



Request for Council Action

SUBJECT: **Resolution Ordering Feasibility Study for the Proposed 2025 Pavement Management Initiative (PMI) Projects**

MEETING DATE: November 13, 2023

ITEM TYPE: Consent Agenda

CONTACT: Paul Merchlewicz, City Engineer, 651.450.2572

ACTION REQUESTED

The Council is asked to adopt the attached Resolution, ordering a Feasibility Study for three projects in the 2025 Pavement Management Initiative, including the Barbara Avenue and 46th Street Area, 50th Street Area (Babcock Trail to TH 3), and 102nd Street and Akron Avenue Area.

BACKGROUND

The project areas proposed for the 2025 Pavement Management Initiative (PMI) were originally identified as part of the 2023-2027 Public Works Capital Improvement Plan (CIP), and have carried over to the 2024-2028 Capital Improvement Plan. All project areas were identified for construction in 2025. These projects, as listed in the chart below, are graphically represented on the attached exhibit.

Project No.	Improvements
2025-09D	Barbara Avenue and 46th Street Area
2025-09E	50th Street Area (Babcock Trail to TH 3)
2025-09F	102nd Street and Akron Avenue Area

A draft Scope of Services was issued to three consultants listed in the Municipal Engineering focus area of the City's Professional Engineering Consulting Services Pool. The work scope identified includes project management; project understanding; feasibility analysis and report; preliminary hydraulic design and stormwater design; roadway analysis; utility coordination; right of way, easement, and permitting evaluation; project surveying; and geotechnical investigation and analysis. The referenced feasibility work includes all projects in the 2025 PMI program to be studied as part of a combined project effort.

All three consultants returned proposals for the work requested. Staff evaluated proposals based on cost and responsiveness and are recommending a project contract be awarded to WSB, Inc. in the amount of \$129,127. WSB will prepare a feasibility study for the project to determine the most feasible pavement rehabilitation method, drainage and utility improvements, project costs, and funding. WSB's full proposal is available for viewing at the Engineering Division.

In addition to the amount submitted by WSB, staff are recommending including a contingency value

of \$15,000 to account for potential additional work necessary to ensure project scope and feasibility has been explored sufficiently in the reconstruction areas.

FISCAL IMPACT

The proposed feasibility study costs are to be funded through the Pavement Management – Local Street Fund (Fund 440), special assessments, Water Capital Fund (Fund 511), Sewer Capital Fund (Fund 521), and Stormwater Capital Fund (Fund 531). The total cost for this effort is \$144,127.00.

RECOMMENDATION

Staff recommends approval of the attached Resolution, ordering the feasibility study and accepting the engineering services proposal from WSB, plus contingency, for the 2025 PMI project areas.

ATTACHMENTS

1. Resolution - Order Feasibility and Engineering Services - 2025 PMI Projects
2. 2025 PMI Map of Project Locations
3. Contract - 2025 PMI Feasibility_WSB

**CITY OF INVER GROVE HEIGHTS
DAKOTA COUNTY, MINNESOTA**

RESOLUTION NO. _____

**RESOLUTION ORDERING FEASIBILITY STUDY, ACCEPTING ENGINEERING SERVICES
PROPOSAL FROM WSB, INC., AND AUTHORIZING PRELIMINARY ENGINEERING FOR 2025
PAVEMENT MANAGEMENT INITIATIVE PROJECTS**

WHEREAS, it is proposed to make improvements and to assess or tax the benefited properties for all or a portion of the cost of said improvement, pursuant to Minnesota Statutes, Section 429.111 to 429.111 (Laws 1953, Chapter 398, as amended) and Section 103B.201 and 103B.251 as follows:

<u>Project No.</u>	<u>Improvements</u>
2025-09D	Barbara Avenue and 46th Street Area
2025-09E	50th Street and Ashley Lane Area (Babcock Trail to TH 3)
2025-09F	102nd Street and Akron Avenue Area

WHEREAS, the project areas referenced above have been reviewed through the Public Works Capital Improvement Plan (CIP) process, and are recommended by City staff to be included in the 2025 Pavement Management Initiative; and

WHEREAS, the City has provided a scope of work, and requested and received an engineering services proposal from WSB, Inc. in the amount of \$129,127.00 to perform services necessary to complete a feasibility study for the 2025 Pavement Management Initiative.

**NOW THEREFORE, BE IT RESOLVED BY THE INVER GROVE HEIGHTS CITY COUNCIL
THAT:**

1. The 2025 Pavement Management Initiative projects are hereby initiated.
2. The proposal from WSB, Inc. dated October 31, 2023, in the amount of \$129,127.00 is hereby accepted.
3. The City Engineer and Engineering Division staff, in coordination with WSB, Inc. are hereby authorized to prepare the feasibility report, conduct geotechnical investigations, and complete related professional engineering services on the proposed 2025 Pavement Management Initiative improvements.
4. As part of the final design fee for the project, the City Engineer is authorized to direct the use of contingency funds up to \$15,000 for changes in scope that may occur through the final design efforts.
5. The City Attorney is hereby authorized to assist the City Engineer on this project as needed.
6. Project funding is provided through the Pavement Management – Local Street Fund (Fund 440), special assessments, Water Capital Fund (Fund 511), Sewer Capital Fund (Fund 521), and Stormwater Capital Fund (Fund 531).
7. The Mayor and City Clerk are authorized to enter a Work Order contract for the scope of work included by reference as part of the current Master Professional Services Agreement with WSB, Inc.

Approved by the City Council of the City of Inver Grove Heights, Minnesota this 13 day of November 2023.

