

CONSULTING AGREEMENT

THIS AGREEMENT, effective this 2nd day of March 2010, entered into by and between the City of Scandia, Minnesota (“Client”) and EDAW, Inc., an AECOM company with offices located at 161 Cheshire Lane North, Suite 500, Minneapolis, Minnesota, 55441 (hereinafter referred to as the “Consultant”). As provided in this Agreement.

WITNESS THAT

WHEREAS the Client wishes to retain the Consultant to perform certain services required by the Client or the Client’s Contract with the Tiller Corporation (hereinafter referred to as the Owner)(for the Zavoral Mine and Reclamation Project Environmental Impact Statement (EIS) for a site located in the City of Scandia, Washington County, Minnesota project, and

WHEREAS, the Consultant is willing to undertake the performance of such services in accordance with the terms and conditions hereinafter set forth,

NOW THEREFORE the parties hereby agree as follows:

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ARTICLE 1 - THE WORK

- 1.1 **Work to be Performed:** The Consultant shall perform the services set forth in the Consultant's Proposal as Appendix A (the Services), and such additional services as Consultant and Client may jointly agree upon in writing ,at the project site or sites and vicinity as identified in the Consultant Proposal/Statement of Work. The Services, including any additions and modifications, shall be performed in accordance with this Agreement.

ARTICLE 2 - CONTRACT DOCUMENTS

- 2.1 **Documents and Precedence:** The documents listed in 2.1.1 thru 2.1.3 together with any Change Orders issued in accordance with Article 12 of this Agreement, constitute the "Contract Documents" of this Agreement. Any *preprinted* terms and conditions on forms used by either party in the administration of this Agreement are void and shall not act to supplement or replace the terms and conditions of this Agreement as set forth in the Contract Documents. For the purposes of establishing obligations and the resolution of ambiguities in the Contract Documents, the following order of precedence shall prevail:
- 2.1.1 Appendix A - Consultants Proposal / Statement of Work, dated February 8, 2010.
 - 2.1.2 Appendix B - Cost Proposal, dated February 8, 2010.
 - 2.1.3 This Agreement

ARTICLE 3 - CONTRACT TIME

- 3.1 **Schedule:** The Consultant shall provide the Services called for by the Contract Documents beginning not earlier than the date of the Notice to Proceed issued by the Client. All Work shall be fully completed no later than December 2011, unless sooner terminated or extended as provided herein.

Work on the previous Zavoral Mine and Reclamation Project EIS contract dated August 19th, 2009 with the Client will cease on February 24th, 2010 and all charges up to that date will be billed to the Client prior to closing that contract and replacing it with this contract.

- 3.2 **Delays:** Consultant shall not be liable for delays or failure to perform its Services caused directly or indirectly by circumstances beyond Consultant's control, including but not limited to, acts of God, fire, flood, war, sabotage, accident, labor dispute, shortage, government action including regulatory requirements, changed conditions, delays resulting from actions or inactions of Client, Owner or third parties, site inaccessibility or inability of others to obtain material, labor, equipment, or transportation. Should any of the above occur, then the date for Completion or any other milestone date shall be adjusted for such delay in accordance with Article 12, provided the Consultant reports the delay to the Client within a reasonable time, or the time required by the Owner Contract, of its' discovery.

ARTICLE 4 - CONTRACT PRICE

4.1 **Consideration:** Consultant will perform the Services in exchange for the following fee: *(select applicable basis of consideration)*

___ Client will pay on a **time and material** basis. Consultant will invoice according to its Fee Schedule attached to the Proposal at Appendix B.

___ Client will pay a **lump sum** of \$ _____. Consultant will invoice monthly on a percentage completed basis.

X Client will pay on a **time and material basis not to exceed** the sum of **\$318,394.00**. Consultant will invoice according to its Fee Schedule attached as Appendix B up to the stated limit. Upon reaching the stated limit, Consultant will work with the Client to obtain authorization for any additional services and funding in writing.

ARTICLE 5 - PAYMENT PROVISIONS

5.1 **Payment:** Consultant will submit invoices to Client monthly. Client recognizes that timely payment is a material part of this Agreement. Each invoice is due and payable within thirty (30) calendar days of the date of the invoice. Client will pay when due that portion of invoice not in dispute. If Client fails to pay any undisputed invoiced amounts within thirty (30) calendar days of the date of the invoice, Consultant may suspend its performance pending payment of all past due invoices or terminate this Agreement without incurring any liability to Client therefore and without waiving any other claim against Client. Any undisputed invoice amount not received by Consultant within thirty calendar days of the invoice shall accrue interest due and payable at the rate of fifteen percent (15%) compounded annually, if allowed by law, otherwise at the highest annual interest allowed by law.

5.2 **Travel:** Approved travel required during the performance of this Agreement will be subject to the terms and conditions and applicable rates as set forth in the Federal Travel Regulations and invoiced as an additional cost.

5.3 **Invoicing Instructions:** The Consultant will submit invoices with at least the following information: the invoice date, title of the Agreement, name and address of Consultant representative to whom payment is to be sent, description of services performed and costs related thereto. In addition to the aforesaid, Consultant shall provide proof of payment for its Subconsultants or Subcontractors upon request by the Client. Furthermore, it is understood, Consultant’s payment obligations to the Subconsultants or Subcontractors shall become binding only upon such time as Consultant receives payment in full by the Client. Invoices will be submitted to the Client in duplicate. Invoices and payments will be addressed as follows:

Invoices to: City of Scandia
company
14727 209th Street North
Scandia, MN 55073
Attn: Ms. Anne Hurlburt

Payments to: EDAW Inc., an AECOM
Dept. 9269-18
Los Angeles, CA 90084-9269
303.595.4522

- 5.4 **Taxes:** Client agrees to pay Consultant, in addition to the Contract Price, all taxes of any type assessed by any governmental taxing authority with respect to the Services, excepting only taxes measured by the income of the Consultant. Client's obligation to pay taxes under this provision includes without limitation the obligation to reimburse Consultant for taxes paid to sub-consultants, subcontractors and other suppliers for work and materials incorporated in the Services.

ARTICLE 6 - PRELIMINARY MATTERS

- 6.1 **Permits and Licenses:** The Consultant has or will have, prior to the commencement of any work, all necessary business and professional licenses, permits, and other necessary Federal, State, County, Municipal, or other licenses as may be required to enable the Consultant to perform the services required hereunder.
- 6.2 **Agreement Administration:** Consultant contacts with the Client regarding prices, terms, financial actions, etc., shall be made with the Client's authorized Representative. All correspondence between the Consultant and the Client shall be addressed to the Client's designated Representative.
- 6.3 **Communications with Owner:** All of Consultant's written or oral communication with or to the Owner, or Federal, State, or local agencies relative to work under this Agreement must be through or with the authorization of the Client's authorized Representative.
- 6.4 **Documents and Records:** Client acknowledges that Consultants' reports, boring logs, field data, field notes, laboratory test data, calculations, estimates and other similar documents ("Records") are instruments of professional service, not products. All data Consultant prepares for Client under this Agreement shall become the property of the Client upon final payment for services rendered under this Agreement. Such data and work product are intended only for use in connection with the Project, and any reuse by the Client for any purpose other than that for which prepared shall be at Client's sole risk (and EDAW shall have no liability whatsoever for the same).
- 6.5 **Reuse of Project Documents:** The project documents prepared or furnished to Client by Consultant under this Agreement may be based on information obtained from sources outside Consultant's control. Other than the application of prudent professional care in their evaluation, the Consultant does not warrant, expressed or implied the accuracy thereof. All documentation furnished to the Client is intended for the benefit of the Client for the purpose stated herein and is not intended or represented to be suited for reuse by the Client or others. Any reuse without the specific written consent of the Consultant for the specific purposes intended will be at user's sole risk and without liability and legal exposure to Consultant. Client agrees to indemnify and hold Consultant harmless from any and all liabilities, losses, costs, or expenses suffered by Consultant in connection with Client's unauthorized reuse of project documents.

ARTICLE 7 - AVAILABILITY OF LANDS

- 7.1 **Client Furnished Access to Lands:** The Client will furnish access to the lands upon which the Services are to be performed, rights-of-way for access thereto and lands designated for temporary use. Easements, if required, will be provided by the Client. The Client will allocate the land

provided by the Client or Owner for temporary use during construction among project consultants and contractors.

