to implement the Project in conformance with this Order is a violation of this Certification. Any violation of Certification conditions is a violation of State law and subject to administrative civil liability pursuant to CWC section 13350. Failure to meet any condition of this Certification may subject the Permittee to civil liability imposed by the Water Board to a maximum of \$10,000 per day of violation or \$10 for each gallon of waste discharged in violation of this action. Any requirement for a report made as a condition to this Certification (e.g., conditions 9, 10, 12, 13, 18, 21, 22, 23, and 29) is a formal requirement pursuant to CWC section 13267, and failure or refusal to provide, or falsification of such required report, is subject to civil liability as described in CWC section 13268. The burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained. Should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue Waste Discharge Requirements.

If you have any questions concerning this Order, please contact Brian Wines of my staff at (510) 622-5680 or Brian.Wines@waterboards.ca.gov. All future correspondence regarding this Project should reference the **RM** indicated at the top of this letter.

Sincerely,

for Eileen M. White
Executive Officer

Attachment A: Project Figures

cc: SWRCB, DWQ, stateboard401@waterboards.ca.gov
Water Board, Victor Aelion, victor.aelion@waterboards.ca.gov
U.S. EPA, Region IX,
Certification Inbox, R9cwa401@epa.gov
Zoe Chan, chan.zoe@epa.gov
Corps, SF Regulatory Branch:
Katerina Galacatos, katerina.galacatos@usace.army.mil
CDFW
Jason Faridi, jason.faridi@wildlife.ca.gov
Jacobs, Ryan Wnuk, ryan.wnuk@jacobs.com

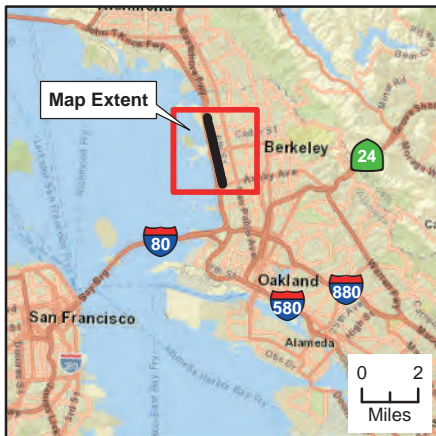
ATTACHMENT A

CWA Section 401 Certification of the UPRR Berkeley Drill Track Rehabilitation Project In the City of Berkeley, Alameda County

Project Figures



Version: 7/21/2022

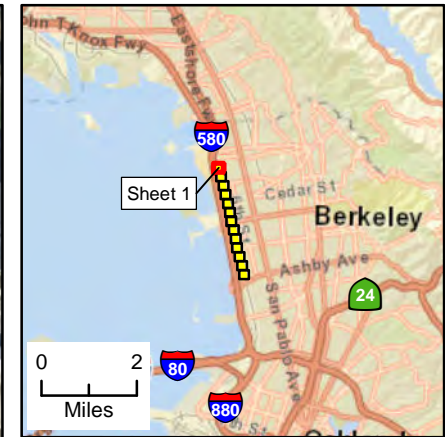


Legend

- Biological Survey Area (31.36 acres)
- 250-foot Biological Survey Area Buffer
- UPRR Right-of-Way



Figure 1
Project Area Map
 Berkeley Drill Track Rehabilitation
 Project Union Pacific Railroad Company
 Alameda County, California



- Legend**
- Project Area
 - UPRR Right-of-Way
 - Existing Track
 - Existing Gas Utility Line
 - Track Rehabilitation
 - Retaining Wall
 - Grading (Permanent)
 - Construction Workspace (Temporary)
 - Wetland
 - Other Waters
 - *Quercus agrifolia*

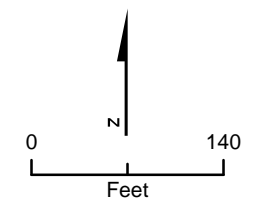
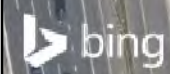
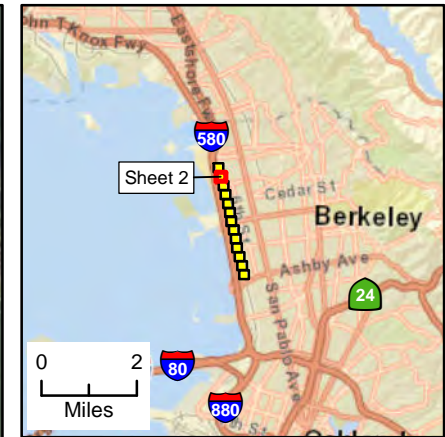


