Dist-County-Route: 07-LA-001
Post Mile Limits: R30.16 – R30.74
Type of Work: Lincoln Boulevard Widening Project
Project ID (EA): 0717000061 (338800)

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Applicable Caltrans Post Construction Treatment Requirement: 2012 ☐ 2022 ☒

Regional Water Quality Control Board(s): Region 4 – Los Angeles

Total Disturbed Soil Area: 9.16 acres (within CT R/W) PCTA: 6.14 acres (within CT R/W)

Alternative Compliance (acres): 0.24 ATA 2 (50% Rule)? Yes ☐ No ☒

Estimated Const. Start Date: 1/1/27 Estimated Const. Completion Date: 12/31/30

Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other:

Is (M)WELO applicable? Yes ☐ No ☒

Is the Project within a TMDL watershed? Yes ☐ No ☒

Does the project require trash treatment? Yes ☒ No ☐

Notification of ADL reuse (if yes, provide date): Yes ☐ Date: No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

Brian Wright,
Registered Project Engineer/Landscape Architect

Farzana Huda,
Caltrans Designated Oversight Representative — Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Shabbir Ahmed, Project Manager — *Date*

Rudy Ruiz, District Maintenance Stormwater Coordinator — *Date*

Kathleen Hamer, Designated Landscape Architect Representative — *Date*

Shao-Chiang Liu, District/Regional Design SW Coordinator — *Date*

1. Project Description

Lincoln Boulevard is a major route traveling northwest to southeast on the Westside of Los Angeles County, connecting major destinations including the City of Santa Monica to the north, and Loyola Marymount University, Otis College of Art and Design and Los Angeles International Airport to the south. The Project segment provides a critical and heavily traveled connection between and amongst the communities of Playa Del Rey, Playa Vista, Westchester, and El Segundo in the south and Marina Del Rey, Del Rey, Venice, Culver City, Mar Vista, and Santa Monica in the north.

Lincoln Boulevard is classified in the City of Los Angeles General Plan as a Boulevard I (Major Highway Class I) and is comprised of three to four lanes in the northbound direction and two to three lanes in the southbound direction within the Project limits. Culver Boulevard is classified as an Avenue I (Major Highway Class II) and Avenue III (Modified Scenic) and is comprised of one lane in each direction in the vicinity of Lincoln Boulevard. Jefferson Boulevard is a Boulevard II (Major Highway Class I) and is comprised of two lanes in each direction, and Fiji Way is a local street, comprised of one lane in each direction near the Project.

The Project's build alternative includes: realignment of the Lincoln Boulevard (Blvd) centerline approximately 50 feet to the east; addition of one southbound lane along Lincoln Boulevard for a length of approximately 1,800 feet; demolition, replacement, and widening of the Lincoln Boulevard Bridge over Ballona Creek; demolition, replacement, and widening of the Culver Boulevard Bridge over Lincoln Boulevard; demolition, replacement, and realignment of the connector ramps between Lincoln Boulevard and Culver Boulevard; construction of active transportation improvements including sidewalks and Class IV protected bicycle lanes on both sides of Lincoln Boulevard. The Project would also include utility relocation, landscaping, low-intensity street lighting, striping, signage, drainage, and water quality improvements. The Project would install a striped center median that would allow space to accommodate a future center-running transit facility within the Project limits, which is not included as part of the Project. Construction of the Project build alternative would result in three through lanes in the northbound and southbound directions of Lincoln Boulevard between Fiji Way and Jefferson Boulevard, with additional turning lanes at intersections.

Improvements and modifications to the existing stormwater runoff and drainage systems will be required to accompany the proposed improvements which will result in an increase in impervious area. The portion of the project within the Caltrans right-of-way involves grading (cut and fill slopes), pavement removal, paving, drainage, erosion control, trenching, signing and striping.

The following table shows the total disturbed soil area (DSA), New Impervious Areas and Replaced Impervious areas. Expected total disturbed soil area (DSA) was determined by estimation of required catchlines from a 3D surface model. The total disturbed soil area will be 14.48 acres, of which 9.16 acres will occur within Caltrans right-of-way. The majority of the DSA is a result of the Lincoln Boulevard widening, the realignment of the Culver on and off-ramp, drainage, water quality and associated facilities.

Total existing impervious area included in the project area was determined to be 8.39 acres. An increase in impervious area from 8.39 acres to 11.64 acres will occur. Within Caltrans right-of-way, a net increase in total impervious area of 3.25 acres will occur.

Areas	Inside Caltrans Right of Way (acres)	Outside Caltrans Right of Way (acres)	Total Areas (acres)
Disturbed Soil Area (DSA)	9.16	5.32	14.48
Pre-Project Impervious area	5.98	2.41	8.39
Post-Project Impervious area	8.57	3.07	11.64
Net New Impervious (NNI) area	2.59	0.66	3.25
Replaced Impervious Surface (RIS) area	5.56	2.09	7.65
Excluded Impervious Area (EIA)	2.01	0.85	2.86
New Impervious Surface (NIS) area (NIS =NNI + RIS - EIA)	6.14	1.90	8.04

The Additional Treatment Area (ATA) is not required from Condition 1 of Section 4.4.1 of the PPDG since there are no existing Treatment Best Management Practices (BMPs) within the project limits.

The Net New Impervious area is 3.25 acres for the overall project (which is not greater than 50%) of the post project impervious area of 11.64 acres. Inside Caltrans right of way, the Net New Impervious area is 2.59 acres (which is not greater than 50%) of the post project impervious area of 8.57 acres within Caltrans right of way.

Therefore, the Post Construction Treatment Area (PCTA) = 8.04 (6.14 acres CT R/W)

Since the total amount of NIS is greater than 1.0 acres, Treatment BMPS are required.

The total construction cost of the project is estimated to be $61 Million. The total project cost is estimated to be $78 Million.

2. Site Data and Stormwater Quality Design Issues

Water Quality

Refer to the following table for the project's hydrologic information:

Hydrologic Unit	Santa Monica Bay	
Hydrologic Area	Interior Santa Monica Bay	
Hydrologic Sub Area (HAS) Name	Culver City	Wilshire
Hydrologic Sub Area #	404.61	404.63
HAS Area (acres)	25,063	35,765
Average Annual Precipitation (inches)	15.74	
Receiving Water Bodies	Ballona Creek, Ballona Creek Estuary, Ballona Creek Wetlands, Marina del Rey Harbor, Santa Monica Bay	

The project limits are within the Ballona Creek Watershed and Jurisdiction Group 3 of Marina Del Ray Total Maximum Daily Load (TMDL) Watershed Boundary. The TMDLs are as follows:

Pollutant(s)	Effective Date	LA RWQB Resolution No.	Categorical Implementation Requirements[1] [2]
Title: Ballona Creek and Wetland Trash TMDL			
Trash	8/1/2002, revised 6/30/2016	R15-006	Discharge of trash to receiving waters from Caltrans R/W is prohibited. Caltrans is assigned a WLA and compliance schedule in the Ballona Creek Trash TMDL. Installation/retrofit of Gross Solid Removal Devices (GSRDs) and/or full capture systems at existing drainage outfalls within Caltrans R/W are required for TMDL compliance. Existing projects with GSRDs do not require additional implementation.
Title: Ballona Creek Metals TMDL			
Metals (Cu, Pb, Zn) and Se	12/22/2005, revised 10/26/2015	R13-010	Caltrans shall implement control measures and/or treatment BMPs to prevent the discharge of sediments which may contain metals and Se. Possible treatment options include the interception and infiltration of runoff which will allow water to percolate into soil.
Title: Ballona Creek Estuary Toxic Pollutants TMDL			
Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, Total PAHs)	12/22/2005, revised 10/26/2015	R13-010	Caltrans shall implement control measures and/or treatment BMPs to prevent the discharge of sediments which may contain toxic pollutants as listed in the TMDL. Possible treatment options include the interception and infiltration of runoff which will allow water to percolate into soil.
Title: Ballona Creek Wetlands TMDLs for Sediment and Invasive Exotic Vegetation			
Sediment, invasive exotic vegetation	03/26/2012	US EPA established TMDL	The TMDL assigns a WLA on sediment discharges and input of invasive exotic vegetation to the Responsible Agencies, including Caltrans. Caltrans shall implement control measures to prevent or minimize erosion and sediment discharge. Control efforts may include protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows and not modifying natural runoff flow patterns.
Title: TMDL for Bacteria Indicator Densities in Ballona Creek, Ballona Estuary, and Sepulveda Channel			
Indicator bacteria	03/26/2007, revised 07/02/2014	R12-008	Dry-weather non-storm water and wet-weather storm water discharges may significantly increase bacteria loading to receiving waters. Caltrans shall implement control measures and/or BMPs to prevent the discharge of bacteria from its R/W. Source control measures include street sweeping, illegal dumping clean-up, public education on littering. BMPs include devices which treat storm water through retention/detention, infiltration and/or diversion.
Title: Santa Monica Bay TMDLs for DDT and PCBs			
Dichlorodiphenyl-trichlorethane (DDT), total polychlorinated biphenyls (PCBs)	03/26/2012	US EPA established TMDL	Caltrans shall implement control measures and/or treatment BMPs to prevent the discharge of sediments which may contain pesticides. Possible treatment options include the interception and infiltration of runoff which will allow water to percolate into soil.
Title: Santa Monica Bay Beaches Dry- and Wet-Weather Bacteria TMDLs			
Indicator bacteria	07/15/2003	2002-004 (dry-weather) 2002-022 (wet-weather)	Dry-weather non-storm water and wet-weather storm water discharges may significantly increase bacteria loading to receiving waters. Caltrans shall implement control measures and/or BMPs to prevent the discharge of bacteria from its R/W. Source control measures include street sweeping, illegal dumping clean-up, public education on littering. BMPs include devices which treat storm water through retention/detention, infiltration and/or diversion.

1 Refer to §4 of the PPDG to determine the specific impervious threshold for stormwater Treatment BMP requirements.

2 General TMDL Requirements can be found in Attachment IV of the NPDES Statewide Storm Water Permit.

Caltrans adopts a year-round season in implementing the Construction General Permit (CGP) requirements. There are no other construction exclusion dates or restrictions required by federal or state agencies.

The project site does not fall within an MS4 area.

A 401 and 404 certification will be required for the project.

There are no Water Reservoirs, recharge Facilities, or Areas of Special Biological Significance (ASBS) within project limits.

Construction of the project would disturb the existing soils as a result of the following activities: storm drainage facilities installation, construction staging, grading for the realignment and widening of Lincoln Blvd, and grading of the resulting cut/fill slopes. All new slopes in the project area will be limited to 4:1 (horizontal to vertical) or flatter wherever possible.

