



# Iowa Department of Transportation

## SPECIAL PROVISION FOR EMERGENCY ACTION PLAN

Pottawattamie County  
IM-NHS-029-3(102)48--03-78  
IM-NHS-029-3(103)48--03-78  
IM-NHS-029-3(110)48--03-78  
IM-NHS-029-3(146)48--03-78  
NHS-029-3(106)48--11-78

Effective Date  
January 21, 2015

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

### 120214.01 DESCRIPTION.

- A. Levee Unit Name:** Ag Levee L-624, Section 3 (Mosquito Creek Levee)  
Missouri River - Council Bluffs Flood Protection
- Local Sponsor:** City of Council Bluffs, Iowa
- River Miles:** M0.00 to about M1.69
- Levee Stations:** 1010+00 to 1060+00
- Project Name:** Council Bluffs Interstate System – Segment 3  
Reconstruction of I-29 / I-80 East System Interchange  
and Railroad Consolidation  
Pottawattamie County, Iowa
- B.** The Iowa DOT is proceeding with the reconstruction of the I-29 / I-80 East System Interchange (Segment 3) as a part of the Council Bluffs Interstate System (CBIS) improvement program. The work for Segment 3 involves the construction of new roadway embankments and bridge structures. The levee affected by this construction is the Agricultural Levee L-624, which was a part of the Council Bluffs Flood Protection System that was originally designed and constructed by the Omaha District of the U.S. Army Corps of Engineers (USACE) in the early 1950s. A large portion of the interstate reconstruction will take place within the “critical area” of the levee, which is defined by the USACE as the area within 300 feet riverward and 500 feet landward of the levee.

The work covered by this Emergency Action Plan (EAP) addresses the removal of bridge foundations and embankments, storm sewer pipe, and sanitary sewer pipe and construction of roadway embankments including ground improvements, bridge structures, storm sewer, and sanitary sewer within the Mosquito Creek levee critical area. The ground improvements consist of below grade concrete columns that will be used to support the new embankments.

## **120214.02 CONSTRUCTION.**

### **A. Preparation of Emergency Action Plan.**

Prior to construction, prepare and follow an EAP, which will address the requirements presented in this document and the procedures for high water conditions on either the Missouri River or the Mosquito Creek during construction. The EAP shall include emergency contact information, including cell phone and pager numbers of the project manager, project superintendent and foreman. The numbers provided shall be monitored 24 hours a day, 7 days a week.

### **B. Submittals.**

Any changes proposed by the contractor that might impact the levee or are located in the levee critical area, such as: changes to staging, excavation depths, shoring, haul routes, levee access roads, or working pads adjacent to the Mosquito Creek channel; addition of a temporary stream crossings; groundwater dewatering; or pumping water from the Mosquito Creek must be submitted for approval.

Submittals for contractor proposed changes, EAP, levee access roads and working pads adjacent to the Mosquito Creek, excavation shoring designs, or temporary stream crossing designs in the levee critical area will be reviewed by the Engineer, the City of Council Bluffs, and the USACE. Construction identified in the submittal shall not begin until the City of Council Bluffs and the USACE have accepted the submittal.

1. Levee access roads and working pads located on the levee shall be designed to meet the USACE stability guidelines in "Design and Construction of Levees" EM 1110-2-1913. Working pads located on the stream bank shall be designed to be stable and not further damage existing bank areas that are distressed. Analysis shall include weight of the levee access roads, working pads, and equipment (both static and operating). Additionally, any pre-existing slope failure surfaces shall be included in the analyses. The analyses shall be signed and sealed by a qualified professional engineer in the State of Iowa specializing in geotechnical engineering. The contractor is responsible for the stabilization of their working pad as it relates to their operations. The levee access roads and working pads shall be evaluated for both global stability and local stability.
2. Settlement of the levee due to the weight of the levee access roads, working pads, and equipment (both static and operating) shall be analyzed and a mitigation plan presented in the submittal, such that the level of protection provided by the levee is not reduced during or after construction. At a minimum, this shall include pre- and post-construction survey. See Article 120214.02.E.

Any observed deformation that is greater than 6 inches, such as sliding, sloughing, or subsidence, of the levee access road, working pad, or immediately adjacent areas must be addressed immediately. Construction activities in the distressed area shall cease until a mitigation plan has been submitted and approved.

3. Changes to the levee access roads or working pads adjacent to the Mosquito Creek or the design of a temporary stream crossing will require a hydraulic analysis and preparation of a backwater profile. Levee access roads and working pads shown in the plans were designed for a maximum backwater of 0.5 feet, prior to overtopping of the levee. Backwater profiles for the 2, 5, and 10 year events and the bank full event shall be provided. The hydraulic analyses shall be signed and sealed by a qualified professional engineer in the State of Iowa.

