

**Regional Phase I MS4 NPDES Permit  
Order No. R4-2021-0105  
NPDES No. CAS004004**

**Watershed Management Program Progress Report Form  
Reporting Period [1/1/2023-06/30/2023]**

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<b>Watershed Management Program Name</b>	Machado Lake
<b>Participating Permittee(s)</b>	City of Torrance
<b>Date of Watershed Management Program Progress Report</b>	12/15/2023
<b>Initial Approval Date of Watershed Management Program (according to Table 12 or Part IX.G.3 of the Order)</b>	December 9, 2016 Updated Machado Lake WMP submitted 6/30/2021

Note that Permittees will not be able to propose modifications to their WMP in the Watershed Management Program Progress Report Form. Any modification(s) shall be requested in writing explaining the nature of the proposed modification and justification for consideration by the Los Angeles Water Board [*Order – IX.C and IX.E.2*].

**1.1 Watershed Control Measure Milestone Progress.** Summarize the progress on all Watershed Control Measure requirements and dates for their achievement (milestones) identified in your WMP that were required to be achieved by the end of this Reporting Period. The milestones for specific projects may be reported as cumulative number of projects to be implemented (e.g., “Recipes for Compliance”; installation of prescribed volume of BMP capacity by a certain date; Percent Load Reduction of bacteria pollutant by a certain date), cumulative storm volume addressed<sup>1</sup> by control measures (e.g., LID, new/re-development projects, regional projects), or other metric. However, progress must be reported as percent completion of the selected milestone metric. If any milestones were not achieved, give a clear description of the action/milestone, explain the delay in control measure implementation, and provide the revised action/milestone. The summary must also include a list of (a) Permittees and non-Permittees collaborated with for achievement of milestones, (b) funding sought, (c) funding obtained, (d) technical assistance received (e.g., through the Safe Clean Water Program Watershed Area Steering Committee), (e) additional local community co-benefits such as clean streets (including, without limitation, street sweeping, litter abatement, etc.), more parks and green spaces, reduced heat island effect, reduced flooding, water supply augmentation, neighborhood beautification, and job creation, and (f) other co-benefits and resources accruing to disadvantaged communities as identified on CalEnviroScreen<sup>2</sup>. The format for this item is a text box but you are encouraged to provide this information in an appropriate format as an attachment with spreadsheets, graphs, and/or other elements that would concisely convey the required information.

On June 30, 2021 and March 24, 2022, the City of Torrance (City) submitted the Updated Machado Lake (ML) Watershed Management Program (WMP) to the Los Angeles Regional Water Quality Control Board (Regional Board), which was conditionally approved on April 28, 2023.

On June 27, 2023, due to staffing changes and outsourcing requirements, the City requested an extension of the final WMP submittal deadline from July 31, 2023 to September 30, 2023, to sufficiently complete and respond to modeling questions asked by the Regional Board. On August 2, 2023, the Regional Board approved the City’s extension request.

The City scheduled a meeting with the Regional Board on September 12, 2023, to discuss and clarify their comments and conditions of approval prior to revising and finalizing the ML WMP and its accompanying Reasonable Assurance Analysis (RAA) in accordance with the conditions of letter of approval.

The updated WMP demonstrates achievement of prior and current milestones dated on or before June 30, 2021, consistent with the 2020 State Board Order, and provides a comprehensive evaluation of the remaining pollutant load reductions necessary to meet water quality objectives for each receiving water analysis region.

The City of Torrance is committed to continue the Torrance Airport Stormwater Basin Project (TASBP) as a Regional Project in partnership with the Peninsula Cities Watershed Group.

The draft TASBP Preliminary Design Report was received from consultant Tetra Tech Inc. on June 29, 2023 in preparation for the application for construction funds amounting to \$19.2 million to be submitted to the FY24-25 Regional Safe, Clean Water (SCW) Program by July 31, 2023.

Details on watershed control measures completed since 2012 are summarized in Section 1.2 Tables 1a and 1.2a, except for trash control measures which are reported in the individual annual reports, while the status of in-progress watershed control measures is summarized in Section 1.3 and Tables 1b and 1.3a.

