



CITY OF URBANA, ILLINOIS  
DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

MEMORANDUM

TO: Bruce K. Walden, Chief Administrative Officer  
FROM: William R. Gray, Public Works Director *WRG*  
Gale L. Jamison, Assistant City Engineer *GLJ*  
DATE: July 6, 2006  
RE: Boneyard Creek Floodplain Remapping  
Agreement Amendment #2

**Introduction**

The Engineering Division recommends approval and execution of an Amendment #2 to the Boneyard Creek Floodplain Remapping Agreement.

**Background and Facts**

The City of Urbana, City of Champaign, and University of Illinois on February 19<sup>th</sup>, 2001 entered into an Intergovernmental Agreement respecting Improvements to the Boneyard Creek.

The Cities and University authorized Amendment #1 to that agreement on April 25<sup>th</sup>, 2005. Amendment #1 retained the United States Geological Survey (USGS) to document the 100-year floodplain as a result of Champaign's and the University's improvements to the Boneyard Creek and to apply for a revision to the Federal Emergency Management Agency (FEMA) Floodplain Maps. The total cost of Amendment #1 was \$120,000 with the City of Urbana being responsible for \$42,000 (35%) of the cost.

Amendment #2 covers a request by the USGS for an additional \$30,000 to cover several modifications and scope changes to the floodplain remapping study approved under Amendment #1. Urbana's cost share (35%) of the cost associated with Amendment #2 is \$10,500. Proposed modifications and scope changes to the study include:

- **Upgrade from SWMM4 to SWMM5 software** - SWMM is an abbreviation for Storm Water Management Model and was developed by the Environmental Protection Agency. The SWMM software is a dynamic rainfall-runoff simulation model, primarily for urban areas, for single-event or long-term (continuous) simulation. This item covers staff costs to upgrade from the SWMM4 to the SWMM5 hydrological and hydraulic modeling software. The SWMM5 software which became FEMA-approved after the project started has better standing with FEMA and under preliminary investigation appears to be more accurate and stable than the SWMM4 software.

- **Verification of SWMM5 software against HEC/RAS software** - HEC-RAS is an abbreviation for the Hydrological Engineering Center's River Analysis Software developed by the U.S. Army Corps of Engineers. The HEC-RAS software models water surface elevations which can be used to predict water depths and floodplain limits. This item covers extra work required on recalibration of the SWMM-modeled structures following the verification/comparison with the HEC-RAS models developed for the submittal. The SWMM5 results at structures were generally slightly less conservative than the HEC-RAS results and it is anticipated that FEMA will expect equivalent results. The recalibration exceeded minor verification adjustments included in the original contract.
- **Delay on Delivery of Digital Elevation Model (DEM) Data** - This item covers additional staff costs to maintain the project deadline's schedule due to a delay in the delivery of the DEM from the County Geographical Information System (GIS) Consortium. Modeling could not proceed until the DEM was acquired. Additional staff had to be assigned to the modeling effort to maintain the project schedule.

### **Options and Consequences**

One option is to approve Amendment #2 and proceed with the Boneyard Floodplain Remapping Study. This option would be consistent with the intergovernmental agreement. The City of Champaign approved Amendment #2 on June 23, 2006.

The other option is to reject Amendment #2. This action would not be consistent with the intergovernmental agreement and would delay or possibly terminate the floodplain remapping study.

### **Fiscal Impact**

Funds for Amendment #2 in the amount of \$10,500 would come from Capital Improvement and Replacement Funds. There are sufficient funds available in the Capital Improvement and Replacement Budget to cover the \$10,500 cost of Amendment #2 so no budget amendment ordinance is required.

### **Recommendations**

It is recommended that the ordinance authorizing the Mayor to execute an amendment #2 to the Boneyard Creek Floodplain Remapping Agreement be approved.

Attachments:           Amendment #2 Authorization Ordinance

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE AUTHORIZING THE MAYOR TO EXECUTE AN AMENDMENT #2 TO THE BONEYARD CREEK FLOODPLAIN REMAPPING AGREEMENT

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS, as follows:

Section 1. That An Amendment #2 to the Boneyard Creek Floodplain Remapping Agreement Between the City of Champaign, Illinois, the Board of Trustees of the University of Illinois and the City of Urbana, Illinois, in substantially the form of the copy of said Agreement attached hereto and hereby incorporated by reference, be and the same is hereby authorized and approved.

Section 2. That the Mayor of the City of Urbana, Illinois, be and the same is hereby authorized to execute and deliver and the City Clerk of the City of Urbana, Illinois, be and the same is authorized to attest to said execution of said Agreement as so authorized and approved for and on behalf of the City of Urbana, Illinois.

PASSED by the City Council this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

AYES:

NAYS:

ABSTAINS:

\_\_\_\_\_  
Phyllis D. Clark, City Clerk

APPROVED by the Mayor this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

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Laurel Lunt Prussing, Mayor