Attachment A: Example Workplan

The following pages include the example workplan, prepared by ATC in response to Scenario B – Petroleum Only Services, provided in the Request for Proposal for Remediation Master Contract.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Example Workplan

Project Title: Western Minnesota Fueling Station and Restaurant

1. Project Summary:

Organization:	ATC Group Services LLC
Contractor contact name:	Dane Ralston
Title:	Manager, Environmental Assessment and Remediation
Address:	5301 East River Road, Suite 101
	Fridley, Minnesota 55421
Phone:	612-270-4272
Fax:	651-635-9080
E-mail:	dane.ralston@atcgs.com

Subcontractor(s)/Partner(s):

Organization:	Primary driller will be Bergerson-Caswell (State contract drilling subcontractor)
Type of organization:	Driller
Project manager:	Dave Lenzmeier
Address:	5115 Industrial Street
	Maple Plain, Minnesota 55359
Phone:	952-255-7013
Fax:	763-479-2183
E-mail:	dave.lenzmeier@bergersoncaswell.com

Organization:	Pace Analytical Services, Inc. (State contract laboratory subcontractor)
Type of organization:	Analytical Laboratory
Project manager:	Ryan Thibault
Address:	1700 Elm Street SE
	Minneapolis, Minnesota 55414
Phone:	612-656-2286
Fax:	
E-mail:	Ryan.thibault@pacelabs.com

MPCA contact(s):

MPCA project manager:	Jane Doe
Title:	Project Manager
Address:	520 Lafayette Road North
	St. Paul, Minnesota 55101-4194
Phone:	651-757-XXXX
Fax:	
E-mail:	jane.doe@state.mn.us

2. Statement of Problems, Opportunities, and Existing Conditions

The site is located in a rural town in western Minnesota. The site consists of an active fueling station with an attached 24-hr restaurant, situated on the eastern portion of the site. The site is paved in the area of the fueling station but the parking area for the restaurant is gravel. There are three USTs located on the western side of the site, two gasoline and one diesel, along with four pump islands located along the southern side of the site. There is also a fuel oil AST located on the northern side of the fueling station that has been in use since the station opened.

The fueling station has been in operation since the 1950s and the restaurant was constructed in the late 1990s. Prior to the construction of the slab-on grade restaurant, two former USTs that were situated in the footprint of the restaurant were removed. Little is known about the condition of the tanks but strong petroleum odors were noted and elevated PID readings of up to 1,263 ppm were recorded.

There is significant staining near the pump islands and the station has noted a loss of product over the last few months.

The site is located in a mixed residential/commercial area. The site is bound by a residential street to the west and by Main Street to the south. Commercial buildings are located south and west of the site. Residential homes are located to the north and east with a recreational lake located beyond. A scenic drive is situated between the fueling station and the residential homes to the east.

Municipal services are available in the area; however, the lakeside homes are all on private wells. The wells are 80 feet deep. The fueling station is hooked up to municipal water and other utilities at the site include storm sewer, sanitary sewer, and water that run along Main Street.

Based on the well logs for the private wells, soils at the site consist of interbedded sands and gravels to depths between 40 to 45-ft bgs which overlays shallow bedrock at a depth 45-ft bgs and GW flow appears to be influenced by the lake.

Based on conversations with the station owner, some of the residents have been complaining about petroleum odors in their drinking water.

3. Goals, Objectives, Tasks, and Subtasks

Goal: The investigation at this site will be completed in order to identify and evaluate potential pathways linking existing dissolved phase, adsorbed phase, vapor phase, and/or free phase petroleum contamination to potential receptors.

The initial risk associated with the site is the presence of a recent release, as evidenced by the report from the station indicating "loss of product over the last few months". The recently released product should be recovered as quickly as possible. In addition, the risks to nearby residential water supply wells must be addressed quickly due to the observation of petroleum odors in drinking water.

The primary risks to receptors may be associated with consumption of petroleum-impacted groundwater supplied to homes by private supply wells, consumption of petroleum-impacted groundwater due to water line permeation, intrusion of petroleum-impacted vapor into buildings, surface water contamination, explosive conditions in nearby utilities, and/or human dermal contact with petroleum-impacted surface soil. To evaluate the risk to receptors associated with petroleum impacts at the site, ATC will:

- Perform emergency assessment and cleanup of the recent release at the site;
- Collect water samples from nearby water supply wells and oversee installation of point-of-use treatment for nearby homes supplied with impacted water from private water supply wells surrounding the site;
- Connect homes with impacted water to the municipal supply system;
- Collect receptor information for risk evaluation;
- Determine the magnitude and extent of soil, groundwater, and vapor contamination;
- Evaluate the risk to the identified receptors posed by the contamination to prepare a Site Conceptual Model and develop a Site Management Decision, which may include a site closure recommendation, development of a site monitoring plan, or selection of an active remediation technology.

Objective 1: Emergency response and cleanup

Due to the fact that the station has noted a loss of product over the last few months, there may be a current, ongoing release from the USTs at the site. ATC assumes that the release occurred within the past 90 days; therefore, in accordance with Guidance Document 2-04, *Recent Releases at Petroleum Tank Sites,* ATC will coordinate with any necessary subcontractors to complete immediate response and recovery actions, as directed by the MPCA Emergency Response Unit (EMU). These activities will be completed with the intent to recover or remove as much of the released material as rapidly as possible. The EMU will oversee site management to ensure public health and safety concerns are abated and site conditions are stable. Due to uncertainty over site conditions, the exact subcontractors that may be necessary for the emergency response are unknown; however, ATC assumes that vacuum trucks, excavators, and/or drillers may be necessary for the initial response. Due to these uncertainties over which subcontractors may be required, subcontractor costs are not estimated in the work plan spreadsheet and will be billed by ATC as actual costs with no markup, in accordance with the Contract.

In order to confirm the timeline of the release and the potential volume of product released, ATC will attempt to obtain inventory records from the service station. Inventory records may be compared to any interim corrective action activities to determine the percent of spilled product that has been recovered and the approximate amount remaining for cleanup. In addition, ATC will subcontract a tank tightness testing vendor to pinpoint the source of the release and repair the damaged component to limit the potential for additional environmental damage.

Due to the lack of competitive bidding requirements for addressing emergency conditions and due to the lack of certainty over the extent and volume of the release, a fully detailed cost estimate cannot be completed for emergency cleanup. Pending a site visit and initial assessment of conditions, ATC will bill emergency cleanup costs on a time and materials basis, in accordance with current MPCA contract rates. ATC has provided a rough estimate of ATC costs on the Example Scenario Spreadsheet.

Objective 1 Timeline: ATC will commence emergency response and cleanup activities immediately upon receipt of authorization from the MPCA.
Objective 1 Cost: Roughly estimated at $10,126.72 – billed on a time and materials basis, based on current MPCA contract rates, and dependent upon an initial site visit and assessment of conditions.
Objective 1 Deliverables: Statistical Inventory Reconciliation (SIR) reports from the site, if available; tank tightness test results; pictures documenting the tank/piping/dispenser repair; and soil disposal manifests documenting the disposal of petroleum saturated or grossly contaminated soils observed during any necessary tank system repair activities at the site.

Objective 2: Assess risk to six nearby water supply wells.

In accordance with Guidance Document 1-01, *Petroleum Remediation Program General Policy* and Guidance Document 4-06, *Investigation Report Form*, the report of petroleum odors in the drinking water of nearby homes constitutes a high-risk condition and will require immediate action. The work to address the impacted drinking water will also be managed by the MPCA EMU. Petroleum odors in water supply wells may indicate the necessity of a point-of-use granular activated carbon (GAC) filtration system as an interim corrective action to mitigate the risks associated with consumption of impacted groundwater.

Task A: Emergency water supply assessment and corrective action

Subtask 1: Discussions with nearby homeowners regarding reported petroleum odors in drinking water

Information provided to ATC, summarizing the site, indicates that residences located less than 500 feet north, northeast, and southeast of the site have reported petroleum odors in their drinking water. In accordance with Guidance Document 1-01, ATC will coordinate with the EMU to mobilize to the site for a discussion with all residents of homes with potentially impacted groundwater. ATC will discuss the observed petroleum odors in order to obtain additional information as to the potential cause of the odor and whether the timing of the observed odor coincides with the approximate date of the release at the site. In addition, ATC will obtain permission from the property owners to collect samples of the drinking water at the affected properties.

Subtask 2: Collect pre-treatment water samples from nearby water supply wells

During the same mobilization to the site for the discussion with the homeowners, ATC will collect a water sample from each of the six water supply wells. ATC will identify a sampling point inside of the building, prior to any water treatment units (water heaters, water softeners, etc.), if possible.

Prior to sample collection, ATC will calculate the volume of standing water in the water line and any appurtenances between the well and the sampling point. In addition, (assuming a well log is available) ATC will calculate the volume of water standing in the well. The volume of water in the system will be added to the volume standing in the well and the total calculated volume will be purged prior to sample collection. During sample collection, ATC will reduce water flow until the stream is approximately one-quarter inch in diameter, and fill a prepared laboratory container until there is a positive meniscus at the top of the vial. The cap will then be replaced, and the vial will be turned upside down to confirm that no bubbles appear. The samples will be immediately placed into a rigid cooler with ice for transport to the laboratory.

The private water supply well samples will be submitted to Pace Analytical Services, Inc. (Pace), a state contract laboratory subcontractor (contract release number S-792(5)), for analysis. In accordance with Guidance Document 4-05, the private supply well water samples will be submitted for analysis of volatile organic compounds (VOCs) per EPA Method 8260B, gasoline range organics (GRO) per Wisconsin Modified Method, diesel range organics (DRO) per Wisconsin Modified Method, and lead per EPA Method 6010. Lead must be analyzed due to operational age of the upgradient gas station and due to the fact that the site wells are the nearest points of use for groundwater that may have been impacted by a historical leaded gasoline release. With the approval of the EMU, ATC will submit the groundwater samples for rush analysis.

If water samples collected from the private wells indicate that the wells are not impacted, the balance of the investigation at the site would be completed under the management of the MPCA PRP. However, if analytical data indicate the presence of impacts, the site would continue under the management of the EMU until emergency conditions have been stabilized. Due to the report of petroleum odors in drinking water, ATC assumes that petroleum volatile organic compounds (PVOCs) were detected in each of the six water supply wells sampled.

Subtask 3: Install point-of-use water treatment at impacted homes as an interim corrective action

Due to the presence of petroleum odors in drinking water, ATC assumes that point-of-use treatment will be necessary to make the water safe to drink. A GAC water treatment system will be necessary to mitigate the presence of PVOCs, which were detected in water wells supplying six homes near the site.

ATC will subcontract Ultrapure & Industrial Services LLC (Ultrapure), a state contract GAC Water Filtration System contractor (contract release number M-562(5)), to install a GAC system in each of affected homes located within 500 feet of the site. ATC assumes that former leaded gasoline additives and recalcitrant compounds (methyl-tertiary-butyl-ether [MTBE], 1,2-dichloroethane [DCA], and 1,2-dibromoethane [EDB]) were not detected in water samples collected from the private wells and that water supply well sample collection will not be required to extend to additional wells located within 1,000 feet of the site.

Objective 2 Timeline: ATC will commence water supply well assessment activities immediately upon receipt of authorization from the MPCA EMU.
Objective 2 Cost: $25,578.04
Objective 2 Deliverables: Notes of conversations with nearby homeowners, laboratory analytical results from six water supply wells located near the site, and photographic documentation of the installation of GAC treatment system installation at each of the impacted homes.

Objective 3: Perform a Remedial Investigation

After emergency conditions are stabilized, the PRP will assume regulatory oversight for the remainder of the investigation at the site. Guidance Document 4-18, *Assessment of Sensitive Groundwater Conditions,* states that there are four groundwater conditions which are considered "sensitive". Specifically, the guidance indicates that sites with the following conditions are considered "sensitive":

1) Sites within a wellhead protection area with high aquifer sensitivity.
2) Sites with shallow bedrock, within 50 feet or less of the surface.
3) Sites within a sole-source aquifer that provides the only available or practicable source of drinking water.
4) Sites located in areas where water supply wells are generally less than 75 feet deep and have predominantly sand or gravel soil types.

Based on the definition of a sensitive groundwater condition, the site qualifies due to shallow bedrock identified at 45 feet bgs. For the purposes of this exercise, ATC assumes that the site is not located within a wellhead protection area or within a sole-source aquifer. Additionally, due to the water supply wells having been installed at a depth of 80 feet bgs, item 4 also does not apply to the site.

Based on the presence of sensitive groundwater conditions, the investigation must be performed in accordance with additional requirements provided in Guidance Document 4-18. As stated in Guidance Document 4-18, when a sensitive groundwater condition exists, plume stability assessment will generally require monitoring for a minimum of three years. For this reason, in the interest of sustainable practices and cost savings, ATC would contact the MPCA project manager and discuss immediate installation of permanent monitoring wells as part of a Remedial Investigation (RI) at the site, rather than collection of soil and groundwater samples from temporary push probe soil borings for the initial Limited Site Investigation (LSI). The remainder of this work plan assumes that, following discussion and collaboration, the MPCA project manager has agreed with ATC's recommendation to continue directly with the RI and to forego completion of the LSI.

Task A: Project Initiation and Administration

Subtask 1: Health and Safety Plan

ATC will prepare a site-specific Health and Safety Plan (HASP) in accordance with Occupational Safety and Health Administration (OSHA) requirements. The HASP will include general site information; emergency procedures; a map and directions to the nearest hospital; instructions for tailgate safety meetings; Job Safety Analysis (JSA) documents, describing risks associated with specific tasks during the investigation; and a list of contaminants that may be encountered, with their associated Safety Data Sheets (SDS). The HASP will also specify personal protective equipment (PPE) requirements for use during site work. The HASP will be prepared by the ATC project manager and will be updated, as necessary, as additional data are obtained and new tasks are performed.

Subtask 2: Site access

Prior to conducting site activities, ATC will obtain current property owner information from the MPCA, attempt to contact the owner by phone, and send an MPCA access agreement document to the property owner for signature. If the property owner refuses cooperation, ATC will work with the MPCA to obtain site access.

Subtask 3: Background review

ATC will complete a background review of the site and adjacent properties by reviewing any available historical reports and documenting previous work at the site, if any. If historical reports are not available, ATC will review aerial photos, MPCA UST registration information, and other available documentation to obtain as much information about the site as possible.

Subtask 4: Complete State Contractor Order Forms (SCOFs)

Prior to selection of a contractor, ATC will obtain competitive bids. Once the lowest bidder has been selected, ATC will complete the required SCOF documents to engage subcontractors for drilling and laboratory services. Only MPCA-approved state contractors will be used for the subcontracted work at the site. ATC assumes that drilling activities will be completed by Bergerson-Caswell (Bergerson), a state contract driller (contract release number D-203(5)). Laboratory services will be provided by Pace.

Task B: Initial Site Inspection and Receptor Surveys

Subtask 1: Water well receptor survey and risk evaluation

Per Guidance Document 4-02, prior to starting subsurface investigation activities, ATC will travel to the site to perform a Water Well Receptor Survey and Risk Evaluation. Prior to the site visit, ATC will review available county tax parcel information and aerial photographs of the area and map all properties within 500 feet of the site. ATC will complete a door-to-door walking survey of all properties located within 500 feet of the release source and attempt to make initial contact with all residents, property owners, or business owners; in person. ATC assumes that recalcitrant compounds (MTBE, DCA, and EDB) are not present at the site and the receptor survey will not require the identification of water supply wells within 1,000 feet of the site.

During the interview with each property representative, ATC will confirm the presence of a water well or connection to a public water supply, well usage, presence of a basement or sump, and the presence of possible petroleum sources. Due to the fact that the properties located south and west of the site are commercial, it is likely that a property representative will be present during normal business hours. For residential properties located north, northeast, and southeast of the site, the home owners may not be present at the time of the walking survey. If personal contact is not possible, ATC will either call (with contact information obtained during Objective 2 of this work plan) or leave a stamped, self-addressed postcard requesting information. Regardless of whether a property owner is present or not, a visual inspection of properties within a 500-foot radius will be completed during the walking survey. ATC will not enter a property during the visual inspection unless allowed onto the property by the owner. This limitation will be noted in Guidance Document 4-06, *Investigation Report Form*. This work plan assumes that the properties included in the walking survey will include the on-site service station, the commercial businesses to the south and west, and approximately six residences located north, northeast, and southeast of the site. During the initial emergency response and cleanup, ATC identified six water well receptors with installation depths of 80 feet bgs, located near the site. Remaining properties are assumed to be supplied by municipal services.

ATC will review the Minnesota Well Index (MWI) for municipal and industrial wells within one-half mile of the source area to gather information for groundwater usage and well construction. Copies of the well logs and the location of the wells relative to the site will be obtained from the MWI and from the Minnesota Geological Survey (MGS). The well logs will be reviewed for well construction details and geology and to establish the regional environmental setting. ATC will contact city officials to confirm the location of municipal wells and to confirm that there are no plans for future municipal well installation within one-half mile of the site.

Due to the presence of shallow bedrock (within 50 feet or less of the surface), sensitive groundwater conditions are present at the site. Based on the presence of sensitive groundwater conditions, the investigation must continue with additional requirements, per Guidance Document 4-18, *Assessment of Sensitive Groundwater Conditions*. Specifically, stability monitoring must be completed for a minimum of three years and plume stability analysis must be completed using a statistical test, such as the Mann-Kendall method. In addition, grain size analytical results are invalid for the calculation of hydraulic conductivity and a more robust method, such as an aquifer pump test, must be completed to determine contaminant travel time. This travel time determination must be completed in order to further evaluate the risk to downgradient private water supply wells.

Subtask 2: Water line permeation receptor survey and risk evaluation

Per Guidance Document 4-02, "water line permeation is the mass transfer of a chemical into and through the walls of a water line via diffusion." Due to the presence of municipal water service lines that run immediately beneath the dispensers at the site, ATC will complete a water line permeation receptor survey and risk evaluation for the gas station building. Specifically, ATC will attempt to determine the following information during the water line permeation receptor survey:

1) Piping construction type
2) Gasket materials used
3) Piping diameter
4) Approximate daily usage of water
5) Flow direction

6) Depth
7) Backfill material
8) Age of piping
9) Distance to nearest point of use
10) Length of piping within impacted area

ATC assumes a groundwater depth of 20 feet bgs and an average depth to the water line of 8 feet bgs, indicating a separation distance of approximately 12 feet. Despite the separation distance, "significant staining" in the location of the pump islands indicates the potential presence of light non-aqueous phase liquid (LNAPL) beneath the pump islands. In addition, smaller diameter water lines are generally at greater risk of permeation due to the higher ratio of mass transfer surface area to pipe volume. Therefore, the assessment of piping and gasket construction type will be essential to a determination of the risk of water line permeation at the site. If water lines are constructed of polybutylene (PB), polyethylene (PE), or polyvinyl chloride (PVC), the risk of permeation is increased. If the water line is constructed of copper, ductile iron pipe, or other similar materials, the risk of permeation is minimal. The use of petroleum-resistant nitrile gaskets further reduces the risk of permeation.

ATC assumes that the water line at the site is constructed of ductile iron pipe; however, due to the fact that the gasket material is unknown and LNAPL is likely present beneath the pump islands, further assessment of water line permeation is necessary. ATC will identify a sampling point inside of the building, prior to any water treatment units (water heaters, water softeners, etc.), if possible. ATC will also attempt to collect the water sample after water has been allowed to sit in the water line for at least 8 hours. Due to the fact that the gas station and restaurant are open 24-hours, collection of a sample that has been in the water line for 8 hours will be difficult; therefore, ATC will collect the sample during a typically low-flow time period.

Prior to sample collection, ATC will calculate the volume of water standing in the supply system between the sampling point and the section of the water line in contact with potential LNAPL. The calculation will include all water in the lines and in potential treatment appurtenances, if it is not possible to sample the water prior to treatment. Once the volume of water in the system has been determined, ATC will open the sampling tap, purge the calculated volume of water, and collect the water sample. The water sample will be submitted to Pace for analysis of VOCs per EPA Method 8260B, GRO per Wisconsin Modified Method, DRO per Wisconsin Modified Method, and total lead per EPA Method 6010. For the purposes of this work plan, ATC assumes that concentrations of VOCs, GRO, DRO, and lead were less than detection limits and no further assessment of water line permeation will be required.

Subtask 3: Surface water receptor survey and risk evaluation

Per Guidance Document 4-02, ATC will identify all surface waters within one-quarter mile of the site, including the lake located approximately 400 feet east of the center of the site. During the 500-foot radius walking survey, ATC will note any lakes, creeks, rivers, ponds, wetlands or other surface water features or potential pathways to the lake, potentially including the storm sewer system. Due to the site's proximity to the lake, during the walking survey, ATC will inspect the lake for a petroleum sheen and for the presence of any seeps, springs, or drainage tile outlets.

In addition to information obtained during the walking survey, ATC will review United States Geological Survey (USGS) topographical maps and the online United States Fish & Wildlife Services Wetland Mapper for other evidence of surface waters or wetlands. Following completion of field and map surveys, ATC will prepare a scaled map showing the location of any identified surface water bodies and the potential pathways to the surface waters.

Subtask 4: Vapor receptor survey and risk evaluation

Per Guidance Document 4-02, ATC will identify the location and type of potential vapor receptors near the site. The vapor receptors identified at the site include primarily sanitary and storm sewers, located in Main Street, south of the site. ATC will contact the public works department for the city to document available information regarding utility construction material, depth, flow direction, and condition. The fire department will also be asked about potential historical vapors in excavations or utilities near the project site.

ATC will use the vapor receptor information to evaluate the risk of vapor intrusion to nearby receptors. Due to the fact that soils at the site consist of sand and gravel and the depth to groundwater is assumed to be 20 feet bgs, there is low risk of vapor accumulation and/or migration in utilities and their backfill. However, due to the presence of surface staining around the pump islands, a vapor survey will be required at the site in the adjacent sewer manholes to assess potential surface migration of petroleum into storm sewers.

ATC will coordinate with city public works officials and/or Minnesota Department of Transportation (MnDOT) personnel to provide access to sewer manholes and storm sewer catch basins within the Main Street right-of-way, adjacent to the south of the site, for the purposes of completing a vapor survey. Appropriate traffic control, based upon the utility owner's requirements, will be used for worker protection during the vapor survey. Manholes and catch basins closest to the site will be screened initially. If vapor impacts are noted, ATC will continue screening at greater distances downgradient of the flow direction from the last impacted survey location. An explosimeter will first be used to record percent oxygen ($\%O_2$) levels and ensure that lower explosive limit (LEL) readings do not exceed 10%. A PID will then be used to determine if petroleum vapors are present within the nearby utilities.

