

Cost Proposal Form

Engineering and Design for Area 1 & 2 Flood Mitigation and Northview Road

Northview Road Survey Services	\$	23,000
Northview Road Engineering and Design Services	\$	50,600
Area 1 & 2 Flood Mitigation Engineering and Design Services	\$	61,400
TOTAL COST for Engineering and Design Services	\$	135,000

GENERAL INFORMATION

The City of Waukesha is requesting proposals from qualified firms to conduct a multi-disciplined Engineering study in the northwest portion of the City. The project includes a stormwater study for the area along Northview Road and Areas 1 & 2 of the City's Stormwater Management Plan and a traffic engineering study / alternatives analysis for the planned reconstruction of Northview Road. Results of the studies will be used to assist the City in planning flood mitigation and transportation projects for the 5 year capital improvement program.

All Engineering and Design requirements shall meet the standards and requirements of the City of Waukesha. *This project does NOT need to follow Wisconsin DOT requirements.*

Firms interested in this project shall submit their Project Proposals to the City of Waukesha Department of Public Works by 3:00 p.m. on **June 17, 2016**.

SCHEDULE:

The final engineering study reports are to be complete by **November 30, 2016**.

PROJECT DESCRIPTION AND SCOPE FOR:

NORTHVIEW ROAD

Northview Road is a main east-west arterial roadway on the northwest side of Waukesha. The majority of land use along Northview Road is residential in nature. The section of Northview Road included in this study is between Meadowbrook Road / future West Waukesha Bypass (WWB) and approximately 1450' west of N. Grandview Boulevard. The road currently consists of a poor condition 24' wide rural cross section roadway that widens out at intersections with acceleration and deceleration lanes. Currently sidewalk exists sparsely in various locations along the project section. At the eastern project limits, Northview Road exists as a 44' wide urban cross section roadway with sidewalk on both sides except at a couple of properties that recently annexed into the City of Waukesha. The existing right of way of Northview Road varies from 66 to 100 feet wide. There will be no acquisition of ROW for this project.

The City plans to reconstruct the roadway in segments over two years. The first phase would include the intersection of Tallgrass Circle and extend to the urban section limits on the east end. The second phase would match at the planned reconstructed (with the 2017 WWB project) section of Northview Road at the western limits to west of Tallgrass Circle.

The engineering studies shall include the following:

Topographical Survey

- A complete survey of the Northview Road corridor between Meadowbrook Road and the eastern project limits. At a minimum, the following survey and field work shall be completed for the future reconstruction project areas shown on the location map (Exhibit A):
 - Complete topographic survey including utilities to approximately 100-feet beyond the limits shown on the location map. The entire width of the road right-of-way and any pertinent information beyond the right-of-way (within 15-feet) shall be surveyed. Survey of the driveways, approaches and curb ramps will be necessary to assure design requirements are met.
 - The topographic survey shall include cross section shots every 25 feet that include the back of walk, face of walk, top of curb, gutter line (or edge of pavement, shoulder and ditch where no curb exists) and centerline.

- Measure downs of the existing sanitary and storm sewer systems.
- Existing utility information shall be based on Diggers Hotline field markings and visible field observations and verified with utility asbuilts.
- The vertical control for the project shall be based on the City's Datum. A list of the benchmarks utilized shall be submitted. Tie into a minimum of two section corners and existing control points of the WWB project.
- Work with City staff to insure design criteria and standards are in accordance with City policy.

Traffic Engineering Review and Cross Sectional Alternatives

- Perform a cross section alternatives analysis to determine the proposed future cross section of Northview Road throughout the project limits. A minimum of 3 alternatives shall be studied and presented with cost estimates, including required storm sewer, for each. If more alternatives are discovered, the consultant shall seek approval from the City before studying it further.
- It is the City's intent to limit the disturbance of wetlands along Northview Road and alternatives shall take into account post construction storm water quality features that have been evaluated elsewhere in the stormwater component of this study.
- Evaluate the Northview Road corridor for traffic flow and capacity, lane designation, turn lane needs, allowance for parking and allowance for bike lanes. During the evaluation of cross section alternatives with these criteria, some elements such as parking or bike lane may be come infeasible and may be removed from consideration.
- Complete a traffic signal warrant analysis for the intersection of Northview Road & N. University Drive. A recent warrant analysis did not warrant a signal. However, the consultant shall do a warrant analysis based on existing traffic and traffic projected 10 years out.
- 24 Hour ADT volumes for the corridor and specific traffic data, such as turning movements and entering volume, for the N. University Drive intersection will be provided by the City.
- Project traffic volumes 10 years and 20 years out. Traffic projections shall be consistent with recent SEWRPC traffic modeling. Consultant shall also use traffic data presented in the Waukesha West Bypass study as a guide for the projection analysis.

Storm Water Engineering Review

- Provide engineering services to determine any additional new storm sewer and adjustment, replacement, repair and upsizing of the current storm sewer system along Northview Road. This will be based off the cross section alternatives and recommendations from the flood mitigation study portion of this project.
- There is an existing culvert that crosses Northview Road that carries the flow of a cold water creek. This culvert shall be evaluated to determine what improvements are necessary.
- Provide and report recommendations for meeting the standards of NR151 including the post construction performance standards.