4. Allow 9 weeks for review of these submittals.

**C. Staging.**

1. All construction related to the piggy-back levee or levee restoration must be substantially complete prior to the commencement of any excavations within the existing levee section at the location of the piggy-back levee or levee restoration. See staging plans for additional details and requirements.
2. The Iowa DOT, City of Council Bluffs representatives, and the Engineer shall be notified 1 week prior to construction of the piggy-back levee or levee restoration and at the completion of the piggy-back levee or levee restoration construction operations at least 1 week prior to beginning any excavations within the existing levee section.
3. Determination that the proposed levee work is considered to be substantially complete will include review of:
  - a. The earthwork grading,
  - b. As-built survey, and
  - c. Compaction test results for the embankments.

**D. Limitations.**

Ensure that the proposed construction will not involve any additional landward or riverward excavations in the critical area that may impact the levee at any time during construction except as shown in the approved plans and specifications.

Ensure that access to the levee crest and area within 15 feet of the levee toe is available to the City of Council Bluffs and USACE for operations and maintenance. If access to the levee crest or area within 15 feet of the levee toe will be restricted, coordinate restrictions with the Iowa DOT, Engineer and the City of Council Bluffs.

**E. Pre- and Post-Construction Survey.**

Survey the levee, landward toe area extending 50 feet landward, and riverward toe area extending to the Mosquito Creek waterline a minimum of 50 feet beyond the downstream and upstream limits of the levee access and levee restoration areas and any other area of the levee, landward toe area, or riverward toe area that will be accessed by the contractor. The levee, landward toe area, and riverward toe area shall be surveyed prior to construction activities, and after restoration of the disturbed areas, or as requested by the engineer to document observed distress. The results of the post-construction survey should be provided to the Engineer prior demobilization. Areas determined to be deficient by the Engineer shall be immediately repaired and confirmed by survey. Survey information should be reported in a table format with levee stations and elevations presented along the levee centerline at 25-foot intervals and in graphical format in plan and profile view and cross-sections at 25-foot intervals. The plan view shall show the levee centerline, levee station, and 1-foot elevation contours. The profile view shall show the elevation at the levee centerline.

The Engineer will complete a pre-construction and post-construction inspection to identify any observable signs of distress including: rutting, cracks, lack of sod cover, settlement, erosion, or stability issues on the levee or riverside stream bank areas. If the post-construction inspection identifies any observable sign of distress that was the result of the contractor, the area shall be repaired to pre-construction conditions by the contractor. The contractor will prepare a submittal detailing the proposed repair method. The submittal will be reviewed by the Engineer, the City of Council Bluffs, and the USACE. Construction shall not begin until the City of Council Bluffs and the USACE have accepted the submittal. Allow 9 weeks for review of the submittal.

## **120214.03 EMERGENCY ACTION PLAN.**

### **A. Contents of Emergency Action Plan.**

1. The contents of the EAP will present a detailed staging plan and all provisions in the contract documents so that the integrity of the levee system and its ability to provide flood protection will be maintained throughout the entire duration of construction. A site map will be provided in the EAP that identifies the location of:
  - Drainage District Right-of-Way,
  - levee centerline with stationing,
  - 500-foot landward critical area,
  - haul routes,
  - proposed construction within the levee critical area,
  - stockpiles that will be available for emergency backfill along with dates that stockpiles will be in-place and type of material,
  - levee access locations, and
  - temporary working pads or stream crossings along with dates that they will be in-place.

The design of the levee access roads and temporary working pads, as addressed in the plans, will be provided in the EAP including:

- plan view location,
- cross sections,
- material types,
- strength parameters
- stability analyses,
- settlement analyses, and,
- hydraulic analysis (if applicable).

The pre-construction survey will be provided in the EAP.

The schedule for activities within the levee critical area shall be specifically addressed, such as planned excavations, working pad construction and removal, bridge demolition, and bridge construction.

The EAP shall be submitted at least 3 weeks prior to construction within the critical area and 9 weeks prior to construction on or riverward of the levee.

2. The proposed construction will be performed during flood and non-flood event periods, including the work on the top, riverside and landside of the existing levee. The potential does exist for the river or stream to rise to flood level during the proposed construction and provisions will be in place to address this potential.

### **B. Procedures.**

The following procedures shall be in place to address an emergency situation:

#### **1. Daily Monitoring.**

The water level in the Missouri River shall be monitored on a daily basis by the Contractor and the Iowa DOT and recorded in the daily construction log. The extended forecast of future river levels and precipitation in the Mosquito Creek drainage basin shall also be monitored and recorded in the daily construction log. The contractor shall be able to react quickly to required actions if a heavy precipitation event occurs at any time of the day.

The Engineer and the City of Council Bluffs shall be notified if flood waters in the Mosquito Creek come into contact with the levee or are near the top of the levee within the construction limits.

