



**US Army Corps  
of Engineers®**

## Levee Inspection Report

Name of System: Hammond Forest Ave

Name of Segment: Hammond Forest Ave

NLD System ID: 2605000010

NLD Segment ID: 2604000010

Segment Type: Non-Federally Constructed, local O&M

Levee Sponsor (Name and Organization): Little Calumet River Basin Development Commission

Inspection Report Prepared by: Christopher Schaal

Date(s) of Inspection: 04/13/2022 - 04/13/2022

### Other Segments Within This System

Segment Name	NLD Segment ID#	Segment Type	Segment Inspection Rating

### Contents of Inspection Report:

☒ Levee Inspection Summary

**Inspection Checklist**

- ☒ General Items
- ☒ Levee Embankment
- ☒ Concrete Floodwalls
- ☒ Interior Drainage System
- ☒ Pump Stations
- ☐ FDR System Channels

☒ Public Sponsor Pre-Inspection Form

☒ General Instructions

☒ Maps

Type of Inspection:

☒ Routine Inspection

☐ Periodic Inspection

☐ Special Inspection

Purpose of Special Inspection: \_\_\_\_\_

### Ratings:

Segment Rating:

☐ Acceptable

☐ Minimally Acceptable

☐ Unacceptable

☐ No Verdict

System Rating:

☐ Acceptable

☐ Minimally Acceptable

☐ Unacceptable

☐ No Verdict

LSPM Signature: \_\_\_\_\_

LSO Signature: \_\_\_\_\_

*John A. Groboski*

Date Approved: 5/12/22

Date Approved: 5/13/22

### Levee Inspection Team Members (Levee Sponsor, USACE, and Others)

Name	Organization	Discipline	Team
Yuki Galisanao	USACE - Chicago District	Levee Safety Program Manager	Levee
Chris Schaal	USACE - Chicago District	Geotechnical	Levee
Jonathan Lombardi	USACE - Chicago District	Mechanical	Pump Station
Andrew Lin	USACE - Chicago District	Structural	Levee/Pump Station
Alan Jaski	USACE - Chicago District	Electrical	Pump Station
Dan Repay	LCRBDC	Local Sponsor	Levee
Ricky Wilcox	HSD		Pump Station
Andy Wadysz	USACE - Detroit District	Structural	Levee

**Segment Rating Rationale:**

*[Describe the basis of the Segment rating considering (1) the general condition of the segment, (2) the rationale for Item ratings, categorized by Feature that contributed to the Segment rating, and (3) the number or severity of notable observations/deficiencies. The summary may also include information related to the condition of the levee, not otherwise captured in the Levee Inspection Checklist, if applicable.]*

No change in rating from Minimally Acceptable since the previous inspection. Minor issues with trees and tall vegetation, encroachments, bank erosion, settlement, depressions, animal burrows, pipes, tilting retaining wall, minor spalling, exposed water stops, spalling and cracks on the concrete blocks, vegetation and silt at the outlets, vegetation in the riprap, minor structural issues at the pump stations, and a leaky pump. Bank erosion is progressing as is silt and vegetation at the outlets. Retaining wall on riverside toe is tilting and should be monitored for progression.

**System Rating Rationale:**

*[Synthesize information from the Segment rating rationales for each Segment within the System. For single-segment systems, see segment rating rationale above.]*

Same as segment rating

**General Items for All Flood Damage Reduction Segments / Systems: Hammond Forest Ave**  
**For use during all inspections of all Flood Damage Reduction Segments / Systems**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Operations and Maintenance Manuals	<b>A</b>	<b>A</b>	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	<b>Justification:</b> Forest Ave Levee System O&M Manual was developed for certification. Manuals are maintained by the City Engineering Department at City Hall.
		<b>M</b>	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.	
		<b>U</b>	Sponsor has not obtained lost or missing manuals identified during previous inspection.	
2. Emergency Supplies and Equipment (A or M only)	<b>A</b>	<b>A</b>	The sponsor maintains a stockpile of sandbags, shovels, and other flood fight supplies which will adequately supply all needs for the initial days of a flood fight. Sponsor determines required quantity of supplies after consulting with inspector.	<b>Justification:</b> City of Hammond has ready inventory of flood fighting supplies and equipment. Primary resources are available through Public Works Department, but also can be supplemented by other city departments. Street Dept Public Works facility at 601 Conkey maintains pay loaders, 12 new trucks, 30 existing trucks, 4 front loaders, 26 concrete blocks, portable welders, approximately 80 pallets (100/pallet) of shrink-wrapped sandbags last checked 1-2 years ago, 2 forklifts, pile of sand, 5k empty sandbags, and visqueen. Borrow source is Krooswyk. Hammond manually fills sandbags or uses a salt spreader to fill large quantities of bags.
		<b>M</b>	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	
3. Flood Preparedness and Training (A or M only)	<b>A</b>	<b>A</b>	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	<b>Justification:</b> Hammond uses the RAVE emergency notification system to send messages to residents via phone, email, and web. They also use reverse 911, WJOB radio station, door to door, loud speaker, and police to relay information. Public Works also uses frequency radios with the police and fire departments. Evacuation areas include City Hall, Civic Center, Jean Shepherd Community Center, Armory, Purdue University Calumet, Area Career Center. Fire Department has rescue boats. Public Works and Sanitary District were ready to mobilize. Dyer and Grimmer were on hand to assist with flood fighting if required. Updated Flood Handbooks were provided in 2019. Participated in the road closure at River Road in 2021.
		<b>M</b>	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.	

**Levee Embankments: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Unwanted Vegetation Growth	<b>M</b>	<b>A</b>	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110-2-301 or Corps policy for regional vegetation variance.	2022-0001 : Trees on embankment crown. (M) 2022-0003 : Trees on riverside embankment. (M) 2022-0023 : Tree within 10 ft of landside toe. (M) 2022-0025 : Both trees are within 10ft of landside toe. (M) 2022-0031 : Brush growth along length of landside toe. (M) 2022-0059 : Trees and plantings along landside of sheet pile tieback wall. (M) 2022-0075 : Tree on landside toe too close to levee. (M) <b>Recommendation:</b> Remove trees and vegetation from 15 foot vegetation free zone.
		<b>M</b>	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the levee.	
		<b>U</b>	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must to be removed to reestablish or ascertain levee integrity.	
2. Sod Cover	<b>M</b>	<b>A</b>	There is good coverage of sod over the levee.	2022-0033 : Lack of good cover caused loss of soil on riverside slope. (M) <b>Recommendation:</b> Restore topsoil and reseed affected areas.
		<b>M</b>	Approximately 25% of the sod cover is missing or damaged over a significant portion or over significant portions of the levee embankment. This may be the result of over-grazing or feeding on the levee, unauthorized vehicular traffic, chemical or insect problems, or burning during inappropriate seasons.	
		<b>U</b>	Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	
		<b>N/A</b>	Surface protection is provided by other means.	

## Levee Embankments: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
3. Encroachments	<b>M</b>	<b>A</b>	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	2022-0009 : Fallen tree within 15 feet of landside toe. (M) 2022-0011 : Fallen tree within 15 feet of landside toe. (M)
		<b>M</b>	Trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	2022-0019 : Debris within 10 ft of riverside toe. (M) 2022-0037 : Fallen Tree on landside slope of levee. (M) 2022-0039 : Fallen tree on landside slope. (M)
		<b>U</b>	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	2022-0041 : Debris on landside toe. (M) 2022-0051 : Coaxial cable installed on crown of levee. (M) 2022-0055 : Fence encroaching access on landside toe and slope. (M) 2022-0057 : Unauthorized stairs encroaching on landside slope. (M) 2022-0073 : Garden and lawn furniture encroaching landside slope and toe. (M) <b>Recommendation:</b> Remove debris . Discuss structure encroachments with owner. Remove or submit Section 408 requests for fence, garden, and steps. Remove coaxial cable from crest of levee.
4. Closure Structures	<b>NA</b>	<b>A</b>	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	
		<b>U</b>	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		<b>N/A</b>	There are no closure structures along this component of the FDR segment / system.	

