



## Legislation Text

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**File #:** K-1415-134 AMD#1, **Version:** 1

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CONSIDERATION OF APPROVAL, REJECTION, AMENDMENT, AND/OR POSTPONEMENT OF AMENDMENT NO. ONE TO CONTRACT K-1415-134 BY AND BETWEEN THE CITY OF NORMAN, OKLAHOMA, AND MESHEK & ASSOCIATES, L.L.C., INCREASING THE CONTRACT AMOUNT BY \$383,647 FOR A REVISED CONTRACT AMOUNT OF \$526,647 TO PROVIDE THE ENGINEERING DESIGN CRITERIA AND CONSTRUCTION PLANS FOR PHASE I OF LOWER IMHOFF CREEK PROJECT.

**BACKGROUND:** A Storm Water Master Plan (SWMP) was developed for the City of Norman by PBS&J and accepted by City Council in November 2009. Among other things, this plan delineated the various watersheds in the City, identified stream segments which needed restoration and improvement, and identified projects to provide this restoration including concept designs. As stated in the SWMP, solutions for problems in the Imhoff Creek watershed are by far the most significant compared to solutions in other watersheds. One such stream segment is the Lower Imhoff Creek between Lindsey Street and Imhoff Creek's confluence with the Canadian River.

In the Storm Water Master Plan, Lower Imhoff Creek is divided into two problem areas, or "reaches": IC-1 and IC-2. IC-1 is that portion of Imhoff Creek between State Highway 9 and its confluence with the Canadian River. IC-2 is that portion of Imhoff Creek between State Highway 9 and a point some 2,000 linear feet north of Imhoff Road. IC-2 is the focus of the current project (see attached map).

The SWMP recommends design and installation of stream bank stabilization techniques along stream segment IC-2. The identified problem in the SWMP for IC-2 is "4,200 LF of severe bank erosion along both banks beginning at the upstream face of Highway 9 to approximately 2,000 LF upstream of Imhoff Rd. The erosion along the banks has caused property fences and trees to fall into the creek."

As Imhoff Creek adjusted to changing upstream conditions, down cutting and widening resulted in extreme bank and bed erosion, which are characteristic in this portion of Imhoff Creek. Continued development along the length of the stream has exacerbated the runoff problems, leading to trees and fences falling into the creek, loss of property and threats to infrastructure including the Imhoff Road bridge. In the past, conventional wisdom directed efforts away from form and function toward "armoring" (concrete lining) of stream channel bottoms and slopes to address in-stream erosion problems. This approach increased water velocity and tended to take problems downstream, which eventually worked back upstream as erosion occurred at the interface of the natural stream and the hard armor surfaces. Utilizing more natural stream restoration techniques, which provide for form and function, has proven to be a more effective method of urban stream repair.

On June 9, 2015, Council approved Contract K-1415-134 by and between the City of Norman and Meshek & Associates, LLC, in the amount of \$143,000. The contract services included:

- Kickoff Meeting and Channel Walk

- Data Collection and Processing
- Easement and Right-of-Way Evaluation
- Hydrology and Hydraulic Modeling
- Ecological Inventory
- Development of Stream Restoration Alternatives and Recommendations
- Council and Public Meetings
- Surveying and Geotechnical Investigations

On June 30, 2017, Meshek and Associates submitted the Lower Imhoff Creek Study Final Report. On July 11, 2017, City staff and Brandon Claborn, Principal Engineer for Meshek and Associates, presented the findings of this report to City Council. The conceptual designs and priority recommendations presented in the report will be used to perform engineering design and construction plans for the Phase I stream improvements through this amendment.

**DISCUSSION:** On August 8, 2017, Council approved Resolution R-1718-21 accepting the Lower Imhoff Creek Study Final Report. The Lower Imhoff Creek Study Final Report recommended several preventive and mitigation actions based on the data gathered during this study, as follows:

- Implementation of a 5-year Monitoring Plan to evaluate the rate of degradation to channel;
- Provide training to City maintenance staff to learn new techniques for maintaining more natural stream restoration devices such as gabion walls, cross vanes, and others;
- Design and construct stream mitigation improvements in two phases:
  - a. Phase 1 will begin at Imhoff Road and end approximately 1200 feet downstream of Imhoff Road. This section should be addressed first due to the risk to existing infrastructure. Estimated cost is \$3,150,300.
  - b. Phase 2 will begin upstream of Imhoff Road and end at the end of the improved channel. Estimated cost is \$4,347,950

Construction of the stream mitigation improvements were divided into two phases due to the cost to construct the entire project at one time. Meshek and Associates recommended that Phase I of the improvements be addressed first because the greatest impact to existing infrastructure can be found in this area, including potential impacts to Imhoff Road bridge and several sewer lines. Homes on the east side of the Phase I project area are also located closer to the streambank than those in the Phase II project area.

Pending approval by City Council, this amendment will ensure that all three recommendations are undertaken through the completion of the following tasks:

- Federal Emergency Management Agency (FEMA) Grant Application Preparation Services for construction costs and project coordination
- Detailed Topographic Survey
- Environmental (404) Permitting
- Hydrology & Hydraulic Modeling
- Preparation of a Conditional Letter of Map Revision (CLOMR)
- Geotechnical Report
- Preliminary Plans
- Final Construction Plans and Bid Documents
- Erosion Control Workshop

- Bank Erosion Monitoring Site Installation
- Project Management

Because the project is located within the floodway of Imhoff Creek, it is anticipated that this project may affect the base flood elevation. Any improvements that do not meet the definition of a “no-rise” condition with regard to the base flood elevation requires that a CLOMR be prepared and submitted to FEMA prior to construction. As part of this amendment, Meshek and Associates will work with a subcontractor to conduct hydraulic modeling of the proposed design to determine what kind of floodplain impacts this project will have.

Preliminary plans and cost estimates will be submitted at 60% and 90% completion for review by the City of Norman. Final construction drawings will be prepared after final review and will include the Engineer’s estimate.

Given the estimated costs of construction for each phase of this project and the limited funds available for stormwater projects in the City’s Capital Fund, City staff will pursue alternate sources of funding beginning with Phase I. FEMA has a new pre-disaster hazard mitigation program called Building Resilient Infrastructure and Communities (BRIC). One of the goals of BRIC is to support communities by enabling large projects such as this one. As part of the proposed amendment, City staff will work with Meshek and Associates to complete an application for BRIC program funding for Phase I construction costs as part of the Pre-Award services listed above.

Budgeted capital funds in the amount of \$361,999 are available for the design of Phase I of this project in Stormwater Master Plan, Lower Imhoff Creek, Design (Account 50595531-46201; Project DR0062). An additional \$300,000 is available for acquisition of permanent and temporary easements in Stormwater Master Plan, Lower Imhoff Creek, Land (Account 50595531-46001; Project DR0062). Staff will transfer funds in the amount of \$21,648 from the Land account to the Design account.

If approved, the final design and grant application for FEMA BRIC funds for Phase I is planned to be completed in approximately twelve (12) months or May 2022.

**RECOMMENDATION:** Staff recommends approval of Amendment No. 1 to Contract K-1415-134, between the City of Norman and Meshek & Associates, LLC, for completion of the Lower Imhoff Creek Study Phase I Design project in the amount of \$383,647 for a total project cost of \$526,647.