Brenda Dietrich, Mayor

ATTEST:

Rebecca Kiernan, City Clerk



City of Inver Grove Heights

Pavement Management Initiative
2025 Projects

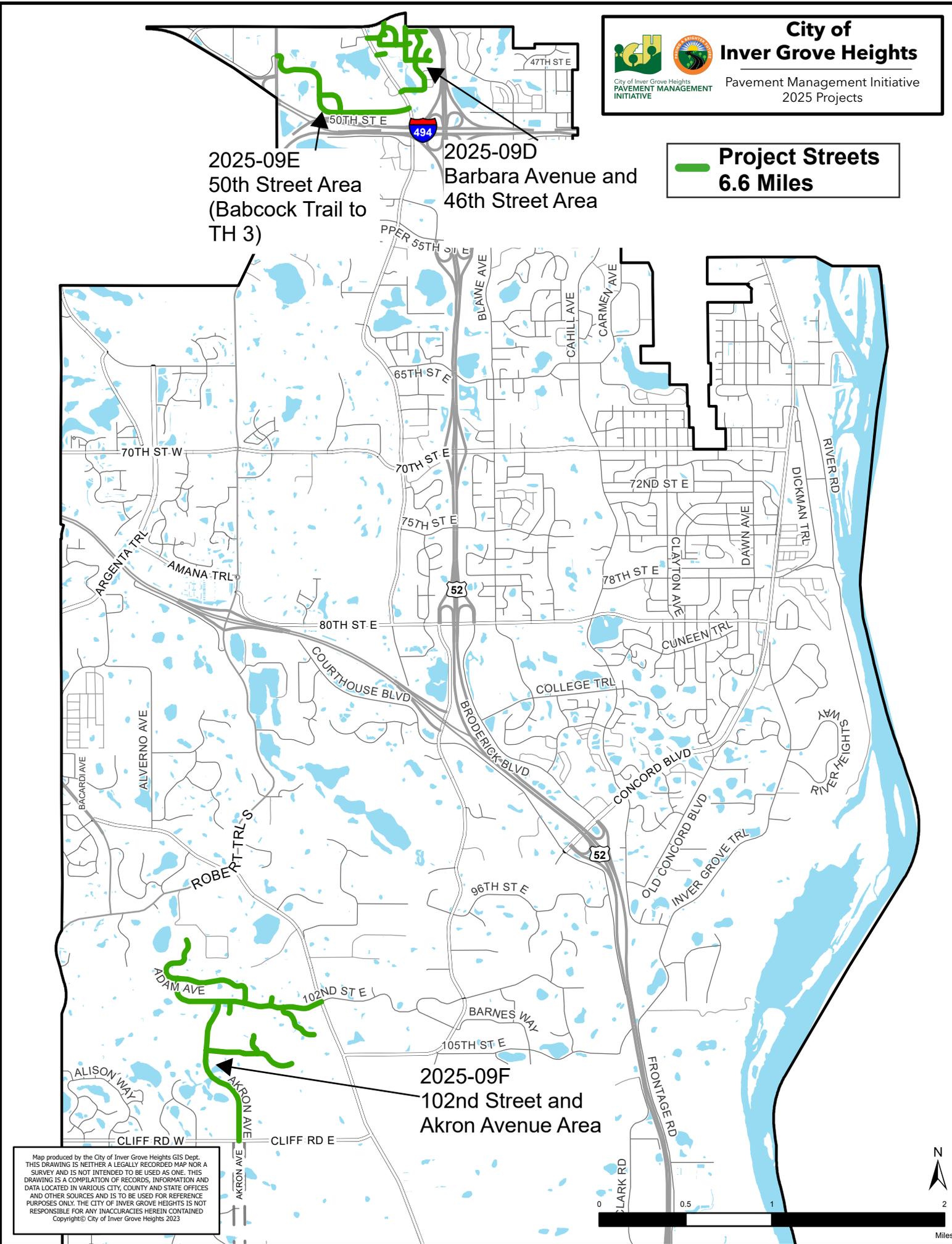
Project Streets
6.6 Miles

2025-09E
50th Street Area
(Babcock Trail to
TH 3)

2025-09D
Barbara Avenue and
46th Street Area

2025-09F
102nd Street and
Akron Avenue Area

Map produced by the City of Inver Grove Heights GIS Dept.
THIS DRAWING IS NEITHER A LEGALLY RECORDED MAP NOR A
SURVEY AND IS NOT INTENDED TO BE USED AS ONE. THIS
DRAWING IS A COMPILATION OF RECORDS, INFORMATION AND
DATA LOCATED IN VARIOUS CITY, COUNTY AND STATE OFFICES
AND OTHER SOURCES AND IS TO BE USED FOR REFERENCE
PURPOSES ONLY. THE CITY OF INVER GROVE HEIGHTS IS NOT
RESPONSIBLE FOR ANY INACCURACIES HEREIN CONTAINED
Copyright © City of Inver Grove Heights 2023





October 31, 2023

Paul Merchlewicz
City Engineer
Inver Grove Heights
8150 Barbara Avenue
Inver Grove Heights, MN 55077

Re: Proposal - 2025 Pavement Management Initiative Feasibility Study
City Project No.2025-09D, 2025-09E,2025-09F

Dear Paul:

On behalf of WSB, thank you for this opportunity to submit our qualifications for the project referenced above.

As requested, the attached proposal outlines the scope of services, assumptions, and the associated engineering fees necessary to complete the 2025 Pavement Management Initiative Feasibility Study.