**Levee Embankments: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
5. Slope Stability	<b>M</b>	<b>A</b>	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	2022-0021 : Riverside slope appears to be sloughing. (M) <b>Recommendation:</b> Rebuild slope and reseed area.
		<b>M</b>	Minor slope stability problems that do not pose an immediate threat to the levee embankment.	
		<b>U</b>	Major slope stability problems (ex. deep seated sliding) identified that must be repaired to reestablish the integrity of the levee embankment.	
6. Erosion/ Bank Caving	<b>M</b>	<b>A</b>	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	2022-0035 : Typical erosion along riverside toe. (M) 2022-0071 : Erosion along riverside toe. (M) <b>Recommendation:</b> Stabilize embankment with riprap.
		<b>M</b>	There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.	
		<b>U</b>	Erosion or caving is occurring or has occurred that threatens the stability and integrity of the levee. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	
7. Settlement	<b>A</b>	<b>A</b>	No observed depressions in crown. Records exist and indicate no unexplained historical changes.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Minor irregularities that do not threaten integrity of levee. Records are incomplete or inclusive.	
		<b>U</b>	Obvious variations in elevation over significant reaches. No records exist or records indicate that design elevation is compromised.	
8. Depressions/ Rutting	<b>M</b>	<b>A</b>	There are scattered, shallow ruts, pot holes, or other depressions on the levee that are unrelated to levee settlement. The levee crown, embankments, and access road crowns are well established and drain properly without any ponded water.	2022-0005 : Depression along crown of levee, caused by roof gutter water dropping straight onto ground. (M) 2022-0007 : Rain fall from roof caused depression along riverside slope. (M) 2022-0017 : Deep rut caused by mower or similar. (M) <b>Recommendation:</b> Fill shallow ruts with topsoil and reseed. Fill deep ruts with clay and restore sod cover. Where roof gutters are causing rutting, install downspouts and bends at bottom to disperse rainwater.
		<b>M</b>	There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.	
		<b>U</b>	There are depressions greater than 6 inches deep that will pond water.	

## Levee Embankments: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
9. Cracking	<b>A</b>	<b>A</b>	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the levee crest. Longitudinal cracks are no longer than the height of the levee.	
		<b>U</b>	Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the levee and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire levee width.	
10. Animal Control	<b>M</b>	<b>A</b>	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	2022-0013 : Animal holes in riverside toe. (M) 2022-0015 : Animal burrow on crown of levee. (M) 2022-0027 : Animal burrows, 3 inch wide, on crown of levee near riverside edge. (M) 2022-0029 : Animal burrow, 18 inch deep, on crown near riverside edge. (M) <b>Recommendation:</b> Backfill burrow with compacted clay or grout. Improve animal control program
		<b>M</b>	The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.	
		<b>U</b>	Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.	



## Levee Embankments: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
11. Culverts / Discharge Pipes (This item includes both concrete and corrugated metal pipes.)	<b>M</b>	<b>A</b>	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	<p><b>Justification:</b> FA-04 (12 inch RCP) - Partial inspection due to partially closed gate at manhole preventing further inspection. Previously existing sluice gates were supposed to have been removed. (M) FA-02 (15 inch RCP) - Debris in the pipe. (M) FA01 (12 inch RCP) - Structural defects at the following locations from the manhole: circumferential crack (13.3 ft south), wide joint separation (7.9 ft south), misalignment at broken joints (8 ft north), wide joint separation (14.4 ft north), etc. (M) Camera inspection performed in June 2018. These pipes did not demonstrate any performance issues during the Feb 2018 flood event.</p> <p><b>Recommendation:</b> Address deficiencies. Repair plan should be developed and coordinated with USACE before implementing. Next camera inspection should be performed before the 2023 inspection.</p>
		<b>M</b>	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		<b>U</b>	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		<b>N/A</b>	There are no discharge pipes/ culverts.	

## Levee Embankments: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
12. Riprap Revetments & Bank Protection	NA	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
13. Revetments other than Riprap	M	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.	2022-0081 : Retaining wall on riverside toe is tilting. (M) <b>Recommendation:</b> Monitor retaining wall for further or progressive movement.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		N/A	There are no such revetments protecting this feature of the segment / system.	

## Levee Embankments: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
14. Underseepage Relief Wells/ Toe Drainage Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		M	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
15. Seepage	A	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	<b>Justification:</b> No Issues Observed.
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

**Controlled Unclassified Information (CUI):** This document contains levee information that shall not be released in an uncontrolled manner

**Flood Damage Reduction Segments / Systems  
Inspection Report  
Hammond Forest Ave**

**Levee Embankments  
Page 7 of 7**

**Floodwalls: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of all floodwalls**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Unwanted Vegetation Growth	<b>M</b>	<b>A</b>	A grass-only or paved zone is maintained on both sides of the floodwall, free of all trees, brush, and undesirable weeds. The vegetation-free zone extends 15 feet from both the land and riverside of the floodwall, at ground-level, to the centerline of the tree. Additionally, an 8- foot root-free zone is maintained around the entire structure, including the floodwall toe, heel, and any toe-drains. If the floodwall access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110- 2-301 and/or Corps policy for regional vegetation variance.	2022-0047 : Small trees along riverside of floodwall. (M) 2022-0067 : Small trees along riverside of floodwall. (M) 2022-0091 : Weed growing in landside wall joint. (M) 2022-0095 : Small bush along riverside of floodwall. (M) 2022-0097 : Small bush on riverside of floodwall. (M) 2022-0099 : Small bush on riverside of floodwall. (M) <b>Recommendation:</b> Remove vegetation around floodwalls.
		<b>M</b>	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the floodwall.	
		<b>U</b>	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above. This vegetation threatens the operation or integrity of the floodwall and must be removed.	
2. Encroachments	<b>M</b>	<b>A</b>	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the floodwall.	2022-0043 : Small branches and debris on riverside of floodwall. (M) 2022-0049 : Garden encroaching on landside of floodwall. (M) <b>Recommendation:</b> Remove debris from around floodwall. If encroaching items belong to local homeowner, discuss with homeowner and either remove items or apply for Section 408 permit.
		<b>M</b>	Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		<b>U</b>	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the floodwall.	

## Floodwalls: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
3. Closure Structures (Stop Log Closures and Gates) (A or U only)	<b>A</b>	<b>A</b>	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	2022-0083 : South closure. Stop logs are warping and would leak when loaded. (A) 2022-0089 : North closure. Stop logs are warping and would leak when loaded. (A) <b>Recommendation:</b> Replace warped stop logs at north and south closures.
		<b>U</b>	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		<b>N/A</b>	There are no closure structures along this component of the FDR segment / system.	
4. Concrete Surfaces	<b>M</b>	<b>A</b>	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2022-0087 : Cracking along land and river side of floodwall. (M) 2022-0093 : Crack on landside of floodwall. (M) 2022-0101 : Crack on riverside of floodwall. (M) 2022-0103 : Crack on riverside of floodwall. (M) 2022-0105 : Crack on riverside of floodwall. (M) <b>Recommendation:</b> Seal cracks with polyurethane grout. For larger cracks consider replacing whole block.
		<b>M</b>	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		<b>U</b>	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	

**Floodwalls: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of all floodwalls**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
5. Tilting, Sliding or Settlement of Concrete Structures	<b>M</b>	<b>A</b>	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	2022-0045 : Alignment of floodwalls is not straight, indicating settlement of fill between floodwalls. (M) 2022-0061 : Settling of soil within bin wall, likely due to expanding walls mentioned in 2022-045. Fill to maintain top of levee elevation as necessary. Monitor for movement. (M) <b>Recommendation:</b> Survey low points in NAVD88 to confirm elevation. Add fill to levee crest to match the required design height. Continue to monitor structures for movement.
		<b>M</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
		<b>U</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
6. Foundation of Concrete Structures	<b>M</b>	<b>A</b>	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2022-0063 : Animal hole in bin wall, 2 inches deep. (M) <b>Recommendation:</b> Fill animal burrow with compacted clay.
		<b>M</b>	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stable until the next inspection.	
		<b>U</b>	Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event.	