Figure 2 Sheet 1 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California





- Legend**
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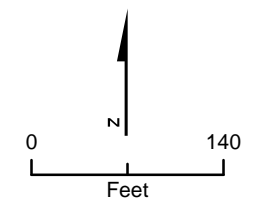
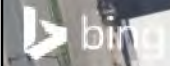
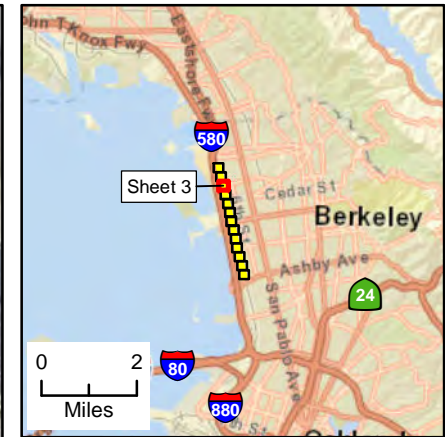


Figure 2 Sheet 2 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California





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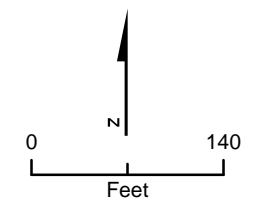
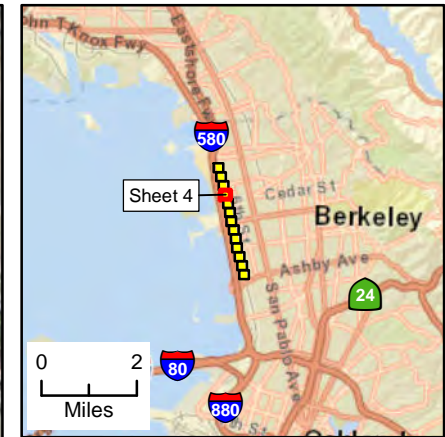


Figure 2 Sheet 3 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California

Version: 5/15/2024





- Legend**
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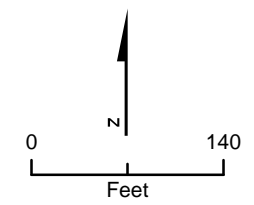
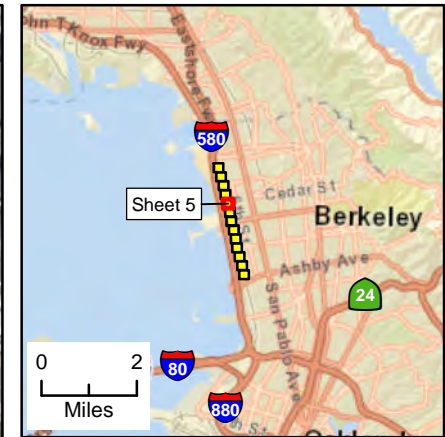


Figure 2 Sheet 4 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



Legend

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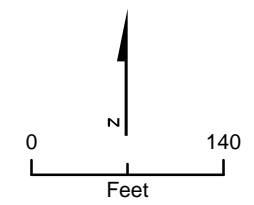
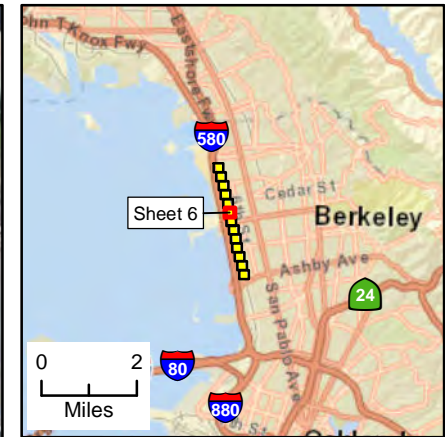


Figure 2 Sheet 5 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California

Version: 5/15/2024





Legend

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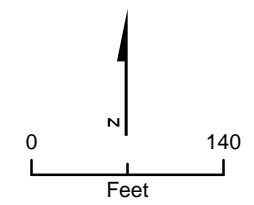
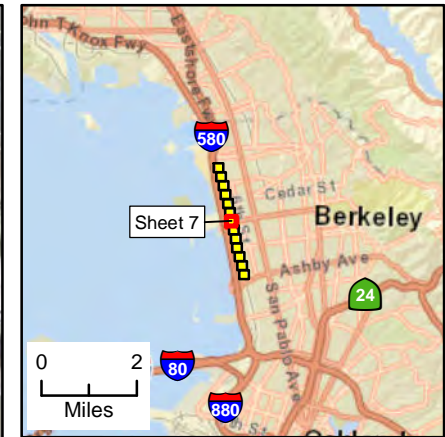


