



**SPECIAL PROVISIONS
FOR
EMERGENCY ACTION PLAN**

**Montgomery County
NHSX-034-2(60)--3H-69**

**Effective Date
December 19, 2023**

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

230086.01 DESCRIPTION.

- A. Levee Unit Name:** Red Oak – East Nishnabotna LB Levee
Local Sponsor: City of Red Oak, Iowa
Levee Stations: 23+00 to 25+50
- B.** The Iowa DOT is proceeding with the construction of the Highway 34 Improvements that consist of milling and resurfacing riverward of the levee closure structure and full pavement reconstruction landward of the levee closure structure. A portion of the full project's construction will take place within the "critical area" of the levee, which is defined by the U.S. Army Corps of Engineers (USACE) as the area within 300 feet riverward and 500 feet landward of the levee.
- C.** The levee affected by this construction is the Red Oak – East Nishnabotna LB Levee, which was originally designed and constructed by the Omaha District of the USACE in the early 1980s.
- D.** The purpose of these Special Provisions is:
- To identify the submittals required by the Contractor for compliance with the Section 408 submittal to the USACE,
 - State the Section 408 submittal limitations on work in the levee critical area,
 - Establish the minimum monitoring requirements,
 - Establish the emergency response in case of a flood event, and
 - Establish the restoration requirements for damage to the levee critical area.
- E.** A copy of the Section 408 submittal is available from the Engineer.

230086.02 CONSTRUCTION REQUIREMENTS.

- A. Preparation of Emergency Action Plan.**

1. The proposed construction will be performed during flood and non-flood event periods.
2. The following information was used for the purposes of defining Emergency Action Plan (EAP) action levels.
 - Within the East Nishnabotna River Flood Protection Project Operations and Maintenance (O&M) Manual for Red Oak, Iowa, Section IX serves as the Summary of Operations During Flood Emergency. Within this section, Subsection 9.3.4 provides trigger elevations for the activation of the closure structure panels. For the US 34 closure structure panel, a gage stage of 31.5 feet is provided as the trigger to activate the closure.
 - USGS monitors a gage on the East Nishnabotna River at Red Oak, Iowa. Gage 06809500 is listed with both the United States Geological Survey (USGS) and the National Weather Service (NWS) Advanced Hydrologic Prediction Service. Both the USGS and the NWS identify a gage stage of 18 feet to be the flood stage.
 - The Iowa Flood Center (IFC) manages the Iowa Flood Information System (IFIS), which provides an interface to be able to access updated precipitation and flood information. According to the IFIS, an East Nishnabotna River gage stage of 25 feet results in flood water at the riverward toe of the levee.
3. Prior to construction, the Contractor shall prepare and follow an EAP which will address the requirements presented in these special provisions and the procedures for high-water conditions during construction. The EAP shall include emergency contact information, including cell phone 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.

1. The following submittals are required:
 - Emergency Action Plan,
 - Pre-Construction Survey,
 - Post-Construction Survey,
 - Excavation Shoring Plan, and
 - Dewatering Plan.
2. Submittals will be reviewed by the Engineer.

C. Survey.

Survey the existing levee crest, slopes, and area extending 25 feet landward and riverward of the levee slopes a minimum of 100 feet beyond the area that will be accessed by the Contractor. If the Contractor's access will not extend beyond the closure structure limits, the Contractor shall survey up to 100 feet north and south of the end of the closure structure. The survey shall be completed prior to construction activities, after restoration of the disturbed areas, and as requested by the Engineer to document observed distress. The survey results shall be provided to the Engineer as soon as they are available. The results of the post-construction survey shall 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 shall be reported in a table format with levee stations and elevations presented along the levee centerline at 10-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 provide the alignment and stationing of the levee.

D. Restoration.

The Engineer will complete a pre-construction and post-construction inspection of the levee 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.

E. Modifications.

Any modifications to the pre-approved contract documents proposed by the Contractor for construction activities located in the levee critical area, such as: changes to staging, excavation depths, shoring, haul routes, levee access, or groundwater dewatering must be submitted to the Engineer for approval.