**Floodwalls: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of all floodwalls**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
7. Monolith Joints	<b>M</b>	<b>A</b>	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	2022-0085 : Landside strip sealant peeling from side. (M) 2022-0107 : Riverside joint is missing sealant, exposing waterstop. (M) <b>Recommendation:</b> Remove failing sealant and replace with polyurethane sealant.
		<b>M</b>	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
		<b>U</b>	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		<b>N/A</b>	There are no monolith joints in the floodwall.	
8. Underseepage Relief Wells/ Toe Drainage Systems	<b>NA</b>	<b>A</b>	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		<b>M</b>	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		<b>U</b>	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		<b>N/A</b>	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
9. Seepage	<b>A</b>	<b>A</b>	No evidence or history of unrepaired seepage, saturated areas, or boils.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
		<b>U</b>	Evidence or history of active seepage, extensive saturated areas, or boils.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

**Interior Drainage System: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of interior drainage systems**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Vegetation and Obstructions	<b>M</b>	<b>A</b>	No obstructions, vegetation, debris, or sediment accumulation noted within interior drainage channels or blocking the culverts, inlets, or discharge areas. Concrete joints and weep holes are free of grass and weeds.	2022-0053 : FA-4: Outlet is silted in. (M) 2022-0077 : FA-2: Vegetation is blocking gates. (M) <b>Recommendation:</b> Remove silt and other obstructions to outlets.
		<b>M</b>	Obstructions, vegetation, debris, or sediment are minor and have not impaired channel flow capacity or blocked more than 10% of any culvert openings, but should be removed. A limited volume of grass and weeds may be present in concrete channel joints and weep holes.	
		<b>U</b>	Obstructions, vegetation, debris, or sediment have impaired the channel flow capacity or blocked more than 10% of a culvert opening. Sediment and debris removal required to reestablish flow capacity.	
2. Encroachments	<b>A</b>	<b>A</b>	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the interior drainage system.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		<b>U</b>	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of this component of the interior drainage system.	
3. Ponding Areas	<b>NA</b>	<b>A</b>	No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	
		<b>M</b>	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit operations and maintenance. Sediment deposits do not exceed 30% of capacity.	
		<b>U</b>	Trash, debris, excavations, structures, or other obstructions, or other encroachments or activities noted that will inhibit operations, maintenance, or emergency work. Sediment deposits exceeds 30% of capacity.	
		<b>N/A</b>	There are no ponding areas associated with the interior drainage system.	



## Interior Drainage System: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
4. Fencing and Gates	NA	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		N/A	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts)	M	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2022-0079 : FA-2: Large cracks in headwall concrete. (M) <b>Recommendation:</b> Monitor cracks for growth. If cracks progress, fill with polyurethane sealant.
		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
		N/A	There are no concrete items in the interior drainage system.	

**Interior Drainage System: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of interior drainage systems**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures (Such as gate wells, outfalls, intakes, or culverts)	<b>A</b>	<b>A</b>	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
		<b>U</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
		<b>N/A</b>	There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.)	<b>M</b>	<b>A</b>	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2022-0065 : FA-3: Erosion around headwall. (M) <b>Recommendation:</b> Fill eroded areas with with riprap or clay and reseed.
		<b>M</b>	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stable until the next inspection.	
		<b>U</b>	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		<b>N/A</b>	There are no concrete items in the interior drainage system.	

## Interior Drainage System: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
8. Monolith Joints	<b>A</b>	<b>A</b>	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
		<b>U</b>	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		<b>N/A</b>	There are no monolith joints in the interior drainage system.	

## Interior Drainage System: Hammond Forest Ave

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
9. Culverts / Discharge Pipes	<b>M</b>	<b>A</b>	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	<p><b>Justification:</b> FA-04 (12 inch RCP) - Partial inspection due to partially closed gate at manhole preventing further inspection. Previously existing sluice gates were supposed to have been removed. (M) FA-02 (15 inch RCP) - Debris in the pipe. (M) FA01 (12 inch RCP) - Structural defects at the following locations from the manhole: circumferential crack (13.3 ft south), wide joint separation (7.9 ft south), misalignment at broken joints (8 ft north), wide joint separation (14.4 ft north), etc. (M) Camera inspection performed in June 2018. These pipes did not demonstrate any performance issues during the Feb 2018 flood event.</p> <p><b>Recommendation:</b> Address deficiencies. Repair plan should be developed and coordinated with USACE before implementing. Next camera inspection should be performed before the 2023 inspection.</p>
		<b>M</b>	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		<b>U</b>	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		<b>N/A</b>	There are no discharge pipes/ culverts.	

**Interior Drainage System: Hammond Forest Ave**  
For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
10. Sluice / Slide Gates	NA	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		N/A	There are no sluice/ slide gates.	
11. Flap Gates/ Flap Valves/ Pinch Valves	A	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	<b>Justification:</b> No Issues Observed.
		M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		N/A	There are no flap gates.	
12. Trash Racks (non-mechanical)	A	A	Trash racks are fastened in place and properly maintained.	<b>Justification:</b> No Issues Observed.
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.	

**Interior Drainage System: Hammond Forest Ave**  
For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
13. Other Metallic Items	<b>A</b>	<b>A</b>	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Corrosion seen on metallic parts appears to be maintainable.	
		<b>U</b>	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		<b>N/A</b>	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	<b>A</b>	<b>A</b>	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		<b>U</b>	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		<b>N/A</b>	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
15. Revetments other than Riprap	<b>NA</b>	<b>A</b>	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	
		<b>M</b>	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		<b>U</b>	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		<b>N/A</b>	There are no such revetments protecting this feature of the segment / system.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

**Pump Stations: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of pump stations**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Pump Stations Operating, Maintenance, Training, & Inspection Records	<b>A</b>	<b>A</b>	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Operation, maintenance and inspection records are present but not adequately used and updated.	
		<b>U</b>	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
2. Pump Station Operations and Maintenance Equipment Manuals	<b>A</b>	<b>A</b>	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and updated as required, and adequately cover all pertinent pump station features. O&M manuals include points of contact for manufacturers and suppliers of major equipment used in the facility.	2022-0002 : PS-SH: Operation manuals present on-site. (A) 2022-0010 : PS-FA: Operation manual present on-site. (A)
		<b>M</b>	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and adequately cover all pertinent pump station features. However, they are incomplete and the necessary updates have not been made.	
		<b>U</b>	Operation and Maintenance Equipment Manuals are not available.	
3. Safety Compliance	<b>A</b>	<b>A</b>	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	No safety compliance inspection reports are available for review.	
4. Communications (A or M only)	<b>A</b>	<b>A</b>	A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	
5. Plant Building	<b>M</b>	<b>A</b>	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	2022-0004 : PS-SH: Crack along building stairway. (M) 2022-0006 : PS-SH: Discharge sluiceway has cracks. Have been attempts to repair. (M) 2022-0012 : PS-FA: Subsidence in soil. (M) 2022-0014 : PS-FA: Exposed Pipe. (M) <b>Recommendation:</b> Fill eroded areas with topsoil and reseed, or riprap. Monitor repaired cracks for deterioration of repairs. Fill subsiding soil embankments. Cover exposed pipe with compacted soil.
		<b>M</b>	There are minor structural defects, minimal foundation settlement, leaks, or other conditions noted that need repair. Defects do not threaten the structural integrity or stability of the building, and will not impact pumping operations.	
		<b>U</b>	The structural integrity or stability of the building is threatened, or there is damage to the building that threatens safety of the operator or impacts pumping operations.	

**Pump Stations: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of pump stations**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
6. Fencing and Gates	<b>A</b>	<b>A</b>	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		<b>U</b>	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		<b>N/A</b>	There are no features noted that require safety fencing.	
7. Pumps	<b>M</b>	<b>A</b>	All pumps are properly maintained and lubricated. Systems are periodically tested and documented for review. No vibration, cavitation noises or unusual sounds are noted when the pump is operated. Bearing temperature sensor records don't indicate any problems.	2022-0016 : PS-FA: Pump SWP1 showing some signs of leaking around exterior base of pump. (M) <b>Recommendation:</b> Monitor pump SWP1 for more leakage around pump motor base. If leakage increases investigate leak and repair as necessary.
		<b>M</b>	Minor deficiencies noted that need to be closely monitored or repaired, such as the presence of slight vibrations, leakage of packing gland, bearing temperature sensors are inoperable or no record is present. However, the pumps are operational and are expected to perform through the next period of usage.	
		<b>U</b>	Major deficiencies identified that may significantly reduce pumping operations. For example, bearing sensor records indicate problems, excessive vibration noted, impellers are badly corroded, or there are eroded or missing blades.	
8. Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.	<b>A</b>	<b>A</b>	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.	
		<b>U</b>	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.	



