

C/CAG

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TASK ORDER FORM

Date/Start Date: July 1, 2019
Consultant Name: EOA, Inc.
Contract: Countywide Water Pollution Prevention Program Technical Support – On-Call Contracts
Task Order No.: EOA-10
Task Order Name: Municipal Stormwater NPDES Permit Compliance Assistance
Scope of Work: Water Year 2020 monitoring activities
Deliverables: See attached scope of work
Budgeted Cost: Per attached scope of work, not to exceed \$327,109 for Fiscal Year 2019-20. The additional \$147,745 for work in Fiscal Year 2020-21 is subject to sufficient funds being included in C/CAG's approved 2020-21 budget. Consultant shall not proceed to perform any work in Fiscal Year 2020-21 under this Task Order without written direction from C/CAG staff. The Task Order is issued through June, 2021 to account for end of Water Year 2020 water monitoring reporting needs.
Completion Date: June 30, 2021

The parties indicated herein agree to execute this Task Order per the scope indicated above. No payment will be made for any work performed prior to the execution of this Task Order. Unless otherwise indicated, receipt of this executed Task Order is your Notice to Proceed with the work specified herein.

C/CAG

EOA, Inc.

Sandy Wong
Executive Director

Date

Date

**Municipal Stormwater NPDES Permit
Compliance Assistance**

WY 2020 Water Quality Monitoring

Scope of Work and Budget

**Prepared for the
San Mateo Countywide
Water Pollution Prevention Program
(a C/CAG program)**



Prepared by EOA, Inc.



June 4, 2019

INTRODUCTION

EOA, Inc. (EOA) prepared this scope-of-work and budget for the San Mateo Countywide Water Pollution Prevention Program (Countywide Program or SMCWPPP). SMCWPPP is a program of the City/County Association of Governments of San Mateo County (C/CAG). The scope and budget is for EOA to assist SMCWPPP to help San Mateo County Permittees to comply with certain requirements found in the reissued municipal stormwater permit, NPDES Permit No. CAS612008, which is commonly referred to as the Municipal Regional Permit (MRP). The following sections describe EOA's tasks, budgets, and deliverables for Water Year 2020 (WY 2020) water quality monitoring and reporting activities. Exhibit A summarizes the tasks and budgets, including subtasks, estimated labor hours and hourly rates for EOA staff, and planning-level subcontractor and expense budgets. It should be noted that the actual distribution of hours and subcontractors/expenses within and among subtasks may vary. EOA will conduct all work on a time and materials basis in accordance with the Agreement for Services between EOA, Inc. and C/CAG dated August 13, 2015. The total budget will not be exceeded without C/CAG's authorization.

The total budget for WY 2020 water quality monitoring activities is \$474,854. We understand that C/CAG will authorize expenditure during FY 2019/20 of \$327,109 of this total budget and will likely authorize expenditure during FY 2020/21 of the remaining \$147,745. Please note that the estimated FY 2019/20 budget includes about \$80K in subcontractor and laboratory costs that must be contracted for in FY 2019/20 but are not invoiced until FY 2020/21.¹

TASK SM17 – WATER QUALITY MONITORING

In accordance with the MRP, water quality monitoring is conducted on a water year basis. Sampling is conducted each water year (October 1 through September 30), and reports presenting that water year's data are submitted to the Regional Water Board by the end of the following March. For example, the results of sampling during Water Year 2020 (i.e., October 1, 2019 – September 30, 2020, abbreviated as WY 2020) are documented in reports submitted by March 31, 2021. Because the typical municipal fiscal year (July 1 – June 30) and the water year are not aligned, field sampling and reporting associated with a particular water year are conducted during two adjacent fiscal years.

This scope and budget is for all activities associated with WY 2020 water quality monitoring, including fieldwork, data Quality Assurance / Quality Control (QA/QC), and reporting. However, Subtasks SM07.01 (Regional Coordination) and SM07.02 (Regional Monitoring Program Participation) are ongoing activities that are not tied to a particular water year. The budgets for Subtasks SM07.01 and SM07.02 are generally based on the estimated amount of EOA staff time needed each month or for each of a certain number of periodic meetings. For these three subtasks, this scope and budget covers the 12-month FY 2019/20 period of time (i.e., July 1, 2019 – June 30, 2020).