Figure 2 Sheet 6 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California

Version: 5/15/2024





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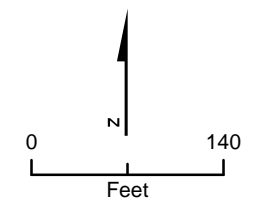
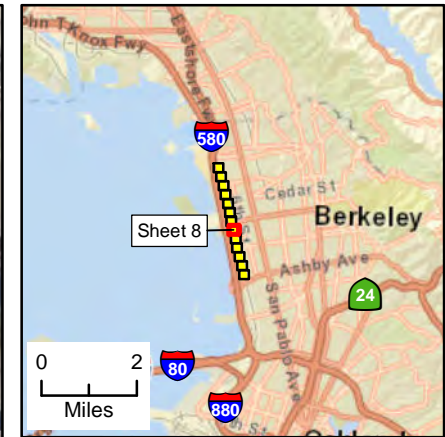


Figure 2 Sheet 7 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



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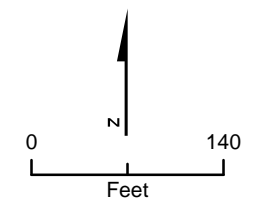
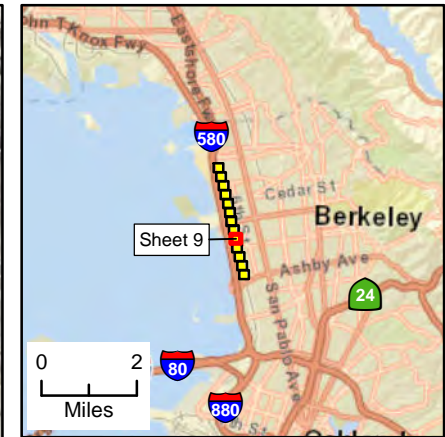


Figure 2 Sheet 8 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



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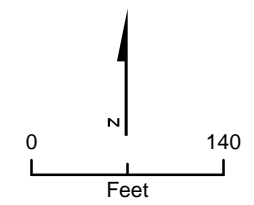
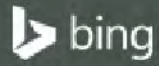
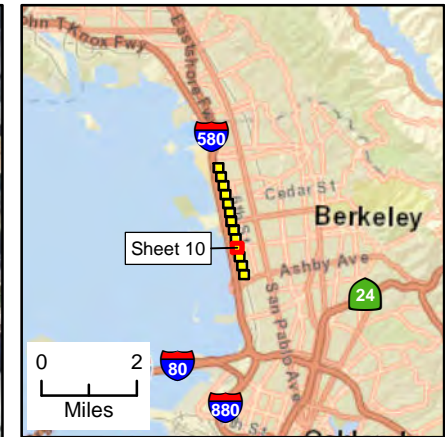


Figure 2 Sheet 9 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California





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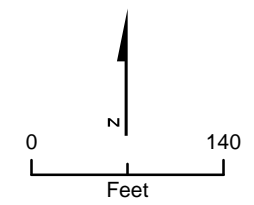
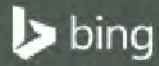


Figure 2 Sheet 10 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



Version: 5/15/2024



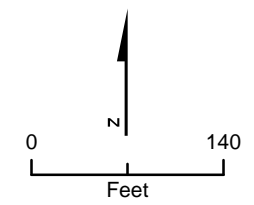
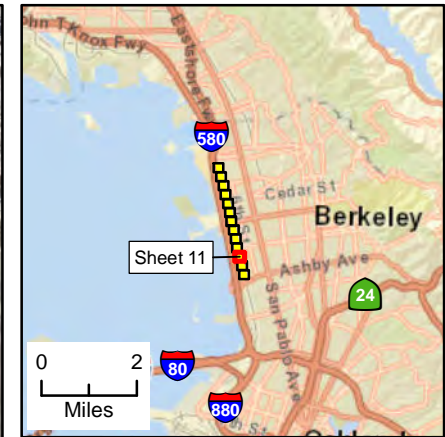
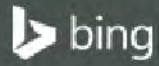