Subtask 5: Surface soil contamination survey

Surface soil contamination poses a risk of direct human dermal contact and for contaminated stormwater runoff. ATC will identify areas not covered by impervious surface cover where a release or spill may have impacted the uppermost two feet of soil at the site. Specifically, ATC will evaluate the presence of surface soil contamination in the area located east of the pump islands, at the concrete to gravel transition, where significant surface staining was noted.

ATC will also inspect the fuel oil AST, located north of the site building, and the area surrounding the AST, in order to determine the condition of the AST, whether any former releases from the AST are visually apparent, and whether there appears to be any surface contamination as a result of spills or overfills of the AST.

Task C: Subsurface Investigation

Once the receptor surveys are complete, ATC will proceed with the assessment of soil, groundwater, and soil gas impacts at the site. The goal of these activities is to determine the magnitude and extent of the contamination so that potential pathways between contamination and receptors can be evaluated.

Subtask 1: Fieldwork notification and scheduling

ATC will notify the MPCA prior to field work in accordance with MPCA Field Work Notifications and Audit Program requirements. Additionally, ATC will contact the property owner in order to notify the owner of scheduled field work at least one week prior to arrival at the site.

Subtask 2: Arrange for clearing of public utilities

Before conducting intrusive field activities, ATC's subcontractor will contact Gopher State One Call to arrange for clearing of public utilities and a private utility locating service will be used to clear private utility lines. ATC's subcontractor will file all necessary paperwork with the Minnesota Department of Health (MDH) for well permits. Due to the fact that ATC does not have delegated contractual authority to sign on behalf of the MPCA, ATC will forward MDH well permit applications to the MPCA for signature.

Subtask 3: Soil Boring Oversight and Water Table Monitoring Well Installation

In accordance with Guidance Document 4-01, ATC will oversee Bergerson, a state drilling contractor, during advancement of monitoring well soil borings at the site. Soil borings will be advanced with a hollow-stem auger drilling rig. Five monitoring wells will be installed at the site to depths of approximately 25 feet bgs, which is five feet past the assumed water table depth of 20 feet bgs. The wells will be installed with 10-foot well screens, from approximately 15 to 25 feet bgs, allowing the screen interval to intersect the groundwater interface. Each of the monitoring well soil borings will be

advanced on-site, in the proposed locations noted on the attached Site Plan provided in Figure 1.

- Monitoring well MW-1 will be installed within the area of identified staining around the pump islands to assess one of the primary source areas identified at the site. Based on the presence of a known release area, ATC assumes that this monitoring well is the worst-case monitoring well at the site. The location of monitoring well MW-1 within the area of identified surface staining will allow for the assessment of: 1) the magnitude of the release, 2) potential mobile LNAPL at the site, and 3) dissolved-phase contaminant trends.
- Monitoring well MW-2 will be installed north of the restaurant building, in the area of the former UST basin. This boring is intended to assess a potential second source area, as petroleum impacts were noted through olfactory and headspace screening methods used during the removal of these tanks.
- Monitoring well MW-3 will be installed southwest of the USTs, for the purpose of either a) detecting a release from the USTs and/or piping, or b) to assess the extent of the dissolved-phase contaminant plume upgradient of the pump island source area.
- Monitoring well MW-4 will be installed north of the restaurant building to assess the cross-gradient extent of the dissolved-phase plume to the north of the source area(s).
- Monitoring well MW-5 will be installed east of the restaurant building and the pump islands to assess downgradient extent of the dissolved-phase contaminant plume.

The depths of these monitoring well soil borings may exceed the proposed depth of 25 feet bgs if contamination is observed at depths greater than 20 feet bgs (ie deeper than the groundwater interface), which may sometimes occur when LNAPL is present. In that case, the soil borings will be advanced approximately ten feet past the deepest observed site contamination.

ATC will complete field boring logs and monitoring well construction diagrams for the monitoring wells. Upon completion, each monitoring well will be developed, located with site measurements and GPS coordinates, and surveyed for ground surface and top of casing elevations. For the purposes of this work plan, due to the presence of significant staining and inventory records noting volume loss, ATC assumes that LNAPL was identified in the source area monitoring well, MW-1.

Subtask 4: Soil boring oversight and bedrock monitoring well installation

Due to the confirmed presence of petroleum impacts in water supply wells installed at a depth of 80 feet bgs, within bedrock, ATC will contract Stevens Drilling & Environmental Services (Stevens), a state contractor (contract release number D-203(5)), authorized to subcontract Northstar Well Drilling (Northstar), for the installation of monitoring wells with rotosonic drilling technology. Bedrock monitoring wells will be installed on-site to assess the magnitude of dissolved-phase impacts to the bedrock aquifer and to confirm the flow direction in the aquifer.

ATC will oversee Northstar during the installation of up to three bedrock monitoring wells at the site. Assuming that bedrock is present at a depth of 45 feet bgs, bedrock monitoring wells will be installed to an approximate depth of 80 feet bgs with a screen length set to approximately match that of the nearby water supply wells. Each of the bedrock monitoring wells will be installed on-site, in the proposed locations noted on the attached Site Plan provided in Figure 1.

- Bedrock monitoring well DMW-1 will be installed east of the pump islands, to assess bedrock aquifer impacts near the source area. The monitoring well will be placed outside of the area of the LNAPL body identified in shallow monitoring well MW-1, near the pump islands, in order to prevent the introduction of additional contamination into the bedrock aquifer.
- Bedrock monitoring well DMW-2 will be installed north of the restaurant building to assess the presumed cross-gradient extent of the dissolved-phase plume in the bedrock aquifer.
- Bedrock monitoring well DMW-3 will be installed east of the restaurant building to assess the presumed downgradient extent of the dissolved-phase plume in the bedrock aquifer.

ATC will complete field boring logs for each soil boring and a monitoring well construction diagram for the monitoring wells. Upon completion, each monitoring well will be developed, located with site measurements and GPS coordinates, and surveyed for ground surface and top of casing elevations.

Subtask 5: Hand auger soil borings

In order to assess the potential presence of petroleum saturated surface soils ATC will complete two hand auger soil borings, HA-1 and HA-2, at the interface between gravel and concrete surface cover, located to the east of the pump islands where "significant staining" was noted. In addition, to confirm the lack of surface soil contamination in the vicinity of the fuel oil AST, ATC will complete one hand auger boring to the east of the AST (HA-3), where surface cover transitions from concrete to gravel. Soil analytical results may be used to obtain landfill approval for the disposal of excavated soils during subsequent steps of work at the site. Soil samples will be collected on a continuous basis from each soil boring. In accordance with Guidance Document 4-04, ATC will prepare a field boring log, documenting each soil boring.

Additional temporary borings may be necessary in similar cases, dependent upon soil type, specifically in the vicinity of utility trenches. In fine-textured soils, utility backfill may provide a preferential flow pathway for the off-site migration of contaminants. However, due to the presence of sand and gravel soil at the site from the surface to a depth of approximately 45 feet bgs, sand backfill around site utilities does not present a preferential flow pathway for the off-site migration of contamination. For this reason, ATC does not recommend the completion of an additional temporary soil boring into the utility backfill at the site.

Subtask 6: Soil sample collection and submittal

Soil samples will be collected on a continuous basis from each soil boring. Soil will also be classified and screened for organic vapors with a PID. In accordance with Guidance Document 4-04, up to two soil samples will be collected for laboratory analysis from each soil boring. Soil samples will be collected from the depth with the maximum organic vapor concentration as recorded during soil headspace screening and from just above the water table interface. If elevated soil headspace readings are not identified, one soil sample will be collected from above the water table interface.

Selected soil samples will be collected from the split spoon sampler, and sealed into plastic bags for headspace screening. Soil aggregates will be broken and the bag shaken. The bag will be punctured and a PID will be inserted into the plastic bag in order to obtain organic vapor readings. The sampler will wear nitrile gloves during sample collection. Gloves will be changed between sample points in order to prevent cross-contamination. Soil samples submitted for laboratory analysis will be collected directly from the split spoon sampler or rotosonic soil collection sleeve, using an EnCore™ sampler or a cut syringe, supplied by the laboratory, and immediately placed into the analytical sampling jars, also provided by the laboratory. The depth of collected samples and the organic vapor readings will be noted on the boring logs.

Soil samples will be submitted to Pace for analysis. In accordance with Guidance Document 4-04, soil samples will be submitted for analysis of PVOCs per EPA Method 8260B, GRO per Wisconsin Modified Method, DRO per Wisconsin Modified Method, and total lead per EPA Method 6010 due to the historical storage of leaded gasoline on the site. Methanol preservative will be added for PVOC and GRO samples, per analytical method protocol. No preservative will be added for DRO samples. The jars will be sealed, labeled, placed on ice, and transported in a rigid plastic cooler to a certified laboratory representative. In accordance with Guidance Document 4-04, soil analysis for VOCs is not necessary because groundwater is expected to be encountered in each boring and groundwater will be analyzed for VOCs. If groundwater is not encountered in a soil boring, soil samples collected from that boring will be analyzed for VOCs per EPA Method 5035 rather than for PVOCs, subject to the MPCA project manager's approval. Note that due to the storage of fuel oil at the site, in accordance with Guidance Document 4-04, the MPCA project manager should determine the need for potential sampling of polynuclear aromatic hydrocarbons (PAHs) per EPA Method 8270C,D in hand auger soil boring HA-3, advanced to the east of the fuel oil AST. This work plan assumes that PAH sampling was not deemed necessary.

Due to the presence of significant staining in the vicinity of the pump islands, ATC will conduct field petroleum sheen tests to determine whether a soil sample is considered petroleum saturated. A small quantity of the petroleum-impacted soil will be placed in a jar or on a large spoon and water will be added to break apart and submerge the soil particles. The sample will be allowed to rest for 10 minutes and the water will be examined for evidence of a sheen or product droplets.

Due to the presence of sensitive groundwater conditions, grain size-based hydraulic conductivity estimates are not applicable to this site; therefore, grain size samples will not be collected from the monitoring well soil borings. An aquifer pump test will be completed for both the water table and bedrock aquifers following installation and development of the monitoring wells.

Subtask 7: Groundwater sample collection and submittal

Approximately one week after installation of the monitoring wells, ATC will return to the site to collect groundwater samples from the water table and bedrock monitoring wells. In accordance with requirements provided in Guidance Document 4-18, ATC will continue to complete quarterly groundwater monitoring at the site for a minimum of three years. During each quarterly groundwater monitoring event, groundwater elevations and samples will be collected from the monitoring wells, in accordance with procedures established in Guidance Document 4-05.

The monitoring wells will be opened in order beginning with the least contaminated and proceeding to increasingly contaminated monitoring wells. ATC will remove the expansion caps and allow the in-well pressure to stabilize, ATC will then gauge the monitoring wells with a water level indicator (WLI) in the order that they were opened. Water level measurements will be referenced to the top of the monitoring well casing, and recorded to the nearest 0.01 feet. The gauged water elevation and the bottom well elevation will be used to determine the volume of water in each monitoring well. Prior to sampling, ATC will purge at least three well-casing water volumes from each monitoring well.

During gauging, source area monitoring well MW-1 will be gauged with an interface probe for the potential presence of LNAPL. If LNAPL is observed, ATC will immediately notify the Minnesota Duty Officer per Guidance Document 2-02, and ATC will attempt to recover as much LNAPL as possible from the monitoring well. Under these circumstances, a groundwater sample will not be collected from the monitoring well. ATC will submit Guidance Document 2-03 *Light Non-Aqueous Phase Liquid Recovery Report* to the MPCA within 45 days of the discovery of the LNAPL.

Following gauging, since the shallow monitoring wells are less than 30 feet in depth, ATC will use high-density polyethylene bailers to purge and sample the monitoring wells. New retrieval line will be used for each sampling point. The bailer will not be allowed to touch the ground or any other potentially contaminated surface during sampling. In order to minimize turbulence and prevent volatilization of contaminants, ATC will allow the bailer to enter the well water slowly and the bailer will not be allowed to fully submerge during filling. The bailer will be gently removed from the water and a bottom-emptying device will be used to fill sample containers.

Due to the depth of the bedrock monitoring wells, ATC will use submersible low-flow, electric centrifugal pumps to purge and sample groundwater. During each quarterly monitoring event, ATC will use tubing dedicated to each bedrock monitoring well for purging and sampling.

During each quarterly groundwater monitoring event, ATC will return to the homes located near the site in order to sample water from the supply wells for potential breakthrough of contaminants from the GAC system installed during the emergency phase of the investigation at the site. Specifically, ATC will collect water samples prior to the GAC treatment system and any other water treatment and also collect water samples after the treatment system, from the kitchen faucet.

Groundwater samples collected from the permanent monitoring wells will be immediately placed on ice in an insulated cooler and shipped to Pace, in accordance with Guidance Document 4-05, for analysis of VOCs per EPA Method 8260B, GRO per Wisconsin Modified Method, and DRO per Wisconsin Modified Method for the first two sampling events. Groundwater samples collected during subsequent sampling events will be submitted for PVOCs per EPA Method 8260B, GRO per the Wisconsin Modified Method, and DRO per the Wisconsin Modified Method, unless requested otherwise by the MPCA project manager. ATC assumes that former leaded gasoline additives and recalcitrant compounds MTBE, DCA, and EDB were not detected in the initial two rounds of groundwater sampling and that further sampling of those compounds, including low-level analysis of EDB and DBCP per EPA Method 8011, was not required by the MPCA. As part of each sampling event, ATC will also submit a trip blank, field blank, and duplicate for laboratory analysis. All sampling information will be documented on a field sampling form.
Water samples collected from the private water supply wells will be immediately placed on ice in an insulated cooler and shipped to Pace, in accordance with Guidance Document 4-05, for analysis of

VOCs per EPA Method 8260B, GRO per Wisconsin Modified Method, DRO per Wisconsin Modified Method, and total lead per EPA Method 6010 for each quarterly monitoring event. ATC assumes that low-level analysis of EDB and DBCP per EPA Method 8011 was not required by the MPCA.

Note that due to the storage of fuel oil at the site, in accordance with Guidance Document 4-05, the MPCA project manager should determine the need for sampling and analyzing groundwater samples for PAHs per EPA Method 8270. This work plan assumes that PAH sampling is deemed unnecessary by the MPCA.

If requested by the MPCA, ATC will submit all analytical results to the MPCA for entry in the EQuIS program.

Subtask 8: Aquifer pumping test

In accordance with Guidance Document 4-18, ATC will complete an aquifer pumping test to calculate the groundwater travel time in the vicinity of the site. An aquifer pumping test is a practical method of estimating aquifer characteristics and consists of pumping groundwater from a well at a constant rate, and measuring the water level in the pumped well and other nearby wells. Groundwater elevation data collected before, during, and after pumping will be used to plot drawdown and recovery.

Subtask 9: Soil gas assessment

In accordance with Guidance Document 4-01a, and during the same mobilization for monitoring well installation, five soil gas borings will be advanced with a truck-mounted push probe in order to assess the risk of vapor intrusion to nearby receptors due to the release(s) at the site. ATC will advance one "worst-case" soil gas boring and up to four receptor-specific soil gas borings. Due to the fact that there are seven nearby receptors, including the gas station building, ATC will evenly distribute soil gas borings near the residential receptors within the defined sampling area.

Guidance Document 4-01a states that the receptor-specific samples should be located within 100 feet of the worst-case sample; however, due to the presence of multiple source areas and the confirmed groundwater impacts at nearby residences, it appears that the horizontal extent of impacted groundwater may extend beneath the nearby residential structures. Therefore, it will be necessary to collect soil gas samples beyond the typical 100 foot radius from the worst-case soil gas sample. ATC will contact the MPCA project manager to discuss the sample locations prior to collecting these receptor-specific soil gas samples greater than 100 feet from the worst-case location. Pending approval from the MPCA, soil gas borings will be advanced in the locations provided on Figure 1 as follows:

- Within the area of identified surface staining, as the presumed worst-case soil gas boring (SVG-1);
- Between the source area and the gas station building (SVG-2);
- Between the source area and the residences located north of the site (SVG-3);
- Between the source area and the residences located northeast of the site (SVG-4); and
- Between the source area and the residences located southeast of the site (SVG-5).

ATC will collect an organic vapor reading, using a PID, from each soil vapor boring, and collect soil gas samples from each boring using an evacuated summa canister. Soil gas sample SVG-1 will be advanced to a depth of eight to ten feet bgs. The receptor-specific soil gas samples will be collected from a depth of three to five feet bgs, as ATC assumes that nearby buildings are built with slab-on-grade construction and do not have basements.

Subtask 10: Soil gas sample collection and submittal

Soil gas samples will be collected from temporary points into an evacuated summa canister. Soil gas borings will be advanced using push probe drilling technology. Prior to sample setup, bentonite slurry will be placed around the probe rod at the ground surface in order to prevent "short-circuiting" the sample to collect ambient air. Inert tubing will be placed into the boring and a minimum of two volumes of air from the sampling point and tubing will be purged using a graduated syringe. The tubing will be

connected to a summa canister, equipped with a vacuum gauge. Due to the presence of coarse-textured soils at the site, the canister will likely fill rapidly. In order to slow the flow of soil gas into the summa canister and prevent desorption of adsorbed contamination, ATC will use a flow controller for soil gas sample collection. The flow controller will be set with a flow rate of 200 milliliters per minute (mL/min). The initial vacuum gauge reading of the canister will be noted, and the canister will be opened. The vacuum gauge will be monitored to check progress during sample collection. The valve will be closed once the gauge indicates that sufficient sample volume has been collected.

Soil gas samples will be submitted to Pace for analysis. In accordance with Guidance Document 4-01a, soil vapor samples will be analyzed by EPA Method TO-15 for compounds in the Minnesota Soil Gas List. ATC will compare the detected soil gas concentrations to the applicable 33x Intrusion Screening Value (33x ISV) and 33x Expedited Intrusion Screening Value (33x EISV) provided in the *Interim ISV Short Guidance*, dated February 13, 2017. If a detected contaminant is not listed in the *Interim ISV Short Guidance,* ATC will refer to the 2009 ISV spreadsheet and calculate the 33x ISV by dividing the 2009 ISV value by 0.03. The 33x ISV and 33x EISV will be used to determine whether additional characterization of the vapor intrusion pathway will be necessary or if expedited remediation may be required.

For the purposes of this work plan, ATC assumes that analytical results of all receptor-specific soil gas samples were less than the 33x ISV and 33x EISV and no further building-specific investigation or remediation is necessary.

Subtask 11: Sub-slab vapor sampling

Due to the fact that the gas station building and the restaurant were constructed in the 1950s and the 1990s, respectively, the footing between the two buildings likely extends below ground surface, effectively dividing the vapor space between the two buildings. ATC assumes that the receptor-specific soil gas sample for the gas station did not contain compounds in the Minnesota Soil Gas List at concentrations that exceeded their 33x ISV or 33x EISV.

However, as indicated by the MPCA during Consultant's Day presentations, one of the most likely scenarios for petroleum vapor intrusion is a shallow source directly beneath a building. Therefore, despite the lack of elevated soil gas contaminants in the receptor-specific sample for the gas station building, the presence of a former UST basin located immediately beneath the restaurant building will require additional vapor intrusion assessment. A calculation of the size of the building, based on the scale of the map will be necessary in order to determine the number of sub-slab vapor samples necessary to complete an adequate assessment of the risk of vapor intrusion into the building. Based on the scale of the map, the square footage of the restaurant building is estimated at approximately 9,750 square-feet (ft^2). Referring to Appendix C of *Best Management Practices for Vapor Investigation and Building Mitigation Decisions,* ATC proposes to install five permanent sub-slab monitoring ports. The locations of the sub-slab sampling ports are provided on Figure 1. During the mobilization for installation of sub-slab ports, ATC will also complete *Best Management Practices for Vapor Investigation and Building Mitigation Decisions, Attachment D – Vapor Intrusion Building Survey Form.*

Following port installation, ATC will collect sub-slab vapor samples at each of the five monitoring points on at least two occasions. One sampling event will be completed during the heating season, between November 1 and March 31. The second sampling event will be completed during the non-heating season, between April 1 and October 31.

During each sampling event, ATC will set up the sub-slab sampling train in accordance with the MPCA Sub-Slab Methodology. ATC will utilize the water dam method in order to ensure that air being collected in the summa canister is actually collected from beneath the building floor slab and the sampling train was not "short circuited" to collect ambient air. ATC will purge the sampling train by using a graduated syringe to pull a minimum of two volumes of air from the sampling point prior to sampling.

ATC assumes that the sub-slab vapor samples collected beneath the restaurant slab contained petroleum impacts greater than the 33x ISV but less than the 33x EISV. Therefore, remediation of sub-slab vapors is necessary; however, the remediation need not be expedited.

Subtask 12: Investigation-derived waste disposal

ATC will coordinate the disposal of soil cuttings and any bailed LNAPL generated during the investigation of the release at the site. A state contract waste vendor will be selected from contract release H-69(5) and competitively bid to complete the disposal of the investigation-derived wastes.

Subtask 13: Investigation Report Form

ATC will prepare Guidance Document 4-06, *Investigation Report Form*. The report will document the results of the emergency response activities; receptor survey data; and soil, groundwater, and soil gas sampling data. Additionally, the report will contain appropriate figures and tables; Guidance Document 1-03a, *Spatial Data Collection at Petroleum Remediation Sites*; Guidance Document 2-05 *Release Information Worksheet*; Guidance Document 2-03, *Light Non-Aqueous Phase Liquid Recovery Report*; geologic cross-sections; laboratory reports and chromatograms; a summary of field procedures; copies of well logs, boring logs, and well construction diagrams; and results of the aquifer pumping test. Most importantly, the report will summarize ATC's evaluation of the risks posed by the petroleum release and recommendations for further action. The entirety of data and analysis of the risks will be evaluated to prepare a Site Conceptual Model (SCM) and inform the Site Management Decision. The SCM will discuss the interactions between LNAPL and dissolved phase, adsorbed, and vapor phase contamination. Continued groundwater monitoring and subsequent assessment activities will be used to validate and revise the SCM.