The structure of this scope and budget assumes that, similar to previous water years, C/CAG will issue an annual WY 2020 water quality monitoring task order that is effective July 1 and covers all monitoring and reporting activities associated with WY 2020 (i.e., the WY 2020 task order would be effective July 1,

¹ EOA commits to paying subcontractors for this work at the time samples are collected in FY 2019/20, but subcontractors don't invoice EOA for this work until FY 2020/21.

2019 and cover activities through June 30, 2021, the date that the final WY 2020 reporting is expected to be complete², and thus cover a 2 year time period).

Under this task EOA will continue to work closely with the San Francisco Estuary Institute (SFEI), which manages the San Francisco Estuary Regional Monitoring Program (RMP). EOA staff participates on the RMP Steering Committee, Technical Review Committee (TRC) and selected RMP workgroups and strategy teams. This participation helps to ensure that RMP monitoring effectively addresses the management questions of interest to SMCWPPP and all of the BASMAA regional partners, and assists with associated permit compliance.

Bonnie de Berry will continue as the water quality monitoring task leader. Similar to recent years, Kinnetic Laboratories, Inc. (KLI) will provide technical fieldwork support. Analytical laboratories will include Caltest, BioAssessment Services, EcoAnalysts, Pacific EcoRisk, Alpha Analytical, and Eurofins, or qualified substitutes.

SUBTASK SM17.01: REGIONAL COORDINATION

Regional collaboration has been an essential part of SMCWPPP's water quality monitoring approach, is encouraged by MRP provision C.8.a.i, and creates opportunities for cost sharing, information exchange, and more effective planning. EOA will continue to assist SMCWPPP to collaborate and coordinate with other Bay Area municipal stormwater management agencies on all water quality monitoring tasks. This will include representing SMCWPPP on BASMAA's Monitoring and Pollutants of Concern Committee (MPC) and the Regional Monitoring Coalition (RMC) Workgroup. During FY 2019/20 these groups will continue to assist with interpretation of MRP monitoring requirements and help provide oversight of several BASMAA regional projects that address MRP requirements, including improvements to the regional database, recommendations for redesign of the monitoring program, and the regional SSID project investigating electrical utilities as a source of PCBs to the MS4. This subtask will also include regional planning and coordination efforts in preparation for the Integrated Monitoring Report that must be submitted by March 31 of the fifth year of the permit (i.e. March 31, 2020) in lieu of the Urban Creeks Monitoring Report. This subtask may also include occasionally attending relevant policy meetings (e.g., biointegrity & biostimulatory objectives development, Strategy to Optimize Resource Management of Stormwater (STORMS), bacteria objectives, wetland/riparian policy, Caltrans workplans) and/or commenting on related documents. It is assumed that the RMC Workgroup will continue to meet quarterly. The meeting frequency for the BASMAA MPC Committee was recently reduced from monthly to bimonthly. It is assumed that the new bimonthly schedule will continue through FY 2019/20, but that additional communications will be required during the months without meetings to maintain coordination and collaboration.

In accordance with Provision C.8.b, all monitoring data must be State of California Surface Water Ambient Monitoring Program (SWAMP) comparable, data quality must be consistent with the SWAMP Quality Assurance Program Plan (QAPrP), and data collection and analytical methods must follow the SWAMP Standard Operating Procedures (SOPs). These requirements are included in the BASMAA Quality Assurance Project Plan (QAPP) and SOPs that were developed and maintained during the previous permit term and updated in FY 2015/16 to capture new MPR 2.0 requirements for creek status

² Prior years' experience has shown that reporting tasks generally extend into the months following the deadline for the Urban Creeks Monitoring Report. This is especially true for electronic data submittals to the Regional Data Center (see Subtask SM17.07).

and pesticides and toxicity monitoring. It is assumed that BASMAA RMC participants will continue to work together to maintain these documents throughout this permit term. EOA will assist with ongoing updates on behalf of SMCWPPP and San Mateo County Permittees.