ARTICLE 8 - RISK ALLOCATION

- 8.1 **Insurance:** During the period that Services are performed under this Agreement, Consultant will maintain, the following insurance: (i) Workers' Compensation coverage in accordance with the laws of the states having jurisdiction over its employees engaged in the Services and Employer's Liability Insurance (limit of \$1,000,000 each occurrence.); (ii) Commercial General Liability with a limit of \$1,500,000 per occurrence and a \$2,000,000 aggregate; (iii) Commercial Automobile Liability with a limit of \$1,500,000 per occurrence and a \$1,500,000 aggregate; and (iv) Professional Liability coverage with a \$1,500,000 limit on each claim and a \$1,500,000 aggregate.
- 8.1.1 **Certificates:** Prior to beginning Services, Certificates of insurance shall be furnished to the Client evidencing that the coverage will be in effect throughout the performance of the Services and will not be canceled or materially changed until at least thirty (30) days written notice has been given to the Client. The Consultant will list the Owner as additionally insured.
- 8.1.2 **Subtier Subconsultants:** The Consultant agrees to flow down these insurance requirements, as applicable, to all Subconsultants and Subcontractors that provide any services or work.
- 8.2 **Indemnity / limitation of Liability:** Subject to any limitations stated in this Agreement, Consultant will indemnify and hold harmless Client officers, directors, employees from and against all claims and actions, including reasonable attorneys fees, arising out of damages or injuries to persons or tangible property arising out of or caused by a negligent act, error, or omission of Consultant or any of its agents, subconsultants, subcontractors, or employees in the performance of Services under this Agreement. Consultant will not be responsible for any loss, damage, or liability to the extent they arise from any contributing negligent acts by Client or Owner, or their subcontractors, agents, staff, or consultants. Neither party will be responsible to the other for consequential damages including, but not limited to, loss of profit, loss of investment or business interruption. Consultant's liability is limited to the extent claims arise out of its negligent performance of services hereunder.
- 8.3 **Jobsite Safety:** Unless the specified Services provide otherwise, Consultant is responsible for safety of its own employees within the work zone necessary to perform the Services. This shall not relieve the Owner for maintaining a safe jobsite.

ARTICLE 9 - CONSULTANTS RESPONSIBILITIES

- 9.1 **Independent Status / Subcontracting:** Consultant expressly agrees that it is an independent contractor and its employees engaged in the Services are not and shall not be treated or considered employees of the Client or Owner. It is understood that Consultant may retain subcontractors to perform services as presented in Appendix B. Should it be determined appropriate or necessary to rely on a subcontractor not identified in the proposal, Consultant shall obtain the written approval from Client. Consultant retains the responsibility for the conduct of all sub-consultants and subcontractors, and the services provided.

- 9.2 **Proprietary Information:** The Consultant shall not directly or indirectly or through its employees disclose to any third person or use for the benefit of anyone other than the Client or Owner, either during or after the term of this Agreement (or for the period of time stipulated in the applicable data), any secret or proprietary information provided to the Consultant by the Client or Owner in its possession, whether relating to the Work performed hereunder or to the business and affairs of the Client or Owner, provided such information is clearly designated secret or proprietary when conveyed to Consultant. Such information shall include, without limitation, Client or Owner manuals, forms or procedures. Disclosure shall not be made without the prior written consent of the Client unless disclosure is required by law or if the proprietary information becomes a part of the public domain, in which case notification of the request for such information shall be provided to the Client and/or Owner prior to release. Information identified in writing by the Consultant as confidential and/or proprietary shall be similarly treated by the Client.
- 9.3 **Publications:** The Consultant shall not publish or publicly disseminate any information or data derived or obtained from or in connection with any services rendered hereunder, without the prior written consent of the Client.

ARTICLE 10 - WORK BY OTHERS

- 10.1 **Cooperation:** Consultant will cooperate with Client and Owner personnel, contractors and Subconsultants who may be working on the site. Particular attention will be paid to such matters as safety, and use and disruption of utilities.

ARTICLE 11 - CLIENT RESPONSIBILITIES AND AUTHORITY

- 11.1 **Client's Representative:** Client shall assign a Representative authorized to act on Client's behalf with respect to the project. Client's authorized Representative shall render decisions in a timely manner pertaining to Consultant's Services to avoid unreasonable delay in the orderly and sequential progress of Consultant's Services.
- 11.2 **Inspection:** The Client, through any authorized representatives, shall have the right at all reasonable times to inspect, or otherwise evaluate the quality or any other aspect of the Services performed or the safety measures employed in the work being performed hereunder and the premises in which it is being performed. If any inspection or evaluation is made by the Client on the premises of the Consultant or a Subconsultant, the Consultant shall provide, and shall require its Subconsultants to provide, all reasonable facilities and assistance for the safety and convenience of the Client representatives in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unnecessarily delay the Services.
- 11.3 **Audit:** Upon request of the Client, the accounting records, as well as other records maintained by the Consultant directly related to the performance of the Services specified herein, shall be subject, at all reasonable times, to audit by an independent public accounting firm selected by the Client and at the Client's expense. In addition, the Client may have such an audit performed at any time within two years following the completion or termination of Services specified herein.

ARTICLE 12 - CHANGES

- 12.1 **Change Order Content:** Changes in the terms of this Agreement or the Services may be accomplished without invalidating this Agreement by Change Order, subject only to the limitations of this Article and the requirement that the change be within the general scope of work of this Agreement. A Change Order is an amendment to this Agreement modifying the Services and specifying any or all of the following: (i) a change in terms and conditions or the Scope of Services; (ii) an adjustment in the Contract Time; and (iii) the amount of the adjustment in the Contract Price.
- 12.2 **Changed Conditions:** The Consultant has relied on the Client's judgment in establishing the scope of work. In the event of changed conditions, Client agrees to negotiate appropriate Change Orders to equitably adjust the price and/or schedule accordingly. Reduction of the Scope of Services by Change Order shall not be the basis of a claim by the Consultant based on loss of anticipated profits from Services not accomplished.
- 12.3 **Issuance of Change Orders:** Consultant will treat as a Change Order any written order (including directions, instructions, interpretations, or determinations) from Client which request changes in the Services. Consultant will give Client written notice within a reasonable time of the receipt of any Change Order of any resulting adjustment in the schedule and price. Unless Client objects in writing within 5 days, the proposed terms of the Change Order with the adjustment in the schedule and price shall become a part of this Agreement.
- 12.4 **Failure to Agree:** If the Client and the Consultant cannot agree upon an equitable adjustment in the Contract Time and or Contract Price, and the Consultant will not sign the Change Order, the disagreement shall be considered a dispute subject to settlement in accordance with the disputes clause at Article 15.

ARTICLE 13 - WARRANTY

- 13.1 **Standard of Care:** It is understood that Consultant makes no warranty, either expressed or implied, as to the findings, designs, accommodations, specifications, or professional advice or opinion except that Consultant represents that it shall perform its Services in accordance with the standards of care and diligence normally practiced by professional consulting firms performing Services of a similar nature in the same locale.
- 13.2 **Extent of Study:** Client recognizes that actual environmental conditions may vary from conditions encountered at locations where Consultant makes visual observations, obtains samples, or performs other explorations. Consultant does not guarantee the extent or absence of pollution or hazardous materials at a site and failure to discover differing conditions or potential environmental contamination through appropriate and/or mutually agreed-upon investigation and/or sampling techniques shall not impose any liability on the Consultant, unless there has been a breach of required Standard of Care described in Article 13.1

ARTICLE 14 - SUSPENSION AND TERMINATION

- 14.1 **Suspension of Services:** Consultant will, upon written notice from Client, suspend, delay, or interrupt all or a part of the performance of Services to the extent directed. In such event,

Consultant will resume work upon the suspended activities only upon written notice from Client. Where appropriate, an extension of the Contract Time and/or Contract Price will be established as specified in Article 12.

- 14.2 **Termination:** Either party may terminate the Services with or without cause upon 10 days advance written notice. Irrespective of which party shall effect termination, the Client shall within 30 calendar days of termination pay in accordance with Article 5 hereof the Consultant for services rendered and costs incurred up to the time of termination, as well as those reasonable costs associated with the termination itself, including the costs incurred in the settlement of terminated contracts and subcontractors, suppliers and others, all in accordance with the Consultant's fee schedule in effect for this Agreement and expense reimbursement policy.

ARTICLE 15 - MISCELLANEOUS PROVISIONS

- 15.1 **Subcontract:** The Consultant shall not further subcontract any Services to be performed under this Agreement, except as specified in the Consultant's proposal or prior written authorization from the Client. Neither this Agreement nor any Subtier Subcontract will create any contractual relationship between any Subtier Subcontractor and Client, nor any liability of Client to any Subtier Subcontractor.
- 15.2 **Assignment:** Neither Party to this Agreement shall transfer, assign or hypothecate its interest in this Agreement without the written consent of the other; which consent shall not be unreasonably withheld. Any attempted transfer, assignment, or hypothecation without such written consent shall be void and confer no rights upon any third person and shall constitute a default hereunder.
- 15.3 **Third Party Liability:** Except as specifically stated in this Agreement, this Agreement does not create any rights or benefits to parties other than Client and the Consultant.
- 15.4 **Dispute Resolution:** Any controversy or claim arising out of or relating to this Agreement, or breach thereof, shall be settled by arbitration in Minnesota in accordance with the then-current Construction Arbitration Rules of the American Arbitration Association. Judgement upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. Each party to any arbitration hereunder shall bear its own costs of the proceeding including attorney fees. The Client and the Consultant agree that in the event of a dispute, they will not seek recourse against individual officers, employees, directors, or shareholders of the other party.
- 15.5 **Applicable Law:** In the performance of the Services provided by this Agreement, the Consultant and the Client shall comply with all applicable Federal, State and local laws, rules, and regulations. This Agreement shall be construed, interpreted and applied in accordance with the laws of the State of Minnesota.
- 15.6 **Entire Agreement, Modifications, Headings, Severability:** The parties acknowledge that this Agreement constitutes the entire Agreement between them and supersedes all prior representations, warranties, agreements, and understandings oral or written between the parties with respect to its subject matter. Unless stated otherwise in this Agreement, this Agreement may not be modified except in writing signed by both parties. The headings to this Agreement are for convenience and reference purposes only and shall not constitute a part of the Agreement. If any

element of this Agreement is later held to violate the law or a regulation, it shall be deemed void, and all remaining provisions shall continue in force.