The project is designed to avoid or reduce stormwater impacts wherever feasible. Slope disturbance and cut-and-fill slopes are minimized. Project construction schedules will be phased to minimize construction during the rainy season as much as possible. Ease of maintenance will be considered as well.

Right of way certification is required for the proposed project improvements.

Geotechnical Data

The SWDR references information from the District Preliminary Geotechnical Report Lincoln Bridge Multi-Modal Improvement Project, Los Angeles, California, by Group Delta Consultants, Inc. (dated April 12, 2018)

Per the United States Department of Agriculture Web Soil Survey, the Hydrologic Soil Group for the project is HSA B at Fiji Way, and HSA C from the north of Culver Blvd on and off-ramp to the south of Jefferson Blvd.

Geology - The project site is located near the coast, adjacent to the Marina del Rey Harbor in Los Angeles County. Quaternary-age alluvial sediments are believed to underlie the entire site to the maximum depth explored. The upper depth of the deposits mostly consists of interbedded lean and fat clay (CL or CH) and silt (ML and MH), with occasional beds of silty and clayey sand (SM and SC).

The District Preliminary Geotechnical Report (Group Delta, 2018) indicates that groundwater is expected to be encountered within 10 feet of the ground surface elevation. Groundwater levels at the site will be closely related to the water surface elevation within Ballona Creek. Flow heights could rise depending on tides and storm events.

Caltrans Initial Study/Environmental Assessment (IS/EA) from 2001 found two locations where soil was deemed not suitable for re-use within Caltrans right-of-way. Re-use of any soil containing Aerially Deposited Lead (ADL) will be determined during the next phase, PS&E.

Climatic Conditions

Our review of climatic data for the project area within the City of Los Angeles indicates that the annual average high and low temperatures are approximately 71- and 56-degrees Fahrenheit, respectively (www.usclimatedata.com, 2022). The average low temperature is approximately 47.5 degrees Fahrenheit in January, and the average high temperature is approximately 76.3 degrees Fahrenheit in August. Precipitation data indicates that the mean annual rainfall is 18.6 inches. The wettest months of the year are generally January and February with an average rainfall of 4.53 inches. The site is situated in the South Coast Climate Zone, in accordance with Topic 615 of Highway Design Manual (HDM).

3. Construction Site BMPs to be used on Project

This project requires a Storm Water Pollution Prevention Plan (SWPPP) as it will disturb 1 acre or more of soil.

The Combined Risk Level (RL) for this project is 2 and is determined by using the current Caltrans Risk Determination Worksheet. Currently, the start and end dates of construction are set as 1/1/2027 and 12/31/2029. If the start and completion dates are changed, the Risk Level will be re-evaluated and the Project Resident Engineer (RE) may have to update CGP compliance requirements accordingly.

The Construction Site BMP strategy is to select all pertinent temporary BMPs that will help limit all construction-related pollutants from entering any storm water run-off during construction.

To determine which Construction Site BMPs will be considered for this project, Section 6.4.4 and Appendix C of the Project Planning and Design Guide (PPDG dated July 2023) were used.

The following are contract bid items for the implementation of temporary construction site BMP strategies:

- Temporary Cover
- Temporary Hydroseed
- Temporary Fiber Rolls
- Temporary Concrete Washout
- Street Sweeping
- Temporary Drainage Inlet Protection
- Temporary Construction Entrance
- Storm Water Annual Report
- Storm Water Pollution Prevention Plan
- Storm Water Sampling and Analysis Day
- Job Site Management
    - Paving, sealing sawcutting, and Grinding Operations
    - Water Conservation Practices
    - Vehicle and Equipment Cleaning
    - Vehicle and Equipment Maintenance
    - Vehicle and Equipment Fueling
    - Illegal Connection/Illicit Discharge Detection and Reporting
    - Concrete Curing
    - Concrete Finishing
    - Material Delivery and Storage
    - Stockpile Management
    - Spill Prevention and Control
    - Concrete Waste Management
    - Material Use
    - Solid Waste Management
    - Hazardous Waste Management
    - Contaminated Soil Management
    - Sanitary/Septic Waste Management

The following items are listed as Supplemental Work:

- Additional Water Pollution Control
- Water Pollution Control Maintenance Sharing
- Stormwater Sampling and Analysis

The following item is listed as a Department Furnished Expense:

- Annual Construction General Permit Fees

Active Treatment System is not required for this project.

Temporary construction site BMPs have been estimated at $250,000, in accordance with the guidelines of Appendix F, 2023 PPDG.

On January 4, 2024, Arthur Hedayati, District 7 Construction Stormwater Coordinator agrees to the temporary construction site BMP strategy used (at PA/ED phase) for the scope of work for the project.

4. Maintenance BMPs

Drain inlet stenciling is not required for this project. No maintenance BMPs independent of other Treatment BMPs apply to this project.

5. Other Water Quality Requirements and Agreements

The project site lies within the jurisdiction of RWQCB Region 4 (Los Angeles). Any Los Angeles RWQCB special requirements or concerns will be finalized at the PS&E stage of the project development process.

Any local agency special requirements or concerns will be finalized at the PS&E stage of the project development process.

6. Permanent BMPs

The strategy for the Permanent BMP implementation for this project is to follow the guidelines provided in Section 5 of the PPDG. The Design Pollution Prevention (DPP) BMPs used Figure 5-1 of the PPDG, Decision Process for guidance on selecting Design Pollution Prevention BMPs.

Rapid Stability Assessment

A Rapid Stability Assessment (RSA) is not required. This project does not meet all of the criteria stated in the Caltrans Hydromodification Requirements Guidance. However, this report will evaluate and propose to implement Design Pollution Prevention (DPP) BMPs and Treatment BMPs, which will meet the overall Hydromodification requirement as mentioned in Section 1.4.2.1. of the PPDG.

Design Pollution Prevention (DPP) BMP Strategy

Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2:

With the increase of impervious surface area, it is anticipated there will be an increase in the volume of the downstream flow. With the increase of impervious surface area, the project will increase sediment loading, but the increase of sediment is anticipated to be minor.

Slope/Surface Protection Systems, Checklist DPP-1, Parts 1 and 3:

Slopes will not be developed in the project in such a way that would increase sediment discharge to Ballona Creek. Slopes within the project limits do not exceed 4:1 (H:V).

All grading will be mitigated during construction and will be revegetated to ensure post-project stability. Permanent Erosion Control Measures will be implemented to stabilize steeper slopes.

Potential erosion during construction will be mitigated through application of BMPs. Existing slopes and their vegetation will be preserved to the greatest extent possible.

All existing slopes are stable and/or vegetated. All areas disturbed due to construction will follow Caltrans Erosion Control Policy and Procedure. There are no hard surfaces used as slope/surface protection within the project limits.

Concentrated Flow Conveyance Systems, Checklist DPP-1, Parts 1 and 4:

Roadway runoff will be collected using dikes/curbs or sheet flowed to catch basins or drainage swales respectively.

Preservation of Existing Vegetation, Checklist DPP-1, Parts 1 and 5:

Clearing and grubbing limits will be clearly identified in future phases.

Following Caltrans policy and procedure, all planting that is disturbed or removed will be replaced. Non qualifying areas will receive Caltrans Standard Erosion Control Treatment as required.

There is no cost specifically associated with Design Pollution Prevention BMPs. Costs for drainage system improvements associated with the project improvements are included in the engineers estimate and total $396,800 and include drainage inlets, dikes, storm drain pipes. Costs associated with construction of Permanent Treatment BMPs are included separately.

Treatment BMP Strategy

The strategy is to consider the existing site constraints and assess the feasibility of constructing permanent treatment BMPs. The goal of these BMPs is to treat all of the paved area runoff to the maximum extent feasible.

In the Corridor Stormwater Management Study (2013), it was concluded in the final investigation that no Treatment BMPs were feasible in this project area. The location of the project results in high ground water levels. Therefore, infiltration is not likely a viable treatment method. Adequate area within Caltrans right of way is not available to implement most of the Treatment BMPs within the project area. The area around the project site is also unavailable as it is part of the Ballona Creek Wetlands. The infield area within the Culver Blvd on and off-ramps which is within Los Angeles County right of way potentially could be used for a Treatment BMPs. However, minimal runoff within Caltrans right of way would reach the potential Treatment BMP area.

Capture Housing Devices will be used in place of traditional drainage inlets to treat runoff from Lincoln Boulevard. A total of seven capture housing devices are proposed and treat an estimated 6.44 acres of impervious area. Trash netting will be implemented at the outlet under the loop on/off-ramp between Lincoln Boulevard and Culver Boulevard. This includes an additional treated area of 0.56 acres totaling in 7.00 acres of treated impervious area within Caltrans right-of-way. The trash netting at the outlet under the loop on/off-ramp will also treat 1.24 acres of impervious area and 0.80 acres of pervious area outside Caltrans right-of-way.

Infiltration Devices – Checklist T-1, Parts 1 and 2

In general, this project will perpetuate existing drainage by directing runoff to existing open channel ditches and natural drainage courses. Due to the expected high groundwater surface level, infiltration is not feasible.

Biofiltration Swales/Strips, Checklist T-1, Parts 1 and 3

Adequate right of way cannot be obtained to incorporate biofiltration swales/strips into the project. Biofiltration swales/strips will not be used on this project.

Detention Devices, Checklist T-1, Parts 1 and 4

Due to the high groundwater level, it is anticipated that a basin invert would not be more than 5 feet above the seasonally high groundwater. Detention devices are not incorporated into this project.

Traction Sand Traps, Checklist T-1, Parts 1 and 5

Traction sand traps are not incorporated into this project because it is not located in an area where traction sand or abrasives are applied more than twice a year.

Dry Weather Diversion, Checklist T-1, Parts 1 and 6

Dry weather flow diversions are not anticipated for this project. They are not feasible because there is no dry weather flow within the project limits. Dry weather flow diversions are not incorporated into this project.

Gross Solids Removal Devices (GSRDs), Checklist T-1, Parts 1 and 7

Adequate right of way is not available and sufficient hydraulic head does not exist to be able to implement this BMP.

Media Filters, Checklist T-1, Parts 1 and 8

Media filters are not incorporated into this project. Right of way is not adequate for Media Filters in this project.

Multi-Chambered Treatment Trains (MCTTs), Checklist T-1, Parts 1 and 9

MCTTs are not incorporated into this project because there is no “critical source area” indicated for such need.

Wet Basins, Checklist T-1, Parts 1 and 10

Wet Basins will not be incorporated into this project because a permanent source of water is not available in sufficient quantities to maintain the permanent pool necessary for a wet basin.