BASMAA Regional Project Task RMC 3c (Creek Status Monitoring Coordination) assists all RMC participants in effective collaboration and consistent implementation of regional monitoring projects. Task RMC 3c is not funded by SMCWPPP or SCVURPPP. Instead, EOA (on behalf of SMCWPPP and SCVURPPP) provides in-kind services at a comparable level (about \$14,000 annually). In FY 2019/20, EOA will continue to provide these services on behalf of SMCWPPP at a population-adjusted level of \$4,675 (approximately one-third of \$14,000; the SCVURPPP will provide the other two-thirds). These services include: technical database assistance to RMC programs, annual compilation of RMC program creek status monitoring data into one database, serving as the link between the RMC and the California Environmental Data Exchange Network (CEDEN) regional data node (i.e., SFEI), and management of the creek status probabilistic monitoring design and site evaluation process.

Deliverables:

- Participation in six bimonthly meetings of BASMAA’s MPC Committee and four quarterly meetings of BASMAA’s RMC Workgroup on behalf of SMCWPPP and San Mateo County Permittees, with additional communications as needed during the months without meetings.
- Telephone and email communications and comments on pertinent regional documents and participation in related meetings.
- In-kind services to assist with BASMAA Regional Project Task RMC 3c (Creek Status Monitoring Coordination): technical database assistance to RMC programs, annual compilation of RMC program Creek Status data into one database, serving as the link between the RMC and the CEDEN regional data node (i.e., SFEI), and management of the creek status probabilistic monitoring design and site evaluation process.

Note: The above deliverables are for the 12-month FY 2019/20 time period (i.e., July 1, 2019 – June 30, 2020).

Budget: \$25,220

SUBTASK SM17.02: REGIONAL MONITORING PROGRAM PARTICIPATION

Provision C.8.c requires that Permittees “participate in implementing an Estuary receiving water monitoring program, at a minimum equivalent to the San Francisco Estuary Regional Monitoring Program by contributing their fair-share financially on an annual basis.” The budget for this subtask does not include financial contributions to the RMP, but does include participation in various RMP Workgroups and Strategy Teams to provide input and leadership to the RMP and identify opportunities to direct RMP funds and monitoring activities towards meeting both short- and long-term MRP requirements.

On behalf of SMCWPPP and San Mateo County Permittees, EOA will participate in the RMP’s Sources, Pathways, and Loadings Workgroup (SPLWG) which ensures that RMP projects and products are relevant and help answer management questions in the context of TMDLs and attainment of water quality standards. The SPLWG meets yearly. EOA will also participate in Strategy Teams that inform the

SPLWG such as the Small Tributary Loading Strategy Team (STLS) that meets monthly. The STLS Long-Term Trends Strategy and Advanced Data Analysis Team meets as needed. STLS participation includes selection of stations where monitoring may take place and review of monitoring plans. EOA will make every effort to ensure that STLS monitoring will maximize compliance with and address management questions related to Provisions C.8.f (Pollutants of Concern Monitoring) and C.11/12 (Mercury/PCBs TMDLs). In recent years this has included assisting with the selection, mapping, and logistical facilitation of wet weather monitoring stations in San Mateo County where pollutants of concern (e.g., PCBs and mercury) data are collected by the RMP. The data are being used to identify watersheds where PCBs and mercury control actions are likely to have the highest load reduction benefit. In future years, monitoring may shift to addressing management questions related to long-term trends.

As needed during FY 2019/20, EOA will also participate in the RMP's PCBs/Dioxins Strategy Team, which integrates across RMP Workgroup areas and oversees special studies specifically designed to address PCBs in the San Francisco Bay (rather than tributaries to the Bay). The Team is continuing to implement a multi-year study plan that includes monitoring and modeling (hydrologic and water quality) of high priority Bay margin areas.

