

January 23, 2020

11110.2019

Thaxton van Belle  
Chief Plant Operator  
City of Beaumont  
550 E. Sixth St.  
Beaumont, CA 92223

***Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 Related to the Maximum Benefit Monitoring Program for the Beaumont and San Timoteo Groundwater Management Zones***

Dear Mr. Van Belle:

Dudek is pleased to present this scope of work and fee to provide groundwater and surface water monitoring services to meet the monitoring requirements established in the Maximum Benefit Monitoring Report 2015 Work Plan for the Beaumont and San Timoteo Groundwater Management Zones (GMZ). The 2015 Work Plan was collaboratively prepared by the maximum benefit participants in the Beaumont, San Timoteo, and Yucaipa GMZs pursuant to the maximum benefit commitments described in the 2014 Basin Plan Amendment R8-2014-0005. The primary objective of the maximum benefit groundwater monitoring program is to collect the data needed for the triennial re-computation of ambient water quality for the groundwater basins in the Santa Ana River watershed.

The following scope of work and fee are based on monitoring requirements defined for the City of Beaumont in the Maximum Benefit Monitoring Report 2015 Work Plan (Wildermuth, 2014) that was updated on December 22, 2014 and approved by the Santa Ana Regional Water Quality Control Board on January 6, 2015.

The following scope of work includes the following tasks:

- Semi-annual groundwater monitoring services. The City of Beaumont is responsible for collecting groundwater level and/or water quality data from 32 wells in the Beaumont GMZ and for 10 wells in the San Timoteo GMZ per the 2015 Work Plan. The data collection responsibilities include measuring depths-to-water at all accessible wells designated for water level data collection and sample collection at all accessible wells designated for water quality data collection. The water quality samples will be delivered to Clinical Laboratory of San Bernardino, Inc. of Grand Terrace, California for analyses as outlined in the Draft 2015 Work

*Mr. Thaxton Van Belle*

*Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 for the Maximum Benefits Monitoring Programs*

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Plan. Water levels will be manually measured using a Solinst electric water level sounder. Some of these wells are no longer accessible because the owner refused access, the property is abandoned, or no communication was established with the owner. We will work to gain access to these wells in 2020 or possibly recommend alternative well sites to inspect to fill in potential data gaps.

- Bi-weekly surface water monitoring services at up to eight (8) surface water monitoring sites in the Beaumont and San Timoteo GMZs. This will include measuring surface water flows and collecting water quality samples from each monitoring site. The Draft 2015 Work Plan also calls for the collection of water quality samples from three of the surface water monitoring sites following up to 6 storm events.

All data collected in the field (e.g. groundwater level measurements, surface water flows) will be compiled in a database, along with analytical laboratory results for all water quality samples collected by Dudek.

Dudek is under contract with YVWD to be the acting Data Manager for the San Timoteo Creek, Yucaipa, and Beaumont Management Zones. This includes collecting, reviewing, providing QA/QC, and compiling all groundwater and surface water data from the three management zones. The benefit of using Dudek to conduct the field work is that all information will be easily assimilated into the annual reports prepared by Dudek.

Dudek is under contract with YVWD to prepare an annual Maximum Benefit Monitoring Program Report. The annual report is due to the Santa Ana Board every April 15 of the following year.

## **SCOPE OF WORK**

### **Task 1. Semi-Annual Groundwater Level and Water Quality Monitoring**

Dudek personnel will be tasked with conducting all fieldwork pertaining to the two semi-annual groundwater monitoring events. The fieldwork is tentatively scheduled for the weeks beginning May 4, 2020 for the first semi-annual monitoring event, and November 2, 2020 for the second semi-annual monitoring event. The following is a list of tasks that will be completed by Dudek:

- Manually measure depths-to-water (DTW) at thirty-three (33) wells designated for water level data collection in the 2015 Maximum Benefit Monitoring Report Work Plan. The water levels will be measured using a Solinst electric water level sounder provided by Dudek, if the well is accessible. The DTW will be measured at 0.01-foot accuracy. The

*Mr. Thaxton Van Belle*

*Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 for the Maximum Benefits Monitoring Programs*

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time and date of each DTW measurement, plus the conditions (e.g. static or dynamic) of the water level at each well, will be recorded in field forms.

