



February 24, 2016

Mr. Michael Lewis, Director of Public Works
City of West Allis
7525 West Greenfield Avenue
West Allis, WI 53214

Re: Services to Conduct a Groundwater Investigation for the S. 84th Street and W. National Avenue Site (DNR BRRTS Activity #02-41-563746, DNR FID #341262570)

Dear Mr. Lewis:

Thank you for the opportunity to submit this scope of services to address possible groundwater contamination at the intersection of S. 84th Street and W. National Avenue. A soil contamination investigation was conducted in December 2015 at the request of the Wisconsin Department of Natural Resources (WDNR) to assess reported soil contamination detected during recent roadway reconstruction activities. Results of this investigation detected soil contamination above WDNR residual contaminant levels (RCL) at the groundwater interface in a soil probe, P-2, advanced in the central portion of the intersection. Because of the contamination detected in soil probe P-2, additional investigation is recommended to assess whether groundwater has been impacted beneath the intersection. The following scope of services outlines Ayres Associates approach for groundwater investigation activities.

Scope of Services

Groundwater Investigation

Water Table Observation Well Installation

Water table observation wells will be installed in four borings advanced below the water table. The water table wells will be installed at a depth of approximately 15 feet below ground surface, depending on the depth to groundwater. The purpose of the water table observation wells is to evaluate groundwater flow and potential contaminant transport at the water table.

Soil samples will be continuously collected during drilling activities. Each collected sample will be characterized according to the Unified Soil Classification System (USCS) and screened for volatile organic vapors using a photoionization detector (PID). Samples will be selected for possible laboratory analysis based on visual and olfactory observations and PID screening results.

Water table observation wells will be constructed of 2-inch inside diameter (ID) schedule 40 PVC risers and screen and installed in accordance with NR 141 Wisconsin Administrative Code. Monitoring well casing and screen will be inserted in the boreholes after the target depth is reached. A sand filter pack (#45-#55) will be installed around the well screen and will extend approximately 2 feet above the top of screen. A filter pack seal will be placed above the sand filter pack. The seal will consist of 2 feet of fine-grained sand placed above the gravel pack. Granular or chipped bentonite will be placed above the seal to a depth of approximately 4 inches below the ground surface. The remaining annular space will be filled with native soil. Protective steel casings with locking caps will be installed over each monitoring

well. Water table well construction details will be documented on WDNR Monitoring Well Construction Form 4400-113A.

Well Development

Monitoring wells will be developed after construction to remove fine-grained materials from within the well screen and filter pack. The wells will be developed in accordance with NR 141 Wis. Adm. Code. The wells will be developed by over pumping with a purge pump or peristaltic pump until purge water remains clear. Logs of all well development procedures will be maintained. Purge water will be drummed or permission will be obtained to discharge the water directly to the sanitary sewer. Well development procedures will be documented on WDNR Monitoring Well Development Form 4400-113B.

Monitoring Well Survey

Monitoring wells will be surveyed to determine their elevations and horizontal locations. At each monitoring well, the elevations of the top of the well casing will be surveyed to the nearest 0.01-foot. Ground surface elevation will be surveyed to the nearest 0.1-foot.

Hydraulic Conductivity Testing

In-situ hydraulic conductivity tests (slug tests) will be performed on each new water table well installed. Slug tests will be performed by rapidly lowering a solid PVC cylinder into the well to cause an instantaneous rise in water level (falling head test) within the well, and then measuring the return of the water level to static conditions. A second test will be performed by measuring the water level response when the cylinder (rising head test) is removed. Water level measurements will be collected with a data logger and pressure transducer. The hydraulic conductivity data will be analyzed using Aqtesolve Pro™ v. 4.5 and Waterloo Hydrologic Aquifer Test v.3 graphical analysis and reporting software. Hydraulic conductivity data will be evaluated using the methods of Bouwer and Rice (1976) for unconfined aquifers.

Falling head tests (slug in) will be performed on each water table observation well to evaluate the relative response of the aquifer prior to performing a rising head test (slug out). This will be done to ensure the data logger is properly programmed, and the equipment is functioning properly. The results of the tests are also useful for comparing the relative values to ensure consistency in testing and analysis. However, falling head tests performed in water table observation wells will not be used to calculate the average hydraulic conductivity of the aquifer.

Laboratory Analysis of Soil and Groundwater Samples

One soil sample collected from each boring will be submitted to a Wisconsin certified analytical laboratory for analysis. Each of the four soil samples collected will be analyzed for volatile organic compounds (VOC). Samples will be selected for chemical analysis in a laboratory based on visual and olfactory observations, field screening results, and conditions of the subsurface geology.