We look forward to working with you on this project. If you agree with this proposal, please sign where indicated and return one copy to our office. WSB will start work upon receipt of a signed contract. Please do not hesitate to contact me at 612.214.7053 with any questions.

Sincerely,

WSB

Brad Reifsteck
Sr Project Engineer

Attachments

2025 Pavement Management Initiative Feasibility Study

Project Identification: This project involves developing a feasibility study for the 2025 Pavement Management Initiative and as part of the City’s Capital Improvement program. The following roadways are to be included in the feasibility study:

Location	Expected Approach
Barbara Avenue and 46th Street Area.....	Recon/Full Depth Reclaim
50th Street and Ashley Lane Area (Babcock Trail to TH 3).....	Full Depth Reclaim
102nd Street and Akron Avenue Area.....	Mill and Overlay

This written authorization to proceed and work order contract (work order contract) is between the City of Inver Grove Heights (City) and **WSB, Inc.**, a Corporation, Address: **701 Xenia Avenue South, Suite 300, Minneapolis, MN 55416** (“Contractor”). This work order contract is issued under the authority of the City of Inver Grove Heights Master Professional Services Agreement between the City and Contractor (“Master Services Agreement”) and is subject to all applicable provisions of the Master Services Agreement, which is incorporated herein by reference.

Recitals

1. The Contractor will furnish all products and perform all services defined in Article 2 of this Work Order Contract, Scope of Work and Deliverables, below.
2. The City needs a Contractor to provide professional services in the preparation of feasibility report(s) for the 2025 Pavement Management Initiative. Final design and bidding services will be under a separate contract.

Work Order Contract

1. Term of Contract; Survival of Terms; Incorporation of Exhibits:

1.1. Effective Date:

This work order contract will be effective on the date that all required signatures are obtained by City. The Contractor must not begin work under this work order contract until ALL required signatures have been obtained and Contractor has been notified in writing to begin such work by City’s Authorized Representative.

1.2. Expiration Date:

This work order contract will expire on **December 31, 2024**, or when all obligations have been satisfactorily fulfilled, whichever occurs first.

1.3. Exhibits:

Exhibits A through Exhibit C are attached and incorporated into this work order contract.

Exhibit A = Specifications, Duties, and Scope of Work

Exhibit B = Progress Report Form

Exhibit C = Project Location Maps

2. Scope of Work and Deliverables:

- 2.1.** The Contractor, who is not a city employee, will provide the following services under this work order contract: complete the tasks listed in **Exhibit A**. The Contractor's assumptions for the work required to deliver the identified scope are included as part of this Contract **Attachment 1**. The Contractor's assumptions or estimate of work will not supersede or take precedence over the requirements to deliver the specific scope items listed in this contract.
- 2.2.** Deliverables are defined as the work product created or supplied by the Contractor pursuant to the terms of this work order contract.

The summary of the deliverables of this work order contract are as follows:

Items	Date Due
Expected Notice to Proceed	November 2023
Feasibility Report (Draft).....	January 2023
Feasibility Open House	March 2024
Feasibility Report (Final)	March 2024
Public Improvement Hearing	April 8, 2024

- 2.3.** The City's Project Manager has the authority to update and adjust all interim project schedule dates, when necessary, at progress meetings within the terms of the work order contract.

3. Items Provided and/or Completed by the City:

- 3.1.** After authorizing the Contractor to begin work, the City will furnish any data or material in its possession relating to the project that may be of use to the Contractor in performing the work.
- 3.2.** All such data furnished to Contractor, will remain the property of the City and will be promptly returned upon the City's request or upon the expiration or termination of this work order contract.
- 3.3.** The Contractor will analyze all such data furnished by the City. If Contractor finds any such data to be incorrect or incomplete, Contractor will bring the facts to the attention of City before proceeding with the part of the project affected. The City will investigate the matter, and if it finds that such data is incorrect or incomplete, it will promptly determine a method for furnishing corrected data. Delay in furnishing data will not be considered justification for an adjustment in compensation.

4. Consideration of Payment:

- 4.1. Consideration.** The City will pay for all services performed by Contractor under this contract as follows:
 - 4.1.1. Compensation.** Contractor will be paid for hours worked during each invoice period on a Unit Rate basis not to exceed a maximum aggregate value greater than the Total Obligation shown in Section 4.1.5:

Labor Rate Costs*: \$127,127.00

Direct Expense Costs: \$2,000.00

* Labor Rate includes direct labor, overhead and profit

- 4.1.2. **Overtime.** The City will not pay directly for any overtime worked by a Contractor or a subcontractor.
- 4.1.3. **Direct Expense Costs.** Allowable direct expense costs include project specific costs and are items not otherwise included in overhead costs. Travel expenses and open house materials that are specific to this project are examples of Direct Expense Costs that are allowed. Any Direct Expense Costs that are necessary for Contractor to reasonably conduct day to day work must be approved, in writing, by the City's Authorized Representative prior to expenditure (i.e., costs that would normally be considered overhead costs).
- 4.1.4. **Travel Expenses.** The Contractor will be reimbursed for travel and subsistence expenses in the same manner and in no greater amount than provided in the current "IRS Publication 463, Travel, Gift, and Car Expenses".
- 4.1.5. **Total Obligation.** The total obligation of City for all compensation and reimbursements to Contractor under this contract will not exceed \$129,127.00

5. Terms of Payment:

- 5.1. The City will promptly pay all valid obligations under this work order contract as required.
- 5.2. The Contractor must submit invoices electronically for payment, monthly, using the cover letter format set forth in **Exhibit B**. Attach supporting hourly breakdown demonstrating work performed over the invoice period.
- 5.3. The Contractor must submit the signed invoice, the signed progress report and all required supporting documentation, for review and payment, to the City's Finance Department, at invoices@ighmn.gov. If the Contractor cannot support electronic submission of the invoice package, the Contractor must contact the City's Authorized Representative for possible alternatives.