DPP Infiltration Areas, Checklist T-1, Parts 1 and 11

Due to the high groundwater surface level, infiltration is anticipated to be not feasible.

The total estimated cost of Treatment BMPs is approximately $165,000.

Table E-1. Overall Project Treatment Summary Table[1]		
	PCTA (ac)[2]	A = 6.14 ac (CT R/W)
Total Area to be Treated	Treated Impervious Area (CT RW) (ac)	B = 5.25 ac
	Treated Impervious Area (Outside CT RW) (ac)[3]	C = 1.13 ac
	Treated Pervious Area (CT RW) (CUs) (ac)	D = 0.00 ac
	Treated Pervious Area (Outside CT RW) (CUs) (ac)[3]	E = 0.80 ac
	Stabilized Area (ac)[5]	G = 0.00 ac
	Alternative Compliance (ac)[4]	F=(B+C) – A = 0.24 ac

1 This table is provided as an example. The table may be edited, altered, or removed as applicable or as directed by the District/Regional Design Stormwater Coordinator.

2 Provide treatment for ATA 1 even if NIS is less than 10,000 ft^2.

3 Requires Regional Water Quality Control Board approval. Coordinate with District/Regional NPDES Coordinator.

4 Available Alternative Compliance

- Negative Value - amount of treatment needed through Alternative Compliance.
- Positive Value – amount of treatment available for Alternative Compliance (within the same watershed) as determined by the district.

5 surface area disturbed during construction and stabilized through method that is not an impervious surface.

Required Attachments (see 6.4.8)

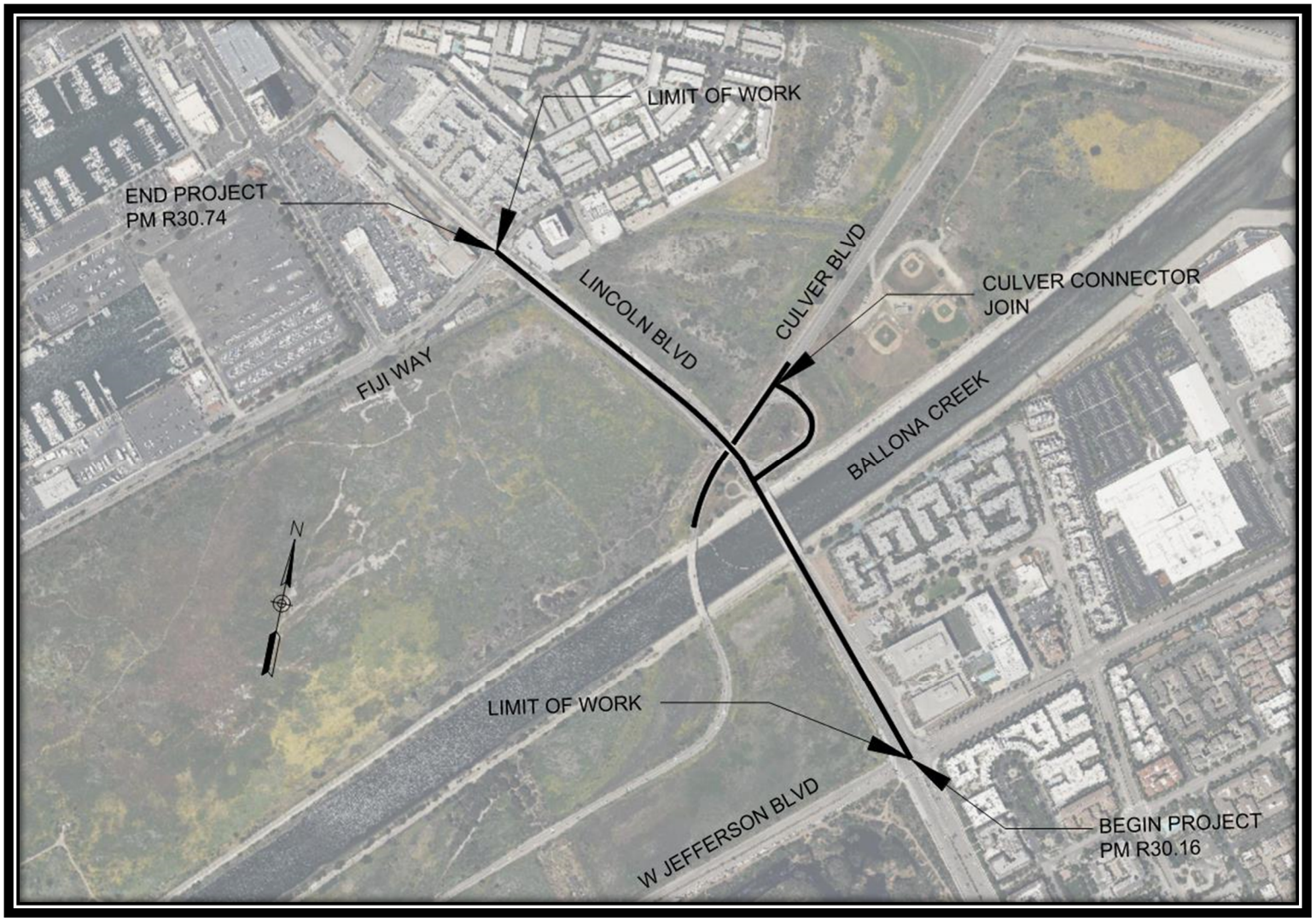
- Vicinity Map
- Evaluation Documentation Form (EDF)
- Risk Level Determination Documentation
- SWDR Summary Spreadsheets
- SWDR Attachment for SMARTS Input Data (Only required at PS&E)

Supplemental Attachments

- Construction Site BMPs and Permanent BMPs Cost Estimate
- Drainage Plans
- Impervious Areas Exhibit
- Treated Areas Exhibit
- Checklist T-1, Part 1

ATTACHMENT 1

VICINITY MAP



VICINITY MAP

On State Route 1 between Jefferson Boulevard and Fiji Way

ATTACHMENT 2

EVALUATION DOCUMENTATION FORM (EDF)

Evaluation Documentation Form

No.	Criteria	Yes ✓	No ✓	Supplemental Information for Evaluation
1.	Begin Project evaluation regarding requirement for implementation of Treatment BMPs	✓		Continue to 2.
2.	Is the scope of the Project to install Treatment BMPs (e.g., Alternative Compliance or TMDL requirement)?		✓	If **Yes**, go to 8. If **No**, continue to 3.
3.	Is there a direct or indirect discharge to surface waters?	✓		If **Yes**, continue to 4. If **No**, go to 9.
4.	As defined in the WQAR or ED, does the project: a. discharge to Areas of Special Biological Significance (ASBS), or b. discharge to a TMDL watershed where Caltrans is named stakeholder, or c. have other pollution control requirements for surface waters within the project limits (e.g. STGA)?	 ✓ ✓	✓	If **Yes to any**, contact the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to discuss the Department's obligations, go to 8 or 5. _____*(Dist./Reg. Coordinator initials)* If **No** to all, continue to 5.
5.	Are any existing Treatment BMPs partially or completely removed? (ATA Condition 1, Section 4.3.1)		✓	If **Yes**, go to 8 **AND** continue to 6. If **No**, continue to 6.
6.	Is this a Routine Maintenance Project?		✓	If **Yes**, go to 9. If **No**, continue to 7.
7.	Does the project result in an increase of 10,000 ft² or more (or 5,000 ft² for "non-highway facilities projects") of new impervious surface (NIS)?	✓		If **Yes**, go to 8. If **No**, go to 9.
8.	Project is required to implement Treatment BMPs.	Complete Checklist T-1, Part 1.		
9.	Project is not required to implement Treatment BMPs. _____ *(Dist./Reg. Design SW Coord. Initials)* _____ *(Project Engineer Initials)* _____ *(Date)*	Document for Project Files by completing this form and attaching it to the SWDR.		

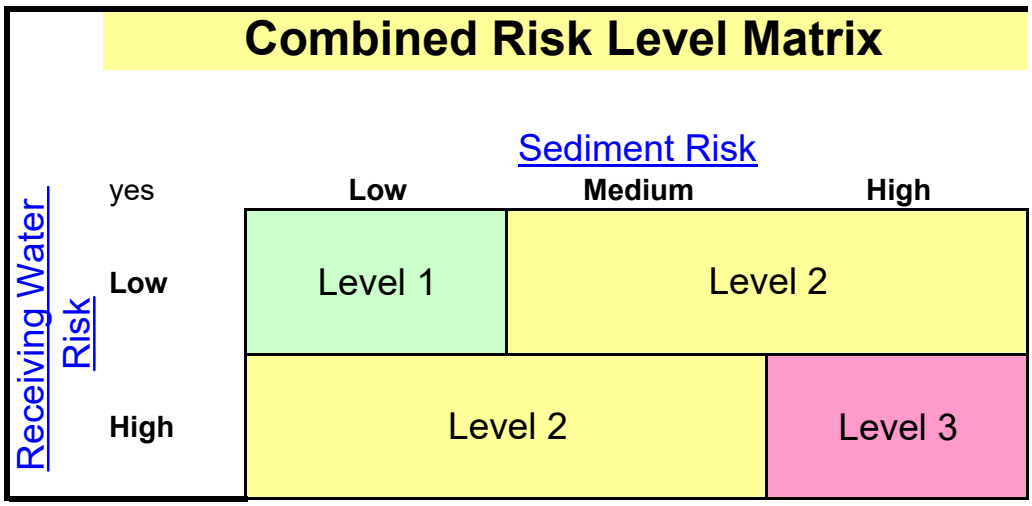
ATTACHMENT 3

Risk Level Determination Documentation

Sediment Risk Factor Worksheet	Entry
A) R Factor	
Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.	
http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm	
R Factor Value	109.59
B) K Factor (weighted average, by area, for all site soils)	
The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.	
Site-specific K factor guidance	
K Factor Value	0.20
C) LS Factor (weighted average, by area, for all slopes)	
The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.	
LS Table	
LS Factor Value	0.59
Watershed Erosion Estimate (=RxKxLS) in tons/acre	12.93162
Site Sediment Risk Factor	**Low**
Low Sediment Risk: < 15 tons/acre	
Medium Sediment Risk: >=15 and <75 tons/acre	
High Sediment Risk: >= 75 tons/acre	

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**yes**	**High**
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		

Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**High**
Project Combined Risk:	**Level 2**

Facility Information

Start Date: 01/01/2027	**Latitude:** 33.9750
End Date: 12/31/2027	**Longitude:** -118.4323

Calculation Results

Rainfall erosivity factor (R Factor) = **36.53**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority (pdf), you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

Facility Information

Start Date: 01/01/2028	**Latitude:** 33.9750
End Date: 12/31/2028	**Longitude:** -118.4323