Client and Consultant confirm reading this document in full and confirm that they understand the terms of this Agreement. Client and Consultant freely enter into this Agreement. The Agreement becomes effective on the latest date of execution indicated below.

Consultant: EDAW, Inc an AECOM Company Client: City of Scandia, Minnesota

By: _____ By: _____

Name: _____ Name: _____

Title: _____ Title: _____

Date: _____ Date: _____

Work Plan

This work plan presents the tasks that will be completed to analyze the potential for environmental impacts, and identify measures to mitigate for potential impacts for the alternatives related to the Zavoral Property Mining and Reclamation Project as part of the EIS process to be completed under Minn. R. 4410. This work plan addresses the requirements presented in the January 6, 2010 revised Scoping Decision Document (RSDD) for the proposed project that was developed to address changes in the proposer's plan after the EIS process was initiated as described below.

As the EIS analysis progressed, Tiller Corporation conducted additional analyses related to the materials at the proposed site and the range of activities involved in the project. The additional analyses of the deposit at the Zavoral site indicated that this material would be suitable for use as add-rock. The add-rock will likely be used predominately at another mine site in Scandia, called the Scandia Mine. **Add-rock** is rock of certain size ranges or quality that is not available at a facility, but is needed to meet specifications for the production of various aggregate products that are produced at the facility.

As a result of their additional analyses, Tiller has determined that the material mined at the Zavoral site can be utilized without being processed at the Zavoral site. Instead, that material will be transported as **pit run** material (gravel as it occurs in natural deposits) or as add-rock primarily at the Scandia Mine to provide material that will meet the specified gradations of marketable aggregate. The add-rock would be combined with materials from the Scandia site to meet specifications. The supplemental materials may be processed at the Scandia site, or may be utilized without further processing. Some of the material mined at the Zavoral site may also be transported directly to project sites or other locations for processing. Tiller indicated that the material from the Zavoral site will replace material transported to the Scandia Mine site from various locations, the most recent being Chisago County, Minnesota and Polk County, Wisconsin.

Tiller's analyses of the Zavoral site also noted that reinitiating the use of the well at the Zavoral site at the levels the well is capable of producing would require significant investment to address Minnesota Department of Natural Resources (MnDNR) water appropriation permit requirements for the Zavoral site. Tiller has an existing permit for water appropriations for mining and processing activities at the Scandia Mine site.

Based on the further evaluation of the mining plan for the Project, Tiller has proposed to revise the project to eliminate all aggregate processing activities (including washing) at the Zavoral site. Any processing of material used at the Scandia Mine site would be conducted at the Scandia Mine site. The Scandia Mine is located on Manning Avenue near 225th Street. EAW's were completed for mining and processing operations on that site in 1987 and updated to reflect current operations in 1999.

The proposed changes in mining operations required changes in the Scoping Document for the EIS for the Zavoral Mining and Reclamation Project, including revisions to the EIS alternatives, analyses, and schedule. The EIS will analyze the potential impacts of the proposed mining and reclamation project at the Zavoral site, and the potential for impacts at the Scandia Mine site resulting from the transport of mined material from the Zavoral site to the Scandia Mine site. The analysis of potential impacts at the Scandia Mine site will compare the potential impacts of the proposed activities at the site to the potential impacts analyzed in the EAW's completed for the Scandia Mine in 1987 and 1999 and to permits that are currently in place for the Scandia Mine site.

Task 1 - Project Management

Objectives

To effectively manage the project to:

- ❖ Maintain project schedule and contractual budget; provide timely and accurate reports and billing.
- ❖ Establish and maintain effective internal project team communication
- ❖ Develop a technically sound EIS that meets regulatory requirements, in a timely manner.
- ❖ Communicate to provide information to and obtain input from interested parties.

City of Scandia Interaction

- ❖ Participate in project meetings and facilitate coordination with Tiller Corporation (Tiller) and others.
- ❖ Provide review of administrative and technical documents in a timely manner.

Procedures

Task 1.1 - Detailed Work Plan

This work plan, cost proposal, and schedule will serve as the Detailed Work Plan.

Task 1.2 - Project Controls and Progress Reports

As part of project controls and tracking, the AECOM Team project manager will update the preliminary project schedule as data gathering is initiated and dates for meetings and interim submittal dates are refined. The baseline schedule and budget will be compared to the actual schedule and budget on an ongoing basis as part of project reporting. A log of e-mails, correspondence, and meeting notes will be kept in an electronic file. Paper copies of these items will be filed for later retrieval if necessary.

The AECOM Team project manager will prepare monthly progress reports in a form approved by the City. Progress reports will review progress on all tasks identified in the Plan, including cost to date, any significant interim findings, and any problems or conflicts that may affect the completion of any task within the allocated time and budget.

Deliverables

- ❖ Detailed Work Plan
- ❖ Progress Reports

Task 2 - Internal and External Communications

Objectives

To communicate effectively, educate and obtain input from internal and external stakeholders about issues related to the proposed project and alternatives, and to provide adequate notice and a variety of avenues for stakeholders to be involved in the process.

City of Scandia Interaction

- ❖ Participate in project meetings, conference calls, and facilitate coordination with Tiller and others.
- ❖ We have assumed that the City will pay for meeting location rental, if required, court recorders, audio-visual equipment and support, and any publication fees to newspapers or other publications.

Procedures

Task 2.1 - Internal Communication

We propose to hold up to 12 internal meetings over and above those held prior to the time this revised scope of work is implemented. In addition, we propose to hold conference calls to result in weekly internal communication during the more intensely active portions of the project and biweekly communication during the less active periods. During these meetings/calls we will discuss project status regarding scope, schedule and budget, identify outstanding data needs, provide information as required and discuss future work, potential issues that could affect project progress or quality, and other information. We will also communicate with the City, their consultants, and other internal entities via telephone, mailed correspondence, and e-mail.

Task 2.2 - Other Communication

The AECOM Team will provide technical support to the City in meetings and other interaction with agencies and officials, organizations, the public, and other stakeholders. As part of this process we propose to hold a site review with agencies and officials to review key site issues. We have found that site reviews help agency staff become familiar with a project and related impacts, which helps to resolve or reach consensus on key issues early and result in more effective communication. In addition to the site review we propose to participate in up to three additional agency/stakeholder meetings as part of our base scope of work. We also will coordinate via telephone, mailed correspondence, and e-mail.

We understand that the City will want to continue to utilize its website to provide project updates and provide access to project documents. Work products developed as part of this project will be prepared in a format that is suitable for posting on the website. We will collaborate with the City staff to provide support in the preparation of notices, press releases, and other information for meetings as described in this work plan.

AECOM and our team member Richardson, Richter, and Associates (RRA) will work closely with the City to develop public outreach materials.

Task 2.3 - Project Advisory Committee Involvement

We will assist the city in the facilitation of ongoing Project Advisory Council (PAC) involvement that will meet up to four times, over and above the one PAC meeting already held. We have assumed that the City will arrange for and provide meeting locations.

Currently, we propose that the meetings address the following:

- ❖ One meeting to review the revised Tiller proposal and EIS scope.
- ❖ Up to two meetings to provide background and review technical work conducted for the EIS and obtain input, this includes the input on the development of potential mitigation measures
- ❖ Preliminary review of the draft EIS

Task 2.4 - Webpage Support

We will work with the City to develop web page content providing information about the project. This would include project site information, timelines, status reports, graphics, maps, interim technical information, and upcoming opportunities for public involvement.

Deliverables

- ❖ Meeting agendas
- ❖ Meeting summaries
- ❖ Correspondence and communication files
- ❖ Documents in PDF format for uploading to webpage
- ❖ Planning, technical support, and graphic preparation for meetings with the public, agencies, and other stakeholders
- ❖ Press releases and notices

EIS PREPARATION TASKS

The AECOM Team will complete the Zavoral Mine and Reclamation EIS to comply with the MEPA, Minn. Stat. 116D.01 et seq., the rules promulgated under MEPA, Minn. Rules Chapter 4410, and guidance documents issued by the EQB, including the following tasks and deliverables:

Task 3 - Cover Sheet

A cover sheet will be prepared to meet the requirements of Minnesota Rules 4410.2300.