This subtask includes email and telephone communications and review of and comment on documents and RMP work products (e.g., Long-Term Trends Modeling Implementation Plan, Advanced Data Analysis reports, monitoring reports, special study proposal). In addition, EOA will represent SMCWPPP and San Mateo County Permittees or the BASMAA RMC in other RMP Workgroups and Strategy Teams as needed (e.g., RMP's Nutrient Technical Workgroup or Emerging Contaminants Workgroup).

Deliverables:

- Participation in the RMP's annual SPLWG Workgroup meeting, the RMP's overall Annual Meeting, 12 monthly meetings of the STLS Team, and up to six additional meetings (e.g., STLS Long-Term Trends Strategy Team, STLS Advanced Data Analysis Team, and the PCBs/Dioxins Strategy Team) on behalf of SMCWPPP and San Mateo County Permittees. It is assumed that approximately half of these meetings will be attended via conference call.
- Maps and tables describing recommended STLS sampling stations.
- Comments on pertinent RMP-related documents and work products.
- Telephone and email communications.

Note: The above deliverables are for the 12-month FY 2019/20 time period (i.e., July 1, 2019 – June 30, 2020).

Budget: \$22,924

SUBTASK SM17.03: CREEK STATUS MONITORING

During WY 2020, EOA will continue to perform all aspects of the countywide creek status monitoring program, in accordance with MRP Provision C.8.d. The primary objectives of creek status monitoring are to gather information on whether numeric and narrative water quality objectives are being met in creeks and whether creek conditions are supportive of designated beneficial uses (e.g., aquatic habitat, recreational uses). Creek status monitoring will continue to be conducted in accordance with the

probabilistic and targeted designs that were developed by the BASMAA RMC during the previous permit term and are now specified in the current MRP.

Probabilistic (Random) Design

The probabilistic design involves use of a master list³ to randomly identify sample stations (i.e., the sample draw) for bioassessment monitoring. The random nature of the sampling design allows for statistically significant evaluation of ambient creek conditions within San Mateo County, region-wide, and state-wide. Potential probabilistic stations from the “sample draw” are evaluated using a defined process that addresses site permissions, logistical considerations, and sampleability as described in the BASMAA RMC Creek Status and Long-Term Trends Monitoring Plan. SMCWPPP is required to conduct bioassessment monitoring at ten sites per year⁴. As in recent years, in WY 2020 EOA will conduct site evaluations to develop a list of ten sampleable sites. Site evaluations will include development of maps, communications with creek-side landowners to obtain permissions, acquisition of any permits needed from agencies, and site reconnaissance visits in the fall and winter to determine access and safety and to check for obstructions (e.g., culverts, grade controls) that would affect bioassessment results. Site evaluation results from probabilistic sites are tabulated each year and added to a regional database. The site evaluation data are evaluated to determine the statistical confidence level in the full probabilistic dataset.

EOA will collect the types of screening-level biological, physical, and chemical water quality data required by Provision C.8.d.i at the ten bioassessment sites. Field activities will include biological community sampling (benthic macroinvertebrate and algae bioassessments), characterization of physical habitat, sonde measurements of general water quality parameters, and collection of water samples for laboratory analysis of nutrients. All sampling will be conducted by EOA’s SWAMP-trained field crew under our Scientific Collection Permit from the California Department of Fish and Wildlife. Bioassessments will be conducted during the index period (April 15 – June 30) according to the most recent version of SWAMP SOPs for bioassessment. Based on our past experience, the budget assumes that EOA’s four-person field crew will complete an average of 1.5 bioassessments per day. EOA’s field crew will conduct an annual pre-season field practice session. Members of the field crew will also receive training in first aid and safety procedures.

