

Municipality Village of Homer Glen	<b>L O C A L  A G E N C Y</b>	 <b>Illinois Department of Transportation</b>  <b>Preliminary Engineering Services Agreement For Motor Fuel Tax Funds</b>	<b>C O N S U L T A N T</b>	Name HR Green, Inc.
Township Homer				Address 420 N Front Street
County Will				City McHenry
Section				State IL

THIS AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Motor Fuel Tax Funds, allotted to the LA by the State of Illinois under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely or in part to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

#### Section Description

Name 151<sup>st</sup> Street

Route FAU 3771 Length 1.4 Mi. 8,320 FT (Structure No. N/A )

Termini Cedar Road to Parker Road

**Description:**

Perform Phase I Engineering services for the roadway improvements along 151<sup>st</sup> Street, which consists of widening to provide a three lane section and includes survey, design and IDOT coordination.

#### Agreement Provisions

**The Engineer Agrees,**

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:
  - a.  Make such detailed surveys as are necessary for the preparation of detailed roadway plans
  - b.  Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.
  - c.  Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.
  - d.  Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.
  - e.  Prepare Army Corps of Engineers Permit, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
  - f.  Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
  - g.  Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with five (5) copies of the plans, special provisions, proposals and estimates. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at his actual cost for reproduction.
  - h.  Furnish the LA with survey and drafts in quadruplicate of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.

Note: Four copies to be submitted to the Regional Engineer

- i.  Assist the LA in the tabulation and interpretation of the contractors' proposals
  - j.  Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
  - k.  Prepare the Project Development Report when required by the DEPARTMENT.
- (2) That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies of the DEPARTMENT. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA and the DEPARTMENT.
- (3) To attend conferences at any reasonable time when requested to do so by representatives of the LA or the Department.
- (4) In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that he will perform such work without expense to the LA, even though final payment has been received by him. He shall give immediate attention to these changes so there will be a minimum delay to the Contractor.
- (5) That basic survey notes and sketches, charts, computations and other data prepared or obtained by the Engineer pursuant to this AGREEMENT will be made available, upon request, to the LA or the DEPARTMENT without cost and without restriction or limitations as to their use.
- (6) That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by him and will show his professional seal where such is required by law.

**The LA Agrees,**

1. To pay the ENGINEER as compensation for all services performed as stipulated in paragraphs 1a, 1g, 1i, 2, 3, 5 and 6 in accordance with Exhibit A at a Cost Plus Fixed Amount not to Exceed \$85,857.05.
  - a.  A sum of money equal to \_\_\_\_\_ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.
  - b.  A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

Awarded Cost	Percentage Fees	(see note)
Under \$50,000		%
		%
		%
		%
		%

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for services stipulated in paragraphs 1b, 1c, 1d, 1e, 1f, 1h, 1j & 1k of the ENGINEER AGREES at actual cost of performing such work plus 160 percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at his actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided under the paragraph 1b, 1c, 1d, 1e, 1f, 1h, 1j & 1k. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus a five (5) percent service charge.

"Cost to Engineer" to be verified by furnishing the LA and the DEPARTMENT copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed.

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed in accordance with the following schedule:
  - a. Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by paragraphs 1a through 1g under THE ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.
  - b. Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.

By Mutual agreement, partial payments, not to exceed 90 percent of the amount earned, may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in paragraphs 1a, through 1h and prior to the completion of such services, the LA shall reimburse the ENGINEER for his actual costs plus 160 percent incurred up to the time he is notified in writing of such abandonment - "actual cost" being defined as in paragraph 2 of THE LA AGREES.
5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of THE ENGINEER AGREES, after they have been approved by the DEPARTMENT, the LA will pay the ENGINEER for such changes on the basis of actual cost plus 160 percent to cover profit, overhead and readiness to serve - "actual cost" being defined as in paragraph 2 of THE LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of his responsibility to prepare a complete and adequate set of plans and specifications.

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**It is Mutually Agreed,**

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.
2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at his last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with Section 4 of THE LA AGREES.
3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA and their approval by the DEPARTMENT, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA and the DEPARTMENT.
4. That the ENGINEER warrants that he/she has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that he/she has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in quadruplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

ATTEST: Village of Homer Glen of the  
(Municipality/Township/County)  
State of Illinois, acting by and through its

By *[Signature]*  
Village Clerk  
(Seal)

By *[Signature]*  
Title Mayor

Executed by the ENGINEER:

HR Green, Inc.  
420 N Front St  
McHenry, IL 60050

ATTEST:  
By *[Signature]*  
Title Senior Project Manager

By *[Signature]*  
Title Vice President

Approved  
\_\_\_\_\_  
Date  
Department of Transportation  
\_\_\_\_\_  
Regional Engineer

**SCOPE OF SERVICES  
VILLAGE OF HOMER GLEN  
151<sup>ST</sup> STREET  
CEDAR ROAD TO PARKER ROAD  
PHASE I ENGINEERING**

**Project Understanding**

The Village of Homer Glen (Village) intends to undertake a Phase I Study to develop concepts and alternatives for the improvement of 151<sup>st</sup> Street from Cedar Road to Parker Road. The project will be processed through IDOT Bureau of Local Roads and requires a Phase I Project Development Report (PDR) to be prepared.

