



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, BUFFALO DISTRICT
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3111

November 1, 2021

Operations and Technical Support Section

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

Christine Fleitz
Reno Beach/Howard Farms Conservancy District
9501 Jerusalem Road,
Curtice, Ohio 43412

Dear Ms. Fleitz:

Transmitted herewith is the FY21 Inspection of Completed Works (ICW) inspection report for the Flood Risk Management Project at Reno Beach-Howard Farms, Lucas County, Ohio. Thank you for your agency's participation in this inspection. The project has been rated "**MINIMALLY ACCEPTABLE**" (M). This project is currently "**INACTIVE**" in the USACE Rehabilitation Program, however, due to the significant progress made by the Conservancy District towards project maintenance for the levee, USACE is taking the necessary actions to formally change the levee system's status from "Inactive" to "Active".

Please refer to the enclosed for the Summaries of Deficiencies and Recommendations (Attachment "A"). Also enclosed is the Flood Risk Management System Inspection Report (Attachment "B"), which includes the following:

- a. Descriptions of Individual Item Ratings, Overall System Ratings, and the Eligibility for PL 84-99 Rehabilitation Assistance,
- b. Descriptions of project deficiencies requiring corrective action, if any,
- c. Sponsor required Public Sponsor Pre-Inspection Form to be completed prior to the next scheduled inspection and provided to the USACE inspector upon arrival.

Please keep this office informed if there are any changes to the project that would affect the design level of protection afforded by the project or if there are other changes which may alter or impact any project features. Such changes require prior Section 408 written permission from USACE and no objection from Reno Beach/Howard Farms Conservancy District.

Questions pertaining to this matter should be directed to the undersigned, who can be contacted in writing at the above address, by telephone at 716-879-4277 or by e-mail at robert.w.remmers@usace.army.mil.

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

Sincerely,

Robert W. Remmers, P.E., PMP
Levee Safety Program Manager
Chief, Operations and Technical Support Section

Enclosures

CF (e-copy):

Sima Merick, Ohio Emergency Management Agency
Patricia Moomey, Lucas County Emergency Management Agency
Christine Gaynes, FEMA – Region V
Adam Hoff, Reno Beach/Howard Farms Conservancy District
Elvis Shepard, Reno Beach/Howard Farms Conservancy District
Denis Franklin, Toledo Metroparks
Bonnie Jennings, USACE – CELRD LSPM

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

1. **OBJECTIVE:** The objective of this inspection is to assure project sponsor compliance with existing agreements, evaluate effectiveness of the sponsor to operate and maintain facilities constructed by the United States in accordance with the Operations and Maintenance (O&M) manual, and to determine if the sponsor has adequately met standards required to maintain eligibility for PL 84-99 Federal rehabilitation assistance should the project be damaged by flooding or a storm event.
2. **PROJECT CLASSIFICATION:** Flood Risk Management – Shoreline Levee
3. **REPORTING PERIOD:** 08/27/20 – 09/22/21
4. **INSPECTION TEAM:** The inspection team met at the project site on 09/22/21. The following representatives participated in this inspection.

<u>Name</u>	<u>Organization</u>	<u>Phone</u>
Robert Remmers	USACE – Buffalo District	(716) 879-4277
Jason Doktor	USACE – Buffalo District	(716) 879-4385
James Rogers	USACE – Buffalo District	(716) 879-4118
Andrew Aufderheide	USACE – Buffalo District	(716) 879-4190
Josh Kennedy	USACE – Buffalo District	(716) 879-4417
Dan Bennett	USACE – Buffalo District	(716) 879-4249
Christine Fleitz	Reno Beach/Howard Farms Cons. Dist.	(419) 836-8206
Elvis Shepherd	Reno Beach/Howard Farms Cons. Dist.	(419) 967-3943
Adam Hoff	Reno Beach/Howard Farms Cons. Dist.	(419) 466-3393
Tony Parasiliti	Jerusalem Township Fire Department	(419) 261-4998
Mark Sattler	Jerusalem Township Trustee	(419) 699-7723
Paul Ackerman	Contractor	(419) 708-0542

5. **OVERALL PROJECT RATING:** In accordance with USACE – Headquarters guidance, this project is rated “**Minimally Acceptable**” (M) is currently “**INACTIVE**” in the USACE Rehabilitation Program, however, due to significant improvements made in the past year, USACE is taking the necessary actions to formally change the levee system’s status from “Inactive” to “Active”.

Prior to this evaluation, the project was last inspected on 08/27/20. The condition of the project at the time of that inspection was rated as “Unacceptable” (U) and the project was “INACTIVE” in the USACE Rehabilitation Program.

6. **PROJECT LOCATION, DESCRIPTION, AND LOCAL SPONSOR:**

- a.) **Project Location:** The project is located on the southwest shore of Lake Erie approximately fifteen miles east of Toledo, Ohio in the northern portion of Jerusalem Township, Lucas County, Ohio. The project site is bordered to the east by Cooley Canal and to the west by Wards Canal.

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

b.) Project Description: The project consists of an earthen and rubble mound stone levee along the Lake Erie shoreline approximately 15,700 LF in length, a partially riprapped earthen tieback levee along the west bank of Wards Canal approximately 3,750 LF in length, and 277 LF of riprapped embankment along the east side of Cooley Canal. The project involved rehabilitating the existing Operation Foresight levee originally constructed in the 1970's along this area. A drainage ditch, which parallels the inland side of the levee, collects interior runoff. Three pump stations, built, operated and maintained solely by the local sponsor, drain water from the ditch.

The project provides protection to 2,120 acres of agricultural land and residential development from flood damage caused by high water levels and/or storm wave action on Lake Erie.

c.) Local Sponsor: In accordance with the project Operation and Maintenance Manual, the Lake Erie Conservancy District Number 1 and the Howard Farms Conservancy District have assumed joint responsibility for the operation and maintenance of the project.

7. INSPECTION FINDINGS: Deficiencies found during this inspection and recommendations are noted in Attachment "A". Refer to Attachment "B" for project inspection photographs and the Flood Damage Reduction report. Deficiency locations are in Attachment "C".

8. SUMMARY OF MAINTENANCE REQUIRED BY LAST INSPECTION REPORT:

(1) Vegetation, woody growth, and trees growing in the levee, as described in the FY20 report and elsewhere existing on the levee, need to be removed.

(2) Unauthorized encroachments need to be jointly reviewed by the Conservancy District and the USACE to determine whether they are acceptable, should be removed, or an alteration request is required.

9. SUMMARY OF MAINTENANCE PERFORMED AFTER LAST INSPECTION:

(1) The sponsor has completed the following maintenance: significant cutting of trees and brush in various areas of the project, used herbicides to control vegetation along the project, and performed routine maintenance of the pump station pumps, completed pipe video inspections.

10. SUMMARY OF CHANGES TO PROJECT SINCE LAST INSPECTION: None.

11. PROBLEMS/ISSUES REQUIRING ASSISTANCE OF USACE:

(1) Project Alterations: An alteration is a new or existing change (including encroachments) to a Federally constructed, locally operated and maintained project, within the project's permanent easements. In accordance with 33 U.S.C. 408, all alterations must be reviewed and granted permission by USACE. Requests for alterations are initiated by the "Requestor", who can be any project stakeholder; including the sponsor, general public, or any other interested party. Sponsors must endorse requests from third party entities and

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

ensure that proper operation and maintenance of the alteration is followed. To make an alteration request, the sponsor is required to submit a USACE Buffalo District “Section 408 Request Form”; to include design criteria, as-built drawings, operations and maintenance requirements, and other pertinent documents and information. An electronic version of the form may be obtained by contacting the USACE Buffalo District Levee Safety Program Manager. This form may be used for either existing or new (proposed) alteration requests. Use one form for each unique alteration type. Similar alterations may be combined on one form. New alterations shall be granted permission in advance of the work.

For existing unauthorized alterations, an after-the-fact review will be required by USACE for each change to determine whether permission will be granted, or correction/removal will be required. A rating of “M” or “U” will be assigned to existing unauthorized alterations under the “encroachments” item on the checklist, depending on potential impacts to the functioning of the project, until either permission has been granted by USACE or the alteration is removed/corrected. If any of the cited alterations have been previously approved by USACE, the local sponsor shall submit approval documentation as proof.