Figure 2 Sheet 11 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



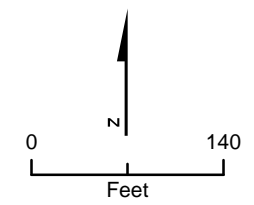
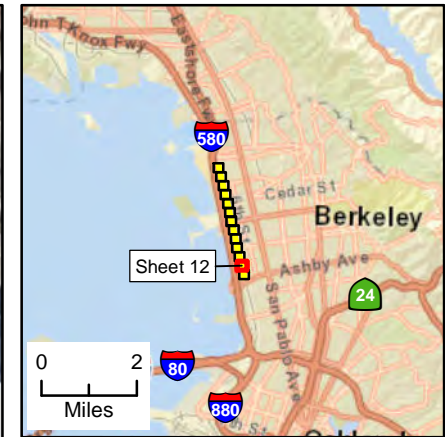
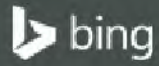
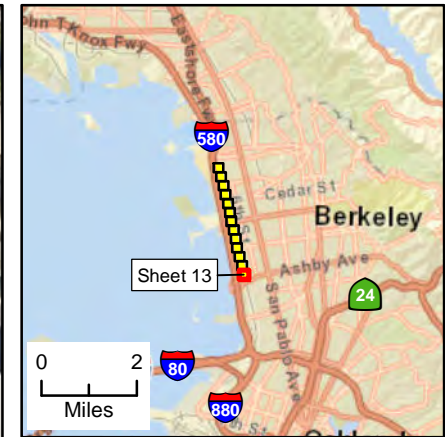
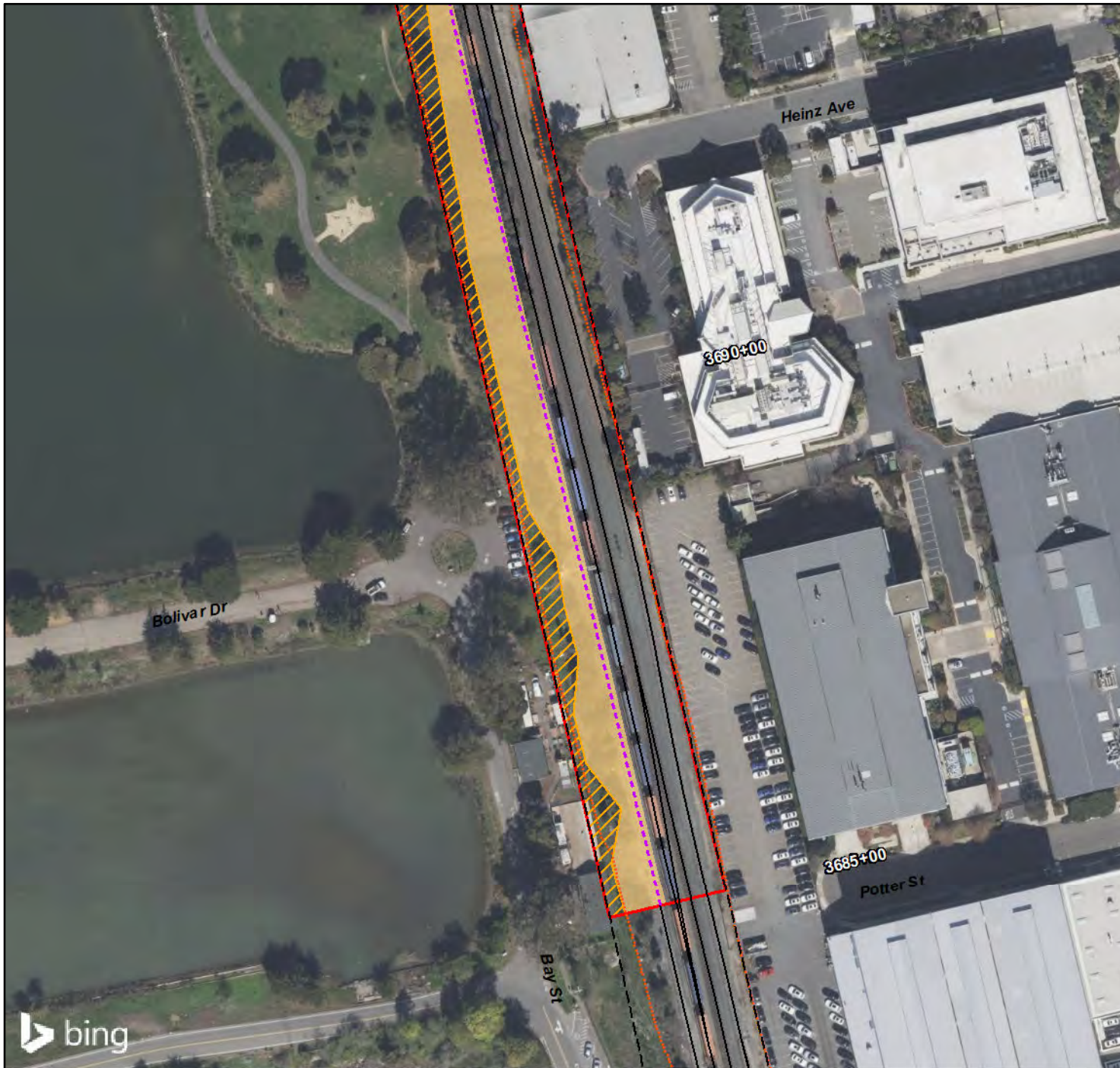