6. Contractor's Project Manager:

6.1. Contractor's Project Manager for this work order contract will be:

Name/Title: Brad Reifsteck, Sr Project Manager
Address: 701 Xenia Ave S. Suite 300, MPLS, MN 55416
Telephone: 612-214-7053
E-Mail: Breifsteck@wsbeng.com

7. City's Project Manager and Authorized Representative:

7.1. City's Project Manager and Authorized Representative for this work order contract will be:

Authorized Representative

Name/Title: Paul Merchlewicz, P.E.
Address: 8150 Barbara Ave
Inver Grove Heights
MN, 55077
Telephone: 651-450-2572
E-Mail: pmerchlewicz@ighmn.gov

Project Manager

Name/Title: Steve Dodge, P.E.
Address: 8150 Barbara Ave
Inver Grove Heights
MN, 55077
Telephone: 651-450-2575
E-Mail: sdodge@ighmn.gov

City’s Project Manager, or his/her successor, will sign progress reports, review billing statements, and make recommendations to City’s Finance Department for certification of payment of each Invoice submitted by the Contractor.

8. Termination and Suspension

8.1. Termination by the City

The City or the City’s Administrator may terminate this contract at any time, with or without cause. Upon termination, the Contractor will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

8.2. Termination for Insufficient Funding

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

8.3. Suspension

The City may immediately suspend this work order contract in the event of a total or partial government shutdown due to failure to have an approved budget by the legal deadline. Work performed by the Contractor during a period of suspension will be deemed unauthorized and undertaken at risk of non-payment.

9. Plain Language; Accessibility Standards

9.1. Plain Language

Except for designs, plans, layouts, maps and similar documents, the Contractor must provide all deliverables in "Plain Language". Plain Language is a communication which an audience can understand the first time they read or hear it. To achieve that, the Contractor will take the following steps in the deliverables:

- Use language commonly understood by the public.
- Write in short and complete sentences.
- Present information in a format that is easy-to-find and easy-to-understand; and
- Clearly state directions and deadlines to the audience.

City Contract No. 23-27_IGHMSA_E_WO_08
City Project Number: 2025-09D, 2025-09E, 2025-09F
Contract

In witness whereof, Consultant and City and caused this Agreement to be executed on their behalf by the proper officers.

Date: _____, 20__

CITY OF INVER GROVE HEIGHTS

BY: _____

Brenda Dietrich, Mayor

ATTEST: _____

Rebecca Kiernan, City Clerk

Date: October 30, 2023

CONSULTANT



BY: Morgan Dunder

IT'S: Sr. Director Municipal Services

Exhibit A: Scope of Work

1. Project Overview

1.1. General Statement of Scope of Work

- 1.1.1. The delivery of this contract includes the development of a feasibility report consistent with MN Statute 429 regarding assessments.

1.2. Project Background

- 1.2.1. The City has identified three project areas to be delivered as part of the 2025 Pavement Management Initiative. These project areas include a combination of mill and overlay, full depth reclamation, and reconstruction and are shown in **Exhibit C**. This contract is for the preparation of a feasibility study to bring in front of Council so that final design and engineering may proceed as per the expected project schedule.

- 1.2.2. The three project areas are:

- a. Barbara Avenue and 46th Street Area:
 - i. There will be two main areas of expected work. Roadways north of 47th Street East are proposed to be reconstructed and include watermain, sanitary, and storm water analysis and preliminary design. These roadways currently have little or no storm water conveyance outside of the roadway surface. Roadways south of 47th Street East are proposed to be receive full depth reclamation with utility adjustments as necessary. This overall project area will require review of the overall hydraulic needs.
- b. 50th Street and Ashley Lane Area (Babcock Trail to TH 3):
 - i. This project area is proposed to receive full-depth reclamation with utility adjustments as necessary.
- c. 102nd Street and Akron Avenue Area
 - i. This project area is proposed to receive a mill and overlay with utility adjustments as needed.

2. Project Management

2.1. Project Coordination and Administration

- 2.1.1. Project management includes work necessary for communicating and completing the project tasks on time and within budget. The Contractor must not reassign the project manager or their primary duties without the written consent of the City's project manager. The Contractor's staff must have the training and expertise necessary for the work tasks to which they are assigned.

2.1.2. Meeting summaries must be submitted no later than three business days after each meeting. Final meeting summaries must be submitted no later than one business day after receiving comments on draft summaries.

2.1.3. The Contractor will:

- a. Prepare invoices accompanied by:
 - i. Progress report form (**Exhibit B**).
 - ii. Supporting data for direct expenses.
- b. Manage, coordinate, direct, and monitor subcontractor services, including reviewing progress reports, deliverables, schedule, and invoices.
- c. Update the City's project manager on the status of the project schedule, budget, and general status/progress at the weekly progress meetings.
- d. Store all deliverables in an organized electronic document management system and make deliverables available to the City's project manager as needed whether the file is incomplete, in draft form, or the final deliverable.
- e. Track issues and action items that develop during the project that either need resolution or implementation. The Contractor will review project issues and action items with the City's project manager at the weekly progress meetings.