- a.) The following project alteration request has been submitted by the sponsor and granted permission by USACE
 - i. Toledo Metroparks constructed a wetland restoration project adjacent to, and east, of the Wards Canal levee (granted 12/20/16).
 - ii. Parking lot and patio for new house being built on Dyke Road at Cooley Cannel (granted 03/05/20).
- (2) Videotaping of Pipe Inspections: The non-federal sponsor conducted pipe video inspections for the four levee outfalls and has submitted an acceptable assessment report on 10/12/20. In accordance with Engineer Manual 1110-2-2902, the pipes submitted under this assessment need to be reassessed by 12/31/30 (ten years since the last assessment).
- (3) Deferred Maintenance: Project features rated “minimally acceptable” or “unacceptable” are considered deferred maintenance items. For FRM projects that are “Active in the USACE Rehabilitation Program, these items may not be eligible for PL84-99 assistance if damaged during a flood or storm event. Features rated "acceptable" are eligible. For FRM projects that are “Inactive” in the USACE Rehabilitation Program, ALL project features, regardless of rating, are not eligible for PL 84-99 assistance if damaged during a flood or storm event.
- (4) The Toledo Metroparks Wetland alteration requires a sub-agreement for the transfer of maintenance of the crown and landside slope from the Conservancy District to Metroparks. The agreement should be coordinated through USACE.

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

- (5) Leakage through the levee has been reported by homeowners in several locations during high water events. Sponsors should document these areas with photographs and written statements from homeowners describing the problem and coordinate with USACE.
- (6) USACE is planning on conducting an encroachment survey with the Conservancy District in the Fall of 2021.

12. ADDITIONAL OBSERVATIONS:

- (1) USACE is taking the necessary actions to formally change both levee system's status in the USACE Rehabilitation Program from "Inactive" to "Active", since the NYSDEC has performed significant maintenance (removal of trees, brush, and vegetation). The systems will remain "Inactive" until the formal change in status is made.
- (2) The mean monthly Lake Erie water level at the time of this inspection was 573.1 IGLD 1985; the average mean monthly is 571.5 IGLD 1985. Heavy winds and rain occurred during the inspection.
- (3) Unauthorized encroachments which exist on the lake levee (including patio decks, wooden and concrete stairs, docks, wooden posts, flagpoles, swing sets, lawn furniture, fences, gardens, etc.) must be reviewed and approved by both the Corps and the local sponsor to determine if they have an adverse impact on the project and whether or not they can remain.
- (4) Sponsor should consider measures to keep Dyke Road/Corduroy pump station outfall discharge from being blocked by sand which washes up against the headwall. This causes a blockage of the outfall and impedes proper pump station discharge.

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

13. INSPECTION REPORT PREPARED BY:

James M. Rogers
Civil Engineer
Operations and Technical Support Section

14. INSPECTION REPORT APPROVED BY:

Robert W. Remmers, P.E., PMP
Levee Safety Program Manager
Chief, Operations and Technical Support Section

15. LIST OF ATTACHMENTS:

Attachment "A" – Deficiencies and Recommendations
Attachment "B" – Flood Damage Reduction System Inspection Report
Attachment "C" – Inspection Map
Attachment "D" – Rehabilitation Program Eligibility Determination
Attachment "E" – Project Map

Attachment “A” – Deficiencies and Recommendations

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

Inspect ID	Rating	Deficiency	Recommendations	Photo #	Category	Rated Item	Station 1	Station 2
2	A	Sponsor has an Emergency Action Plan (EAP) that is being further developed.	Continue to improve and develop the EAP.		General Items for All Flood Damage Reduction Systems	Flood Preparedness and Training (A or M only)	150+00	NA
4	M	Vegetation and woody growth in landside slope riprap at 12359 Lagoon Drive.	Remove vegetation and woody growth.	04_1.jpg	Levee Embankments	Riprap Revetments & Bank Protection	28+93	30+43
5	U	Trees and heavy vegetation on landside slope from west end of Lagoon Drive to La Course Drive.	Remove trees and heavy vegetation from landside slope. Perform regular maintenance to prevent further unwanted vegetation development.	05_1.jpg 05_2.jpg 05_3.jpg	Levee Embankments	Unwanted Vegetation Growth	38+88	30+00
6	M	Vegetation and woody vegetation on levee landside slope and crown at concrete slab, just west of 12153 Corduroy Road.	Remove trees and woody vegetation. Perform regular maintenance to prevent further unwanted vegetation development.		Levee Embankments	Unwanted Vegetation Growth	50+60	NA
7	U	Riprap has been removed from levee waterside slope over the distance of approx. 55' near concrete slab, just west of 12153 Corduroy Road.	Replace broken up concrete slab with proper riprap. Should be placed from waterside toe to top of crest.	07_1.jpg	Levee Embankments	Riprap Revetments & Bank Protection	50+60	NA
9	M	When 24" discharge pipe for Dyke Road/Corduroy pump station is completely shoaled in, sponsor digs out sand with shovel. Typically clears out during operation but could be serious issue.	Clear sediments from outfall; consider measures to keep outfall clear of sediments.	09_1.jpg	Pump Stations	Intake and Discharge Pipelines	63+15	NA
10	M	Vegetation and woody growth on landside slope at 11867 Dyke Road.	Clear woody growth and mow vegetation to 3"-6" height.	10_1.jpg	Levee Embankments	Unwanted Vegetation Growth	78+56	75+46
14	U	Trees and woody vegetation on landside slopes at 11227 Dyke Road.	Remove trees and woody vegetation.	14_1.jpg 14_2.jpg	Levee Embankments	Unwanted Vegetation Growth	130+53	127+10
15	M	Toledo Metroparks alteration includes sub-agreement for transfer of maintenance on crown and landside slope of Wards Canal levee from Conservancy District to Metroparks. Requires inspection and guidance from USACE.	Coordinate sub-agreement for O&M of Wards Canal levee with USACE.	15_1.jpg 15_2.jpg	Levee Embankments	Encroachments	-21+00	NA
22	U	Trees along levee landside toe from Toulon Drive to La Fontaine Drive.	Remove trees from levee slope and toe.	22_1.jpg	Levee Embankments	Unwanted Vegetation Growth	-1+53	-11+00
24	M	Multiple animal burrows on levee waterside slope at the end of La Fontaine Drive.	Improve or create an animal control plan and fill burrow.	24_1.jpg	Levee Embankments	Animal Control	-5+00	NA
25	U	SSP wall failure at Wards Canal levee waterside toe threatens dike integrity 300' upstream of canal entrance.	Repair and/or stabilize SSP wall with toe stone.	25_1.jpg 25_2.jpg	Levee Embankments	Revetments other than Riprap	-4+00	NA
28	U	Trees and woody vegetation on levee crown and levee landside slope between 12727 and 12743 Lagoon Drive.	Remove trees and woody vegetation from riprap. Perform regular maintenance to prevent further unwanted vegetation development.	28_1.jpg	Levee Embankments	Riprap Revetments & Bank Protection	1+73	NA
29	U	Unauthorized alteration: multiple decks and stairs along both levee side slopes and crown from 12659 to 12743 Lagoon Drive. Riprap has been removed or displaced for decks and stairs. Proper operations and maintenance is impeded.	Remove or Submit Section 408 Alteration Request to USACE.	29_1.jpg	Levee Embankments	Encroachments	0+10	5+07
30	M	Residents and Conservancy District indicate seepage for group of residential homes along Lagoon Drive, near 12727 Lagoon Drive.	Coordinate with USACE to mitigate seepage.		Levee Embankments	Seepage	3+62	NA
31	M	Residents and Conservancy District indicate seepage between two residential homes along Lagoon Drive, between 12545 and 12615 Lagoon Drive.	Coordinate with USACE to mitigate seepage.		Levee Embankments	Seepage	9+57	NA
35	M	Vegetation and woody growth along the landside toe along Lakeway Drive between Rialto Drive and Park Colony Boulevard. USACE agreed with sponsor to keep native small growing bush along landside toe.	NA	35_1.jpg 35_2.jpg	Levee Embankments	Unwanted Vegetation Growth	100+00	96+73
36	M	Unauthorized encroachments on both side slopes and crown of levee along multiple reaches of the project.	Sponsor is coordinating with USACE to document and resolve encroachments.	36_1.jpg 36_2.jpg 36_3.jpg	Levee Embankments	Encroachments	152+90	NA