- Water level data will be downloaded from dedicated pressure transducers, if any, at wells where they are deployed. The water level data will be barometrically corrected and compiled with the manual water level measurements if the pressure transducers measure absolute pressure.
- Water quality samples will be collected from twenty-five (25) wells designated for water quality data collection in the 2015 Maximum Benefit Monitoring Report Work Plan. Water Quality samples will be collected while each well is operating. All sampling information will be recorded in field forms that meet the formatting and reporting requirements established in the 2015 Maximum Benefit Monitoring Report Work Plan.
- Field parameters pH, temperature, specific conductance, and dissolved oxygen will be measured during the purging process to characterize the water quality and identify when the water produced from the well is representative of native groundwater. Dudek will use a multi-parameter device to measure the water quality parameters. Dudek staff will calibrate the device using calibration standards provided by Beaumont. The calibration of the multi-parameter device will be documented in calibration records prepared by Dudek staff prior to use in the field.
- The DTW, field parameters, and volumes purged will be recorded in field sampling forms completed in the field at each well point. The field sampling forms will also include the name of the sampler, the date/time of measurement and sample collection, the estimated volume of water to purge 3 casing volumes, and the actual volume purged. The representative water quality samples will be collected after 3 casing volumes are purged or the field parameters monitoring during purging are stable within 10% of previous measurements.
- Water quality samples will be collected in sampling containers provided by Clinical Laboratory of San Bernardino, Inc., which is a California certified analytical laboratory (ELAP Certificate No. 1088). All sample containers will be labeled with the date/time of sample collection, the well ID, identification of the preservative (if any) in the container, and the name of the sampler. A chain-of-custody form will be completed as each sample is collected and submitted with the samples to Clinical Laboratory of San Bernardino, Inc. The analytical laboratory will analyze each sample per Table 2-4 of the Draft 2015 Work Plan, which includes the following constituents:

Mr. Thaxton Van Belle

Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 for the Maximum Benefits Monitoring Programs

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- Total Dissolved Solids
  - Specific conductance
  - Nitrate-Nitrogen or Nitrate as nitrogen
  - Nitrite-Nitrogen or Nitrite as nitrogen
  - Total Inorganic Nitrogen
  - pH
  - Total alkalinity (as CaCO<sub>3</sub>)
  - Carbonate, bicarbonate and hydroxide
  - Silica (as SiO<sub>2</sub>)
  - Inorganic cations Ca, Mg, K, and Na
  - Inorganic anions Cl, F, SO<sub>4</sub>.
- All water quality samples will be stored in an ice-chest with ice during the sampling event. The samples will be delivered to Clinical Laboratory of San Bernardino on ice.

The fee for conducting the groundwater monitoring events also includes a Meals & Incidentals (M&I) rate for Riverside County and daily rates for the use of a company vehicle and water level sounder. The M&I rate was based on the United States General Services Administration that defined these rates for Riverside County for Fiscal Year 2020 (visit [gsa.gov](http://gsa.gov) website). This fee does not include costs for the analyses performed by Clinical Laboratory of San Bernardino. Dudek anticipates that the City of Beaumont will receive invoices directly from Clinical Laboratory for payment on all groundwater samples analyzed.

**Cost for Task 1 ..... \$16,600**

### **Task 2. Bi-Weekly Surface Water Monitoring**

Dudek personnel will conduct all field work pertaining to the bi-weekly surface water monitoring events. Field work under this scope of work is tentatively scheduled to begin on Thursday, February 6, 2020 and continue every other week until December 28, 2020. January 2020 monitoring was conducted under the 2019 scope of work and contract with Beaumont. The draft work plan also calls for a minimum of surface water sampling following 6 storm events. Dudek anticipates conducting 28 individual surface water monitoring events in 2020. Bi-weekly surface water monitoring will include the following tasks:

- Measure surface water flow on a biweekly basis using a current meter at the following surface water monitoring stations: CC-01, CC-02 and CC-03 on Cooper’s Creek; TMC-01 and TMC-02 on tributary to Marshall Creek; and STC-01 on San Timoteo Creek in the Beaumont and San Timoteo Management Zones. Surface water flow will be calculated

Mr. Thaxton Van Belle

Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 for the Maximum Benefits Monitoring Programs

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using the Velocity-Area Method described in *Discharge Measurements at Gaging Stations* by the USGS (Turnispeed, 2010).