**2. Monitoring Agencies.**

The river level shall be monitored through USGS and National Weather Service websites for River Gage - 06610000 Missouri River at Omaha, NE.

- [http://waterdata.usgs.gov/ne/nwis/uv/?site\\_no=06610000&](http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06610000&)
- <http://www.riverwatch.noaa.gov/forecasts/OAXRDOAX.php>

The Mosquito Creek basin precipitation forecast shall be monitored through the National Weather Service website.

- <http://www.hpc.ncep.noaa.gov/qpf/qpf2.shtml>

**3. Ceasing Operation.**

Construction operations will cease in the event the river levels are within 5 feet of the published flood stage of 29 feet (Elevation 974.4 feet). The 100-year flood elevation at this location is 981.0 feet. The 500-year flood elevation is 983.0 feet.

In the event greater than 1 inch of rainfall in a 24-hour period is forecasted for the Mosquito Creek drainage basin, coordinate the work planned on the levee or riverward of the levee with the Iowa DOT and City of Council Bluffs and take actions to ensure that no material or equipment is stored on the levee or riverward of the levee at the end of the shift.

Construction operations on the levee or riverward of the levee will cease if an unforeseen precipitation event occurs and the water level in the Mosquito Creek begins to approach bank full of the minor channel. Material and equipment shall be removed from the levee and riverward of the levee within 4 hours of the unforeseen precipitation event.

Coordinate with the Iowa DOT, Engineer, City of Council Bluffs, and USACE to determine timing and sequence of activities, as appropriate for returning to working following the receding of flood waters. When the flood waters recede and if repairs are needed, complete repairs, as directed by the Iowa DOT, Engineer, City of Council Bluffs, and USACE. Remove debris that has been deposited in the work areas.

**4. Construction Equipment.**

Provide a list of all construction equipment that will be present throughout the duration of construction within the critical area and will be available for emergency flood fighting activities.

**5. Emergency Backfilling.**

Emergency backfilling shall be commenced, if the river level reaches an elevation within 5 feet of the published flood stage of 29 feet (Elevation 974.4 feet), during excavation construction of the sanitary sewer, storm sewer, drilled shafts, confirmation borings, or rigid inclusions, . The rate of emergency backfilling shall exceed the rate of the rising river. Excavated soil shall be used as emergency backfill. Concrete or soil can also be used as emergency backfill for the ground improvements and drilled shafts.

Emergency backfilling shall commence, if the water level in the Mosquito Creek begins to approach bank full of the minor channel, during excavation construction of the drilled shafts or confirmation borings within the levee section or riverward of the levee. The rate of emergency backfilling shall exceed the rate of the rising water. Excavated soils shall be used as emergency backfill. Concrete or cement-bentonite grout can also be used as emergency backfill.

**120214.04 EMERGENCY CONTACT INFORMATION.**

**A. City of Council Bluffs.**

Jeff Krist, P.E.  
City of Council Bluffs, Public Works Dept.  
290 Pearl Street  
Council Bluffs, Iowa 51503  
Phone: 712-328-4635 (office)  
Email: jkrist@councilbluffs-ia.gov

Pat Miller, Operations Manager  
Phone: 402-510-2700 (cell)

Jeremy Noel, Levee Superintendent  
Phone: 402-968-7301 (cell)

**B. Iowa DOT Resident Construction Engineer.**

David Dorsett, P.E.  
3538 S. Expressway  
Council Bluffs, Iowa 51501  
Phone: 712-366-0568  
Email: David.Dorsett@dot.iowa.gov

**C. Iowa DOT District 4 Construction Engineer.**

George Feazell, P.E.  
2210 East 7th Street  
Atlantic, Iowa 50022  
Phone: 712-243-3355  
Email: George.Feazell@dot.iowa.gov

**D. Section 408 Engineer.**

Patrick H. Poepfel, P.E.  
HDR, Inc.  
8404 Indian Hills Drive  
Omaha, Nebraska 68114  
Phone: 402-399-1368  
Email: Patrick.Poepfel@hdrinc.com

**E. USACE – Omaha District.**

Ryan Buckley, P.E.  
USACE – Readiness Branch  
1616 Capitol Avenue, Suite 9000  
Omaha, Nebraska 68102-4926  
Phone: 402-995-2446  
Email: Ryan.M.Buckley@usace.army.mil

**F. Contractor.**

Provide primary and secondary contact information for project manager, project superintendent, and foreman.

**120214.05 METHOD OF MEASUREMENT AND BASIS OF PAYMENT.**

All costs for complying with this special provision including the preparation of the EAP, inclusion of submittals with the EAP, project coordination, pre- and post-construction surveys, monitoring, emergency actions, and any other item associated with implementation of the EAP shall be considered incidental to the project. No separate payment will be made.