Attachment “B” – Flood Damage Reduction System
Inspection Report



Flood Damage Reduction Segment / System Inspection Report

**US Army Corps
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Name of Segment / System: Reno Beach-Howard Farms - Shoreline and Wards Canal, Jerusalem

Public Sponsor(s): Reno Beach/Howard Farms Conservancy District

Public Sponsor Representative: Christine Fleitz

Sponsor Phone: (419) 836-8206

Sponsor Email: N/A

Corps of Engineers Inspector: USACE - Buffalo District Inspection Start Date: 9/22/2021

Inspection End Date: _____

Inspection Report Prepared By: James Rogers Date Report Prepared: _____

Internal Technical Review (for Periodic Inspections) By: _____ Date of ITR: _____

Final Approved By: _____ Date Approved: _____

Type of Inspection:	<input type="checkbox"/> Initial Eligibility Inspection <input checked="" type="checkbox"/> Continuing Eligibility Inspection (Routine) <input type="checkbox"/> Continuing Eligibility Inspection (Periodic)	Overall Segment / System Rating:	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Minimally Acceptable <input type="checkbox"/> Unacceptable
Contents of Report:	<input checked="" type="checkbox"/> Instructions <input type="checkbox"/> Initial Eligibility Inspection <input checked="" type="checkbox"/> General Items for All Flood Control Works <input checked="" type="checkbox"/> Levee Embankment <input type="checkbox"/> Concrete Floodwalls <input type="checkbox"/> Sheet Pile and Concrete I-walls <input checked="" type="checkbox"/> Interior Drainage System <input checked="" type="checkbox"/> Pump Stations <input type="checkbox"/> FDR System Channels	<p>Note: In addition to the report contents indicated here, a plan view drawing of the system, with stationing, should be included with this report to reference locations of items rated less than acceptable. Photos of general system condition and any noted deficiencies should also be attached.</p> <p>Note: This inspection rating represents the Corps evaluation of operations and maintenance of the flood damage reduction system and may be used in conjunction with other information for a levee certification determination for National Flood Insurance Program (NFIP) purposes if applicable. An Acceptable Corps inspection rating, alone, does not equate to a certifiable levee for the NFIP. It is recommended for levee systems currently accredited by the Federal Emergency Management Agency (FEMA) for NFIP purposes receiving a Corps Minimally Acceptable or Unacceptable rating, be evaluated by the levee owner to determine the potential impacts to the certification for FEMA.</p>	



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Flood Damage Reduction Segment / System 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 district: (name of the segment / system and levee district) Reno Beach-Howard Farms - Shoreline and Wards Canal, Jerusalem for CELRB
2. Reporting period: (month/day/year to month/day/year)
3. Summary of maintenance required by last inspection report:
4. Summary of maintenance performed this reporting period:
5. Summary of maintenance planned next reporting period:
6. Summary of changes to segment / system since last inspection:
7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:



US Army Corps
of Engineers®

**Flood Damage Reduction Segment / System
Inspection Report
Reno Beach-Howard Farms - Shoreline and**

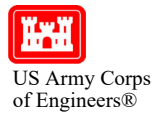
**Pre-Inspection Form
Page 1 of 2**

Public Sponsor Pre-Inspection Report

The following information is to be provided by the levee district sponsor prior to an inspection

8. Levee district organization: (elected or appointed levee district officials and key employees)

Name	Position	Mailing Address	Phone Number	Email Address



General Instructions for the Inspection of Flood Damage Reduction Segments / Systems

A. Purpose of USACE Inspections:

The primary purpose of these inspections is to prevent loss of life and catastrophic damages; preserve the value of Federal investments, and to encourage non-Federal sponsors to bear responsibility for their own protection. Inspections should assure that Flood Damage Reduction structures and facilities are continually maintained and operated as necessary to obtain the maximum benefits. Inspections are also conducted to determine eligibility for Rehabilitation Assistance under authority of PL 84-99 for Federal and non-Federal systems. (ER 1130-2-530, ER 500-1-1)

B. Types of Inspections:

The Corps conducts several types of inspections of Flood Damage Reduction systems, as outlined below:

Initial Eligibility Inspections	Continuing Eligibility Inspections	
	Routine Inspections	Periodic Inspections
IEIs are conducted to determine whether a non-Federally constructed Flood Damage Reduction system meets the minimum criteria and standards set forth by the Corps for initial inclusion into the Rehabilitation and Inspection Program.	RIs are intended to verify proper maintenance, owner preparedness, and component operation.	PIs are intended to verify proper maintenance and component operation and to evaluate operational adequacy, structural stability, and safety of the system. Periodic Inspections evaluate the system's original design criteria vs. current design criteria to determine potential performance impacts, evaluate the current conditions, and compare the design loads and design analysis used against current design standards. This is to be done to identify components and features for the sponsor that need to be monitored more closely over time or corrected as needed. (Periodic Inspections are used as the basis of risk assessments.)

C. Inspection Boundaries:

Inspections should be conducted so as to rate each Flood Damage Reduction "Segment" of the system. The overall system rating will be the lowest segment rating in the system.

Project	System	Segment
A flood damage reduction project is made up of one or more flood damage reduction systems which were under the same authorization.	A flood damage reduction system is made up of one or more flood damage reduction segments which collectively provide flood damage reduction to a defined area. Failure of one segment within a system constitutes failure of the entire system. Failure of one system does not affect another system.	A flood damage reduction segment is defined as a discrete portion of a flood damage reduction system that is operated and maintained by a single entity. A flood damage reduction segment can be made up of one or more features (levee, floodwall, pump stations, etc).

D. Land Use Definitions:

The following three definitions are intended for use in determining minimum required inspection intervals and initial requirements for inclusion into the Rehabilitation and Inspection Program. Inspections should be considered for all systems that would result in significant environmental or economic impact upon failure regardless of specific land use.

Agricultural	Rural	Urban
Protected population in the range of zero to 5 households per square mile protected.	Protected population in the range of 6 to 20 households per square mile protected.	Greater than 20 households per square mile; major industrial areas with significant infrastructure investment. Some protected urban areas have no permanent population but may be industrial areas with high value infrastructure with no overnight population.



E. Use of the Inspection Report Template:

The report template is intended for use in all Army Corps of Engineers inspections of levee and floodwall systems and flood damage reduction channels. The section of the template labeled "Initial Eligibility" only needs to be completed during Initial Eligibility Inspections of Non-Federally constructed Flood Damage Reduction Systems. The section labeled "General Items" needs to be completed with every inspection, along with all other sections that correspond to features in the system. The section labeled "Public Sponsor Pre-Inspection Report" is intended for completion before the inspection, if possible.

F. Individual Item / Component Ratings:

Assessment of individual components rated during the inspection should be based on the criteria provided in the inspection report template, though inspectors may incorporate additional items into the report based on the characteristics of the system. The assessment of individual components should be based on the following definitions.

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The inspected item is in satisfactory condition, with no deficiencies, and will function as intended during the next flood event.	The inspected item has one or more minor deficiencies that need to be corrected. The minor deficiency or deficiencies will not seriously impair the functioning of the item as intended during the next flood event.	The inspected item has one or more serious deficiencies that need to be corrected. The serious deficiency or deficiencies will seriously impair the functioning of the item as intended during the next flood event.

G. Overall Segment / System Ratings:

Determination of the overall system rating is based on the definitions below. Note that an Unacceptable System Rating may be either based on an engineering determination that concluded that noted deficiencies would prevent the system from functioning as intended during the next flood event, or based on the sponsor's demonstrated lack of commitment or inability to correct serious deficiencies in a timely manner.

