US Army Corps of Engineers®

# Flood Damage Reduction Segment / System Inspection Report

Name of Segment / System: Pajaro R. Right bank US FFCP PJRU

Public Sponsor(s): County of Santa Cruz, Department of Public Works

Public Sponsor Representative: -

Sponsor Phone: -

Sponsor Email: -

Corps of Engineers Inspector: John Conway and Anthony Galvan

Inspection Start Date: 9/4/2019

Inspection End Date: 9/4/2019

Inspection Report Prepared By: Jesse Sanchez

Date Report Prepared: 7/29/2020

Internal Technical Review (for Periodic Inspections) By: John Conway, P.E., CESPN Levee Safety Program Manager

Date of ITR:

Final Approved By: Susan Kelly, P.E., CESPN Levee Safety Officer

Date Approved:

Type of Inspection:

- ☐ **Initial Eligibility Inspection**
- ☒ **Continuing Eligibility Inspection (Routine)**
- ☐ **Continuing Eligibility Inspection (Periodic)**

Overall Segment / System Rating:

- ☐ **Acceptable**
- ☒ **Minimally Acceptable**
- ☐ **Unacceptable**

Contents of Report:

- ☒ **Instructions**
- ☐ **Initial Eligibility Inspection**
- ☒ **General Items for All Flood Control Works**
- ☒ **Levee Embankment**
- ☐ **Concrete Floodwalls**
- ☐ **Sheet Pile and Concrete I-walls**
- ☒ **Interior Drainage System**
- ☐ **Pump Stations**
- ☒ **FDR System Channels**

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.

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.

CONWAY.JOHN.M.1232164324 Digitally signed by CONWAY.JOHN.M.1232164324 Date: 2021.01.06 08:58:20 -08'00'

SPN Levee Safety Program Manager Approval Signature

KELLY.SUSAN.JANE.1458989652 Digitally signed by KELLY.SUSAN.JANE.1458989652 Date: 2021.05.04 14:40:41 -07'00'

SPN Levee Safety Officer Approval Signature

San Francisco District
450 Golden Gate Ave.
San Francisco, CA 94102

# 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. |

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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)**

Pajaro River mainstem; and Salsipuedes Creek tributary / Pajaro River levee upper system. County of Santa Cruz Flood Control and Water Conservation District – Zone 7, reporting to USACE San Francisco District.

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

May 2018 to August 2019

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

**ZONE 7 FLOOD CONTROL AND WATER CONSERVATION DISTRICT (DISTRICT) STAFF HAVE NOT BEEN GIVEN AN ADEQUATE TIME PERIOD TO ATTEND TO ALL ITEMS NOTED ON THE 2016 INSPECTION REPORT AND/OR RESPOND APPROPRIATELY ON THOSE THAT STAFF MAY NOT AGREE ON.**

**DISTRICT STAFF RECEIVED THE FINALIZED 2016 INSPECTION REPORT ON APRIL 16TH, 2019 AND HAVE BEEN WORKING TO ADDRESS USACE COMMENTS BUT HAS NOT BEEN ABLE TO RESOLVE ALL ISSUES DUE TO DELAYED DELIVERY OF THE 2016 REPORT.**

**ANNUAL INSPECTIONS IN 2017 AND 2018 WERE CANCELED BY USACE.**

**BELOW ARE ITEMS FROM THE 2016 USACE REPORT FOR THIS LEVEE SEGMENT MARKED AS MINIMALLY ACCEPTABLE (M) OR UNACCEPTABLE (U) AND THE ASSOCIATED ACTIONS UNDERTAKEN BY DISTRICT STAFF.**

