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Supplemental Task Order – 2017 Services

Scope and Authorization to Proceed Former Town of Newton Gravel Pit AECOM Project No. 60135471 (82518)

A. Purpose of Task Order

AECOM Technical Services, Inc. (AECOM) is to provide consulting and subcontractor services for the 2017 calendar year for the Former Town of Newton Gravel Pit project. AECOM proposes to perform these services as a supplemental task order under the terms of our Consulting Agreement authorized by the City of Manitowoc Common Council November 23, 2009. These costs will be tracked and invoiced under AECOM's current Project No. 60135471.

B. Scope of Services

The proposed scope of services is summarized in the list immediately below followed by more detailed descriptions of individual tasks:

- Project Management
- Cost Recovery
- NR 718 Soil Sampling
- RAOR Report Update
- Potable Well 2-Year Sampling Plan
- Semi-annual Potable Well Sampling
- Replacement Potable Well Sampling
- Potable Well Plume Delineation
- Specs, Plan Set, Bidding – Pond & Cap
- Construction Site Work – Pond & Cap
- Operation & Maintenance
- Annual Site Wide Groundwater Sampling
- Town Hall Meeting (no meeting proposed)

Project Management

The Newton Pit project team (City personnel, WDNR personnel, and the AECOM project manager) typically meet on a monthly or bi-monthly basis. Most meetings are convened at City Hall, but some meetings are conference calls. Occasionally, the City Team (City personnel and AECOM project manager) have a preparation meeting prior to these regularly scheduled meetings. Included in this task is time to support the City's 2018 budget process. AECOM has budgeted 10 hours a month project management time for these meetings and other typical project management activities.

Cost Recovery

AECOM will provide technical support to the City and Mr. Ned Witte, Godfrey & Kahn S.C., for the Cost Recovery effort as detailed in an email dated Wednesday, January 4, 2017. In general, AECOM will update the RAOR slide show with current information (pond designs & costs), prepare for and attend a public meeting to present the updated RAOR slide show.

NR 718 Soil Sampling

As requested by the WDNR, AECOM will conduct soil sampling activities to determine soil management methods during pond construction in 2017. The scope of work has been defined with the WDNR in an *AOC and Sampling to Determine if Soil is Clean Discussion*, Technical Memo dated November 15, 2016, a December 2, 2016 email describing a proposed soil sampling protocol, and the Department's approval of the sampling scope of work in an email from the WDNR's Project Manager dated January 9, 2017. The scope of services for the sampling event is expected to include:

- The completion of seven Geoprobe soil borings to obtain seven unsaturated soil samples for characterization of clean soils and one saturated soil sample for TCLP testing.
- Collect quality control samples. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
- Analyze an estimated 8 soil samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B) and one sample for VOC TCLP (method EPA 1311).
- Compile the data into a memo style technical report for submittal to the City and the WDNR. The memo will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the sample locations, and copies of laboratory reports.
- Driller, laboratory subcontractor costs and AECOM Other Direct Costs (ODCs) are estimates. Final costs will be based on invoicing.

RAOR Report Update

AECOM will update the RAOR report for resubmittal to the WDNR based upon the formal feedback received through the Cost Recovery public notice process and the results obtained from the NR 718 Soil Sampling activities.

Potable Well Sampling – 2 Year Work Plan

AECOM will prepare a Potable Well Monitoring Work Plan for submittal to the WDNR. The anticipated scope will be to conduct bi-annual sampling of select potable wells for 2017 and 2018 (a total of four future sampling events). If discussions with the City and WDNR determine that annual sampling is acceptable, the scope of work for the Work Plan will be adjusted to reflect the change.

Semi-Annual Potable Well Sampling

Semi-annual potable well sampling activities for 2017 (e.g. April and October events). AECOM will sample an estimated total of 30 potable wells during each event. The specific wells to be sampled will be determined by the Potable Well Monitoring Work Plan. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collection of potable well water samples and quality control samples. The quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The quality control samples will be determined by AECOM field personnel.
- Submit an estimated 35 samples per event including quality control samples to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of

laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.

- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells (as provided for in the Potable Well Monitoring Work Plan), those changes will be reflected in the number of potable wells sampled during subsequent sampling events.
- Laboratory subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.