- The multi-parameter water quality device will be used in the field to measure temperature, pH, electrical conductivity, and dissolved oxygen of the surface water. These parameters will be recorded in a field sampling form completed for each station.
- Water quality samples will be collected in sampling containers provided by Clinical Laboratory of San Bernardino, labeled with the data/time of sample collection, the surface water monitoring site ID, identification of the preservative (if any) in the container, and the name of the sampler. A chain-of-custody form will be completed as each sample is collected and submitted with the samples to the analytical laboratory. Each surface water sample will be analyzed for constituents listed in Table 3-1 of the 2015 Maximum Benefit Monitoring Report Work Plan, which includes the constituents required for groundwater plus ammonia as nitrogen. Silica will not be analyzed in the surface water samples.
- Water quality samples will also be collected at NC-02, STC-02 and CC-03 following up to 6 storm events. Dudek anticipates conducting four additional sampling events to capture storm water flows outside the regularly scheduled biweekly sampling events. Dudek anticipates conducting two storm water sampling events concurrently with regularly scheduled biweekly sampling events. The storm water event samples will be analyzed for the same parameters required with the biweekly samples.
- All water quality samples will be stored in an ice-chest with ice during the sampling event. The samples will be delivered to Clinical Laboratory of San Bernardino, Inc. on ice. This fee does not include costs for the analyses performed by Clinical Laboratory of San Bernardino. Dudek anticipates that the City of Beaumont will receive invoices directly from Clinical Laboratory for payment on all surface water samples analyzed.

The fee for conducting the surface water monitoring events also includes a daily rate for the use of a company vehicle.

**Cost for Task 2 .....\$29,860**

### **Task 3. Project Management and QA/QC**

This task includes labor hours for the project manager, Steven Stuart, PE, to coordinate with City of Beaumont staff and other participants, to plan project logistics for field sampling with the approximately 40 individual well owners, and provide QA/QC of all documented work and data

Mr. Thaxton Van Belle

Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2020 for the Maximum Benefits Monitoring Programs

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collected in the field. This also includes labor hours to participate in conference calls and meetings with City of Beaumont.

**Cost for Task 3 .....\$5,000**

**FEE SUMMARY**


The fee presented in this proposal will be charged on a time and materials basis in accordance with Dudek’s 2020 Standard Schedule of Charges (see attached). Dudek will complete the tasks described above on a time-and-materials basis, not to exceed \$51,460.

The time and materials fee provided in this proposal represents an estimate of the anticipated level of effort required to complete the tasks described in the proposal. Should the actual effort required to complete the tasks be less than anticipated, the amount billed will be less than the total fee. Conversely, should the actual effort to complete the proposed tasks be greater than anticipated, additional fee authorizations will be requested. No work in excess of the proposed fee or outside of the proposed scope of work will be performed without written authorization from the City of Beaumont.

**TOTAL COST.....\$51,460**

Please call me at (760) 479-4128 if you have any questions or require further discussion.

Sincerely,

  
Steven Stuart, P.E. C79764  
Project Manager

Att.: Table 1. Fee to Conduct Groundwater and Surface Water Monitoring Services in 2020  
2020 Dudek Standard Schedule of Charges

References:  
Turnispeed, D.P., and Sauer, V.B., 2010, Discharge measurements at gaging stations: U.S. Geological Survey Techniques and Methods book 3, chap. A8, 87 p.

Wildermuth Environmental, Inc., 2014. Maximum Benefit Monitoring Report 2015 Work Plan Draft. Prepared for City of Beaumont, Yucaipa Valley Water District, San Geronio Pass Water Agency, Beaumont Cherry Valley Water District, City of Banning. September 30, 2014. Updated December 22, 2014.

