# AM NO. 11-020 (C.9)

MEMO TO: City Council

FROM: John Marchione, Mayor

DATE: January 18, 2011

SUBJECT: APPROVAL OF SUPPLEMENTAL AGREEMENT NO. 3 FOR

GROUNDWATER MONITORING PROGRAM

#### I. RECOMMENDED ACTION:

Approve Supplemental Agreement No. 3 with GeoEngineers, Inc., to provide engineering services for the Groundwater Monitoring Program in the amount of \$111,190, and authorize the Mayor to sign the agreement.

#### II. DEPARTMENT CONTACT PERSONS:

Bill Campbell, Director of Public Works	425-556-2733
Ron Grant, Assistant Public Works Director/City Engineer	425-556-2742
Elaine Dilley, Groundwater Technician	425-556-2757

#### III. DESCRIPTION:

#### **Background**

The City of Redmond operates five shallow drinking water supply wells that pump between 3.5 and 5 million gallons of groundwater per day, supplying approximately 40% of Redmond's drinking water. These five wells, which draw from the shallow alluvial aquifer, are located in the heart of Redmond's downtown and industrial areas and are highly susceptible to contamination due to the local geology and proximity to potential pollution sources.

In October 2003, the City Council adopted a wellhead protection ordinance to meet federal, state, and regional requirements for the protection of the City's drinking water supply. An important requirement of the ordinance is the citywide groundwater monitoring program to detect the presence of contaminants and declines in water levels before they impact a water supply well. In 2007, a consultant agreement with GeoEngineers was approved to help City staff implement this program.

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The network of monitoring wells is currently being monitored semi-annually to track the movement of groundwater and contaminants in the vicinity of the supply wells. Information collected from the well network is managed in a relational database and can be displayed graphically using the City's GIS software. The data have been evaluated to better understand the groundwater flow regime, groundwater interaction with surface water, track potential contaminants, and monitor cleanup efforts.

#### **Project Description**

Under this agreement, groundwater monitoring will be facilitated for two years. The purpose of this project is to continue collection, management, analysis, and presentation of the groundwater elevation and chemistry data on:

- the movement of groundwater and contaminants within the Critical Aquifer Recharge Area,
- groundwater interaction with surface water,
- stormwater infiltration, and
- the quality of water entering the valley aquifer from the surrounding uplands.

The project objective will be met through completion of the following tasks:

- two years of sampling and analyzing data from groundwater monitoring wells, a riverbed piezometer, and a Sammamish River gauging station,
- proper disposal of all waste water, and
- preparation of Groundwater Monitoring memos.

Monitoring well maintenance and additional investigation will be conducted as necessary.

#### IV. IMPACT:

A. <u>Service/Delivery:</u> This project will equip Wellhead Protection Program staff with the information necessary to protect public health and the environment. Additionally, analysis of the data collected from the groundwater monitoring network will enable staff to make better policy and management decisions regarding groundwater protection which affect property owners and businesses throughout the city.

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#### B. Fiscal:

**Project Costs** 

Supplemental Agreement No. 3 \$111,190

**Project Funding** 

Water/Wastewater CIP\$ 4,690Water/Wastewater Operations $\underline{106,500}$ Total\$111,190

# V. ALTERNATIVES:

# 1. Reject the Proposal:

City staff could rely upon the data collected during the first three years of groundwater monitoring. This alternative would eliminate the ability for wellhead protection staff to track groundwater quality in the vicinity of the supply wells and would not be consistent with the ordinance requirement for a citywide groundwater monitoring program.

#### 2. Modify the Scope of Work:

The frequency of groundwater monitoring events could be reduced; however, reducing monitoring frequency would lead to inadequate protection.

#### VI. TIME CONSTRAINTS:

Groundwater monitoring will be conducted in 2011 and 2012. The wet-season monitoring events will be conducted between January and April, and the dry season events will be conducted between July and October each year.

#### VII. LIST OF ATTACHMENTS:

11. Constituit 11greemen	A.	Consultant Agreement
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/s/		1/11/2011
William J. Campbell, Director of F	Public Works	Date
Approved for Council Agenda	/s/	1/11/2011
	John Marchione, Mayor	Date

#### Attachment A

#### **Groundwater Monitoring Program**

#### SUPPLEMENTAL AGREEMENT NO. \_3\_\_

This SUPPLEMENTAL AGREEMENT, made and entered into this day of	, 2011,
between the City of Redmond, Washington, hereinafter called the CITY, and GeoEngineers, Ir	ıc.,
hereinafter called the CONSULTANT, amends an earlier Agreement (AGREEMENT) dated C	October 12
2007.	

WHEREAS the CITY desires to supplement the original AGREEMENT;

NOW THEREFORE, it is mutually agreed that the terms, stipulations, and conditions of the original AGREEMENT shall be binding upon the parties hereto except insofar as amended by this SUPPLEMENTAL AGREEMENT as follows:

I

Section II, SCOPE OF WORK, is amended by the additional tasks summarized in Exhibit A-3 attached hereto.

II

Section IV, TIME FOR BEGINNING AND COMPLETION, is amended to change the completion date for all work to read January 31, 2013.

III

Section V, PAYMENT, shall be amended to compensate the CONSULTANT for the work described in Exhibit A-3.

A breakdown of the CONSULTANT'S cost proposal is attached hereto as Exhibit B-3. By this reference the exhibit is made a part of this SUPPLEMENTAL AGREEMENT.

Summarized below are the costs as listed in the original AGREEMENT and as modified by this SUPPLEMENTAL AGREEMENT.

