

**AN ORDINANCE**  
**AUTHORIZING THE MAYOR TO ENTER INTO AN**  
**AGREEMENT WITH DAVEY RESOURCE GROUP, TGC**  
**ENGINEERING AND MARKS CONSTRUCTION, INC.**  
**TO PREPARE A CONCEPTUAL PLAN FOR THE**  
**STABILIZATION OF A 240 FOOT SEGMENT OF THE**  
**CHAGRIN RIVER ADJACENT TO THE VILLAGE'S**  
**MUNICIPAL WASTE WATER TREATMENT PLANT**  
**AND DECLARING AN EMERGENCY.**

WHEREAS, the Village has determined, due to erosion, that stream bank stabilization improvements are required for a portion of the Chagrin River adjacent to the Village's Municipal Waste Water Treatment Plant ("WWTP"); and

WHEREAS, Davey Resource Group, a division of the The Davey Tree Expert Company, TGC Engineering and Marks Construction, Inc. (collectively "Contractor") has presented a proposal to evaluate existing conditions and to prepare stream modeling, prepare a conceptual plan for construction in two stages to stabilize the stream bank at the site, and to obtain all required permits from all applicable governmental agencies (collectively the "Project") and the Contractor has proposed a fixed fee of \$11,500.00 to evaluate the existing conditions and to provide stream modeling, a fixed fee of \$9,400.00 to prepare a conceptual plan for construction in two stages to stabilize the stream bank at the site including temporary stream bank stabilization, and a fixed fee of \$3,800.00 to obtain all regulatory permitting required, for a total sum of \$24,700.00 ("Project Cost").

**NOW THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE**  
**VILLAGE OF CHAGRIN FALLS, CUYAHOGA COUNTY, STATE OF OHIO:**

SECTION 1. That the Mayor is authorized and directed to enter into an agreement with the Contractor in the amount of \$24,700.00 for the Project as detailed in a written proposal from the Contractor dated June 27, 2016 attached hereto and incorporated herein as EXHIBIT "A".

SECTION 2. The Finance Director is authorized to appropriate to a proper account a sum sufficient to cover the costs of the contract authorized in Section 1 of this Ordinance.

ORDINANCE NO. 2016-44  
INTRODUCED BY: MR. NEWELL

SECTION 3. That actions of this Council concerning and relating to the passage of this legislation were adopted in lawful meetings of this Council and that all deliberations of this Council and of any of its committees that resulted in such formal action were in compliance with all legal requirements, including Chapter 114 of the Codified Ordinances of the Village of Chagrin Falls.

SECTION 4. That in accordance with Section 113.01 of the Codified Ordinances of the Village of Chagrin Falls, public notice of this Ordinance shall be given by posting a copy thereof for not less than fifteen (15) days in the Village Hall.

SECTION 5. That this Ordinance is declared to be an emergency measure necessary for the immediate preservation of the public peace, property, health and safety of the inhabitants of the Village and for the further reason that this Ordinance is necessary to reduce further erosion to the stream bank adjacent to the WWTP and to avoid placing the WWTP at risk of loss or damage as soon as possible; wherefore provided it receives the affirmative vote of at least two-thirds (2/3) of all members elected to Council, this Ordinance shall be in full force and effect from and immediately upon its passage by this Council and approval by the Mayor; otherwise, it shall take effect and be in force after the earliest period allowed by law.

PASSED: July 25, 2016

  
\_\_\_\_\_  
Karl Maersch, Council President

Submitted to the Mayor for  
his approval on this

26 day of July, 2016

Approved by the Mayor

July 26, 2016

  
\_\_\_\_\_  
Mayor William Tomko

ORDINANCE NO. 2016-44  
INTRODUCED BY: MR. NEWELL

I hereby certify that Ordinance No. 2016-44 was duly enacted on the 25 day of July, 2016, by the Council of the Village of Chagrin Falls and posted in accordance with Section 113.01 of the Codified Ordinances of the Village of Chagrin Falls.

  
Clerk of Council

EXHIBIT "A"



June 27, 2016

Corporate Headquarters  
1500 North Mantua Street  
P.O. Box 5193  
Kent, Ohio 44240-5193  
330.673.5685  
Toll Free 1.800.828.8312  
Fax 330.673.0860

Mayor William Tomko  
Village of Chagrin Falls  
21 W. Washington St.  
Chagrin Falls, Ohio 44022

*RE: Streambank Stabilization Proposal—Chagrin River, Chagrin Falls, Ohio*

Dear Mayor Tomko:

Per your request, Davey Resource Group, a division of The Davey Tree Expert Company, along with our design-build teaming partners, TGC Engineering (TGC), and Marks Construction, Inc., is pleased to provide the Village of Chagrin Falls (Village) with this proposal to prepare a conceptual plan for the stabilization of a badly eroding, 240-foot segment of the Chagrin River, adjacent to the Village's municipal wastewater treatment plant (WWTP).