**Pump Stations: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of pump stations**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
9. Sumps / Wet well	<b>A</b>	<b>A</b>	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Debris, sediment, or other obstructions may be present and must be removed, but the sump/ wet well will function as intended during the next flood. Procedures are in place to remove debris accumulation during operation.	
		<b>U</b>	Large debris or excessive silt present which will hinder or damage pumps during operation, or no procedures established to remove debris accumulation during operation.	
10. Mechanical Operating Trash Rakes	<b>A</b>	<b>A</b>	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	The trash rake is in need of maintenance, but is still operational.	
		<b>U</b>	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	
		<b>N/A</b>	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	<b>M</b>	<b>A</b>	Trash racks are fastened in place and properly maintained.	2022-0008 : PS-SH: Pump station outlet grating needs cleaning. (M) <b>Recommendation:</b> Clean outlet grating/rack. Also recommend observing on a periodic basis and cleaning when necessary.
		<b>M</b>	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		<b>U</b>	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		<b>N/A</b>	There are no trash racks, or they are covered in the pump stations section of the report.	
12. Fuel System for Pump Engines	<b>A</b>	<b>A</b>	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
		<b>U</b>	Fuel system not functional.	
		<b>N/A</b>	No fuel system.	

**Pump Stations: Hammond Forest Ave**  
For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
13. Power Source	<b>A</b>	<b>A</b>	The normal power source and backup generators, if installed, are operational, properly exercised and well maintained. Surge protection, grounding, lightning protection, transformers, and automatic/manual transfer of main power to backup system is working.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Normal power source and backup units, if applicable, are operational with minor discrepancies or maintenance, inspection and exercising record is present but not up to date. Preventative maintenance or repairs are required.	
		<b>U</b>	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	
14. Electrical Systems	<b>A</b>	<b>A</b>	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
		<b>U</b>	Components of the electrical system will not function adequately during the next flood event and must be replaced.	
15. Megger Testing on Pump Motors and Critical Power Cables	<b>A</b>	<b>A</b>	Results of megger tests on pump motors or critical power cables show that the insulation meets manufacturer's or industry standards. Tested within the last year.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Megger testing not conducted within the past year. If megger tests on pump motors indicate that insulation resistance is below the manufacturer's or industry standard, but the resistance can be corrected with proper application of heat, this is minimally acceptable. (The application of heat does not relate to critical power cables.)	
		<b>U</b>	Megger tests not conducted within past two years, or tests indicate that insulation resistance is low enough that the equipment will not be able to meet design standards of operation; or evidence of arcing or shorting is detected visually.	

**Pump Stations: Hammond Forest Ave**  
For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
16. Enclosures, Panels, Conduit and Ducts	<b>A</b>	<b>A</b>	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Minor surface corrosion which appears to be maintainable. Cleaning and painting required.	
		<b>U</b>	Severely corroded and must be replaced to prevent failure, equipment damage, or safety issues.	
17. Intake and Discharge Pipelines	<b>A</b>	<b>A</b>	Intake and discharge pipelines have no corrosion and paint is intact, except for minor touch up required. Pipe couplings and anchors have no leakage or corrosion.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Intake and discharge pipelines have minor corrosion and repair and painting is required. Pipe coupling with anchors have minor leakage, corrosion and require bolts to be tightened.	
		<b>U</b>	Intake and discharge pipelines have major corrosion and replacement is required. Pipe coupling with anchors have major leakage and is heavily corroded and requires replacement.	
18. Sluice/ Slide Gates	<b>A</b>	<b>A</b>	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		<b>U</b>	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		<b>N/A</b>	There are no sluice/ slide gates.	

**Pump Stations: Hammond Forest Ave**  
**For use during Initial and Continuing Eligibility Inspections of pump stations**

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
19. Flap Gates/ Flap Valves/ Pinch Valves	<b>A</b>	<b>A</b>	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		<b>U</b>	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		<b>N/A</b>	There are no gates on discharge lines from pump station.	
20. Cranes	<b>A</b>	<b>A</b>	Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
		<b>U</b>	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
		<b>N/A</b>	There are no cranes.	
21. Other Metallic Items (Equipment, Ladders, Platform Anchors, etc)	<b>A</b>	<b>A</b>	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	<b>Justification:</b> No Issues Observed.
		<b>M</b>	Corrosion seen on metallic parts appears to be maintainable.	
		<b>U</b>	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		<b>N/A</b>	There are no other significant metallic items.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0001 <b>Title:</b> 2604000010_CELRC_2022_A_0001_1_20220413T180458.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Trees on embankment crown.</p>
	<p><b>Inspect ID:</b> 2022-0003 <b>Title:</b> 2604000010_CELRC_2022_A_0003_1_20220413T180558.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Trees on riverside embankment.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0023 <b>Title:</b> 2604000010_CELRC_2022_A_0023_1_20220413T182146.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Tree within 10 ft of landside toe.</p>
	<p><b>Inspect ID:</b> 2022-0025 <b>Title:</b> 2604000010_CELRC_2022_A_0025_1_20220413T182222.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Both trees are within 10ft of landside toe.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0031 <b>Title:</b> 2604000010_CELRC_2022_A_0031_1_20220413T182526.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Brush growth along length of landside toe.</p>
	<p><b>Inspect ID:</b> 2022-0059 <b>Title:</b> 2604000010_CELRC_2022_A_0059_1_20220413T184109.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Trees and plantings along landside of sheet pile tieback wall.</p>



**Photos: Hammond Forest Ave**



For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0075 <b>Title:</b> 2604000010_CELRC_2022_A_0075_1_20220413T185201.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Tree on landside toe too close to levee.</p>
	<p><b>Inspect ID:</b> 2022-0033 <b>Title:</b> 2604000010_CELRC_2022_A_0033_1_20220413T182650.jpg <b>Rated Item:</b> 2. Sod Cover <b>Caption:</b> Minimally Acceptable - Lack of good cover caused loss of soil on riverside slope.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0009 <b>Title:</b> 2604000010_CELRC_2022_A_0009_1_20220413T181155.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Fallen tree within 15 feet of landside toe.</p>
	<p><b>Inspect ID:</b> 2022-0011 <b>Title:</b> 2604000010_CELRC_2022_A_0011_1_20220413T181236.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Fallen tree within 15 feet of landside toe.</p>



**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0019 <b>Title:</b> 2604000010_CELRC_2022_A_0019_1_20220413T181847.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Debris within 10 ft of riverside toe.</p>
	<p><b>Inspect ID:</b> 2022-0037 <b>Title:</b> 2604000010_CELRC_2022_A_0037_1_20220413T182919.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Fallen Tree on landside slope of levee.</p>

**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0039 <b>Title:</b> 2604000010_CELRC_2022_A_0039_1_20220413T182959.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Fallen tree on landside slope.</p>
	<p><b>Inspect ID:</b> 2022-0041 <b>Title:</b> 2604000010_CELRC_2022_A_0041_1_20220413T183109.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Debris on landside toe.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0051 <b>Title:</b> 2604000010_CELRC_2022_A_0051_1_20220413T183739.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Coaxial cable installed on crown of levee.</p>
	<p><b>Inspect ID:</b> 2022-0055 <b>Title:</b> 2604000010_CELRC_2022_A_0055_1_20220413T183937.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Fence encroaching access on landside toe and slope.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0057 <b>Title:</b> 2604000010_CELRC_2022_A_0057_1_20220413T184032.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Unauthorized stairs encroaching on landside slope.</p>
	<p><b>Inspect ID:</b> 2022-0073 <b>Title:</b> 2604000010_CELRC_2022_A_0073_1_20220413T185113.jpg <b>Rated Item:</b> 3. Encroachments <b>Caption:</b> Minimally Acceptable - Garden and lawn furniture encroaching landside slope and toe.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0021 <b>Title:</b> 2604000010_CELRC_2022_A_0021_1_20220413T181934.jpg <b>Rated Item:</b> 5. Slope Stability <b>Caption:</b> Minimally Acceptable - Riverside slope appears to be sloughing.</p>
	<p><b>Inspect ID:</b> 2022-0035 <b>Title:</b> 2604000010_CELRC_2022_A_0035_1_20220413T182830.jpg <b>Rated Item:</b> 6. Erosion/ Bank Caving <b>Caption:</b> Minimally Acceptable - Typical erosion along riverside toe.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0071 <b>Title:</b> 2604000010_CELRC_2022_A_0071_1_20220413T185010.jpg <b>Rated Item:</b> 6. Erosion/ Bank Caving <b>Caption:</b> Minimally Acceptable - Erosion along riverside toe.</p>
	<p><b>Inspect ID:</b> 2022-0005 <b>Title:</b> 2604000010_CELRC_2022_A_0005_1_20220413T180704.jpg <b>Rated Item:</b> 8. Depressions/ Rutting <b>Caption:</b> Minimally Acceptable - Depression along crown of levee, caused by roof gutter water dropping straight onto ground.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0007 <b>Title:</b> 2604000010_CELRC_2022_A_0007_1_20220413T181107.jpg <b>Rated Item:</b> 8. Depressions/ Rutting <b>Caption:</b> Minimally Acceptable - Rain fall from roof caused depression along riverside slope.</p>
	<p><b>Inspect ID:</b> 2022-0017 <b>Title:</b> 2604000010_CELRC_2022_A_0017_1_20220413T181745.jpg <b>Rated Item:</b> 8. Depressions/ Rutting <b>Caption:</b> Minimally Acceptable - Deep rut caused by mower or similar.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0013 <b>Title:</b> 2604000010_CELRC_2022_A_0013_1_20220413T181354.jpg <b>Rated Item:</b> 10. Animal Control <b>Caption:</b> Minimally Acceptable - Animal holes in riverside toe.</p>
	<p><b>Inspect ID:</b> 2022-0015 <b>Title:</b> 2604000010_CELRC_2022_A_0015_1_20220413T181450.jpg <b>Rated Item:</b> 10. Animal Control <b>Caption:</b> Minimally Acceptable - Animal burrow on crown of levee.</p>