Benthic macroinvertebrate samples will be sent to BioAssessment Services in Folsom, CA for SAFIT Level 1 analysis. Algae samples will be sent to EcoAnalysts in Moscow, ID for species-level identification of soft-bodied algae and diatom algae. Nutrient samples will be sent to Caltest in Napa, CA for chemical analysis. EOA has worked with these laboratories for many years. They report data in a SWAMP-comparable format and with quality controls required by the CEDEN in accordance with MRP Provision C.8.h.ii.

Chlorine monitoring required by Provision C.8.d.ii will be conducted with a field spectrometer at the bioassessment sites concurrent with bioassessment monitoring.

³ EOA has housed and managed the master list since it was developed in 2009 and will continue to do so throughout the current permit term.

⁴ The MRP gives SMCWPPP the option of selecting two of the ten required bioassessment sites on a targeted basis to evaluate temporal trends, creek response to management/restoration actions, or address other impacts to aquatic life condition.

Targeted Design

The targeted design focuses on continuous water quality monitoring using multi-parameter probe measurements (i.e., pH, temperature, specific conductance, and dissolved oxygen) and temperature loggers, as well as grab samples for pathogen indicators. Targeted monitoring can be conducted along any creek where gathering new data is deemed valuable. The focus will be on collecting general water quality and temperature data in creeks that currently support or historically supported cold water fisheries. Pathogen indicator sampling will occur in creeks where recreational uses are plausible or where the data have multiple uses (e.g., TMDLs, Stressor/Source Identification studies). During the site selection process maps are developed, permissions are obtained (if needed), and a site reconnaissance visit is conducted to confirm safe access. Continuous monitoring with the multi-parameter probes must be conducted at two stations per year during two two-week deployments (spring and late-summer). Temperature logging must be conducted at four stations per year from April through September (five loggers are typically deployed to mitigate for potential loss of these small devices). Pathogen indicator sampling must be conducted at five stations per year during the dry season. Pathogen indicator samples will be delivered to Alpha Analytical Laboratory in Dublin, CA (or equivalently-certified microbiology lab) for *E. coli* and enterococcus enumeration.

Data Quality Objectives

In accordance with Provision C.8.b, all probabilistic and targeted monitoring data will be SWAMP comparable, consistent with the SWAMP QAPrP and the BASMAA QAPP, and data collection and analytical methods will follow the SWAMP and BASMAA SOPs. EOA keeps abreast of SWAMP procedures which are continually reviewed and updated at the state level. We will confirm that all participating analytical laboratories are using the most current requirements.

Quality assurance and quality control (QA/QC) review (i.e., data validation) of Creek Status Monitoring data will be conducted according to the BASMAA QAPP which specifies quantitative and qualitative data quality objectives (DQOs) for accuracy, precision, and completeness. Data not meeting the defined DQOs will be corrected if possible and flagged as necessary. The data validation process takes several months to complete and typically occurs between July and December as field data sheets are entered, laboratory reports are received, and the online SWAMP and CEDEN data checkers are accessed. The resulting validated spreadsheets tabulating all creek status monitoring data will be uploaded to the BASMAA RMC Database which is currently managed and maintained by EOA.

WY 2020 Creek Status Monitoring results will be described within the context of Creek Status Monitoring data collected since WY 2014 in the Urban Creeks Monitoring Report (UCMR) due March 31, 2021. See the description below of Subtask SM17.07 (Reporting) for more information.

Deliverables:

- WY 2020 site evaluation data associated with probabilistic and targeted monitoring sites.
- WY 2020 participation in pre-season bioassessment training session, bioassessment monitoring at ten sites, chlorine monitoring, and completed bioassessment monitoring field forms.
- WY 2020 spring and late-summer deployment (each for two weeks) and retrieval of continuous monitoring sondes at two sites.
- WY 2020 deployment, mid-season calibration check, and retrieval of five temperature loggers.

- WY 2020 collection of five pathogen indicator samples.
- WY 2020 creek status monitoring data that have undergone QA/QC review for all parameters required by Provision C.8.d.
- Populated database with all WY 2020 data.