The existing conditions along 151<sup>st</sup> generally consist of a two lane pavement section with aggregate shoulders. A section of 151<sup>st</sup> Street was previously widened to three lanes and will remain. The intersections of Cedar Road, Crème Road, Eagle Ridge Drive and Arboretum Drive are existing T-intersections without channelization. The intersection of 151<sup>st</sup> Street at Parker Road was previously improved providing intersection channelization.

The following are the general design assumptions made for the project: The proposed typical section will include two 11' through lanes in each direction, separated by an 11' painted median. The proposed improvements generally consist of widening the existing pavement structure from 24' to 33' edge to edge. Either aggregate shoulders or curb and gutter will be provided along the outside edges of pavement depending on right of way restrictions and drainage requirements. It has been assumed that no pedestrian facilities or public utility improvements will be included.

The total length of the improvements along 151<sup>st</sup> Street is approximately 8,320' or 1.4 miles.

A. Design Criteria

The following design guidelines will apply to this project:

1. IDOT Bureau of Local Roads and Streets Manual
2. Will County DOT Ordinances; and
3. Village of Homer Glen Specifications

**Scope of Work**

COMPANY will prepare a Phase I Study and Design Report for the proposed improvements of 151<sup>st</sup> Street. The Phase I Study and Report will be prepared to Federal Standards. It has been assumed that this project will be processed as a Categorical Exclusion Group II.

A. Data Collection and Review

1. Prepare aerial mosaics of the project limits to be used for exhibits and presentations. The latest County aerials will be utilized.
2. Coordinate with utility companies to obtain maps of utilities within the project limits and place this information on a CADD base map.
3. Utilize existing roadway and utility plans from the Village/Will County to develop

existing conditions plan.

4. Geotechnical Investigations: This work will be completed as part of the Phase II engineering. After the extent of the improvements is determined, an accurate scope of work will be developed to include required soil borings, and a soil report.

#### B. Survey Services

1. Research – Company will perform research for existing right of way and subdivision plays lying adjacent to 151<sup>st</sup> Street from west of Cedar Road to west of Parker Road. This research will assist in the location of the existing right of way.
2. Right of Way Location – Company will recover existing right of way evidence within the topographic limits described below in Homer Glen, Illinois. Company will calculate the existing right of way as shown on the adjacent subdivision plats and right of way plats, as provided by the Village, to include on the base map.
3. Roadway Topographic Survey – Roadway survey was previously completed along 151<sup>st</sup> Street from Cedar Road to Eagle Ridge Drive as part of a Homer Township Road District study of 151<sup>st</sup>. The survey included in this proposal will extend from Eagle Ridge Drive to Parker Road. Limits of topographic survey will include a swath 10' beyond the ROW on both sides of the roadway. Limits along the side roads will extend 100'. Survey will include existing visible features and improvements. Existing utilities will be surveyed from visible flags or markings. Underground municipal utilities (i.e., storm sewer, sanitary sewer, and water main) will be located showing size, depth, and flow direction from observed evidence at manholes, catch basins, inlets, and valve vaults. Survey will reference existing NGS control stations, Illinois State Plan Coordinate System East Zone NAD83(2011). Elevations will be based upon NAVD88 or local benchmarks.

#### C. Traffic and Accident Analysis

1. Existing traffic volumes from IDOT's web site will be utilized for design purposes. Future traffic projections will be obtain through CMAP and existing traffic volumes will be projected to year 2040.
2. Autoturn analyses will be performed along 151<sup>st</sup> Street at it intersections with side streets to determine proper radii required to allow larger truck movements to occur without encroachments to other lanes.
3. No signalized intersections will be proposed. No Intersection Design Studies will be required to be completed for submittal to IDOT.
4. Accident data from the last five complete years will be requested from the Village for the improvement limits. Analysis will determine if it is a High Accident Locations (HAL) or wet cluster site. Collision diagrams will be provided. A summary of the accident analysis will be provided including corrective measures and recommendations to address safety related conditions.

#### D. Preliminary Design Studies

1. The preliminary horizontal geometrics will be developed and transposed on a 1" =

50' aerial map to determine the impacts the improvement will have on the surrounding properties.

2. Develop templated cross-sections for ROW and slope analysis, every 100' and at driveways throughout the project corridor. Cross-sections to include information regarding cross slopes, existing and proposed centerline elevations, existing right-of-way, proposed right-of-way, and any easements (existing or proposed).
3. Prepare the preferred plan and profile sheets for 151<sup>st</sup> Street (1" = 50' base maps).
4. Preliminary Opinion of Probable Cost will be developed for the preferred design.

