March 27, 2019

Mr. John L. Daverin
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572-8300

RE: Proposal for the Perris North Basin Groundwater Contamination Prevention and Remediation Program Implementation Plan

Dear Mr. Daverin:

Woodard & Curran is pleased to provide this proposal for services for the Perris North Basin Groundwater Contamination Prevention and Remediation Program Implementation Plan (Plan). This proposal provides the proposed scope, schedule, and budget for preparation of this Plan.

Scope of Work

The Plan will be conducted in cooperation with the Eastern Municipal Water District's (EMWD) project manager and staff. The Plan will consist of groundwater modeling and well siting and will include the following four tasks and the corresponding subtasks.

Task 1: Project Management

This Task covers day-to-day management of the project, meeting and coordination with the EMWD project manager regarding project progress, deliverables, schedule, budget, and invoicing. This includes:

- Up to eight (8) 2-hour conference calls with EMWD staff
- Up to three (3) in-person meetings are included in this Task, including the project kick-off meeting
- Coordination with Kennedy-Jenks

Task 2: Well Siting

A total of nine groundwater extraction well locations are proposed in the Proposition 1 GWGP Implementation Full Proposal. We understand that EMWD has completed siting for three of these wells, two in the Moreno Valley (Well 65 and Well 66) and one in Perris South (Well 204). Woodard & Curran will evaluate the siting for eight candidate groundwater extraction well locations. Woodard & Curran will identify six candidate locations for Cactus Avenue Wells and two candidate locations for Moreno Valley East.

The well siting component of the Plan will be a desktop evaluation that will consist of compiling and evaluating pertinent data to assess potential technical and institutional feasibility issues at the candidate locations.

Subtask 2.1 Data Compilation

Available data will be compiled and presented in a series of maps. Maps will include data from various sources listed below.

1

Proposal for preparation of the Perris North Basin Groundwater Contamination Prevention and Remediation Program Implementation Plan

Data to be collected by Woodard & Curran:

- Historic and current land use in the vicinity of the proposed well sites, including vacant parcels
- Potential sources of contamination from GeoTracker and EnviroStor databases
- Aerial photographs
- Existing and planned utilities, including overhead and buried
- Size and preliminary layout of planned aboveground facilities

Data to be provided by EMWD:

- Assessor parcel numbers for sites acquired by EMWD
- Maps and/or shapefiles of utilities in the vicinity of the proposed well sites that Woodard & Curran identifies
- Site-specific maps and any data for proposed well sites, if available

Subtask 2.2 Feasibility Assessment
The data compiled under Subtask 2.1 will be evaluated to assess and identify potential parcels within the candidate locations that are best suited to site the eight extraction wells. The feasibility assessment will include a review of technical and institutional issues for each parcel and a ranking of each potential well site within the candidate locations. Findings will culminate in a recommendation to EMWD to help inform and support its decision on which targeted properties to acquire and the locations to site the extraction wells.

Subtask 2.3 Optimizing Well Locations
As there would be variety of factors that affect suitable locations for the wells, the EMWD groundwater model (SJFM-2014) Baseline model will be used in an iterative process to optimize the location of the wells. The goals of this optimization process include the following:
- No impacts on effectiveness of existing groundwater remediation systems in the area
- Achieving maximum capture and remediation of contamination plume
- Optimizing groundwater production opportunities to enhance EMWD's water supply goals

Groundwater modeling may involve use of PEST or other iterative methods to meet the program goals, while considering the hydrologic, hydrogeologic, and operational constraints in the area.

Task 3: Water Flow Direction Vector Analysis
The modeling work will rely on the existing version of the San Jacinto Flow Model (SJFM-2014) calibration and baseline models.