Assumptions regarding site conditions and the resulting conclusions provide the basis for the Scenario B SCM summarized below:

- The cause of product loss reported by the site has been addressed and there is no currently ongoing release at the site.
- Site stratigraphy consists of interbedded sand and gravel to a depth of approximately 45 feet bgs, where bedrock was encountered. Nearby water supply wells are installed into bedrock at total depths of 80 feet bgs.
- The site meets the MPCA definition of a sensitive groundwater condition due to the presence of bedrock at a depth of 45 feet bgs.
- Gauging of the bedrock monitoring wells and the water table monitoring wells indicates that groundwater flows to the east, toward a lake located approximately 400 feet of the source area. No evidence of impact to the lake located east of the site has been observed.
- The six water supply wells identified on the site plan and sampled in Objective 2 of this work plan are the only nearby properties with private wells. All remaining properties located within 500 feet of the site are assumed to be supplied by municipal services.
- PVOCs were detected in the residential water supply wells near the site; however, point-of-use treatment has been installed in the homes to reduce PVOC concentrations
- Recalcitrant compounds were not detected in water samples collected from the private wells or monitoring wells and water supply well sample collection will not be required to extend to additional wells located within 1,000 feet of the site.
- Utility trenches at the site were backfilled with sand and no preferential pathways appear present due to the fact that the predominant soil type throughout the area is interbedded sand and gravel.
- Vapor impacts were not detected in the storm or sanitary sewers during the vapor receptor survey and risk evaluation.
- The water line permeation receptor survey indicated that the water line at the site is constructed of ductile iron pipe with unknown gasket type. Due to the uncertainty over the gasket materials and the presence of LNAPL in the vicinity of the water line, ATC collected a water sample from inside of the building to further assess the risk of water line permeation. Analytical results of VOCs, GRO, DRO, and lead were less than laboratory detection limits and there is low risk of water line permeation.
- Despite high conductivity soils at the site, a flat groundwater gradient in the water table aquifer indicates a relatively slow groundwater flow velocity at the site.
- The presence of impacted water supply wells east of the site indicates a more rapid flow rate in the bedrock aquifer; however, the greater flow rate is likely exacerbated by the presence of pumping wells located downgradient of the site.
- The initial groundwater monitoring results for monitoring wells MW-4 and MW-5 indicate that

the dissolved-phase contaminant plume in the water table aquifer may be limited within the site boundaries. The lack of observed impacts in groundwater samples collected from monitoring wells MW-4 and MW-5 also indicates that the risk to the nearby lake is minimal. However, in accordance with Guidance Document 4-18, an additional two years of monitoring will be necessary to demonstrate plume stability.

- Aquifer pumping test results indicate that both the water table and the bedrock units meet the MPCA definition of an aquifer (transmissivity is greater than 50 ft^2/day).
- LNAPL was identified in the source area monitoring well, MW-1, located east of the pump islands. The LNAPL thickness in monitoring well MW-1 is typically less than one foot; however, due to the distance between monitoring wells MW-1 and MW-5 and a flat groundwater gradient, it is unknown whether LNAPL is mobile only or also migrating. None of the remaining monitoring wells (MW-2 through MW-5) contained indications of LNAPL; however, the horizontal extent of the LNAPL plume in the vicinity of monitoring well MW-1 is not fully defined.
- Petroleum saturated soil was not observed during the installation of monitoring well MW-1. Therefore, due to the presence of primarily coarse-textured soil throughout the site and based on the presence of LNAPL in monitoring well MW-1, it appears that the released product traveled vertically downward without significant lateral movement. LNAPL is likely present beneath the pump islands; however, a boring in the exact location of the release is not possible.
- Hand auger borings HA-1 and HA-2, advanced within the gravel area near the surface staining east of the pump islands, indicate the presence of petroleum saturated surface soil from the surface to a depth of approximately three feet bgs. The petroleum saturated surface soil covers a surface area of approximately 1,000 ft^2.
- Lead was not detected at elevated concentrations in water samples collected from points of use.
- Karst conditions are not present in bedrock.
- Nearby buildings are built with slab-on-grade construction.
- Analytical results of all receptor-specific soil gas samples, including the soil gas sample near the gas station, were less than the 33x ISV and 33x EISV and no further building-specific investigation is necessary. Due to the fact that the gas station building and the restaurant building were constructed approximately 40 years apart, the building footings effectively separate the air space beneath the floor slabs.
- Sub-slab vapor samples collected beneath the restaurant slab contained petroleum impacts to soil gas greater than the 33x ISV but less than the 33x EISV. Therefore, remediation of sub-slab vapor will be necessary; however, the remediation need not be completed on an expedited timeline.

Based on the SCM summarized above, ATC recommends the following additional work at the site:

1) Complete an assessment of LNAPL in the vicinity of the pump islands and monitoring well MW-1 to determine extent.
2) Excavate and dispose of petroleum saturated surface soils from 0-2 feet bgs at the concrete gravel interface located east of the pump islands.
3) Install a sub-slab depressurization system (SSDS) beneath the restaurant portion of the site building.
4) In accordance with Guidance Document 4-18, continue quarterly groundwater monitoring for a minimum of an additional two years to assess dissolved-phase plume stability.

Objective 3 Timeline: Project administrative activities will commence on the work order effective date. Receptor surveys will be completed within one week of the work order effective date. Subsurface investigation activities will be completed approximately two weeks following receipt of an approved access agreement for the site and after completion of the receptor survey. Guidance Document 4-06, *Investigation Report Form,* will be prepared following the initial four quarters of groundwater monitoring at the site, and submitted by June 30.
Objective 3 Cost: $87,045.08
Objective 3 Deliverables: Guidance Document 4-06, *Investigation Report Form.*

Objective 4: Address risks to receptors and continue groundwater monitoring

ATC will prepare a second work plan and cost proposal for recommended additional work and submit the plan

to the MPCA for review and approval. The work plan will contain a brief summary of the results of previous risk assessment and subsurface activities, present a plan for additional work, and provide a detailed summary of proposed personnel, time, and equipment required to complete each proposed task.

Task A: Project Initiation and Administration

Subtask 1: Health and Safety Plan

ATC will revise the existing HASP to account for additional tasks not included in the original investigation work at the site. The HASP will include general site information; emergency procedures; a map and directions to the nearest hospital; instructions for tailgate safety meetings; JSA documents describing risks associated with specific tasks during the investigation; and a list of contaminants that may be encountered, with their associated SDS. The HASP will also specify PPE requirements for use during site work. The HASP will be prepared by the ATC project manager and will be updated, as necessary, as additional data are obtained and new tasks are performed.

Subtask 2: Complete SCOFs

ATC will complete the required SCOF documents to engage subcontractors for drilling and laboratory services. Only MPCA-approved state contractors will be used for the subcontracted work at the site. Drilling activities will be completed by Bergerson. Laboratory services will be provided by Pace.

Task B: Connect six nearby residences to the municipal water system

Subtask 1: Prepare bid specification for water supply connection

Due to the presence of petroleum odor and detectable petroleum impacts in water supply wells at nearby residences, a safe and permanent water supply option will be necessary. ATC previously installed point-of-use GAC water treatment systems as an interim corrective action in the homes located north, northeast, and southeast of the site. In order to prevent the ongoing operation and maintenance of the GAC water treatment systems in the affected homes and to provide a permanent solution for safe drinking water, ATC will coordinate the connection of the homes to the municipal water supply.

ATC will prepare a bid solicitation document, with all necessary attachments, in accordance with the Minnesota Department of Administration Purchasing Manual. The bid solicitation will include specifications for the installation of water supply lines at the six nearby homes. The bid will specify the use of ductile iron pipe with nitrile gaskets to limit the risk of water line permeation. As part of the bid solicitation process, ATC will attend a pre-bid meeting with prospective contractors at the site in order to inspect the existing water systems which will be replaced.

Following receipt of valid and executable bids for the water supply replacement project, ATC will prepare a Bid Tabulation Sheet and provide a recommendation to the Minnesota Department of Administration on which contractor to hire for the water supply system replacement.

Subtask 2: Oversee contractor activities during water supply connection

Once a contractor has been selected and engaged for the work at the site to connect the six nearby homes to the municipal water supply, ATC will oversee all contractor activities to ensure that, if water lines will not be routed through an impacted area. ATC assumes that impacted soil will not be encountered during the water line installation at the homes.

ATC assumes that all six municipal connections will be completed under one contract, directly between the selected contractor and the Minnesota Department of Administration due to the fact that the amount of the bid will be greater than $50,000. Since these costs will be paid directly by the Department of Administration, the costs are not summarized in the example work plan scenario spreadsheet.

Subtask 3: Remove GAC water treatment systems from homes with new municipal connections

Following connection of the six homes to municipal water supply, ATC will coordinate with Ultrapure

to remove the GAC water treatment systems from each residence.

Subtask 4: Convert six former water supply wells to monitoring wells

In order to save costs, and in accordance with MPCA sustainability initiatives, ATC will contact MDH to re-permit the former water supply wells as bedrock monitoring wells. This re-permitting of the wells will be necessary to continue monitoring the bedrock aquifer and assess plume stability, contaminant magnitude, and potential risk to the nearby lake. In addition, continued monitoring of these former water supply wells will allow for a determination of the effect of the removal of well pumps on bedrock aquifer flow rates.

In order to re-permit the wells, the MDH will require submittal of the following information:

1) A written request describing what will be done to the wells to convert the wells from domestic supply well to monitoring well usage.
2) Details for the new well owner (MPCA) and the property owners.
3) Submittal of monitoring well/environmental well construction notification and associated fees.
4) Annual maintenance permits will be required as long as the wells remain in use for monitoring bedrock groundwater conditions.

Following approval of the re-issued monitoring well permits, ATC will contract with Bergerson to pull the submersible pumps, remove the pitless adapters, extend casings, and finish the surface in accordance with existing MDH monitoring well standards.

Task C: Install a sub-slab depressurization system (SSDS) beneath the restaurant building slab

Due to the presence of elevated PVOC concentrations in sub-slab soil vapor samples collected beneath the restaurant building, ATC will subcontract one of four state contractors listed on state contract release S-1050 for the installation of an active sub-slab depressurization system (SSDS). ATC will obtain competitive bids prior to the selection of a contractor.

The SSDS will be installed to remove impacted vapors from beneath the building slab and vent the impacted vapors through the roof of the building, mitigating the risk of inhalation of impacted vapors. ATC will submit a request for bid to the state contractors and select the lowest qualified bid.

Prior to full scale installation of the SSDS, ATC will request that the selected contractor complete a pilot test in order to test blower sizing that will be necessary to adequately remove vapors from beneath the building. The results of the pilot testing will be used to inform the full-scale design of the SSDS for maximum effectiveness.

Task D: Assess LNAPL in the vicinity of the pump islands and monitoring well MW-1

Subtask 1: Focused Investigation Work Plan

Due to the detection of small amounts of LNAPL in monitoring well MW-1, additional work will be necessary in order to assess the extent of mobile LNAPL and to determine whether the LNAPL is migrating. To that end, ATC will submit Guidance Document 7-03, *Focused Investigation Work Plan,* documenting a strategy to define the lateral extent of mobile LNAPL. Specifically, ATC will recommend the installation of four additional monitoring wells at the site. In accordance with Guidance Document 2-02, monitoring wells will be located no more than 50 feet north, south, and east of monitoring well MW-1. The monitoring well located west of MW-1 will be located approximately 60 feet west of MW-1 due to the presence of the pump islands. As part of the Focused Investigation Work Plan, ATC will consider well construction specifications such as screen type, screened interval, and sand pack gradation in order to ensure that LNAPL can efficiently enter the well.

ATC also considered the use of laser induced fluorescence (LIF) borings to delineate LNAPL; however, due to the proximity of the LNAPL to petroleum appurtenances and utilities, the coarse-textured soil types, and the lack of significant lateral migration of released product, monitoring wells are the preferred option for LNAPL delineation. In addition, monitoring wells can be pre-cleared with "soft dig" methods to prevent potential damage to subsurface structures and appurtenances.

Subtask 2: Install additional monitoring wells

In accordance with Guidance Document 4-01, ATC will oversee Bergerson during advancement of four additional monitoring well soil borings at the site. The four on-site soil borings will be advanced to assess the extent of LNAPL and the potential presence of migrating LNAPL.

Soil borings will be advanced with a hollow-stem auger drilling rig. Each of the four additional monitoring wells will be installed at the site to depths of approximately 25 feet bgs, which is five feet past the assumed water table depth of 20 feet bgs. The wells will be installed with 10-foot well screens, allowing the screen interval to intersect the groundwater interface and potentially LNAPL. Monitoring well soil borings will be advanced in the proposed locations noted on the attached Site Plan provided in Figure 1.

Soil samples will be collected on a continuous basis from each monitoring well soil boring. Soils will also be classified and screened for organic vapors with a PID. Up to two soil samples will be collected for laboratory analysis from each soil boring. Soil samples will be collected from the depth with the maximum organic vapor concentration as recorded during soil headspace screening and from just above the water table interface. If elevated soil headspace readings are not identified, one sample will be collected from above the water table interface. Soil samples will be submitted to the laboratory for analysis of PVOCs per EPA Method 8260B, GRO per the Wisconsin Modified Method, and DRO per the Wisconsin Modified Method. Due to the lack of previous lead detections, lead analysis will not be requested for these additional monitoring well soil samples.

Upon completion, each monitoring well will be developed, located with site measurements and GPS coordinates, and surveyed for ground surface and top of casing elevations. ATC will complete field boring logs for each soil boring and a monitoring well construction diagram for the monitoring wells.

Task E: Excavate and dispose of contaminated surface soil located east of the pump islands.

Subtask 1: Conceptual Corrective Action Design Report

Due to the confirmed presence of contaminated surface soil at the site, ATC will prepare Guidance Document 7-02, *Conceptual Corrective Action Design Report,* proposing a plan for the excavation and disposal of petroleum saturated surface soils located east of the pump islands at the site. In accordance with Guidance Documents 4-01 and 4-02, since the site use is commercial, surface soils are considered the upper two feet of the soil profile. Therefore, ATC will propose a plan to excavate surface soils within an impacted surface area of approximately 1,000 ft^2 to a depth of approximately two feet bgs. The approximate volume of soil for excavation and disposal is estimated at 75 cubic yards (yd^3).

Subtask 2: Prepare excavation bid specification and solicit bids

ATC will prepare a bid solicitation document, with all necessary attachments, in accordance with the Minnesota Department of Administration Purchasing Manual. The bid solicitation will include specifications for the excavation and disposal of contaminated surface soil. As part of the bid solicitation process, ATC will attend a pre-bid meeting with prospective contractors at the site in order to identify the area of the excavation and any potential obstructions to the excavation.

Following receipt of valid and executable bids for the water supply replacement project, ATC will prepare a Bid Tabulation Sheet and provide a recommendation to the Minnesota Department of Administration on which contractor to hire for the excavation of impacted surface soil.

Subtask 3: Oversee excavation and disposal of impacted soil

ATC will coordinate and oversee corrective action soil excavation activities at the site. ATC will oversee the excavation of approximately 75 yd^3 of petroleum saturated soil (as determined by the petroleum sheen test) at the site. ATC will also field screen soil samples with a PID during excavation activities. If grossly contaminated soil (soil with headspace readings greater than 200 ppm) is identified during the excavation, this soil will also be removed from the site and not returned to the excavation as backfill. In accordance with Guidance Document 3-01, no soil samples will be

submitted for analysis by a laboratory. Following completion of the excavation, the area will be backfilled with clean fill and the surface will be restored to Class V gravel.

Subtask 4: Submit Corrective Action Excavation Report Worksheet

Following completion of the surface soil excavation at the site, ATC will prepare Guidance Document 3-02a, *Corrective Action Excavation Report Worksheet,* documenting the completion of the surface soil excavation. The report will document the volume of soil removed from the contaminated area and the destination landfill where soil disposal was completed.

Task F: Continue groundwater monitoring

Following installation of four additional monitoring wells, ATC will add the new monitoring wells into the existing quarterly monitoring schedule for the site. Groundwater monitoring activities will be completed in accordance with Guidance Document 4-05. The monitoring wells will be opened first and then gauged in the order that they were opened in order to allow the in-well pressure to stabilize prior to gauging. Monitoring wells will be opened and gauged in the order from least contaminated to most contaminated, in order to prevent cross-contamination.

During gauging, the source area monitoring well MW-1 will be gauged with an interface probe to assess the potential presence of LNAPL. ATC will continue attempts to recover as much LNAPL as possible from monitoring well MW-1. The delineation wells located north, south, east, and west of monitoring well MW-1 will also be gauged with an interface probe. If LNAPL is not detected in the delineation wells, water level measurements will be collected and groundwater samples will be collected from the wells. If LNAPL is discovered at new locations during the investigation, ATC will immediately contact the MPCA to document the presence of migrating LNAPL at the site. ATC will begin LNAPL recovery activities immediately upon discovery.

Groundwater samples collected from the four new permanent monitoring wells will be placed on ice in an insulated cooler and shipped to Pace for analysis of VOCs per EPA Method 8260B, GRO per the Wisconsin Modified Method, and DRO per the Wisconsin Modified Method for the first two sampling events and PVOCs per EPA Method 8260B, GRO per the Wisconsin Modified Method, and DRO per the Wisconsin Modified Method for all subsequent sampling events, unless requested otherwise by the MPCA project manager.

Groundwater samples collected from pre-existing wells and the newly converted former water supply wells will be submitted to the laboratory for analysis of PVOCs, GRO, and DRO. The sample events will include collection of a trip blank, field blank, and duplicate. All sampling information will be documented on a field sampling form.

ATC will review the results of the additional soil boring and water sampling activities to verify that the LNAPL plume is defined. If the extent of the LNAPL plume is not defined, ATC would install additional monitoring wells within 50 feet of the monitoring wells with LNAPL. The remainder of this work plan assumes that LNAPL was defined by the delineation monitoring wells installed within 50 feet of monitoring well MW-1 and that LNAPL is not migrating to new monitoring wells.

Task G: Submit Monitoring Report

Following completion of one additional year of monitoring, ATC will prepare Guidance Document 4-08, *Monitoring Report Form,* documenting the cumulative results of the investigation, to date. At this point, one year of groundwater monitoring will have been documented within the Investigation Report and a second year of monitoring will have been documented within the Monitoring Report. Therefore, due to the requirement of a minimum of three years of monitoring under sensitive groundwater conditions, ATC will recommend completion of one additional year of groundwater monitoring at the site.

Assumptions regarding site conditions and the resulting conclusions, which have been further refined, provide the basis for the Scenario B SCM summarized below:

- The cause of product loss reported by the site has been addressed and there is no currently ongoing release at the site.

- Site stratigraphy consists of interbedded sand and gravel to a depth of approximately 45 feet bgs, where bedrock was encountered. Former water supply wells, installed into the bedrock aquifer, have been converted to monitoring wells.
- The site meets the MPCA definition of a sensitive groundwater condition due to the presence of bedrock at a depth of 45 feet bgs.
- Gauging of the bedrock monitoring wells and the water table monitoring wells indicates that groundwater flows to the east, toward a lake located approximately 400 feet of the source area. No evidence of impact to the lake located east of the site has been observed.
- The six water supply wells identified on the site plan and sampled in Objective 2 of this work plan are the only properties with private wells. All remaining properties located within 500 feet of the site are assumed to be supplied by municipal services. The properties with observed water supply impacts have been connected to the municipal water supply. The water supply lines used for the connection are constructed of ductile iron pipe with nitrile gaskets; therefore, the risk to nearby water well receptors has been mitigated.
- Recalcitrant compounds were not detected in water samples collected from the private wells or monitoring wells and water supply well sample collection will not be required to extend to additional wells located within 1,000 feet of the site.
- Utility trenches at the site were backfilled with sand and no preferential pathways appear present due to the fact that the predominant soil type throughout the area is interbedded sand and gravel.
- Vapor impacts were not detected in the storm or sanitary sewers during the vapor receptor survey and risk evaluation.
- The water line permeation receptor survey indicated that the water line at the site is constructed of ductile iron pipe with unknown gasket type. Due to the uncertainty over the gasket materials and the presence of LNAPL in the vicinity of the water line, ATC collected a water sample from inside of the building to further assess the risk of water line permeation. Analytical results of VOCs, GRO, DRO, and lead were less than laboratory detection limits and there is low risk of water line permeation.
- Despite high conductivity soils at the site, a flat groundwater gradient in the water table aquifer indicates a relatively slow groundwater flow velocity at the site.
- Following removal of water supply well pumps located near the site, dissolved-phase concentrations in the former water supply wells have decreased to concentrations less than laboratory detection limits. It appears that pump shutdown has decreased the gradient and contamination is no longer being pulled towards the residences and lake. Due to the removal of the well pumps, the dissolved-phase contaminant plume in the bedrock aquifer now appears to be delineated and limited to within the site boundaries.
- The initial groundwater monitoring results for monitoring wells MW-4 and MW-5 indicate that the dissolved-phase contaminant plume in the water table aquifer may be limited within the site boundaries. The lack of observed impacts in groundwater samples collected from monitoring wells MW-4 and MW-5 further indicates that the risk to the nearby lake is minimal. However, in accordance with Guidance Document 4-18, an additional one year of monitoring will be necessary to demonstrate plume stability.
- The lack of detectable impacts in former water supply wells near the lake indicate that the risk of impact to the surface water has been mitigated.
- Aquifer pumping test results indicate that both the water table and the bedrock groundwater units meet the MPCA definition of an aquifer (transmissivity is greater than 50 ft^2/day).
- Mann-Kendall statistical tests for quantitative trend analysis for two years of groundwater sample data indicate that concentrations are stable or decreasing in all monitoring wells at the site.
- LNAPL was identified in the source area monitoring well, MW-1, located east of the pump islands. The LNAPL thickness in monitoring well MW-1 is typically less than one foot. The installation of four additional LNAPL delineation wells has allowed for the delineation of LNAPL at the site. Delineation wells have not indicated the presence of LNAPL and the LNAPL does not appear to be migrating.
- Petroleum saturated soil was not observed during the installation of monitoring well MW-1. Therefore, due to the presence of primarily coarse-textured soil throughout the site and based on the presence of LNAPL in monitoring well MW-1, it appears that the released product traveled vertically downward without significant lateral movement. LNAPL is likely present beneath the pump islands; however, a boring in the exact location of the release is not possible.

- Petroleum saturated surface soil formerly identified by hand auger borings HA-1 and HA-2, has been excavated and removed. The petroleum saturated surface soil formerly covered a surface area of approximately 1,000 ft². The excavation of contaminated surface soil removed impacted soil from the surface to a depth of 2 feet bgs and addressed the risk of dermal exposure to contaminated surface soil present east of the pump islands.
- Lead was not detected at elevated concentrations in soil or groundwater samples.
- Karst conditions are not present in bedrock.
- Nearby buildings are built with slab-on-grade construction.
- Analytical results of all receptor-specific soil gas samples, including the soil gas sample near the gas station, were less than the 33x ISV and 33x EISV and no further building-specific investigation is necessary. Due to the fact that the gas station building and the restaurant building were constructed approximately 40 years apart, the building footings effectively separate the air space beneath the floor slabs.
- Sub-slab vapor samples collected beneath the restaurant slab contained petroleum impacts to soil gas greater than the 33x ISV but less than the 33x EISV. Due to the presence of elevated sub-slab vapor concentrations ATC installed a SSDS to mitigate the risk of vapor intrusion into the restaurant building. The current risk of vapor intrusion into the restaurant building is minimal.