Calculation Results

Rainfall erosivity factor (R Factor) = **36.53**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority (pdf), you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

Facility Information

Start Date: 01/01/2029	**Latitude:** 33.9750
End Date: 12/31/2029	**Longitude:** -118.4323

Calculation Results

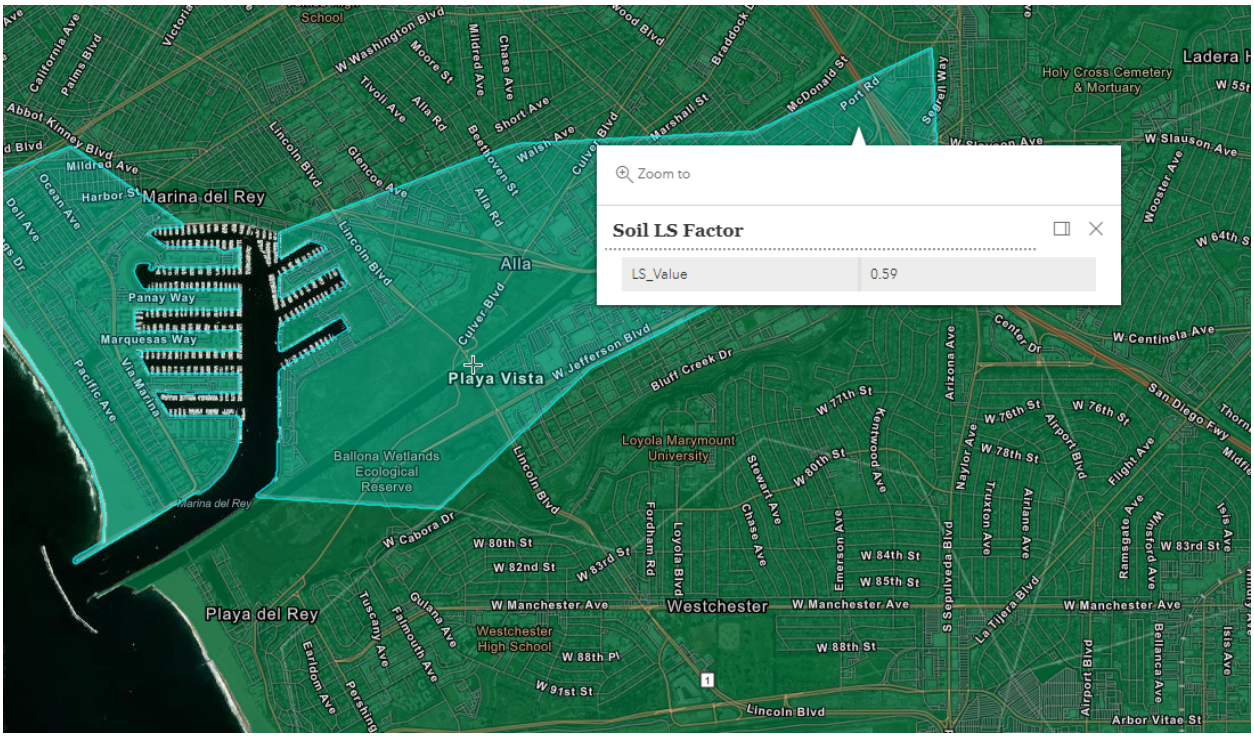
Rainfall erosivity factor (R Factor) = **36.53**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority (pdf), you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.


Soil K-Factor: 0.20
The soil-erodibility factor (K) represents: (1) the susceptibility of soil or surface material to erosion, (2) the transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Co arse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff, although these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they
Zoom to
Marina del Rey
Playa Vista
Playa del Rey
Westchester
Loyola Marymount University
Ballona Wetlands Ecological Reserve
Westchester High School
Venice High School
W Manchester Ave
Lincoln Blvd
Ladera

K Factor = 2.0



LS Factor = 0.59

ATTACHMENT 4

SWDR Summary Spreadsheet

SWDR Signed Date	District	EA/Project ID	County	Route	Beg_PM	End_PM	Project Description	Project Phase	Long SWDR	Risk Level	DSA (ac)	TMDL Waterbody	BioStrip	BioSwale	Bioretention	Detention	Infiltration Basin	InfilTrench	InfilGallery	GSRD IS	GSRD LR	Capture Housing	Trash Net	TST	Austin Vault Med Filter	Delaware Media	Austin/Del Sand Filter	Compost Media	DPPIA	OGFC	Other BMP	Est. Const_Start	Est. Const _Comp	New Impervious Surface (ac)	Net New Impervious area (NNI) (ac)	Replaced Impervious Surface (RIS) (ac)	Excluded Impervious Area (EIA)	Additional Treatment Area (ATA) (ac)	Post Const Treatment Area (ac)	Treated Impervious Area (ac)	Treated Impervious Area Balance (ac)	Treated Pervious Area (ac)	Stabilized Area (ac)	MWELO	RSA	SW Comment
	7	338800/ 0717000061	LA	1	R30.16	R30.74	Lincoln Boulevard Multimodal Improvement Project	PA/ED	Yes	RL2	9.16	Yes	0	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	1/1/2027	12/31/2030	6.14	2.59	5.56	2.01	0.00	6.14	5.25	0.24	0.80	0.00	No	No	

IDNO	EA / Project ID	BMP Type (IMMS Abbreviation)	District	County	Route	LocBPM	Begin Latitude (d.ddddd)	Begin Longitude (d.ddddd)	LocEPM	End Latitude (d.ddddd)	End Longitude (d.ddddd)	Direction	Trash Storage Volume (cyd)	BMP Specific Comments	Treated Impervious Area (ac CT R/W)	Treated Impervious Area (ac Outside CT R/W)	Treated Pervious Area (ac CT R/W)	Treated Pervious Area (ac Outside CT R/W)	WQV (cf)	WQF (cfs)	FCV (cf)	FCF (cfs)	Basis of BMP Requirement (non 402)	Stabilized Area (ac)	TMDL Waterbody	BMP Capital Cost	Watershed (HSA & #)	RWB
338800/ 0717000061-1	338800/ 0717000 061	End of Pipe Trash Nets (EOPTN)	7	LA	1	R30.439	33.975788	-118.432218	R30.437	33.975766	-118.432199	N	1.0	Trash Net located at the outlet under the on/off ramp Lincoln Blvd and Culver Blvd.	0.46	1.13		0.80		0.90			401 Cert./404 Permit		Ballona Creek (Trash)	$5,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-2	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.178	33.972194	-118.430607	R30.179	33.972205	-118.430624	S	0.8	Capture House Type CH-1-B-R-G4-24. Lincoln Blvd SB.	0.25					0.09			401 Cert./404 Permit		Ballona Creek (Trash)	$20,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-3	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.214	33.972661	-118.430895	R30.216	33.972688	-118.430911	S	0.8	Capture House Type CH-1-B-R-G4-24. Lincoln Blvd SB.	0.33					0.12			401 Cert./404 Permit		Ballona Creek (Trash)	$20,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-4	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.229	33.973072	-118.430655	R30.231	33.973098	-118.430673	N	0.8	Capture House Type CH-1-B-R-G4-24. Lincoln Blvd NB.	0.28					0.10			401 Cert./404 Permit		Ballona Creek (Trash)	$20,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-5	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.270	33.973398	-118.431314	R30.273	33.973433	-118.431336	S	1.1	Capture House Type CH-1-A-R-GT2. Lincoln Blvd SB.	0.64					0.24			401 Cert./404 Permit		Ballona Creek (Trash)	$25,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-6	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.276	33.973628	-118.431028	R30.279	33.973663	-118.431052	N	1.1	Capture House Type CH-1-A-R-GT2. Lincoln Blvd NB.	0.63					0.24			401 Cert./404 Permit		Ballona Creek (Trash)	$25,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-7	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.579	33.976976	-118.434471	R30.581	33.976999	-118.434509	S	1.1	Capture House Type CH-1-A-R-GT2. Lincoln Blvd SB.	1.54					0.58			401 Cert./404 Permit		Ballona Creek (Trash)	$25,000	Ballona Creek	Los Angeles (Region 4)
338800/ 0717000061-8	338800/ 0717000 061	Capture Housing (CH42)	7	LA	1	R30.578	33.977209	-118.434256	R30.581	33.977235	-118.434294	N	1.1	Capture House Type CH-1-A-R-GT2. Lincoln Blvd NB.	1.12					0.42			401 Cert./404 Permit		Ballona Creek (Trash)	$25,000	Ballona Creek	Los Angeles (Region 4)

ATTACHMENT 5

BMP Cost Summary

Storm Water BMP Cost Summary

Project Name:	**Lincoln Boulevard Multimodal Improvement Project**
District:	**7**
EA:	**338800**
County:	**LA**
Route:	**1**
Postmile:	**R30.16**
End Postmile:	**R30.74**

Permanent Storm Water BMPs

Treatment	$	165,000
Design Pollution Prevention	$	396,800
Total	$	561,800

Construction Site BMPs

Soil Stabilization	$	22,500
Sediment Control	$	40,650
Wind Erosion Control	$	-
Tracking Control	$	18,400
Waste Management & Materials Handling	$	10,000
Non-Storm Water Management	$	-
Miscellaneous	$	106,400
Supplemental Items	$	32,950
Total	$	250,000

TOTAL STORM WATER BMPs	$	811,800

Storm Water BMP Cost Summary

EA:
338800

Treatment BMPs

BEES	Pollution Prevention BMPs PPDG Appendix A	Quantity	Unit	Unit Cost ($/Unit)	Cost ($)
	Biofiltration Strip				
	Biofiltration Swale				
	Dry Weather Diversion				
	Infiltration Devices (Trench)				
	Infiltration Devices (Basin)				
	DPP Infiltration Area				
	Detention Devices				
	Gross Solid Removal Devices				
	CH-1-B-R-G4-24	3	EA	$20,000	$ 60,000
	CH-1-A-R-GT2	4	EA	$25,000	$ 100,000
	TRASH NET	1	EA	$5,000	$ 5,000
	Traction Sand Traps				
	Media Filters (Austin)				
	S-3500-3		EA		$ -
	Media Filters (Delaware)				
	Wet Basins				
	Multi Chamber Treatment Train (MCTT)				
				Total	$ 165,000

Design Pollution Prevention BMPs

BEES	Pollution Prevention BMPs PPDG Appendix A	Quantity	Unit	Unit Cost ($/Unit)	Cost ($)
	Downstream Effects/Increased Flow Mitigation				
	Slope/Surface Protection Systems- Hard Surfaces				
	Slope/Surface Protection Systems- Vegetated Surfaces				
	Concentrated Flow Conveyance Systems	1	LS	$396,800	$ 396,800
				Total	$ 396,800