Acceptable System	Minimally Acceptable System	Unacceptable System
All items or components are rated as Acceptable.	One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment / system from performing as intended during the next flood event.	One or more items are rated as Unacceptable and would prevent the segment / system from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years.

H. Eligibility for PL84-99 Rehabilitation Assistance:

Inspected systems that are not operated and maintained by the Federal government may be Active in the Corps' Rehabilitation and Inspection Program (RIP) and eligible for rehabilitation assistance from the Corps as defined below:

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
The system is active in the RIP and eligible for PL84-99 rehabilitation assistance.	The system is Active in the RIP during the time that it takes to make needed corrections. Active systems are eligible for rehabilitation assistance. However, if the sponsor does not present USACE with proof that serious deficiencies (which had previously resulted in a minimally acceptable system rating) were corrected within the established timeframe, then the system will become Inactive in the RIP.	The system is Inactive in the RIP, and the status will remain Inactive until the sponsor presents USACE with proof that all items rated Unacceptable have been corrected. Inactive systems are ineligible for rehabilitation assistance.



I. Reporting:

After the inspection, the Corps is responsible for assembling an inspection report (or a summary report if it was a Periodic Inspection) including the following information:

- a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)
- b. Photos of the general system condition and noted deficiencies.
- c. A plan view drawing of the system, with stationing, to reference locations of items rated less than acceptable.
- d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.
- e. If the Overall System Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Rehabilitation Inspection Program.

J. Notification:

Reports are to be disseminated as follows within 30 days of the inspection date.

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
Reports need to be provided to the local sponsor and the county emergency management agency.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, and to the FEMA region.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, FEMA region, and to the Congressional delegation within 30 days of the inspection.



General Items for All Flood Damage Reduction Segments / Systems

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	A	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	OH29_2021_r_0003: Station_1 150+00: The sponsor provided the O&M Manual.: NA (A)
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.	
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.	
2. Emergency Supplies and Equipment (A or M only)	A	A	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.	
		M	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)	A	A	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.	OH29_2021_r_0002: Station_1 150+00: Sponsor has an Emergency Action Plan (EAP) that is being further developed.: Continue to improve and develop the EAP. (A)
		M	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.	

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



Levee Embankments

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Unwanted Vegetation Growth ¹	U	A 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.	OH29_2021_r_0005: Station_1 38+88: Station_2 30+00: Trees and heavy vegetation on landside slope from west end of Lagoon Drive to La Course Drive.: Remove trees and heavy vegetation from landside slope. Perform regular maintenance to prevent further unwanted vegetation development. (U) OH29_2021_r_0006: Station_1 50+60: Vegetation and woody vegetation on levee landside slope and crown at concrete slab, just west of 12153 Corduroy Road.: Remove trees and woody vegetation. Perform regular maintenance to prevent further unwanted vegetation development. (M) OH29_2021_r_0010: Station_1 78+56: Station_2 75+46: Vegetation and woody growth on landside slope at 11867 Dyke Road.: Clear woody growth and mow vegetation to 3"-6" height. (M) OH29_2021_r_0014: Station_1 130+53: Station_2 127+10: Trees and woody vegetation on landside slopes at 11227 Dyke Road.: Remove trees and woody vegetation. (U) OH29_2021_r_0022: Station_1 -1+53: Station_2 -11+00: Trees along levee landside toe from Toulon Drive to La Fontaine Drive.: Remove trees from levee slope and toe. (U) OH29_2021_r_0035: Station_1 100+00: Station_2 96+73: Vegetation and woody growth along the landside toe along Lakeway Drive between Rialto Drive and Park Colony Boulevard. USACE agreed with sponsor to keep native small growing bush along landside toe.: NA (M)
		M 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.	
		U 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	A	A There is good coverage of sod over the levee.	
		M 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.	
		U Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	
		N/A Surface protection is provided by other means.	
3. Encroachments	M	A 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.	OH29_2021_r_0013: Station_1 98+64: Pre-project cottages along Lakeway Drive at end of Waterway Road; one remains, one removed (foundation remains).: NA (A)

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US Army Corps
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Flood Damage Reduction Segment / System
Inspection Report
Reno Beach-Howard Farms - Shoreline and

Levee Embankments
Page 1 of 22

Levee Embankments

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p>M 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.</p> <p>U Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.</p>	<p>OH29_2021_r_0015: Station_1 -21+00: Toledo Metroparks alteration includes sub-agreement for transfer of maintenance on crown and landside slope of Wards Canal levee from Conservancy District to Metroparks. Requires inspection and guidance from USACE.: Coordinate sub-agreement for O&M of Wards Canal levee with USACE. (M)</p> <p>OH29_2021_r_0017: Station_1 -14+00: Toledo Metroparks pump station operated and maintained by Conservancy District per sub-agreement.: NA (A)</p> <p>OH29_2021_r_0018: Station_1 -14+00: Authorized alteration: Toledo Metroparks levee ties into Wards Canal levee.: NA (A)</p> <p>OH29_2021_r_0026: Station_1 -1+53: 12763 Lagoon Drive levee repair of toe and slope deemed acceptable by USACE per FY17 RI Report.: NA (A)</p> <p>OH29_2021_r_0029: Station_1 0+10: Station_2 5+07: Unauthorized alteration: multiple decks and stairs along both levee side slopes and crown from 12659 to 12743 Lagoon Drive. Riprap has been removed or displaced for decks and stairs. Proper operations and maintenance is impeded.: Remove or Submit Section 408 Alteration Request to USACE. (U)</p> <p>OH29_2021_r_0036: Station_1 152+90: Unauthorized encroachments on both side slopes and crown of levee along multiple reaches of the project.: Sponsor is coordinating with USACE to document and resolve encroachments. (M)</p>
4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures) (A or U only)	NA	<p>A 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.</p>	
		<p>U 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.</p>	
		<p>N/A There are no closure structures along this component of the FDR segment / system.</p>	
5. Slope Stability	A	<p>A No slides, sloughs, tension cracking, slope depressions, or bulges are present.</p>	
		<p>M Minor slope stability problems that do not pose an immediate threat to the levee embankment.</p>	

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Levee Embankments

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		U 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	A	A No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	
		M There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.	
		U 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 ²	A	A No observed depressions in crown. Records exist and indicate no unexplained historical changes.	
		M Minor irregularities that do not threaten integrity of levee. Records are incomplete or inclusive.	
		U Obvious variations in elevation over significant reaches. No records exist or records indicate that design elevation is compromised.	
8. Depressions/ Rutting	A	A 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.	
		M There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.	
		U There are depressions greater than 6 inches deep that will pond water.	
9. Cracking	A	A Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	
		M 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.	
		U 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	M	A Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	OH29_2021_r_0024: Station_1 -5+00: Multiple animal burrows on levee waterside slope at the end of La Fontaine Drive.: Improve or create an animal control plan and fill burrow. (M)
		M 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.	
		U 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	

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Levee Embankments

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		this maintenance is complete.	
11. Culverts/ Discharge Pipes ³ (This item includes both concrete and corrugated metal pipes.)	A	A 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.	OH29_2021_r_0019: Station_1 -14+00: Authorized alteration: Toledo Metropark alteration pump station 24" discharge pipe to Wards Canal penetrates through the levee system. Acceptable pipe based on pipe videotape inspection performed by sponsor.: Continue regular maintenance. (A) OH29_2021_r_0032: Station_1 63+15: 24" CMP for East Road Pump Station at intersection of Dyke Road and Corduroy. Acceptable pipe based on pipe videotape inspection performed by sponsor.: Continue regular maintenance. (A) OH29_2021_r_0040: Station_1 154+44: 15" PVC pipe at Cooley Canal Pump Station. Acceptable pipe based on pipe videotape inspection performed by sponsor.: Continue regular maintenance. (A) OH29_2021_r_0041: Station_1 154+44: 12" PVC pipe at Cooley Canal Pump Station. Acceptable pipe based on pipe videotape inspection performed by sponsor.: Continue regular maintenance. (A)
		M 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.	
		U 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.	
		N/A There are no discharge pipes/ culverts.	
12. Riprap Revetments & Bank Protection	U	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.	OH29_2021_r_0004: Station_1 28+93: Station_2 30+43: Vegetation and woody growth in landside slope riprap at 12359 Lagoon Drive.: Remove vegetation and woody growth. (M) OH29_2021_r_0007: Station_1 50+60: Riprap has been removed from levee waterside slope over the distance of approx. 55' near concrete slab, just west of 12153 Corduroy Road.: Replace borken up concrete slab with proper riprap. Should be placed from waterside toe to top of crest. (U) OH29_2021_r_0008: Station_1 52+53: Riprap on levee waterside slope along Corduroy Road is in acceptable condition.: NA (A) OH29_2021_r_0016: Station_1 -47+80: Station_2 -11+00: Riprap on levee waterside slope from Toulon Drive to Wards Canal (southern project limit):. NA (A)
		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.	