2.2. Project Meetings

2.2.1. Kickoff Meeting

2.2.2. The Contractor will schedule and facilitate a project kickoff meeting to confirm the basic project objectives, solidify a work plan, and obtain consensus on the project requirements. This meeting must occur no later than **five** business days after notice to proceed. The meeting will be held via **Microsoft Teams** or at **Inver Grove Heights City Hall** and will include up to **two** Contractor staff.

2.2.3. Project Management Team (PMT) Meetings

2.2.4. The Contractor will facilitate **bi-weekly** PMT meetings with the City's project manager and other personnel as identified by the City's project manager. The PMT meetings are intended to provide a management-level view of project development.

2.2.5. Progress meeting attendees may vary depending on issues that need discussion. The Contractor's project manager must attend these meetings.

2.2.6. One PMT meeting will be used to address City comment on the draft feasibility stage to discuss City comments and provide resolution before finalizing the feasibility report and other required deliverables.

2.2.7. The Contractor will:

- a. Meet with the City's project manager weekly to review progress of deliverables, issues, and team effectiveness.

- b. Solicit feedback from the City's project manager to assess whether all services meet the requirements of the project.
- c. Identify needs and issues and discuss steps.

3. Project Understanding

3.1. Project Walkthrough

- 3.1.1. A detailed understanding of project scope and potential challenges/risks is necessary for the development of a feasibility study that provides effective direction for the completion of the project's final design.
- 3.1.2. The Contractor will:
 - a. Attend a walkthrough with City staff for each portion of the project.
 - b. Document potential scope items, risks, and issues.
 - c. Provide a summary of notes taken during walkthrough to City staff at PMT meetings.

4. Feasibility Analysis and Report

4.1. Standards and Guidance

- 4.1.1. All deliverables must be prepared in accordance with:
 - a. MN State Statute, Section 429
 - b. City Special Assessment Policy

4.2. Stakeholder Involvement/Meetings

- 4.2.1. Stakeholder involvement and meetings include the work necessary to gather input on the proposed project improvements.
- 4.2.2. The Contractor will:
 - a. Work to coordinate with project stakeholders which may include Metro Transit, South St. Paul, West St. Paul, Dakota County, and MnDOT. Direct coordination is not expected, but instead support for the City's project manager will be necessary.

4.3. Informational Meetings and Public Hearings

- 4.3.1. Informational meetings and public hearings will be used to share information discovered during the stakeholder involvement phase before and during the feasibility/assessment process.
- 4.3.2. The Contractor will:
 - a. Prepare for and attend one public open house neighborhood meeting that includes all three project areas. Assume the public open house neighborhood meeting will include preparation of a presentation and up to **three** boards for public viewing for **each** defined project area. Assume open house will be available virtually and the presentations and boards will be shared virtually. Assume the open houses will be recorded and uploaded to the City project website for those who could not attend.

- b. Attend one regular City Council meeting to provide City support for Council acceptance of the feasibility report and order the final design of the project.

4.4. Report Preparation

- 4.4.1. Report preparation will involve providing a detailed feasibility study and report detailing any recommended roadway, stormwater, and utility improvements to be included with the project.
- 4.4.2. The Contractor will:
 - a. Provide the City with **one** copy of a draft report in electronic PDF format.
 - b. Provide the City with **one** copy of the final version of the report in electronic PDF format and one hard copy report which will be made available for public viewing.
 - c. All reviews of the feasibility report will be conducted in a Bluebeam Studio Session hosted by the Contractor.

4.5. Preliminary Cost Estimates

- 4.5.1. Preliminary cost estimates will be used to track and verify scope and assumptions carried over from early planning stages. Estimates may be used to help shape project budget decisions during the feasibility phase. The cost estimate will be reviewed by City staff during update meetings and following the submittal of the draft report.
- 4.5.2. The Contractor will:
 - a. Include in the feasibility study and report a preliminary engineer's opinion of probable cost.
 - b. Revise the estimates based on input received during comment periods.
 - c. Include a final preliminary engineer's opinion of probable cost in the feasibility study.

4.6. Financing Plan

- 4.6.1. Work with the City to develop a financing plan for the proposed improvements consistent with MN Statute 429 regarding assessments.

4.7. Assessment Roll Preparation

- 4.7.1. The assessment roll will align with the cost estimates for the project to determine the appropriate share of the project allocated to property owners.
- 4.7.2. The Contractor will:
 - a. Prepare a draft and final assessment roll based on the cost estimate included in the report and the current City assessment policy. Assume City staff will review the draft assessment roll for consistency with City policy and provide comments on the draft assessment roll.

- b. Contractor may need to prepare and evaluate assessment rolls based on differing methods of assessments for each area to determine which method is appropriate and equitable.
- c. Contractor to provide property valuation data to assist in the calculation of an average property value by zoning classification, to assist the City in calculating a benefit appraisal calculation for each type of property classification in each project area. The City will provide zoning classification information as necessary.
- d. Include the final assessment roll in the final version of the feasibility study.
- e. Contractor will base assessment calculations and approach on current City assessment policy.

5. Preliminary Hydraulic Design and Stormwater Design

5.1. General

- 5.1.1. The scope of this work is primarily for the Barbara Avenue project north of 47th Street. The current lack of stormwater and hydraulic facilities make it necessary to evaluate the current system and determine a proposed solution to eliminate current drainage concerns.