Deliverables

- Alternatives analysis report.
- Traffic signal warrant analysis report.
- A 30% plan using the City's modified AutoCAD Civil 3D template based on the City's preferred cross section alternative. The 30% plan shall consist of the following:
 - Cover sheet
 - Typical sections sheets

- Plan and profile sheets
- Storm sewer sheets
- Cross section sheets
- Preliminary information and cost estimate by September 6, 2016 for budget purposes.
- A cost estimate that is broken down between the two construction phase segments.

PROJECT DESCRIPTION AND SCOPE FOR:

AREA 1 & 2 FLOOD MITIGATION

The Citywide Stormwater Management Plan dated October 2014 provides the results of preliminary modeling of areas of stormwater concern in the City of Waukesha. Areas 1 & 2 (Shown on Exhibit A) were grouped together based on a hydraulic connection between the two basins.

Areas 1 & 2, known as the Rolling Ridge Drive and University Drive areas, are in the northwest portion of the City along N. University Drive and Meadowbrook Road, generally north of Northview Road. Stormwater flooding was reported mostly along Rolling Ridge Drive from Meadowbrook Road eastward to N. University Drive, N. University Drive southward to Darrell Drive, Darrell Drive westward to Patrick Lane, and Patrick Lane southward to south of Sandra Lane.

During most rainfall events stormwater from Area 1 west of N. University Drive drains eastward through an open channel along Rolling Ridge Drive. East of N. University Drive the open channel is north of and parallel to Pebble Valley Road. West of Pebble Valley Park the channel turns northward and eventually drains under Silvernail Road west of Meadow Lane. At N. University Drive, flows in excess of the culvert and channel capacity south of Rolling Ridge Drive flow southward on N. University Drive towards the intersection of N. University Drive and Pebble Valley Road. At this intersection, some stormwater will drain eastward on Pebble Valley Road and some will continue to flow south on N. University Drive into Area 2, connecting the two areas hydraulically.

The Citywide Stormwater Management Plan predicts the stormwater flooding and provides alternatives for mitigating the flooding for the 3.8 and 6 inch rainfall events in Areas 1 & 2 (Exhibit B). With the design and construction of the City's portion of the WWB, the City will be implementing the first recommendation for mitigating the 6 inch rainfall event. Additional engineering design has been completed by GRAEF for reducing the flow in the open channel along Rolling Ridge Drive by diverting flow at the intersection of Meadowbrook Road and Woodridge Lane to an outfall in the future Meadowview Park. The updated XP-SWMM modeling from this planned upgrade will be provided.

The engineering studies shall include the following:

Topographical Survey

- Conduct topographic survey to encompass the storm sewer alignments as outlined in Exhibit B as needed to update the hydraulic and hydrologic model.

Storm Water Engineering Review

- Further analysis of the alternatives for mitigating the flooding of the 3.8 and 6 inch rainfall events that are listed in Exhibit B.
- Determine the extent of and geotechnical properties of the native soil and any fill that may be present.
- Update the hydraulic and hydrologic model to include additional survey data.
- Verify that the increase in storm sewer capacity is from either new parallel storm sewers or larger replacement storm sewers.

- Extend the Areas 1 & 2 model northward to model the effect of stormwater alternatives at Silvernail Road.
- Extend the Areas 1 & 2 model southward to model the effect of stormwater alternatives downstream at CTH TT and USH 18.
- Evaluate the environmental impacts of modifying / expanding storage in the existing pond in Area 2. The existing pond is the headwater of the coldwater Pebble Creek.
- Address potential environmental concerns on discharging additional stormwater into the open space and wetlands west of Pebble Valley Park.
- Examine potential water quality features where additional storm water may be discharged into the open lands west of Pebble Valley Park.
- Coordination with the Wisconsin DNR necessary to verify the scope of the proposed alternatives will be permitable.
- Incorporate engineering design completed by GRAEF of flow diversion at the intersection of Meadowbrook Road and Woodridge Lane to an outfall in the future Meadowview Park into the hydraulic and hydrologic model.
- Provide cost estimates, broken down by geographic stormwater alignments.
- Prioritization of the determined stormwater mitigation alternatives based on cost, feasibility, permitting, and flood reduction impact.

Deliverables

- Alternatives analysis report
- Schematic design encompassing sufficient detail (e.g. pipe sizes, slopes, inverts, alignments, etc.)
- Preliminary information and cost estimate by September 6, 2016 for budget purposes.
- Cost estimates of the alternatives

ADDITIONAL PROJECT ELEMENTS INCLUDE:

- Provide at a minimum the following meetings with the City of Waukesha:
 - Initial kickoff meeting
 - Bi-weekly conference calls
 - Two cross section alternatives meetings
 - Two public information meetings
 - Review meeting
- Submit studies / reports for review at the following milestones:
 - 30%
 - 60%
 - 90%
- Submit the plans for review at the following milestones:
 - Base plan
 - 25%
- The Public Information meetings shall be for affected residents, Common Council Members and the general public. One meeting shall be focused on the flood mitigation and the other for Northview Road. The Consultant shall create the letter and the City shall create the mailing list and mail.