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Reno Beach-Howard Farms - Shoreline and

Levee Embankments
Page 4 of 22

Levee Embankments

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

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
				OH29_2021_r_0027: Station_1 -1+53; Station_2 0+10: Riprap on levee waterside slope at 12763 Lagoon Drive, near Wards Canal, in acceptable condition.: NA (A) OH29_2021_r_0028: Station_1 1+73: Trees and woody vegetation on levee crown and levee landside slope between 12727 and 12743 Lagoon Drive.: Remove trees and woody vegetation from riprap. Perform regular maintenance to prevent further unwanted vegetation development. (U) OH29_2021_r_0034: Station_1 96+73; Station_2 100+00: Riprap on levee waterside slope is in acceptable condition along Lakeway Drive between Rialto Drive and Park Colony Boulevard.: NA (A)
13. Revetments other than Riprap	U	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.	OH29_2021_r_0025: Station_1 -4+00: SSP wall failure at Wards Canal levee waterside toe threatens dike integrity 300' upstream of canal entrance.: Repair and/or stabilize SSP wall with toe stone. (U)
		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.	
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	M	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	OH29_2021_r_0030: Station_1 3+62: Residents and Conservancy District indicate seepage for group of residential homes along Lagoon Drive, near 12727 Lagoon
		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.	

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Levee Embankments

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p style="text-align: center;">U</p> <p>Evidence or history of active seepage, extensive saturated areas, or boils.</p>	<p>Drive.: Coordinate with USACE to mitigate seepage. (M) OH29_2021_r_0031: Station_1 9+57: Residents and Conservancy District indicate seepage between two residential homes along Lagoon Drive, between 12545 and 12615 Lagoon Drive.: Coordinate with USACE to mitigate seepage. (M)</p>

¹ If there is significant growth on the levee that inhibits the inspection of animal burrows or other items, the inspection should be ended until this item is corrected.

² Detailed survey elevations are normally required during Periodic Inspections, and whenever there are obvious visual settlements.

³ The decision on whether or not USACE inspectors should enter a pipe to perform a detailed inspection must be made at the USACE District level. This decision should be made in conjunction with the District Safety Office, as pipes may be considered confined spaces. This decision should consider the age of the pipe, the diameter of the pipe, the apparent condition of the pipe, and the length of the pipe. If a pipe is entered for the purposes of inspection, the inspector should record observations with a video camera in order that the condition of the entire pipe, including all joints, can later be assessed. Additionally, the video record provides a baseline to which future inspections can be compared.

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Reno Beach-Howard Farms - Shoreline and

Levee Embankments
Page 6 of 22

Levee Embankments

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

	<p>Inspect ID: OH29_2021_r_0005 Title: USACE_CELRB_OH29_2021_r_0005_1.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Rating: Unacceptable; Remarks: Trees and heavy vegetation on landside slope from west end of Lagoon Drive to La Course Drive.; Action: Remove trees and heavy vegetation from landside slope. Perform regular maintenance to prevent further unwanted vegetation development.; Station_1: 38+88; Station_2: 30+00</p>
	<p>Inspect ID: OH29_2021_r_0005 Title: USACE_CELRB_OH29_2021_r_0005_2.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Rating: Unacceptable; Remarks: Trees and heavy vegetation on landside slope from west end of Lagoon Drive to La Course Drive.; Action: Remove trees and heavy vegetation from landside slope. Perform regular maintenance to prevent further unwanted vegetation development.; Station_1: 38+88; Station_2: 30+00</p>



Levee Embankments

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



Inspect ID: OH29_2021_r_0005 **Title:** USACE_CELRB_OH29_2021_r_0005_3.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Trees and heavy vegetation on landside slope from west end of Lagoon Drive to La Course Drive.; Action: Remove trees and heavy vegetation from landside slope. Perform regular maintenance to prevent further unwanted vegetation development.; Station_1: 38+88; Station_2: 30+00



Inspect ID: OH29_2021_r_0010 **Title:** USACE_CELRB_OH29_2021_r_0010_1.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable; Remarks: Vegetation and woody growth on landside slope at 11867 Dyke Road.; Action: Clear woody growth and mow vegetation to 3"-6" height.; Station_1: 78+56; Station_2: 75+46



Levee Embankments

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



Inspect ID: OH29_2021_r_0014 **Title:** USACE_CELRB_OH29_2021_r_0014_1.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Trees and woody vegetation on landside slopes at 11227 Dyke Road.; Action: Remove trees and woody vegetation.; Station_1: 130+53; Station_2: 127+10; establish proper sod cover.; ;



Inspect ID: OH29_2021_r_0014 **Title:** USACE_CELRB_OH29_2021_r_0014_2.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Trees and woody vegetation on landside slopes at 11227 Dyke Road.; Action: Remove trees and woody vegetation.; Station_1: 130+53; Station_2: 127+10; establish proper sod cover.; ;



Levee Embankments

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



Inspect ID: OH29_2021_r_0022 **Title:** USACE_CELRB_OH29_2021_r_0022_1.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Trees along levee landside toe from Toulon Drive to La Fontaine Drive.; Action: Remove trees from levee slope and toe.; Station_1: -1+53; Station_2: -11+00



Inspect ID: OH29_2021_r_0035 **Title:** USACE_CELRB_OH29_2021_r_0035_1.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable; Remarks: Vegetation and woody growth along the landside toe along Lakeway Drive between Rialto Drive and Park Colony Boulevard. USACE agreed with sponsor to keep native small growing bush along landside toe.; Action: NA; Station_1: 100+00; Station_2: 96+73



Levee Embankments

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



Inspect ID: OH29_2021_r_0035 **Title:** USACE_CELRB_OH29_2021_r_0035_2.jpg
Rated Item: 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable;
Remarks: Vegetation and woody growth along the landside toe along Lakeway Drive between Rialto Drive and Park Colony Boulevard. USACE agreed with sponsor to keep native small growing bush along landside toe.; **Action:** NA; **Station_1:** 100+00; **Station_2:** 96+73



Inspect ID: OH29_2021_r_0013 **Title:** USACE_CELRB_OH29_2021_r_0013_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Acceptable; **Remarks:** Pre-project cottages along Lakeway Drive at end of Waterway Road; one remains, one removed (foundation remains).; **Action:** NA; **Station_1:** 98+64



Levee Embankments

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



Inspect ID: OH29_2021_r_0015 **Title:** USACE_CELRB_OH29_2021_r_0015_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Toledo Metroparks alteration includes sub-agreement for transfer of maintenance on crown and landside slope of Wards Canal levee from Conservancy District to Metroparks. Requires inspection and guidance from USACE.; Action: Coordinate sub-agreement for O&M of Wards Canal levee with USACE.; Station_1: -21+00



Inspect ID: OH29_2021_r_0015 **Title:** USACE_CELRB_OH29_2021_r_0015_2.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Toledo Metroparks alteration includes sub-agreement for transfer of maintenance on crown and landside slope of Wards Canal levee from Conservancy District to Metroparks. Requires inspection and guidance from USACE.; Action: Coordinate sub-agreement for O&M of Wards Canal levee with USACE.; Station_1: -21+00



Levee Embankments

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



Inspect ID: OH29_2021_r_0017 **Title:** USACE_CELRB_OH29_2021_r_0017_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Acceptable; Remarks: Toledo Metroparks pump station operated and maintained by Conservancy District per sub-agreement.; Action: NA; Station_1: -14+00