Figure 2 Sheet 12 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California



Version: 5/15/2024





Legend

- Project Area
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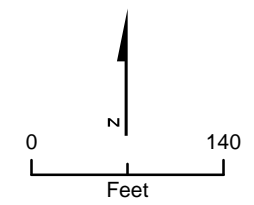
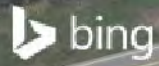


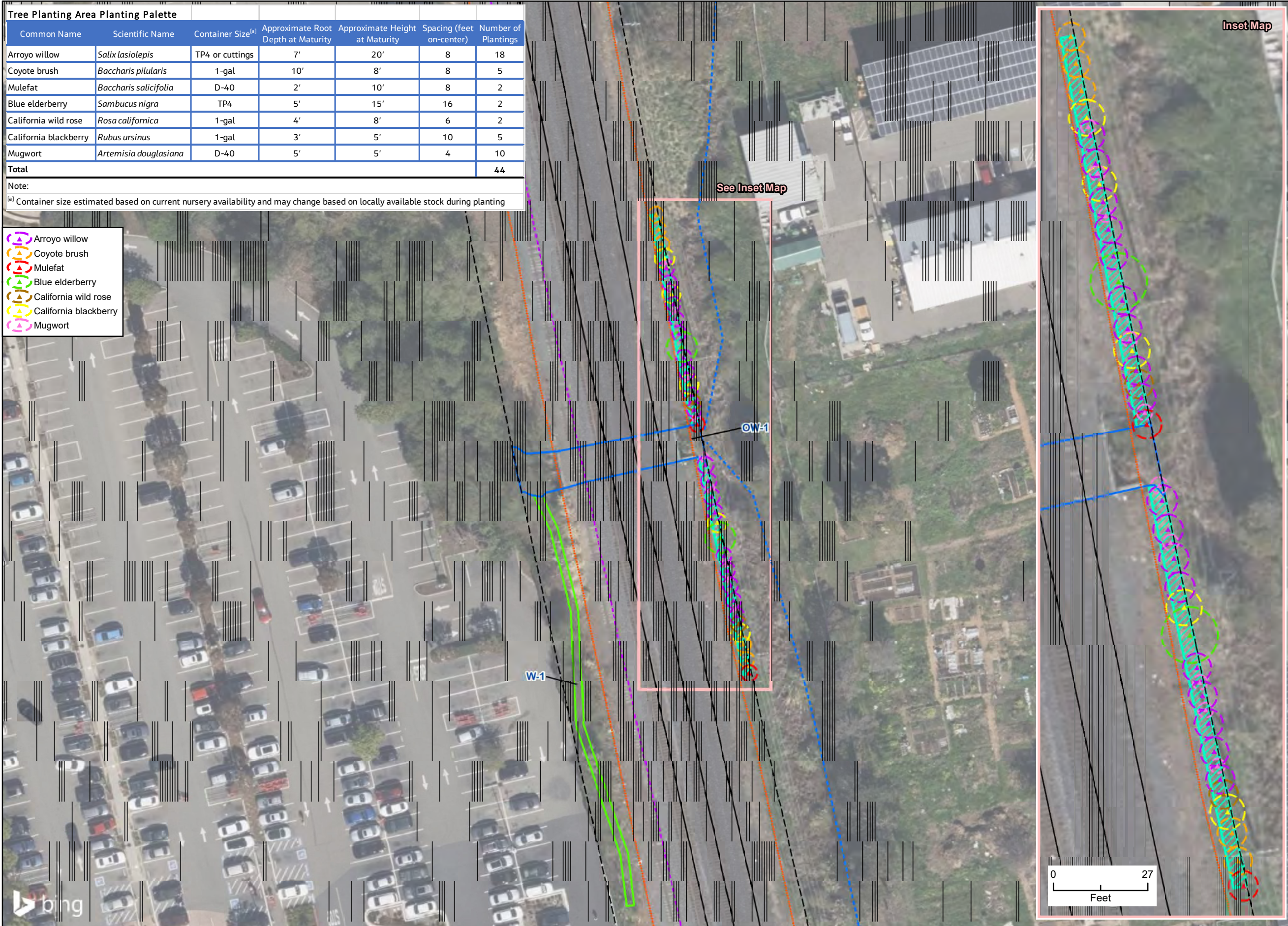
Figure 2 Sheet 13 of 13
Wetlands/Waters Impacts Map
 Berkeley Drill Track
 Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California