**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0027 <b>Title:</b> 2604000010_CELRC_2022_A_0027_1_20220413T182305.jpg <b>Rated Item:</b> 10. Animal Control <b>Caption:</b> Minimally Acceptable - Animal burrows, 3 inch wide, on crown of levee near riverside edge.</p>
	<p><b>Inspect ID:</b> 2022-0029 <b>Title:</b> 2604000010_CELRC_2022_A_0029_1_20220413T182413.jpg <b>Rated Item:</b> 10. Animal Control <b>Caption:</b> Minimally Acceptable - Animal burrow, 18 inch deep, on crown near riverside edge. Fill with compacted clay.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0081 <b>Title:</b> 2604000010_CELRC_2022_A_0081_1_20220413T185638.jpg <b>Rated Item:</b> 13. Revetments other than Riprap <b>Caption:</b> Minimally Acceptable - Retaining wall on riverside toe is tilting.</p>
	<p><b>Inspect ID:</b> 2022-0081 <b>Title:</b> 2604000010_CELRC_2022_A_2022-0081_2_20220413T185703.jpg <b>Rated Item:</b> 13. Revetments other than Riprap <b>Caption:</b> Minimally Acceptable - Retaining wall on riverside toe is tilting.</p>

**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0047 <b>Title:</b> 2604000010_CELRC_2022_A_0047_1_20220413T183448.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Small trees along riverside of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0067 <b>Title:</b> 2604000010_CELRC_2022_A_0067_1_20220413T184834.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Small trees along riverside of floodwall.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0091 <b>Title:</b> 2604000010_CELRC_2022_A_0091_1_20220413T191547.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Weed growing in landside wall joint.</p>
	<p><b>Inspect ID:</b> 2022-0095 <b>Title:</b> 2604000010_CELRC_2022_A_0095_1_20220413T192608.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Small bush along riverside of floodwall.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0097 <b>Title:</b> 2604000010_CELRC_2022_A_0097_1_20220413T192654.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Small bush on riverside of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0099 <b>Title:</b> 2604000010_CELRC_2022_A_0099_1_20220413T192926.jpg <b>Rated Item:</b> 1. Unwanted Vegetation Growth <b>Caption:</b> Minimally Acceptable - Small bush on riverside of floodwall.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0043 <b>Title:</b> 2604000010_CELRC_2022_A_0043_1_20220413T183248.jpg <b>Rated Item:</b> 2. Encroachments <b>Caption:</b> Minimally Acceptable - Small branches and debris on riverside of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0049 <b>Title:</b> 2604000010_CELRC_2022_A_0049_1_20220413T183528.jpg <b>Rated Item:</b> 2. Encroachments <b>Caption:</b> Minimally Acceptable - Garden encroaching on landside of floodwall.</p>

**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0083 <b>Title:</b> 2604000010_CELRC_2022_A_0083_1_20220413T190155.jpg <b>Rated Item:</b> 3. Closure Structures (Stop Log Closures and Gates) (A or U only) <b>Caption:</b> Acceptable - South closure. Stop logs are warping and would leak when loaded.</p>
	<p><b>Inspect ID:</b> 2022-0089 <b>Title:</b> 2604000010_CELRC_2022_A_0089_1_20220413T191225.jpg <b>Rated Item:</b> 3. Closure Structures (Stop Log Closures and Gates) (A or U only) <b>Caption:</b> Acceptable - North closure. Stop logs are warping and would leak when loaded.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0087 <b>Title:</b> 2604000010_CELRC_2022_A_0087_1_20220413T190809.jpg <b>Rated Item:</b> 4. Concrete Surfaces <b>Caption:</b> Minimally Acceptable - Cracking along land and river side of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0093 <b>Title:</b> 2604000010_CELRC_2022_A_0093_1_20220413T191845.jpg <b>Rated Item:</b> 4. Concrete Surfaces <b>Caption:</b> Minimally Acceptable - Crack on landside of floodwall.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0101 <b>Title:</b> 2604000010_CELRC_2022_A_0101_1_20220413T193048.jpg <b>Rated Item:</b> 4. Concrete Surfaces <b>Caption:</b> Minimally Acceptable - Crack on riverside of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0103 <b>Title:</b> 2604000010_CELRC_2022_A_0103_1_20220413T193812.jpg <b>Rated Item:</b> 4. Concrete Surfaces <b>Caption:</b> Minimally Acceptable - Crack on riverside of floodwall.</p>

**Photos: Hammond Forest Ave**

**For use during Initial and Continuing Eligibility Inspections of levee segments / systems**

	<p><b>Inspect ID:</b> 2022-0105 <b>Title:</b> 2604000010_CELRC_2022_A_0105_1_20220413T193836.jpg <b>Rated Item:</b> 4. Concrete Surfaces <b>Caption:</b> Minimally Acceptable - Crack on riverside of floodwall.</p>
	<p><b>Inspect ID:</b> 2022-0045 <b>Title:</b> 2604000010_CELRC_2022_A_0045_1_20220413T183358.jpg <b>Rated Item:</b> 5. Tilting, Sliding or Settlement of Concrete Structures <b>Caption:</b> Minimally Acceptable - Alignment of floodwalls is not straight, indicating settlement of fill between floodwalls.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0061 <b>Title:</b> 2604000010_CELRC_2022_A_0061_1_20220413T184249.jpg <b>Rated Item:</b> 5. Tilting, Sliding or Settlement of Concrete Structures <b>Caption:</b> Minimally Acceptable - Settling of soil within bin wall, likely due to expanding walls mentioned in 2022-045. Fill to maintain top of levee elevation as necessary. Monitor for movement.</p>
	<p><b>Inspect ID:</b> 2022-0061 <b>Title:</b> 2604000010_CELRC_2022_A_0061_2_20220413T184320.jpg <b>Rated Item:</b> 5. Tilting, Sliding or Settlement of Concrete Structures <b>Caption:</b> Minimally Acceptable - Settling on soil in bin wall likely due to expanding walls</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0063 <b>Title:</b> 2604000010_CELRC_2022_A_0063_1_20220413T184512.jpg <b>Rated Item:</b> 6. Foundation of Concrete Structures <b>Caption:</b> Minimally Acceptable - Animal hole in bin wall, 2 inches deep.</p>
	<p><b>Inspect ID:</b> 2022-0085 <b>Title:</b> 2604000010_CELRC_2022_A_0085_1_20220413T190629.jpg <b>Rated Item:</b> 7. Monolith Joints <b>Caption:</b> Minimally Acceptable - Landside strip sealant peeling from side.</p>