Replacement Potable Well Sampling

The replacement potable well sampling activities for 2017 are projected to include the following locations and schedule of events:

- 3504 CTH CR, 1 sampling event
 - Lab work - 1 samples VOCs, hardness, iron, total dissolved solids (TDS)
- 4005 & 4010 Thunder Ridge, 3 sampling events
 - Lab work - 6 samples VOCs, 2 samples hardness, iron, TDS
- Two unknown locations, assume 3 sampling events each location
 - Lab work - 3 samples VOCs, 1 samples hardness, iron, TDS - per location

The work is anticipated to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collection of potable well water samples and quality control samples. The quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The quality control samples will be determined by AECOM field personnel.
- Send samples to a WAC Chapter NR 149 certified laboratory for analyses of 13 VOC samples (EPA Method SW 8260B) and five each for wet chemistry parameters of total iron (EPA Test Method 200.7), hardness (EPA Test Method 200.7), and total dissolved solids (EPA Test Method 160.1).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. The results will be incorporated in to the subsequent potable well sampling letter report to be submitted to the WDNR by AECOM.
- Laboratory subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.

Potable well Plume Delineation

A preliminary three-phase work plan has been proposed to further delineate the down-gradient groundwater contaminant plume east of Hecker Road and along CTH CR. The need for this delineation work is related to the groundwater impacts observed on the vicinity of CTH CR, just south of the intersection with Viebahn Street, and east along Viebahn Street from the intersection with CTH CR. The goal of the delineation is to fill data gaps in the groundwater monitoring network. The delineation work is planned in three phases with the understanding that the City can choose to not proceed with subsequent phases of work at any time. The phases are:

Phase 1 – Historical Well Records Search and Evaluation
Previously completed.

Phase 2 – Existing Potable Wells

If the review of WCRs does not identify and provide potable well depths within the area of interest, AECOM proposes to conduct field measurements of the existing potable wells of interest. The anticipated scope is as follows:

- Negotiate right-of-entry with each homeowner. AECOM will assist the City with these negotiations. AECOM planned for one on-site meeting for these negotiations.
- AECOM will work with the City to hire a licensed well driller to remove well water pumps from the potable wells and measure the total depth of the wells. AECOM has budgeted for the field measurement of six potable wells. Please note; it is possible that damage to the well pumps, their wiring, or the piping associated with the pumps may occur during the measurement process through no negligence of AECOM nor the City-retained subcontract well driller. Any cost associated with repairing damage is not included in AECOM's proposed budget and may be an extra expense to the City.

Phase 3 – Install New Groundwater Monitoring Wells

If further investigation of the down-gradient groundwater contaminant plume is necessary, two sets of nested groundwater monitoring wells will be installed within the area of interest. It is anticipated a total of six wells will be installed. Each well nest will include three wells consisting of one water table well and two piezometers.

- Negotiate right-of-entry with each property owner. AECOM will assist the City with these negotiations. AECOM planned for one on-site meeting for these negotiations.
- Four days of field work for the installation of the wells.
- Each of the newly installed wells will be developed and sampled prior to incorporating into the annual site-wide monitoring event. As in the past, AECOM assumes that the City will assist with the disposal of development and sampling purge water.
- Laboratory analysis of seven groundwater samples by a WAC Chapter NR 149 certified laboratory for analyses of VOCs.
- The location of each newly-installed well will be surveyed (X and Y coordinates), as well as top of casing elevation.
- AECOM will complete boring logs and well construction and development documentation for each well (WDNR Forms 4400-122 and 4400-113A and 113B).
- AECOM will assist the City with reporting preliminary sampling results to the WDNR. If the delineation results are supportive of a separate delineation report, AECOM will prepare such a report. Otherwise, the formal reporting of the well installation and sampling activities will occur in the 2017 annual groundwater and surface water sampling report.
- Laboratory and drilling subcontractor costs are estimates. Final subcontractor costs will be determined through formal bids and invoiced accordingly.
- Investigation derived waste, i.e. soil cuttings from the borings, are assumed to be uncontaminated and will be disposed of at the gravel pit site.

Specs, Plan Sets, Bidding – Pond & Cap

AECOM will assist the City with preparing plans and technical specifications along with bidding activities in support for the 2017 construction for the groundwater treatment pond and Western Source Area cap. It is anticipated that these activities will include:

- Preparing a structural plan set with one sheet of design and one sheet of details.
- A pond grading plan set with one sheet of design and one or two sheets of details including cross sections.

- A landfill cap grading plan set with one design sheet and one or two sheets of details including cross sections.
- A technical specification document providing details for the pond and landfill cap construction. AECOM understands that the City will provide the "front end" documents for the public bid documents.
- Bidding; AECOM will assist the City with the bidding process by providing technical support during the pre-bid meeting, answering technical questions and providing support for addendums during the bidding period, and supporting the final bid review.