Task 4 - Project Summary, Table of Contents, List of Preparers, and Project Description

The AECOM Team will prepare a functional working description of the proposed project and alternatives identifying the purpose, size, scope, environmental setting, limits, and anticipated phases of development in sufficient detail to meet EQB requirements. Early, effective development of a project description and alternatives are critical to maintaining project schedule and focus.

City of Scandia Interaction

This project description will use information from the 2008 Zavoral Mine and Reclamation EAW, 1987 and 1989 Scandia Mine Site EAWs, and the January 2010 Revised Scoping Document for the Zavoral Mine and Reclamation EIS (Revised SDD), the City, their consultant, and Tiller.

Procedures

The project description will address the following:

- ❖ A summary of the project description.
- ❖ A summary of the EIS content requirement in Minn. R. 4410.2300, with page and section references to the sections of the EIS containing each required analysis.
- ❖ A general description of the area surrounding the site.
- ❖ A project description addressing siting, engineering, construction, operation, and reclamation.

Deliverables

- ❖ Cover sheet; project summary; table of contents; project description including text, tables, and graphics.

Task 5 - Permits and Approvals

Objectives

To identify known governmental permits and/or approvals required for the proposed Zavoral Mine and Reclamation Project, the unit of government responsible, status of any applications, and areas of dispute.

City of Scandia Interaction

Participation in meetings with agencies and discussions regarding permitting.

Procedures

The AECOM Team will incorporate permit information from the EAW and supporting documents, conduct coordination with agencies and local officials regarding permitting and/or approval needs, requirements, issues, areas of dispute, and other information. Agency and official coordination may include meetings, correspondence, telephone, or e-mail contacts. We will prepare a table presenting permitting and/or approval information in a concise manner supplemented with text.

Deliverables

- ❖ Copies of meeting notes, correspondence, and telephone memoranda, or e-mails.
- ❖ Table summarizing permitting and/or approval information, supplemented with text.

Task 6 - Description of the Proposed Alternatives

Objectives

The Revised SDD identifies the four alternatives to be evaluated in the EIS. Each of the alternatives described below will include a detailed description of the site operations, including the type and quality of material to be extracted, transport of material, project timeframe, potential impacts, and mitigation strategies. Tiller has indicated that the Zavoral site would supply the coarse aggregate (gravel) that is present in high percentages at the site to supplement sand deposits at the Scandia Mine Site. The Zavoral deposit was mapped as significant by the MGS in 2000.

City of Scandia Interaction

Participation in working sessions and communication with Tiller to define the alternatives in sufficient detail to conduct impact analysis and the development of mitigation measures.

Procedures

Based on information provided by the City and interaction with Tiller, the AECOM Team will prepare a concise description of the three alternatives for mining and reclamation.

Alternative #1—Applicant's Preferred Alternative

The project proposer, Tiller Corporation, is proposing to re-open and expand the dormant aggregate mine on the Zavoral property. The proposed project does not include mining into the ground water. The site was mined by multiple operators before it was taken out of production in the 1980's. Aggregate material mined at the Zavoral site would primarily be transported by truck to the Scandia Mine site for use as add-rock. Add-rock is currently hauled to the Scandia Mine site from Chisago County, Minnesota and Polk County, Wisconsin. Tiller indicates that material transported from the Zavoral site would replace the aggregate material currently transported to the Scandia Mine site from those locations. Some of the material mined at the Zavoral site may be transported directly to construction sites or to other locations for use as pit-run material or add-rock.

The Zavoral site and the Scandia Mine site are both within the Agriculture Zoning District under the City's 2020 Comprehensive Plan, which was the adopted plan at the time of the Tiller application for the Zavoral Mining and Reclamation Project. Mining is an allowed use within the Agriculture zone. A portion of the Zavoral site is located within the St. Croix National Scenic Riverway. Reclamation activities only are proposed within this area. Mining is not allowed within the Riverway Zone.

Zavoral Site Activities

The proposed project area includes 114 acres. Mining activity has previously disturbed approximately 56 acres. The site was actively mined in the 1960's through the 1980's. Mining operations included stripping, extraction, crushing, washing, hot mix asphalt production, stockpiling, and hauling from the site. The operation was taken out of production without reclamation in the 1980's. All processing equipment has been removed from the site, but the site has not been reclaimed. Stockpiles located on the site have recently been used as a source of aggregate. Much of the material in the stockpiles has been removed over the last eight to ten years, but irregular landforms remain because the site has not been reclaimed.

The proposed project would involve mining and restoration of 64 acres located predominately on the previously disturbed portions of the site. The active mining area would include mining to an additional depth of about 15 feet, and expanding the limits of mining by about eight acres. In addition, Tiller Corporation is proposing to restore approximately four acres of the previously-mined area located within the St. Croix Riverway and scenic easement area.

Tiller Corporation is proposing the following activities at the Zavoral site:

- ❖ Clearing and grubbing the site of vegetation, as necessary.
- ❖ Removal of overburden from areas to be mined, and stockpiling the material on the site for potential future use in reclamation.
- ❖ Excavation of raw aggregate materials.

- ❖ Transporting mined aggregate materials (pit-run, add-rock); the majority of which will likely be delivered to the Scandia Mine site near Manning Avenue and 225th Street for use in material produced at that site.
- ❖ The existing well at the Zavoral site will be utilized for dust suppression.
- ❖ Fuel storage and storage of related materials such as oil, anti-freeze, grease, and hydraulic fluid.
- ❖ Reclamation activities, including grading, placing topsoil and seeding.

Mining operations would be conducted on a seasonal basis, typically from April through mid-November. The Zavoral site is proposed to be worked in phases, with the duration of the project expected to be up to 10 years under this alternative.

The proposed mining operations will result in lowering and a reconfiguration of the surface topography, and the reconfiguration and redirection of the existing surface drainage system.

In general, the reclamation of the Zavoral site is proposed to progress in increments. Reclamation will proceed as areas of mining are completed. The reclamation plan proposes that perimeter areas be sloped and the interior areas backfilled and graded to reclamation grades. Topsoil would be applied to these areas and vegetation established to reduce erosion. The project analyzed in the EAW proposed that the previously-mined area within the St. Croix Riverway be restored during the final phase of mining operations at the site. Tiller Corporation's letter to the City (April 7, 2009) proposed revising the reclamation and phasing plan to include reclamation of the area within the St. Croix Riverway and scenic easement areas during the first years of operation. The EIS will therefore evaluate the project that includes reclamation of the St. Croix Riverway and scenic easement areas during the first five years of mining operations on the Zavoral site.

Scandia Mine Site Activities

Raw aggregate material mined at the Zavoral site would be transported to the Scandia Mine site for processing. Processing of aggregate materials is currently occurring at the Scandia Mine site for materials mined at that site and materials that are transported to the site from various locations, most recently Chisago County, Minnesota and Polk County, Wisconsin. Tiller has indicated that the materials transported from the Zavoral site would replace the materials from Chisago County and Polk County. The following activities would occur at the Scandia Mine site:

- ❖ The aggregate material brought in from the Zavoral site (add-rock) would be blended with aggregate material mined at the Scandia Mine site or used in the production of hot mix asphalt.
- ❖ A portion of the aggregate material transported to the Scandia Mine site may be processed as needed through a series of crushers, screens, conveyors, wash decks, and classifiers to produce commercial grade construction aggregates.
- ❖ The finished construction aggregate products would be stockpiled at the Scandia Mine site until they are hauled off-site by trucks to various construction sites.

Water for processing activities at the Scandia Mine site would be drawn from the existing permitted production well on the site. Water collected in the sediment ponds from washing activities may also be recycled and re-used.

The Scandia Mine site operates under a Conditional Use Permit (CUP) and an Annual Operating Permit (AOP) approved by the City of Scandia. The processing activities listed above are included in the activities authorized by these permits.

The EAW's completed for the Scandia Mine site in 1987 and 1999 included analysis of potential impacts from mining and processing activities at that site, and the proposed reclamation plan for the site. The EIS for the Zavoral Mine site will include analysis of the potential additional impacts of any changes in the activities that will occur at the Scandia Mine site resulting from importing material from the Zavoral Mining and Reclamation Project. No other changes in the current mining operations or the reclamation plan are proposed at the Scandia Mine site as part of the Zavoral Mining and Reclamation Project.

Alternative #2--No-Build Alternative

The No-Build Alternative will be described in the EIS. The No-Build Alternative will address the potential impacts, outcomes, constraints, benefits and disadvantages, and economics if the existing land uses on the Zavoral and Scandia sites were to continue. The description will be based on the existing and allowed use of the site for Agricultural and Rural Residential purposes, and will make projections or forecasts based on this use, to identify the No-Build Alternative effects and impacts. The No-Build Alternative does not include the Reclamation Activities on previously mined areas that are included in Alternative #1.