**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0107 <b>Title:</b> 2604000010_CELRC_2022_A_0107_1_20220413T194046.jpg</p> <p><b>Rated Item:</b> 7. Monolith Joints <b>Caption:</b> Minimally Acceptable - Riverside joint is missing sealant, exposing waterstop.</p>
	<p><b>Inspect ID:</b> 2022-0053 <b>Title:</b> 2604000010_CELRC_2022_A_0053_1_20220413T183835.jpg</p> <p><b>Rated Item:</b> 1. Vegetation and Obstructions <b>Caption:</b> Minimally Acceptable - FA-4: Outlet is silted in.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0077 <b>Title:</b> 2604000010_CELRC_2022_A_0077_1_20220413T185312.jpg <b>Rated Item:</b> 1. Vegetation and Obstructions <b>Caption:</b> Minimally Acceptable - FA-2: Vegetation is blocking gates.</p>
	<p><b>Inspect ID:</b> 2022-0079 <b>Title:</b> 2604000010_CELRC_2022_A_0079_1_20220413T185354.jpg <b>Rated Item:</b> 5. Concrete Surfaces (Such as gate wells, outfalls, intakes, or culverts) <b>Caption:</b> Minimally Acceptable - FA-2: Large cracks in headwall concrete.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0065 <b>Title:</b> 2604000010_CELRC_2022_A_0065_1_20220413T184753.jpg <b>Rated Item:</b> 7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) <b>Caption:</b> Minimally Acceptable - FA-3: Erosion around headwall.</p>
	<p><b>Inspect ID:</b> 2022-0002 <b>Title:</b> 2604000010_CELRC_2022_A_0002_1_20220411T150743.jpg <b>Rated Item:</b> 2. Pump Station Operations and Maintenance Equipment Manuals <b>Caption:</b> Acceptable - PS-SH: Operation manuals present on-site.</p>



**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0010 <b>Title:</b> 2604000010_CELRC_2022_A_0010_1_20220411T152221.jpg <b>Rated Item:</b> 2. Pump Station Operations and Maintenance Equipment Manuals <b>Caption:</b> Acceptable - PS-FA: Operation manual present on-site.</p>
	<p><b>Inspect ID:</b> 2022-0004 <b>Title:</b> 2604000010_CELRC_2022_A_0004_1_20220411T150933.jpg <b>Rated Item:</b> 5. Plant Building <b>Caption:</b> Minimally Acceptable - PS-SH: Crack along building stairway.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0006 <b>Title:</b> 2604000010_CELRC_2022_A_0006_1_20220411T151204.jpg <b>Rated Item:</b> 5. Plant Building <b>Caption:</b> Minimally Acceptable - PS-SH: Discharge sluiceway has cracks. Have been attempts to repair.</p>
	<p><b>Inspect ID:</b> 2022-0012 <b>Title:</b> 2604000010_CELRC_2022_A_0012_1_20220411T152357.jpg <b>Rated Item:</b> 5. Plant Building <b>Caption:</b> Minimally Acceptable - PS-FA: Subsidence in soil.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	<p><b>Inspect ID:</b> 2022-0014 <b>Title:</b> 2604000010_CELRC_2022_A_0014_1_20220411T152648.jpg <b>Rated Item:</b> 5. Plant Building <b>Caption:</b> Minimally Acceptable - PS-FA: Exposed Pipe.</p>
	<p><b>Inspect ID:</b> 2022-0016 <b>Title:</b> 2604000010_CELRC_2022_A_0016_1_20220411T152819.jpg <b>Rated Item:</b> 7. Pumps <b>Caption:</b> Minimally Acceptable - PS-FA: Pump SWP1 showing some signs of leaking around exterior base of pump.</p>

**Photos: Hammond Forest Ave**

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



**Inspect ID:** 2022-0008 **Title:**  
2604000010\_CELRC\_2022\_A\_0008\_1\_20220411T151313.jpg  
**Rated Item:** 11. Non-Mechanical Trash Racks **Caption:**  
Minimally Acceptable - PS-SH: Pump station outlet grating  
needs cleaning.



**US Army Corps  
of Engineers®**

## **Flood Damage Reduction System 2605000010 / Segment 2604000010 Public Sponsor Pre-Inspection Form**

The following information is to be provided by the levee district sponsor prior to an inspection. This information will be used to help evaluate the organizational capability of the levee district to manage the levee segment / system maintenance program.

**1. Levee segment / system and sponsor: (name of the segment / system and levee sponsor)**

System 2605000010 / Segment 2604000010 CELRC

**2. Reporting period: (month/day/year to month/day/year)**

06/01/2021

to

04/30/2022

**3. Summary of maintenance required by last inspection report:**

Pump station deficiencies, animal activity, settlement, vegetation repair, graffiti removal.

**4. Summary of maintenance performed this reporting period:**

Exercise and grease gates, oil locks, monitor pumps, monitor levee.

**5. Summary of maintenance planned next reporting period:**

Exercise and grease gates, oil locks, monitor pumps, monitor levee.

**6. Summary of changes to segment / system since last inspection:**

None applicable.

**7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:**

None applicable.