1. **Operations and maintenance manuals (Rating M) –** In addition to the 1949 manual, the District follows the guidelines set forth in the 2002 EIR. Table 3.4-1, Pajaro River Management and Restoration Plan (Attachment 1) outlines management area, objectives, techniques, and restrictions. Furthermore, the District is pursuing a stream maintenance program to better identify and describe maintenance activities while streamlining the permitting process.
2. **Non-compliant vegetation growth (Rating M) –** The District underwent extensive vegetation clearing and maintenance on the Pajaro River from HWY 1 to Murphys Crossing and on the lower portion of Salsipuedes Creek. See Attachment 2 for a map of extents.
3. **Sod cover (Rating U) –** The District has monitored sod cover and erosion on levee slopes. The climate in Watsonville makes it difficult to maintain sod cover in all areas. District maintenance staff regularly monitor levee slope condition and recompact when nessecary.
4. **Encroachments (Rating M) –** Electric pole encroachments have not been addressed yet. Letters have been sent to property owners with other observed encroachments on their properties (Attachment 3).
5. **Erosion/bank caving (Rating M) –** No action taken at culvert outlet at 348+00. District staff will monitor and clear vegetation at culvert at 348+00. Eroded scarp at S 23+00 repaired in 2016.

6. **Animal control (Rating U) –** Pest control program has added PERC machine usage and live trapping to pest control program. District staff is currently investigating raptor program with the Santa Cruz Predatory Research Group to supplement pest control by maintenance crews.
7. **Culverts/discharge pipes (Rating U) –** Culverts were video inspected in 2016. All pipes are currently being flushed and inspected in August 2019.

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

**Regular Maintenance Activities on Pajaro River & Salsipuedes Creek – Also see Semi-Annual Reportd for 1) Jan – Jun 2018, 2) Jul – Dec 2018, and Jan – Jun 2019 (Attachments 5 thru 7)**

1. **Levee road and gates**
   a. **Pothole repairs:** Fill in potholes using base rock and cold mix asphalt.
   b. **Re-surfacing:** Overlay areas of road with cold mix asphalt as needed. Seal cracks in AC pavement. Place and compact base rock on road shoulder as needed.
   c. **Grading:** Grade levee road surface using a scraper box.
   d. **Access gates:** Repair existing gates and install new gates as needed. Repaint gates and posts.

2. **Levee slopes and benches**
   a. **Grading and compaction:** Levee slopes compacted using an excavator with a slope packer attachment.
   b. **Erosion Repair:** Small erosion areas filled and repaired with compacted base rock. A large erosion area was repaired on the Salsipuedes Creek water side slope (S 23+00).
   c. **Rodent control:** Smoke cartridges, Fumitoxin applied, and PERC machine used in gopher and ground squirrel burrows in levee slopes; trapping used in areas near organic farms.
   d. **Vegetation control:** Mow levee slopes and apply AquaMaster herbicide as needed. Benches mowed.

3. **Flap gate channels**
   a. Clear vegetation, debris, silt, and sediment from flap gate channels.

4. **Encroachments**
   a. The Public Works Drainage Maintenance Division addresses encroachments on the levee slopes of the Pajaro River and Salsipuedes Creek by either removing the encroachments or by contacting property owners responsible for the encroachment and requesting that they remove the encroachment. These encroachments include trees, fences, retaining walls, storage structures, agricultural irrigation pipes, farm equipment, farm road drainage ditches, gardens, etc.
   b. Continuing to work with property owners to reestablish easement boundaries and clear vegetation and debris from levee easement.

5. **Other**
   a. Bridges - Clear 50 feet of woody vegetation on both sides of all bridges: Once during Aug 1 to Oct 15 (typically in Sept.).
   b. Remove log jams, snags, and other obstacles to the free flow of channel water: on-going as needed.
   c. Homeless camp cleanup and trash removal.
   d. City of Watsonville conducting homeless encampment clean-up two days a month.

e. Vegetation within channel and riparian bank thinned, and herbicide applied as required. Fallen trees and limbs removed per vegetation maintenance manual.
f. Willow removal on Salsipuedes upstream of HWY 129 Bridge
g. Revegetation program being followed subsequent to the bench excavation project.
h. Flap gate inspections undertaken, and greasing / repairs made as required.
i. Graffiti removed, and vandalized padlocks replaced. Repairs made to gates.