5.2. Standards and Guidance

- 5.2.1. All deliverables must be prepared in accordance with:
 - a. Current version of the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit
 - b. Minnesota Pollution Control Agency (MPCA) Minnesota Stormwater Manual
 - c. Minnesota Department of Natural Resources (DNR) Best Practices for Meeting DNR General Public Waters Work Permit
- 5.2.2. All deliverables must be prepared in accordance with the following project-specific standards:
 - a. Stormwater Storage and Treatment Systems:
 - i. Construct all stormwater treatment and storage systems with a minimum of two feet of vertical freeboard above the high-water level (HWL) of a 100-year, 24-hour storm event to the berm crest (continuous flat surface).
 - ii. Construct berm crest width of five feet minimum.
 - iii. Provide a wet pretreatment basin/cell upstream of all infiltration and filtration systems unless another method is approved by the City.
 - iv. Underground structural stormwater storage and/or infiltration facilities will not be approved on this project, unless approved by the City.
 - b. Wet Stormwater Ponds and Filtration Basins:
 - i. Line stormwater ponds and filtration basins if they are located within a very high or a high-vulnerability area of a Drinking Water Supply

- Management Area (DWSMA), within an Emergency Response Area (ERA), or located within contaminated soils.
 - ii. Provide a minimum depth from the normal water level (NWL) to the pond bottom of at least three feet and a maximum depth of 10 feet.
 - iii. Provide a 1:10 (V:H) bench extending from a wet pond NWL a minimum of 10 feet horizontally into the pond. Above the NWL, slopes must be no steeper than 1:3 (V:H) with 1:4 slopes preferred.
 - iv. Base filtration rates for the design of the filtration basin on the MPCA Stormwater Manual. Base ponding depth within the filtration basin on the design filtration rate and a maximum 48-hour drawdown period.
- c. Infiltration Basins:
- i. Infiltration basins shall not be located within a very high or a high-vulnerability DWSMA or within an ERA. For proposed infiltration within other DWSMA vulnerability areas, written approval must be received from the corresponding City.
 - ii. Infiltration is not permitted in areas with soil or groundwater contamination, karst, within three feet of a regional groundwater table, in Hydrologic Soil Group D, where soil infiltration rates are more than 8.3 inches per hour without modification, within 200 feet of a private water supply well, within 100 feet from a septic system, or within 100 feet of buildings or building foundations.
 - iii. Base infiltration rates for the design of infiltration basins on measured infiltration rates along with the MPCA Stormwater Manual correction factor. Alternatively, use the MPCA Stormwater Manual design infiltration rates for the applicable soil texture.
 - iv. Provide an overflow to establish the maximum water quality ponding depth to achieve the required maximum 48-hour drawdown period.
- d. Hydrologic Methods:
- i. Design the drainage system so pre-project conditions are not exceeded for flood damage potential.
 - ii. Design stormwater storage and treatment facilities using the Atlas 14, 100-year, 24-hour rainfall event with an antecedent moisture condition of 2.

5.2.3. All deliverables must be prepared using approved drainage design software.

Software	Possible Vendor	Functions
HydroCAD	HydroCAD Software Solutions LLC	<ul style="list-style-type: none"> • Generate NRCS (SCS) hydrograph • Develop stage-storage and stage-discharge for ponds • Combine/route hydrographs through ponds and channels

- | | | |
|---------|----------|--|
| XP-SWMM | Innovyze | <ul style="list-style-type: none">• Generate NRCS (SCS) hydrograph or model historical storm
• Dynamic routing of hydrographs through ponds, pipes, and channels with varying tailwater/flow conditions |
|---------|----------|--|

5.3. Preliminary Hydraulics Design/Recommendation

5.3.1. The Contractor will prepare a preliminary hydraulic design by:

- a. Reviewing all information related to water resources in the project area including historic documents at the City and information collected during field walkthroughs and reviews.
- b. Preparing or updating, as applicable, existing and proposed conditions hydrologic/hydraulic models of the project area and perform modeling to evaluate conformance to project design standards and permitting requirements. Analyses will be completed for the design storm events identified in the water resources design criteria summary document.
- c. Preparing preliminary hydraulic and stormwater system design and corresponding hydraulic design. The design must include documentation of:
 - i. Total disturbed soil area, existing and proposed impervious area, reconstructed impervious area, and resulting regulatory requirements for volume control and water quality treatment.
 - ii. Sizes and locations of culverts, storm sewer trunk lines, and outfalls.
 - iii. The location, size, type, slope, and computed headwater for the existing (where applicable) and proposed conditions discharges and invert elevations of each culvert and outfall.
 - iv. Location, surface area, and treatment volume depth of stormwater treatment systems including grading plans sufficient to confirm construction limits and right-of-way needs.
 - v. Limits of required right-of-way for all drainage and stormwater treatment systems.
 - vi. Drainage tile system impacts and required connections and rerouting.
 - vii. How the preliminary drainage system design will preserve existing drainage patterns wherever possible unless approved by the City Engineer.
 - viii. Modeling results of existing and proposed conditions stormwater systems as required for project permitting and/or as directed by the City Engineer.

5.4. Preliminary Stormwater System Analysis

5.4.1. The Contractor will compile available water resources-related information, regulatory requirements applicable to the project, and develop a water resources design criteria summary document.

5.4.2. The summary document must include and identify:

- a. Existing stormwater drainage plans, models, and survey data including available data on culverts, ditches, storm sewer systems, and stormwater treatment systems within the project area.
- b. Information collected during the field survey relating to existing conditions.
- c. Available soil conditions where infiltration, filtration, and wet ponds are proposed and where stormwater trunk line piping is proposed. Identify the source(s) of the data including web-based data, soil borings, and other.
- d. Water resources issues including, but not limited to, areas with historically inadequate drainage (e.g., known flooding areas, citizen-identified concerns and complaints), environmentally sensitive areas, localized flooding, and maintenance problems associated with drainage, erosion areas, high groundwater table areas, areas known to contain contaminated soil or water, karst areas, ERAs, and DWSMAs including the degree of vulnerability of each DWSMA throughout the project area.
- e. Volume control, water quality, and rate control requirements as imposed by watershed district and/or watershed management organization standards and rules, and any local governmental unit standards and rules.
- f. Existing drainage systems that require cleaning and/or inspection and make recommendations if features need repair or replacement.