F. Limitations.

The Contractor shall ensure that the line-of-protection provided by the levee is maintained at all times during construction and 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 contract documents.

230086.03 CONTRACTOR'S EMERGENCY ACTION PLAN.

A. Contents of EAP.

The contents of the Contractor's EAP shall 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 risk reduction will be maintained throughout the entire duration of construction. A site map shall be provided in the EAP that identifies the location of:

- Levee centerline with stationing (provided by the Engineer),
- 500 foot landward and 300 foot riverward critical area (provided by the Engineer),
- Proposed haul routes,
- Proposed construction within the levee critical area, and
- Proposed locations for the storage of equipment and materials within the levee critical area.

B. Procedures.

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

1. Daily Monitoring.

The water level in the East Nishnabotna River shall be monitored on a daily basis by the Contractor and recorded in the daily construction log. The extended forecast of future river levels shall also be monitored and recorded in the daily construction log. The Contractor shall be able to react quickly to the required actions described in this Special Provision.

2. Monitoring Agencies.

The river level shall be monitored through USGS and National Weather Service websites for River Gage - 06809500 East Nishnabotna River at Red Oak, Iowa.

- https://waterdata.usgs.gov/ia/nwis/uv/?site_no=06809500
- <https://water.weather.gov/ahps2/hydrograph.php?gage=rdo14&wfo=oax>

3. Ceasing Operation.

a. Construction operations near the levee shall cease in the event that flooding is imminent, as per the following:

- Construction operations on the riverward side of the levee shall cease and any excavation shall be emergency filled.
- Any excavation on the landward side of the levee within the critical area shall cease and shall be continuously observed for seepage, sloughing and other distress to the levee and foundation soils. The Contractor may continue to work if the excavation on the landward side of the levee is complete and there are no indications of distress as determined by the City, Engineer and the USACE.

- If dewatering is being performed with dewatering wells, then the wells shall be continuously pumped unless the excavation is backfilled or as directed by the City, Engineer and the USACE.
 - If water is observed to enter the excavation resulting in sloughing or excessive seepage, then all work shall cease within the excavation and the excavation shall be backfilled.
 - If floodwater exceeds the 20 ft gage stage and is projected to reach 24 feet, or if the City coordinates with the Contractor on the deployment of the closure structure across US 34, then all work shall cease and the Contractor will be required to demobilize all equipment riverward of the levee.
- b. Coordinate with the City, Engineer 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 Engineer. Remove debris that has been deposited in the work areas.

4. Construction Equipment.

The Contractor shall provide a list of all construction equipment and material stockpiles that will be stored on the riverward and landward side of the levee. All equipment, construction materials and stockpiled soils on the riverward side of the levee will be removed in the event the river levels reach the Action Level of 20 feet and are projected to reach 24 feet.

5. Emergency Backfilling.

The rate of emergency backfilling shall exceed the rate of the rising river. Excavated or imported soil shall be used as emergency backfill. The Contractor shall maintain construction equipment on-site that will be available for emergency backfilling of excavations.

230086.04 EMERGENCY CONTACT INFORMATION.

A. City of Red Oak.

Brad Wright
601 N. 6th Street
Red Oak, Iowa 51566
Phone: 712-623-6510
Email: Redoakadmin@Redoakia.City

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 Assistant District Engineer.

Wes Mayberry, P.E.
300 W. Broadway, Suite 12
Council Bluffs, Iowa 51503
Phone: 712-388-6883
Email: wes.mayberry@iowadot.us

D. Project Engineer.

Chris Podany, P.E.
HDR, Inc.
1917 S. 67th Street
Omaha, NE 68106
Phone: 402-392-8745
Email: chris.podany@hdrinc.com

E. Section 408 Engineer.

Vicki Twerdochlib, P.E.
HDR, Inc.
1917 S. 67th Street
Omaha, NE 68106
Phone: 402-926-7190
Email: vicki.twerdochlib@hdrinc.com

F. USACE – Omaha District.

24-Hour Emergency Contact
Phone: (402) 995-2448
Email: cenwo-eoc@usace.army.mil

G. Contractor.

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

230086.05 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, 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.