# National Levee Database

NLD

For Official Use Only

LEVEE INSPECTION MAPBOOK

## Levee Segment Hammond Forest Ave

NLD Levee Segment ID  
2604000010

Location  
Hammond Forest Ave

Inspection Type  
Routine

Start Date  
13-Apr-2022

End Date  
13-Apr-2022

Inspected By  
Chris Schaal, Jonathan Lombardi, Yuki



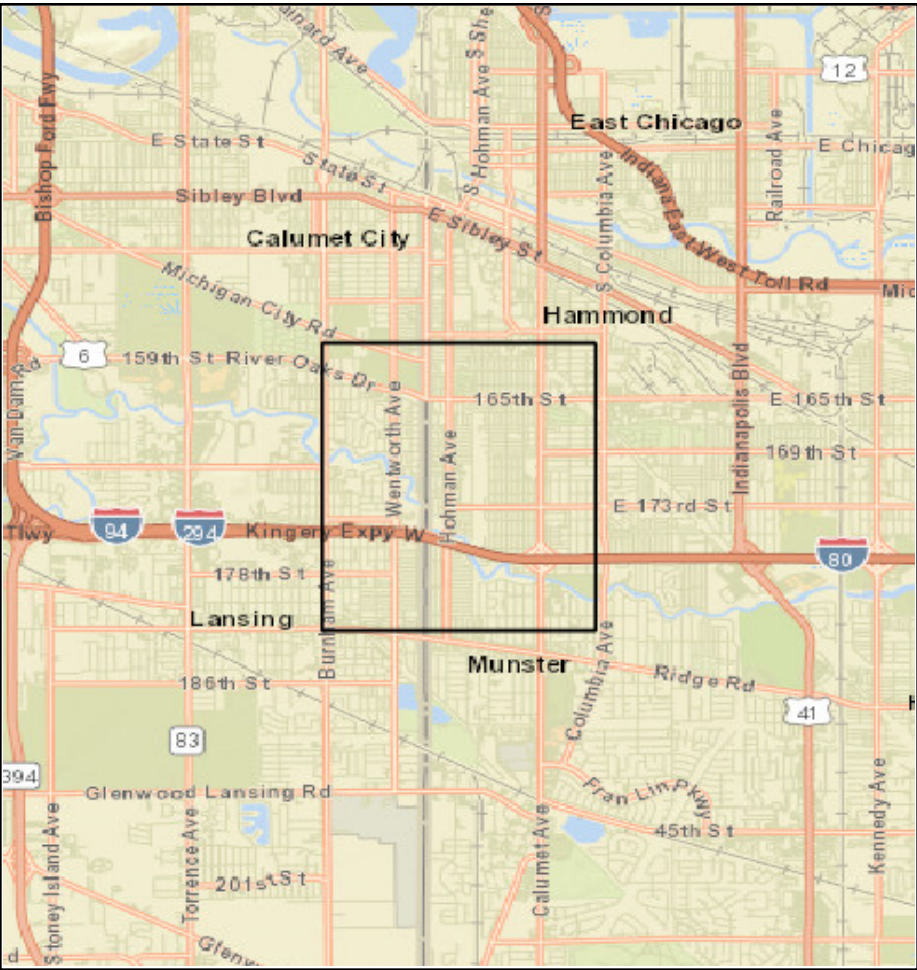
US Army Corps  
of Engineers



SHEET INDEX

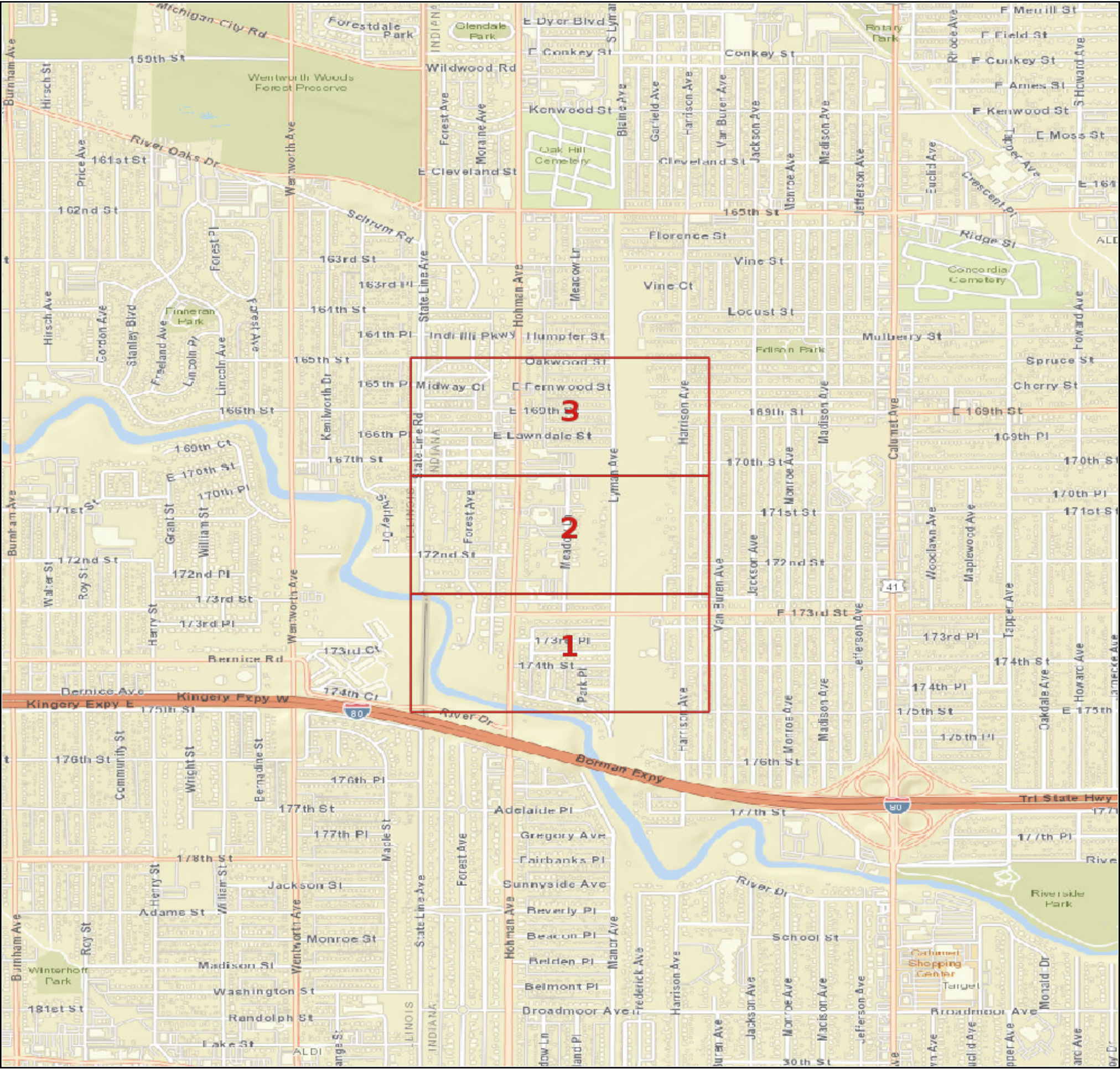
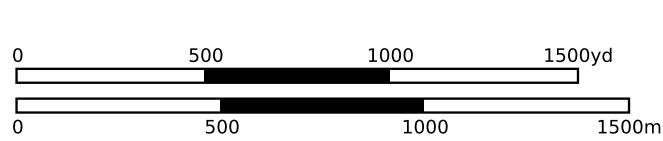
Levee: Hammond Forest Ave

WARNING: This document is FOR OFFICIAL USE ONLY (FOUO)  
It contains information that may be exempt from public release under the Freedom of Information Act (5 USC 552). It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with USACE policy relating to FOUO information and it is not to be released to the public or other personnel who do not have a valid "need to know" without prior written approval of an authorized USACE official.

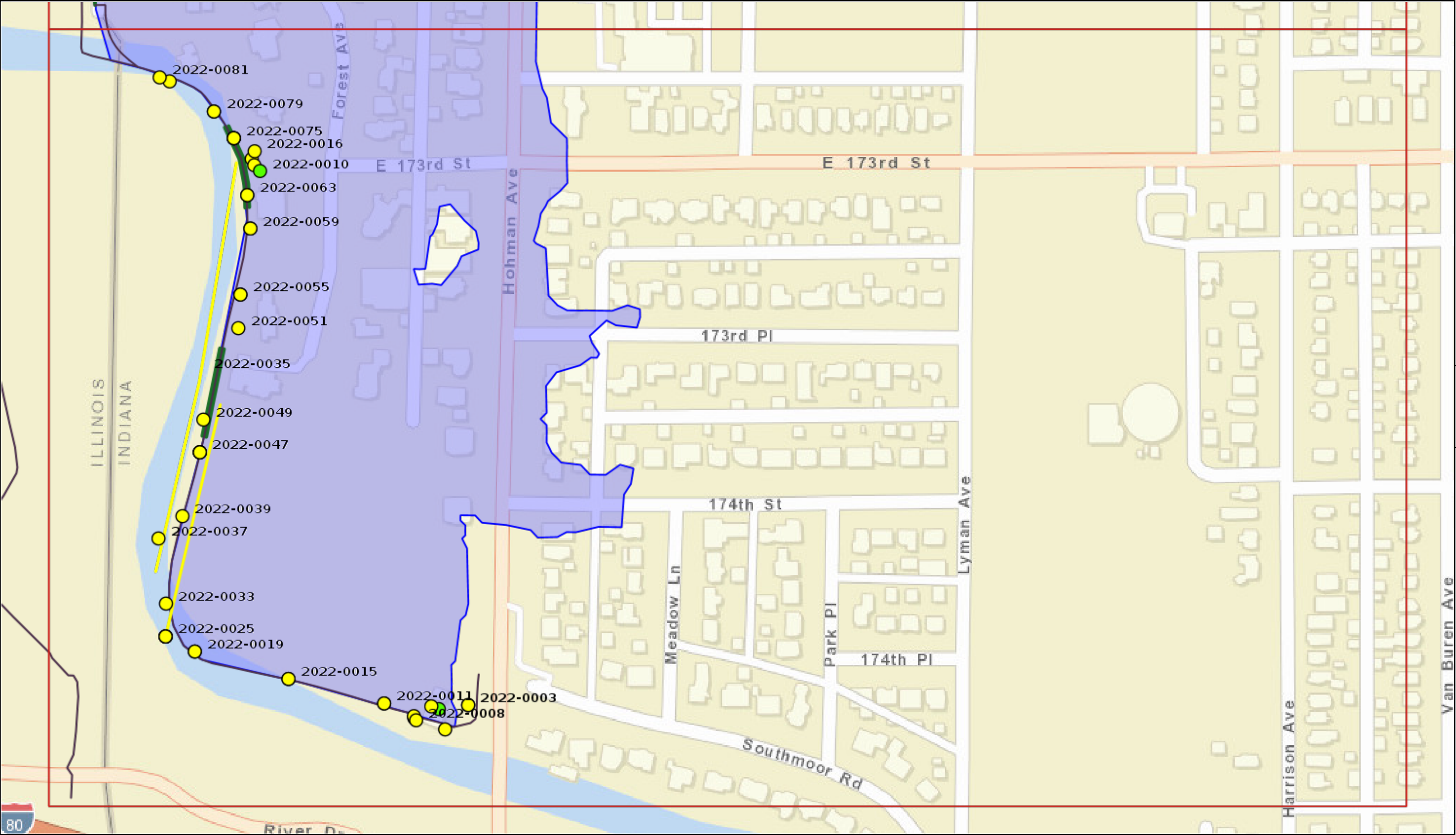


MAP ELEMENTS

3 Standard Sheets







mzo

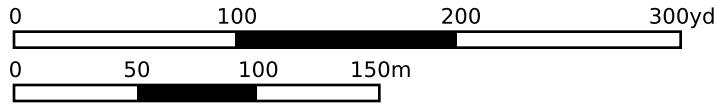
mzo

NONE



- OBSERVATIONS**
- Acceptable
  - Minimally Acceptable
  - Unacceptable
  - Not Applicable