Subtask 3.1 Water Flow Direction Vector Analysis
The SJFM-2014 Baseline model will be used for the flow direction vector analysis. This analysis will include preparation of maps of groundwater elevation contours, groundwater flow vectors, and maps of change in groundwater elevations, and time animation of change in groundwater elevations. It is assumed this analysis will include two (2) scenario runs including:
  i.   New MV wells
  ii. EGETS 2 wells

Subtask 3.2 Groundwater Elevation and Direction Verification
The SJFM-2014 Baseline model will be used for the groundwater elevation and direction verification. The analysis objective is to demonstrate that the Plan will not adversely affect the effectiveness of existing groundwater remediation systems in the area. The analysis may include development of groundwater elevation contour maps, flow direction vector maps, as well as particle tracking to verify the direction of groundwater movement.

2

Proposal for preparation of the Perris North Basin Groundwater Contamination Prevention and Remediation Program Implementation Plan

Task 4: Prepare Technical Memorandum

This task includes preparation of a Technical Memorandum (TM) to document the work completed in this scope of work. The TM will be prepared in a draft form for review by EMWD. Upon receipt of comments, the final TM will be prepared addressing the EMWD comments.

Deliverables

Deliverable for this project include draft and final Technical Memorandum, per Task 4, summarizing the results of the analysis performed under the scope of work.

Schedule

Woodard & Curran will work with the EMWD project manager and Kennedy-Jenks to develop a realistic schedule to meet the needs of the CEQA and EMWD's project. Once developed, we will commit resources to ensure that the schedule is met.

Budget

Work under this scope of work is to be completed with a budget not to exceed $158,188. Detail budget is presented in Table below.

WOODARD & CURRAN

March 27, 2019

Cost Estimate

EMWD

Perris North Groundwater Contamination Prevention Feasibility Study

Tasks	Principal / Project Manager $310	Sr Water Resources Engineer - Modeling $282	Sr Water Resources Engineer - Well Siting $282	Project Engineer - Modeling $187	Project Engineer - Well Siting $187	Project Assistant $110	Total Hours	Total Labor Costs (1)	Total ODCs (2)	Total Fee
Task 1: Project Management										
3.1 Project Management and Coordination	4				8	4	16	$3,176	$0	$3,176
3.2 In-Person Meetings (3 meetings) (1 person attending + 2 persons on call)	24	6	6				36	$10,824	$3,000	$13,824
3.3 Conference Calls	16	8	8	4	4		40	$10,968	$0	$10,968
3.4 Coordination with Kennedy-Jenks	16	8	32		4		60	$16,988	$0	$16,988
Subtotal Task 1	60	22	46	4	16	4	152	$41,956	$3,000	$44,956
Task 2: Well Siting										
2.1 Data Compilation	4	2	16		40		62	$13,796	$0	$13,796
2.2 Feasibility Assessment	8	2	24		48		82	$18,788	$0	$18,788
2.3 Optimization of Well Locations	8	16	4	24	16		68	$15,600	$0	$15,600
Subtotal Task 2	20	20	44	24	104	0	212	$48,184	$0	$48,184
Task 3: Water Flow Direction Vector Analysis										
3.1 Water Flow Direction Vector Analysis	4	32		80			116	$25,224	$0	$25,224
3.2 Groundwater Elevation and Direction Verification	4	24		60			88	$19,228	$0	$19,228
Subtotal Task 3	8	56	0	140	0	0	204	$44,452	$0	$44,452
Task 4: Prepare Technical Memorandum										
4.1 Prepare Draft Technical Memorandum	4	8	8	12	36		68	$14,728	$0	$14,728
4.2 Prepare Final Technical Memorandum	2	4	4	6	10		26	$5,868	$0	$5,868
Subtotal Task 4	6	12	12	18	46	0	94	$20,596	$0	$20,596
TOTAL	94	110	102	186	166	4	662	$155,188	$3,000	$158,188

Thank you for the opportunity to submit our proposal on this exciting project, we look forward to working with you and your staff. Should you have any questions regarding this proposal, please contact me at your earliest convenience.

Sincerely,
WOODARD & CURRAN, INC

Ali Taghavi, PhD, PE
Sr Principal | Sr. Technical Practice Leader

3

Proposal for preparation of the Perris North Basin Groundwater Contamination Prevention and Remediation Program Implementation Plan