**Special Maintenance Activities on Pajaro River & Salsipuedes Creek**

6. **Vegetation Clearing and Maintenance (August to October 2018)**
   - District contractor (Community Tree) conducted vegetation maintenance and removal between Highway 1 and Murphys Crossing on the Pajaro River and from the confluence to past Highway 129 on Salsipuedes Creek (See Attachment 2 for map).
   - Vegetation maintenance was conducted to decrease channel roughness and improve channel conveyance.
   - Hydraulic model was run with updated channel roughness
   - Additional details on vegetation maintenance will be provided upon request.
7. **PL84-99 Repairs (July to October 2018)**
   - The District identified 38 sites damaged during the storms in January and February of 2017.
   - USACE recommended 16 sites for repair at a cost of $3.75 million
   - USACE contractor made Salsipuedes levee road (right bank) repairs.
   - Repairs were completed in August 2018
   - District has requested USACE to complete the agreed upon levee road chip seal and address repairs needed at Site 24
8. **Culvert Flushing and Video Inspection (July and August 2019)**
   - All culverts on Santa Cruz County side of Pajaro River and Salsipuedes Creek are being flushed and video inspected
   - District will provide USACE with videos and report when available.
9. **LiDAR Survey**
   - Drone based LiDAR data collection was conducted in April 2019.
   - This survey will help inform hydraulic analysis, spatial variability of vegetated roughness, geomorphic channel change (erosion and deposition), levee profile change, and levee slope.
   - Survey will be provided to USACE upon request
10. **GIS Online Database Development**
    - The District has developed an GIS Online database to track maintenance activities, channel change, and inventory District assets.
    - The online database can be accessed at a desktop with internet connection or via a smartphone. Users in the field can concurrently and in real-time update the database during normal maintenance activities or in emergency situations.

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

1. **Continue work of maintenance items 1 through 5 above.**

2. **Develop stream maintenance program:**

- District staff have started developing a stream maintenance program to define and describe flood protection maintenance activities and streamline the associated permitting requirements. The program will be submitted to USACE for review once it has been prepared.

3. **Flap gate/pipe repair and replacements:**
   - Inspections and maintenance of the culverts located at the end of Coolidge Ave. revealed that both the upper and lower culverts were degraded and needed replacement. District has begun the process of an emergency repair at this location and has been in contact USACE staff regarding details.
   - Culvert video inspections will be reviewed upon completion and culvert required maintenance work will be evaluated.

4. **USACE PL84-99 repairs:**
   - Most work was completed in 2018. Remaining items include Site 24 repair and Salsipuedes Creek right bank levee road chip seal.

5. **Delta Way pump improvements:**
   - City of Watsonville staff are pursuing improvements to the pump station along Salsipuedes Creek at Delta Way.
   - The primary improvement is the installation of a backup generator and associated infrastructure.
   - Additional details will be provided upon request

6. **Raptor-mediated rodent control:**
   - District staff have been coordinating with the director of the Santa Cruz Predatory Bird Research Group about implementing a raptor program to help control rodent populations on the levee.
   - The raptor program would be used in conjunction with the other pest control techniques employed by the District with the goal of eliminating fumitoxin usage.
   - A similar program was implemented and studied by Ventura County.

7. **Bench Erosion Repairs:**
   - Erosion of a portion of the bench along the Pajaro occurred at station 475+00 during the 2017 storms
   - District is considering repairs to restore maintenance corridor along toe of levee.
   - There is no immediate threat to the levee and the area will be monitored through the 2019-20 storm season.
   - Erosion did not limit any regular levee maintenance activities in 2018 and 2019.

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

1. PL84-99 repairs
2. Vegetation maintenance
3. Homeless camp repairs

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

Transmit official final inspection reports for each Routine Inspection in a timely manner to allow the County to properly address items as needed.