Total Permanent Storm Water BMPs $ 561,800

Storm Water BMP Cost Summary

EA:

338800

Construction Site BMPs

BEES	Temporary Soil Stabiliization BMPs	Quantity	Unit	Unit Cost ($/Unit)	Cost ($)
Soil Stabilization BMPs					
	Scheduling				
130505	Move-In/Move-out (Temporary Erosion Control)		EA		$ -
	Preservation of Exist Vegetation				
141000	Temporary Fence (Type ESA)		LF		$ -
	Hydraulic Mulch				
130520	Temporary Hydraulic Mulch		SQYD		$ -
130550	Temporary Hydroseed	10000	SQYD	1.50	$ 15,000
	Hydroseeding				
	Compost (Incorporate)		SQYD		$ -
	Soil Binders				
130560	Temporary Soil Binder		SQYD		$ -
	Temporary Soil Stabilizer		SQYD		$ -
	Straw Mulch				
130540	Temporary Tacked Straw		SQYD		$ -
	Geotextiles, Mats/Plastic Covers & Erosion Control Blankets				
130500	Erosion Control Blankets/Mats		SQYD		$ -
130570	Temporary Cover	1000	SQYD	7.50	$ 7,500
	Wood Mulching				
130510	Temporary Mulch		SQYD		$ -
					$ 22,500
Sediment Control BMPs					
	Silt Fence				
130680	Temporary Silt Fence		LF		$ -
	Sediment/Desilting Basin				
	Sediment Trap				
	Check Dams				
130610	Temporary Check Dams		LF		$ -
	Fiber Rolls				
130640	Temporary Fiber Rolls	3500	LF	7.50	$ 26,250
130660	Temporary Large Sediment Barrier		LF		$ -
	Gravel Bag Berm				
130650	Temporary Gravel Bag Berm		LF		$ -
	Street Sweeping and Vacuuming				
130730	Street Sweeping	1	LS	10,000.00	$ 10,000
	Sandbag Barrier				
	Straw Bale Barrier				
130690	Temporary Straw Bale Barrier		LF		$ -
	Storm Drain Inlet Protection				
130620	Temporary Storm Drain Inlet Protection	16	EA	275.00	$ 4,400
					$ 40,650
Wind Erosion Control BMPs					
	Wind Erosion Control				
130720	Temporary Construction Roadway		CY		$ -
130570	Temporary Cover		SQYD		$ -
					$ -

Storm Water BMP Cost Summary

BEES	Temporary Soil Stabiliization BMPs	Quantity	Unit	Unit Cost ($/Unit)	Cost ($)
Tracking Control BMPs					
	Stabilized Construction Entrance/Exit				
130710	Temporary Construction Entrance	4	EA	4,600.00	$ 18,400
	Stabilized Construction Roadway				
130720	Temporary Construction Roadway		LS		$ -
	Entrance/Outlet Tire Wash				
					$ 18,400
Non-Storm Water Management					
JSM*	Dewatering Operations				
JSM*	Paving & Grinding Operations				
	Temporary Stream Crossing		LS		$ -
JSM*	Vehicle and Equipment Cleaning				
JSM*	Vehicle and Equipment Fueling				
JSM*	Concrete Curing				
JSM*	Material & Equipment Use Over Water				
JSM*	Structure Demolition/Removal Over or Adjacent to Water				
					$ -
Waste Management & Materials Handling BMPs					
JSM*	Material Delivery and Storage				
JSM*	Material Use				
JSM*	Spill Prevention and Control				
JSM*	Solid Waste Management				
JSM*	Concrete Waste Management				
130900	Temporary Concrete Washout	1	LS	10,000.00	$ 10,000
	Temporary Concrete Washout Bin		EA		$ -
141120	Treated Wood Waste		LB		$ -
JSM*	Sanitary/Septic Waste Managemt		LS		
JSM*	Liquid Waste Management		LS		
					$ 10,000
Miscellaneous Items					
130100	Job Site Management	1	LS	50,000	$ 50,000
130200	Prepare Water Pollution Control Program		LS		$ -
130301	Storm Water Pollution Prevention Plan	1	LS	14,000	$ 14,000
130310	Rain Event Action Plan		EA		$ -
130330	Storm Water Annual Report	2	EA	2,000	$ 4,000
130320	Storm Water Sampling and Analysis Day	24	LS	1,600	$ 38,400
130800	Temporary Active Treatment System		LS		$ -
131103	Water Quality Sampling and Analysis Day		EA		$ -
131104	Water Quality Monitoring Report		EA		$ -
131105	Water Quality Annual Report		EA		$ -
	Temporary Stream Diversion System				
	Relations With California Regional Water Quality Control Board				
	Order of Work				
					$ 106,400
Supplemental Items					
066596	Additional Water Pollution Control	1	LS	6,000.00	$ 6,000
066595	Water Pollution Control Maintenance Sharing	1	LS	21,950	$ 21,950
066597	Storm Water Sampling and Analysis	1	LS	5,000.00	$ 5,000
	Receiving Water Bioassessment (RL 3)		LS		$ -
					$ 32,950
Department Furnished Materials					
066916	Annual Construction General Permit Fee	1	LS	10,000.00	$ 10,000

Total Construction Site BMPs **$ 250,000**
(rounded up)

ATTACHMENT 6

Drainage Plans

NOTES:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

(2) DRAINAGE SYSTEM NO.

(a) DRAINAGE UNIT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	001	R30.16/R30.74		

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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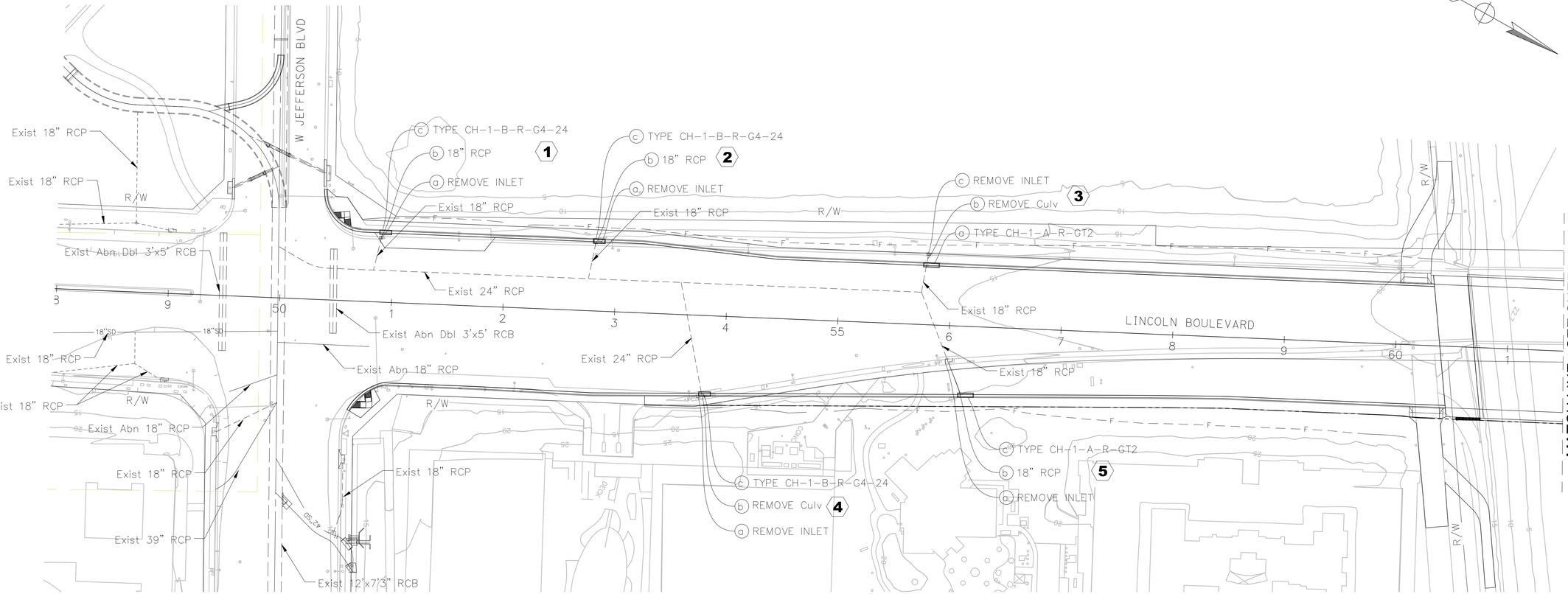
PSOMAS
555 FLOWER ST #4300
LOS ANGELES, CA 90071

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
1149 S. BROADWAY, SUITE 700
LOS ANGELES, CA 90015



LINCOLN BLVD IMPROVEMENT
DRAINAGE PLAN

EA 07-33880
SCALE 1" = 50'

D-1

April 24, 2023

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 12/5/2023 6:00 PM \\PPROD.PSOMAS.CORP\PANZURAPROJECTS\OC_PROJECTS\21OS010100\PUBLIC_WORKS\SHEETS\ALT 1 - NEW\LINCOLN - DRAINAGE SHEETS.DWG
00-00-00 | TIME PLOTTED =>

BORDER LAST REVISED 7/2/2010 | USERNAME => $USER | DGN FILE => $REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0717000061

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	001	R30.16/R30.74		

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — No. ____ Exp. ____ CIVIL — STATE OF CALIFORNIA