Based on the SCM summarized above, ATC recommends continuing quarterly groundwater monitoring for an additional one year to assess dissolved-phase plume stability and to continue monitoring for the presence of migrating LNAPL in the vicinity of the pump islands.

Objective 4 Timeline: Project administrative activities will commence on the work order effective date. Water supply well and soil excavation contracting activities will be completed immediately upon work order receipt. The water supply well installation and soil excavation activities will be completed dependent upon contractor schedules. Monitoring well installation activities will be completed approximately two weeks following receipt of work order approval. Monitoring wells will be sampled quarterly for four quarters. The Monitoring Report will be prepared following completion of four quarters of monitoring at the site and submitted to the MPCA by June 30.
Objective 4 Cost: $145,160.96
Objective 4 Deliverables: Guidance Document 4-08, *Monitoring Report Form*, and Guidance Document 3-02a, *Corrective Action Excavation Report Worksheet*

Objective 5: Complete groundwater monitoring activities

Task A: Project Initiation and Administration

Subtask 1: Health and Safety Plan

ATC will revise the existing HASP to account for additional tasks not included in the original investigation work at the site. The HASP will include general site information; emergency procedures; a map and directions to the nearest hospital; instructions for tailgate safety meetings; JSA documents describing risks associated with specific tasks during the investigation; and a list of contaminants that may be encountered, with their associated SDS. The HASP will also specify PPE requirements for use during site work. The HASP will be prepared by the project manager and will be updated, as necessary, as additional data are obtained and new tasks are performed.

Subtask 2: Complete SCOFs

ATC will complete the required SCOF documents to engage subcontractors for drilling and laboratory services. Only MPCA-approved state contractors will be used for the subcontracted work at the site. Laboratory services will be provided by Pace.

Subtask 3: Receptor notification letters

In accordance with Guidance Document 2-07, ATC will submit *Petroleum Release Notification Follow-up* letters to property owners contacted as part of the receptor survey at the site. The surrounding property owners will be notified of the results of the investigation once it has been determined that the risk to the surrounding properties has been adequately addressed by the site investigation and/or remediation activities.

Task B: Continue groundwater monitoring

ATC will complete four quarters of additional groundwater monitoring at the site. Groundwater monitoring activities will be completed in accordance with Guidance Document 4-05. The monitoring wells will be opened first and then gauged in the order that they were opened in order to allow the in-well pressure to stabilize prior to gauging. Monitoring wells will be opened and gauged in the order from least contaminated to most contaminated, in order to prevent cross-contamination.

During gauging, the source area monitoring well MW-1 will be gauged with an interface probe to assess the potential presence of LNAPL. ATC will continue with attempts to recover as much LNAPL as possible from monitoring well MW-1. The delineation wells located north, south, east, and west of monitoring well MW-1 will also be gauged with an interface probe. If LNAPL is not detected in the delineation wells, water level measurements will be collected and groundwater samples will be collected from the wells. If LNAPL is discovered at new locations during the investigation, ATC will immediately contact the MPCA to document the presence of migrating LNAPL at the site. ATC will begin LNAPL recovery activities immediately upon discovery.

Groundwater samples will be placed on ice in an insulated cooler and shipped to Pace for analysis of PVOCs per EPA Method 8260B, GRO per the Wisconsin Modified Method, and DRO per the Wisconsin Modified Method, unless requested otherwise by the MPCA project manager. The sample events will include collection of a trip blank, field blank, and duplicate. All sampling information will be documented on a field sampling form.

Task C: Submit Monitoring Report

Following completion of one additional year of monitoring, ATC will prepare Guidance Document 4-08, *Monitoring Report Form,* documenting the cumulative results of the investigation, to date. At this point, one year of groundwater monitoring will have been documented within the Investigation Report and two years of monitoring will have been documented within two separate Monitoring Reports. At this point, ATC would refine the SCM based on information obtained from groundwater monitoring and based on reduction of risks due to removal of contaminated surface soil, installation of an SSDS for the restaurant, connection of nearby homes to municipal water, and delineation of LNAPL. ATC provides a more refined SCM based on assumptions and conclusions, as follows:

Assumptions regarding site conditions and the resulting conclusions, which have been further refined, provide the basis for the Scenario B SCM summarized below:

- The cause of product loss reported by the site has been addressed and there is no currently ongoing release at the site.
- Site stratigraphy consists of interbedded sand and gravel to a depth of approximately 45 feet bgs, where bedrock was encountered. Former water supply wells, installed into the bedrock aquifer, have been converted to monitoring wells.
- The site meets the MPCA definition of a sensitive groundwater condition due to the presence of bedrock at a depth of 45 feet bgs.
- Gauging of the bedrock monitoring wells and the water table monitoring wells indicates that groundwater flows to the east, toward a lake located approximately 400 feet of the source

area. No evidence of impact to the lake located east of the site has been observed.

- The six water supply wells identified on the site plan and sampled in Objective 2 of this work plan are the only properties with private wells. All remaining properties located within 500 feet of the site are assumed to be supplied by municipal services. The properties with observed water supply impacts have been connected to the municipal water supply. The water supply lines used for the connection are constructed of ductile iron pipe with nitrile gaskets; therefore, the risk to nearby water well receptors has been mitigated.
- Recalcitrant compounds were not detected in water samples collected from the private wells or monitoring wells and water supply well sample collection will not be required to extend to additional wells located within 1,000 feet of the site.
- Utility trenches at the site were backfilled with sand and no preferential pathways appear present due to the fact that the predominant soil type throughout the area is interbedded sand and gravel.
- Vapor impacts were not detected in the storm or sanitary sewers during the vapor receptor survey and risk evaluation.
- The water line permeation receptor survey indicated that the water line at the site is constructed of ductile iron pipe with unknown gasket type. Due to the uncertainty over the gasket materials and the presence of LNAPL in the vicinity of the water line, ATC collected a water sample from inside of the building to further assess the risk of water line permeation. Analytical results of VOCs, GRO, DRO, and lead were less than laboratory detection limits and there is low risk of water line permeation.
- Despite high conductivity soils at the site, a flat groundwater gradient in the water table aquifer indicates a relatively slow groundwater flow velocity at the site.
- Following removal of water supply well pumps located near the site, dissolved-phase concentrations in the former water supply wells have decreased to concentrations less than laboratory detection limits. It appears that pump shutdown has decreased the gradient and contamination is no longer being pulled towards the residences and lake. Due to the removal of the well pumps, the dissolved-phase contaminant plume in the bedrock aquifer now appears to be delineated and limited to within the site boundaries.
- The initial groundwater monitoring results for monitoring wells MW-4 and MW-5 indicate that the dissolved-phase contaminant plume in the water table aquifer may be limited within the site boundaries. The lack of observed impacts in groundwater samples collected from monitoring wells MW-4 and MW-5 indicates that the risk to the nearby lake is minimal.
- The lack of detectable impacts in former water supply wells near the lake indicate that the risk of impact to the surface water has been mitigated.
- Aquifer pumping test results indicate that both the water table and the bedrock groundwater units meet the MPCA definition of an aquifer (transmissivity is greater than 50 ft^2/day).
- Mann-Kendall statistical tests for quantitative trend analysis for three years of groundwater sample data indicate that concentrations are stable or decreasing in all monitoring wells at the site.
- LNAPL was identified in the source area monitoring well, MW-1, located east of the pump islands. The LNAPL thickness in monitoring well MW-1 is typically less than one foot. The installation of four additional LNAPL delineation wells has allowed for the delineation of LNAPL at the site. Delineation wells have not indicated the presence of LNAPL and the LNAPL does not appear to be migrating. LNAPL appears to be fully delineated.
- Petroleum saturated soil was not observed during the installation of monitoring well MW-1. Therefore, due to the presence of primarily coarse-textured soil throughout the site and based on the presence of LNAPL in monitoring well MW-1, it appears that the released product traveled vertically downward without significant lateral movement. LNAPL is likely present beneath the pump islands; however, a boring in the exact location of the release is not possible.
- Petroleum saturated surface soil formerly identified by hand auger borings HA-1 and HA-2, has been excavated and removed. The petroleum saturated surface soil formerly covered a surface area of approximately 1,000 ft^2. The excavation of contaminated surface soil removed impacted soil from the surface to a depth of 2 feet bgs and addressed the risk of dermal exposure to contaminated surface soil present east of the pump islands.
- Lead was not detected at elevated concentrations in soil or groundwater samples.
- Karst conditions are not present in bedrock.
- Nearby buildings are built with slab-on-grade construction.

- Analytical results of all receptor-specific soil gas samples, including the soil gas sample near the gas station, were less than the 33x ISV and 33x EISV and no further building-specific investigation is necessary. Due to the fact that the gas station building and the restaurant building were constructed approximately 40 years apart, the building footings effectively separate the air space beneath the floor slabs.
- Sub-slab vapor samples collected beneath the restaurant slab contained petroleum impacts to soil gas greater than the 33x ISV but less than the 33x EISV. Due to the presence of elevated sub-slab vapor concentrations ATC installed a SSDS to mitigate the risk of vapor intrusion into the restaurant building. The current risk of vapor intrusion into the restaurant building is minimal.

ATC understands that the site conditions as stated within the Scenario B summary would likely result in complex corrective action at the site; however, due to the fact that complex corrective action is outside of the Category B contract scope of work, ATC has provided conditions for closure by assuming the following conditions to support a closure recommendation:

1) Due to a relatively flat groundwater gradient in the water table aquifer at the site, the contaminant travel time is slow. For this reason, despite the high conductivity soils, the dissolved-phase plume in the water table aquifer is limited within the site boundaries.
2) The removal of well pumps, formerly installed in the water supply wells located east of the site has decreased the gradient in the bedrock aquifer, effectively slowing the flow of contamination towards the lake. Despite the former presence of petroleum impacts in the water supply wells, contamination has not been detected in the wells since their conversion to monitoring wells.
3) Mann-Kendall statistical tests for quantitative trend analysis for three years of groundwater samples indicate that concentrations are stable or decreasing in all bedrock and water table monitoring wells associated with the site.
4) Due to the water supply line location beneath the pump islands, ATC assessed the risk of water line permeation. A water sample collected from the site building did not contain detectable concentrations of VOCs, GRO, DRO, or lead. The use of ductile iron pipe appears protective of the site water supply, despite unknown gasket construction.
5) Vapor impacts were not detected in the storm or sanitary sewers during the vapor receptor survey and risk evaluation.
6) Contaminated surface soil has been excavated and removed from the area east of the pump islands and disposed of at a nearby landfill.
7) Mobile LNAPL, observed in monitoring well MW-1, has been recovered to the maximum extent practicable and the observed thickness of LNAPL in the monitoring well has steadily decreased since its initial detection. LNAPL delineation wells, located north, south, east, and west of monitoring well MW-1 did not contain LNAPL. The lack of LNAPL in the delineation wells indicates that LNAPL is not migrating.
8) Vapor intrusion risks to the restaurant building have been addressed with the installation of an active SSDS beneath the building slab.
9) Receptor-specific soil gas samples did not contain contaminants at concentrations which exceed the 33x ISV or the 33x EISV.

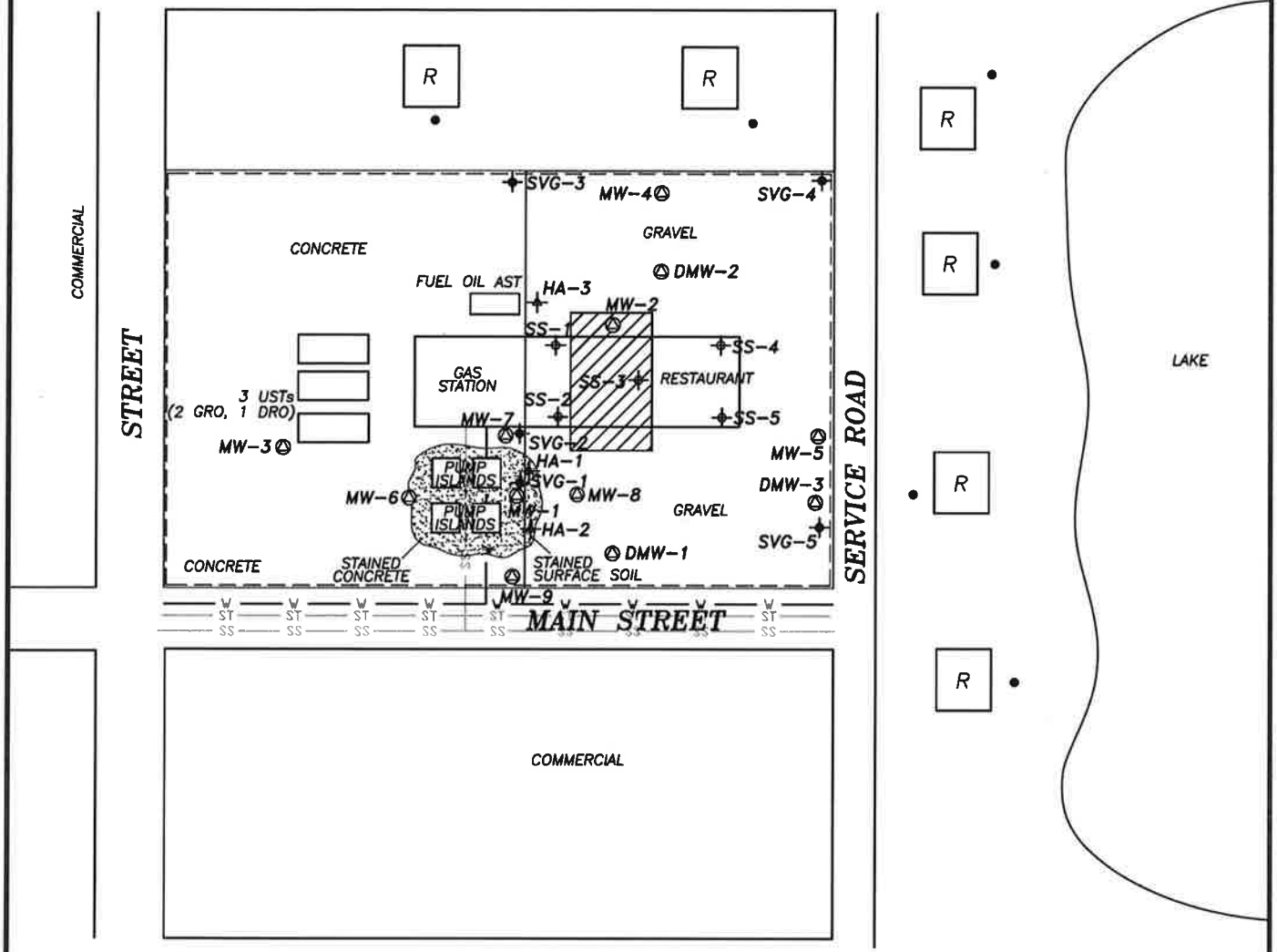
Objective 5 Timeline: Project administrative activities will commence on the work order effective date. Groundwater monitoring activities will be completed following the same quarterly schedule established during the prior two years. Monitoring wells will be sampled quarterly for four quarters. The Monitoring Report will be prepared following completion of four quarters of monitoring at the site and submitted to the MPCA by June 30.
Objective 5 Cost: $31,968.48
Objective 5 Deliverables: Guidance Document 4-08, *Monitoring Report Form,* Receptor Notification Letters

3. Measurable Outcomes

The following information will be gained from this project that will allow for additional strategy development, including potential additional investigation or corrective action activities:

- Established a SCM which was used to discuss risks to surrounding receptors and close the site.
- Delineated horizontal and vertical extent of the adsorbed phase contaminant plume.
- Delineated horizontal extent of the dissolved-phase and LNAPL contaminant plumes.

- Established magnitude of soil and groundwater contaminant plume.
- Excavated contaminated surface soil east of the pump islands to address dermal exposure risk.
- Defined vapor intrusion risk to nearby receptors.
- Addressed vapor intrusion risk into restaurant building through installation of an active SSDS.
- Assessed risk of water line permeation.
- Protected the lake located east of the site.
- Connected nearby homes to the municipal water supply to provide safe, permanent water supply.
- Utilized sustainable practices, including skipping the LSI due to sensitive groundwater conditions and using former water supply wells as monitoring wells. Skipping the LSI step and utilizing former water supply wells for monitoring likely saved more than $75,000 to the total cost of investigation, while simultaneously obtaining a greater volume of data in a compressed timeline.



LEGEND:

- MW-1 — PROPOSED MONITORING WELL — Boring Identification
- DMW-1 — PROPOSED DEEP MONITORING WELL — Boring Identification
- SVG-1 — PROPOSED SOIL VAPOR BORING — Boring Identification
- SS-1 — PROPOSED SUB-SLAB VAPOR — Boring Identification
- HA-1 — PROPOSED HAND AUGER BORING — Boring Identification
- DOMESTIC WELL
- SS — SANITARY SEWER
- ST — STORM SEWER
- W — WATER LINE
- PROPERTY BOUNDARY
- STAINING
- PREVIOUS USTs
- R — RESIDENCE

N

125 0 25 50 75 100 125

APPROXIMATE SCALE: 1" = 125'

SITE MAP

FUELING STATION AND RESTAURANT
123 MAIN STREET
WESTERN MINNESOTA, MN 55555

Project Number: M123456789		Drn. By: CS
Drawing File: SITE_MAP		Ckd. By: DR
Date: 3/2018	Scale: AS SHOWN	App'd By:
VATC ASSOCIATES INC.		Figure: 1

Attachment B: Example Scenario Spreadsheet

The following pages include a summary of costs associated with ATC's Example Workplan, presented in Attachment A.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Attachment B
*Example Scenario Project Spreadsheet

Project title: Western Minnesota Fueling Station and Restaurant

Project Budget	1. Personnel			2. Subcontracting	3. Equipment	4. Other Expenses			Totals (Extended)
	Engineer 3 / Project Manager	Engineer 2 / Scientist 2	Engineer 1 / Field Technician / GIS/CADD Specialist / Scientist 1			Lodging	Per Diem	Mileage	
	$ 137.52	$ 97.48	$ 78.09						
Objective 1 - Emergency Response and Cleanup	24.0	8.0	60.0	Actual Costs (no markup)	$ 495.00	$ 480.00	$ 170.00	$ 216.00	$ 10,126.72
Total for Objective 1 Hrs	**$ 3,300.48**	**$ 779.84**	**$ 4,685.40**	**$ -**	**$ 495.00**	**$ 480.00**	**$ 170.00**	**$ 216.00**	**$ 10,126.72**
Objective 2 - Assess risk to 6 nearby water supply wells									
Task A - Emergency water supply assessment and corrective action									
Subtask 1 - Discussions with homeowners	6.0								$ 825.12
Subtask 2 - Collect six (6) pre-treatment water samples	4.0		12.0	$ 1,560.00		$ 120.00	$ 36.00	$ 216.00	$ 3,419.16
Subtask 3 - Install six (6) point-of-use water treatment systems	12.0	4.0	40.0	$ 15,294.00		$ 480.00	$ 180.00	$ 216.00	$ 21,333.76
Total for Objective 2 Hrs	**$ 3,025.44**	**$ 389.92**	**$ 4,060.68**	**$ 16,854.00**	**$ -**	**$ 600.00**	**$ 216.00**	**$ 432.00**	**$ 25,578.04**
Objective 3 - Perform a Remedial Investigation									
Task A - Project Initiation and Administration									
Subtask 1 - Health and Safety Plan	1.0		1.0						$ 215.61
Subtask 2 - Site access	4.0	2.0							$ 745.04
Subtask 3 - Background review	4.0	2.0							$ 745.04
Subtask 4 - Complete SCOFs	2.0								$ 275.04
Task B - Initial Site Inspection and Receptor Surveys									
Subtask 1 - Water well receptor survey and risk evaluation	2.0	4.0							$ 664.96
Subtask 2 - Water line permeation receptor survey and risk evaluation			4.0	$ 130.00					$ 442.36
Subtask 3 - Surface water receptor survey and risk evaluation			1.0						$ 78.09
Subtask 4 - Vapor receptor survey and risk evaluation	2.0	2.0	4.0		$ 222.00	$ 120.00	$ 36.00	$ 216.00	$ 1,376.36
Subtask 5 - Surface soil contamination survey			2.0						$ 156.18

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Project Budget	1. Personnel			2. Subcontracting	3. Equipment	4. Other Expenses			Totals (Extended)
	Engineer 3 / Project Manager	Engineer 2 / Scientist 2	Engineer 1 / Field Technician / GIS/CADD Specialist / Scientist 1			Lodging	Per Diem	Mileage	
	$ 137.52	$ 97.48	$ 78.09						
Task C - Subsurface Investigation									
Subtask 1 - Fieldwork notification and scheduling	4.0	1.0							$ 647.56
Subtask 2 - Arrange for clearing of public utilities		2.0							$ 194.96
Subtask 3 - Soil boring oversight and water table monitoring well installation	4.0		24.0	$ 10,000.00	$ 647.00	$ 360.00	$ 144.00	$ 216.00	$ 13,791.24
Subtask 4 - Soil boring oversight and deep monitoring well installation	4.0		40.0	$ 20,000.00	$ 1,009.00	$ 480.00	$ 180.00	$ 216.00	$ 25,558.68
Subtask 5 - Hand auger soil borings	1.0		3.0						$ 371.79
Subtask 6 - Soil sample collection and submittal				$ 1,780.00					$ 1,780.00
Subtask 7 - Groundwater sample collection and submittal	16.0	8.0	116.0	$ 6,774.00	$ 448.00	$ 480.00	$ 288.00	$ 864.00	$ 20,892.60
Subtask 8 - Aquifer pumping test	4.0	4.0	16.0	$ 2,500.00	$ 158.00	$ 120.00	$ 36.00	$ 216.00	$ 5,219.44
Subtask 9 - Soil gas assessment	1.0		5.0		$ 99.00				$ 626.97
Subtask 10 - Soil gas sample collection and submittal				$ 1,060.00		$ 120.00	$ 36.00	$ 216.00	$ 1,432.00
Subtask 11 - Sub-slab vapor sampling	2.0		14.0	$ 2,120.00					$ 3,488.30
Subtask 12 - Investigation-derived waste disposal				$ 3,150.00					$ 3,150.00
Subtask 13 - Investigation Report Form	6.0	40.0	6.0						$ 5,192.86
Total for Objective 3 Hrs	**$ 7,838.64**	**$ 6,336.20**	**$ 18,429.24**	**$ 47,514.00**	**$ 2,583.00**	**$ 1,680.00**	**$ 720.00**	**$ 1,944.00**	**$ 87,045.08**
Objective 4 - Address Risks to Receptors and Continue Groundwater Monitoring									
Task A - Project Initiation and Administration									
Subtask 1 - Health and Safety Plan	1.0								$ 137.52
Subtask 2 - Complete SCOFs	4.0								$ 550.08
Task B - Connect six (6) residences to muncipal water									
Subtask 1 - Prepare bid specification for subcontractor bidding	4.0	14.0						$ 216.00	$ 2,130.80
Subtask 2 - Oversee contractor activities during water supply connection	8.0		96.0	ADMIN PAY	$ 990.00	$ 960.00	$ 360.00	$ 432.00	$ 11,338.80
Subtask 3 - Remove GAC water treatment systems from homes	8.0			$ 3,300.00					$ 4,400.16
Subtask 4 - Convert former water supply wells to monitoring wells	8.0		32.0	$ 9,000.00	$ 108.00	$ 360.00	$ 144.00	$ 216.00	$ 13,427.04
Task C - Install a sub-slab depressurization system beneath restaurant	12.0		40.0	$ 27,000.00		$ 480.00	$ 180.00	$ 216.00	$ 32,649.84