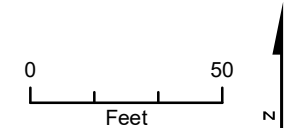
Tree Planting Area Planting Palette						
Common Name	Scientific Name	Container Size ^(a)	Approximate Root Depth at Maturity	Approximate Height at Maturity	Spacing (feet on-center)	Number of Plantings
Arroyo willow	<i>Salix lasiolepis</i>	TP4 or cuttings	7'	20'	8	18
Coyote brush	<i>Baccharis pilularis</i>	1-gal	10'	8'	8	5
Mulefat	<i>Baccharis salicifolia</i>	D-40	2'	10'	8	2
Blue elderberry	<i>Sambucus nigra</i>	TP4	5'	15'	16	2
California wild rose	<i>Rosa californica</i>	1-gal	4'	8'	6	2
California blackberry	<i>Rubus ursinus</i>	1-gal	3'	5'	10	5
Mugwort	<i>Artemisia douglasiana</i>	D-40	5'	5'	4	10
Total						44

Note:
^(a) Container size estimated based on current nursery availability and may change based on locally available stock during planting

-  Arroyo willow
-  Coyote brush
-  Mulefat
-  Blue elderberry
-  California wild rose
-  California blackberry
-  Mugwort

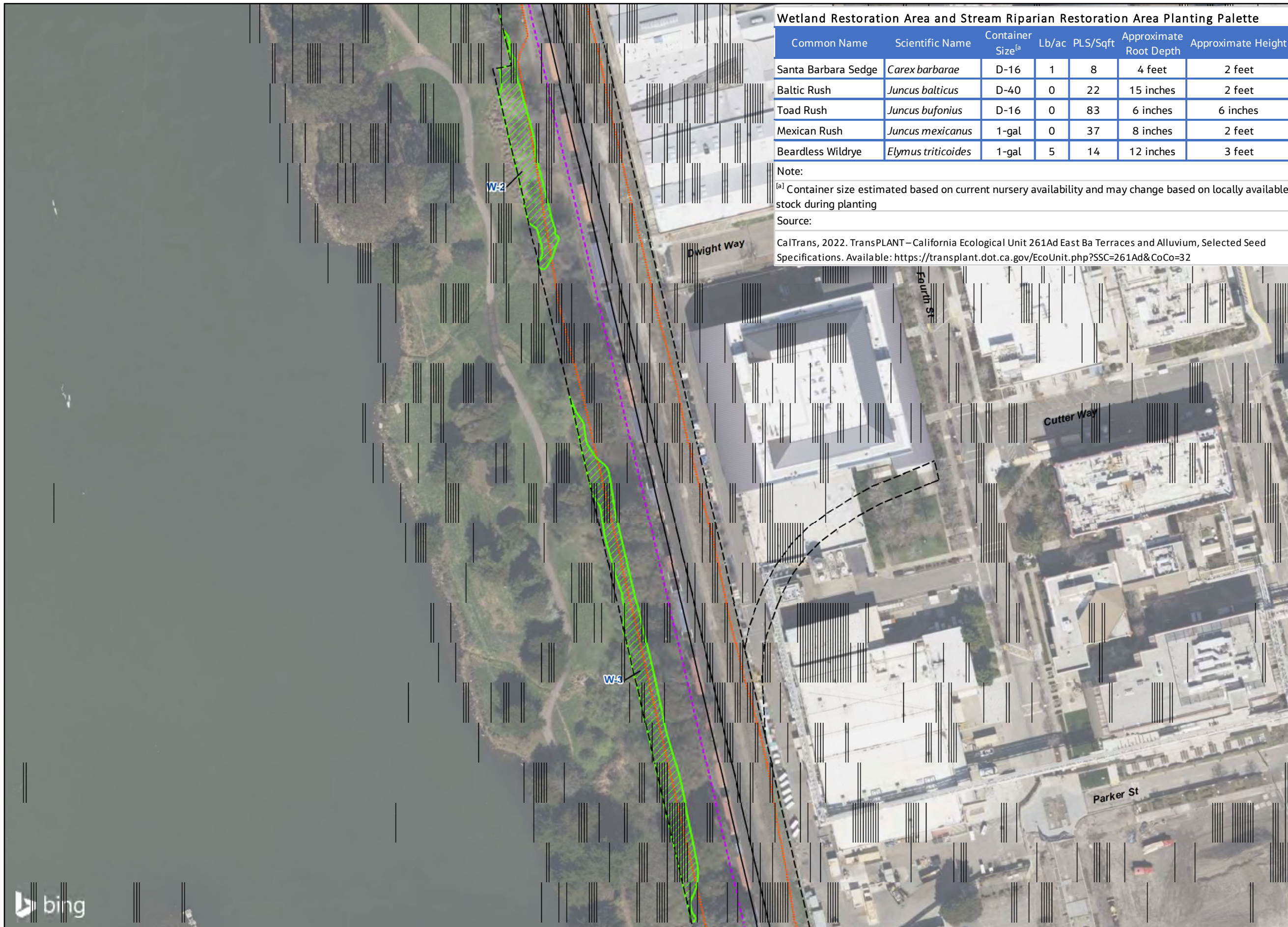


- Legend**
-  UPRR Right-of-Way
 -  Existing Track
 -  Track Rehabilitation
 -  Existing Gas Utility Line
 -  Ephemeral Channel
- Delineated Aquatic Resources**
-  Wetland
 -  Other Waters
- Proposed Temporary Impact Restoration**
-  Tree Planting Area - establishes a 0.034 acre tree planting area adjacent to aquatic resources