Inspect ID: OH29_2021_r_0018 **Title:** USACE_CELRB_OH29_2021_r_0018_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Acceptable; Remarks: Authorized alteration: Toledo Metroparks levee ties into Wards Canal levee.; Action: NA; Station_1: -14+00



Levee Embankments

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



Inspect ID: OH29_2021_r_0029 **Title:** USACE_CELRB_OH29_2021_r_0029_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Unacceptable; Remarks: Unauthorized alteration: multiple decks and stairs along both levee side slopes and crown from 12659 to 12743 Lagoon Drive. Riprap has been removed or displaced for decks and stairs. Proper operations and maintenance is impeded.; Action: Remove or Submit Section 408 Alteration Request to USACE.; Station_1: 0+10; Station_2: 5+07



Inspect ID: OH29_2021_r_0036 **Title:** USACE_CELRB_OH29_2021_r_0036_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Unauthorized encroachments on both side slopes and crown of levee along multiple reaches of the project.; Action: Sponsor is coordinating with USACE to document and resolve encroachments.; Station_1: 152+90



Levee Embankments

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



Inspect ID: OH29_2021_r_0036 **Title:** USACE_CELRB_OH29_2021_r_0036_2.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Unauthorized encroachments on both side slopes and crown of levee along multiple reaches of the project.; Action: Sponsor is coordinating with USACE to document and resolve encroachments.; Station_1: 152+90



Inspect ID: OH29_2021_r_0036 **Title:** USACE_CELRB_OH29_2021_r_0036_3.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Unauthorized encroachments on both side slopes and crown of levee along multiple reaches of the project.; Action: Sponsor is coordinating with USACE to document and resolve encroachments.; Station_1: 152+90



Levee Embankments

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



Inspect ID: OH29_2021_r_0024 **Title:** USACE_CELRB_OH29_2021_r_0024_1.jpg
Rated Item: 10. Animal Control **Caption:** Rating: Minimally Acceptable; Remarks: Multiple animal burrows on levee waterside slope at the end of La Fontaine Drive.; Action: Improve or create an animal control plan and fill burrow.; Station_1: -5+00



Inspect ID: OH29_2021_r_0004 **Title:** USACE_CELRB_OH29_2021_r_0004_1.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Minimally Acceptable; Remarks: Vegetation and woody growth in landside slope riprap at 12359 Lagoon Drive.; Action: Remove vegetation and woody growth.; Station_1: 28+93; Station_2: 30+43



Levee Embankments

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



Inspect ID: OH29_2021_r_0007 **Title:** USACE_CELRB_OH29_2021_r_0007_1.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Unacceptable;
Remarks: Riprap has been removed from levee waterside slope over the distance of approx. 55' near concrete slab, just west of 12153 Corduroy Road.; **Action:** Replace broken up concrete slab with proper riprap. Should be placed from waterside toe to top of crest.; **Station_1:** 50+60



Inspect ID: OH29_2021_r_0008 **Title:** USACE_CELRB_OH29_2021_r_0008_1.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
Remarks: Riprap on levee waterside slope along Corduroy Road is in acceptable condition.; **Action:** NA; **Station_1:** 52+53



Levee Embankments

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



Inspect ID: OH29_2021_r_0016 **Title:** USACE_CELRB_OH29_2021_r_0016_1.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
Remarks: Riprap on levee waterside slope from Toulon Drive to Wards Canal (southern project limit).; Action: NA; Station_1: -47+80; Station_2: -11+00



Inspect ID: OH29_2021_r_0016 **Title:** USACE_CELRB_OH29_2021_r_0016_2.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
Remarks: Riprap on levee waterside slope from Toulon Drive to Wards Canal (southern project limit).; Action: NA; Station_1: -47+80; Station_2: -11+00



Levee Embankments

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



Inspect ID: OH29_2021_r_0027 **Title:** USACE_CELRB_OH29_2021_r_0027_1.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
 Remarks: Riprap on levee waterside slope at 12763 Lagoon Drive, near Wards Canal, in acceptable condition.; Action: NA; Station_1: -1+53; Station_2: 0+10





Inspect ID: OH29_2021_r_0027 **Title:** USACE_CELRB_OH29_2021_r_0027_2.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
 Remarks: Riprap on levee waterside slope at 12763 Lagoon Drive, near Wards Canal, in acceptable condition.; Action: NA; Station_1: -1+53; Station_2: 0+10



Levee Embankments

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

	<p>Inspect ID: OH29_2021_r_0028 Title: USACE_CELRB_OH29_2021_r_0028_1.jpg Rated Item: 12. Riprap Revetments & Bank Protection Caption: Rating: Unacceptable; Remarks: Trees and woody vegetation on levee crown and levee landside slope between 12727 and 12743 Lagoon Drive.; Action: Remove trees and woody vegetation from riprap. Perform regular maintenance to prevent further unwanted vegetation development.; Station_1: 1+73</p>
	<p>Inspect ID: OH29_2021_r_0034 Title: USACE_CELRB_OH29_2021_r_0034_1.jpg Rated Item: 12. Riprap Revetments & Bank Protection Caption: Rating: Acceptable; Remarks: Riprap on levee waterside slope is in acceptable condition along Lakeway Drive between Rialto Drive and Park Colony Boulevard.; Action: NA; Station_1: 96+73; Station_2: 100+00</p>



Levee Embankments

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



Inspect ID: OH29_2021_r_0034 **Title:** USACE_CELRB_OH29_2021_r_0034_2.jpg
Rated Item: 12. Riprap Revetments & Bank Protection **Caption:** Rating: Acceptable;
Remarks: Riprap on levee waterside slope is in acceptable condition along Lakeway Drive between Rialto Drive and Park Colony Boulevard.; **Action:** NA; **Station_1:** 96+73; **Station_2:** 100+00



Inspect ID: OH29_2021_r_0025 **Title:** USACE_CELRB_OH29_2021_r_0025_1.jpg
Rated Item: 13. Revetments other than Riprap **Caption:** Rating: Unacceptable;
Remarks: SSP wall failure at Wards Canal levee waterside toe threatens dike integrity 300' upstream of canal entrance.; **Action:** Repair and/or stabilize SSP wall with toe stone.; **Station_1:** -4+00



Levee Embankments

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



Inspect ID: OH29_2021_r_0025 **Title:** USACE_CELRB_OH29_2021_r_0025_2.jpg
Rated Item: 13. Revetments other than Riprap **Caption:** Rating: Unacceptable;
Remarks: SSP wall failure at Wards Canal levee waterside toe threatens dike integrity 300' upstream of canal entrance.; **Action:** Repair and/or stabilize SSP wall with toe stone.;
Station_1: -4+00



Interior Drainage System

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Vegetation and Obstructions	A	A 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.	
		M 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.	
		U 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 re-establish flow capacity.	
2. Encroachments	A	A 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.	
		M 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.	
		U 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	NA	A No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	
		M 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.	
		U 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.	
		N/A There are no ponding areas associated with the interior drainage system.	
4. Fencing and Gates ¹	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 gate)	A	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.	OH29_2021_r_0021: Station_1 -14+00: Authorized alteration: headwall on waterside of Wards Canal levee, part

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



Interior Drainage System

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
wells, outfalls, intakes, or culverts)		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.	of Toledo Metroparks alteration.: NA (A) OH29_2021_r_0039: Station_1 154+44: Cooley Canal Pump Station Outfall headwall in acceptable condition.: NA (A)
		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.	
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures ² (Such as gate wells, outfalls, intakes, or culverts)	A	A There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	
		M 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.	
		U 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.	
		N/A There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures ³ (Such as culverts, inlet and discharge structures, or gatewells.)	A	A No active erosion, scouring, or bank caving that might endanger the structure's stability.	
		M 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.	
		U Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		N/A There are no concrete items in the interior drainage system.	
8. Monolith Joints	NA	A 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.	
		M 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.	