**THE FOLLOWING TABLE IS GENERATED BY WRAMPS TO SUPPORT THE RESPONSE TO SECTION 1.1**  
 (PLEASE ALSO SEE PROJECT-SPECIFIC EXCEL OUTPUTS GENERATED FOR SECTION 1.2a and 1.3a)

Metric		Summary for Watershed Control Measures in the Watershed Management Area	
		Completed	Planned and In Progress
<b>Number of Watershed Control Measures Implemented</b>		1	1
<b>Permittees Collaborated with for Achievement of Milestones</b>		Torrance; Los Angeles County Flood Control District	Torrance; Palos Verdes Estates; Rolling Hills Estates; Rancho Palos Verdes; Unincorporated LA County
<b>Non-Permittees Collaborated with for Achievement of Milestones</b>		State Water Resources Control Board	Federal Government, EPA
<b>Funding Sought</b>		\$450,000.00	\$19,190,402.00
<b>Funding Obtained</b>		\$450,000.00	\$1,144,336.00
<b>Technical Assistance Received</b>		Other (non-Safe, Clean Water)	Other (non-Safe, Clean Water); Safe, Clean Water
<b>Number of WCMs that Provide Co-benefits</b>	<b>Clean Streets (e.g., street sweeping, litter abatement, etc.)</b>	1	1
	<b>More Parks and Green Spaces</b>	1	0
	<b>Reduced Heat Island Effect</b>	0	1
	<b>Reduced Flooding</b>	1	1
	<b>Water Supply Augmentation</b>	1	1
	<b>Neighborhood Beautification</b>	0	0
	<b>Job Creation</b>	0	1
	<b>Benefits Accruing to Disadvantaged Communities (As Identified on CalEnviroScreen)</b>	0	1

<sup>1</sup> Includes the volume of water captured, infiltrated, retained, treated, diverted or otherwise addressed by a watershed control measure.

<sup>2</sup> <https://oehha.ca.gov/calenviroscreen>

1.2 **Watershed Control Measures Completed.** Complete Table 1a, on an Excel spreadsheet. Include all watershed control measures (aside from minimum control measures specified in Part VIII of the Order) in the Watershed Management Program completed since the effective date of the Order for Ventura County Permittees, since March 28, 2014 for the City of Long Beach, and since December 28, 2012 for other Los Angeles County Permittees. This table is cumulative—i.e., the table should include all the control measures completed from the time of the aforementioned dates to the end of this reporting period. Structural control measures as well as non-structural control measures (e.g., enhanced MCMs such as incentive programs, outreach and conservation programs, etc.) should be included in this table. If information is not available for a particular field, the field should indicate “Not Applicable” (N/A) [Order – IX].

**Table 1a: Watershed Control Measures Completed**

Project Name	Previous Project Name(s) if Changed	Permittee(s)	Subwatershed	Project Type <sup>3</sup>	Description	Latitude <sup>4</sup>	Longitude <sup>5</sup>	Required Completion Date in WMP	Actual Completion Date	Capital Costs [\$]	Cumulative O&M Costs [\$]	Funding Source(s)	Project Footprint <sup>6</sup> [Acres]	Drainage Area <sup>7</sup> [Acres]	Projected Storage Capacity in WMP [Acre-feet]	Actual Storage Capacity <sup>8</sup> [Acre-feet]	Cumulative Volume Addressed <sup>9</sup> [Acre-feet]

**PLEASE SEE EXCEL ATTACHMENT TO SUPPORT RESPONSE FOR TABLE 1a.**

<sup>3</sup> Choose from Regional Infiltration Facility, Regional Treatment Facility, Green Street, Diversion to Sewer, Non-Structural, or Other (specify). For Regional Treatment Facility projects, include a description of the treatment process and design specifications in section 1.2a. For Green Street projects, include linear miles of the green street in section 1.2a.

<sup>4</sup> Use decimal degrees (DD) format.

<sup>5</sup> Use decimal degrees (DD) format.

<sup>6</sup> The area footprint of the project.

<sup>7</sup> The area tributary to the project.

<sup>8</sup> The project’s physical storage capacity to hold water. For example, for a regional infiltration facility, this would be the storage volume of the storage units plus the void space of backfill materials.

<sup>9</sup> Includes the cumulative volume of water captured, infiltrated, retained, treated, diverted, or otherwise addressed by the project.

1.2a) Additional Information. Provide additional information regarding the Watershed Control Measures completed (e.g., other compliance metrics and a list of (a) Permittees and non-Permittees collaborated with for achievement of milestones, (b) funding sought, (c) funding obtained, (d) technical assistance received (e.g., through the Safe Clean Water Program Watershed Area Steering Committee), (e) additional local community co-benefits such as clean streets (including, without limitation, street sweeping, litter abatement, etc.), more parks and green spaces, reduced heat island effect, reduced flooding, water supply augmentation, neighborhood beautification, and job creation, and (f) other co-benefits and resources accruing to disadvantaged communities as identified on CalEnviroScreen).