E. Drainage Report and Hydraulic Report

1. Preliminary Investigation

COMPANY will perform a drainage analysis of the project corridor. Approach will be to maximize the use of ditches for drainage purposes. COMPANY will also review any available existing and/or proposed plans concerning the various developments within project limits for drainage information that may affect the proposed improvements. COMPANY will conduct a field investigation to determine the extent of the existing watersheds encompassing 151st Street and confirm their respective outfall locations. All drainage design calculations will be completed per Village or Will County policy, whichever is more stringent.

2. Storm Sewer and Culvert Design

If storm sewer is proposed to limit right of way acquisition, COMPANY will route the proposed storm sewer to the outlets. Runoff rates will be determined for each inlet's individual tributary area and the storm sewer sized using the Rational Method. It is anticipated that Hydraflow modeling will be used. A 10-year frequency storm will be used for design and the system will be checked for the 100-year storm event.

Based on review of existing conditions, there are several minor cross culverts within the project limits. The culverts will need to be analyzed for existing and proposed conditions. It is anticipated that hydrology will be done with a hydrograph method and hydraulics will be completed with HY-8.

3. Detention Requirements

Based on the County requirements, detention would be required for an increase in impervious area larger than 2 acres. Initial calculations indicate that the increase in impervious area will be less than 2 acres and detention will not be required. No detention volume calculations will be completed in the preliminary engineering phase.

4. Floodplain and Compensatory Storage

Based on a review of the FIRM maps, there are no floodplains for floodways within the project limits that need to be analyzed. There will be no need for compensatory storage to be determined for filling in the floodplain.

5. Drainage Technical Memorandum

This memo will include summary of existing and proposed conditions and be utilized to obtain the necessary storm water permit.

F. Environmental Studies

1. Prepare and submit an Environmental Survey Request (ESR) to IDOT. This submittal will be for biological, cultural, and historical preservation.
2. The National Wetlands Inventory map shows wetlands within the corridor. A wetland report will be prepared.
3. A photo log of structures along the project corridor that appear to be greater than fifty (50) years old will be completed. The photos will be submitted to IDOT for their in-house cultural review.
4. Air Quality - It has been assumed that since no additional lanes will be proposed, IDOT will not require an air analysis.
5. Noise - It has been assumed that since there are no new roadway alignments that a Noise analysis will not be required.
6. Natural Resources - Trees within the corridor will be located. No tree survey (species/health) will be performed. Tree replacement will be based upon IDOT criteria.
7. Special Waste – Initial screening for special waste will be completed in order to obtain design approval from IDOT. Actual testing will be performed as part of Phase II engineering after the corridor design is complete and project limits established.

G. Public Involvement

1. For this project, the public involvement/meetings will consist of one (1) public informational meeting.
2. For the public meeting, COMPANY will provide to the Village public notifications to residents whose property is adjacent to the project corridor. The Village will mail/deliver notifications to the residents. It has been assumed that the public meeting will be held at a Village facility where there will be no room rental fee necessary.
3. COMPANY will gather and maintain a record of meeting attendees.
4. Public Meeting Specifications: COMPANY will facilitate one (1) open house public meetings according to the IDOT format.
5. Provide one (1) set of exhibits (boards with aerial, typical sections, and project schedule).
6. Meet with the Village to review the exhibits prior to the Public Meetings (two (2) COMPANY representatives for two (2) hours).
7. Each public meeting will be four (4) hours in duration. Typical hours of a meeting are 4:00 pm to 8:00 pm.

8. Staff Public Meeting with three (3) COMPANY representatives for five (5) hours each.
9. COMPANY will respond to all individual public comments received at the public meetings. For this contract, it has been assumed that there will be approximately twenty (20) comments received at the meetings. If substantial additional comments are received, then those responses would be considered additional work.

H. Project Development Report

1. Prepare draft Project Development Report (BLR 22110) and report exhibits.
2. Preliminary Opinions of Probable Costs will be developed for preferred alternate.
3. Provide two (2) draft reports for Village review.
4. Address preliminary report comments from Village and prepare preliminary Project Development Report for transmittal to IDOT.
5. Provide IDOT four (4) draft reports for review and comment.
6. Address IDOT's preliminary Project Development Report comments and prepare final Project Development Report.
7. Provide five (5) final Project Development Reports, four (4) to IDOT and two (2) to Village.

I. Meetings

This project will require meetings with Village, IDOT, and FHWA to obtain support and approval of the Phase I engineering. The following meetings are included:

- a. Phase I Kick-off and FHWA meeting at IDOT (2 meetings)
- b. Progress Review with Village Staff (2 meetings);
- c. Meeting Specifications:
  - COMPANY will have two (2) representatives at all meetings;
  - A maximum of four (4) hours per meeting have been allotted, including travel time; and,
  - Meeting minutes, if required, will be provided.

J. Items Not Included

The following items are not included in this contract.

- a. Permitting
- b. Geotechnical Services
- c. ROW and Easement Documents