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Interior Drainage System

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p>U 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.</p> <p>N/A There are no monolith joints in the interior drainage system.</p>	
9. Culverts/ Discharge Pipes ⁴	A	<p>A 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> <p>M 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.</p> <p>U 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.</p> <p>N/A There are no discharge pipes/ culverts.</p>	
10. Sluice / Slide Gates ⁵	NA	<p>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.</p> <p>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.</p> <p>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.</p> <p>N/A There are no sluice/ slide gates.</p>	

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Interior Drainage System

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

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
11. Flap Gates/ Flap Valves/ Pinch Valves ¹	A	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	OH29_2021_r_0020; Station_1 -14+00: Authorized alteration: 24" flapgate on waterside of Wards Canal levee, part of Toledo Metroparks alteration.: NA (A)
		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)	NA	A	Trash racks are fastened in place and properly maintained.	
		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.	
13. Other Metallic Items	NA	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		N/A	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	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.	
15. Revetments other than Riprap	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.	

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Interior Drainage System

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
	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 are no such revetments protecting this feature of the segment / system.	

¹ Proper operation of this item must be demonstrated during the inspection.

² The sponsor should be monitoring any observed movement to verify whether the movement is active or inactive.

³ Inspectors must have as-built drawings available during the inspection so that the lateral distance to the heel and toe of the floodwalls can be determined in the field.

⁴ The decision on whether or not USACE inspectors should enter a pipe to perform a detailed inspection must be made at the USACE District level. This decision should be made in conjunction with the District Safety Office, as pipes may be considered confined spaces. This decision should consider the age of the pipe, the diameter of the pipe, the apparent condition of the pipe, and the length of the pipe. If a pipe is entered for the purposes of inspection, the inspector should record observations with a video camera in order that the condition of the entire pipe, including all joints, can later be assessed. Additionally, the video record provides a baseline to which future inspections can be compared.

⁵ Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

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US Army Corps
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Flood Damage Reduction Segment / System
Inspection Report
Reno Beach-Howard Farms - Shoreline and

Interior Drainage System
Page 5 of 6

Interior Drainage System

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



Inspect ID: OH29_2021_r_0021 **Title:** USACE_CELRB_OH29_2021_r_0021_1.jpg
Rated Item: 5. Concrete Surfaces (Such as gate wells, outfalls, intakes, or culverts)
Caption: Rating: Acceptable; Remarks: Authorized alteration: headwall on waterside of Wards Canal levee, part of Toledo Metroparks alteration.; Action: NA; Station_1: -14+00



Inspect ID: OH29_2021_r_0020 **Title:** USACE_CELRB_OH29_2021_r_0020_1.jpg
Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Rating: Acceptable;
Remarks: Authorized alteration: 24" flapgate on waterside of Wards Canal levee, part of Toledo Metroparks alteration.; Action: NA; Station_1: -14+00



Pump Stations

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	A	A 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.	OH29_2021_r_0033: Station_1 63+54: Project Pump Station at east end of Dyke Road at Corduroy. Records of operation are tracked hourly.: NA (A) OH29_2021_r_0037: Station_1 154+44: Cooley Canal Pump Station in acceptable condition. Records of operation are tracked hourly.: NA (A)
		M Operation, maintenance and inspection records are present but not adequately used and updated.	
		U 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	A	A 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.	
		M 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.	
		U Operation and Maintenance Equipment Manuals are not available.	
3. Safety Compliance	M	A Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	
		M No safety compliance inspection reports are available for review.	
4. Communications (A or M only)	A	A A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	
		M A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	
5. Plant Building	NA	A 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.	
		M 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.	
		U 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.	
6. Fencing and Gates ¹	A	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.	

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		N/A	There are no features noted that require safety fencing.	
7. Pumps ¹	A	A	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.	
		M	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.	
		U	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.	A	A	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.	
		M	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.	
		U	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.	
9. Sumps / Wet well	NA	A	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	
		M	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.	
		U	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 ¹	NA	A	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	
		M	The trash rake is in need of maintenance, but is still operational.	
		U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	
		N/A	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	A	A	Trash racks are fastened in place and properly maintained.	
		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.	

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
		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.	
12. Fuel System for Pump Engines	A	A	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	
		M	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
		U	Fuel system not functional.	
		N/A	No fuel system.	
13. Power Source	A	A	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.	
		M	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.	
		U	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	
14. Electrical Systems ²	A	A	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	
		M	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
		U	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	M	A	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.	
		M	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.)	
		U	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.	

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Pump Stations

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	A	A	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
		M	Minor surface corrosion which appears to be maintainable. Cleaning and painting required.	
		U	Severely corroded and must be replaced to prevent failure, equipment damage, or safety issues.	
17. Intake and Discharge Pipelines	M	A	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.	OH29_2021_r_0009: Station_1 63+15: When 24" discharge pipe for Dyke Road/Corduoy pump station is completely shoaled in, sponsor digs out sand with shovel. Typically clears out during operation but could be serious issue.: Clear sediments from outfall; consider measures to keep outfall clear of sediments. (M) OH29_2021_r_0038: Station_1 154+44: Cooley Canal Pump Station intake channel in acceptable condition.: NA (A)
		M	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.	
		U	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 ³	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.	
19. Flap Gates/ Flap Valves/ Pinch Valves ¹	NA	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	
		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 gates on discharge lines from pump station.	

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Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
20. Cranes ¹	NA	A	Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.	
		M	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
		U	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
		N/A	There are no cranes.	
21. Other Metallic Items (Equipment, Ladders, Platform Anchors, etc)	NA	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		N/A	There are no other significant metallic items.	

¹ Proper operation of this item must be demonstrated during the inspection.

² Check motor control center, circuit breakers, pilot lights, volt meters, ammeters, sump level indicator, gate position indicators, remote operating systems, including SCADA and telemetry systems. Also, check interior and exterior lighting; especially lighting near trash rack screens, ladders, walkways, etc.

³ Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

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



Pump Stations

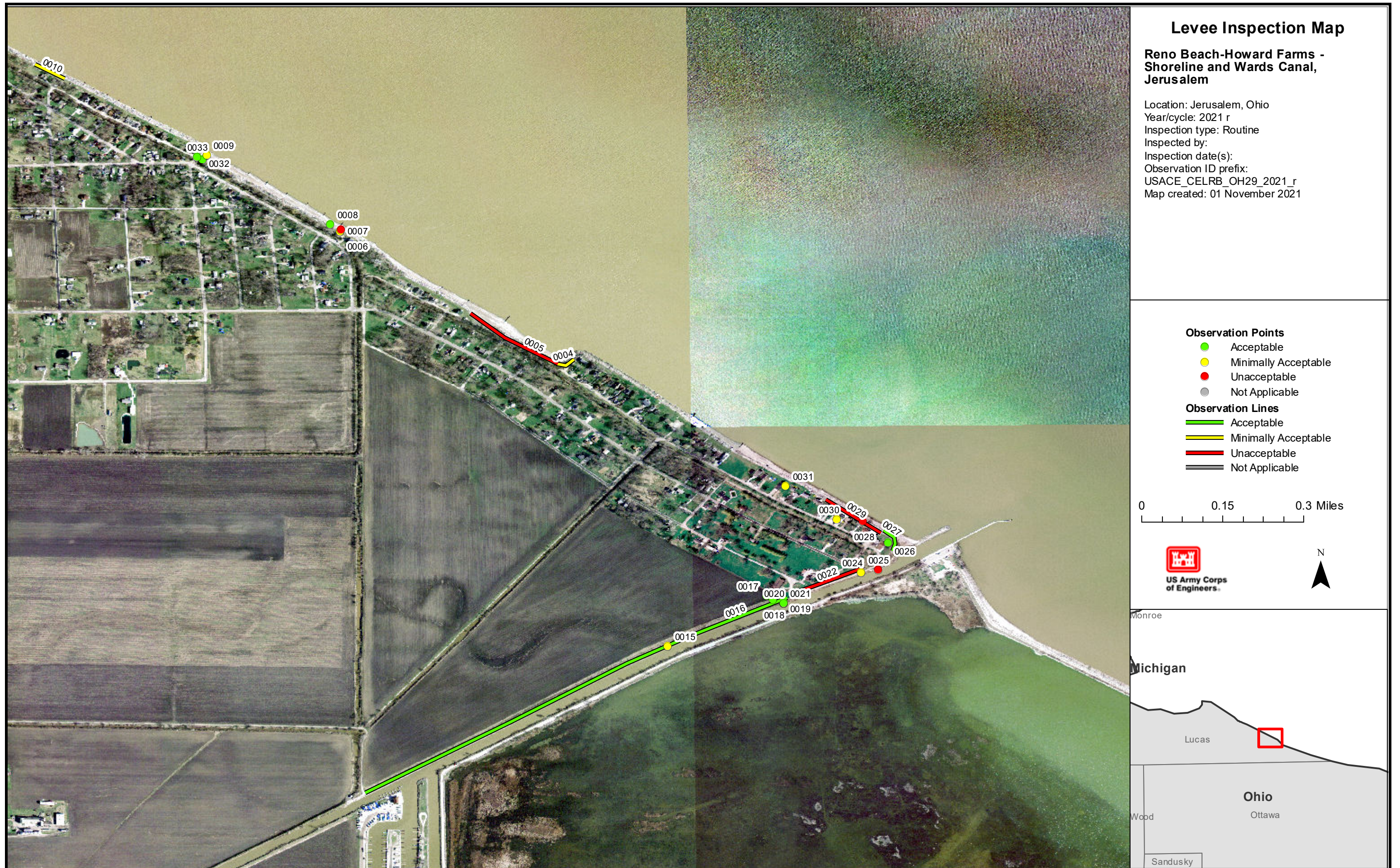
For use during Initial and Continuing Eligibility Inspections of pump stations