Alternative #3—Mining and Reclamation Activities—Evaluate Reduced Time Frame for Mining Activities

This Alternative will focus on the impacts of the proposed activities if the overall time frame for mining at the Zavoral site is up to five years rather than up to ten years, as proposed in the Preferred Alternative.

Project Site with Reasonable Mitigation Measures

MEQB rules require consideration of mitigation measures identified through comments on the EAW. The EIS will consider all relevant mitigation measures suggested through public and agency comments and will recommend incorporation of reasonable mitigation measures into project design and permitting as warranted.

Deliverables

Alternative and related reclamation descriptions, tables, and graphics developed in sufficient detail to conduct impact analysis and the development of mitigation measures.

Task 7 - Environmental, Economic, and Sociological Impacts

Objectives

To develop a technically sound, unbiased, thorough, EIS that meets regulatory requirements, in a timely manner.

City of Scandia Interaction

- ❖ The AECOM Team will work with the City and utilize available project information to prepare the EIS. We have assumed that the City will facilitate data transfer from the proposer, provide a location for meetings, and provide review of deliverables.
- ❖ The AECOM Team will continue to update the data needs list to the City for the project.
- ❖ We have assumed that the City or Tiller Corporation will arrange for required access to the site and all potential impact areas, including access to nearby residential wells/springs if a pump test of the site well is conducted.
- ❖ Additional meetings, interaction, and the review of EIS section and other work products will be required as described in the following sections to obtain information and conduct analyses to produce a technically sound EIS, in a timely manner.

Procedures

The AECOM Team will collect (with City and Tiller Corporation assistance) and assess the data, conduct coordination, and complete analyses required to address the issues as specified in the Revised SDD and as described below.

Deliverables

EIS text, tables, graphics, and supporting documentation to describe and quantify identified impacts.

Task 7.1 - Land Use

This section will primarily pertain to the City of Scandia and St. Croix Wild and Scenic Riverway District. The EIS will address:

- ❖ Planning authority for the Zavoral site.
- ❖ Assess the impacts of each of the Zavoral site alternatives on the current and future land use in the areas that will be impacted by the project—primarily the City of Scandia and St. Croix Wild and Scenic Riverway District for the Zavoral site.

- ❖ A description of planned end use of the Zavoral site and an assessment of its compatibility with surrounding land uses and recreational goals.

Task 7.2 - Environmental Hazards

The AECOM Team will obtain information on the previous location of storage tanks and other potentially contaminated sites at or in the vicinity of the site from review of the Minnesota Pollution Control Agency (MPCA) "What's in My Backyard" website for the Zavoral site. We will review files related to any identified sites and coordinate with the MPCA regarding mining methods and mitigation in the vicinity of the site(s). We will identify potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines from existing databases.

Task 7.3 - Reclamation Plan

The AECOM Team will:

- ❖ Describe the reclamation plans for the Zavoral site under each alternative. The reclamation plan will include the detailed plans for grading, plant communities to be established on the site, phasing and timing of reclamation activities, planting schedules, habitat reconstruction and invasive species management, and monitoring and maintenance to ensure the success of reclamation efforts.
- ❖ Evaluate the compatibility of the Zavoral site alternatives with existing and future land uses, and the potential impacts of the reclamation plans on habitat areas and future land use in the area.
- ❖ Coordinate and consult with the Minnesota DNR, National Park Service, City of Scandia, and others to develop the Zavoral site reclamation plans. Consideration should be given to reclamation requirements for areas within the St. Croix River District, which may be different from those for site areas outside the District.

Task 7.4 - Economic Impacts

The AECOM Team will:

- ❖ Determine the area(s) and types of potential economic and social impacts of the proposed project.
- ❖ Quantify the social, economic, and environmental impacts of each Zavoral site alternative on the local community using existing information, including impacts to the following:
 - Local economy
 - Tourism (including impact to the St. Croix Riverway and City of Scandia)
 - Property values
 - Public services, such as police, fire, or other costs to city services
- ❖ Identify strategies that will be implemented to avoid, minimize, or mitigate for the potential impacts.
- ❖ Conduct and document coordination completed with the City, DNR, NPS, Washington County, and others to complete the analysis and identify mitigation strategies.
- ❖ Team member BRKW Appraisals will review available property value information and provide the evaluation of the potential impact of the project on property values within one-mile of the Zavoral site. The evaluation will include an analysis of the extent to which the project could deter desirable development, and the degradation of tax revenue potential to local units of government as a result of the project. The analysis would include documented experience with similar situations elsewhere as well as the documented professional judgment of BRKW Appraisals. The first step in the process will be to identify the types of properties within the one-mile radius. The next step will be to research sales of similar properties that are located away from and not influenced by a gravel mining operation in relation to sales of properties that are in close proximity to such an operation in order to measure the value impact resulting from the project. Given the current economic situation, where property values are already declining, it will be important to establish whether the impact on property values is due to mining operations or to other forces.

Task 7.5 - Cover Types

AECOM Team member NRC will review the report and mapping prepared by Tiller's consultant (Critical Connections Ecological Services) at the Zavoral site. NRC will also address site wetlands at a NEPA scale and determine the acreages of landcover types under current conditions. The area of the Zavoral site that would be disturbed by each alternative during operation and post-reclamation will be identified and evaluated. A site reconnaissance will be conducted to verify the landcover types at the Zavoral site.

The reconnaissance will be conducted concurrent with the reconnaissance described in Tasks 7.6 and 7.7 below.

Task 7.6 - Fish, Wildlife and Ecologically Sensitive Resources and Threatened and Endangered Species

Tiller's consultant (Critical Connections Ecological Services) has performed a biological evaluation of the site and a report detailing results of the field surveys is available. AECOM Team member NRC will:

- ❖ Review work conducted by Tiller's consultant. We have assumed that the survey of plants, animals, and land and water habitats provided will be sufficient for EIS preparation and agency coordination. We have included only a site reconnaissance for ground verification purposes as part of our review of the survey provided by Tiller's representative in our scope of work. We have also assumed that all report information, including maps and figures, will be provided in electronic format suitable for incorporation in the EIS with minimal modification.
- ❖ Determine the area of potential impacts of the Zavoral site alternatives on natural habitats and state-listed protected species.
- ❖ Complete a biological assessment based on the fieldwork conducted by Tiller's consultant. We have assumed that the biological assessment will include only state-listed threatened and endangered species for the Zavoral site and that a biological assessment for impacts to federally-listed species under Section 7 of the Endangered Species Act will not be required.
- ❖ Analyze the potential impacts of each of the alternatives on the sensitive resources (species and habitats) at the Zavoral site, and the reversibility of the potential impacts.
- ❖ Identify strategies that would be implemented to avoid, minimize, or mitigate potential impacts at the Zavoral site.
- ❖ Identify coordination completed with the DNR, U.S. Fish & Wildlife Service, and any other agencies to complete the biological assessment. This would likely include a Zavoral site review with agency staff.

Task 7.7 - Physical Impacts on Water Resources

The AECOM Team will address the following for each of the Zavoral site alternatives in the EIS:

- ❖ Identify and map the presence of all surface water resources in the Zavoral site project area and area of potential impact of each of the alternatives (rivers, streams, wetlands, lakes). The Draft EIS will include exhibits showing the location of these resources.
- ❖ Analyze the current quality and regulatory status of these resources, potential physical impacts of each of the alternatives on the resources, and the reversibility of the potential impacts.
- ❖ Identify mitigation strategies that will be implemented to address the potential impacts.
- ❖ Identify coordination completed with the Washington Conservation District (WCD), Carnelian-Marine St. Croix Watershed District (CMSCWD) or other agencies to complete the mapping, assessment and mitigation strategies.

Task 7.8 - Water Use

Tiller revised the proposed project activities in early December, 2009 to limit the use of water from the existing well to what is required for dust control at the Zavoral site. This would reduce the amount of groundwater use to a level below the threshold that requires a water appropriations permit from the Minnesota DNR. Tiller will use water from an existing permitted well at the Scandia Mine site if washing the material that will be transported from the Zavoral site to the Scandia Mine site is necessary. Past production of products that required washing at the Scandia Mine site has been very limited.