One round of groundwater samples will be collected from the four water table wells. The groundwater samples will be sent to the laboratory and analyzed for VOC. Samples will be analyzed within a standard laboratory turn-around time of three weeks.

After the analytical data is received from the laboratory, Ayres Associates staff will review the data to ensure that chain-of-custody procedures were followed, hold times were met, analytical methods and detection limits are consistent with the specifications, and samples were properly preserved when received at the laboratory. The data will be reviewed for reporting errors (i.e., units) as well as

consistency with anticipated results based on field observations. The laboratory has a written QA/QC program that provides rules and guidelines to ensure the reliability and validity of work conducted at the laboratory. Therefore, no additional data validation will be performed beyond that stated above.

Investigative Waste Disposal

Investigative waste, in the form of soil cuttings will be generated during the course of drilling activities. Soil cuttings will be temporarily stored on site in DOT approved 55-gallon drums prior to their removal and off-site disposal. For the purposes of this proposal, it is assumed that five drums of soil cuttings will be generated. Upon completion of waste characterization analysis of the drummed material, Ayres Associates will assist with preparing the necessary documentation for obtaining approval for off-site disposal and coordinate with the disposal contractor for removal of drummed soil cuttings.

Data Analysis and Reporting

Data obtained from this environmental assessment will be evaluated and interpreted by Ayres Associates. The objectives of the evaluation will be to determine the presence and significance of potential impacts to groundwater beneath the intersection of S. 84th Street and W. National Avenue. A draft report summarizing findings of the site assessment will be submitted to the City of West Allis for review and comment. The report will include a description of the site conditions, the subsurface geology, and results and interpretation of the laboratory analytical data. A final report will be prepared following review of the draft report.

Project Management, Coordination, and Health & Safety Plan

The major objectives of project management are to maintain control of the project budget and schedule, provide technical oversight, and optimize client-agency communication. The project manager will coordinate the efforts of project personnel for Ayres Associates and its subcontractors. Ayres Associates' project manager will communicate with City staff to update them on the progress and results of the assessment.

The purpose of a site-specific Health and Safety Plan (HSP) is to assign responsibilities, establish personnel protection standards and mandatory safety practices and procedures, and provide for contingencies that may arise during site operations. The plan will be developed under U.S. Environmental Protection Agency (EPA) guidelines and will comply with applicable regulations, including Occupational Safety and Health Administration (OSHA) standards (29 Code of Federal Regulations [CFR] 1910 and 1926).

Responsibilities of Owner and Others

OWNER shall provide the following.

Designate a person in writing to act as OWNER's representative.

Provide all criteria and full information as to OWNER's requirements.

Furnish to CONSULTANT all available pertinent information including, but not limited to, property, boundary, easement, right-of-way, and utility surveys, the location of buried tanks, piping, and related utilities, and previous reports, all of which CONSULTANT may use and rely upon in performing services under this Agreement.

Provide access to the site of the Project and provide any required easements for monitoring wells to be installed on or off the site.

Recognizing and acknowledging that CONSULTANT's services and expertise do not include the following services, provide, as required for the Project (1) Accounting, bond and financial advisory (including, if applicable, "municipal advisor" services as described in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) and the municipal advisor registration rules issued by the Securities and Exchange Commission), independent cost estimating, and insurance counseling services; and (2) Legal services with regard to issues pertaining to the Project as OWNER requires or CONSULTANT reasonably requests.

Additional Services

Services not included in this contract, but which are available upon request on a time and materials basis include but are not limited to:

- Additional Groundwater Monitoring
- Preparation of a Remedial Action Options Report (RAOR)
- Site Closure report preparation

Time Schedule

<u>Task</u>	<u>Calendar Days After Authorization to Proceed</u>
Groundwater Investigation Field Activities	45
Data Analysis & SI Reporting	90
Project Management, Coordination	On-going

Fee

Table 1
Proposed Project Budget Detail
Groundwater Investigation
Intersection of S. 84th Street and W. National Avenue, West Allis

Task	Estimated Cost
Project Management/Health and Safety Plan	\$500.00
Field Investigation	
• Advance/Screen/Sample/Log Borings ¹	\$1,500.00
• Develop/Sample/Conductivity Testing/Survey	\$4,000.00
• Drilling Contractor ²	\$4,500.00
• Laboratory Analysis ^{3,4}	\$ 700.00
• Equipment and Direct Costs	\$ 700.00
• Investigative Waste Disposal ⁵	\$2,000.00
Data Analysis & Reporting ⁶	\$3,500.00
Estimated Project Total⁷:	\$17,400.00

Notes:

¹ Assumes a maximum of 4 borings advanced to 15 feet below ground surface.

