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TECHNICAL MEMORANDUM

To: Bill Belknap, City of Moscow
Kyle Steele, City of Moscow
Alisa Anderson, City of Moscow

From: Jon Munkers, TerraGraphics, Boise, Idaho
Robin Nimmer, TerraGraphics, Moscow, Idaho

Date: March 13, 2015

Project Code: 14072

Subject: Task Order 10 - Modification

This memorandum summarizes the change in scope of work for Task Order 10 for the City of Moscow for work conducted at 6th and Jackson. The following provides the initial scope of work and subsequent changes in blue and associated level of effort and cost. Table 1, provides a summary.

- TerraGraphics will prepare a SAP/QAPP outlining specific sampling methodologies and data quality objectives for the additional assessment activities.
 - TerraGraphics received multiple comments on the QAPP and the level of effort working with stakeholders increased from the preliminary scope of work to modify the sampling approach. There was an additional site visit included to evaluate potential well location placement. TerraGraphics notified via email the Project team that the level of effort was exceeded, but efforts would be made to make up this time in subsequent phases of the project. However, that did not occur and the additional level of effort to modify the SAP/QAPP and incorporate comments was \$1,496.82.
- Conduct field work that includes advancing up to 8 soil borings to an approximate depth of 15 feet in the areas of the central bulk chemical storage tanks and asphalt area, collect up to 16 soil samples from the borings, and analyze soil samples for nutrients (ammonia-N, nitrate-N and nitrite-N, total phosphorus-P, Total Kjeldahl Nitrogen [TKN]). Nitrate-N and nitrite-N will be compared to U.S. Environmental Protection Agency (USEPA) regional screening levels (RSLs). Ammonia and TKN do not have any screening levels. A subset of samples will be analyzed for metals and pesticides, specifically in the asphalt covered area not previously assessed.

- Advance up to 3 soil borings in DU3 to an approximate depth of 15 feet. Collect up to three soil samples for pesticide and nutrient (as listed above) analysis at depth.
- Install two additional shallow monitoring wells:
 - Potential source area – one boring will be converted into a monitoring well in the area of the historical aboveground storage tanks.
 - Off-site to the northwest in City of Moscow right-of-way (down gradient).

The well locations will be based on the groundwater flow direction from Tetra Tech's report (2013) as well as any additional information gathered on groundwater gradient. Location of the down-gradient well will be dictated by property ownership, drilling access, and utility locations.

- Survey elevations of all six wells (historical wells and newly installed wells) to calculate the groundwater hydraulic gradient.
- Measure depth to water and collect groundwater samples from all six groundwater wells. Analyze groundwater samples for nutrients (ammonia-N, nitrate-N and nitrite-N, total phosphorus-P, TKN), RCRA 8 metals (silver, arsenic, barium, cadmium, chromium, mercury, lead, and selenium), and pesticides. Nitrate-N and nitrite-N will be compared to USEPA MCLs: 10 mg/L and 1.0 mg/L, respectively as found in IDAPA 58.01.08.050.01 and 40 CFR Part 141.62. Ammonia-N, total phosphorus-P, and TKN do not have any federal or state regulatory standards. RCRA 8 metals results will be compared to background levels (if available). Pesticides results will be compared to IDTLs.
 - The initial scope of work changed to include additional boring locations and additional analytical analysis. A total of 12 borings were advanced. This increased drilling from the estimated one day to two days along with direct expenses, rentals, supplies accordingly. In addition, labor increased slightly because the level of effort increased. During drilling, a tunnel like structure was encountered that required additional analysis not scoped within the QAPP for PAHs. Also, analysis increased from 16 soil samples to 22 samples for the listed COCs based upon stakeholder comments and modifications to the QAPP. The additional level of effort for these tasks was \$6,553.86.
 - Reporting – The Data Summary Report is completed. This included additional meetings and interaction with stakeholders. TerraGraphics was able to incorporate additional reporting and the DSR is complete and there were no budget overruns, but the current budget is almost exhausted.

Attachment A
Cost Variation



TerraGraphics

Environmental Engineering, Inc.

TerraGraphics Environmental Engineering, Inc.
121 S. Jackson Street
Moscow, ID 83843
(208) 882-7858

City of Moscow
P.O. Box 9203
Moscow, ID 83843

Invoice number 03231
Date 03/13/2015

Project **14072 CITY OF MOSCOW - 217 & 317 E.
6TH STREET**

Invoice Period: Task Order No. 10

INVOICE

Description	Contract Amount	Total Billed	Contract Balance	Current Billed
14072-01 QAPP	3,394.86	4,891.68	-1,496.82	0.00
14072-02 Field Work	16,420.60	22,974.46	-6,553.86	9,109.56
14072-03 Data Summary Report	7,563.71	7,549.44	14.27	7,199.82
Total	27,379.17	35,415.58	-8,036.41	16,309.38

Field Work

Labor

	Hours	Rate	Billed Amount
Andy P. Heitmann	4.00	91.5858	366.34
Expense			
	Cost Amount	Multiplier	Billed Amount
Analysis			
Anatek Labs Inc-M	5,089.50	1.08	5,496.66
<i>Samples</i>			
<i>Samples</i>	2,916.00	1.08	3,149.28
Supplies			
Moscow-Pullman Building Supply	77.70	1.08	83.92
<i>Lid w/Plug, Bucket</i>			
<i>PVC Caps</i>	2.84	1.08	3.07
<i>Battery</i>	9.53	1.08	10.29
Phase subtotal			9,109.56

