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MRCA
Attachment
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Agenda Item VI(e)

January 27, 2017

Ms. Laura Saltzman
Mountains Recreation and Conservation Authority
Urban Projects and Watershed Planning Division
570 W. Avenue 26, Suite 100
Los Angeles, CA 90065

**Milton Green Street Water Quality Monitoring Services Proposal**

Dear Ms. Saltzman,

CWE is pleased to submit this proposal to provide water quality monitoring services at the Milton Green Street Project, based on the approved Monitoring and Reporting Plan we prepared in September of 2013.

# 1. Project Understanding and Services Scope

The Mountains Recreation and Conservation Authority (MRCA) received a Proposition 84 Grant from the California State Water Resources Control Board (SWRCB) for implementation of the Milton Green Street and Milton Street Park Project portions of the Ballona Creek Bike Trail. The June 4, 2016, City of Los Angeles, Department of Public Works, Bureau of Engineering, accepted Milton Green Street and Park Project plans envision constructing sixteen Vegetated Stormwater Curb Extensions (VSCEs). The VSCES are intended to beautify the street, complement the recently constructed park bike trail, and nearly eliminate runoff through increased infiltration. To assess runoff reduction and pollutant removal resulting from the Project, the MRCA contracted with CWE to draft the Milton Green Street Project Monitoring and Reporting Plan (MRP), make a presentation to, and gain the approval of, the Bay Restoration Commission Technical Advisory Committee (TAC), and finalize MRP. The Bay Restoration Commission TAC considered and approved of the draft MRP, with minor edits, on September 23, 2013, and it was promptly finalized.

The Milton Green Street Project Monitoring and Reporting Plan (MRP) anticipates collecting water quality samples at representative VSCE entrances and, assuming a very large storm, at the VSCE discharge point just above the downstream catch basins. The VSCEs will be quantitatively assessed as structural BMPs that reduce runoff volume and pollutant conveyance and increase the potential for compliance with 2012 (as amended on September 8, 2016) Coastal Los Angeles County Phase I Municipal Separate Storm Sewer System (MS4) Permit Water Quality Based Effluent Limitations (WQBELs) for Ballona Creek. Water quality monitoring will occur for the four quadrants of Milton Street, to assess the water quality of runoff from the street, the adjacent elementary school athletic field, and the recently constructed park. Since small storms would not be expected to generate VSCE discharges, our monitoring efforts will emphasize forecasted medium and large storm events; although observed rainfall depths are beyond our control.

## 1.1 Task 1 – Collect Water Quality Samples for Three Storm Events

CWE will follow the approved Milton Green Street Project MRP. Assuming timely construction project completion, water quality samples will be collected from three (3), 0.5" or larger, National Weather Service (NWS), forecasted storm events during the October 1, 2017 to April 15, 2018 storm season. In anticipation of qualifying rainfall, our scientists will arrive at Milton Green Street, excavate approximately one cubic foot of soil at each of the VSCE sampling locations shown in **Figure 1-1**, and insert plastic buckets or tubs to receive runoff flows, while minimizing the potential for inclusion of VSCE soils. Based on the as-built construction, sandbags, or inert bricks, may be used to form a sampling flume to funnel a portion of the flows into the inserted plastic bucket or preferably directly into the sample containers. For each storm sampling event, early (first flush) and mid to late event sample pairs will be taken at up to six locations. While the MPR identifies twelve monitoring sites, either the six east, or west, locations would be selected during any particular storm event. While as-built VSCE construction may change baseline or pre-treatment sampling locations slightly from those in the MRP, two VSCE inlets were anticipated to accept primarily street flows, two park runoff, two street runoff with school athletic field runoff, and two the potential contribution of treated upstream VSCE effluent. The four remaining locations would capture treated VSCE outflow, before it can enter downstream catch basins and be discharged to Ballona Creek.


**Figure 1-1 Milton Green Street Sampling Location Overview**

The use of buckets or basins is intended to release sampling team from having to remain on-site, waiting for VSCE effluent flows that might only occur following a few minutes of intense rainfall, during a multiday storm. Unlike runoff collected directly into sample containers, bucket or basin samples will be homogenized by prior to collection. The collected sample would be chilled on wet ice and taken within hold times and under Chain of Custody (COC) to certified laboratories to be analyzed for the constituents in **Table 1-1**. Deviations from the planned MRP may be necessary to accommodate short 6-8 hour bacteria sample hold times. CWE typically use Eurofins Calscience Laboratories for the wet-chemistry constituent analyses and Michelson Laboratories for bacterial analyses. CWE will analyze for the field parameters, identified in **Table 1-2**, using a YSI Pro-DSS multi-parameter meter and photographically assess the presence, capture, or conveyance of trash and anthropogenic debris.