See attachment: Contractor's EAP Template (Word file available upon request)

EMERGENCY ACTION PLAN

For Construction Work within the Critical Area for the Red Oak – East Nishnabotna LB Levee

Date:

Iowa Department of Transportation US 34 Improvements at Red Oak, Iowa

Prepared by: Contractor Name

Introduction

The purpose of this plan is to describe the actions which will be taken by the Contractor in the event of rising waters or flooding during construction of the Iowa Department of Transportation (IOWA DOT) US 34 Improvements – Red Oak, within the critical area of the Red Oak – East Nishnabotna LB Levee (Levee).

_____ is the Contractor for the IOWA DOT US 34 Improvements – Red Oak (Project). The Contractor has taken into account the potential for a flooding event in planning, scheduling, and selecting the means and methods for the elements of the project within the levee critical area.

Overview of Construction Planned within the Levee Critical Area

The Red Oak – East Nishnabotna LB Levee consists of an earthen embankment that is aligned from north to south where it crosses US 34 west of the US 34 intersection with Iowa 48. The levee intersection with US 34 consists of a closure structure that is deployed during high river events to complete the levee embankment alignment. The Project involves both the milling and resurfacing and full depth pavement replacement. Milling and resurfacing will occur to the west of the existing levee closure structure at US 34. The full depth pavement removal and replacement will occur east of the existing levee closure structure at US 34. Other work associated with this construction within the levee critical area is listed below.

1. Construction restoration within the Iowa DOT ROW.
2. Storm sewer removal and replacement at the US 34 and Iowa 48 interchange within the critical area.
3. US 34 and Iowa 48 interchange reconstruction.

Groundwater, if encountered during construction within the critical area, will be handled by as described in the Special Provision for Dewatering in the Levee Critical Area.

The excavations will be protected as described in the excavation and shoring plan included as Attachment B. The excavations will meet OSHA requirements.

Excavations within the levee critical area will be backfilled in accordance with the Special Provisions for Levee Construction.

Post-construction survey will be required following construction to verify there was no impact to the top of levee elevations as a result of construction.

Schedule and Duration of Construction Activities Within the Levee Critical Area

Work is scheduled to commence after _____ upon approval of this Emergency Action Plan. Refer to Attachment C for the construction schedule.

Monitoring for Rising Water or Flooding Situations

The following procedures will be in place to monitor for and be prepared for an emergency situation regarding high water levels in the East Nishnabotna River:

1. Emergency contact information for _____ is listed below. In the event of an emergency on the levee in the area of the project, the following should be contacted:

_____, Superintendent, Cell:

_____, Project Manager, Cell:

Office No. _____

These are phone numbers that should be reachable 24 HRS a day, seven days a week.

2. The river levels will be monitored and recorded on a daily basis by _____. The river levels will be determined using the United States Geological Survey (USGS) web site to obtain the data at Gage Station 06809500 East Nishnabotna River at Red Oak, Iowa. Forecast information is available through the National Weather Service Advanced Hydrologic Prediction Service. The information on these sites are listed below.

USGS website East Nishnabotna Gage Station at Red Oak, Iowa (Gage datum is 1005.45 feet NGVD29)

https://waterdata.usgs.gov/ia/nwis/uv/?site_no=06809500

The NOAA website will also be used to monitor the river forecast. Flood stage is listed at 18 feet gage height.

<https://water.weather.gov/ahps2/hydrograph.php?gage=rdoi4&wfo=oax>

3. This information will be used to evaluate the need for contingency measures to be implemented for work conducted in the Levee Critical Area. Excavated material will be stockpiled immediately adjacent to the excavation, to be available if needed for immediate backfilling.
4. Additional equipment listed in Attachment D is available within _ hour(s) for delivery to the site if needed to assist in emergency actions. Equipment on site will include:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
5. The Contractor will notify the City and USACE – Omaha District representatives as soon as possible if the Contractor decides to cease construction operations due to an emergency or high water level situation. The Contractor will also then notify the City and the USACE – Omaha District representatives prior to resuming the construction operations.
6. Prior to the start of construction, the Contractor will conduct pre-construction survey to submit with this EAP. Pre-construction survey can be found within Appendix E.