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520 Lafayette Road North
St. Paul, MN 55155-4194

Attachment B
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Project title: Western Minnesota Fueling Station and Restaurant

Project Budget	1. Personnel			2. Subcontracting	3. Equipment	4. Other Expenses			Totals (Extended)
	Engineer 3 / Project Manager	Engineer 2 / Scientist 2	Engineer 1 / Field Technician / GIS/CADD Specialist / Scientist 1			Lodging	Per Diem	Mileage	
	$ 137.52	$ 97.48	$ 78.09						
Task D - Assess LNAPL in the vicinity of the pump islands									
Subtask 1 - Focused Investigation Work Plan	4.0	20.0							$ 2,499.68
Subtask 2 - Install additional monitoring wells	4.0		20.0	$ 8,712.00	$ 466.00	$ 360.00	$ 144.00	$ 216.00	$ 12,009.88
Task E - Excavate and dispose of contaminated surface soil									
Subtask 1 - Conceptual Corrective Action Design Report	4.0	24.0							$ 2,889.60
Subtask 2 - Prepare excavation bid specification	8.0	16.0						$ 216.00	$ 2,675.84
Subtask 3 - Oversee excavation and disposal of impacted soil	4.0		16.0	$ 25,000.00	$ 495.00	$ 240.00	$ 108.00	$ 216.00	$ 27,858.52
Subtask 4 - Submit Corrective Action Excavation Report Worksheet	2.0	12.0							$ 1,444.80
Task F - Continue groundwater monitoring	12.0	16.0	172.0	$ 7,014.00	$ 926.00	$ 1,920.00	$ 576.00	$ 864.00	$ 27,941.40
Task G - Submit Monitoring Report	4.0	22.0	4.0						$ 3,007.00
Total for Objective 4 Hrs	**$ 11,964.24**	**$ 12,087.52**	**$ 29,674.20**	**$80,026.00**	**$2,985.00**	**$4,320.00**	**$1,512.00**	**$2,592.00**	**$145,160.96**
Objective 5 - Complete Groundwater Monitoring Activities									
Task A - Project Initiation and Administration									
Subtask 1 - Health and Safety Plan	1.0								$ 137.52
Subtask 2 - Complete SCOFs	4.0								$ 550.08
Subtask 3 - Receptor notification letters	1.0	2.0							$ 332.48
Task B - Continue groundwater monitoring	12.0	16.0	172.0	$ 7,014.00	$ 926.00	$ 1,920.00	$ 576.00	$ 864.00	$ 27,941.40
Task C - Submit Monitoring Report	4.0	22.0	4.0						$ 3,007.00
Total for Objective 5 Hrs	**$ 3,025.44**	**$ 3,899.20**	**$ 13,743.84**	**$7,014.00**	**$926.00**	**$1,920.00**	**$576.00**	**$864.00**	**$31,968.48**
Total Project Hours	**$29,154.24**	**$23,492.68**	**$70,593.36**	**$151,408.00**	**$6,989.00**	**$9,000.00**	**$3,194.00**	**$6,048.00**	**$299,879.28**

Attachment C: Sample Contract

The following pages provide a sample MPCA contract for remediation services.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

ATTACHMENT C
Professional and Technical Services Remediation Master Contract
State of Minnesota

SWIFT Master Contract No.:
T-Number:
Agency Interest No.:
Activity ID No.:

This Master Contract is between the State of Minnesota, acting through its Commissioner of the **Minnesota Pollution Control Agency** ("MPCA" or "State") 520 Lafayette Road North, St. Paul, MN 55155 and **Contractor Name** ("Contractor"), address, city, state zip .

Recitals

1. Under Minn. Stats. § § 15.061 and 116.03 Subd. 2, the State is empowered to engage such assistance as deemed necessary.
2. The State is in need of multiple contracts to perform **<Category A > <Category B> <Category C >** program activities.
3. The Contractor represents that it is duly qualified and agrees to perform all services described in this Master Contract ("Master Contract" or "Contract") to the satisfaction of the State.

Master Contract

1. TERM OF MASTER CONTRACT

***1.1. Effective date*: July 1, 2018**, or the date the State obtains all required signatures under Minn. Stat. § 16C.05, Subd. 2, whichever is later. **The Contractor must not accept work under this Master Contract until this Master Contract is fully executed and the Contractor has been notified by the State's Authorized Representative that it may begin accepting Work Orders.**

1.2. Work Order Contracts. The term of the work under Work Order contracts issued under this Master Contract may not extend beyond the expiration date of this Master Contract.

***1.3 Expiration date*: June 30, 2023**, with no contract extensions, or until all obligations have been satisfactorily fulfilled, whichever occurs first.

***1.4 Survival of terms*:** The following clauses survive the expiration or cancellation of this Master Contract and all Work Orders: Indemnification; State Audits; Government Data Practices and Intellectual Property; Publicity and Endorsement; Governing law, Jurisdiction, and Venue; and Data Disclosure.

2. SCOPE OF WORK

The Contractor, who is not a State employee, will upon request from the State, prepare workplans for work outlined in **<Category A > <Category B> <Category C >** outlined in this Master Contract and the Request for Proposal (RFP) which is incorporated herein by reference, and perform the duties authorized in a Work Order and any related Change Order, Work Order Amendment, or Stop Work Order issued by the State, as described in this Master Contract and the RFP. No work shall be performed by the Contractor under this Master Contract without State authorization. In the event of a conflict between the provisions of this Master Contract and the provisions of the RFP, the provisions of this Master Contract shall prevail.

The Contractor shall begin work only upon receipt of a fully executed Work Order that authorizes the Contractor to begin work under this Master Contract. Any and all effort, expenses, or actions taken before the Work Order is fully

executed is not authorized under Minnesota Statutes and is under taken at the sole responsibility and expense of the Contractor.

The Contractor understands this Master Contract is not a guarantee of work under a Work Order contract. The State has determined it may need the services under this Master Contract, but does not commit to spending any money with the Contractor.

<Category A Scope of Services>
<Category B Scope of Services>
<Category C Scope of Services>

3. TIME

The Contractor must comply with all the time requirements described in Work Orders. In the performance of Work Orders, time is of the essence.

4. CONSIDERATION AND PAYMENT

4.1 Consideration. The State will pay for all services satisfactorily performed by the Contractor for all Work Order Contracts issued under this Master Contract. The total compensation of all Work Orders may not exceed **$120,000,000.00 (One Hundred Twenty Million Dollars)** for five (5) years between all Master Contracts.

a. ***Travel expenses.*** Reimbursement for travel and subsistence expenses actually and necessarily incurred by the Contractor as a result of any Work Order will be reimbursed, for travel and subsistence expenses in the same manner and in no greater amount than provided in the current "Commissioner's Plan" promulgated by the Commissioner of Minnesota Management and Budget which is incorporated into this Master Contract by reference which can be viewed at: **http://www.mmd.admin.state.mn.us/commissionersplan.htm.** The Contractor will not be reimbursed for travel and subsistence expenses incurred outside Minnesota unless it has received the State's prior written approval for out-of-state travel. Minnesota will be considered the home State for determining whether travel is out of state. When coming from out-of-state the Contractor's hourly rate for staff will not apply until the Contractor's staff has arrived at the project location.

To qualify for the breakfast and dinner costs, the Contractor must leave the point of mobilization before 6:00 a.m. and arrive back at the point of mobilization after 7:00 p.m., respectively. Lunch reimbursements may be claimed if the Contractor is in travel status more than 35 miles away from his/her normal office or is away from home overnight.

Receipts for meals and lodging must be attached to the Contractor's invoices. Meal receipts are required to be submitted with invoices, and retained in accordance with Clause 33. Meal and lodging costs and any expenses must be summarized in an Expense Worksheet and submitted with invoices.

4.2 Payment

a. ***Terms of Payment.*** The Contractor shall be paid for actual services performed for the State in accordance with Work Orders from the State and in accordance with the Classifications and Rates established in Clause 10, of this Master Contract. The Contractor will be paid in accordance with the Workplan and Budgets for each Work Order.

b. **Invoices.** The Contractor shall submit invoices to the State monthly for work completed during the prior month, unless no costs, or minimal costs are incurred during the billing period. The invoices shall be submitted in the format acceptable to the State. Invoices and attachments should be consistent with the Work Order Budget. Documentation must be itemized and legible. It is the Contractor's sole responsibility to make sure invoices are submitted as required. Invoices shall include:

   a. Contractor name

b. SWIFT Master Contract ID No.
c. Work Order Number
d. Purchase Order Number
e. Invoice number
f. Invoice date
g. State Project Manager
h. Invoicing period (actual working period)
i. Itemized list of all work performed and Brief Update of Tasks Completed
j. Itemized list of all labor, supplies and equipment
k. Subcontractor invoices
l. Mileage expenses
m. Itemized expenses with receipts, for meals, lodging, and parking expenses per person per day (State to provide form)
n. Staff travel logs and/or timesheets (if requested or applicable)
o. Documentation of times and dates must be disclosed on the expense worksheet and attached to invoice
p. Retainage calculation
q. Budget Summary Report (form provided by State) summarizing State approved budget amounts by task and total billed to date for the categories of Contractor and subcontractors labor, expenses, and equipment.
r. Expenses as approved on workplan
s. Brief update of tasks completed for subject invoice

MPCA Work Order invoices will be submitted to mpca.ap@state.mn.us.

If there is a problem with submitting an invoice electronically please contact the MPCA Accounts Payable Unit at 651-757-2491.

Minnesota Department of Agriculture (MDA) Work Order invoices should be submitted by email (preferred) to: MDA.Accounts-Payable@state.mn.us or by US Mail to Finance and Budget Division, Accounts Payable, 625 Robert Street North, Saint Paul, MN 55155.

The State's Authorized Representative shall have the authority to approve invoices, and no payments shall be made without the approval of the State's Authorized Representative. Payment shall be made within thirty (30) days of submission of the Contractor's invoices for services performed. The State shall pay interest at the rate of one and one half percent (1.5%) per month to the Contractor for undisputed billings when the State has not paid the billing within thirty (30) days following receipt of the invoice, in accordance with Minn. Stat. § 16A.124. When discrepancies occur regarding portions of an invoiced amount, the State shall pay the undisputed amount in accordance with this part. The disputed items shall be paid within thirty (30) days of when the discrepancies are resolved.

c. ***Retainage.*** Under Minnesota Statutes §16C.08, subdivision 2 (10), no more than 90 percent of the amount due under any Work Order may be paid until the final product of the Work Order contract has been reviewed by the State's agency head. The balance due will be paid when the State's agency head determines that the Contractor has satisfactorily fulfilled all the terms of the Work Order.

5. CONDITIONS OF PAYMENT

All services provided by the Contractor under a Work Order must be performed to the State's satisfaction, as determined at the sole discretion of the State's Authorized Representative and in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations including business registration requirements of the Office of the Secretary of State. The Contractor will not receive payment for work found by the State to be unsatisfactory or performed in violation of federal, state, or local law.

6. CONTRACT SERVICE PRICES

When the MPCA Contractor hires a State Contractor, the MPCA Contractor is required to pay the State Contractor within 30 days after receipt of the invoice for undisputed billings from the State Contractor. The MPCA Contractor is responsible to assure the State Contractor's invoice and services were in compliance with the MPCA Work Order, State Contract scope of services and fee schedules.. The MPCA Contractor shall also assure the services were provided. The MPCA Contractor has the option to submit invoices twice a month to expedite payment of State Contractor/Subcontractor invoices.

The Contractor may provide oversight and invoice approval of State Construction Contracts over $50,000 and ensure invoices are in compliance with the scope of work that was performed. However, the Contractor shall not pay the State Construction Contractor directly. The State Construction Contractor shall submit invoices to the State for payment and the State will make payments directly to the State Construction Contractor.

The end of the State fiscal year is June 30. All invoices are due by August 15 of each year for work done prior to July 1 of that year. Charges incurred in two fiscal years (before and after July 1) shall not be on the same invoice. The State closes its fiscal year accounts at the end of August.

Courier services shall be reimbursable when requested by the MPCA. Copies of plans and specifications for bid packages for major construction projects shall be reimbursable when approved in the Work Order. The State shall not pay for markup on Contractor or Subcontractor invoices.

7. PAYMENT TO SUBCONTRACTORS

As required by Minn. Stat. § 16A.1245, the prime Contractor must pay all subcontractors, less any retainage, within ten (10) calendar days of the prime Contractor's receipt of payment from the State for undisputed services provided by the subcontractor(s) and must pay interest at the rate of one and one-half percent per month or any part of a month to the subcontractor(s) on any undisputed amount not paid on time to the subcontractor(s).

8. SUPPLIES AND EQUIPMENT PRICING

Supplies and Expenses: The State considers the following items to be examples of supplies, disposables, and/or equipment that are already part of a Responder's overhead that will not be reimbursed separately. This is not an all-inclusive list.

a. Vehicle or Vehicle daily rates
b. Tool Boxes
c. Hand tools and small electric tools
d. Tri-pod
e. Grease
f. Mobile phone or related fees
g. Answering machine/voice mail systems or access
h. Computer/tablets/field notebooks/printer and ink cartridges
i. Hand-held global positioning system locator
j. Digital/film camera, photo processing and film
k. Bucket
l. Tape measures
m. Gloves
n. Level D personal protective equipment (including but not limited to coveralls, steel-toed boots/shoes, safety glasses or chemical splash goggles, face shield, ear protection, hard hat, gloves)
o. First aid kit
p. Eye wash

q. Trash bags
r. Duct tape
s. Rainwear suits and raingear
t. Distilled water
u. Ice/coolers
v. Bungee cords
w. Alconox
x. Ziplocs or similar plastic bags
y. Electrical cords
z. Stamps or postage
aa. Boot covers
bb. Locks
cc. Tubing
dd. Nails/screws/bolts/fasteners
ee. Items less than $30

Equipment: All anticipated equipment to be used on all projects under this Master Contract is listed on the equipment list. Any equipment not listed, if approved by the MPCA Project/Contract Manager, shall be purchased as required in the MPCA Contractor/Subcontractor Purchasing Manual: https://www.pca.state.mn.us/about-mpca/contractor-and-subcontracting-guidance.

The MPCA will allow the Contractor to use MPCA equipment, if available, with MPCA contract manager approval and proper training as deemed appropriate by the contract manager. The MPCA will not reimburse contractors for this training. The Contractor assumes all risks of loss or damage to the equipment during periods of transportation, installation, and during the entire time the equipment is in possession of the Contractor.

Items shown below shall be billed at the daily or hourly rate shown without further proof of cost.

EQUIPMENT RATES
Effective July 1, 2018 – through June 30, 2023

Equipment	Cost (per day)
Turbidity Meter	$52.00
Oxidation-reduction potential (ORP) Meter	$39.00
Hydrolab Quanta	$80.00
Dissolved Oxygen Meter	$46.00
Temperature, pH, conductivity, ORP meter	$68.00
Temperature, pH, conductivity	$35.00
YSI Multi Meter w/ Flow Cell	$117.00
Flow Cell	$77.00
Water Quality Meter (6 parameters)	$102.00
2" Pump	$189.00
Bladder pump	$118.00
Submersible Pump	$52.00

Peristaltic Pump	$43.00
Diaphram Pump	$53.00
Mechanical Pump Puller	$44.00
Water Level Indicator	$27.00
Hydrocarbon/Water Interface Probe	$55.00
Pump/Slug Testing Equipment	$110.00
Manual direct-push probe equip.	$165.00
X-ray Fluorescent (XRF) for Soil and Lead Paint	$468.00
Nuclear Density Gauge	$69.00
Multi Gas Meter (02/CO/LEL/Methane)	$123.00
O2/Combustible Gas Detector	$110.00
LEL/O2/CO2 Gas Meter	$66.00
LEL/O2Gas Meter	$55.00
Explosimeter	$52.00
Photoionization Detector (PID) 10.6	$99.00
Photoionization Detector (PID) 11.7	$138.00
Flame Ionization Detector (OVA)	$135.00
Velometer / Anemometer	$34.00
Micro Manometer	$64.00
Sound Level Meter	$53.00
Dust Meter	$70.00
Air Compressor	$54.00
Metal/Cable Detector	$47.00
Generator	$65.00
Sump Pump	$33.00
Pressure Washer	$69.00
Magnetometer	$151.00
Coreing Machine with Drill Bits	$110.00
Surveying Equipment - Rotary Laser	$104.00
GPS (Submeter)	$122.00
Laser Level/Lenker Rod	$127.00
Ground Penetrating Radar (GPR)	$426.00
EM-31 Ground Conductivity Meter	$440.00
EM-61 Ground Conductivity Meter	$688.00
55 gal Drums	$70.00
Sub-Slab Soil Gas Sampling Point Insert	$88.00
Screen for Soil Gas Monitoring Points	$51.00
Vapor Pin Installation Kit (per point)	$60.00

Lumex Mercury Monitoring	$187.00
Mercury Analyzer	$179.00

Note: all calibration gasses are included in the price of the meters.
Vibracoring cannot be conducted under this contract.

9. CONTRACTOR STAFFING AND PERSONNEL CLASSIFICATIONS

Classifications are grouped in levels. Each level has an hourly rate. To qualify for a classification, you must have the education, experience and a majority of the qualifications as listed in the RFP, which is incorporated herein by reference. Classifications and hourly rates are as follows below:

Category A: Petroleum, Superfund, Ag, and Closed Landfill Program Environmental Services

The following personnel classifications will be utilized in Category A. Additional personnel classifications other than those listed below will not be accepted.

Ecological Risk Assessor 2
Ecological Risk Assessor 3
Engineer 1
Engineer 2
Engineer 3
Engineer 4
Field Technician
GIS/CADD Specialist
Human Health Risk Assessor 2
Human Health Risk Assessor 3
On-Site Inspector
Project Manager
Quality Assurance/Quality Control Officer
Scientist 1
Scientist 2

Category B. Petroleum Only Environmental Services

The following personnel classifications will be utilized in Category B. Additional personnel classifications other than those listed below will not be accepted.

Engineer 1
Engineer 2
Engineer 3
Field Technician
GIS/CADD Specialist
Project Manager
Scientist 1
Scientist 2

Category C: Closed Landfill Program

The following personnel classifications will be utilized in Category C. Additional personnel classifications other than those listed below will not be accepted.

Engineer 1
Engineer 2
Engineer 3
Engineer 4
Field Technician
GIS/CADD Specialist
On-Site Inspector
Project Manager
Quality Assurance/Quality Control Officer
Scientist 1
Scientist 2

10. CLASSIFICATIONS AND RATES

Classifications are grouped in levels. Each level has an hourly rate. To qualify for a classification, you must have the education, experience and a majority of the qualifications as listed in the RFP, which is incorporated herein by reference. Classifications and hourly rates are as follows below in Rate Schedule 1 and 2:

Rate Schedule 1
Effective July 1, 2018 – June 30, 2020

Level One	Classifications	Hourly Rate
	Engineer 1	$78.09
	Field Technician	$78.09
	GIS/CADD Specialist	$78.09
	Scientist 1	$78.09
Level Two	**Classifications**	**Hourly Rate**
	Ecological Risk Assessor 2	$97.48
	Engineer 2	$97.48
	Human Health Risk Assessor 2	$97.48
	Quality Assurance/Quality Control Officer	$97.48
	Scientist 2	$97.48
Level Three	**Classifications**	**Hourly Rate**
	Ecological Risk Assessor 3	
	Engineer 3	$137.52
	Human Health Risk Assessor 3	$137.52
	On-Site Inspector	$137.52
	Project Manager	$137.52
Level Four	**Classifications**	**Hourly Rate**
	Engineer 4	$205.97

Rate Schedule 2
Effective July 1, 2020 – June 30, 2023

Level One	Classifications	Hourly Rate
	GIS/CADD Specialist	$79.65
	Engineer 1	$79.65
	Field Technician	$79.65
	Scientist 1	$79.65
Level Two	**Classifications**	**Hourly Rate**
	Ecological Risk Assessor 2	$99.43
	Engineer 2	$99.43
	Human Health Risk Assessor 2	$99.43
	Quality Assurance/Quality Control Officer	$99.43
	Scientist 2	$99.43
Level Three	**Classifications**	**Hourly Rate**
	Ecological Risk Assessor 3	$140.27
	Engineer 3	$140.27
	Human Health Risk Assessor 3	$140.27
	On-Site Inspector	$140.27
	Project Manager	$140.27
Level Four	**Classifications**	**Hourly Rate**
	Engineer 4	$210.09

The Contactor will provide resumes to the State Contract Manager for review and approval before new staff can be added or begin work on a Work Order. New staff must meet the requirements in the RFP, which is incorporated herein by reference, of the personnel classification requested.

The Contractor will maintain and update a list of staff in matrix format that shows the personnel classifications and, staff name. The State may request and the Contractor shall comply with any request that a member of the Contractor's staff be removed from working on State projects for unsafe practices, violations of Contract procedures, or other problems. The State will pay the appropriate salary costs for the task being done.

11. **BACKGROUND CHECKS.** After Contract award and prior to the start of Contract work, the Contractor shall conduct background checks on all current and future employees that will perform the services required in the Contract. The background checks will be conducted through the State of Minnesota Bureau of Criminal Apprehension (BCA) and the Contractor shall also conduct its own check of any job applicant's work background. The State also reserves the right to request employee background checks be performed by the Contractor through the Federal Bureau of Investigation. All costs associated with any background checks conducted by the Contractor shall be the responsibility of Contractor.

    The Contractor must review the results of these background checks, and the background checks must show any felony and gross misdemeanor convictions and any misdemeanors for which jail time may be imposed that disqualify the Contractor's employee from performing work on State property or in sensitive work areas.

    If the completed background check on an individual employee shows an offense on their record, the Contractor must seek written approval from the State's Authorized Representative prior to allowing that individual to work under this Contract. The State reserves the right to decline any Contractor's employee with an offense on their record.

