

Agenda Item: E.b
Meeting Date: May 27, 2021

Russian River Watershed Association

Staff Report

TO: BOARD OF DIRECTORS
FROM: Andy Rodgers, Executive Director
SUBJECT: Budget Modification for Fiscal Year 2020/2021 Work Plan

Summary: Approval of a budget modification is needed to develop a work plan for evaluation of recycled water pond pathogen transmission for City of Santa Rosa and Town of Windsor.

Background

City of Santa Rosa and Town of Windsor operate sewage treatment plants that produce filtered, UV-disinfected tertiary recycled water for reuse. In 2020 the Regional Water Quality Control Board (RWQCB) adopted permits for operation of the Town and City systems that require each entity to submit a work plan to conduct a study of the facilities by August 1, 2021.

The City of Santa Rosa and Town of Windsor approached RRWA staff about facilitating development of the work plan by University of California, Santa Barbara (UCBS). RRWA staff has been working with UCSB and City of Ukiah to bring UCSB under contract to complete the Work Plan for Evaluation of Recycled Water Pond Pathogen Transmission for City of Santa Rosa and Town of Windsor.

RRWA staff is recommending a budget modification to increase the current fiscal year work plan budget. If approved, \$24,865 will be added to the 2020/2021 RRWA Work Plan representing \$19,887 for UCSB Earth Research Institute and \$4,978 for RRWA contracting and staff support. The project is a Special Benefit Task (C.9.A) fully funded by the City of Santa Rosa and the Town of Windsor for the current fiscal year.

List of Attachments

1. UCSB Scope of Work and Budget

Contact

Andy Rodgers, Executive Director, info@rrwatershed.org

Recommended Action

Approve the budget increase modification to the 2020/2021 RRWA Work Plan in the amount of \$24,865 as a Special Benefit task to be funded by City of Santa Rosa and Town of Windsor.

Scope of Work

***DEVELOP A WORK PLAN FOR EVALUATION OF RECYCLED WATER
POND PATHOGEN TRANSMISSION******BACKGROUND***

The Regional Water Quality Control Board (RWQCB) adopted the [Action Plan for the Russian River Watershed Pathogen Total Maximum Daily Load \(TMDL\)](#) (TMDL Action Plan) in 2019. The TMDL Action Plan describes “the Program of Implementation designed to control fecal waste pollution, achieve bacteria water quality objectives (bacteria objectives), and restore the water contact recreation (REC-1) beneficial use to protect public health. The overall goal of the Action Plan is to minimize human exposure to waterborne disease-causing pathogens and to protect uses of water for recreational activities such as wading, swimming, fishing, and boating.” The TMDL Action Plan establishes an *E. coli* numerical target of ≤ 100 cfu/100 mL as a 30-day geometric mean and ≤ 320 cfu/100 mL as a statistical threshold value not to be exceeded more than 10 percent of the time when calculated monthly. These target values are the same as the bacteria water quality objectives applicable to the Russian River and its tributaries.

The City of Santa Rosa and Town of Windsor operate sewage treatment plants that produce filtered, UV-disinfected tertiary recycled water for reuse. Both reuse systems include extensive networks of transmission pipelines, storage ponds and distribution pipelines to deliver recycled water to customers. In some years, recycled water supply exceeds demand and excess water is discharged to the Laguna de Santa Rosa, a tributary of the Russian River. Any such discharge typically occurs in winter when demand for recycled water is lowest and production is highest.

The RWQCB’s [Staff Report](#) for the TMDL Action Plan states that “discharges of treated wastewater from recycled water holding ponds may contain *E. coli* and in concentrations above the TMDL targets (i.e., National criteria or statewide objectives). However, the studies indicate that the sources of detected *E. coli* bacteria in recycled water storage ponds are not necessarily of human origin and therefore may not pose a more significant threat to public health or be relevant to protection of the REC-1 beneficial use. More site-specific information is necessary to determine the sources of *E. coli* or other fecal indicator bacteria in recycled water storage ponds and whether the discharge from a recycled water storage pond contains pathogens that risk human illness before the holding pond can be eliminated as a pathogen source.”

In 2020, RWQCB adopted permits for operation of the [Town](#) and [City](#) systems that require each entity to conduct “a study to assess the Facility’s ability to comply with the (numerical targets stated above) By August 1, 2021, the Permittee shall submit, for Regional Water Board Executive Officer approval, a work plan for conducting the study. A final report summarizing the results of the Permittee’s ability to comply with the bacteria water quality objective and the Pathogen TMDL, and, if necessary, a plan and schedule for achieving compliance with the Pathogen TMDL shall be submitted to the Regional Water

Board in conjunction with the ROWD by July 31, 2024. If monitoring demonstrates that the Permittee cannot comply with the bacteria water quality objective and the Pathogen TMDL, the plan of compliance shall identify any other studies necessary to demonstrate compliance with the bacteria water quality objective and the Pathogen TMDL (i.e., study to determine whether the discharge includes pathogens of human origin).”