Actions to Be Taken in Rising Water or Flooding Situations.

When river levels reach 20 feet gage height and are forecasted to reach 24 feet gage height, coordination will take place with the City of Red Oak Levee Sponsor to determine any necessary emergency action for work within the Levee critical area, both for riverward and landward work.

Emergency actions, depending on the situation and anticipated rate of rise of floodwater, as directed by the City of Red Oak or USACE – Omaha District may include:

- 1) Ceasing Operation for Excavations:
 - a) Construction operations will cease in the event the river levels reach 20 stage feet (Elevation 1025.45 FT NGVD29) as per the following:
 - i) If the river level reaches 20 stage feet, any excavations within the critical area shall cease and shall be continuously observed for seepage, sloughing and other distress to the levee and foundation soils. The Contractor may continue to work if the excavation is complete and there are no indications of distress as determined by the Engineer and the USACE – Omaha District.
- 2) Emergency Operations for Construction at US 34 Closure:
 - a) Construction operations will cease in the event the river levels reach 20 stage feet (1025.45 FT NGVD29) and are forecasted to reach 24 stage feet (1029.45 FT NGVD29) as per the following:
 - i) The Contractor shall cease milling and resurfacing operations riverward of the US 34 closure and shall cease pavement removal and replacement operations landward of the US 34 closure.
 - ii) In the event full depth pavement is removed directly adjacent to the US 34 closure landward of the levee, the Contractor shall place subbase material on an emergency basis and provide a temporary driveable surface (i.e. steel panels, etc) to allow the City to access the closure to place panels.
- 3) Ceasing Operation for Construction Riverward of Existing Levee:
 - a) Construction operations located riverward of the existing levee will cease in the event the river levels reach 20 stage feet (Elevation 1025.45 FT NGVD29) as per the following:
 - i) If the river level reaches 20 stage feet (1025.45 FT NGVD29) and is forecasted to reach 24 stage feet (1029.45 FT NGVD29), construction operations riverward of the existing levee shall cease. At 24 stage feet (1029.45 FT NGVD29), river levels are projected to reach the riverward levee toe. Contractor shall remove construction equipment from riverward of the levee and relocate them. The Contractor may resume work once river levels have fallen below the action level and are forecasted to remain below action level.
 - ii) The City of Red Oak may choose to deploy closure structure panels at an elevation other than those listed above. If the City chooses to do so, the City will alert the Contractor prior to deployment operations to allow the Contractor to remove equipment from riverward of the levee.

Returning to Work within the Levee Critical Area

The Contractor will coordinate with the City of Red Oak and USACE – Omaha District to determine the timing and sequence of activities as appropriate for returning to work within the Levee critical area following the receding of flood waters.

Emergency Contact Information

Contractor Contact: Superintendent: _____
Cell: _____

Contractor Contact: Project Manager: _____
Phone: _____
Cell: _____
Email: _____

Corps of Engineers – Omaha District Emergency Management Office: 402.995.2448

City of Red Oak: Brad Wright, Red Oak Levee Sponsor
City of Red Oak
Phone: 712.623.6510
Redoakadmin@Redoakia.City

Iowa DOT Resident Construction Engineer:

David Dorsett, P.E.
Iowa DOT
Phone: 712-366-0568
Cell:
Email: David.Dorsett@dot.iowa.gov

Iowa DOT Assistant District Engineer:

Wes Mayberry, PE
Iowa DOT
Phone: 712.388.6883
Cell:
Email: wes.mayberry@iowadot.us

Project Engineer:

Chris Podany, PE
HDR, Inc.
Phone: 402.392.8745
Cell:
Email: chris.podany@hdrinc.com

Section 408 Engineer:

Vicki Twerdochlib, PE
Phone: 402.926.7190
Cell: 402.906.7599
Email: vicki.twerdochlib@hdrinc.com

Resident Project Representative: _____
Cell: _____
E-mail: _____

List of Attachments to this EAP:

- A. Project Location Figure
- B. Excavation and Backfill Procedures
- C. Construction Schedule
- D. Contractor's Equipment List and Locations
- E. Pre-Construction Survey