

DATE: October 16th, 2018

TO: RMP Steering Committee

FROM: Philip Trowbridge, RMP Manager

RE: Request for Additional Funds to Complete Analysis of Samples of Runoff from the North Bay Fires for Chemicals of Emerging Concern

### **REQUESTED ACTION**

Approve the use of **\$22,000** of the Undesignated Funds to analyze samples of stormwater runoff collected in November 2017 from the Santa Rosa area, and in January 2018 from the Napa and Sonoma area, following the 2017 North Bay fires using non-targeted analysis. The Santa Rosa samples were collected in November by the North Coast Regional Water Quality Control Board as part of their post-fire response, but they have decided not to proceed with the analysis. The San Francisco Bay Regional Water Quality Control Board collected samples from Napa and Sonoma from the November 2017 storm, which are already providing valuable insights as to chemicals that may be present after wildfires. A second round of stormwater samples was collected in January 2018 from Napa and Sonoma.

Analyzing the 2017 Santa Rosa and 2018 Napa and Sonoma samples would significantly enhance the RMP study of post-fire runoff because they will augment the existing, but somewhat limited data we have to date. The Santa Rosa watershed is more densely populated than Napa and Sonoma, so non-targeted analysis of these samples will allow identification of contaminants linked to burning of structures and their contents. Repeat sampling at the Napa/Sonoma sites will help to hone the preliminary list of CECs detected at wildfire-impacted sites.

### **FISCAL SITUATION**

Undesignated Funds: \$885,483 (as of 9/30/18)

### **EXPLANATION**

In 2017, wildfires devastated communities in the North Bay, burning over 8,500 buildings and 210,000 acres. The plume of smoke from these fires blanketed not only the North Bay but also much of the Bay Area, resulting in poor air quality. Previous wildfires in Southern California have shown a dramatic increase in suspended sediment, metals and polycyclic aromatic hydrocarbon (PAHs) concentrations in stormwater runoff, but this is only a small fraction of the

compounds that are likely present in the smoke, ash, and combustion debris that remain in the watershed after the fires. The Regional Water Quality Control Board (Region 2) collected stormwater from the burned watersheds in the Napa and Sonoma area in November and then again in January to analyze for conventional pollutants such as total dissolved solids, ammonia and nitrogen, metals and PAHs. To date, the results from the conventional pollutant analyses do not suggest any issues of significant concern.

To complement the conventional analysis and to provide a more comprehensive picture of contamination concerns, the Steering Committee approved RMP funds to be used to analyze the November Napa/Sonoma samples for CECs using non-targeted methods. The preliminary analysis has detected hundreds of unique contaminant signals, and has specifically identified several unusual contaminants that may be associated with wildfires and may be of concern.

We are requesting additional funding to analyze the second round of samples collected at the Napa and Sonoma sites, to prioritize which of the hundreds of as-yet unidentified contaminants should be identified and examined further, and to ascertain whether the chemicals of concern that have already been identified are truly unique to wildfires. Repeat sampling at Napa and Sonoma will help to winnow the list of CECs associated with wildfires. In particular, we expect to observe continued presence of nonpolar, fire-related contaminants in the second round of samples, whereas polar, fire-related contaminants may decline as they are solubilized and washed off the landscape.

At the same time stormwater samples were collected in Napa and Sonoma in November, the North Coast Regional Water Quality Control Board (Region 1) conducted a parallel effort to sample creeks in the Santa Rosa area that were also analyzed for conventional pollutants. Four of these samples were extracted for non-targeted analyses. However, subsequent to the sampling, Region 1 has decided not to fund the non-target analysis of these samples.

We are requesting additional funding to analyze the Region 1 samples using non-targeted methods. These results will be valuable for comparative purposes because the Santa Rosa samples were collected from areas where more buildings were burned. Therefore, the results are likely to highlight CECs that are associated with wildfires in developed areas, an unusual and alarming aspect of the North Bay fires.

The RMP's initial allocation of \$36,000 towards non-targeted analysis of fire-impacted stormwater samples was appropriately limited given the exploratory nature of this project. Preliminary findings do indicate the presence of fire-related contaminants in samples, some of which may be of potential concern and could be considered as part of development of post-fire monitoring protocols. To more firmly establish these contaminants' link to the fires, and to identify a broader suite of fire-related contaminants, additional funding of \$22,000 is requested.

## Budget

Due to the extensive in-kind contributions from the Region 1 field crew, SFEI, and DTSC for analysis of non-targeted samples, the cost this information is \$22,000. The proposal is to increase the budget for the existing RMP project (3018-053) by this amount to pay for these analyses.

Budget Line Item	Existing Budget	Amendment	Revised Budget
Labor	\$22,200	\$2,000	\$24,200
Subcontractors	\$12,800	\$20,000	\$32,800
Direct Costs	\$1,000		\$1,000
<b>Total</b>	<b>\$36,000</b>	<b>\$22,000</b>	<b>\$58,000</b>

## Budget Justification

### *Sample Collection Costs*

The samples have been collected and shipped to SDSU and DTSC.

### *Laboratory Costs*

The DTSC has conduct the first round polar-focused, non-targeted analyses *pro bono*; however, they are requesting funding to defer some of the costs for the second round of analyses of Napa and Sonoma samples. San Diego State University will charge \$1,400 per sample, and will not charge for analyses of blanks. Much of the cost of this analysis is associated with the data interpretation to identify new analytes, which is quite time intensive.

### *Reporting Costs*

SFEI will summarize the results in a short technical memorandum and provide presentations to the ECWG, TRC, and SC if requested. A slight increase in the reporting costs has been requested (\$2,000) to cover additional coordination among the laboratories for the additional samples and technical calls. Preparation of a draft manuscript for publication in a peer-reviewed journal will be the responsibility of the analytical partners (Drs. Hoh and Dodder at SDSU and Drs. Park and Petreas at DTSC), and will require relatively little RMP staff time.

## *Schedule*

<b>Deliverable</b>	<b>Due Date</b>
Task 1. Field collection of stormwater samples	Nov 2017 – Jan 2018
Task 2. Laboratory analysis of samples	March 2019
Task 3. Update to ECWG on preliminary results	April 2019
Task 4. Review of data	April – June 2019
Task 5. Draft manuscript and Memorandum to TRC	Summer 2019
Task 6. Final manuscript	Fall 2019