**Figure 3 Sheet 1 of 3
Proposed Temporary Impact
Restoration Map
Berkeley Drill Track
Rehabilitation Project
Union Pacific Railroad Company
Alameda County, California**





Wetland Restoration Area and Stream Riparian Restoration Area Planting Palette

Common Name	Scientific Name	Container Size ^[a]	Lb/ac	PLS/Sqft	Approximate Root Depth	Approximate Height
Santa Barbara Sedge	<i>Carex barbarae</i>	D-16	1	8	4 feet	2 feet
Baltic Rush	<i>Juncus balticus</i>	D-40	0	22	15 inches	2 feet
Toad Rush	<i>Juncus bufonius</i>	D-16	0	83	6 inches	6 inches
Mexican Rush	<i>Juncus mexicanus</i>	1-gal	0	37	8 inches	2 feet
Beardless Wildrye	<i>Elymus triticoides</i>	1-gal	5	14	12 inches	3 feet

Note:
^[a] Container size estimated based on current nursery availability and may change based on locally available stock during planting

Source:
 CalTrans, 2022. TRANPLANT—California Ecological Unit 261Ad East Ba Terraces and Alluvium, Selected Seed Specifications. Available: <https://transplant.dot.ca.gov/EcoUnit.php?SSC=261Ad&CoCo=32>



Legend

- UPRR Right-of-Way
- Existing Track
- - - Track Rehabilitation
- Existing Gas Utility Line

Delineated Aquatic Resources

- Wetland

Proposed Temporary Impact Restoration

- Wetland Restoration Area - restores 0.504 acre of temporarily impacted wetlands