Budget: \$222,820

SUBTASK SM17.04: STRESSOR/SOURCE IDENTIFICATION PROJECTS

Provision C.8.e requires that Permittees develop and maintain a list of candidate Stressor/Source Identification (SSID) studies based on creek status and pesticides and toxicity monitoring data that exceed “triggers” identified in the MRP. SSID Projects must follow the stepwise process described in Provision C.8.e. As a first step, a work plan describing the problem and how it will be investigated is developed. Step two includes implementation of the work plan which may include field (e.g., sample collection) and desktop (e.g., mapping, modeling) studies. Step three includes follow-up actions, as appropriate (e.g., implementation of new BMPs). Specific details of the SSID Projects will depend on what type of stressor investigated (e.g., dissolved oxygen, pathogen indicators, temperature, toxicity).

As a participant in the BASMAA RMC, SMCWPPP and its regional partners are required to initiate a combined total of eight new SSID Projects during this permit term. In WY 2018, the RMC partners agreed on an equitable allocation of effort which includes SMCWPPP responsibility for one SSID Project. Consistent with this approach, in WY 2018, on behalf of SMCWPPP, EOA developed the Pillar Point Harbor Watershed Bacteria SSID Project Work Plan. Under our prior and current Task Orders (EOA-06 and EOA-08), EOA is implementing the Work Plan and will submit a SSID project report to the Regional Water Board as soon as it is finalized (likely July 2019). This WY 2020 scope does not include any budget related to the Pillar Point Harbor Watershed Bacteria SSID Project.

To reach the goal of eight new SSID Projects during the permit term, the RMC partners also agreed to conduct a regional SSID Project that addresses electrical utility sources of PCBs. Development of the regional SSID Project Work Plan was conducted as a BASMAA Regional Project during FY 2018/19. On behalf of SMCWPPP, EOA is assisting in oversight of the regional SSID Project Work Plan through participation in the BASMAA MPC Committee (budgeted under Task SM17.01). This subtask does not include any budget related to the Regional SSID Project.

The BASMAA RMC is also required to submit unified, regional SSID reports annually to the Regional Water Board. On behalf of SMCWPPP, EOA will continue to work with the BASMAA RMC Workgroup to develop the regional SSID report. It is assumed that the regional SSID report will continue to consist primarily of a large-format table describing the status and conclusions (as available) of all SSID Projects completed, underway, and planned. It will be submitted to the Regional Water Board concurrent with the UCMR by March 31, 2020.

Deliverables:

- Continue working with RMC partners to maintain the list of candidate SSID projects and to develop the annual regional SSID report submitted with the UCMR by March 31, 2020.

Budget: \$2,170

SUBTASK SM17.05: POLLUTANTS OF CONCERN MONITORING

Provision C.8.f requires Pollutants of Concern (POC) monitoring for PCBs, mercury, copper, emerging contaminants, and nutrients. The MRP defines yearly (i.e., water year) and total (i.e., permit term) minimum numbers of samples for each POC. Five priority POC management information needs are identified including Source Identification, Contributions to Bay Impairment, Management Action Effectiveness, Loads and Status, and Trends. The MRP specifies the minimum number of samples for each POC that must address each information need.

Table 1 summarizes the WY 2020 POC monitoring deliverables and budgets. Please note that the first item in Table 1 (participation in the FY 2019/20 BASMAA MPC meetings by EOA staff focusing on PCBs and mercury controls) is for the 12-month FY 2019/20 time period (i.e., July 1, 2019 – June 30, 2020). Also note that MRP requirements related to emerging contaminants will continue to be addressed via SMCWPPP’s participation in the RMP (see Subtask SM17.02: Regional Monitoring Program Participation).