Construction Site Work – Pond & Cap

AECOM will assist the City with pre-construction, construction, and post-construction activities. It is anticipated that these activities will include:

- Pre-construction:
 - Well Abandonment: AECOM will provide project management, field support, and subcontractor services to abandon all monitoring wells within the 2017 construction zone in accordance with NR 141 requirements. This is an estimated total of 32 wells. AECOM will provide a completed WDNR required abandonment form (Form 3300-005) for each abandoned well and incorporate the abandonment reporting into the annual groundwater monitoring report.
 - Pre-construction Meeting: AECOM will assist the City with a project kick-off pre-construction meeting with the construction contractor and subcontractors.
 - Pre-construction Layout Survey: AECOM surveyors will conduct two trips to the site for: pond layout, erosion control layout (silt fence), gravel road layout, property boundary layout, and Western Source Area cap boundary layout.
 - AECOM ODCs are estimates. Final costs will be based on invoicing.
- Construction:
 - Construction Observation: For budgeting purposes AECOM has assumed that pond and cap construction will take a period of three months (12 weeks).
 - AECOM surveyors will conduct one trip to the site to check grades on Western Source Area fill placement before the geomembrane cap is placed and check pond grades.
 - As discussed with the City, AECOM proposes a weekly construction meeting with the contractor, City personnel, and the AECOM project manager. Weekly meetings are budgeted at 4 hours a week over the 12 week construction period.
 - AECOM will assist the City with construction observation activities and proposes providing construction observation personnel for an average of 20 hours a week over the 12 week construction period.
 - AECOM ODCs are estimates. Final costs will be based on invoicing.
 - Punch List & Substantial Completion:
 - Punch list observation is anticipated to take a period of one day.
 - As-built Survey: AECOM surveyors will conduct one trip to the site for an as-built survey of the Western Source Area cap and pond grades.
 - As-built bathymetric survey: AECOM will mobilize a 2-person bathymetric survey crew. A 12-foot jonboat will be transported to the field site with a pickup truck and be equipped with a single-beam echosounder (Odom HydroTrac) which will be calibrated in the field. Soundings will be collected at approximate ten (10)-foot spacing along transects generally spaced at approximately twenty (20) foot intervals across the pond. Sounding positions will be obtained with a Trimble DSM232 capable of sub-meter position accuracy. Following the survey field-work,

recorded data will be post-processed and exported in a comma-delimited XYZ data file. This data file will be imported to AutoCAD Civil3d and used as a basis for creation of a digital surface terrain. Elevation contours of the pond bottom will be generated and delivered on a Bathymetric Survey Plot map.

- AECOM ODCs are estimates. Final costs will be based on invoicing.
- **Post-Construction:**
 - **Monitoring Well Replacement:** Once pond & cap construction is completed, AECOM will provide project management, field support, and subcontractor services to install six well nests of three wells each for future groundwater monitoring of the pond's operational performance along with two wells as down gradient well replacements.
 - **Monitoring Well Development:** Upon monitoring construction completion, AECOM will conduct field activities to develop the wells in accordance with NR 141 in preparation for future sampling activities.
 - Driller subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.

Operation & Maintenance – Pond & Cap

Operation & Maintenance (O&M) activities for the pond include training of City staff, discharge operations, discharge permit sampling, and operational/groundwater monitoring. For budgeting purposes, O&M activities were scheduled to begin in July and be performed for six months.

- **Time-Zero Groundwater Monitoring:** Prior to start-up of the pond operations, AECOM will conduct groundwater monitoring of the replacement groundwater monitoring wells designed to monitor the pond's performance. The work is anticipated to include:
 - Obtaining groundwater elevation measurements for use in interpreting the groundwater flow direction.
 - Purge and sample groundwater for field parameter analysis (pH, dissolved oxygen, conductivity, and redox potential) along with sampling for laboratory analysis of VOCs. AECOM assumes that the City will assist with the disposal of sampling purge water.
 - Collect quality control samples. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
 - Analyze an estimated 20 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
 - Compile and review the data. The data will be incorporated into the first post pond construction annual groundwater monitoring report.
 - Laboratory subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.
- **Start-up Operations:** Once the pond and cap are substantially complete, AECOM will conduct start-up activities. These are anticipated to include training of City staff in the operation of the pond discharge weir structure, training on the operation of the solar mixer, start-up operations of the solar mixer, and the first pre-discharge WPDES sampling event.
- **WPDES Discharge Sampling:** In accordance with WPDES discharge permit requirements, AECOM will conduct pre-discharge monitoring of the pond surface water. Once the pre-discharge results indicate compliance with the permit discharge limits AECOM will begin discharging water from the pond to Silver Creek and simultaneously begin discharge permit monitoring. The work is anticipated to include:
 - Pre-discharge surface water sampling, budgeted for four sampling events.