Data Summary Report

Labor

	Hours	Rate	Billed Amount
Ben C. Bailey	6.00	61.6533	369.92
Benjamin T. Davis	1.50	74.3878	111.58
Jessica E. Geidl	3.00	52.56	157.68
Jill R. Dorsey	3.50	51.7388	181.09
Jon P. Munkers	11.00	100.3896	1,104.29
Melody A. Studer	5.00	52.56	262.80
Rachel E. Gibeault	25.00	62.415	1,560.38
Robin E. Nimmer	31.00	98.8279	3,063.66
Thomas F. Jenkins	8.00	48.5523	388.42
Phase subtotal			7,199.82
		Invoice total	16,309.38

Refer questions to Accounts Receivable (208) 882-7858

INVOICE DETAIL

14072 City of Moscow - 217 & 317 E. 6th Street

14072-02 Field Work

Phase Status: Active

Billing Cutoff:

Date	Units	Rate	Amount
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Labor WIP Status: Billable

Engineer III

Andy P. Heitmann

Billable Time 01/27/2015 0.50 91.59 45.79

Billable Time 01/28/2015 3.50 91.59 320.55

Subtotal **4.00 366.34**

Labor total **4.00 366.34**

Expense WIP Status: Billable

Anatek Labs Inc-M

Analysis 01/15/2015 5,496.66

Analysis 01/15/2015 3,149.28

Subtotal **8,645.94**

Moscow-Pullman Building Supply

Supplies 01/15/2015 83.92

Supplies 01/15/2015 3.07

Supplies 01/15/2015 10.29

Subtotal **97.28**

Expense total **8,743.22**

14072-03 Data Summary Report & RA

Phase Status: Active

Billing Cutoff:

Date	Units	Rate	Amount
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Labor WIP Status: Billable

Env Tech II

Thomas F. Jenkins

Billable Time 01/12/2015 1.00 48.55 48.56

Billable Time 01/13/2015 2.50 48.55 121.38

Billable Time 01/14/2015 2.50 48.55 121.38

Billable Time 02/06/2015 1.00 48.55 48.55

Billable Time 02/09/2015 1.00 48.55 48.55

Subtotal **8.00 388.42**

Scientist I

Melody A. Studer

Billable Time 01/02/2015 3.50 52.56 183.96

Billable Time 02/09/2015 0.50 52.56 26.28

Billable Time 02/11/2015 0.50 52.56 26.28

Billable Time 02/25/2015 0.50 52.56 26.28

Subtotal **5.00 262.80**

Scientist II

Michelle E. Gibeault

Billable Time 01/07/2015 4.50 62.42 280.87

Billable Time 01/08/2015 0.50 62.42 31.21

Billable Time 01/09/2015 2.00 62.42 124.83

Billable Time 01/14/2015 3.50 62.42 218.45

INVOICE DETAIL

14072 City of Moscow - 217 & 317 E. 6th Street

14072-03 Data Summary Report & RA

Phase Status: Active

Billing Cutoff:

Date	Units	Rate	Amount
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Labor

WIP Status: Billable

Scientist II

Rachel E. Gibeault

Billable Time	01/15/2015	5.00	62.42	312.08
Billable Time	01/16/2015	3.50	62.42	218.45
Billable Time	01/19/2015	1.50	62.42	93.62
Billable Time	01/20/2015	1.50	62.42	93.62
Billable Time	01/21/2015	1.50	62.42	93.62
Billable Time	02/10/2015	1.00	62.42	62.42
Billable Time	02/13/2015	0.50	62.42	31.21

Subtotal **25.00** **1,560.38**

Scientist IV

Robin E. Nimmer

Billable Time	01/20/2015	0.50	98.83	49.41
Billable Time	01/28/2015	1.50	98.83	148.24
Billable Time	02/05/2015	7.00	98.83	691.80
Billable Time	02/06/2015	7.00	98.83	691.80
Billable Time	02/09/2015	4.00	98.83	395.31
Billable Time	02/10/2015	4.00	98.83	395.31
Billable Time	02/11/2015	4.00	98.83	395.31
Billable Time	02/12/2015	3.00	98.83	296.48

Subtotal **31.00** **3,063.66**

Engineer I

Benjamin T. Davis

Billable Time	01/30/2015	1.50	74.39	111.58
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Subtotal **1.50** **111.58**

Principal

Jon P. Munkers

Billable Time	01/20/2015	2.00	100.39	200.78
Billable Time	02/06/2015	2.00	100.39	200.78
Billable Time	02/10/2015	2.00	100.39	200.78
Billable Time	02/12/2015	2.00	100.39	200.78
Billable Time	02/23/2015	1.00	100.39	100.39
Billable Time	02/27/2015	2.00	100.39	200.78

Subtotal **11.00** **1,104.29**

GIS Specialist II

Ben C. Bailey

Billable Time	02/10/2015	6.00	61.65	369.92
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Subtotal **6.00** **369.92**

Project Administrator

Jessica E. Geidl

Billable Time	01/16/2015	1.00	52.56	52.56
Billable Time	01/27/2015	1.00	52.56	52.56
Billable Time	02/09/2015	1.00	52.56	52.56

INVOICE DETAIL

14072 City of Moscow - 217 & 317 E. 6th Street

14072-03 Data Summary Report & RA

Phase Status: Active

Billing Cutoff:

Date	Units	Rate	Amount
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Labor WIP Status: Billable

Project Administrator

Subtotal **3.00** **157.68**

Administrative Assistant II

Jill R. Dorsey

Billable Time

02/23/2015 3.50 51.74 181.09

Subtotal **3.50** **181.09**

Labor total **94.00** **7,199.82**

Invoice Summary

	Contract	Billed	%	Remaining	%
Labor	20,391.57	22,460.22	110	-2,068.65	-10
Expense	6,469.20	12,955.36	200	-6,486.16	-100
Consultant	518.40			518.40	100
Total	27,379.17	35,415.58	129	-8,036.41	-29