**AUTHORIZATION TO PROCEED**  
*for*  
**Scope of Work for Services Provided for Groundwater and Surface Water  
Monitoring per Maximum Benefits Monitoring Programs in 2020**

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The proposed scope of work and fee presented herein is acceptable and Dudek is hereby authorized to proceed with the proposed scope of services.

Authorized by: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
Name (typed or printed)

For: City of Beaumont \_\_\_\_\_

\_\_\_\_\_  
Date

**City of Beaumont**  
**Services Provided for the 2020 Maximum Benefits Monitoring Program**  
**DUDEK FEE SCHEDULE**

		<i>Project Team Role:</i>			<b>TOTAL HOURS</b>	<b>DUDEK LABOR COST</b>	<b>OTHER DIRECT COSTS<sup>1</sup></b>	<b>TOTAL FEE</b>
		<b>Sr. Engineer IV</b>	<b>Hydrogeologist IV</b>	<b>Hydrogeologist I</b>				
		<i>Team Member:</i> <b>Steven Stuart, PE</b>	<b>Christian Hunter</b>	<b>Marcelo Azevedo</b>				
		<i>Billable Rate :</i> <b>\$250</b>	<b>\$155</b>	<b>\$125</b>				
<b>Task #</b>	<b>TASK</b>							
1	Semi-Annual Groundwater Level and Quality Sampling	8	60	28	96	\$ 14,800	\$ 1,800	\$ 16,600
2	Bi-Weekly Surface Water Monitoring	8	168		176	\$ 28,040	\$ 1,820	\$ 29,860
3	Project Management and QA/QC	20			20	\$ 5,000		\$ 5,000
<b>Total Hours and Fee</b>		<b>36</b>	<b>228</b>	<b>28</b>	<b>292</b>	<b>\$ 47,840</b>	<b>\$ 3,620</b>	<b>\$ 51,460</b>

*Percent of Hours:* 12% 78% 10% 100%

1) Direct costs include administration, reproduction of reports and transportation/lodging costs for site inspection and interviews.



# DUDEK

## 2020 STANDARD SCHEDULE OF CHARGES

### ENGINEERING SERVICES

Project Director.....	\$290.00/hr
Principal Engineer III.....	\$270.00/hr
Principal Engineer II.....	\$260.00/hr
Principal Engineer I.....	\$250.00/hr
Program Manager.....	\$235.00/hr
Senior Project Manager.....	\$235.00/hr
Project Manager.....	\$230.00/hr
Senior Engineer III.....	\$225.00/hr
Senior Engineer II.....	\$215.00/hr
Senior Engineer I.....	\$205.00/hr
Project Engineer IV/Technician IV.....	\$195.00/hr
Project Engineer III/Technician III.....	\$185.00/hr
Project Engineer II/Technician II.....	\$170.00/hr
Project Engineer I/Technician I.....	\$155.00/hr
Senior Designer.....	\$175.00/hr
Designer.....	\$165.00/hr
Assistant Designer.....	\$160.00/hr
CADD Operator III.....	\$155.00/hr
CADD Operator II.....	\$145.00/hr
CADD Operator I.....	\$130.00/hr
CADD Drafter.....	\$120.00/hr
CADD Technician.....	\$110.00/hr
Project Coordinator.....	\$135.00/hr
Engineering Assistant.....	\$115.00/hr

### ENVIRONMENTAL SERVICES

Project Director.....	\$245.00/hr
Senior Specialist IV.....	\$230.00/hr
Senior Specialist III.....	\$220.00/hr
Senior Specialist II.....	\$200.00/hr
Senior Specialist I.....	\$190.00/hr
Specialist V.....	\$180.00/hr
Specialist IV.....	\$170.00/hr
Specialist III.....	\$160.00/hr
Specialist II.....	\$145.00/hr
Specialist I.....	\$130.00/hr
Analyst V.....	\$120.00/hr
Analyst IV.....	\$110.00/hr
Analyst III.....	\$100.00/hr
Analyst II.....	\$90.00/hr
Analyst I.....	\$80.00/hr
Technician V.....	\$100.00/hr
Technician IV.....	\$90.00/hr
Technician III.....	\$80.00/hr
Technician II.....	\$70.00/hr
Technician I.....	\$60.00/hr
Compliance Monitor.....	\$95.00/hr