**PLEASE SEE EXCEL ATTACHMENT TO SUPPORT RESPONSE TO SECTION 1.2a.**

### Completed Watershed Control Measures

#### Walnut Basin Project

The Walnut Basin Project was designed and constructed to capture, infiltrate, and divert approximately twenty-one (21) acre-feet per year (AFY) of storm water collected from a minimum of fifty-six (56) acre drainage area. The Project will manage a 0.85-inch rainfall event (85th percentile, 24-hour storm event) by installing a diversion structure, including tunneling and manholes to divert storm water and dry weather runoff to an existing above-ground basin known as Walnut Basin. The Walnut Basin Project was constructed to improve storm drain system capacity; increase local water supplies, reduce energy consumption and provide for future habitat restoration.

The Walnut Basin Project installed one (1) hydrodynamic separator pretreatment system, one hundred sixty-four (164) feet of forty-eight (48) inch diameter reinforced concrete pipe, one (1) concrete headwall and outfall structure in the Walnut Basin and two (2) flow meters. This project reduced flooding, captured storm water, and reduce pollutant load discharges to Machado Lake. Nutrient and toxic impairments in Machado Lake was reduced by diverting storm water from the Los Angeles County Flood Control District storm drain in 238th Street (just west of Western Avenue) back into the existing Walnut Basin instead of routing it two (2) miles away to Machado Lake.

Based on the Stormwater Monitoring Report performed by Northgate Environmental Management, Inc., sampling location downstream of Walnut Basin and discharging from the City, which is Tor-S4 with sufficient data to graph have generally shown trends to be generally stable with a slight increasing trend for dry weather events (Figures 10A, 10B, 12A, and 12B). Dry weather data has not been collected at Tor-S4 since February, 2019.

## Flow Monitoring

A summary of the monthly flow data for each monitoring station is presented on Stormwater Monitoring Report that documents stormwater monitoring performed for the City that covers the annual monitoring period between July 1, 2022 and June 30, 2023.

Even prior to the reduction of the mass of total nitrogen (TN) and total phosphorous (TP) from the upgradient sources (Tor-S6 through Tor-S9) and Waleria lake discharge events (Tor-S3), the City has maintained compliance with the WLAs, with the exception of this most recent monitoring period.

- Even before removing the mass of TN and TP contributed from upgradient sources and the mass contributed by Waleria Lake discharge, the total mass of TN discharged from the City for the most recent monitoring period of 644.16 kg was determined to be below the final WLA for TN of 3,008 kg and the total mass of TP discharged from the City of 335.43 kg was determined to be slightly above the final WLA of 301 kg. However, the total mass of TN and TP discharged from the City, after removing the contributions from the upgradient sources, of 470.92 and 277.06 kg, respectively, were both below the final WLAs of 3,008 and 301 kg, respectively. Based on these data, the City is in compliance for TN and TP discharge for the 2022 water year.
- TN and TP have shown a generally decreasing trend using the mass-based approach, with the exception of this monitoring period that showed an increase, which occurred during one of the wettest recorded monitoring periods in recent history. The increase precipitation appears to be the likely cause of the recent increasing trend observed and has not been typical of historic data trends.
- In some water years, the amount of TN and TP discharged are negative numbers because more of the compounds entered the City from upgradient sources and Waleria Lake discharge than was present within stormwater collected within the City.
- The City has demonstrated continued compliance for TN and TP discharges for each annual water year monitoring period. It is worth noting that this monitoring period was one of the wettest in recent history. The nearest rain gage monitored recorded a total of about 21 inches of rain. The City has continued to maintain compliance with the TMDL requirements since 2012. The City has shown compliance with the TDML requirements for the 2022 TMDL reporting period between April 1, 2022 and March 31, 2023.

1.3 **Watershed Control Measures Planned and In Progress**. Complete Table 1b, on an Excel spreadsheet. Include all watershed control measures (aside from minimum control measures specified in Part VIII of the Order) in the Watershed Management Program that are planned and in progress. Structural control measures as well as non-structural control measures (e.g., enhanced MCMs such as incentive programs, outreach and conservation programs, etc.) should be included in this table. If information is not available for a particular field, the field should indicate "Not Applicable" (N/A) [*Order – IX*].