Table 1. WY 2020 POC Monitoring Deliverables and Budgets

Deliverable	WY 2020 Budget
1. Participation in the FY 2019/20 BASMAA MPC activities (meetings and coordination between meetings) by EOA staff focusing on PCBs and mercury controls	\$12,960
2. Copper and nutrients sampling (to meet annual minimum requirements)	\$5,000
3. Sediment sampling for PCBs and mercury (to meet annual minimum requirements)	\$16,980
4. POC monitoring report due October 15, 2020 that details what was accomplished in WY 2020 and what activities are anticipated in WY 2021	\$16,200
5. WY 2020 POC monitoring data that has undergone QC review for all parameters required by Provision C.8.f	\$5,000
6. WY 2020 POC interpretive monitoring report due with the WY 2020 UCMR by March 31, 2021	\$16,000
7. GI/LID inventory, PCBs load reduction accounting, source investigation follow-up, referrals, WMA prioritization update, Annual Report update (supplements SM15.01)	\$65,000
Total POC Monitoring Budget	\$137,140

SUBTASK SM17.06: PESTICIDES AND TOXICITY MONITORING

EOA will perform the WY 2020 Pesticides and Toxicity (P&T) monitoring specified in MRP Provision C.8.g, which requires that Permittees conduct dry weather and wet weather monitoring of pesticides and toxicity in urban creeks.

Dry Weather. San Mateo County Permittees are required to sample one dry weather station per year for water column toxicity (five test organisms), sediment toxicity (two test organisms), and sediment chemistry (pesticides, PAHs, metals, total organic carbon, grain size). EOA, on behalf of SMCWPPP and San Mateo County Permittees, coordinates dry weather sampling with its RMC partners to realize cost savings on QA/QC samples (e.g., field duplicates, matrix spikes). EOA will conduct planning for WY 2020 dry weather P&T monitoring and samples will likely be collected in July 2021 in coordination with the RMC partners. EOA will continue to subcontract with KLI to conduct the sampling and KLI will contract with the analytical laboratories (Pacific EcoRisk and Caltest, or equivalent).

Wet Weather. The MRP provides the incentive that if wet weather P&T samples are collected on a regional basis, fewer samples are required overall. Under this regional option, a total of ten wet weather samples must be collected over the permit term, with a minimum of six samples collected by the end of the third water year (WY 2018). Wet weather samples must be analyzed for water toxicity (five test organisms) and water chemistry (pesticides). The wet weather P&T monitoring by SMCWPPP was implemented during a winter rain event in WY 2018. No additional wet weather P&T samples are required during this permit term.

In accordance with Provision C.8.b, all P&T monitoring data will be SWAMP comparable, data quality will be consistent with the SWAMP QAPrP and the BASMAA QAPP, and data collection and analytical methods will follow the SWAMP and BASMAA SOPs. QA/QC review (i.e., data validation) of P&T monitoring data will be conducted according to the BASMAA QAPP which specifies quantitative and qualitative DQOs for accuracy, precision, and completeness. Data not meeting the defined DQOs will be corrected if possible and flagged as necessary. The data validation process takes several months to complete and typically occurs between July and December as field data sheets are entered, laboratory reports are received, and the online SWAMP and CEDEN data checkers are accessed. The resulting validated spreadsheets tabulating all P&T monitoring data will be uploaded to the BASMAA Regional Monitoring Database which is managed and maintained by EOA.

WY 2020 P&T monitoring results will be included with the UCMR due March 31, 2021. See the below description of Subtask SM17.07 (Reporting) for more information.

Deliverables:

- Telephone and email communications and planning in preparation for WY 2020 P&T sample collection.
- WY 2020 dry weather P&T monitoring at one station.
- WY2020 P&T monitoring data that have undergone QA/QC review for all parameters required in Provision C.8.g.

Budget: \$29,344

SUBTASK SM17.07: REPORTING

Provision C.8.h requires annual and comprehensive reporting of data collected pursuant to MRP Provision C.8, in SWAMP-comparable format as appropriate for submittal to the Regional Water Board, and submittal of applicable data to CEDEN. EOA will develop all required reporting materials for review and comment by San Mateo County Permittees prior to Regional Water Board submittal.