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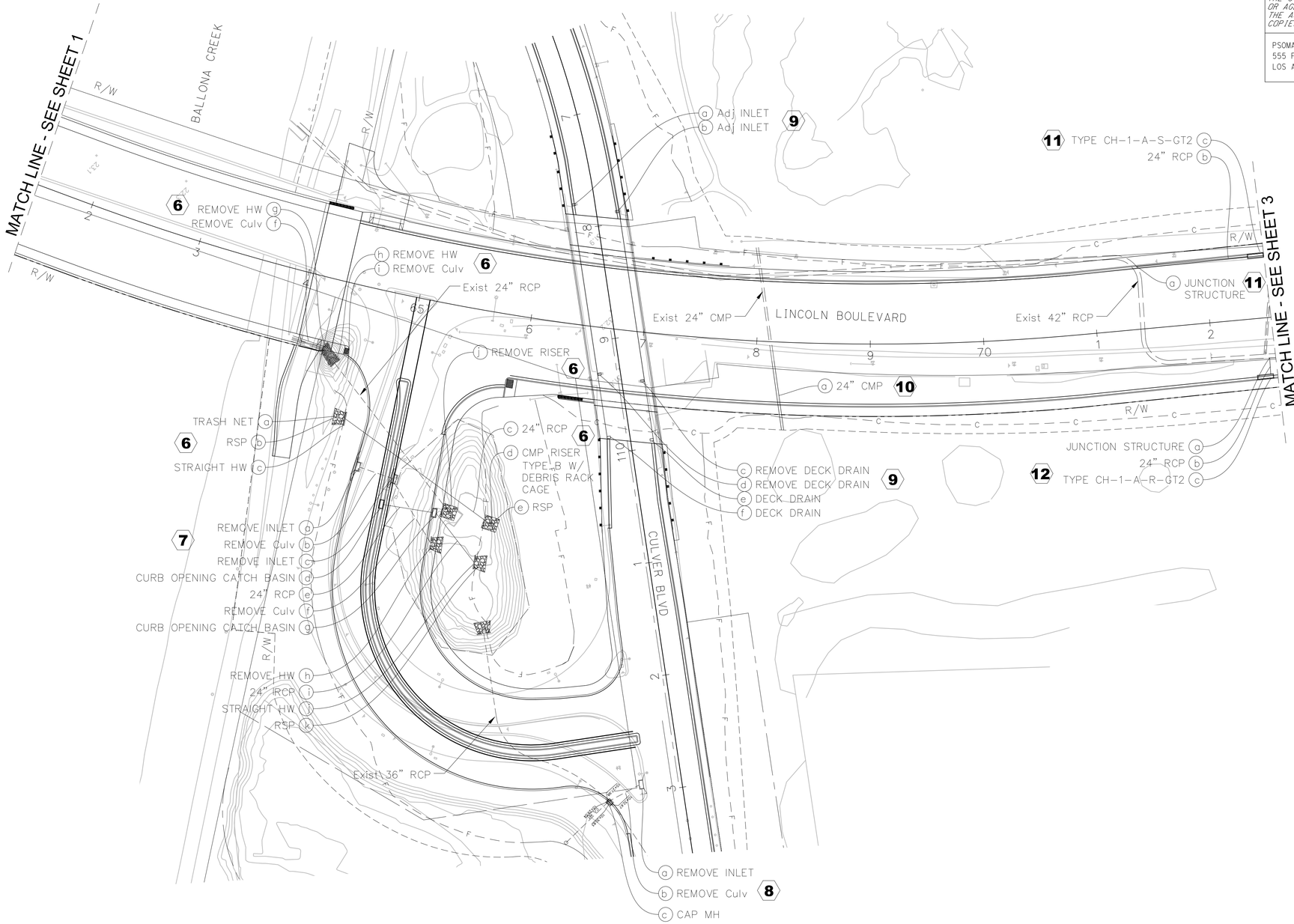

LINCOLN BLVD IMPROVEMENT
DRAINAGE PLAN
EA 07-33880
SCALE 1" = 50'

D-2
April 24, 2023

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY
CHECKED BY
SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERV

Caltrans

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BORDER LAST REVISED 7/2/2010

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DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0717000061

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	001	R30.16/R30.74		

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
No. ____
Exp. ____
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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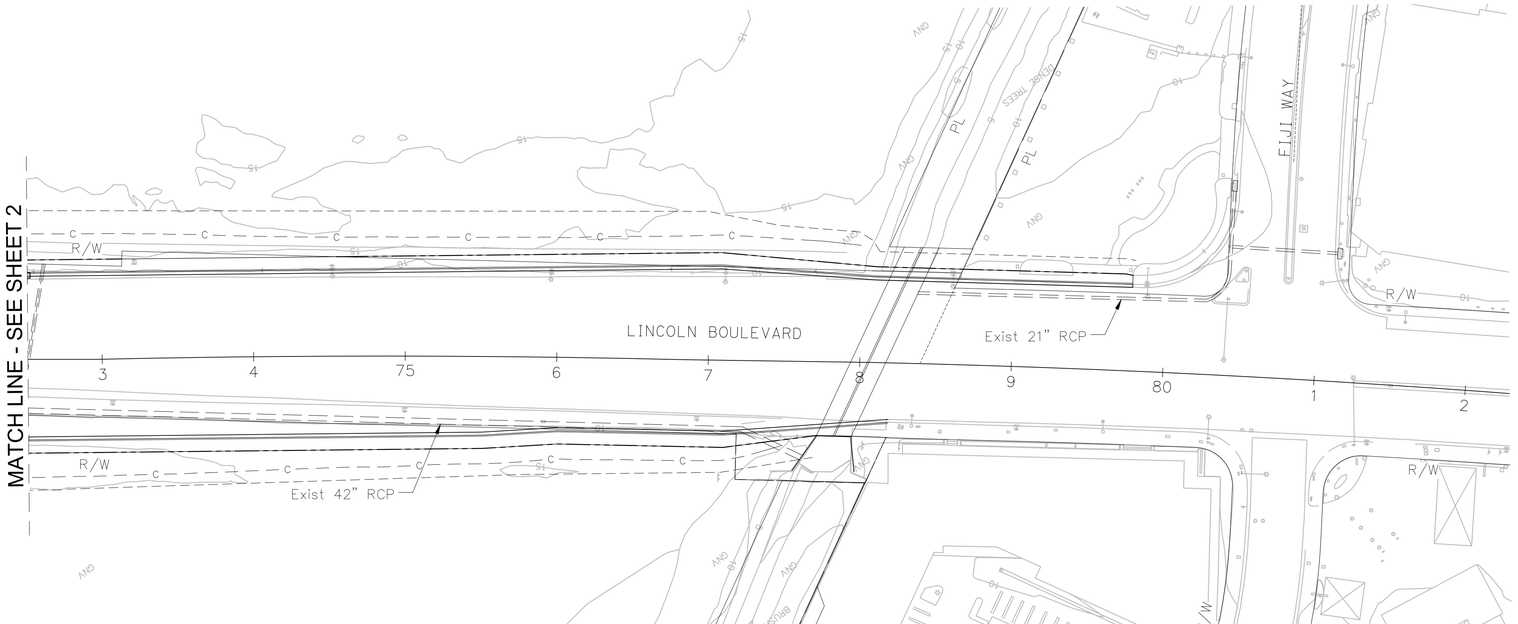

LINCOLN BLVD IMPROVEMENT
DRAINAGE PLAN
EA 07-33880
SCALE 1" = 50'
April 24, 2023

D-3

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
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BORDER LAST REVISED 7/2/2010 | USERNAME => $USER | DGN FILE => $REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0717000061

ATTACHMENT 7

Impervious Area Exhibit

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	001	R30.16/R30.74		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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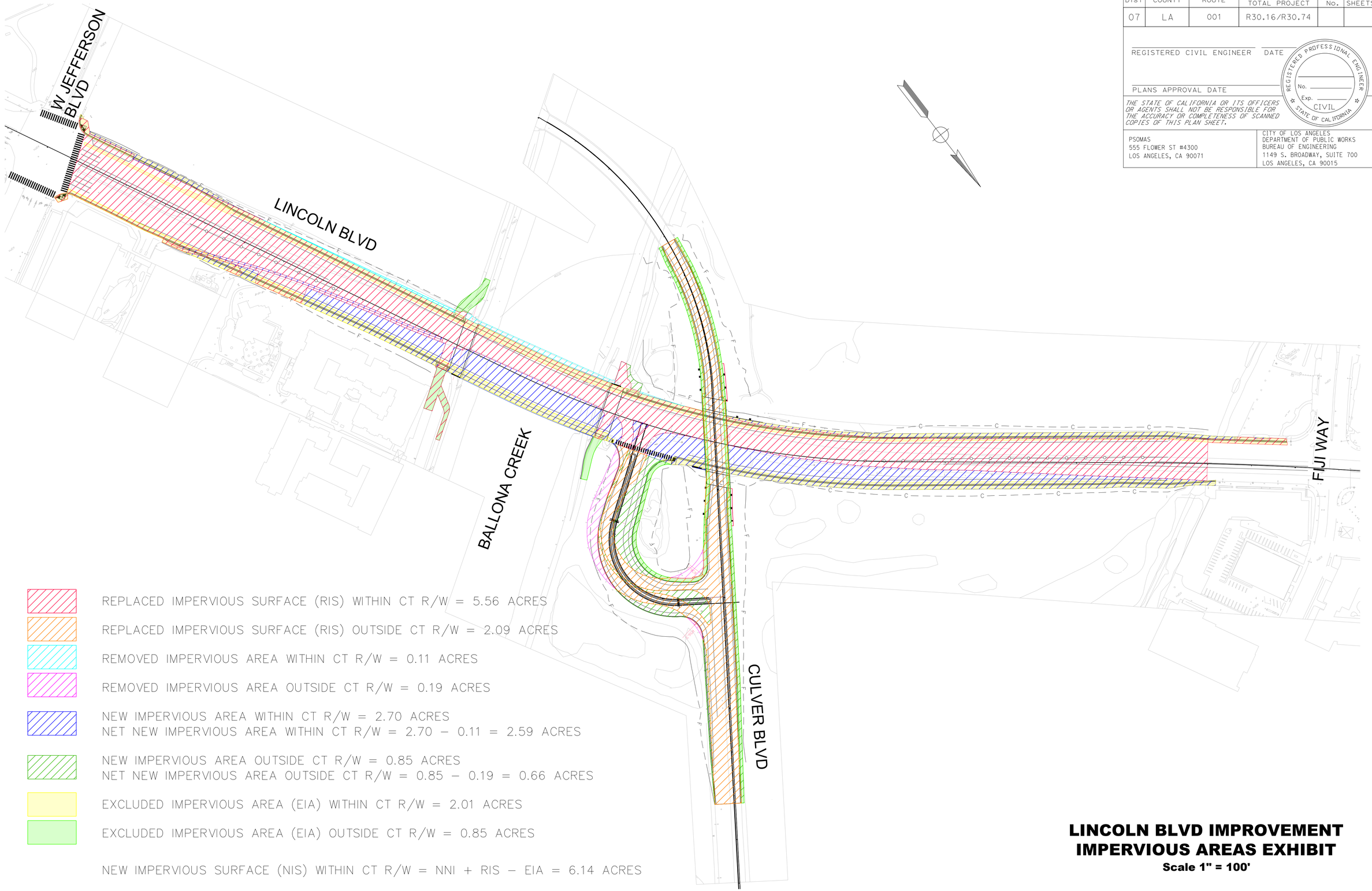