**Table 1-1 Water Quality Parameters to be Analyzed in the Laboratory**

| Parameter | Method | Units | MDL |
|---|---|---|---|
| **Indicator Bacteria** | | | |
| Fecal Coliform | SM9221E | MPN/100ml | <2 |
| Fecal Enterococcus | SM9230B | MPN/100ml | <2 |
| Fecal Streptococcus[1] | SM9230B | MPN/100ml | <2 |
| Total Coliform | SM9221B | MPN/100ml | <2 |
| **Metals** | | | |
| Cadmium (Total) | EPA200.7 | mg/L | 0.001 |
| Copper (Total) | EPA200.7 | mg/L | 0.001 |
| Lead (Total) | EPA200.7 | mg/L | 0.004 |
| Selenium (Total) | EPA200.7 | mg/L | 0.004 |
| Silver (Total) | EPA200.7 | mg/L | 0.002 |
| Zinc (Total) | EPA200.7 | mg/L | 0.002 |
| **Miscellaneous Constituents** | | | |
| Total Suspended Solids | SM2540D | mg/L | 0.5 |
| Oil and Grease | EPA1664 | mg/L | 1.7 |

[1] The TAC requested inclusion of Fecal Streptococcus in the MFP; however it is not an MS4 Permit requirement.

**Table 1-2 Water Quality Parameters to be Analyzed in the Field**

| Parameter | Method/Range | Units | Method Detection Limit (MDL) |
|---|---|---|---|
| Temperature | Thermometer or Probe (-5 to 50) | °C | - |
| Turbidity | Field meter equivalent to EPA 180.1 | NTU | 0.1 |
| pH | pH meter (0.1 to 14.0) | pH units | - |
| Dissolved Oxygen | Polargraphic probe | mg/L | 0.1 |
| Specific Conductivity | Conductance probe | µsims/cm | 10 |
| Trash and Debris | Photographic survey of VSCEs and Screens | pieces | 0.5 cm |

## 1.2 Optional Task

Dissolved metals are more bioavailable to aquatic organisms, than particulate metals; however the Ballona Creek Metals TMDL asses total metal loads. As an optional task, both total and dissolved metals samples would be collected and analyzed for an additional $3,000 fee.

### 1.3 Task 2 – Monitoring Results Reporting

Within 90 days following receipt of analytical laboratory reports, CWE will prepare a technical letter or memorandum that summarizes observed influent pollutant concentrations, estimated annual runoff volume, calculated pollutant retention (load), observations regarding Milton Creek VSCE effectiveness, and suggestions for improvement or application as similar Green Street design elements elsewhere.

## 2. Assumptions

Field analyses and water quality monitoring will be undertaken by trained CWE scientists or technicians. Analyses will be performed by a State of California, Environmental Laboratory Accreditation Program (ELAP) certified laboratories, specifically Eurofins Scientific and Michelson Laboratories; however if laboratory pricing increases due to additional SWRCB induced accreditation requirements, that cost may be passed on to the client.

No encroachment or other agency permits will be required to facilitate monitoring. VSCE construction does not deviate in ways that impede monitoring and encroaching vegetation can be removed for up to 24 hours to accommodate the buckets or basins, if necessary based on the as-built VSCE landscaping. No additional reporting or report review is required by the granting agency. CWE sampling personnel will provide necessary hand tools (shovels and buckets) for site preparation as necessary for sampling.

## 3. Proposed Fees

Our lump sum fee for the identified scope of work is $16,957; with an additional cost of $3,000 if the dissolved metals optional task is undertaken. This would be payable within thirty days of report submission or invoice delivery, whichever occurs later. If encroachment, or other agency, permits are required to undertake sampling, or changes in SWRCB ELAP accreditation requirements result in increased laboratory costs, the RMCA will be promptly notified and the budget accordingly increased.

We appreciate the opportunity to submit this proposal and look forward to working with the Mountains Recreation and Conservation Authority. Please note that this proposal is valid for 180 days. If any questions arise during your review, please contact me at (714) 526-7500 x207 or ggreene@cwecorp.com.

Respectfully submitted,
**CWE**

Gerald Greene, DEnv, PE, QEP, QSD/P
Project Manager/Director, Stormwater