The AECOM team will evaluate the potential impact of proposed water use for each of the alternatives, as follows:

Zavoral Site

- ❖ Identify the quantity and sources(s) of water to be used for dust control activities based on input from Tiller and as developed as part of the alternative process.
 - This has been estimated for purposes of this proposal to be less than 1,000 gallons per day (gpd) for dust control at the site based on discussions with Tiller. For dust control purposes, water would be pumped from the Zavoral Site Well at 1,200 gpm rate for a few minutes a couple of times a day, or at a lesser rate for up to eight minutes.
- ❖ Quantify the potential water use under each of the alternatives, and diurnal or seasonal variation in water use.
- ❖ AECOM simulated lowering of water levels around the Zavoral Site Well during a 10-minute pumping at 1,200 gpm period (longer than the maximum anticipated length of pumping) using:
 - A numerical program PT1 presented by Walton (1989)
 - Zavoral Site Well construction diagram available from County Well Index (CWI), and
 - Estimates of hydraulic properties of aquifers penetrated by the Zavoral Site Well, based on available regional data (Runker et al., 2003)

The results of the simulation indicated that after 10 minutes of pumping from the Zavoral Site Well at a rate of 1,200 gpm, water levels may drop by 0.2 ft at a distance of 670 feet from the Well. No drawdown would be observed at a distance of 1,682 feet.

However, the results of this simulation are based on several assumptions. Therefore, AECOM proposes to carry out a simple, 10-minute long pump test. Water levels would be monitored in the two closest wells available for access and one surface water site (Zavoral Creek at the culvert). Water level measurements during pump test will provide a direct evidence of the effect of pumping from the Zavoral Site Well upon surrounding environment.

Water level measurements during pump test will provide a direct evidence of the effect of pumping from the Zavoral Site Well upon surrounding environment. Thus, a 10-minute pump test is proposed to address:

- The potential for Zavoral site water use to impact groundwater resources, groundwater-dependent resources and local wells in the project area.
- The potential impacts of project-related water use on groundwater-dependent resources such as bluff springs, Zavoral Creek (trout stream), as seepage swamps and any unique water-dependent ecosystems, under each of the alternatives.

The two wells proposed for inclusion in the 10-minute pumping test monitoring network:

- Zavoral cabin well located about 1,300 ft east of the Zavoral Site Well.
- TRAIL'S END BAR & GRILL 1 (Minnesota Unique Number 00263147), located about 1,700 ft west of the Zavoral Site Well.

Water levels will not be monitored in the Zavoral Site Well itself because the well does not have access for water level monitoring equipment when the pump is in place. The drawdown in the Zavoral Site Well is not required to address potential impacts to area wells and groundwater-dependent surface water resources.

Our cost proposal assumes that Tiller will be responsible for providing a generator and pumping the water from the well.

Scandia Mine Site

Identify and evaluate the potential for any changes in water use at the Scandia Mine site due to the import of material from the Zavoral site and determine if water use at the Scandia Mine site will remain consistent with levels evaluated in the 1987 and 1999 EAW's for the site and current water appropriation

permit. If potential changes are identified, EDAW/AECOM will work with the City of Scandia to amend this Scope of Work to address any related impacts.

Task 7.9 – Water-Related Land Use Management Districts

The AECOM Team will conduct the following for the Zavoral site alternatives:

- ❖ Identify potential adverse effects of Zavoral site activities on the natural, cultural, and recreational values of the Riverway. Potential adverse effects may include impact to the use, purpose, and values of the Riverway District, alteration of the setting, or deterioration of water quality.
- ❖ Consult with the NPS regarding impact analysis and identification of strategies at the Zavoral site to avoid, minimize, and mitigate impacts. This will include an agency site review as described in Task 2.2.
- ❖ Identify measures that will be used at the Zavoral site to avoid, minimize, or mitigate impacts.

Task 7.10 - Erosion and Sedimentation

The AECOM Team will conduct the following for the Zavoral site alternatives:

- ❖ Identify the area of potential impacts of erosion and sedimentation from the Zavoral site under each of the alternatives.
- ❖ Analyze the potential impacts of erosion and sedimentation on each of the resources within the Zavoral site project area and area of potential impact related to the Zavoral site under each of the alternatives, particularly including potential impacts to high quality and unique resources, such as to the St. Croix River, Zavoral Creek, and other streams on the site, seeps, wetlands and aquatic habitats.
- ❖ Identify specific measures that will be implemented at the Zavoral site to avoid, minimize or mitigate for the identified impacts.

Task 7.11 - Surface Water Quality and Quantity

Zavoral Site

The AECOM Team will:

- ❖ Identify and map the groundwater resources and groundwater-dependent resources (springs, wetlands and creeks) within the Zavoral site project area and area(s) of potential impacts.
- ❖ Identify surface waters that would receive runoff from the Zavoral site and the quality of those waters based on existing information.
- ❖ Based on information to be supplied by Tiller, describe proposed surface water controls and practices to be implemented at the Zavoral site.
- ❖ Assess the potential impacts of runoff to surface and groundwater quantity and quality during construction, operation, and post-project.
- ❖ Quantify the expected runoff from the site and impacts on the quality of receiving waters under each of the Zavoral site alternatives, including impacts of pollutants such as phosphorus, Total Suspended Solids (TSS), heavy metals, polycyclic aromatic hydrocarbons (PAH's), volatile organic compounds (VOC's) and temperature
- ❖ Identify potential impacts to waters of Special Concern, including the St. Croix River and Zavoral Creek.

Scandia Mine Site

Review historic operational data for the Scandia Mine site to determine if there is the potential for additional impacts to occur at the Scandia Mine site as a result of importing material from the Zavoral site, including areas of disturbance and impacts to downstream water resources. If the potential for additional impacts is identified, EDAW/AECOM will work with the City of Scandia to amend this Scope of Work to address related impacts.

Task 7.12 - Geologic Hazards and Soil Conditions

AECOM will review the mining proposal by Tiller Corporation to identify potential geologic hazards or soil conditions. It should be noted that washing will not occur at the Zavoral site under the Revised SDD and, as a result, no settlement ponds will be constructed at the Zavoral site.

Task 7.13 - Solid Waste, Hazardous Waste, Storage Tanks

Based on the information and analysis completed for Task 7.12 Geologic Hazards and Soil Conditions, the AECOM Team will:

- ❖ Identify potential impacts from toxic waste, hazardous waste, or storage tanks at the site on surface water resources, groundwater resources, groundwater-dependent resources, or local wells under the Zavoral site alternatives.
- ❖ Identify strategies that would be implemented to monitor groundwater resources and avoid, minimize, or mitigate for potential impacts on surface water resources, groundwater resources, groundwater dependent resources the Zavoral site.

Task 7.14 - Traffic

The traffic evaluation task includes analysis of existing and alternative traffic operations impacts to the key roadway network serving the Zavoral site and the Scandia Mine site. The study area is bounded by Manning Trail, 228th Street, Trunk Highway (TH) 95, and TH 97. The roadway links to be evaluated in the study area include: TH 97, TH 95, Manning Avenue, Lofton Avenue, and Olinda Trail.

The following tasks will be completed based on available data from State, County, and City sources:

Data Collection

- ❖ A site review will be completed of the study area.
- ❖ Traffic counts (link volumes) will be obtained from the following sources:
 - AADT data from Mn/DOT and/or Washington County
 - Peak hour volumes (if available)
 - Existing truck counts from Mn/DOT, Washington County, and Tiller
 - Planned truck counts from Tiller for Zavoral site Alternatives.
 - Planned employment or service data for the site (impact of additional vehicles).
- ❖ Roadway data: lane configurations, speed limits, traffic control devices, bicycle and pedestrian facilities, and other features.
- ❖ Crash Data for the three most recent years available from Mn/DOT, Washington County, or Scandia (as available).

Traffic Analysis

Traffic analysis for key roadway links will be completed for AADT and peak hour data to determine the operation of the key roadway links (level of service and volume to capacity evaluation).

Alternative 1 – Preferred Alternative

- ❖ Aggregate from the Zavoral site will be transported to the Scandia site. The routing from TH 95 to TH 97 to Manning and these links will be evaluated.
- ❖ The site will be operating up to 10 years. Tiller will provide the projected daily and peak hour truck volumes under this mining plan. These volumes will be developed along with changes in background traffic.
- ❖ The impacts to the area traffic generated by recreation areas will be evaluated.
- ❖ The impacts to existing and planned bicycle and pedestrian facilities will be evaluated.
- ❖ Tiller plans to use material from the Zavoral site to replace material transported to Scandia from other locations north and east. The number of trucks and general location will be obtained from Tiller to evaluate these impacts.

Alternative 2 – No Build Alternative (existing land uses)

- ❖ The existing traffic conditions will be evaluated under the no build alternative. This will include the current traffic at the Scandia site.

Alternative 3 – Mining and Reclamation- Evaluate Reduced Time Frame for Mining Activities

- ❖ Aggregate from the Zavoral site will be transported to the Scandia site. The routing from TH 95 to TH 97 to Manning and these links will be evaluated.
- ❖ The mining operation will be accelerated and the site will be operating a maximum of five years. Tiller will provide the projected daily and peak hour truck volumes under this mining plan. These volumes will be developed along with changes in background traffic.
- ❖ The impacts to the area recreational traffic will be evaluated.
- ❖ The impacts to existing and planned bicycle and pedestrian facilities will be evaluated.