REPLACED IMPERVIOUS SURFACE (RIS) WITHIN CT R/W = 5.56 ACRES

REPLACED IMPERVIOUS SURFACE (RIS) OUTSIDE CT R/W = 2.09 ACRES

REMOVED IMPERVIOUS AREA WITHIN CT R/W = 0.11 ACRES

REMOVED IMPERVIOUS AREA OUTSIDE CT R/W = 0.19 ACRES

NEW IMPERVIOUS AREA WITHIN CT R/W = 2.70 ACRES
NET NEW IMPERVIOUS AREA WITHIN CT R/W = 2.70 − 0.11 = 2.59 ACRES

NEW IMPERVIOUS AREA OUTSIDE CT R/W = 0.85 ACRES
NET NEW IMPERVIOUS AREA OUTSIDE CT R/W = 0.85 − 0.19 = 0.66 ACRES

EXCLUDED IMPERVIOUS AREA (EIA) WITHIN CT R/W = 2.01 ACRES

EXCLUDED IMPERVIOUS AREA (EIA) OUTSIDE CT R/W = 0.85 ACRES

NEW IMPERVIOUS SURFACE (NIS) WITHIN CT R/W = NNI + RIS − EIA = 6.14 ACRES

LINCOLN BLVD IMPROVEMENT
IMPERVIOUS AREAS EXHIBIT

Scale 1" = 100'

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR

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BORDER LAST REVISED 7/2/2010 | USERNAME =>$USER | DGN FILE =>$REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0717000061

ATTACHMENT 8

Treatment Area Exhibit

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	001	R30.16/R30.74		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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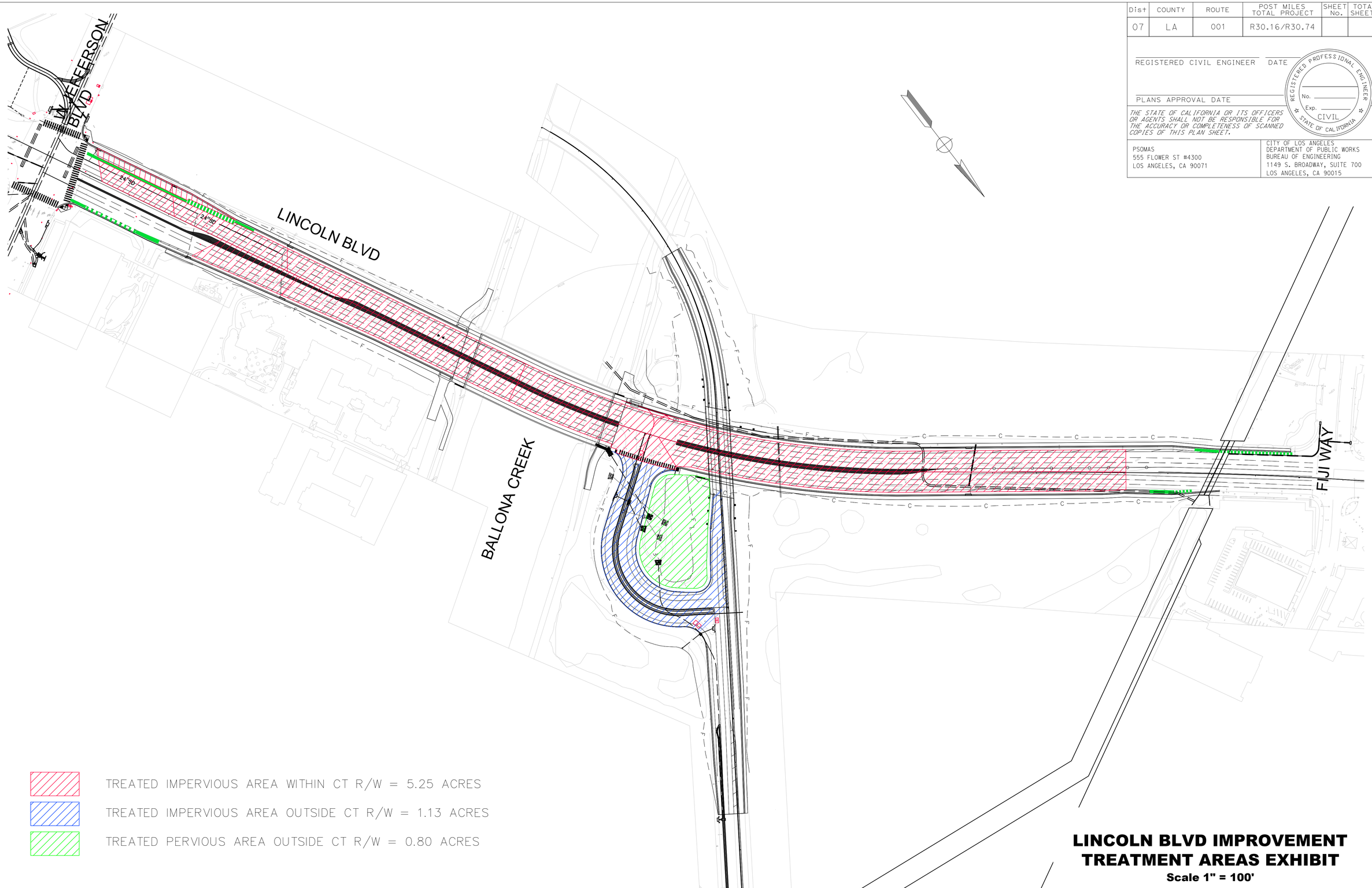

TREATED IMPERVIOUS AREA WITHIN CT R/W = 5.25 ACRES

TREATED IMPERVIOUS AREA OUTSIDE CT R/W = 1.13 ACRES

TREATED PERVIOUS AREA OUTSIDE CT R/W = 0.80 ACRES

LINCOLN BLVD IMPROVEMENT TREATMENT AREAS EXHIBIT

Scale 1" = 100'

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 3/7/2024 9:02 PM | TIME PLOTTED => \\PPROD.PSOMAS.CORP\PANZURAPROJECTS\OC_PROJECTS\2LOS010100\PUBLIC_WORKS\DOCUMENTS\SWDR\EXHIBITS\TREATMENT AREAS.DWG

BORDER LAST REVISED 7/2/2010 | USERNAME => $USER | DGN FILE => $REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0717000061

ATTACHMENT 9

Checklist T-1, Part 1

Treatment BMPs
Checklist T-1, Part 1

Prepared by: Brian Wright P.E. Date: 3/7/2024 District-Co-Route: 07-LA-001

PM: R30.16-R30.74 Project ID (or EA): 0717000061(338800) RWQCB: Los Angeles RWQCB (Region 4)

Consideration of Treatment BMPs

This checklist is used for projects that require the consideration of Approved Treatment BMPs, as determined from the process described in Section 4 (Treatment Consideration) and the Evaluation Documentation Form (EDF). This checklist will be used to determine which Treatment BMPs should be considered for each BMP contributing drainage area within the project. Supplemental data will be needed to verify siting and design applicability for final incorporation into a project.

Complete this checklist for each phase of the project. This will help to determine if any changes to the BMP strategy are necessary, based on site specific information gathered during later phases. Use the responses to the questions as the basis of developing the narrative in Section 6 of the Stormwater Data Report to document that Treatment BMPs have been appropriately considered and/or incorporated.

Before evaluating an area for treatment capabilities or to incorporate a Treatment BMP, calculate the numeric sizing requirement for each contributing drainage area (WQV from the 85th percentile 24 hour storm event or WQF rate). Soil and geometric information for the project area will be necessary to use this Checklist.

Identify the overall project Post Construction Treatment Area

Refer to Section 4.4 Treatment Areas for more information on defining these areas.

Post Construction Treatment Area = NNI + RIS + ATA (1) + ATA (2)

NNI = Net New Impervious Area

RIS = Replaced Impervious Surface

ATA (1) = Additional Treatment Area required for existing Treatment BMPs that were removed as part of the project

ATA (2) = Additional Treatment Area required when NNI is 50 percent or greater than total project impervious

What is the Post Construction Treatment Area for the project? 6.14 **Acres** (A in Table E-1)

The Post Construction Treatment Area is the impervious area required to be treated by the project. The PE is to incorporate BMPs until the summation of the treated impervious area of all the BMPs is equivalent to the Post Construction Treatment Area for the Project.

Once this area has been treated, the project is in compliance with the post construction treatment requirement.

Total Maximum Daily Load (TMDL) Retrofit Projects

If the project is installing Treatment BMPs to only address TMDL requirements, then there is no required Post Construction Treatment Area. The Treatment BMPs for a TMDL retrofit project should be designed to treat the impervious and pervious contributing drainage areas, as they are both eligible for compliance unit (CU) credits.

Overall Project Evaluation

Answer all questions, unless otherwise directed.

A. Overall Project Consideration

1. Is the project in a watershed with prescriptive Treatment BMP requirements in an adopted TMDL implementation plan or are there any other requirements for project area (e.g., District, Regional Board, Lawsuit)? ☐ Yes ☒ No

   If Yes, consult the District/Regional Design Stormwater Coordinator or NPDES Coordinator to determine if there are written agreements related to specific Treatment BMPs. In this case, determine if the rest of this checklist needs to be followed to address other post construction requirements. If not, document BMP(s) in the Individual Treatment BMP Summary Table, provide information on the basis of the BMP requirement and any regulatory coordination in the SWDR narrative, and complete the SWDR Summary Spreadsheets. Otherwise, continue.

   If No, continue.

2. Does the receiving water have a TMDL for litter/trash, or is there a region specific requirement related to trash? ☒ Yes ☐ No

   If Yes, first evaluate BMPs that can treat other pollutants and are considered to be full capture devices (GSRDs or other) for litter/trash. If other BMPs cannot be sited, consult with the District/Regional Design Stormwater Coordinator or NPDES Coordinator to determine if standalone full capture devices (GSRDs or other) are required to be incorporated. If standalone devices are required and no other Treatment BMPs are being considered, go to question 6 of "Individual BMP Evaluation".

   If No, continue.

3. Is the project located in an area that uses traction sand more than twice a year? ☐ Yes ☒ No

   If Yes, first consider BMPs that can treat other pollutants and can capture traction sand. If other BMPs cannot be sited, consult the District/Regional Design Stormwater Coordinator to determine if standalone traction sand trap devices should be incorporated.

   If standalone devices are required and no other Treatment BMPs are being considered, go to question 6 of "Individual BMP Evaluation". Otherwise, continue with this checklist to identify Treatment BMPs that provide traction sand and other pollutant removal, or to design Treatment BMPs in series.

   If No, continue.

B. Dual Purpose Facilities

Does the project have (or propose to include) any dual purpose facilities that could meet treatment requirements (e.g., Dry Weather Flow Diversion, flood control basins, etc.)? ☐ Yes ☒ No

If Yes and 100 percent of the Post Construction Treatment Area will be treated by the dual purpose facility, go to question 6 of "Individual BMP Evaluation". Document the basis of treatment in the SWDR narrative and complete the SWDR Summary Spreadsheets.