Levee slope repair at Site 24 on Salsipuedes Creek.

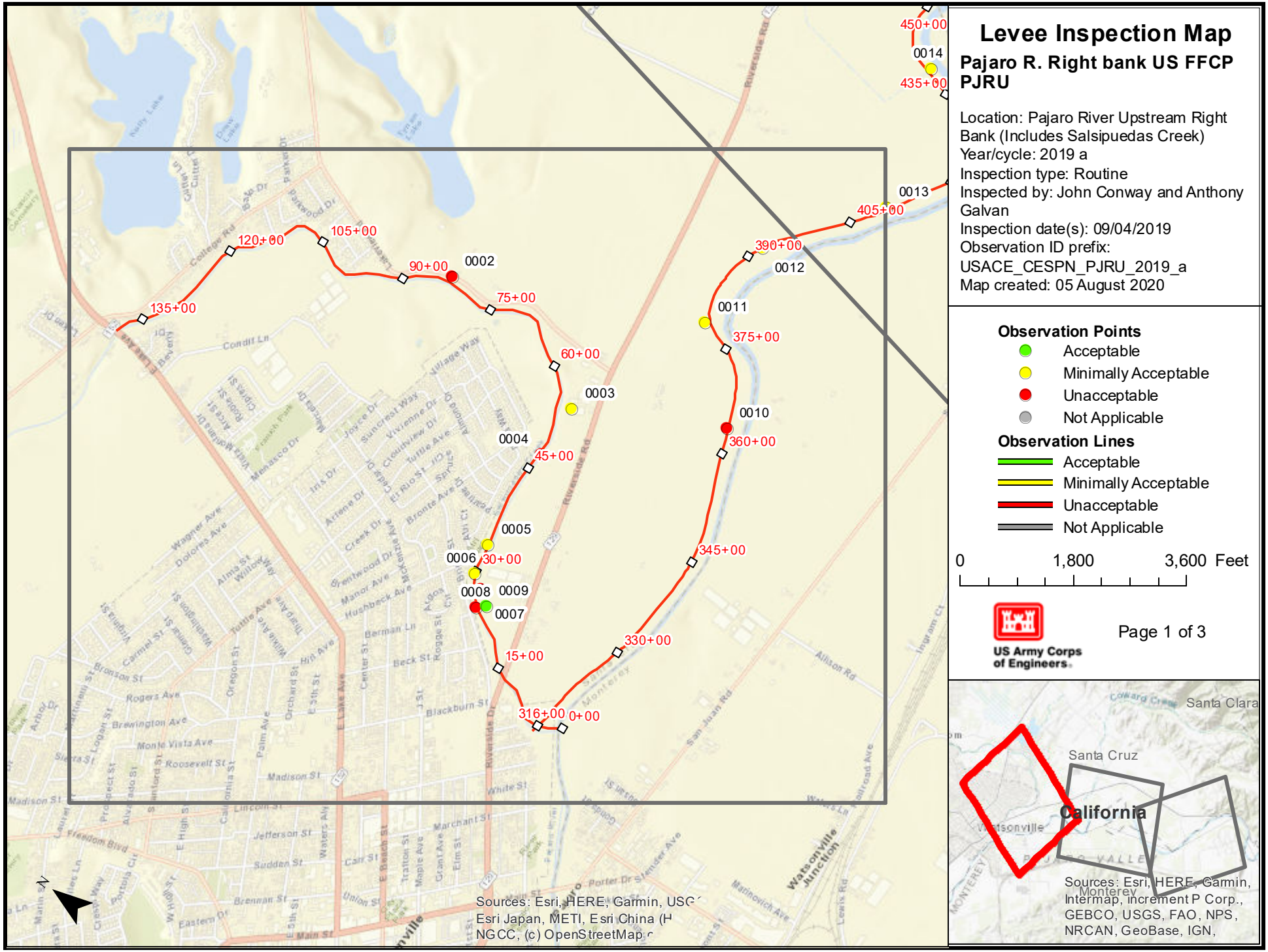
Salsipuedes Creek, right bank, levee top road chip seal/slurry.