Traffic analysis will be summarized in figures and/or tables for inclusion into the EIS documentation. A draft will be prepared for review by the agencies and comments incorporated into the final EIS documentation.

Safety Evaluation

The crash data collected for the key roadways in the study area will be evaluated and summarized for the three most previous years available. This will include both link and intersection data as available.

The City has requested evaluating additional safety issues on key routes. The study will evaluate sight lines and stopping sight distances at the Zavoral site (TH 95 and TH 97) and the Scandia site (Manning Avenue and Lofton Avenue). This evaluation will be prepared based on available GIS data to evaluate plan and profile in these areas.

The City has also stated that in the event the preferred alternative severs an existing route, the EIS will evaluate any reasonable alternative. This is not currently anticipated, but will be evaluated if needed.

Mitigation Measures

The traffic and safety analysis will result in recommendations to be included in the EIS. If needed, mitigation measures will be recommended for each alternative evaluated.

Task 7.15 - Stationary Source Air Emissions and Dust

Potential environmental impacts from stationary sources and fugitive emissions (dust) are interrelated. The analysis of these sources must be considered together to properly assess discrete and cumulative impacts. Therefore, the AECOM Team proposes to address both Stationary Emission Sources and Dust as a single topic within the EIS. The AECOM Team understands that the project and subsequent reclamation will include the following air pollutant emitting activities:

Zavoral Site

- ❖ Stripping of vegetation and overburden and stockpiling the material on site
- ❖ Extraction of aggregate using front end loaders
- ❖ Transporting the aggregate to the Scandia Mine Site
- ❖ Reclamation activities, including grading, placing topsoil, and seeding.

These activities will generate airborne concentrations of fugitive dust, and to a much lesser degree, particulate from combustion that can be transported off site and deposited onto nearby land, vegetation, rivers and lakes.

The AECOM Team will:

Zavoral Site

- ❖ Prepare potential to emit (PTE) calculations for both point and fugitive emission sources for particulate matter (TSP), inhalable particulate matter (PM10), and fine particulate matter (PM2.5). AECOM will use the PTE to complete a project ambient air quality analysis and deposition analysis.
- ❖ Simulate the atmospheric transport processes (dispersion and deposition) using the USEPA Guideline model AERMOD to calculate ambient concentrations of total suspended particulate (TSP), inhalable particulate (PM10) and fine particulate (PM2.5). The process of deposition to the earth's

surfaces will also be simulated with AERMOD. These include dry deposition due to gravitational settling and surface impaction due to turbulent air flow near surface elements as well as wet deposition due to wash-out by precipitation. To ensure defensibility of model predicted results, all modeling will be conducted according to approved USEPA methodologies presented in the Guideline on Air Quality Models (40 CFR Part 51 Appendix W), and in accordance with MPCA Modeling Guidance posted at <http://www.pca.state.mn.us/air/modeling.html#guidance>.

- ❖ Model total PM, PM₁₀, and PM_{2.5} emissions from the aggregate operations and reclamation activities. Modeling will be performed for the preferred Alternative # 1 and for Alternative # 4 (Task 6).
- ❖ Model results for ambient particulate concentration will be processed in order to calculate appropriate statistics for comparison with the 24-hour and annual average ambient standards. The model will also calculate 24-hour and annual deposition of particulate for input to an ecological assessment (see below).
- ❖ Model results for PM₁₀ along with appropriate citations from refereed literature will be used to address the siliotic effects from ambient exposures to fugitive dust from the proposed operations. A recent air quality issue with respect to particulate is the fraction of crystalline silica in the particulate. The major concern regarding silica exposure has been the issue of silicosis, a disease of the lungs caused by chronic exposure to relatively high airborne concentrations of crystalline silica.
- ❖ Quantify non-stationary dust that will be generated from the Zavoral site operations, such as truck traffic.
- ❖ Analyze impacts of dust pollution on surrounding areas and resources, including the St. Croix River.

The AECOM Team will utilize USEPA screening techniques to evaluate the potential for ecosystem impacts in downwind areas, especially in the St. Croix Riverway and scenic easement areas. The following types of effects will be evaluated:

Deposition to Land

- ❖ Direct physical effects on leaf surfaces, e.g., reducing photosynthesis.

Deposition to Water

- ❖ Physical effects including light interruption, smothering of organisms, coverage of sites used for germination, feeding, spawning, and other activities;
- ❖ Biotic effects include direct mortality, reduced fecundity, reduced disease resistance, and inhibited feeding, growth, and reproduction.

Scandia Mine Site

Review historic operational data for the Scandia Mine site to determine if the proposed operation is consistent with currently permitted operations. Also, identify and evaluate the potential for additional dust impacts at the Scandia Mine site due to the import of aggregate material from the Zavoral site to the Scandia Mine site. If it is determined that the project is not consistent with currently permitted operations or if additional dust impacts would occur, EDAW/AECOM will work with the City of Scandia to amend this Scope of Work to address any related impacts.

Task 7.16 - Odors, Noise and Dust

We understand that Tiller has conducted a noise study. The summary indicated that a noise analysis and model have been prepared, a noise study has been largely completed (pending summer noise background monitoring), and noise impacts will be at (within one or two db) or below Minnesota standards.

The AECOM Team member SBP will:

- ❖ Review available project information, including Tiller's noise study to confirm that the study was completed in accordance with current state of the practice methods and procedures, and gain an understanding of the projected impacts.
- ❖ Identify additional information needs to complete the EIS assessment.

- ❖ Visit the Zavoral site to verify sensitive receptor locations, existing potential mitigation structures and gain an understanding of the potential impacts.
- ❖ Use the information from Tiller's noise study for the Zavoral site to evaluate the impacts at the Zavoral site and how they may vary on a seasonal basis given variations in the activities themselves and variations in ground cover and vegetation.
- ❖ Prepare the noise chapter of the EIS based on the information contained in the proposer's noise study for the Zavoral site. This proposal assumes no additional monitoring or modeling will be required to prepare the EIS section.

Zavoral Site:

For each of the Zavoral site alternatives, AECOM team member SBP will:

- ❖ Describe the noise sensitive areas and habitats (both land-based and river-based receptors, such as residences, parks, recreation areas such as the St. Croix River, Wisconsin bluff areas, and sensitive wildlife habitats) for the Zavoral site, including information on the number and types of activities that may be affected.
- ❖ Quantify the current ambient noise levels near the Zavoral site in the noise-sensitive areas identified above: on the St. Croix River (where use by recreationists is expected); at the National Park Service primitive camp sites along the Riverway; on adjacent residential properties; on the recreational trails paralleling TH 95 and TH 97.
- ❖ Develop a model that will predict future noise levels near the Zavoral site and account for site-specific conditions such as topography, truck traffic, and operating hours.
- ❖ Quantify the extent of the impact (in decibels) in each sensitive area identified above, under each of the alternatives, including noise from mining activities, and truck traffic at the Zavoral site.
- ❖ Analyze expected noise under each of the Zavoral site alternatives based on noise standards for each land use.

Scandia Mine Site:

Identify and evaluate the potential for additional noise impacts to occur due to the import of aggregate material from the Zavoral Mine site to the Scandia Mine site. If the potential for additional impacts is identified, EDAA/AECOM will work with the City of Scandia to amend this Scope of Work to address any related impacts.

Dust – See Task 7.15.

Task 7.17 - Visual Impacts

We understand that Tiller will have conducted a viewshed analysis of the project area from the river. The initial phase of the analysis included a plan view terrain model of the topography of the area to determine potential areas where views could be impacted during the project. The second phase of the analysis consisted of collecting views of the site during leaf off conditions. Photographs were taken at known positions using GPS equipment along TH 95 and TH 97, Quarry Avenue North and along the St. Croix River by boat during leaf-off conditions. These photographs are hyperlinked to a base map and by clicking along points, the associated photograph for that location appears. A proposed third phase of the viewshed analysis will gather photographs from the same locations during leaf-on conditions.

We also understand that Tiller has prepared a plan view terrain model that shows the locations where the facility may be visible from off-site. The plan view terrain model indicated that the entrance to the facility, under the planned access improvements, would allow a view into the facility at the site entrance from eastbound TH 97. Revisions are underway on the design of the entrance of the facility to minimize and screen the potential views into the facility from eastbound traffic on TH 97. Revised design will be ready for analysis in the EIS. It should be noted that under the Revised Scope, there will not be stockpiling of material or processing equipment at the Zavoral site.