Scale = 1:3000



NLD	Sheet: 1	13-Apr-2022
	Hammond Forest Ave	
	Type: Routine	13-Apr-2022



mzoz

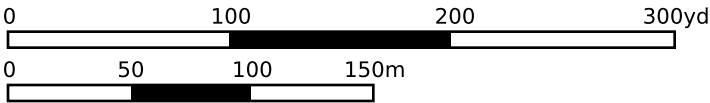
mzoz



OBSERVATIONS

-  Acceptable
-  Minimally Acceptable
-  Unacceptable
-  Not Applicable

Scale = 1:3000

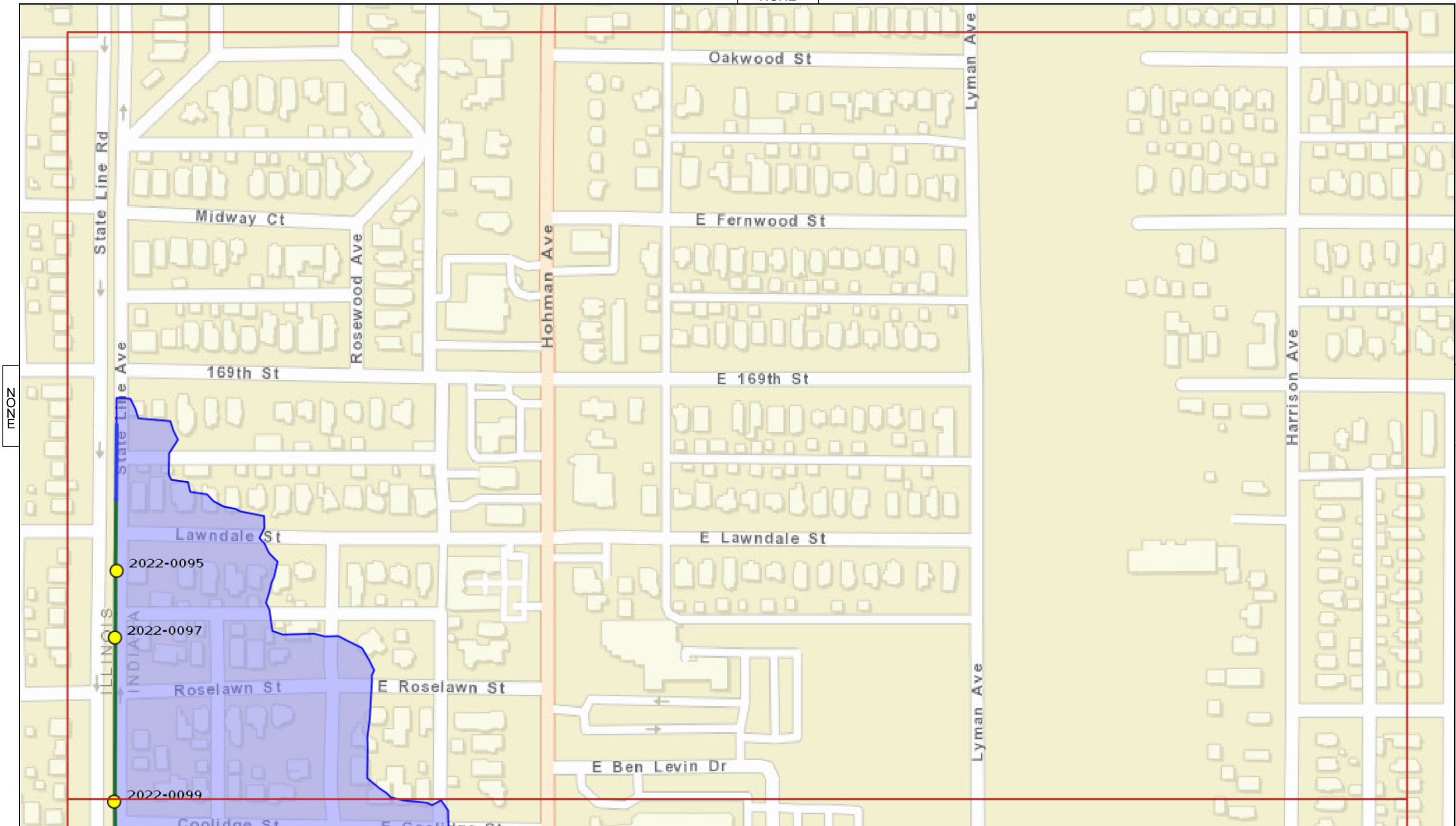


NLD

Sheet: 2  
Type: Routine

Hammond Forest Ave  
13-Apr-2022

NONE



MZON

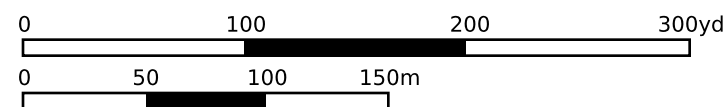
MZON



OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

Scale = 1:3000



2

NLD

Sheet: 3

13-Apr-2022

Hammond Forest Ave

Type: Routine

13-Apr-2022

### Subset of Inspection Items for Rehabilitation Program Eligibility Determination

In order to be eligible, all of the following items must be rated A, M, N/A or Yes.

Note: Item numbers listed below refer to their placement in the Inspection Checklist for the Munster Levee.

Rehabilitation Program Eligibility Determination		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Public sponsor provided maintenance information per the Public Sponsor Pre-Inspection Form.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Non-federal levee system meets Initial Eligibility criteria.
N/A <input checked="" type="checkbox"/>		
If either of the above items is marked "No" the levee system is not eligible.		
Rating	Rated Item	
Levee Embankments		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	3. Encroachments
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input type="checkbox"/>	U <input type="checkbox"/>	4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures)
N/A <input checked="" type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	5. Slope Stability
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	6. Erosion/ Bank Caving
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	10. Animal Control
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	11. Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
N/A <input type="checkbox"/>		
A <input type="checkbox"/>	M <input type="checkbox"/>	14. Underseepage Relief Wells/Toe Drainage Systems
M <input type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
N/A <input checked="" type="checkbox"/>		
Floodwalls – N/A		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	2. Encroachments
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input checked="" type="checkbox"/>	U <input type="checkbox"/>	3. Closure Structures (Stop Log Closures and Gates)
N/A <input type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	5. Tilting, Sliding, or Settlement of Concrete Structures
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		
A <input type="checkbox"/>	M <input checked="" type="checkbox"/>	6. Foundation of Concrete Structures
M <input checked="" type="checkbox"/>	U <input type="checkbox"/>	
U <input type="checkbox"/>		

A	<input type="checkbox"/>	8. Underseepage Relief Wells/Toe Drainage Systems
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input checked="" type="checkbox"/>	
<b>Interior Drainage System</b>		
A	<input type="checkbox"/>	9. Culverts/Discharge Pipes
M	<input checked="" type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	10. Sluice/Slide Gates
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input checked="" type="checkbox"/>	
A	<input checked="" type="checkbox"/>	11. Flap Gates/Flap Valves/Pinch Valves
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
<b>Pump Stations – N/A</b>		
A	<input checked="" type="checkbox"/>	17. Intake and Discharge Pipelines
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
A	<input checked="" type="checkbox"/>	18. Sluice/Slide Gates
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input checked="" type="checkbox"/>	19. Flap Gates/Flap Valves/Pinch Valves
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
<b>Rehabilitation Program Status</b>		
Active	<input checked="" type="checkbox"/>	System meets all interim eligibility criteria, including having received a rating of A, M, N/A or Yes for all subset items and is therefore eligible for rehabilitation assistance.
Inactive	<input type="checkbox"/>	System does not meet interim eligibility requirements.
Comments:  Only minor issues noted for the system.		