Before a Contractor's employee is allowed onsite to work, Contractor must certify to the State that it has a printed copy of the required background check on file and will keep it and other information on file and available for a minimum of six years for audit by the State. If requested, the results of the background checks shall be provided to the State.

12. REPORTING REQUIREMENTS

Progress Reports: The Contractor shall submit progress reports monthly or on an as needed basis determined by the State's Project Manager for the appropriate Work Order for each assigned project. This requirement shall be part of the workplan.

Usage Reports: The Contractor is required to submit Usage Reports. Usage Reports are a non-billable task required under the Master Contract. Usage Reports are due every year, no later than November 1, for the previous twelve month period of July 1 through June 30. Usage Reports are to be sent in writing or electronically to the MPCA's Contract Manager.

The Usage Report must include the following information:

a. Contractor's Name
b. Customer Name (MPCA, MDA)
c. Project Name
d. Work Order Number (if applicable) and SWIFT Purchase Order Number
e. Total Dollars by Work Order by Project for All Expenditures
f. Total Dollars Received by the MPCA Multi Site Contractor
g. Subcontractor's Name, Dollars Received, and Type of Service (by Work Order and per project)
h. Total Dollars Received During the Reporting Period by all Subcontractors
i. State Contractor's Name, Dollars Received, and Type of Service (by Work Order and per project)
j. For the report ending June 30, the total amount received for the entire fiscal year (July 1 – June 30) and yearly totals for each Work Order and each Subcontractor per Work Order
k. For the Environmental Products and Services portion of the Report, list products the Contractor is using or steps it is taking that are environmentally responsible (i.e. identify if the Contractor uses an E-85 vehicle and E-85 gas, or products made of recycled material)

The MPCA will provide a form to submit the above information as required.

Equipment Report: The Contractor shall submit Equipment Reports for State-owned equipment. Equipment Reports are a non-billable task required under the Master Contract. Reports are due every six months. Reports are due on March 1 for the previous six month period of July 1 through December 31 and on November 1 for the previous six month period of January 1 through June 30. Reports shall be sent electronically to the MPCA Contract Manager.

The Equipment Report shall include the following information:

a. Contractor Name
b. Item Description and Quantity
c. Purchase Date and Price
d. Make, Model, and Serial Identification Number of the Item
e. State Asset Number (items over $5,000)
f. Storage Location
g. Work Order or Purchase Order Number
h. Site Name

When State-owned equipment is lost or stolen, the Contractor must report the loss or theft to the MPCA Contract Manager within 24 hours.

13. SUBCONTRACTING

MPCA Contractors may subcontract tasks within the scope of this Master Contract and construction tasks assigned to it under this Master Contract as specified in the MPCA Contractor and Subcontracting Purchasing Manual which is incorporated by reference. The MPCA Contractor shall follow the MPCA Contractor/Subcontractor Purchasing Manual to subcontract services. The MPCA reserves the right to reject or accept Subcontractors as defined in the current MPCA Contractor/Subcontractor Purchasing Manual available at the MPCA website: https://www.pca.state.mn.us/about-mpca/contractor-and-subcontracting-guidance. The State reserves the right to update said instructions at any point. Once the State has posted revised instructions, the Contractor is required to implement all changes based on the revision date of the MPCA Contractor and Subcontracting Purchasing Manual

All construction activities must be subcontracted. The Contractor must not subcontract over $50,000. MDA is not authorized to use the MPCA Contractor and Subcontracting Purchasing Manual.

If MPCA Contractors decides to fulfill its obligations and duties under this Master Contract through a Subcontractor, to be paid for by funds received under this Contract, the Contractor shall not execute a contract with the Subcontractor or otherwise enter into a binding agreement until it has first received written approval from the State's Authorized Representative. All subcontracts shall reference this Master Contract and require the Subcontractor to comply with all of the terms and conditions of this Master Contract. The Contractor shall be responsible for the satisfactory and timely completion of all work required under any subcontract and the Contractor shall be responsible for payment of all subcontracts.

Professional / Technical Services: **Professional / Technical services cannot be subcontracted under this Master Contract.**

14. PREVAILING WAGE

The Contactor shall follow the MPCA Contractor and Subcontracting Purchasing Manual in regards to subcontracting construction activities. Any work on real property which uses the skill sets of any trades covered by Labor Code and Class under prevailing wages is construction and requires prevailing wages must be attached to the bid solicitation. For more information see http://www.doli.State.mn.us/LS/PrevWage.asp for the list of affected trades.

15. CONTRACTOR / SUBCONTRACTOR RESPONSIBILITIES

The Contractor is responsible for all work assigned to the Contractor under this Master Contract whether the work is actually performed by the Contractor or a Subcontractor. The State considers the Contractor to be the sole point of contact with regard to matters governed by this Contract, including payment of any and all charges resulting from this Master Contract. The Contractor is responsible for ensuring that the Subcontractor complies with all provisions of this Master Contract. The Contractor shall not utilize the services of any firms that have been debarred or suspended under Federal Regulation, 40 CFR Part 32. The MPCA will reject or accept Subcontractors as provided in the MPCA Contractor and Subcontracting Purchasing Manual: https://www.pca.state.mn.us/about-mpca/contractor-and-subcontracting-guidance

The use of temporary staff services must be authorized by the State's Contract Manager prior to use.

In the event the Contractor fails to make timely payments to a Subcontractor, the State may, at its sole option and discretion, pay a Subcontractor any amounts due from the Contractor for work performed under the Master Contract and deduct said payment from any remaining amounts due the Contractor. Before any such payment is made to a Subcontractor, the State shall provide the Contractor written notice that payment will be made directly to a Subcontractor. If there are no remaining outstanding payments to the Contractor, the State shall not have obligation to pay or be responsible for the payment of money to a Subcontractor except as may otherwise be required by law.

The MPCA Contractor is the oversight Contractor and will provide direction to the State Contractor and Subcontractor. The MPCA Contractor is responsible for informing the MPCA Contract Manager or State's Project Manager in regards to non-performance by a State Contractor.

16. WORKPLANS:

The workplan shall set forth the tasks the Contractor proposes to perform, a time schedule, and workplan budget. Upon request by the State Project Manager, the Contractor is required to submit Workplans for Work Orders. The Workplan shall be submitted to the requesting State Project Manager for review and approval within the time period prescribed by the State.

The State and the Contractor may negotiate changes to the Workplan prior to issuing the Work Order. The Workplan, once approved by the State, becomes an integral part of the resulting Work Order.

Billable hours and expenses must not exceed the State's approved Workplan amounts. The total labor amount of staff classifications shall not exceed the approved labor amount on the Workplan per task. Only the preapproved staff classifications shall be used and the task must be completed by the appropriate level of staff classification.

Additional personnel classifications will not be permitted.

Classifications may be substituted within a level upon approval by the MPCA Project Manager. If a substitute is outside of the level, the change must be approved prior to any work being done by that classification through either a change order or amendment. Additional personnel classifications shall not be utilized.

Any hours charged to a classification not approved under this Master Contract, or on the budget submitted with the Workplan, will not be considered for payment.

The State may solicit Workplans from multiple Contractors and shall base Contractor selection on the factors set forth in Section 15, Work Orders.

The State shall not pay for the preparation of Workplans or any other work conducted by the Contractor prior to issuance of a Work Order, including time for reviewing files and meeting with State staff. However, when substantial file review is required and/or an extensive Workplan is required, the State may agree to pay for the Workplan preparation.

17. WORK ORDERS

A Work Order is a contract document that is signed by the State's Authorized Representative, the Contractor's Authorized Representative, and if applicable the Department of Administration, requiring the Contractor to perform tasks pursuant to this Master Contract. Each Work Order shall become an integral and enforceable part of the Master Contract once executed by the State. The Workplan, Budget and Timeline must be attached to the Work Order.

Work Orders may be amended by a Change Order or a Work Order Amendment as described in this Master Contract.

Work Orders shall be issued under this Master Contract at the State's discretion. Whether or not a Work Order is issued shall be based on: the Contractor's performance on previous Work Orders; potential or actual conflicts of interest; availability of staff; the need for specialized skill or experience; or other factors as determined by the State's Authorized Representative.

The Contractor shall not begin work under this Master Contract until the Contractor has received an executed Work Order from the State's Authorized Representative.

A Work Order may be issued under this Master Contract with the State's prior approval utilizing funds other than the funds available from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Minnesota Environmental Response Liability Act (MERLA), and the Minnesota Petroleum Tank Release Cleanup Account (Petrofund). The State's Authorized Representative has sole discretion regarding when this option is available.

The State fiscal year ends June 30 of each year. All Work Orders written within a fiscal year must end June 30 of that year. Should work need to continue beyond June 30, a new Work Order beginning July 1 will be required.

18. CHANGE ORDERS:

If the State's Project Manager or the Contractor's Authorized Representative identifies a change needed in the workplan and/or budget, either party may initiate a Change Order using the Change Order Form provided by the MPCA. Change Orders may not alter the overall scope of the Project, increase or decrease the overall amount of the Work Order, or cause an extension of the term of the Work Order. Major changes require an Amendment rather than a Change Order.

The Change Order Form must be approved and signed by the State's Project Manager and the Contractor's Authorized Representative in advance of doing the work. Documented changes will then become an integral and enforceable part of the Work Order. The MPCA has the sole discretion on the determination of whether a requested change is a Change Order or an Amendment. The state reserves the right to refuse any Change Order requests.

19. WORK ORDER AMENDMENTS

Except for changes made by Change Orders described in Clause 18, Change Orders, of this Master Contract, all other changes to the Workplan established in a Work Order shall be made by a Work Order Amendment, signed by the State's Authorized Representative, the Contractor's Authorized Representative, and the Department of Administration Authorized Representative.

A Work Order Amendment may be initiated by the State or by the Contractor. Under no circumstances shall the Contractor proceed with work beyond the work authorized by a Work Order unless a Change Order or a Work Order Amendment has been approved by the State. Each Work Order Amendment shall become an integral and enforceable part of the Master Contract once executed by the State. Changes in Work Order end dates must be processed through a Work Order Amendment.

A revised Workplan must be attached to the Work Order Amendment. All Work Order Amendment amounts shall not exceed 10% of the cost established in the original Work Order or $50,000.00, whichever is less, of the overall Work Order, cumulatively.

20. STOP WORK ORDERS

The State's Contract Manager, State's Project Manager, or the State's Authorized Representative may issue a Stop Work Order if it is determined, for any reason, work authorized under a Work Order shall stop. A Stop Work Order may be verbal, but shall be confirmed in writing by the State. The Contractor shall immediately comply with the terms of the Stop Work Order, which may include steps to leave the site in a safe condition.

The Contractor shall be paid for costs properly invoiced for all work satisfactorily completed up to the date of the Stop Work Order. Costs incurred by the Contractor as a result of the issuance of a Stop Work Order shall be paid by the State through a Work Order Amendment.

21. STATE'S AUTHORIZED REPRESENTATIVES

The State's Authorized Representative has the responsibility to monitor the Contractor's performance and the authority to accept the services provided under this Master Contract. If the services are satisfactory, the State's Authorized Representative will certify acceptance on each invoice submitted for payment.

- The MPCA's Authorized Representatives for this Master Contract are: **name and contact information** 520 Lafayette Road North, Saint Paul, Minnesota 55155, or any other person the Commissioner of the MPCA designates in writing to the Contractor. The MPCA's Project Manager shall be designated in writing by the State before the Contractor begins work on a Work Order and may be changed by written notice to the Contractor.

- The MDA's Authorized Representative is **name and contact information** 625 Robert Street North, Saint Paul, Minnesota 55155, or any other person the Commissioner of the MDA designates in writing to the Contractor. The MDA's Project Manager shall be designated in writing by the State before the Contractor begins work on a Work Order and may be changed by written notice to the Contractor.

22. CONTRACTOR'S AUTHORIZED REPRESENTATIVES

The Contractor's Authorized Representative are **name and contact information**, and is authorized to sign Contracts and accept Work Orders from the State on behalf of the Contractor. If the Contractor's Authorized Representative changes at any time during this Master Contract, the Contractor must immediately notify the State.

The Contractor's Authorized Representative may designate alternative or additional representatives by written notice to the State's Authorized Representative.

23. CONFLICTS CHECK

Prior to beginning any work on a project, the Contractor shall determine whether it has any actual or potential conflict of interest in working on the project. If the Contractor determines it has no conflict of interest, it shall provide to the State the following certification within five (5) business days of receiving the first Work Order from the State per site and prior to beginning any work under the Work Order.

> *[To the best of the [name of Contractor]'s knowledge, no conflict of interest would be created by this firm's performance of work for the State at this site. To the best of the firm's knowledge, no relationship exists between this firm, its parent companies, affiliates, Subcontractors and subsidiaries, or any potentially responsible persons involved with the work described in this Workplan, except [disclose any relationship the Contractor has that does not rise to the level of a conflict of interest].*

If the State determines that there is an actual or potential conflict of interest, the State may revoke any previously issued related Work Order. In the event that a conflict is discovered after the Contractor has begun work under the Work Order, the Contractor shall immediately notify the State's Project Manager in writing with a copy sent to State's Contract Manager, and cease work on the project until the conflict is resolved. The cost of demobilization because of a conflict shall be paid by the State unless the State's Authorized Representative finds that the Contractor should have previously discovered the conflict. The Contractor shall not conduct work for any other party on projects for which the Contractor has accepted a State project assignment unless specifically authorized to do so by the State's Authorized Representative.

24. CONTRACT RELATIONS

The Contractor shall cooperate and coordinate with other State Contractors and shall ensure all subcontractors cooperate and coordinate with other State Contractors. The Contractor and Subcontractor shall use their company's personnel assigned to the Master Contract in the Response to the RFP, which is incorporated herein by reference, or as subsequently approved by the State.

Communication among the Contractors shall be as efficient as possible. The State's use of this Master Contract must be easy and efficient, with no extra administrative burden for the State.

25. CONTRACTOR MEETINGS AND TRAINING

The Contractor shall meet with the State's representatives to discuss matters relevant to this Master Contract and the work assigned to the Contractor, upon request of the State Contract Manager, State's Project Manager and/or the State's Authorized Representative. The State's Contract Manager, State's Project Manager and/or the State's Authorized Representative shall meet with the Contractor upon the Contractor's request to discuss matters relevant to this Contract and projects assigned to the Contractor under this Master Contract. The State shall pay for meeting time only for project specific meetings. The State shall not pay for time for Master Contract status meetings or other meetings requested by the State's Authorized Representative.

The Contractor must attend training required by the State.

26. SITE ACCESS

The Contractor shall be responsible for checking property ownership and obtaining access to property needed to accomplish work assigned under this Master Contract unless otherwise notified by the State's Project Manager. However, if, after making reasonable efforts, the Contractor cannot obtain access to the site, the Contractor shall seek assistance from the State's Project Manager. The State will not pay for access to property, but it shall make other reasonable efforts to gain access to the Site. The Contractor shall use the forms provided by the State for obtaining access.

27. PERMITS AND LICENSES

The Contractor shall obtain and maintain all patents, licenses, permits, authorizations, or any other documents required by federal, State, or local governments, patent holders, or other authorities, that are needed for work the Contractor shall perform pursuant to this Master Contract. With limited exception, the State will not pay patent, permit, license, authorization, or other fees, but shall provide reasonable assistance to the Contractor in obtaining such patents, permits, licenses, authorizations, or other documents.

28. GENERAL HEALTH AND SAFETY

The Contractor shall ensure that its personnel assigned under this Master Contract, and the personnel of the State Contractor and all Subcontractors have received the appropriate level of health and safety training as specified by all applicable laws. The Contractor shall be responsible for the health and safety of its employees, and the employees of the State Contractor, and all Subcontractors in connection with the work performed under this Master Contract. The Contractor must have a copy of the project specific Health and Safety Plan available upon request at the project site. Site Security Plans will be developed as needed.

The Contractor is responsible to assure the Contractor, Subcontractor, and the State Contractor follow the Contractor's Health and Safety Plan. The Contractor must notify the State Project Manager in regards to non-performance or health and safety conditions.

29. SITE SECURITY PLAN

After award of a Work Order the Contractor shall prepare a site specific Health and Safety Plan (HASP) that complies with all applicable State and federal laws and regulations.

The Contractor shall submit a copy of the Contractor's HASP and SSP to the State's Project Manager, for review only. MPCA staff shall comply with the provisions of the Contractor's HASP and SSP when on-site. The Contractor's HASP and SSP shall not place more stringent requirements on MPCA staff than on the Contractor's employees. The Contractor must have a copy of the HASP and SSP available upon request at the project site.

Site Safety Conditions: The Contractor shall have authority to restrict from the project site anyone not complying with the Contractor's HASP and SSP. Any person so restricted from the project site shall be allowed to return to the project site after meeting all provisions of the Contractor's HASP and SSP. The Contractor must notify the MPCA Project Manager regarding non-compliance with the HASP or SSP.

The Contractor shall hold regular safety meetings. State staff may attend when appropriate. The topic of the meetings shall specifically involve safety and attendees shall, at a minimum, discuss safety problems and requirements related to the project.

The Contractor shall not be required to supply personal protective equipment or monitoring equipment for any persons other than Contractor's employees. However, the Contractor shall make available its decontamination facilities to those persons who reasonably require access to the work site, including Subcontractors, State, and other regulatory authorities. The Contractor shall be solely responsible for ensuring compliance by all persons with Contractor's HASP. However, the Contractor shall not unreasonably restrict State access to the site. If the State requests the right to observe work and State staff are denied access because of noncompliance with the Contractor's Health and Safety Program, the Contractor shall not proceed with the work until the State may observe the work.

30. SITE STABILIZATION

If the Contractor becomes aware that a site assigned to the Contractor requires immediate corrective action to stabilize the site to prevent further damage to the environment or to remove a threat to public health or welfare, the Contractor shall immediately notify the State's Authorized Representative or State's Project Manager of the situation. If authorized by the State's Authorized Representative or State's Project Manager, the Contractor shall take appropriate measures to stabilize the site.

31. WASTE REMOVAL AND WELL OWNERSHIP

The Contractor shall manage all hazardous and non-hazardous wastes according to applicable local, State and federal laws. The Contractor shall recommend to the State the means of disposal of hazardous waste. In the event the Contractor is required to manage hazardous wastes, the State's Project Manager shall obtain an U.S. Environmental Protection Agency (EPA) hazardous waste identification number to identify the State as generator of the waste. The Contractor is not responsible for the long term maintenance and proper abandonment of wells installed pursuant to this Master Contract unless the Contractor is directed to do so by a Work Order.

32. BROWNFIELD SITE-SPECIFIC STANDARDS AND PRACTICES

Contractor working on Brownfield site-specific activities must meet interim standards and practices established in EPA's proposed All Appropriate Rule, and the standards and practices contained in EPA's All Appropriate Rule when promulgated: http://www.epa.gov/brownfields/aai/index.htm

33. STATE AUDITS

Under Minn. Stat. § 16C.05, Subd. 5, the Contractor's books, records, documents, and accounting procedures and practices relevant to this Work Order are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this Master Contract.

34. ASSIGNMENT, AMENDMENTS, WAIVER, AND MASTER CONTRACT COMPLETE

34.1 Assignment. The Contractor may neither assign nor transfer any rights or obligations under this Master Contract without the prior consent of the State and a fully executed assignment agreement, executed and approved by the same parties who executed and approved this Master Contract, or their successors in office.

34.2 Amendments. Any amendment to this Master Contract must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original Master Contract, or their successors in office.

34.3 Waiver. If the State fails to enforce any provision of this Master Contract or any Work Order, that failure does not waive the provision or its right to enforce it.

34.4 Contract complete. This Master Contract and any Work Order contains all negotiations and agreements between the State and the Contractor. No other understanding regarding this Master Contract or Work Order, whether written or oral, may be used to bind either party.

35. CANCELLATION / TERMINATION, CONTINUITY OF SERVICES

Termination by the State: The State or Commissioner of Administration may cancel this Master Contract and any Work Orders at any time, with or without cause, upon thirty (30) days' written notice to the Contractor. Upon termination, the Contractor will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

In the event this Master Contract is cancelled or expires, the Contractor shall provide phase-in phase-out (PIPO) training if required to do so by a Work Order. The PIPO services shall be provided to enable the State or another Contractor to continue, extend, or expand the work to be performed by the Contractor. The PIPO training may include conducting a training program and establishing dates for transfer of responsibility to new personnel. During the PIPO period, the Contractor shall provide sufficient experienced personnel to allow the work governed by this Master Contract to proceed without a loss of efficiency. The Contractor shall also provide the State with copies of computer models, data tapes, and other records developed under this Master Contract, and ensure training is provided on the use of these materials. The Contractor shall be reimbursed for its PIPO costs at the rates specified in the attached fee schedule.

Termination for Insufficient Funding: The State may immediately terminate this Master Contract and any Work Order if it does not obtain funding from the Minnesota Legislature or other funding source; or if funding cannot be continued at a level sufficient to allow for the payment of the services covered here. Termination must be by written or fax notice to the Contractor. The State is not obligated to pay for any services that are provided after notice and effective date of termination. However, the Contractor will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed to the extent that funds are available. The State will not be assessed any penalty if the Contract or Work Order is terminated because of the decision of the Minnesota Legislature or other funding source, not to appropriate funds. The State must provide the Contractor notice of the lack of funding within a reasonable time of the State's receiving that notice.

36. INDEMNIFICATION

In the performance of this Contract by Contractor, or Contractor's agents or employees, or Subcontractors, the Contractor must indemnify, save, and hold harmless the State, its agents, and employees, from any claims or causes of action, including attorney's fees incurred by the State, to the extent caused by Contractor's:

a) Intentional, willful, or negligent acts or omissions; or
b) Actions that give rise to strict liability; or
c) Breach of contract or warranty.

The indemnification obligations of this section do not apply in the event the claim or cause of action is the result of the State's sole negligence. This clause will not be construed to bar any legal remedies the Contractor may have for the State's failure to fulfill its obligation under this Contract.

37. LIABILITY

Liability under MERLA

A. When performing work under the Contract for the State when the State is acting pursuant to Minn. Stat. § 115B.17 of the Minnesota Environmental Response and Liability Act (MERLA), the Contractor that is not otherwise responsible for a release or threatened release of hazardous substances or pollutants or contaminants is considered to be a Contractor that is performing response actions in accordance with a plan approved by the Commissioner, for purposes of Minn. Stat. §115B.03, Subd. 10.