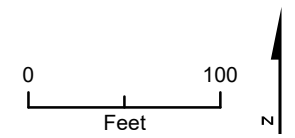
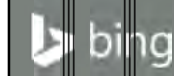
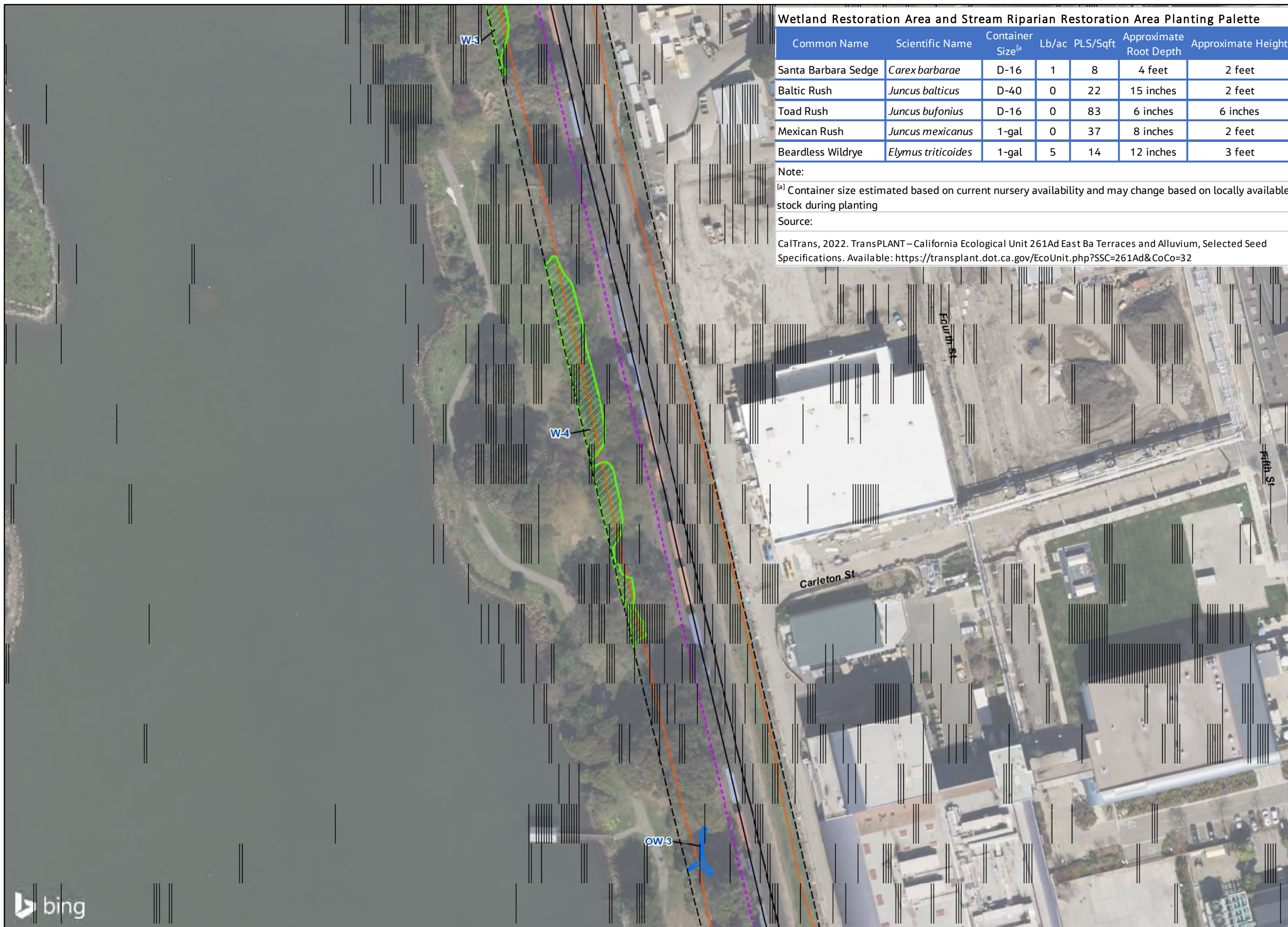


Figure 3 Sheet 2 of 3
Proposed Temporary Impact Restoration Map
 Berkeley Drill Track Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California





Wetland Restoration Area and Stream Riparian Restoration Area Planting Palette

Common Name	Scientific Name	Container Size ^[a]	Lb/ac	PLS/Sqft	Approximate Root Depth	Approximate Height
Santa Barbara Sedge	<i>Carex barbarae</i>	D-16	1	8	4 feet	2 feet
Baltic Rush	<i>Juncus balticus</i>	D-40	0	22	15 inches	2 feet
Toad Rush	<i>Juncus bufonius</i>	D-16	0	83	6 inches	6 inches
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Note:
^[a] Container size estimated based on current nursery availability and may change based on locally available stock during planting

Source:
 CalTrans, 2022. TransPLANT – California Ecological Unit 261Ad East Ba Terraces and Alluvium, Selected Seed Specifications. Available: <https://transplant.dot.ca.gov/EcoUnit.php?SSC=261Ad&CoCo=32>



- Legend**
- UPRR Right-of-Way
 - Existing Track
 - - - Track Rehabilitation
 - Existing Gas Utility Line
- Delineated Aquatic Resources**
- Wetland
 - Other Waters
- Proposed Temporary Impact Restoration**
- Wetland Restoration Area - restores 0.504 acre of temporarily impacted wetlands
 - Stream Riparian Restoration Area - restores 73 LF (0.006 acre) of a temporarily impacted stream

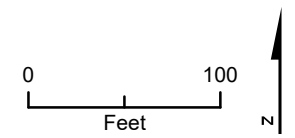


Figure 3 Sheet 3 of 3
Proposed Temporary Impact Restoration Map
 Berkeley Drill Track Rehabilitation Project
 Union Pacific Railroad Company
 Alameda County, California