**Table 1b: Watershed Control Measures Planned and In Progress**

Project Name	Permittee(s)	Subwatershed	Project Type <sup>10</sup>	Description	Latitude <sup>11</sup>	Longitude <sup>12</sup>	Required Completion Date in WMP	Estimated Completion Date	Estimated Capital Costs [\$]	Estimated Annual O&M Costs [\$]	Funding Source(s)	Project Footprint <sup>13</sup> [Acres]	Drainage Area <sup>14</sup> [Acres]	Projected Storage Capacity in WMP <sup>15</sup> [Acre-feet]	Status <sup>16</sup>

**PLEASE SEE EXCEL ATTACHMENT TO SUPPORT RESPONSE FOR TABLE 1b.**

<sup>10</sup> Choose from *Regional Infiltration Facility, Regional Treatment Facility, Green Street, Diversion to Sewer, Non-Structural, or Other*. For Regional Treatment Facility projects, include a description of the treatment process and design specifications in section 1.3a.

<sup>11</sup> Use decimal degrees (DD) format.

<sup>12</sup> Use decimal degrees (DD) format.

<sup>13</sup> The area footprint of the project.

<sup>14</sup> The area tributary to the project.

<sup>15</sup> The project’s physical storage capacity to hold water. For example, for a regional infiltration facility, this would be the storage volume of the storage units plus the void space of backfill materials.

<sup>16</sup> Description of the project’s status. This may include the project implementation phase (e.g., funding, design, construction).

1.3a) Additional Information. Provide additional information regarding the Watershed Control Measures planned and in progress (e.g., other compliance metrics and a list of (a) Permittees and non-Permittees collaborated with for achievement of milestones, (b) funding sought, (c) funding obtained, (d) technical assistance received (e.g., through the Safe Clean Water Program Watershed Area Steering Committee), (e) additional local community co-benefits such as clean streets (including, without limitation, street sweeping, litter abatement, etc.), more parks and green spaces, reduced heat island effect, reduced flooding, water supply augmentation, neighborhood beautification, and job creation, and (f) other co-benefits and resources accruing to disadvantaged communities as identified on CalEnviroScreen).

**PLEASE SEE EXCEL ATTACHMENT TO SUPPORT RESPONSE TO SECTION 1.3a.**

### PLANNED AND IN-PROGRESS MULTI-YEAR EFFORTS

#### Torrance Airport Stormwater Basin Project

The Machado Lake EWMP incorporated the concept of the Torrance Airport Stormwater Basin Project (TASBP) which would capture and store stormwater from Torrance and the Peninsula Cities for treatment and reuse by the proposed Regional Recycled Water Program by Metropolitan Water District of Southern California (MWD). Since that time, five years of stormwater quality monitoring data has been collected which indicates that Torrance is already in compliance with the Machado Lake TMDLs. Despite the fact the TASBP is no longer required for the City of Torrance, the TASBP is still included as a proposed project since it serves as a regional project for the Peninsula Cities to comply with the Machado Lake Nutrient and Toxics TMDLs and because it would provide approximately 131.8 AF/year of stored stormwater to the MWD to perform local and regional groundwater recharge in an effort to enhance critical groundwater resources. Please see Peninsula WMG Progress Report.

During the reporting period, draft preliminary design report was developed considering utility search and mapping, topographic survey, site geotechnical reports and community outreach to establish storage layout, new tree locations and plans of re-vegetated swale at the airport open grounds.

With the intent of increasing the SCW matching funds to 25%, an additional analysis was performed by consultant Tetra Tech to determine the proportionate amount of funding contribution by State of California Department of Transportation (Caltrans). This will help Caltrans address pollutants of concern from state highways within the Machado Lake Watershed. However, the analysis showed that the difference in pollutant removal performance by increasing storage from 8 ac-ft to 10 ac-ft will result in approximately 5% reduction credits for Caltrans. This would not be an option for Caltrans to offer funds equivalent to 20% match in exchange for only 5% reduction credits. Therefore, the City and involved Peninsula Cities agreed to move forward with the project without Caltrans. Monthly design meetings and review of deliverables are held regularly with the participation of representatives from the Peninsula WMG.