5.4.3. The Contractor will prepare drainage overview map(s) for the project area including:

- a. Existing and proposed drainage features including, but not limited to, culverts, ditches, storm sewer, outfalls, drop inlets, catch basins, wet ponds, dry ponds, infiltration basins, and filtration basins. Available municipal drainage system information must be included.
- b. Delineated drainage areas to each point of inflow and outflow from the project. Existing and proposed drainage areas must identify the time of concentration and modeled peak flows for the design events identified in the water resources design criteria summary. Existing and proposed ponding or detention areas must show the model peak water surface elevation for the 100-year design storm event.
- c. All waters that receive project runoff: public waters, outstanding resource value waters, special waters, and impaired waters.
- d. Federal Emergency Management Agency (FEMA) Floodplain boundaries, Watershed District flood elevations and/or floodplain boundaries, National Wetlands Inventory (NWI) wetland boundaries, jurisdictional ditches, karst areas, ERAs and DWSMAs, and other relevant drainage system information including agricultural drainage tile systems within and adjacent to the project area.
- e. Existing drainage infrastructure and locations for repair, lining, replacement, and erosion control recommendations.

5.5. Preliminary Stormwater System Design

5.5.1. The Contractor will:

- a. Develop preliminary existing and proposed conditions hydrologic/hydraulic models of the project area and perform modeling as necessary to ensure project conformance to project design standards and permitting requirements. Analyses will be completed for the design storm events identified in the water resources design criteria summary document.
- b. Prepare a preliminary stormwater system design and a corresponding preliminary stormwater design report. The design and report must include documentation of the preliminary design, including how the meets the requirements identified in the water resources design criteria summary document. The report must provide documentation of the following:
 - i. Total disturbed soil area, existing and proposed impervious area, reconstructed impervious area, and resulting regulatory requirements for volume control and water quality treatment.
 - ii. Preliminary sizes and locations of culverts, storm sewer trunk lines, and outfalls.
 - iii. The location, size, type, slope, computed headwater for the existing (where applicable) and proposed conditions discharges, and preliminary invert elevations of each culvert and outfall.
 - iv. Preliminary location, surface area, and treatment volume depth of potential stormwater treatment systems including preliminary grading sufficient to establish construction limits and right-of-way needs.
 - v. Construction limits and required right-of-way for all drainage system facilities and stormwater treatment systems.
 - vi. Drainage tile system impacts and required connections and rerouting.
 - vii. How the preliminary drainage system design will preserve existing drainage patterns wherever possible unless approved by the City Engineer.
 - viii. Modeling results of existing and proposed conditions stormwater systems as required for project permitting and/or as directed by the City Engineer.

5.5.2. Deliverables:

- a. Existing and proposed conditions hydrologic/hydraulic models
- b. Incorporation of preferred design into feasibility report

6. Roadway Analysis

6.1. General

6.1.1. The roadway segments in the Barbara Avenue portion to be reconstructed consist of varying widths. This scope of work is to identify options for reconstructing the roadways in kind or replacing them with roadways of a different width.

6.2. Roadway Width Analysis

6.2.1. Contractor will determine the appropriate width for roadways to be reconstructed and take into consideration the following:

- a. Condition and existence of existing drainage features
- b. Utility conditions, potential adjustments, and location including lighting, sewer, storm, water, and private utilities
- c. Pedestrian facilities and accommodations
- d. On-street parking accommodations and need
- e. Ancillary construction impacts such as driveways, vegetation, and property

6.3. Benefit/Cost Analysis

6.3.1. Contractor will provide a Benefit/Cost Analysis to determine if constructing in place or modifying the roadway width provides a better overall solution to the City and its residents.

6.3.2. Deliverables

- a. Preliminary cost estimate representing construction of roadways matching the current configuration.
- b. Preliminary cost estimate representing an "optimized" and consistent roadway width and configuration that matches the objectives of the City's Pavement Management Citizen Task Force findings: [Citizen Task Force | Inver Grove Heights, MN - Official Website \(ighmn.gov\)](https://www.ighmn.gov/citizen-task-force/)
- c. Include findings with preferred option in Feasibility Report

7. Utility Coordination

This task is for utility coordination only.

7.1. Initiate GSOC Utility Design Ticket and Collect Responses

7.1.1. Initiate and collect utility information within the project limits.

7.1.2. The Contractor will:

- a. Initiate the GSOC Utility Design Locate Ticket and collect information provided, including any maps that may be collected.
- b. Catalog all utility information, including ticket numbers, into the City's file system for use during final design.

8. Right-of-Way, Easement, and Permitting Evaluation

8.1. Right-of-Way and Easements

8.1.1. Understanding impacts to public and private rights of way impacts the budget and is necessary for identification in the feasibility study and report.

8.1.2. The Contractor will:

- a. Evaluate the need for right-of-way acquisition, permanent and temporary easements, and potential right-of-entry agreements.
- b. Upon completing this evaluation, make a recommendation to City staff as to which method of construction accessibility to use within the project limits.

Prepare exhibits and costs for any easement or right of way taking needs.