On June 10, 2016, members of our design-build team met with you, your staff, and Christina Znidarsic of the Chagrin River Watershed Partners (CRWP), to discuss a potential scope of work and evaluate the failing streambank. Our understanding is that the streambank was previously stabilized using bendway weirs and other structures in the late 1990s but most of these structures have washed away. Based on our team's observations, we believe that the streambank failure may be due to a combination of factors:

- The stream makes a 90° bend at the location of the bank failure. During high flow conditions, the stream flows with very high energy into the bank, destabilizing soils that overlay the bedrock.
- In the past several years, Northeast Ohio has experienced an increased frequency of higher intensity storms. This phenomenon, combined with the geometry of the channel, has caused the streambank to be exposed to destabilizing forces much more frequently.
- Finally, soils along the streambank consist of Tioga loam, very deep, well drained soils that formed in depositional environments on higher positions of flood plains. Tioga soils are highly erodible and are less cohesive than silts and clays. As a result, this soil has a tendency to wash away or slough when saturated.

During our meeting on June 10, you had indicated that the Village, with assistance from CRWP, intends to use the plans that will be developed under this contract to apply for funding under the State of Ohio's Section 319 program.

William Tomko  
Village of Chagrin Falls  
June 27, 2016  
Page 2

If awarded the grant, funding under the upcoming Section 219 program will not be available until 2017. Based on the severity of the current problem, the Village cannot wait until 2017 to stabilize the streambank without risking the very real possibility that more land will be lost on the WWTP property. As a result, Davey Resource Group and the other members of our design-build team have developed this proposal to design a streambank stabilization plan that can be constructed in two stages. Stage 1 will include stabilization measures that can be constructed in 2016, dependent on authorization from U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. Stage 2 will include additional measures that will further stabilize the bank and add natural habitat to the streambank. Our proposed scope of work is outlined below.

#### **PROPOSED SCOPE OF WORK**

##### **Task 1. Evaluate Existing Conditions/Stream Modeling**

Personnel from Davey Resource Group, TGC, and Marks Construction will return to the site to measure and document existing conditions. TGC will use a Trimble GPS and Robotic Total Station to obtain the required field data for the project. They will survey the bend in the stream, the thalweg, and any grade breaks that will be required to adequately model the hydraulics of the stream. They will also identify and locate the existing fence line and any outfall structures that are present in the area of proposed construction. In addition to the typical survey equipment, TGC's crew will also have a small, 2-man pontoon boat and sounding equipment readily available to capture the bottom of river data in areas that this data cannot be obtained by wading into the stream. The sounding equipment will be linked to GPS receivers in order to obtain accurate data in all three dimensions (Northing, Easting, and Elevation).

Using the survey information, TGC will prepare a topographic map of the site that shows existing contours and features that will have to be considered as we design the streambank stabilization project. TGC will use the existing stream gauge data and/or USGS StreamStats to obtain the flow rates of the Chagrin River. They will then use either a HEC-RAS model or a simple Manning's Equation calculation to determine the water velocities of the Chagrin River. The water velocity will be used to calculate the size of the rock required to adequately stabilize the stream bank. The goal will be to design a project that does not cause an increase in the base flood elevation of a 100-year storm event.

Ken Christensen, senior biologist, certified ISA arborist, of Davey Resource Group will complete the Qualitative Habitat Evaluation Index (QHEI) of the Chagrin River. He will document the presence of high quality trees, shrubs and herbaceous vegetation; the coverage of invasive species; and the potential for endangered species habitat. He will also evaluate what remains of previous stabilization structures at the site. Mr. Christensen will evaluate whether downed trees or other trees that may need to be removed can be salvaged and used as habitat structures at the site.

##### **Task 2. Prepare 50% Design Plans and Specifications for 2-Phased Construction**

Our design-build team will use the information gathered in the field to develop a conceptual plan that can be constructed in two stages to stabilize the streambank at the site. Stage 1 will be designed to temporarily stabilize the site until further funding can be obtained to construct the complete project. The overall goal will be to develop a project that prevents further loss of Village property, provides a natural riparian corridor that positively impacts the stream, and is stable enough to withstand the 100-year storm event without increasing base flood elevations in the Chagrin River. TGC will be responsible for sizing stone and engineering design and plan preparation. Davey Resource Group will provide input on streambank stabilization design, bioengineering techniques, and riparian landscaping.

William Tomko  
Village of Chagrin Falls  
June 27, 2016  
Page 3

Marks Construction will work closely with the team to evaluate construction access, to ensure the constructability of the project, and to provide construction cost estimates. Our deliverable will provide the necessary information regarding design scope, material quantities, and construction costs so that you may apply for funding under the Section 319 program.

After the Village has approved the concept plan, TGC and Davey Resource Group will prepare a 50% plan set with sufficient information to develop an accurate estimate of construction costs. The Village and CRWP will then be able to use the plans and construction cost estimate in the Section 319 grant application.