Zavoral Site

The AECOM Team will:

- ❖ Verify key view areas identified for the Zavoral site by Tiller are adequate for EIS analysis and show key view areas on a map. Key view areas are likely to include neighboring residences, the St. Croix River, nearby bluff areas in Wisconsin, and TH 95 and TH 97.
- ❖ Develop a model in GIS or other software such as 3D Studio Max that models site-specific conditions for the Zavoral site, such as topography, vegetation, seasonal conditions, proposed lighting, and any other features at the Zavoral site
- ❖ Accurately represent the views of the Zavoral site from key view areas through drawings, photographs, or other imaging methods that clearly show the views of the site so that they may be easily understood by reviewing agencies and the public. Photographic simulations and 3D visualizations will be developed from identified key view areas that simulate proposed project conditions. We will utilize a GIS-based approach to producing these simulations, incorporating GPS locations and GIS data to ensure the accuracy of spatial relationships in the virtual environment. We assume that the photographs taken by Tiller and key view locations are adequate for this EIS.
- ❖ Complete a written analysis describing the visual impacts of the Zavoral site
- ❖ Identify the strategies to avoid, minimize, or mitigate visual impacts at the Zavoral site to key viewing areas.

Scandia Mine Site

Identify and evaluate the potential for additional visual impacts at the Scandia Mine site due to the import of material from the Zavoral site to the Scandia Mine site. If the potential for additional impacts is identified, EDAW/AECOM will work with the City of Scandia to amend this Scope of Work to address any related impacts.

Task 7:18 - Compatibility with Plans and Land Use Regulations

The EIS will analyze the relationship of the mining at the Zavoral site to the water resource plans of the Carnelian-Marine Watershed District and the St. Croix Riverway Management Plan (2002).

Task 7.19 - Cumulative Impacts

Cumulative impacts are defined as the impact on the environment that results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. Our understanding is that there is very little development planned for the area. We will hold a meeting with the City of Scandia, including staff to develop the framework for addressing cumulative impacts and refine scope as necessary to address the potential implications of Citizens Advocating Responsible Development (CARD) v. Kandiyohi County, 713 N.W.2d 817 (Minn. 2006). Our current scope includes addressing the cumulative impacts of:

- ❖ Gravel mining operations or other development in the vicinity that would affect water use, traffic levels, noise, vegetation removal, or air quality.
- ❖ Future development that could affect area traffic levels.
- ❖ Other actions occurring within the St. Croix River District or vicinity or in the project vicinity, particularly those that would affect natural resources, groundwater, or surface water resources.

Task 8 - Mitigation Measures

Objectives

To identify and incorporate measures that could avoid, minimize, or mitigate impacts of the proposed project and alternatives.

City of Scandia Interaction

Assistance in the identification, review, and selection of potential mitigation measures.

Procedures

The AECOM Team will identify the measures that could eliminate or mitigate for the adverse impacts of the project, as identified in the analyses completed for Task 7 and through public and agency input.

Deliverables

Text, tables, and graphics for the EIS describing mitigation measures.

EIS DELIVERY TASKS

Objectives

To prepare, distribute, address comments, and participate in meetings to facilitate an effective, objective, and transparent environmental review process.

City of Scandia Interaction

- ❖ Review of documents in a timely manner and compilation of internal comments in order for the AECOM Team to address in revising the draft EIS.
- ❖ The City shall be responsible for paying for the meeting location, audiovisual equipment, and recording or hiring a court reporter to transcribe the meeting.

Procedures

Task 9 - Preparation of a Draft EIS

The AECOM Team will prepare a draft EIS for the City's review and approval. The draft EIS will be completed to satisfy MEPA requirements and will be written in a concise, accurate and thorough manner and use language understandable by the public. The draft EIS will analyze the environmental impacts for the mining alternatives and reclamation. The draft EIS will also address mitigation measures that may be taken as a result of sand and gravel mining. The AECOM Team will submit draft chapters in electronic format as they are completed for the City's review. Any technical data used to support the discussion in any chapter will be attached as an appendix or referenced.

Task 10 - Public Meeting, Draft EIS

AECOM will provide information and help develop presentation materials for a public meeting to discuss and receive public comment on the draft EIS. The public meeting will be held not less than 15 days after publication of notice of availability of the draft EIS. The AECOM Team and any subcontracted consultants who are knowledgeable about the contents and preparation of the draft EIS will be made available to attend, present material, and answer questions at the meeting.

Task 11– Response to Public Comments

The AECOM Team, in cooperation with the City, will compile, catalogue, review, and prepare draft responses to timely oral and written public and agency comments on the draft EIS.

Task 12- Final EIS

Based upon comments received, The AECOM Team will prepare and submit to the City for review a Final EIS/Response to Comments that complies with MEPA and Minn. Rule 4410, particularly part 4410.2700.

Task 13 – EIS Adequacy Hearing

The AECOM Team will attend and participate in the Final EIS adequacy determination hearing before the Scandia City Council. If the EIS is determined to be inadequate, we will work with the City to prepare an adequate EIS during the 60 days allowed under Minn. Rules. If required, we will work with the City to develop a scope and cost for any related investigations and evaluations that were not in this scope of work.

Deliverables

- ❖ Preliminary draft EIS sections in electronic format for review by City staff and their designees as they become available.
- ❖ Revisions to the preliminary draft EIS as needed to respond to City staff and designee comments
- ❖ A PowerPoint slideshow, to be approved by City of Scandia staff, for presentation at the City of Scandia Final EIS adequacy meeting.
- ❖ Distribution of the draft EIS as required by Minn. Rules 4100.2600, submit the required notice to the EQB for publication in the EQB Monitor, and complete a press release for distribution to local newspapers. AECOM will provide twelve (12) paper copies and one electronic copy of the Draft EIS to the City of Scandia.
- ❖ A PowerPoint slideshow, or other presentation format, to be developed with and approved by City, for presentation at the required draft EIS public meeting

Appendix A

- ❖ Up to 10 graphic on boards prepared from figures included in the EIS for use at the public meeting
- ❖ A comment form (up to 150 copies), up to three page fact sheet (up to 150 copies), and sign-in forms.
- ❖ A preliminary draft Final EIS/Response to Comments document in electronic format for review by City of Scandia staff and their designees.
- ❖ Revisions to the preliminary draft Final EIS/Response to Comments document as needed to respond to public comments on the draft EIS.
- ❖ Distribution of the final EIS as required by Minn. Rules 4100.2600, submit the required notice to the EQB for publication in the EQB Monitor, and complete a press release for distribution to local newspapers. AECOM will provide twelve (12) paper copies and one electronic copy of the Draft EIS to the City of Scandia.

Zavoral Mining and Reclamation EIS Project Schedule

| | |
|------------------|---|
| March 23, 2009 | Record of Decision and Positive Declaration for EIS for Zavoral Mine and Reclamation Project published in EQB Monitor |
| April 7, 2009 | Public Scoping Meeting |
| April 21, 2009 | Final Scoping Decision |
| Sept 7, 2009 | Notice of Intent to Prepare the EIS published in EQB Monitor |
| January 6, 2010 | Revised Scoping Decision Document |
| January 11, 2010 | Revised Notice of Intent to Prepare the EIS published in EQB Monitor |
| Mar-July 2010 | Draft EIS Preparation |
| Aug-Sept 2010 | Draft EIS Distribution, Comment Period, and Public Meeting |
| Sept-Oct 2010 | Final EIS Preparation |
| November 2010 | Final EIS Adequacy Determination |

**Environmental Impact Statement
City of Scandia, Minnesota
Zavoral Property Mining and Reclamation Project
Cost and Fees**

APPENDIX B

| Description of Service/Deliverable | Total Hours | Total Labor Cost |
|--|--------------------|-------------------------|
| Project Management and Communications | | |
| 1.0 - Project Management | 104 | \$ 19,740 |
| 2.0 - Internal and External Communications | 332 | \$ 56,560 |
| Project Management and Communications Totals | 436 | \$ 76,300 |
| EIS Preparation Tasks | | |
| 3.0 - Cover Sheet | 0 | \$ - |
| 4.0 - Project Summary, Table of Contents, List of Preparers, and Project Description | 4 | \$ 710 |
| 5.0 - Permits and Approvals | 8 | \$ 1,420 |
| 6.0 - Description of Proposed Alternatives | 28 | \$ 5,480 |
| 7.0 - Environmental, Economic, and Sociological Impacts | 1,390 | \$ 165,172 |
| 8.0 - Mitigation Measures | 56 | \$ 9,290 |
| 9.0 - Preparation of a Draft EIS | 108 | \$ 16,620 |
| 10.0 - Public Meeting, Draft EIS | 62 | \$ 9,900 |
| 11.0 - Response to Public Comments | 72 | \$ 10,770 |
| 12.0 - Final EIS | 48 | \$ 6,540 |
| 13.0 - EIS Adequacy Hearing | 38 | \$ 5,970 |
| EIS Preparation Tasks Totals | 1,814 | \$ 231,872 |
| Total Labor Hours/Cost | 2,250 | \$ 308,172 |
| Total Other Direct Costs | | \$ 10,222 |
| <i>Includes driller cost (\$1,500) to conduct the pump test (See Work Plan- Task 7.8).</i> | | |
| Total Project Hours/Costs | 2,250 | \$318,394 |

Notes:

Detailed listings of team members, titles, and project roles are shown on the following estimate detail sheets.