The City has measured *E. coli* in its storage ponds, and values range from <1 to 58.3 MPN/100 mL using IDEXX Quanti-Tray method. The TMDL Action plan reports *E. coli* values in a Town pond ranging up to nearly 1,000 MPN/100 mL (method not specified).

This Scope of Work provides for the participation of Professor Patricia Holden (and qualified associates as she designates) in the development of the Work Plan for Evaluation of Pathogen Transmission From Santa Rosa and Windsor Recycled Water Storage Ponds. Professor Holden shall coordinate activities conducted under this Scope of Work with David W. Smith, PhD (Smith), a consultant to the City and Town. The following describes tasks to be implemented by Professor Holden:

TASK 1 – REVIEW BACKGROUND INFORMATION

Key information about the sewage treatment process, recycled water quality, receiving water quality and other pertinent information shall be assembled and reviewed.

TASK 2 – DEVELOP PROPOSED MONITORING STRATEGY

A written monitoring strategy to establish whether discharges from City and Town recycled water storage ponds are contributing to exceedance of *E. coli* goals established in the TDML Action Plan shall be prepared by Professor Holden. The strategy shall include sample locations, collection timing, collection and assay method(s) and statistical methods, and include rationale/justification for each. The strategy shall be prepared to allow for comparison to the data that are the basis of the TMDL Action Plan. The strategy shall also describe an approach to determine whether the City or Town contribution to exceedance of *E. coli* goals, if any, is the result of “pathogens that risk human illness” and whether the respective treatment plant is the source of any such pathogens. The approach shall describe sample locations, collection timing, collection and assay method(s) and statistical methods, and include rationale/justification for each.

TASK 3 – REVIEW DRAFT WORK PLAN

Smith will prepare the draft Work Plan based on the results of Task 2 and Professor Holden shall review, and provide written comments on the draft Work Plan.

TASK 4 – CONSULTATION

Professor Holden shall participate in up to four one-hour telephone meetings with Smith, City and Town staff, and RWQCB staff as requested.

SCHEDULE

The Commencement Period for this Task Order shall begin 04/01/2021 and end 07/31/2021.

Task 2 shall be completed within 60 days of the date of the Agreement authorizing this Scope of Work. Task 3 shall be completed within 21 days of receipt of the draft Work Plan.

BUDGET

UCSB Detailed Budget is incorporated as Exhibit B.

UCSB Detailed Budget

AGENCY: City of Santa Rosa			PI: Patricia Holden	
TITLE:			Earth Research Institute, UCSB	
PERIOD OF PERFORMANCE: 1/1/2021 - 3/31/2021			\$19,887	
			01/01/21	
			03/31/21	
			Year 1:	TOTAL
SALARIES:	# months	% Time		
5. Graduate Student Researcher VIII - TBN				
Base Salary Mo: \$5,982.25	3	49%	\$8,794	
Total Salaries:			\$8,794	\$8,794
BENEFITS:				
5. Graduate Student Researcher VIII - TBN				
\$8,794 Benefit Rate=	1.9%	CBR	\$167	
Total fringe:			\$167	\$167
5. Graduate Student Tuition & Fees* (In-State)				
\$4,522 per quarter W21	1 quarter		\$4,522	
5. Graduate Student Health Insurance*				
\$1,431 per quarter W21	1 quarter		\$1,431	
Total tuition/fees/GSHIP:			\$5,953	\$5,953
Total Benefits:			\$6,120	\$6,120
TOTAL SALARIES & BENEFITS:			\$14,914	\$14,914
TOTAL DIRECT COSTS:			\$14,914	\$14,914
MODIFIED TOTAL DIRECT COSTS:			\$8,961	\$8,961
INDIRECT COSTS: On-campus rate of Modified Total Direct Costs†				
	\$8,961	@	55.5%	\$4,973
	<u>\$8,961</u>			
TOTAL REQUEST:			\$19,887	\$19,887

* Full tuition and fee remission provided to all TAs and GSRs employed at 25% time or more.

† These are the DHHS negotiated, predetermined On-Campus rates for Research Projects covering the period of 7/1/20 - 6/30/21. The rate thereafter is provisional.