Per MRP requirements, Electronic Monitoring Data reports will be submitted annually (by March 31) to the Regional Data Center (i.e., SFEI or Moss Landing Marine Lab) for upload to CEDEN. The Electronic Monitoring Data reports will include all data that CEDEN accepts, which has recently been expanded beyond receiving water data to potentially include upland urban sediments and MS4 outfall data. Each Electronic Monitoring Data report will include monitoring results conducted pursuant to Provisions C.8.d (Creek Status Monitoring), Provision C.8.e (SSID Projects), C.8.f (POCs), and C.8.g (Pesticides and Toxicity) for the preceding water year.

The UCMR is submitted annually (by March 31) to the Regional Water Board. Each annual UCMR summarizes results and provides interpretations of data collected pursuant to Provisions C.8.d through C.8.g for the preceding water year. Bioassessment data are evaluated using the California Stream Condition Index (CSCI). Creek Status and P&T data are compared to the “triggers” listed in the MRP. Triggers are numeric thresholds above (or below) which impacts to water quality may occur. The MRP triggers are taken from a variety of sources, including water quality objectives from the Basin Plan, state and federal regulatory guidance, and peer reviewed literature. Data exceeding the triggers are compiled in a list of candidate SSID Projects. Monitoring stations and results are presented in GIS maps and analyzed using spreadsheets and statistical software, as appropriate. The SSID and POC reporting elements are developed as stand-alone reports under their respective subtasks described above and attached to the UCMR as appendices.

During FY 2020/21, following data validation and data review, EOA will develop the WY 2020 Electronic Monitoring Data Report, UCMR, and POC Monitoring Report. Deliverables related to SSID and POC Monitoring will be developed separately under their subtasks but will be summarized in the UCMR and included as appendices.

Deliverables:

- WY 2020 Electronic Monitoring Data Report (due March 31, 2021).
- WY 2020 UCMR (due March 31, 2021).

Budget: \$35,236

EXHIBIT A

EOA WY 2020 Water Quality Monitoring Municipal Stormwater Permit Compliance Assistance to C-CAG

		Principle	Manager III	Manager II	Manager I	Senior III	Senior II	Senior I	Associate II	Associate I	Technician	Clerical	Expenses/Subs	WY 2020 Budget
EOA Hourly Rate for SMCWPPP:		\$230	\$216	\$214	\$211	\$194	\$172	\$154	\$144	\$117	\$94	\$70		
Water Quality Monitoring														
SM17.01	Regional Coordination (FY 2019/20)	0	0	8	96	0	0	0	18	0	0	0	\$660	\$25,220
SM17.02	Regional Monitoring Program Participation (FY 2019/20)	0	12	0	94	0	0	0	0	0	0	0	\$498	\$22,924
SM17.03	Creek Status Monitoring (WY 2020)	0	32	0	216	174	0	82	294	246	98	0	\$43,618	\$222,820
SM17.04	Stressor/Source Identification Projects (WY 2020)	0	2	0	8	0	0	0	0	0	0	0	\$50	\$2,170
SM17.05	Pollutants of Concern Monitoring (WY 2020)	0	200	0	40	240	0	60	40	60	0	8	\$16,360	\$137,140
SM17.06	Pesticides and Toxicity Monitoring (WY 2020)	0	2	0	14	6	0	4	0	10	2	0	\$22,820	\$29,344
SM17.07	Reporting (on WY 2020 activities; reporting occurs in FY 2020/21)	4	16	0	40	40	0	20	40	40	0	4	\$860	\$35,236
		4	264	8	508	460	0	166	392	356	100	12	\$84,866	\$474,854

Notes:

Labor hours are based upon the approximate level of effort for each task.

Subcontractors and expenses are planning-level estimates.

Actual distribution of hours and subcontractors/expenses within and among tasks may vary.

Total budget will not be exceeded without C/CAG's authorization.

Subtasks SM17.01 (Regional Coordination) and SM17.02 (Regional Monitoring Program Participation) are ongoing activities that are not tied to a particular water year. For these subtasks, the above budgets cover the 12-month FY 2019/20 period of time (i.e., July 1, 2019 – June 30, 2020).

Expenses/subcontractors budgets shown include 10% overhead.