Description	Original	Supplement	Supplement	Supplement	Total
	Agreement	No. 1	No. 2	No. 3	
Labor Cost	97,000	132,300	141,180	107,900	478,380
Reimbursable	5,080	5,250	2,750	1,290	14,370
Subconsultant	199,201	9,000	64,500	2,000	274,701
Total	301,281	146,550	208,430	111,190	767,451
Contingency	30,128	14,655	17,790	0	62,573
Grand Total	331,409	161,205	226,220	111,190	830,024

#### **EXECUTION**

IN WITNESS WHEREOF, the parties have executed this SUPPLEMENTAL AGREEMENT by having their representatives affix their signatures below.

GeoEngineers, Inc.	CITY OF REDMOND
By	By John Marchione, Mayor
(Title)	
	Attested:
	ByCity Clerk
	Approved as to Form:
	By

Rev: 2/16/07

# EXHIBIT A-3 SCOPE OF WORK SUPPLEMENTAL AGREEMENT No. 3 REDMOND, WASHINGTON

#### INTRODUCTION

This Scope of Work outlines a plan for Groundwater Monitoring services proposed in support of the City of Redmond's (City's) Wellhead Protection Program. The objective is to obtain additional monitoring data that will lead to a better understanding of movement of groundwater and contaminants within the Critical Aquifer Recharge Area (CARA).

#### SCOPE

This Scope of Work is divided into the following Tasks:

- 1. Two years of sampling and analyzing data from groundwater monitoring wells, a riverbed piezometer, and a Sammamish River gauging station
- 2. Proper disposal of all waste water
- **3.** Preparation of Groundwater Monitoring Memos
- **4.** Monitoring well maintenance
- **5.** Extra investigation

Groundwater monitoring will be conducted on a semi-annual basis in 2011 and 2012. The wet-season monitoring events will be conducted between January and April, and the dry season events will be conducted between July and October each year. GeoEngineers shall measure water levels, purge wells while monitoring field parameters, and collect water samples. This will be accomplished with the dedicated bladder pumps where they have been installed and a peristaltic pump where dedicated equipment is absent. The wells will be sampled using a low-flow technique (pumping rate of no more than 500ml/min) documented in the approved Sampling and Analysis Plan. Field parameters depth-to-water, temperature, dissolved oxygen, specific conductivity, oxidation reduction potential, pH, and turbidity will be monitored during well purge. The wells will be purged until field parameters have stabilized. Quality Assurance/Quality Control samples should be collected each monitoring event. Additionally, extra volume should be collected from one well each event to analyze for matrix spike and matrix spike duplicate. The samples will be analyzed at the City's contract laboratory (OnSite Environmental Inc.). GeoEngineers will properly dispose of wastewater in accordance with the Sampling and Analysis Plan.

GeoEngineers will prepare a memo following each groundwater monitoring event. All work products will be the property of the City of Redmond, will be kept confidential, and will not be released to any other party without written authorization from the City. The memos will describe all work performed and results obtained under this Scope of Work. Presentation of the information collected will be thoroughly detailed, accurate, explanatory, and put into the context of the project's purpose. The Memos will include, at a minimum, the following information:

• A plan figure of the project area including the monitoring locations in relation to surface water courses and surrounding local features.

- Laboratory reports for water quality, including quality assurance/quality control (QA/QC) and chain-of-custody documentation. The QA/QC data will be reviewed to determine data quality.
- Tabular presentation of laboratory results of water quality. Laboratory data will be provided electronically in an EQuIS 5 compatible format (tabular format; provided by the City).
- Documentation of wastewater disposal.

Semi-annual reports will be due 30 days after receipt of laboratory analytical results.

Monitoring well maintenance will be conducted as necessary, and extra investigation may be performed if contamination is identified in a new area or if contaminant levels spike, as authorized by the City.

#### PROJECT SCHEDULE

Redmond City Council approval will allow this project to proceed in January 2011. Two groundwater monitoring events will be conducted in 2011 and two will be conducted in 2012. The project will be complete by the end of January 2013.

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#### **EXHIBIT B-3**

#### CONSULTANT FEE DETERMINATION

**PROJECT: Wellhead Protection Program** 

#### **NEGOTIATED HOURLY RATES:**

 $\underline{Classification} \qquad \underline{Hours} \qquad x \quad \underline{Rate} \qquad = \underline{Cost}$ 

Classification	Hours	Rate	Cost	
Principal (engineer/hydrogeologist)	40	190	\$ 7,600	
Associate		180	\$ -	
Sr Engineer	120	170	\$ 20,400	
GIS Analyst 2		150	\$ -	
GIS Analyst 1		140	\$ -	
Staff 3 (hydrogeologist/geologist)	280	130	\$ 36,400	
Staff 2		120	\$ -	
Staff 1		110	\$ -	
Senior Tech	360	100	\$ 36,000	
Drafting		100	\$ -	
Word Processor	50	75	\$ 3,750	
Project Assistant	50	75	\$ 3,750	

<u>TOTAL=</u> \$ 107,900

#### **REIMBURSABLES:**

"Itemized"

Description	Unit Cost	Number of Units	Total	
Mileage)	\$0.51/mile	569	\$	290.00
Supplies (at cost)			\$	1,000.00
		TOTAL=	\$	1,290

 SUBCONSULTANT COSTS (See Exhibit C-3):
 = \$ 2,000

 TOTAL
 = \$ 111,190

 CONTINGENCIES:
 = \$ 0

 GRAND TOTAL:
 = \$ 111,190

# **EXHIBIT C-3**

#### SUBCONTRACTED WORK

The CITY permits subcontracts for the following portions of the work of the AGREEMENT:

<u>SUBCONSULTANT</u>		WORK DESCRIPTION	<u>AMOUNT</u>		
	Traffic Control Services	Traffic control	\$	2,000	

TOTAL =\$ 2,000