### DATA MANAGEMENT SERVICES

GIS Programmer I.....	\$185.00/hr
GIS Specialist IV.....	\$160.00/hr
GIS Specialist III.....	\$150.00/hr
GIS Specialist II.....	\$140.00/hr
GIS Specialist I.....	\$130.00/hr
Data Analyst III.....	\$100.00/hr
Data Analyst II.....	\$90.00/hr
Data Analyst I.....	\$80.00/hr
UAS Pilot.....	\$100.00/hr

### CONSTRUCTION MANAGEMENT SERVICES

Principal/Manager.....	\$195.00/hr
Senior Construction Manager.....	\$180.00/hr
Senior Project Manager.....	\$165.00/hr
Construction Manager.....	\$155.00/hr
Project Manager.....	\$145.00/hr
Resident Engineer.....	\$145.00/hr
Construction Engineer.....	\$140.00/hr
On-site Owner's Representative.....	\$140.00/hr
Construction Inspector III.....	\$130.00/hr
Construction Inspector II.....	\$120.00/hr
Construction Inspector I.....	\$110.00/hr
Prevailing Wage Inspector.....	\$135.00/hr

### HYDROGEOLOGICAL SERVICES

Project Director.....	\$285.00/hr
Principal Hydrogeologist/Engineer II.....	\$265.00/hr
Principal Hydrogeologist/Engineer I.....	\$250.00/hr
Sr. Hydrogeologist IV/Engineer IV.....	\$235.00/hr
Sr. Hydrogeologist III/Engineer III.....	\$220.00/hr
Sr. Hydrogeologist II/Engineer II.....	\$205.00/hr
Sr. Hydrogeologist I/Engineer I.....	\$190.00/hr
Hydrogeologist VI/Engineer VI.....	\$175.00/hr
Hydrogeologist V/Engineer V.....	\$165.00/hr
Hydrogeologist IV/Engineer IV.....	\$155.00/hr
Hydrogeologist III/Engineer III.....	\$145.00/hr
Hydrogeologist II/Engineer II.....	\$135.00/hr
Hydrogeologist I/Engineer I.....	\$125.00/hr
Technician.....	\$100.00/hr

### DISTRICT MANAGEMENT & OPERATIONS

District General Manager.....	\$195.00/hr
District Engineer.....	\$185.00/hr
Operations Manager.....	\$160.00/hr
District Secretary/Accountant.....	\$120.00/hr
Collections System Manager.....	\$135.00/hr
Grade V Operator.....	\$125.00/hr
Grade IV Operator.....	\$110.00/hr
Grade III Operator.....	\$100.00/hr
Grade II Operator.....	\$75.00/hr
Grade I Operator.....	\$70.00/hr
Operator in Training.....	\$65.00/hr
Collection Maintenance Worker II.....	\$75.00/hr
Collection Maintenance Worker I.....	\$65.00/hr

### CREATIVE SERVICES

3D Graphic Artist.....	\$180.00/hr
Graphic Designer IV.....	\$160.00/hr
Graphic Designer III.....	\$145.00/hr
Graphic Designer II.....	\$130.00/hr
Graphic Designer I.....	\$115.00/hr

### PUBLICATIONS SERVICES

Technical Editor III.....	\$145.00/hr
Technical Editor II.....	\$130.00/hr
Technical Editor I.....	\$115.00/hr
Publications Specialist III.....	\$105.00/hr
Publications Specialist II.....	\$95.00/hr
Publications Specialist I.....	\$85.00/hr
Clerical Administration.....	\$90.00/hr

**Forensic Engineering** – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.

**Emergency and Holidays** – Minimum charge of two hours will be billed at 1.75 times the normal rate.

**Material and Outside Services** – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.

**Travel Expenses** – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost.

**Invoices, Late Charges** – All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within 30 days from the date of the invoice. Client agrees to pay a monthly late charge equal to 1% per month of the outstanding balance until paid in full.

**Annual Increases** – Unless identified otherwise, these standard rates will increase 3% annually.

The rates listed above assume prevailing wage rates does not apply. If this assumption is incorrect Dudek reserves the right to adjust its rates accordingly.