B. When performing work under the Contract for the State when the State is acting:
   i. pursuant to Minn. Stat. § 115B.17 of MERLA, or
   ii. in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300), promulgated by the U.S. Environmental Protection Agency (EPA) pursuant to 42 U.S.C. § 9605 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) with respect to any release or threatened release of a hazardous substance, the Contractor is considered to be engaged in acts taken or omitted in preparation for, or in the course of rendering care, assistance and advice to the Commissioner or the Agency for purposes of Minn. Stat. § 115B.04, Subd. 11, and, in the event a third

party claims injury or damages resulting from acts or omissions arising from performance of the Contract, the defense provided under Minn. Stat. §115B.04, subd. 11, is intended, but not warranted by the State, to be available to the Contractor and the State as a defense to MERLA liability claims. The provisions of the Liability under MERLA paragraphs are intended, but not warranted by the State, to include subcontractors approved by the State.

Liability under CERCLA

To the extent that the Contractor meets the definition of a "response action contractor" under 42 U.S.C. § 9619(e) of CERCLA, it is intended, but not warranted by the State, that the Contractor be exempt from liability under CERCLA or other federal law as is provided in 42 U.S.C. § 9619. Furthermore, 42 U.S.C. § 9619 provides the President with discretionary authority to indemnify response action contractors for releases of hazardous substances or pollutants or contaminants arising out of negligence in the course of Superfund work. No indemnification by the State is created by the Contract. The term "response action contractor" is intended, but not warranted by the State, to include subcontractors approved by the State. Nothing in this Part is intended to be construed as a waiver by the State of the Tort Claims Act, Minn. Stat. §3.736, or any other law, legislative or judicial, limiting government liability. The duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the State or the Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

38. INSURANCE

Contractor certifies that it is in compliance with all insurance requirements specified in the solicitation document relevant to this Master Contract. Contractor shall not commence work under the Master Contract until they have obtained all the insurance specified in the solicitation document. Contractor shall maintain such insurance in force and effect throughout the term of the Master Contract.

A. Contractor shall not commence work under the Contract until they have obtained all the insurance described below and the State of Minnesota has approved such insurance. Contractor shall maintain such insurance in force and effect throughout the term of the Master Contract.

B. Contractor is required to maintain and furnish satisfactory evidence of the following insurance policies:

Workers' Compensation Insurance: Except as provided below, Contractor must provide Workers' Compensation insurance for all its employees and, in case any work is subcontracted, Contractor will require the Subcontractor to provide Workers' Compensation insurance in accordance with the statutory requirements of the State of Minnesota, including Coverage B, Employer's Liability. Insurance **minimum** limits and coverages are as follows:

$100,000 – Bodily Injury by Disease per employee
$500,000 – Bodily Injury by Disease aggregate
$100,000 – Bodily Injury by Accident
Waiver of Subrogation in favor of the State of Minnesota

If Minn. Stat. § 176.041 exempts Contractor from Workers' Compensation Insurance or if the Contractor has no employees in the State of Minnesota, Contractor must provide a written statement, signed by an authorized representative, indicating the qualifying exemption that excludes Contractor from the Minnesota Workers' Compensation requirements.

If during the course of the Master Contract the Contractor becomes eligible for Workers' Compensation, the Contractor must comply with the Workers' Compensation Insurance requirements herein and provide the State of Minnesota with a certificate of insurance.

Commercial Automobile Liability Insurance: Contractor is required to maintain insurance protecting it from claims for damages for bodily injury as well as from claims for property damage resulting from the ownership, operation, maintenance or use of all owned, hired, and non-owned autos which may arise from operations under this Master Contract, and in case any work is subcontracted the Contractor will require the Subcontractor to maintain Commercial Automobile Liability insurance. Insurance **minimum** limits are as follows:

a. Minimum Limits of Liability:
   i. $2,000,000 – per occurrence Combined Single limit for Bodily Injury and Property Damage
b. In addition, the following coverages should be included:
   i. Owned, Hired, and Non-owned Automobile
   ii. CA9948 Endorsement – Pollution Liability – Broadened
   iii. MCS90 Endorsement

(NOTE: CA9948 and MCS90 Endorsement is required if service includes the transport of pollutants. Refer to MPCA Contractor and Subcontracting Purchasing Manual.)

Commercial General Liability Insurance: Contractor is required to maintain insurance protecting it from claims for damages for bodily injury, including sickness or disease, death, and for care and loss of services as well as from claims for property damage, including loss of use which may arise from operations under the Master Contract whether the operations are by the Contractor or by a subcontractor or by anyone directly or indirectly employed by the Contractor under the Contract. Insurance **minimum** limits are as follows:

a. Minimum Limits of Liability:
   i. $2,000,000 – Per Occurrence
   ii. $2,000,000 – Annual Aggregate
   iii. $2,000,000 – Annual Aggregate – Products/Completed Operations
b. The following coverages shall be included:
   i. Premises and Operations Bodily Injury and Property Damage
   ii. Personal & Advertising Injury
   iii. Blanket Contractual Liability
   iv. Products and Completed Operations Liability (If applicable)
   v. State of Minnesota named as Additional Insured
   vi. Waiver of subrogation in favor of the State of Minnesota

Pollution Liability Insurance: Contractor's Pollution Liability (or equivalent pollution liability coverage endorsed on another form of liability coverage, such as general liability or professional errors and omissions policy).

a. Minimum Limits of Liability:
   i. $2,000,000 – Per Claim
   ii. $2,000,000 – Annual Aggregate
b. Coverages:
   i. Policy will include Non-Owned Disposal Site Pollution Liability.
   ii. Policy will not contain a lead exclusion.
   iii. Owner named as an Additional Insured.
   vii. Waiver of subrogation in favor of the State of Minnesota

Professional/Technical, Errors and Omissions, and/or Miscellaneous Liability Insurance: This policy will provide coverage for all claims the Contractor may become legally obligated to pay resulting from any actual or alleged negligent act, error, or omission related to Contractor's professional services required under the Master Contract.

Contractor is required to carry the following **minimum** limits:

$2,000,000 – per claim or event
$2,000,000 – annual aggregate

Any deductible will be the sole responsibility of the Contractor and may not exceed $50,000 without the written approval of the State. If the Contractor desires authority from the State to have a deductible in a higher amount, the Contractor shall so request in writing, specifying the amount of the desired deductible and providing financial documentation by submitting the most current audited financial statements so that the State can ascertain the ability of the Contractor to cover the deductible from its own resources.

The retroactive or prior acts date of such coverage shall not be after the effective date of this Master Contract and Contractor shall maintain such insurance for a period of at least three (3) years, following completion of the work. If such insurance is discontinued, extended reporting period coverage must be obtained by Contractor to fulfill this requirement.

Builder's Risk Insurance: The Contractor shall be responsible for providing and maintaining "All Risk" or equivalent Builder's Risk policy insuring the interest of the State, Contractor, and any tier of Subcontractor or the Contractor shall be responsible for requiring that their Subcontractor provide and maintain Builder's Risk policy insuring the interest of the State, Contractor, and any tier of Subcontractor. Coverage on an "All Risk" or equivalent basis shall include the perils of flood, earthquake and pollution cleanup expense. Builder's Risk limit of liability shall be equal to the construction cost. Any deductible shall be the sole responsibility of the Contractor and shall not exceed $10,000 without the written approval of the State.

1. The Builder's Risk policy will cover all materials, supplies and equipment that are intended for construction and specific installation in the project while such materials, supplies and equipment are located at the project site, in transit and while temporarily located away from the project site for the purpose of repair, adjustment or storage at the risk of one of the insured parties.

2. Any property not covered by the Builder's Risk policy, such as the Contractor's or any tier of Subcontractor's licensed motor vehicles or personal property, including job trailers, machinery, tools, equipment and property of a similar nature not destined to become a part of the project, shall be the responsibility of the Contractor or Subcontractor at any tier, and such person or organization may self-insure or provide other insurance at its option for the same.

3. ***Waiver of Liability.*** Absent State or Architect sole negligence or breach of specific Contractual duty specifically and logically related to the damage or loss, the State or Architect will not be responsible for loss or damage to property of any kind owned, borrowed, rented or leased by the Contractor, Subcontractors of all tiers and/or the Contractor's/Subcontractors employees, servants or agents.

4. ***Waivers of Subrogation***. The State and Contractor waive all rights against (1) each other and any of their Subcontractors of all tiers and (2) the Architect, and the Architect's Subcontractors of all tiers for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to the provisions of paragraph 31.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the State or Contractor as fiduciary. The State or Contractor, as appropriate, shall require of the Architect, and the Architect's Subcontractors of all tiers, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

5. All losses and claims shall be immediately reported to the Contractor, State and applicable insurance carrier, under loss notice procedures as directed by the Contractor.

6. Any loss insured under Section 31.3 is to be adjusted with the Contractor and made payable to the Contractor as trustee for all insured parties, as their interests may appear, subject to the requirements of any applicable mortgage clause. The Contractor shall pay the State a just share of any insurance moneys received, and by appropriate agreement, written where legally required for validity, shall require the Contractor to make just share payments to the Subcontractors and lower tiered Sub-Subcontractors in similar manner.

7. Partial occupancy or use shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise.

8. ***Boiler and Machinery Insurance***. The Contractor shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the State; this insurance shall include interests of the States, Contractor, Subcontractors and Sub-Subcontractors in the Work, and the State and Contractor shall be named insureds.

   Loss of Use Insurance. The State, at the State's option, may purchase and maintain such insurance as will insure the State against loss of use of the State's property due to fire or other hazards,

C. Additional Insurance Conditions:

- Contractor's policy(ies) shall be primary insurance to any other valid and collectible insurance available to the State of Minnesota with respect to any claim arising out of Contractor's performance under this Master Contract;

- If Contractor receives a cancellation notice from an insurance carrier affording coverage herein, Contractor agrees to notify the State of Minnesota within five (5) business days with a copy of the cancellation notice, unless Contractor's policy(ies) contain a provision that coverage afforded under the policy(ies) will not be cancelled without at least thirty (30) days advance written notice to the State of Minnesota;

- Contractor is responsible for payment of Master Contract related insurance premiums and deductibles;

- If Contractor is self-insured, a Certificate of Self-Insurance must be attached;

- Contractor's policy(ies) shall include legal defense fees in addition to its liability policy limits, with the exception of B.4 above;

- Contractor shall obtain insurance policy(ies) from insurance company(ies) having an "AM BEST" rating of A- (minus); Financial Size Category (FSC) VII or better, and authorized to do business in the State of Minnesota; and

- An Umbrella or Excess Liability insurance policy may be used to supplement the Contractor's policy limits to satisfy the full policy limits required by the Master Contract.

D. The State reserves the right to immediately terminate the Master Contract if the Contractor is not in compliance with the insurance requirements and retains all rights to pursue any legal remedies against the Contractor. All insurance policies must be open to inspection by the State, and copies of policies must be submitted to the State's Authorized Representative upon written request.

E. The Contractor is required to submit Certificates of Insurance acceptable to the State of Minnesota as evidence of insurance coverage requirements prior to commencing work under the Master Contract.

Further, the Contractor certifies that it is in compliance with Minn. Stat. § 176.181, Subd. 2, pertaining to Workers' Compensation insurance coverage. The Contractor's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees or agents and any claims made by any third party as a consequence of any act or omission on the part of these employees or agents are in no way the State's obligation or responsibility.

39. GOVERNMENT DATA PRACTICES AND INTELLECTUAL PROPERTY

39.1 Government data practices. The Contractor and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under any Work Order and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Contractor under the Work Order. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this Clause, by either the Contractor or the State.

If the Contractor receives a request to release the data referred to in this Clause, the Contractor must immediately notify the State. The State will give the Contractor instructions concerning the release of the data to the requesting party before the data is released.

39.2 (A) Intellectual property rights.

The State owns all rights, title, and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trademarks, and service marks in the Works and Documents *created and paid for under Work Orders.* Works means all inventions, improvements, discoveries (whether or not patentable), databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, and disks conceived, reduced to practice, created or originated by the Contractor, its employees, agents, and Subcontractors, either individually or jointly with others in the performance of this Master Contract or any Work Order. Works includes "Documents." Documents are the originals of any databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, disks, or other materials, whether in tangible or electronic forms, prepared by the Contractor, its employees, agents, or Subcontractors, in the performance of a Work Order. The Documents will be the exclusive property of the State and all such Documents must be immediately returned to the State by the Contractor upon completion or cancellation of the Work Order. To the extent possible, those Works eligible for copyright protection under the United States Copyright Act will be deemed to be "works made for hire." The Contractor assigns all right, title, and interest it may have in the Works and Documents to the State. The Contractor must, at the request of the State, execute all papers and perform all other acts necessary to transfer or record the State's ownership interest in the Works and Documents

(B)Obligations:

1. ***Notification:*** Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived for the first time or actually or constructively reduced to practice by the Contractor, including its employees, agents, and Subcontractors, in the performance of the Work Order, the Contractor will immediately give the State's Authorized Representative written notice thereof, and must promptly furnish the State's Authorized Representative with complete information and/or disclosure thereon.

2. ***Representation:*** The Contractor must perform all acts, and take all steps necessary to ensure that all intellectual property rights in the Works and Documents are the sole property of the State, and that neither Contractor nor its employees, agents or Subcontractors retain any interest in and to the Works and Documents. The Contractor represents and warrants that the Works and Documents do not and will not infringe upon any intellectual property rights of other persons or entities. Notwithstanding Clause 24, the Contractor will indemnify; defend, to the extent permitted by the Attorney General; and hold harmless the State, at the Contractor's expense, from any action or claim brought against the State to the extent that it is based on a claim that all or part of the Works or Documents infringe upon the intellectual property rights of others. The Contractor will be responsible for payment of any and all such claims, demands, obligations, liabilities, costs, and damages, including but not limited to, attorney fees. If such a claim or action arises, or in the Contractor's or the State's opinion is likely to arise, the Contractor must, at the State's discretion, either procure for the

State the right or license to use the intellectual property rights at issue or replace or modify the allegedly infringing Works or Documents as necessary and appropriate to obviate the infringement claim. This remedy of the State will be in addition to and not exclusive of other remedies provided by law.

40. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION

Federal money will be used or may potentially be used to pay for all or part of the work under the Master Contract, therefore Contractor certifies that it is in compliance with federal requirements on debarment, suspension, ineligibility and voluntary exclusion specified in the solicitation document implementing Executive Order 12549. Contractor's certification is a material representation upon which the Master Contract award was based.

41. PUBLICITY AND ENDORSEMENT

41.1 ***Publicity.*** Any publicity regarding the subject matter of a Work Order must identify the State as the sponsoring agency and must not be released without prior written approval from the State's Authorized Representative. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Contractor individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from a Work Order. During State contracted work, the Contractor shall defer all interviews and requests for information from the media, private citizens or public officials to the State unless the State specifically requests the Contractor to handle such requests.

39.2 Endorsement. The Contractor must not claim that the State endorses its products or services

42. GOVERNING LAW, JURISDICTION, AND VENUE

Minnesota law, without regard to its choice-of-law provisions, governs this Master Contract and all Work Orders. Venue for all legal proceedings out of this Master Contract and/or any Work Order, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

43. DATA DISCLOSURE

Under Minn. Stat. § 270C.65, Subd. 3 and other applicable law, the Contractor consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and State agencies, and State personnel involved in the payment of State obligations. These identification numbers may be used in the enforcement of federal and State laws which could result in action requiring the Contractor to file State tax returns, pay delinquent State tax liabilities, if any, or pay other State liabilities.

44. NON-DISCRIMINATION (IN ACCORDANCE WITH MINN. STAT. § 181.59)

The Contractor will comply with the provisions of Minn. Stat. § 181.59 which requires:
Every contract for or on behalf of the State of Minnesota, or any county, city, town, township, school, school district, or any other district in the State, for materials, supplies, or construction shall contain provisions by which the Contractor agrees: (1) That, in the hiring of common or skilled labor for the performance of any work under any contract, or any subcontract, no contractor, material supplier, or vendor, shall, by reason of race, creed, or color, discriminate against the person or persons who are citizens of the United States or resident aliens who are qualified and available to perform the work to which the employment relates; (2) That no contractor, material supplier, or vendor, shall, in any manner, discriminate against, or intimidate, or prevent the employment of any person or persons identified in clause (1) of this section, or on being hired, prevent, or conspire to prevent, the person or persons from the performance of work under any contract on account of race, creed, or color; (3) That a violation of this section is a misdemeanor; and (4) That this Master Contract may be canceled or terminated by the State, county, city, town, school board, or any other person authorized to grant the contracts for employment, and all money due, or to become due under the Master Contract, may be forfeited for a second or any subsequent violation of the terms or conditions of this Master Contract.

45. STANDARD OF WORK

The Contractor shall comply with the terms of this Master Contract and Work Orders, Change Orders, Work Order Amendments, and Stop Work Orders from the State. The State shall not approve, and no payment shall be made for, work that does not meet these standards. The State reserves the right to request that any data deliverables improperly formatted be corrected before the submittal will be accepted. Any extra expenses incurred due to such edits will be the Contractor's responsibility.

Unless the Force Majeure clause applies, failure to meet such deadline dates shall be a basis for a determination by the State's Authorized Representative that the Contractor has not complied with the terms of the Master Contract.

46. FORCE MAJEURE

Failure to meet time lines established in Work Orders, Change Orders, Work Order Amendments, and Stop Work Orders when caused by acts of God, war, strike, riot or other catastrophe or by acts or omissions of the State or the State's Authorized Representative, or by other reasons beyond the reasonable control of the Contractor, which are not due to negligence or lack of diligence on the Contractor's part, and which occur despite the Contractor's good faith efforts to meet the time lines, shall not be considered to be noncompliance with the Master Contract if the Contractor promptly notifies the State's Authorized Representative of the failure to meet the time lines and the reasons therefore and takes all necessary steps to bring about compliance as soon as practicable.

The Contractor shall have the burden of proof that the failure to meet the schedule was caused by events beyond the reasonable control of the Contractor which could not have been overcome by due diligence. In the event of such interruptions or delays, the date for completion of the Work Order shall be extended for a period of time equal to that of the interruption or delay.

47. PERFORMANCE DEADLINES

The Contractor must comply with all of the time requirements described in this Master Contract. In addition to any other remedy authorized by this Master Contract, the State may elect to invoke the liquidated damages remedy provided in this part.

If the Contractor misses a deadline, and if the Force Majeure clause does not apply, the State's Authorized Representative shall send the Contractor a written notice that a deadline has been missed and that in no sooner than ten (10) days a second written notice shall be sent. No sooner than ten (10) days after the initial written notice, unless the matter has been resolved, the State's Authorized Representative shall send the Contractor a second written notice stating that liquidated damages pursuant to this Master Contract shall begin to accrue twenty (20) days after receipt of the second notice. If pursuant to the Change Order clause or the Work Order Amendments clause of this Master Contract a request for extension has been received and if the State considers the extension request reasonable and the delay does not substantially affect the public interest, the State shall issue a Change Order or Work Order Amendment with the new deadline. If the State considers the request unreasonable, or if a delay would substantially affect the public interest, the State shall not extend the performance deadline.

The Contractor shall pay the State liquidated damages in the amount of $3,000, or 5% of the budget amount authorized in the Work Orders from the State, whichever is less, per week beginning twenty (20) days after the Contractor receives a second written notice of the deadline violation and ending when the performance is complete. The State may also deduct the liquidated damages from its payments to the Contractor under this Master Contract.

48. USE OF STATE CONTRACTS

Contractors and Subcontractors may provide oversight to State Contractors as appropriate, or the State may directly use the State Contractors.

49. FOREIGN OUTSOURCING

Contractor agrees all services under this contract shall be performed within the borders of the United States. All storage and processing of information shall be performed within the borders of the United States. This provision also applies to work performed by subcontractors at all tiers.

50. AFFIRMATIVE ACTION

Affirmative Action Requirements for Contracts in Excess of $100,000 and if the Contractor has More than 40 Full-time Employees in Minnesota or its Principal Place of Business

The State intends to carry out its responsibility for requiring affirmative action by its Contractors.

50.1 ***Covered Contracts and Contractors***. If the Contract exceeds $100,000 and the Contractor employed more than 40 full-time employees on a single working day during the previous 12 months in Minnesota or in the state where it has its principle place of business, then the Contractor must comply with the requirements of Minn. Stat. § 363A.36 and Minnesota Rule Parts 5000.3400-5000.3600. A contractor covered by Minn. Stat. § 363A.36 because it employed more than 40 full-time employees in another state and does not have a certificate of compliance, must certify that it is in compliance with federal affirmative action requirements.

50.2 ***Minn. Stat. § 363A.36.*** Minn. Stat. § 363A.36 requires the Contractor to have an affirmative action plan for the employment of minority persons, women, and qualified disabled individuals approved by the Minnesota Commissioner of Human Rights ("Commissioner") as indicated by a certificate of compliance. The law addresses suspension or revocation of a certificate of compliance and contract consequences in that event. A contract awarded without a certificate of compliance may be voided.

50.3 ***Minnesota Rule Parts 5000.3400-5000.3600.***

A. *General*. Minnesota Rule Parts 5000.3400-5000.3600 implement Minn. Stat. § 363A.36. These rules include, but are not limited to, criteria for contents, approval, and implementation of affirmative action plans; procedures for issuing certificates of compliance and criteria for determining a contractor's compliance status; procedures for addressing deficiencies, sanctions, and notice and hearing; annual compliance reports; procedures for compliance review; and contract consequences for non-compliance. The specific criteria for approval or rejection of an affirmative action plan are contained in various provisions of Minnesota Rule Parts 5000.3400-5000.3600 including, but not limited to, parts 5000.3420-5000.3500 and 5000.3552-5000.3559.

B. *Disabled Workers*. The Contractor must comply with the following affirmative action requirements for disabled workers.

1. The Contractor must not discriminate against any employee or applicant for employment because of physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled persons without discrimination based upon their physical or mental disability in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
2. The Contractor agrees to comply with the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.
3. In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with Minn. Stat. § 363A.36, and the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.
4. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the commissioner of the Minnesota Department of Human Rights. Such notices must state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled employees and applicants for employment, and the rights of applicants and employees.
5. The Contractor must notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of

Minn. Stat. § 363A.36, of the Minnesota Human Rights Act and is committed to take affirmative action to employ and advance in employment physically and mentally disabled persons.

C. *Consequences*. The consequences for the Contractor's failure to implement its affirmative action plan or make a good faith effort to do so include, but are not limited to, suspension or revocation of a certificate of compliance by the Commissioner, refusal by the Commissioner to approve subsequent plans, and termination of all or part of this Master Contract by the Commissioner or the State.

D. *Certification*. The Contractor hereby certifies that it is in compliance with the requirements of Minn. Stat.§ 363A.36 and Minnesota Rule Parts 5000.3400-5000.3600 and is aware of the consequences for noncompliance.