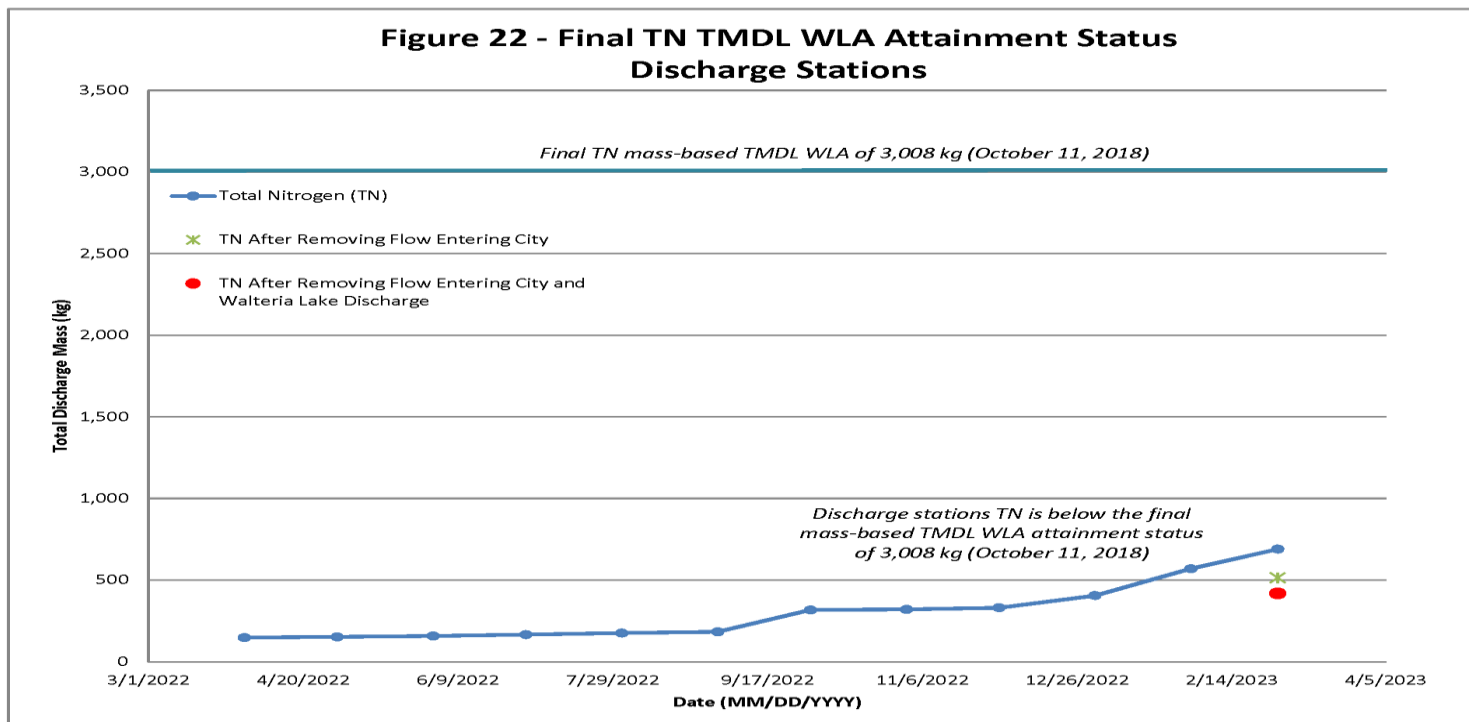


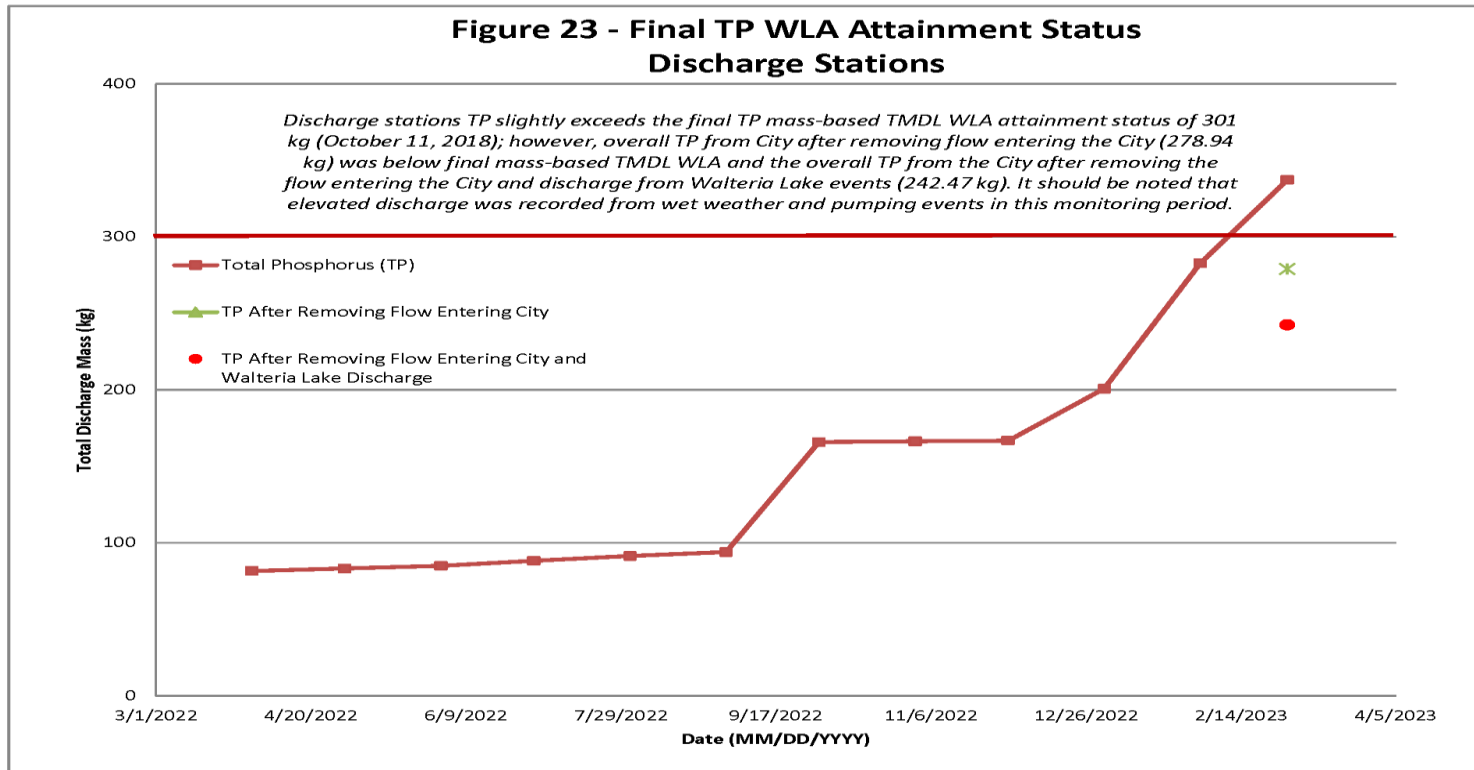
### Flow Monitoring

The Storm Water Monitoring Program proposed to assess compliance with the nutrient WLAs on a mass basis and specifies the compliance will be demonstrated through monitoring reports based on sampling data at the storm drain outfalls of the City’s storm water system. The mass based WLAs established for the City are proportional to the City owned areas in the watershed.

A summary of the monthly flow data for each monitoring station is presented on Stormwater Monitoring Report that documents stormwater monitoring performed for the City that covers the annual monitoring period between July 1, 2022 and June 30, 2023.

Figure 22 and 23 below shows line graph of Final TN and TP TMDL WLA Attainment Status.





1.4 **Water Body Pollutant Combination (WBPC) Compliance.** Complete Table 1c on an Excel spreadsheet for all WBPCs identified in the Watershed Management Program. If information is not available for a particular field, the field should indicate “Not Applicable” (N/A) [Order – X].

**WRAMPS DOES NOT CURRENTLY SUPPORT RESPONSE FOR TABLE 1c.**

**Table 1c: WBPC Compliance**

WBPC Category (1, 2, or 3)	Pollutant	Receiving Water	Weather Condition (Wet, Dry, N/A)	Interim or Final	Deadline	Deadline Met? (Yes, No, N/A)	Method of Compliance <sup>17</sup>

1.5 **Additional Information.** Attach any additional information or reports pertinent to the WMP to this report. Provide a brief summary of these attachments below.

N/A

<sup>17</sup> Choose between the following four options: (1) outfall monitoring, (2) receiving water monitoring, (3) no direct or indirect discharge from MS4 to the applicable receiving water, or (4) full compliance of an approved WMP. If selecting option (4), reference applicable projects in Table 1a and 1b.