8.2. Permitting

8.2.1. Assess and collect permit information during the feasibility study.

8.2.2. The Contractor will:

- a. Compile a list of all necessary permits required to complete the project.
- b. Assemble a matrix of permits and applicable agencies for coordination and timing for completion.

9. Project Surveying

9.1. Feasibility Survey

9.1.1. Surveying will be needed to identify utility locations when marked and roadway and drainage features, and in areas of full reconstruction, boulevard and utility easements behind the curb to gain an understanding of project features to determine the appropriate project solution.

9.1.2. The Contractor will:

- a. Provide the City's Project Manager with a survey plan and work plan for each roadway area of the feasibility study.
- b. Perform necessary surveys to capture field information to provide information to aid in decision making and project understanding in the feasibility study.
- c. Provide topographic survey of centerline roadway and lip of curb and gutter at 50 ft intervals in the FDR street areas where necessary.
- d. Provide topographic survey of centerline roadway and lip of curb and gutter at 50 ft intervals in street areas identified for reconstruction necessary.
- e. Storm sewer and utility castings/structures survey, including survey of existing culverts.

- f. Storm water features such as ditches, ponds, water elevations, to gather information necessary to determine acceptability of current conveyance and storage systems.
- g. Provide the final survey to the City in AutoCAD format for use in the final design of the project(s).

10. Geotechnical Engineering and Analysis

10.1. Geotechnical Investigation

10.1.1. Provide the City's Project Manager with a Geotechnical Plan identifying the appropriate number of tests on each roadway section to develop a Pavement Management solution. Expected investigations, among others, include:

- a. Standard Penetration Test (SPT) borings along the roadway alignment to a depth of 10 feet.
- b. Coring to determine pavement thickness for each roadway segment at a minimum of two per road segment.
- c. Potholing and patching.
- d. Visual inspections.

10.1.2. Perform Geotechnical investigations in accordance with the Geotechnical Plan.

10.1.3. Perform analysis and develop a report identifying the recommended repair/rehabilitation approach for each roadway segment.

- a. Perform Laboratory testing, including classification (sieve analysis, density, moisture content, etc.), R-value, and other tests to determine feasibility of soil for construction.
- b. Include in the report a boring map, logs and analysis, GPR results and analysis, pavement and topsoil samples, recommendations for the proposed R-value to be used on the corridor for pavement design, and recommendations on if Full Depth Reclamation (FDR) or Mill and Overlay is recommended.



2025 PAVEMENT MANAGEMENT FEASIBILITY REPORT City of Inver Grove Heights, MN

Phase	Description	Estimated Hours						Total Hours	Cost
		Senior Engineer or Project Manager	Project Engineer I	Grad Engineer I	GIS	Coring or Survey Crew	Admin Assistant		
1	Project Management	14	12				4	30	\$ 5,258.00
	1.1 Project Coordination and Administration	10						10	\$ 2,070.00
	1.2 Project Meetings (8)	4	12				4	20	\$ 3,188.00
									\$ -
2	Project Understanding		8	24	4			36	\$ 4,408.00
	2.1 Project Walkthrough		8	24	4			36	\$ 4,408.00
									\$ -
3	Feasibility Analysis and Report	9	80	88	16		12	205	\$ 27,471.00
	3.1 Standards and Guidance	2	8					10	\$ 1,614.00
	3.2 Stakeholder Involvement/ Meetings (2)		6	8	4			18	\$ 2,300.00
	3.3 Informational Meetings and Public Hearings (3)	1	6	8	4			19	\$ 2,507.00
	3.4 Report Preparation	4	40	40	2		12	98	\$ 13,276.00
	3.5 Preliminary Cost Estimates		4	16	2			22	\$ 2,656.00
	3.6 Financing Plan	2	8	8				18	\$ 2,518.00
	3.7 Assessment Roll Preparation		8	8	4			20	\$ 2,600.00
4	Roadway Analysis	2	6	16	4			28	\$ 3,618.00
	4.1 Roadway Width Analysis	2	4	8	4			18	\$ 2,414.00
	4.2 Cost Estimating		2	8				10	\$ 1,204.00
5	Utility Coordination		7					7	\$ 1,050.00
	5.1 GSOC		1					1	\$ 150.00
	5.2 Utility Meeting		6					6	\$ 900.00
6	Right-Of-Way, Easements, and Permitting	2	6	20			2	30	\$ 3,854.00
	6.1 Right-of-Way and Easements	2	4	16				22	\$ 2,822.00
	6.2 Permitting		2	4			2	8	\$ 1,032.00
7	Project Surveying	8		30		100		138	\$ 25,746.00
	Full topo included for reconstruction areas and limited topo in the FDR and M & O Areas. Assumes survey completed under normal weather conditions with minimal or no snow								
8	Geotechnical Engineering and Analysis	8	24			80	4	116	\$ 22,376.00
	Upto 24 pavement cores and 6 SPT borings with report and analysis Assumes cores & borings are completed on unfrozen ground								
9	Storm Water Report	32	100	90	8		4	234	\$ 33,346.00
	Assumes modeling and evaluating 3 solutions to 4 existing flood prone locations Does not include modeling the large wetland complex to the west (We assume its not tributary to the project)								
Total Hours		75	243	268	32	180	26	824	
Hourly Rates		207.00	150.00	113.00	124.00	207.00	140.00		
Total Direct Labor Costs		\$15,525.00	\$36,450.00	\$30,284.00	\$3,968.00	\$37,260.00	\$3,640.00		\$127,127.00
TOTAL PROPOSED NOT TO EXCEED FEE									\$ 127,127.00