² Drilling costs include traffic control required because work will be conducted within the right-of-way of S. 84th Street and W. National Avenue.

³ Assumes a maximum of 4 soil and 4 groundwater samples will be analyzed for VOC.

⁴ The number of analytical samples may vary depending on observations and screening results obtained in the field. Ayres Associates will obtain permission from the City prior to modifying the scope of work.

⁵ Includes waste characterization analysis and assumes 5 drums of soil cuttings will require disposal.

⁶ Includes preparing a draft and final report summarizing the sampling procedures, laboratory results, and interpretation of the data.

⁷ Compensation is estimated to be \$17,400 based on the assumed distribution of compensation shown in Table 1. Consultant may alter the distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered, but shall not exceed the estimated project total unless approved by Owner.

Contract Terms and Conditions

Attached are "Contract Terms and Conditions" which will apply to the services and which are incorporated into this proposal by reference.

Acceptance

If this proposal and terms and conditions are acceptable to you, a signature on the enclosed copy of this letter will serve as our authorization to proceed.

This proposal is valid until December 31, 2015, unless extended by us in writing.

Proposed by Consultant:

Accepted by Owner:

Ayres Associates Inc

City of West Allis



Lynn L. Scherbert, PE
Senior Environmental Engineer



Signature

LLS:sms



Printed Name

Attachments: Contract Terms and Conditions



Title



Date

AYRES ASSOCIATES
CONTRACT TERMS AND CONDITIONS

*Per existing
contract/agreement*

- 1. Performance of Services:** Consultant shall perform the services outlined in its proposal to Owner in consideration of the stated fee and payment terms.
- 2. Billing and Payment:** Invoices for Consultant's services shall be submitted to Owner on a monthly basis. Invoices shall be due and payable within 30 days from date of invoice. If any invoice is not paid within 30 days, Consultant may, without waiving any claim or right against Owner, and without liability whatsoever to Owner, suspend or terminate the performance of services. Accounts unpaid 30 days after the invoice date will be subject to a monthly service charge of 1.5% on the unpaid balance, or the maximum rate of interest permitted by law, if less. The amount of any excise, value-added, gross receipts, or sales taxes that may be imposed on payments shall be added to Consultant's compensation. No deductions or offsets shall be made from Consultant's compensation or expenses on account of any setoffs or back charges.
- 3. Access to Site:** Owner shall furnish right-of-entry on the project site for Consultant and, if the site is not owned by Owner, warrants that permission has been granted to make planned explorations pursuant to the scope of services. Consultant will take reasonable precautions to minimize damage to the site from use of equipment, but has not included costs for restoration of damage that may result and shall not be responsible for such costs.
- 4. Location of Utilities:** Consultant shall use reasonable means to identify the location of buried utilities in the areas of subsurface exploration and shall take reasonable precautions to avoid any damage to the utilities noted. However, Owner agrees to indemnify and defend Consultant in the event of damage or injury arising from damage to or interference with subsurface structures or utilities which result from inaccuracies in information or instructions which have been furnished to Consultant by others.
- 5. Hazardous Materials:** In the event that unanticipated potentially hazardous materials are encountered during the course of the project, Owner agrees to negotiate a revision to the scope of services, time schedule, fee, and contract terms and conditions. If a mutually satisfactory agreement cannot be reached between both parties, the contract shall be terminated and Owner agrees to pay Consultant for all services rendered, including reasonable termination expenses.
- 6. Insurance:** Consultant shall maintain Workers' Compensation, General Liability, and Automobile Liability Insurance during its services for Owner. Consultant shall furnish a Certificate of Insurance to Owner upon written request. Owner agrees that Consultant shall not be liable or responsible to Owner for any loss, damage, or liability beyond the amounts, limits, exclusions, and conditions of such insurance.
- 7. Limitation of Professional Liability:** Owner agrees to limit Consultant's professional liability to an amount of \$50,000 or Consultant's fee, whichever is less. In the event that Owner does not wish to limit Consultant's professional liability to this sum, Consultant agrees to raise the limitation of liability to a sum not to exceed \$1,000,000 for increased consideration of ten percent (10%) of the total fee or \$500, whichever is greater, upon receiving Owner's written request prior to the start of Consultant's services.
- 8. Opinions of Probable Costs:** Consultant's opinions of probable project costs are made on the basis of Consultant's experience, qualifications and judgment; but Consultant cannot and does not guarantee that actual project costs will not vary from opinions of probable cost.
- 9. Construction Review:** Consultant does not accept responsibility for the design of a construction project unless the Consultant's contract includes review of the contractor's shop drawings, product data, and other documents, and includes site visits during construction in order to ascertain that, in general, the work is being performed in accordance with the construction contract documents.
- 10. Construction Observation:** On request, Consultant shall provide personnel to observe construction in order to ascertain that, in general, the work is being performed in accordance with the construction contract documents. This construction observation shall not make Consultant a guarantor of the contractor's work. The contractor shall continue to be responsible for the accuracy and adequacy of all construction performed. In accordance with generally accepted practice, the contractor will be solely responsible for the methods of construction, direction of personnel, control of machinery, and falsework, scaffolding, and other temporary construction aids. In addition, all matters related to safety in, on, or about the construction site shall be under the direction and control of the contractor and Consultant shall have no responsibility in that regard. Consultant shall not be required to verify any part of the work performed unless measurements, readings, and observations of that part of the construction are made by Consultant's personnel.
- 11. Standard of Performance:** The standard of care for all professional services performed or furnished by Consultant under this contract will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the same time and in the same locality. Consultant does not make any warranty or guarantee, expressed or implied, nor is this contract subject to the provisions of any uniform commercial code. Similarly, Consultant will not accept those terms and conditions offered by Owner in its purchase order, requisition, or notice of authorization to proceed, except as set forth herein or expressly agreed to in writing. Written acknowledgement of receipt or the actual performance of services subsequent to receipt of such purchase order, requisition, or notice of authorization to proceed is specifically deemed not to constitute acceptance of any terms or conditions contrary to those set forth herein.