# 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 |
|---|---|---|---|---|
| Matt Machado | District Engineer, Santa Cruz County Flood Control & Water Conservation District / Director of Public Works | County of Santa Cruz Department of Public Works<br>701 Ocean Street Room 410<br>Santa Cruz, CA 95060 | 831-454-2160 | Matt.Machado@santacruzcounty.us |
| Mark Strudley | Senior Civil Engineer | County of Santa Cruz Department of Public Works<br>701 Ocean Street Room 410<br>Santa Cruz, CA 95060 | 831-454-2807 | Mark.Strudley@santacruzcounty.us |
| Rusty Barker | Civil Engineer | County of Santa Cruz Department of Public Works<br>701 Ocean Street Room 410<br>Santa Cruz, CA 95060 | 831-454-2814 | Rusty.Barker@santacruzcounty.us |
| Antonella Gentile | Resource Planner | County of Santa Cruz Department of Public Works<br>701 Ocean Street Room 410<br>Santa Cruz, CA 95060 | 831-454-2632 | Antonella.Gentile@santacruzcounty.us |
| Gavino Mosqueda | Drainage Supervisor | County of Santa Cruz Public Works<br>Brommer Yard<br>2700 Brommer Street<br>Santa Cruz, CA 95062 | 831-840-3855 | Gavino.Mosqueda@santacruzcounty.us |
| Vance Wagner | Roads Superintendent | County of Santa Cruz Public Works<br>Brommer Yard<br>2700 Brommer Street<br>Santa Cruz, CA 95062 | 831-454-3918 | Vance.Wagner@santacruzcounty.us |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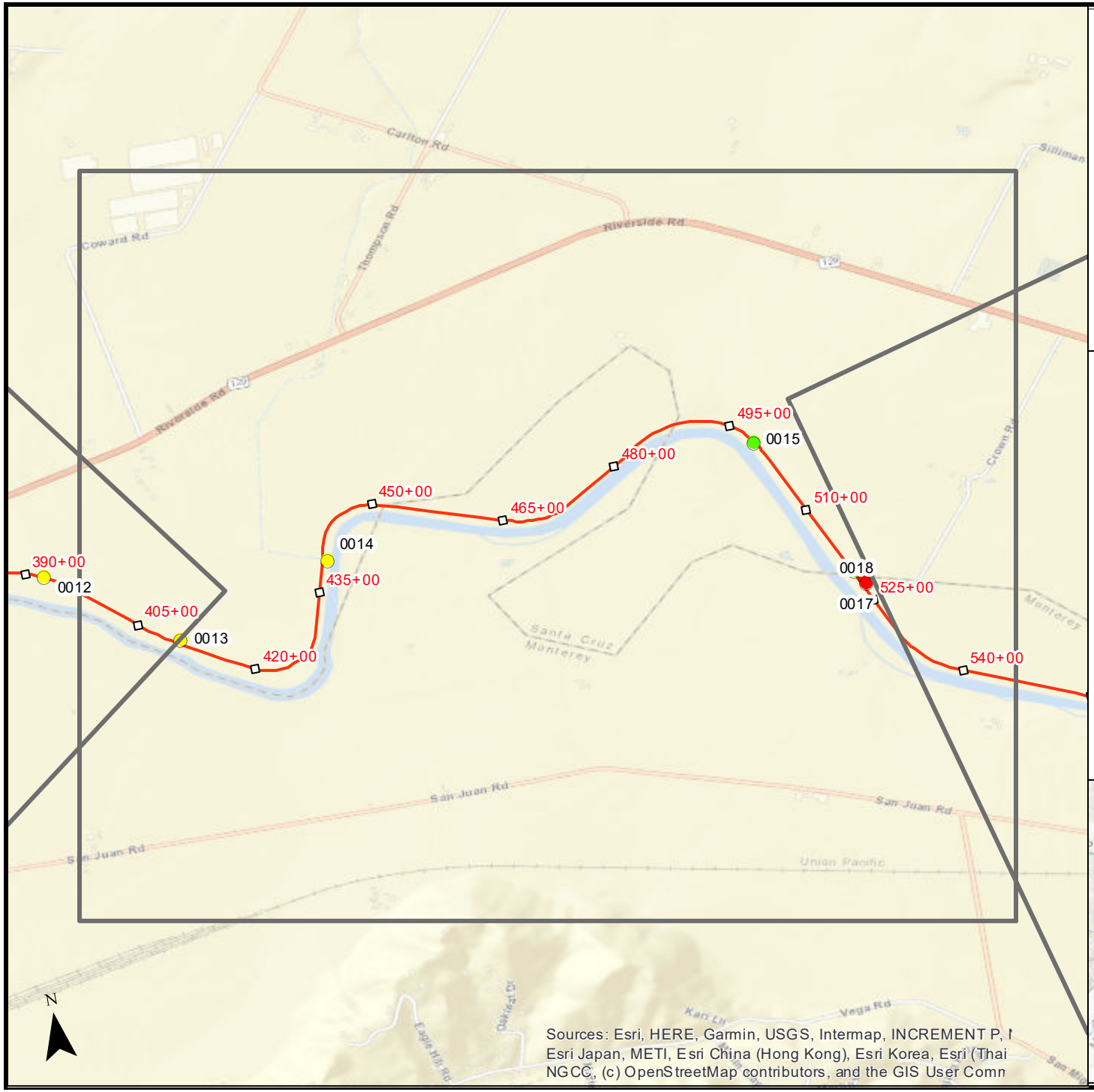