### **Task 3. Regulatory Permitting**

It is highly likely that Stage 1 of the streambank stabilization project will require the discharge of some amount of rock below the ordinary high water mark (OHWM) of the Chagrin River. Before the rock can be placed below the OHWM, the activity must be authorized by the USACE under Section 404 of the Clean Water Act. For this project, we have determined that this work may be potentially authorized under the Nationwide Permits (NWP) may be issued by the USACE: NWP 13, for bank stabilization; and/or NWP 27, for aquatic habitat restoration, establishment, and enhancement activities. Because this portion of the Chagrin River is listed as a salmonid stream, coordination with Ohio Environmental Protection Agency may be necessary to obtain a variance and authorization from the Director. Also, because it is a salmonid stream, there are in-water work restrictions such that work within the river is not allowed between September 15 and June 30. If work is necessary within this restricted time period, an in-water work waiver will be necessary which involves authorization from USACE, and coordination with Ohio Department of Natural Resources.

Coordination with the village engineer will be implemented to review the design and obtain authorization for the project. A Floodplain Permit application will be prepared and submitted to the Chief Administrative Officer of Chagrin Falls for authorization for work within the floodplain.

After the plan has been developed and the amount of rock that will be needed below the OHWM has been determined, Davey Resource Group will prepare a Preconstruction Notification (PCN) to USACE for coverage under the Nationwide Permit Program. Typically, we can submit the PCN to the USACE once a 30% plan set has been completed for your project.

### **TIME SCHEDULE**

At this time, Ohio EPA has not revealed when the Request for Proposals will be issued for the Section 319 program. However, we understand that timing is of the essence, due to the uncertainty associated with when the RFP will be issued and more importantly, the instability of the streambank. To that end, Davey Resource Group, TGC, and Marks Construction will complete Tasks 1 through 3 within 8 weeks of receipt of authorization to proceed.

### **KEY PROJECT STAFF**

Judith Mitchell will serve as the Senior Project Manager for your project. She will be responsible for making sure that your project is completed on time and within budget, and will coordinate all permitting efforts with the USACE, Ohio EPA and the Village. Ken Christensen will be responsible for characterizing the ecological condition of the stream and riparian corridor and work closely with TGC and Mark Szakacs on the overall design of the stabilization project. Travis Crane will be the Engineer of Record and Mark Szakacs will review the project for constructability and serve as our contractor for grading and placement of stone. Corine Peugh will assist our team with the development and implementation of the landscaping that will be installed on the site.

William Tomko  
Village of Chagrin Falls  
June 27, 2016  
Page 4

She will be assisted by Ken Christensen who will also oversee construction.

Resumes of key project staff are included in Attachment A.

**RELEVANT PROJECT EXPERIENCE**

Davey Resource Group's design-build team of TGC and Marks Construction have successfully stabilized streambanks and restored and enhanced numerous streams around Northeast Ohio. A list of relevant projects is included in Attachment B.

**FEE SCHEDULE**

Task 1 can be completed for a fixed fee of \$11,500. Task 2 can be completed for a fixed fee of \$9,400. Task 3, can be completed for fixed fee of \$3,800. Fee estimates for construction of the project are not included in this proposal but will be developed as part of Task 2, and will be presented to the Village for your consideration at that time.

**TERMS AND CONDITIONS**

Davey Resource Group reserves the right to renegotiate our fees in the event that new guidance documents or changes in local, state, or federal regulations require altered approaches or additional studies.

Invoices will be prepared monthly until the project is complete. Davey Resource Group's terms are net 30 days. All pricing in this proposal is valid for six months from the date of this proposal. Please sign, date, and return to my attention the authorization statement provided on the following page.

I look forward to working with you on this project. If you have any questions regarding this proposal, please contact me via e-mail at [john.kusnier@davey.com](mailto:john.kusnier@davey.com) or at 330-673-5685, ext. 8059.

Sincerely,



John Kusnier, Project Developer  
Natural Resource Consulting

William Tomko  
Village of Chagrin Falls  
June 27, 2016  
Page 5

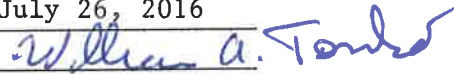
**STREAMBANK RESTORATION PROPOSAL**  
Chagrin River Streambank Stabilization  
*Municipal Wastewater Treatment Plant, Chagrin Falls, Ohio*

Task 1. Evaluate Existing Conditions/Stream Modeling .....	\$11,500.00
Task 2. Prepare 50% Plans and Specifications for Two-stage Construction .....	\$9,400.00
Task 3. Regulatory Permitting .....	\$3,800.00
<b>Total Fixed Fee .....</b>	<b>\$24,700.00</b>

By signing this form, I do hereby acknowledge acceptance of the terms described above and authorize work to be performed.

Date: July 26, 2016

Authorizing Signature:



Title: William A. Tomko, Mayor