12. Ownership of Documents: All documents produced by Consultant under this contract are instruments of Consultant's professional service and shall remain the property of Consultant and may not be used by Owner for any other purpose without the prior written consent of Consultant.

13. Electronic Files: Owner and Consultant agree that any electronic files furnished by either party shall conform to the specifications agreed to at the time this contract is executed. Electronic files furnished by either party shall be subject to an acceptance period of 60 days during which the receiving party agrees to perform appropriate acceptance tests. The party furnishing the electronic file shall correct any discrepancies or errors detected and reported within the acceptance period. After the acceptance period, the electronic files shall be deemed to be accepted and neither party shall have any obligation to correct errors or maintain electronic files. Owner is aware that differences may exist between the electronic files delivered and the printed hard-copy documents. In the event of a conflict between the hard-copy documents prepared by Consultant and electronic files, the hard-copy documents shall govern.

14. Termination of Services: This contract may be terminated at any time by either party should the other party fail to perform its obligations hereunder. In the event of termination for any reason whatsoever, Owner shall pay Consultant for all services rendered to the date of termination, all reimbursable expenses incurred prior to termination, and reasonable termination expenses incurred as the result of termination.

15. Controlling Law: This contract is to be governed by the law of the place of business of Consultant at the address in its proposal to Owner.

16. Assignment of Rights: Neither Owner nor Consultant shall assign, sublet or transfer any rights under or interest in this contract (including, but without limitation, moneys that may become due or moneys that are due) without the written consent of the other, except to the extent mandated or restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this contract. Nothing contained in this paragraph shall prevent Consultant from employing such independent subconsultants as Consultant may deem appropriate to assist in the performance of services hereunder.

17. Third Party Benefits: This contract does not create any benefits for any third party.

18. Dispute Resolution: Owner and Consultant agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice prior to exercising their rights under the following dispute resolution provision. If direct negotiations fail, Owner and Consultant agree that they shall submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to this contract or the breach thereof to mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association effective on the date of this contract prior to exercising other rights under law.

19. Exclusion of Special, Indirect, Consequential, and Liquidated Damages: Consultant shall not be liable, in contract or tort or otherwise, for any special, indirect, consequential, or liquidated damages including specifically, but without limitation, loss of profit or revenue, loss of capital, delay damages, loss of goodwill, claim of third parties, or similar damages arising out of or connected in any way to the project or this contract.

20. Betterment: If, due to Consultant's negligence, a required item or component of the project is omitted from the construction documents, Consultant's liability shall be limited to the reasonable cost of correction of the construction, less what Owner's cost of including the omitted item or component in the original construction would have been had the item or component not been omitted. It is intended by this provision that Consultant will not be responsible for any cost or expense that provides betterment, upgrade, or enhancement of the project.

21. Amendments: This contract may only be amended, supplemented, modified, or canceled by a duly executed written instrument.