If Yes, but 100 percent of the Post Construction Treatment Area has not been addressed, continue.

If No, continue.

C. Evaluate overall project area for infiltration opportunities using existing and proposed roadside surfaces (DPP Infiltration Areas). Assure the DPP Infiltration Area is stabilized to handle highway drainage design flows, for both sheet and concentrated flows (See HDM Section 800).

Document DPP Infiltration Areas on the "Individual Treatment BMP Summary Table" located at the end of this checklist.

1. Based on site conditions, do the DPP Infiltration Areas infiltrate 100 percent of the WQV generated by the Post Construction Treatment Area for the project? ☐ Yes ☒ No

   Yes, go to question 6 of "Individual BMP Evaluation".

   If No, account for area infiltrated and continue.

2. Can infiltration for these areas be increased by using soil amendments or other means? ☐ Yes ☒ No

   If Yes, and 100 percent of the WQV generated by the Post Construction Treatment Area is infiltrated, go to question 6 of "Individual BMP Evaluation".

   If Yes, but 100 percent of the WQV generated by the Post Construction Treatment Area is not infiltrated, continue with this checklist to identify Treatment BMPs that will treat the remaining Post Construction Treatment Area.

   If No, continue.

Individual BMP Evaluation

Answer the following questions for each Treatment BMP location being considered. The following process must be followed until the Post Construction Treatment Area or desired treatment area (Alternative Compliance or TMDL CUs) has been achieved; for TMDL CUs, consider both impervious and pervious contributing drainage areas. Use the Individual Treatment BMP Summary Table at the end of the checklist to summarize the selected BMP(s) based on the findings of the following questions for each BMP contributing drainage area.

1. Infiltration Devices (Infiltration Basin, Trench, or other device)

   a. Can 100 percent of the BMP contributing drainage area WQV (or remaining WQV, if in series with a DPP Infiltration Area or other BMP) be infiltrated? ☐ Yes ☒ No

      If Yes, go to question 6.

      If No, continue.

2. Biofiltration Devices (Biofiltration Strips and Swales)

   a. Is this a TMDL retrofit project or is the project within a TMDL watershed or 303(d) impaired receiving water body area? ☐ Yes ☒ No

      If Yes, when designing the biofiltration device, determine the percent WQV infiltrated from both the impervious and pervious BMP contributing drainage areas. Consider using existing or amended soils:

      i. If infiltration is >50 percent, continue to b.

      ii. If infiltration is ≤50 percent, go to question 3.

      If No, continue to b. ☐ Yes ☒ No

   b. Can biofiltration devices be designed to:

      i. Treat 100 percent of the WQF/WQV (or remainder, if in series with a DPP Infiltration Area or other BMP) from the BMP contributing drainage area, and

      ii. Meet the siting and design criteria of the Caltrans biofiltration device design guidance.

      If Yes, continue to c.

      If No, go to question 3.

   c. Biofiltration devices are considered to be an effective method of treatment, go to question 6.

3. Earthen type BMPs (Detention Devices, Media Filters, or other devices)

   a. Is this a TMDL retrofit project or is the project within a TMDL watershed or 303(d) impaired receiving water body area? ☐ Yes ☒ No

   If Yes, when designing the earthen type BMP, determine the percent WQV infiltrated from both the impervious and pervious BMP contributing drainage area. Consider using existing or amended soils:

   i. If infiltration is >50 percent, continue to b.

   ii. If infiltration is ≤50 percent, go to question 4.

   If No, continue to b.

   b. Can earthen type BMPs(standalone or in series with other approved Treatment BMPs) be designed to: ☐ Yes ☒ No

   iii. Treat 100 percent of the WQV (or remainder, if in series with a DPP Infiltration Area or other BMP) from the BMP contributing drainage area, and

   iv. Meet the criteria of the Caltrans design guidance for the treatment device being considered.

   If Yes, continue to c.

   If No, go to question 4.

   c. Earthen type BMPs are considered to be an effective method of treatment, go to question 6.

4. Targeted Design Constituent (TDC)

   This approach will compare the effectiveness of individual BMPs and allow the project engineer to use judgment when evaluating BMP feasibility (site constraints, safety, maintenance requirements, life-cycle costs, etc.).

   a. Does the project discharge to a 303(d) impaired receiving water or a receiving water in a TMDL watershed where Caltrans is a named stakeholder? ☒ Yes ☐ No

      If Yes, is the identified pollutant(s) considered to be a TDC (check all that apply below)? Continue to b. ☐ Yes ☐ No

      ☐ sediments
      ☐ phosphorus
      ☐ nitrogen
      ☒ copper (dissolved or total)
      ☒ lead (dissolved or total)
      ☒ zinc (dissolved or total)
      ☐ general metals (dissolved or total)[1]

      If No or if no TDC is identified, use Matrix A to select BMPs and go to question 5.

   b. Treating Only Sediment. Is sediment a TDC? ☐ Yes ☒ No

      If Yes, use Matrix A to select BMPs and go to question 5.

      If No, continue to c.

   c. Treating Only Metals. Are copper, lead, zinc, or general metals listed TDCs? ☐ Yes ☒ No

      If Yes, use Matrix B to select BMPs, and go to question 5.

      If No, continue to d.

   d. Treating Only Nutrients. Are nitrogen and/or phosphorus listed TDCs? ☐ Yes ☒ No

      If Yes, use Matrix C to select BMPs, and go to question 5.

      If No, continue e.

   e. Treating both Metals and Nutrients. Is copper, lead, zinc, or general metals AND nitrogen or phosphorous a TDC? ☐ Yes ☒ No

      If yes, use Matrix D to select BMPs, and go to question 5.

      If No, continue.

[1] General metals is a designation used by Regional Water Boards when specific metals have not yet been identified as causing the impairment.

BMP Selection Matrix A: General Purpose Pollutant Removal			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Strip: HRT > 5 Austin filter (concrete) Austin filter (earthen) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Swale	Austin filter (concrete) Delaware filter
HRT = hydraulic residence time (min) All BMPs shown are considered to be effective, but some more than others. The project engineer should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			

BMP Selection Matrix B: Any metal is the TDC, but not nitrogen or phosphorous			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT > 5 Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
HRT = hydraulic residence time (min) All BMPs shown are considered to be effective, but some more than others. The project engineer should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			

BMP Selection Matrix C: Phosphorous and / or nitrogen is the TDC, but no metals are the TDC
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each

Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter*	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
All BMPs shown are considered to be effective, but some more than others. The project engineer should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			
*Delaware filters would be ranked in Tier 2 if the TDC is nitrogen only, as opposed to phosphorous only or both nitrogen and phosphorous.			

BMP Selection Matrix D: Any metal, plus phosphorous and / or nitrogen are the TDCs			
Consider BMPs (or combinations of) to treat the contributing drainage area WQV with BMPs listed in this table. First evaluate Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility. BMPs are chosen based on the infiltration category determined for BMP contributing drainage area. BMPs in other infiltration categories should be ignored.			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter*	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches	Austin filter (earthen) Detention (unlined) Infiltration basins Infiltration trenches Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
All BMPs shown are considered to be effective, but some more than others. The project engineer should use professional judgment when selecting BMPs based on overall feasibility. All BMPs are shown to demonstrate equivalent effectiveness.			
*In cases where earthen BMPs also infiltrate, Delaware filters are ranked in Tier 2 if the TDC is nitrogen only, but they are Tier 1 for phosphorous only or both nitrogen and phosphorous.			

5. Does the project discharge to a 303(d) receiving water that is listed for mercury or low dissolved oxygen? ☐ Yes ☒ No

   If Yes, contact the District/Regional NPDES Coordinator to determine if standing water in a Delaware Media Filter or Wet Basin would be a risk to downstream water quality. Continue to question 6.

   If No, continue to question 6.

6. Identify the Treatment BMPs being considered and complete the Individual Treatment BMP Summary Table and Overall Project Treatment Summary Table on the following pages. Refer to Appendix B of the PPDG and review the checklists identified below for every Treatment BMP under consideration. ☒ Complete

   Document the basis of design in the SWDR narrative and complete the SWDR Summary Spreadsheets.

   __X__ DPP Infiltration Areas: Checklist T-1, Part 11

   __X__ Infiltration Devices: Checklist T-1, Part 2

   __X__ Biofiltration Strips and Biofiltration Swales: Checklist T-1, Part 3

   __X__ Detention Devices: Checklist T-1, Part 4

   __X__ Traction Sand Traps: Checklist T-1, Part 5

   __X__ Dry Weather Diversion: Checklist T-1, Part 6

   __X__ GSRDs: Checklist T-1, Part 7

   __X__ Media Filter [Austin Sand Filter and Delaware Filter]: Checklist T-1, Part 8

   Note:

   Multi-Chamber Treatment Train (MCTT) is not listed here because Caltrans has found that other approved BMPs are equally effective and more sustainable due to lower life cycle costs.

   Wet Basins are not listed here due to feasibility issues due to site feasibility and issues with long term operation and maintenance.

   MCTT and Wet Basins may be considered or implemented upon the recommendation of the District/Regional Design Stormwater Coordinator.

7. Prepare cost estimate, including right-of-way, and identify any pertinent site specific determination of feasibility for selected Treatment BMPs and include in the SWDR for approval. ☒ Complete

Individual Treatment BMP Summary Table

☒ Complete

List the selected BMPs based on the findings of this checklist and the treated areas associated with each BMP in Table E-2. For projects with multiple BMPs, add rows (if needed), or attach a separate sheet displaying the following information.

Each BMP must be tracked in the SWDR Summary Spreadsheets, including additional information related to each BMP.

Table E-2: Individual Treatment BMP Summary Table

BMP Identifier Number	BMP Type	Treated Impervious Area (CT RW) (ac)	Treated Impervious Area (Outside CT RW) (ac)	Treated Pervious Area (CT RW) (CUs) (ac)	Treated Pervious Area (Outside CT RW) (CUs) (ac)	WQV Infiltrated (%)
TN-1	Trash Net	0.46	1.13	0.00	0.80	0.00
CH-1	Capture House	0.25	0.00	0.00	0.00	0.00
CH-2	Capture House	0.33	0.00	0.00	0.00	0.00
CH-3	Capture House	0.28	0.00	0.00	0.00	0.00
CH-4	Capture House	0.64	0.00	0.00	0.00	0.00
CH-5	Capture House	0.63	0.00	0.00	0.00	0.00
CH-6	Capture House	1.54	0.00	0.00	0.00	0.00
CH-7	Capture House	1.12	0.00	0.00	0.00	0.00
Total Treated Area (acre):		5.25	1.13	0.00	0.80	