Inspect ID: OH29_2021_r_0009 **Title:** USACE_CELRB_OH29_2021_r_0009_1.jpg
Rated Item: 17. Intake and Discharge Pipelines **Caption:** Rating: Minimally Acceptable; Remarks: When 24" discharge pipe for Dyke Road/Corduoy pump station is completely shoaled in, sponsor digs out sand with shovel. Typically clears out during operation but could be serious issue.; Action: Clear sediments from outfall; consider measures to keep outfall clear of sediments.; Station_1: 63+15



Attachment “C” – Inspection Map





Attachment “D” – Rehabilitation Program Eligibility
Determination

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

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

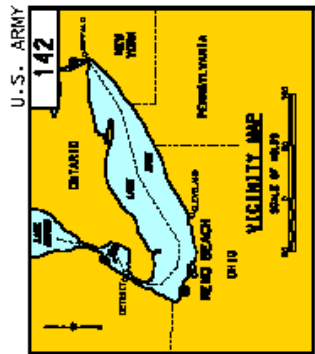
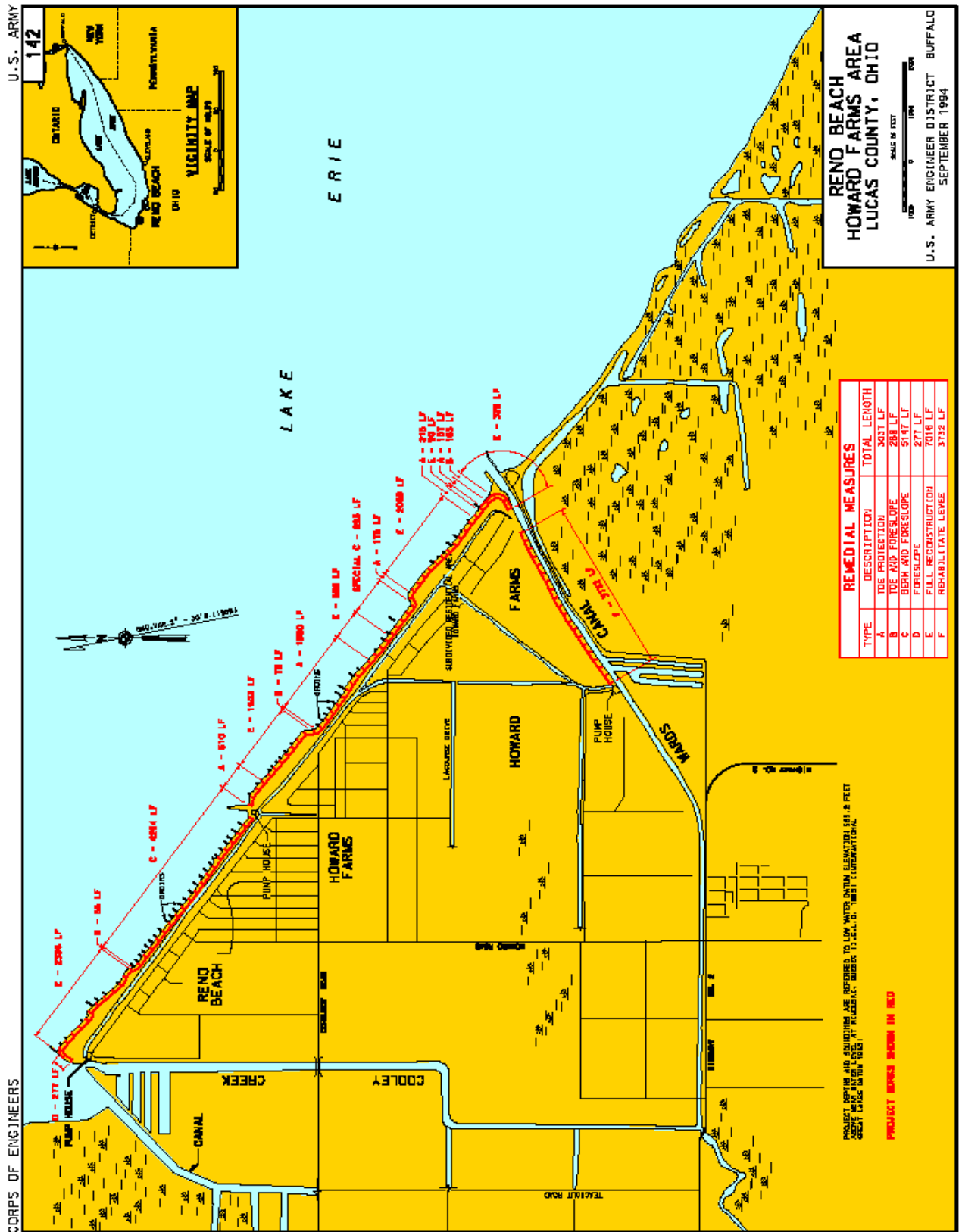
SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)

Interior Drainage System	
A <input checked="" type="checkbox"/>	9. Culverts/Discharge Pipes
M <input 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"/>	
Pump Stations	
A <input checked="" type="checkbox"/>	17. Intake and Discharge Pipelines
M <input type="checkbox"/>	
U <input type="checkbox"/>	
N/A <input type="checkbox"/>	
A <input type="checkbox"/>	18. Sluice/Slide Gates
M <input type="checkbox"/>	
U <input type="checkbox"/>	
N/A <input checked="" type="checkbox"/>	
A <input type="checkbox"/>	19. Flap Gates/Flap Valves/Pinch Valves
M <input type="checkbox"/>	
U <input type="checkbox"/>	
N/A <input checked="" type="checkbox"/>	
Rehabilitation Program Status	
Active* <input 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: *1. The levee system is rated "Minimally Acceptable" (M) and is "Inactive" status in the USACE Rehabilitation Program. *2. Due to significant progress made by the non-federal sponsor towards project maintenance for the levee, USACE is taking the necessary actions to formally make this system "Active" again in the USACE Rehabilitation Program.	

Note: Item numbers listed above refer to their placement in the Inspection Checklist
In order to be eligible, all of the following items must be rated A, M, N/A or Yes.

Attachment “E” – Project Map

SUBJECT: FY21 Joint Routine Inspection of Completed Works, Flood Risk Management Project, Reno Beach-Howard Farms, Lucas County, Ohio (09/22/21)



RENDO BEACH AREA
HOWARD FARMS AREA
LUCAS COUNTY, OHIO

U.S. ARMY ENGINEER DISTRICT BUFFALO
SEPTEMBER 1994

SCALE OF FEET
0 100 200

CDRPS OF ENGINEERS