- Discharge monitoring, budgeted for six weekly and three monthly sampling events. Sampling events to include monitoring discharge flow and sampling discharged surface water.
 - Collect quality control samples, when applicable. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
 - Analyze an estimated 20 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B), PAHs (EPA Method 8270), Total Recoverable Lead (EPA Method 6010), Oil, Fats, and Grease (EPA Method 1664), and Total Suspended Solids (EPA Method 160.2).
 - Compile and report the data to the WDNR on a monthly basis using the WDNR's Discharge Monitoring Report (DMR) forms. Incorporate the data into the first post pond construction annual groundwater monitoring report.
 - Laboratory subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.
- NR 724 O&M and Groundwater Monitoring Plan: AECOM will prepare a combined plan describing the proposed operation of the groundwater treatment pond and a monitoring well sampling schedule.
 - Cap Maintenance Plan and Deed Restriction: AECOM will prepare a WDNR compliant Cap Maintenance Plan for the Western Source Area cap and assist the City with creating a deed restriction notice to be filed with the Manitowoc County, Registrar of Deeds.
 - USFS Phytoremediation Management: Assist the City in managing the USFS work for phytoremediation activities.
 - Pond Annual O&M Report: AECOM anticipates incorporating the NR 700 required remedial system operation annual report into the annual groundwater monitoring report. An initial discussion with the WDNR indicates combining the reports in this manner will be acceptable.

Annual Groundwater and Surface Water Sampling

The annual site groundwater/surface water monitoring is planned to occur during October 2017. The scope of services includes sampling an estimated 60 groundwater monitoring wells and 3 staff gauges in Silver Creek. The work is anticipated to include:

- Obtaining groundwater and free product elevation measurements for use in interpreting the groundwater flow direction.
- Purge and sample groundwater for field parameter analysis (pH, dissolved oxygen, conductivity, and redox potential) along with sampling for laboratory analysis of VOCs. AECOM assumes that the City will assist with the disposal of sampling purge water.
- Conduct water sampling from Silver Creek for field parameters and VOCs consistent with groundwater sampling.
- Collect quality control samples. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
- Analyze an estimated 66 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
- Compile the data into a letter report for submittal to the City and the WDNR. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, figures showing the results, and copies of laboratory reports.
- Laboratory subcontractor costs and AECOM ODCs are estimates. Final costs will be based on invoicing.

Town Hall Meeting

AECOM anticipates that there will be no Town Hall meeting in 2017.

C. Compensation

The total cost to complete the described activities is estimated to be \$ 347,800. The sub-totals for each task are as follows:

<u>Task</u>	<u>Sub-Total</u>
Project Management	\$ 32,070
Cost Recovery	\$ 2,970
NR 718 Soil Sampling	\$ 6,780
RAOR Report Update	\$ 3,760
Potable Well 2-Year Sampling Plan	\$ 2,860
Semi-annual Potable Well Sampling	\$ 24,880
Replacement Potable Well Sampling	\$ 8,580
Potable Well Plume Delineation	\$ 70,800
Specs, Plan Set, Bidding – Pond & Cap	\$ 28,390
Construction Site Work – Pond & Cap	\$ 107,570
Operation & Maintenance	\$ 27,240
Annual Site Wide Groundwater Sampling	\$ 31,890
Town Hall Meeting (no meeting proposed)	\$ 0

Activities outside the scope of services described in this proposal will only be completed with prior written approval.

E. Schedule

AECOM will commence the additional activities upon written authorization to proceed. By signing below and/or an email authorization and returning it to David Henderson at AECOM's Milwaukee, Wisconsin office, will serve as written authorization to proceed.

The above is understood and authorization to proceed is given as noted by the undersigned:

Approved by:
 City of Manitowoc

Accepted by:
 AECOM Technical Services, Inc.

 Signature



Kevin Brehm, P.E.

Justin M. Nickels, Mayor
 Title

Associate Vice President
 Title

 Date

February 9, 2017
 Date

 Jennifer Hudon, City Clerk