51. TESTIMONY

If requested by the State's Authorized Representative, the Contractor agrees to testify at any State, federal, judicial or administrative proceeding brought by federal or State agencies or by a political subdivision of the State in which the work performed under this Master Contract is relevant. The Contractor agrees to meet and cooperate with the State's legal counsel as necessary to prepare for such testimony, and if so requested by the State's Authorized Agent, the Contractor shall prepare written testimony, graphs, diagrams or other visual aids to be used by the State in the proceeding(s). The Contractor shall be reimbursed at the rates for participation in State or federal judicial or administrative proceedings as specified in the Classifications and Rates.

52. ANTITRUST

The Contractor shall assign to the State any and all claims for overcharges as to goods or services provided in connection with this Contract resulting from antitrust violations which arise under the antitrust laws of the United States or the antitrust laws of the State.

53. E-VERIFY CERTIFICATION (IN ACCORDANCE WITH MINN. STAT. §16C.075)

For services valued in excess of $50,000, Contractor certifies that as of the date of services performed on behalf of the State, Contractor and all its Subcontractors will have implemented or be in the process of implementing the federal E-Verify program for all newly hired employees in the United States who will perform work on behalf of the State. Contractor is responsible for collecting all Subcontractor certifications and may do so utilizing the E-Verify Subcontractor Certification Form available at http://www.mmd.admin.State.mn.us/doc/EverifySubCertForm.doc. All Subcontractor certifications must be kept on file with Contractor and made available to the State upon request.

54. Certification of Nondiscrimination (In accordance with Minn. Stat. § 16C.053)

The following term applies to any contract for which the value, including all extensions, is $50,000 or more: Contractor certifies it does not engage in and has no present plans to engage in discrimination against Israel, or against persons or entities doing business in Israel, when making decisions related to the operation of the vendor's business. For purposes of this section, "discrimination" includes but is not limited to engaging in refusals to deal, terminating business activities, or other actions that are intended to limit commercial relations with Israel, or persons or entities doing business in Israel, when such actions are taken in a manner that in any way discriminates on the basis of nationality or national origin and is not based on a valid business reason.

[Signatures as required by the State]

Attachment D: Affidavit of Noncollusion

A completed copy of ATC's *Affidavit of Non-collusion* is included as an attachment within this section.

ATTACHMENT D

STATE OF MINNESOTA
AFFIDAVIT OF NONCOLLUSION

I swear (or affirm) under the penalty of perjury:

1. That I am the Responder (if the Responder is an individual), a partner in the company (if the Responder is a partnership), or an officer or employee of the responding corporation having authority to sign on its behalf (if the Responder is a corporation);

2. That the attached proposal submitted in response to the __Remediation Master Contract___ Request for Proposals has been arrived at by the Responder independently and has been submitted without collusion with and without any agreement, understanding or planned common course of action with, any other Responder of materials, supplies, equipment or services described in the Request for Proposal, designed to limit fair and open competition;

3. That the contents of the proposal have not been communicated by the Responder or its employees or agents to any person not an employee or agent of the Responder and will not be communicated to any such persons prior to the official opening of the proposals; and

4. That I am fully informed regarding the accuracy of the statements made in this affidavit.

Responder's Firm Name: ATC Group Services LLC

Authorized Representative (Please Print) Dane Ralston

Authorized Signature: Dane Ralston

Date: 3/27/18

Subscribed and sworn to me this 27th day of March, 2018

Notary Public Signature: Judith C Woods #7020868

My commission expires: 04/30/2022

JUDITH C WOODS
NOTARY PUBLIC
MY COMMISSION NUMBER 7020868
COMMONWEALTH OF VIRGINIA

Attachment E: Workforce Certification

ATC is in compliance with Minn. Stat. § 363A.36. On March 27, 2018, ATC submitted an application and payment to obtain a Workforce Certificate from the Minnesota Department of Human Rights (MDHR). At the date of this proposal submittal, the Workforce Certificate has not yet been received. The MDHR indicated that the certificate typically requires 15 business days for processing.

ATTACHMENT E
STATE OF MINNESOTA – WORKFORCE CERTIFICATE INFORMATION

Required by state law for ALL bids or proposals that could exceed $100,000

Complete this form and return it with your bid or proposal. The State of Minnesota is under no obligation to delay proceeding with a contract until a company becomes compliant with the Workforce Certification requirements in Minn. Stat. §363A.36.

BOX A – MINNESOTA COMPANIES that have employed more than 40 full-time employees within this state on any single working day during the previous 12 months, check one option below:

☐ Attached is our current Workforce Certificate issued by the Minnesota Department of Human Rights (MDHR).

☐ Attached is confirmation that MDHR received our application for a Minnesota Workforce Certificate on _____ (date).

BOX B – NON-MINNESOTA COMPANIES that have employed more than 40 full-time employees on a single working day during the previous 12 months in the state where it has its primary place of business, check one option below:

☐ Attached is our current Workforce Certificate issued by MDHR.

☒ We certify we are in compliance with federal affirmative action requirements. Upon notification of contract award, you must send your federal or municipal certificate to MDHR at compliance.MDHR@state.mn.us. If you are unable to send either certificate, MDHR may contact you to request evidence of federal compliance. The inability to provide sufficient documentation may prohibit contract execution.

BOX C – EXEMPT COMPANIES that have not employed more than 40 full-time employees on a single working day in any state during the previous 12 months, check option below if applicable:

☐ We attest we are exempt. If our company is awarded a contract, we will submit to MDHR within 5 business days after the contract is fully signed, the names of our employees during the previous 12 months, the date of separation, if applicable, and the state in which the persons were employed. Send to compliance.MDHR@state.mn.us.

By signing this statement, you certify that the information provided is accurate and that you are authorized to sign on behalf of your company.

Name of Company: ATC Group Services LLC Date 3/28/18

Authorized Signature: Donald Beck Telephone number: _____

Printed Name: Donald Beck Title: Senior VP

For assistance with this form, contact:

Minnesota Department of Human Rights, Compliance Services

Web: http://mn.gov/mdhr/
Email: compliance.mdhr@state.mn.us

TC Metro: 651-539-1095

Toll Free: 800-657-3704
TTY: 651-296-1283

Dane Ralston

From: State of Minnesota <noreply@epymtservice.com>
Sent: Tuesday, March 27, 2018 9:51 AM
To: Dane Ralston
Subject: Payment Confirmation for Workforce Certificate

*** PLEASE DO NOT RESPOND TO THIS EMAIL. ***

Thank you for your payment.

This email is to confirm your payment submitted on Mar-27-2018 for Workforce Certificate.

Confirmation Number: DHRDHR000002447
Payment Amount: $150.00
Convenience Fee: $3.74
Total Amount: $153.74
Scheduled Payment Date: Mar-27-2018
Amount Due: $150.00

Payer Name: Dane Ralston
Credit Card Number: *5179
Credit Card Type: VISA
Approval Code: 807205

Contractor Name: ATC Group Services LLC
Contractor Address:
5301 E River Road, Suite 101
Fridley, MN
55421
Contractor Main Phone Number:
651-635-9050

Merchant: Minnesota Department of Human Rights
Website: https://mn.gov/mdhr/

If you have questions about this payment or need assistance, please view the payment online at https://epayment.epymtservice.com/epay.jhtml?billerGroupId=DHR&billerId=DHR&disallowLogin=Y , or call Customer Service at (651)539-1106.

Thank you for using the Minnesota DHR electronic payment system.

Attachment F: Certification Regarding Lobbying

A completed copy of ATC's *Certification Regarding Lobbying* Form is included as an attachment within this section.

ATTACHMENT F

CERTIFICATION REGARDING LOBBYING

For State of Minnesota Contracts and Grants over $100,000

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, A Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, Disclosure Form to Report Lobbying in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

ATC Group Services LLC

Organization Name

Donald Beck, Senior VP

Name and Title of Official Signing for Organization

By: Donald Beck

Signature of Official

3/28/18

Date

Attachment G: Equal Pay Certificate

On March 27, 2018, ATC submitted an application and payment to obtain an Equal Pay Certificate from the MDHR. At the date of this proposal submittal, the Equal Pay Certificate has not yet been received. The MDHR indicated that the certificate typically requires 15 business days for processing.

ATTACHMENT G

State of Minnesota – Equal Pay Certificate

If your response could be in excess of $500,000, please complete and submit this form with your submission. **It is your sole responsibility to provide the information requested and when necessary to obtain an Equal Pay Certificate (Equal Pay Certificate) from the Minnesota Department of Human Rights (MDHR) prior to contract execution. You must supply this document with your submission.** Please contact MDHR with questions at: 651-539-1095 (metro), 1-800-657-3704 (toll free), 711 or 1-800-627-3529 (MN Relay) or at compliance.MDHR@state.mn.us.

Option A – If you have employed 40 or more full-time employees on any single working day during the previous 12 months in Minnesota or the state where you have your primary place of business, please check the applicable box below:

☐ Attached is our current MDHR Equal Pay Certificate.

☒ Attached is MDHR's confirmation of our Equal Pay Certificate application.

Option B – If you have not employed 40 or more full-time employees on any single working day during the previous 12 months in Minnesota or the state where you have your primary place of business, please check the box below.

☐ We are exempt. We agree that if we are selected we will submit to MDHR within five (5) business days of final contract execution, the names of our employees during the previous 12 months, date of separation if applicable, and the state in which the persons were employed. Documentation should be sent to compliance.MDHR@state.mn.us.

The State of Minnesota reserves the right to request additional information from you. **If you are unable to check any of the preceding boxes, please contact MDHR to avoid a determination that a contract with your organization cannot be executed.**

Your signature certifies that you are authorized to make the representations, the information provided is accurate, the State of Minnesota can rely upon the information provided, and the State of Minnesota may take action to suspend or revoke any agreement with you for any false information provided.

Authorized Signature	Printed Name	Title
	Donald Beck	Senior VP
ATC Group Services LLC	2725457/460399408	3/28/18
Organization	MN/FED Tax ID#	Date

Issuing Entity

Project # or Lease Address

Dane Ralston

From: State of Minnesota <noreply@epymtservice.com>
Sent: Tuesday, March 27, 2018 9:56 AM
To: Dane Ralston
Subject: Payment Confirmation for Equal Pay Certificate

*** PLEASE DO NOT RESPOND TO THIS EMAIL ***

Thank you for your payment.

This email is to confirm your payment submitted on Mar-27-2018 for Equal Pay Certificate.

Confirmation Number: DHRDHR000002449
Payment Amount: $150.00
Convenience Fee: $3.74
Total Amount: $153.74
Scheduled Payment Date: Mar-27-2018
Amount Due: $150.00

Payer Name: Dane Ralston
Credit Card Number: *5179
Credit Card Type: VISA
Approval Code: 807265

Contractor Name: ATC Group Services LLC
Contractor Address:
4301 E River Road, Suite 101
Fridley, Minnesota
55421
Contractor Main Phone Number:
651-635-9050

Merchant: Minnesota Department of Human Rights
Website: https://mn.gov/mdhr/

If you have questions about this payment or need assistance, please view the payment online at https://epayment.epymtservice.com/epay.jhtml?billerGroupId=DHR&billerId=DHR&disallowLogin=Y , or call Customer Service at (651)539-1106.

Thank you for using the Minnesota DHR electronic payment system.

Attachment H: Resident Vendor Form

A completed copy of ATC's *Resident Vendor Form* is included as an attachment within this section.

ATTACHMENT H
STATE OF MINNESOTA
RESIDENT VENDOR FORM

In accordance with Laws of Minnesota 2013, Chapter 142, Article 3, Section 16, amending Minn. Stat. § 16C.02, subd. 13, a "Resident Vendor" means a person, firm, or corporation that:

(1) is authorized to conduct business in the state of Minnesota on the date a solicitation for a contract is first advertised or announced. It includes a foreign corporation duly authorized to engage in business in Minnesota;
(2) has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid or proposal for which any preference is sought;
(3) has a business address in the state; and
(4) has affirmatively claimed that status in the bid or proposal submission.

To receive recognition as a Minnesota Resident Vendor ("Resident Vendor"), your company must meet each element of the statutory definition above by the solicitation opening date and time. If you wish to affirmatively claim Resident Vendor status, you should do so by submitting this form with your bid or proposal.

Resident Vendor status may be considered for purposes of resolving tied low bids or the application of a reciprocal preference.

I HEREBY CERTIFY THAT THE COMPANY LISTED BELOW:

1. Is authorized to conduct business in the State of Minnesota on the date a solicitation for a contract is first advertised or announced. *(This includes a foreign corporation duly authorized to engage in business in Minnesota.)*
   ✓ **Yes** ___ **No (must check yes or no)**

2. Has paid unemployment taxes or income taxes in the State of Minnesota during the 12 calendar months immediately preceding submission of the bid or proposal for which any preference is sought.
   ✓ **Yes** ___ **No (must check yes or no)**

3. Has a business address in the State of Minnesota.
   ✓ **Yes** ___ **No (must check yes or no)**

4. Agrees to submit documentation, if requested, as part of the bid or proposal process, to verify compliance with the above statutory requirements.
   ✓ **Yes** ___ **No (must check yes or no)**

BY SIGNING BELOW, you are certifying your compliance with the requirements set forth herein and claiming Resident Vendor status in your bid or proposal submission.

Name of Company: ATC Group Services LLC Date: March 26, 2018

Authorized Signature: Dane Ralston Telephone: 612-270-4272

Printed Name: Dane Ralston Title: Senior Project Manager

IF YOU ARE CLAIMING RESIDENT VENDOR STATUS, SIGN AND RETURN THIS FORM WITH YOUR BID OR PROPOSAL SUBMISSION.

Attachment I: Veteran-Owned Preference

ATC is not claiming a veteran-owned preference for this solicitation. A *Veteran-Owned Preference Form* is not included with this submittal.

Attachment J: Addendum 1 Confirmation

ATC is in receipt of MPCA PT RFP – Remediation Master Contract RFP Addendum 1. Per requirements stated in the addendum, ATC is returning the signed addendum with the RFP Response.

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

REQUEST FOR PROPOSAL (RFP) ADDENDUM

Addendum No.: 1 Date of Addendum: March 19, 2018

Due Date, Time: April 11, 2018, 2:00 PM

Title: MPCA PT RFP – REMEDIATION MASTER

SCOPE OF ADDENDUM

The Request For Proposal (RFP) is revised as follows with additions underlined, and deletions are ~~struck-out~~:

Revision 1. RFP Section 2: Project Goals, Page 3, is amended as follows:

The total amount of money available for work under this Master Contract is approximately ~~$120,000,000.00 (One Hundred Twenty Million Dollars)~~ $420,000,000.00 (Four Hundred Twenty Million Dollars) for five years between all Master Contracts issued under this RFP. No payments will be made except for work authorized by a Work Order that is issued from the State. No minimum payment is guaranteed by the State.

Revision 2. RFP Attachment C. Sample Contract, Page 2, Clause 4.1 Consideration. is amended as follows:

4.1 Consideration. The State will pay for all services satisfactorily performed by the Contractor for all Work Order Contracts issued under this Master Contract. The total compensation of all Work Orders may not exceed ~~**$120,000,000.00 (One Hundred Twenty Million Dollars)**~~ **$420,000,000.00 (Four Hundred Twenty Million Dollars)** for five (5) years between all Master Contracts

Revision 3. RFP Section 7. Proposal Content, Category A: Petroleum, Superfund, MDA, and Closed Landfill Program Environmental Services, A.3, Page 31, is amended as follows:

Provide a detailed description of the company's experience as it relates to the scope of services outlined in this RFP; specifically, describe the company's experience with each of the bullets listed in **Section 4 3** of this RFP. The Proposal shall contain the following additional details specific to Category A services:

- A summary of Proposer's experience with agricultural chemical investigation and cleanups.
- A list of remediation technologies with which the Proposer has experience.
- Provide a detailed description of the company's experience as it relates to the scope of services outlined in this RFP for Category A.

Revision 4. RFP Section 3: Scope of Services, Page 3, is amended as follows:

The Contractor shall submit a separate proposal for each Category of Service for which the Contactor would like to be considered. Proposals will be evaluated individually for each Category of Service for which they were submitted. Category B is a subset of Category A. If the Contractor submits Proposals for both Category A and Category B, Category A will be evaluated first for qualification. If the Contractor is not approved for Category A, they will then be evaluated for Category B. Category C will be evaluated individually. Contractors can submit Proposals for all three Categories if desired.

Should a Contractor be approved and selected for more than one Categories, the Contractor will receive only one Master Contract containing all the approved and selected Categories.

Joint ventures and teaming among groups of Contractors is not allowed.

Revision 5. RFP, Attachment C Sample Contract, Clause 38. C. Additional Insurance Conditions, Bullet #5, Page 21, is amended as follows:

- Contractor's policy(ies) shall include legal defense fees in addition to its liability policy limits, with the exception of ~~B.4~~ Professional/Technical, Errors and Omissions, and/or Miscellaneous Liability Insurance above;

Revision 6. RFP, Section 4. Personnel Classifications and Qualifications, Category C: Closed Landfill Program, Project Manager Qualifications,Second Bullet, Page 23, is amended as follows:

- Minimum of three years experience working with landfill, investigation and closure. ~~Minnesota Guidance and Policy with the Superfund/ Petroleum programs. https://www.pca.state.mn.us/waste/cleanup-guidance~~

Revision 7. RFP, Section 6. Supplies and Equipment Pricing, EQUIPMENT RATES, Pages 28 and 29, and RFP, Attachment C, Sample Contract, EQUIPMENT RATES, Pages 5,6,7, is amended as follows:

Equipment	Cost (per day)
Turbidity Meter	$52.00
Oxidation-reduction potential (ORP) Meter	$39.00
~~Hydrolab Quanta~~	~~$80.00~~
Dissolved Oxygen Meter	$46.00
Temperature, pH, conductivity, ORP meter	$68.00
Temperature, pH, conductivity	$35.00
~~YSI Multi Meter w/ Flow Cell~~	~~$117.00~~
Flow Cell	$77.00
Water Quality Meter (6 parameters)	$102.00
2" Trash Pump	~~$189~~75..00
Bladder pump	$118.00
Submersible Pump	$52.00
Peristaltic Pump	$43.00
Diaphram Pump	$53.00
Mechanical Pump Puller	$44.00
Water Level Indicator	$27.00
Hydrocarbon/Water Interface Probe	$55.00
Pump/Slug Testing Equipment	$110.00
Manual direct-push probe equip.	$165.00
X-ray Fluorescent (XRF) for Soil and Lead Paint	$468.00

Nuclear Density Gauge	$69.00
Multi Gas Meter (02/CO/LEL/Methane)	$123.00
O2/Combustible Gas Detector	$110.00
LEL/O2/CO2 Gas Meter	$66.00
LEL/O2Gas Meter	$55.00
Explosimeter	$52.00
Photoionization Detector (PID) 10.6	$99.00
Photoionization Detector (PID) 11.7	$138.00
Flame Ionization Detector (OVA)	$135.00
Velometer / Anemometer	$34.00
Micro Manometer	$64.00
Sound Level Meter	$53.00
Dust Meter	$70.00
Air Compressor	$54.00
Metal/Cable Detector	$47.00
Generator	$65.00
Sump Pump	$33.00
Pressure Washer	$69.00
Magnetometer	$151.00
Coreing Machine with Drill Bits	$110.00
Surveying Equipment - Rotary Laser	$104.00
GPS (Submeter)	$122.00
Laser Level/Lenker Rod	$127.00
Ground Penetrating Radar (GPR)	$426.00
EM-31 Ground Conductivity Meter	$440.00
EM-61 Ground Conductivity Meter	$688.00
55 gal Drums	$70.00
Sub-Slab Soil Gas Sampling Point Insert	$88.00
Screen for Soil Gas Monitoring Points	$51.00
Vapor Pin Installation Kit (per point)	$60.00
Lumex Mercury Monitoring	$187.00
Mercury Analyzer	$179.00
Canoe	$15.68
Boat (includes motor and trailer)	$58.24
ATV **(Hourly Rate)**	$16.80

Revision 8. RFP, Section 7. Proposal Content, Category B. Petroleum Only Remdiation Environmental Services B.5., Scenario 1: Petroleum Only Environmental Services, Page 39, is amended as follows:

5. **Scenario ~~1~~ B: Petroleum Only Environmental Services**

Scenario ~~1~~B:

Revision 9. RFP, Section 6. Supplies and Equipment Pricing, Item cc., Page 27 and RFP, Attachment C, Sample Contract, Clause 8, Page 5, is amended as follows:

cc. Tubing less than $100.00

Revision 10. RFP, Section 7. Proposal Content, 5. Scenario A., Page 33, is amended as follows:

The property owner conducted a limited investigation consisting of several push probes throughout the facility and adjacent property. This investigation identified chlorinated ethenes (most notably trichloroethylene [TCE]) and agricultural chemicals (nitrogen, dicamba, metolachlor, metribuzin, pendimethalin, and triclopyr) in soils and groundwater above agency-regulated cleanup goals. General geology was noted to generally consist of coarse grained sands with thin lenses of silt and clay. The investigation encountered shallow groundwater approximately 6-10 feet bgs, with an assumed flow direction heading into town. All groundwater samples (blue GW samples) were collected at 30 feet for domestic wells, and 15 feet for investigation borings. The investigation did not evaluate the stream.

A single round of vapor points were also advanced off-site as part of the property owner's investigation, with some of the detections exceeding the 33X ISV for TCE (Figure 1). Vapor samples (orange vapor samples) were collected above the water table. MPCA is aware there is a pregnant person at the property with the sub-slab point. A passive soil-gas sample collected in the vehicle/equipment maintenance garage was several orders of magnitude above screening criteria; however, additional characterization nor remediation occurred in the building by the property owner.

Revision 11. RFP, Section 7., Proposal Content, Category A..; Scenario A, 2nd Paragraph, Page 32, is amended as follows:

The site topography is mostly flat, however the elevation does dip downward toward a small stream running through the northern portion of the property. This stream continues into the town which is located in the west adjoining property (see Figure 1). Older portions of the town (situated closer to the former ag-chem plant) are on private well drinking water (blocks 3, 5, and 7) that are 30 feet deep. Newer portions of the town (farther from the former plant) are on community water from the local municipality (blocks 1, 2, 4, and 6).

Revision 12. RFP, Section 7., Proposal Content, Category B. #5. Scenario 1: Petroleum Only Environmental Sercices, 5th Paragraph , Page 39, is amended as follows:

Municipal services are available in the area; however, the lakeside homes are all on private wells. The wells are 80 feet deep. The fueling station is hooked up to municipal water and other utilities at the site include storm sewer, sanitary sewer, and water that run along main street.

This addendum shall become part of the RFP and MUST be returned with the RFP Response.

RESPONDER NAME: Dane Ralston – ATC Group Services

TITLE: Senior Project Manager

DATE: March 26, 2018