Levee Inspection Map
Pajaro R. Right bank US FFCP PJRU
Location: Pajaro River Upstream Right Bank (Includes Salsipuedas Creek)
Year/cycle: 2019 a
Inspection type: Routine
Inspected by: John Conway and Anthony Galvan
Inspection date(s): 09/04/2019
Observation ID prefix: USACE_CESPN_PJRU_2019_a
Map created: 05 August 2020
Observation Points
Acceptable
Minimally Acceptable
Unacceptable
Not Applicable
Observation Lines
Acceptable
Minimally Acceptable
Unacceptable
Not Applicable
0
1,800
3,600 Feet
US Army Corps of Engineers
Page 1 of 3
Santa Clara
Santa Cruz
California
Monterey
Sources: Esri, HERE, Garmin, USGS, Esri Japan, METI, Esri China (H
NGCC, (c) OpenStreetMap c
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN,




# Levee Inspection Map

## Pajaro R. Right bank US FFCP PJRU

Location: Pajaro River Upstream Right Bank (Includes Salsipuedas Creek)
Year/cycle: 2019 a
Inspection type: Routine
Inspected by: John Conway and Anthony Galvan
Inspection date(s): 09/04/2019
Observation ID prefix: USACE_CESPN_PJRU_2019_a
Map created: 05 August 2020

**Observation Points**

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

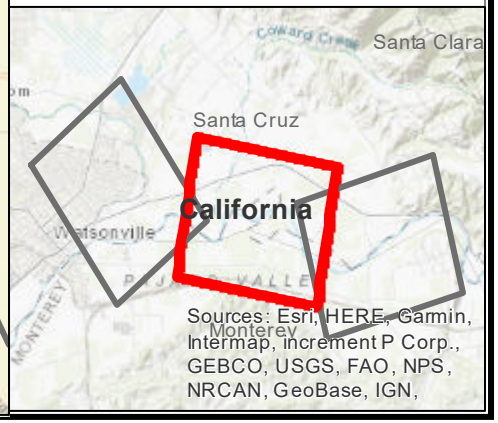
**Observation Lines**

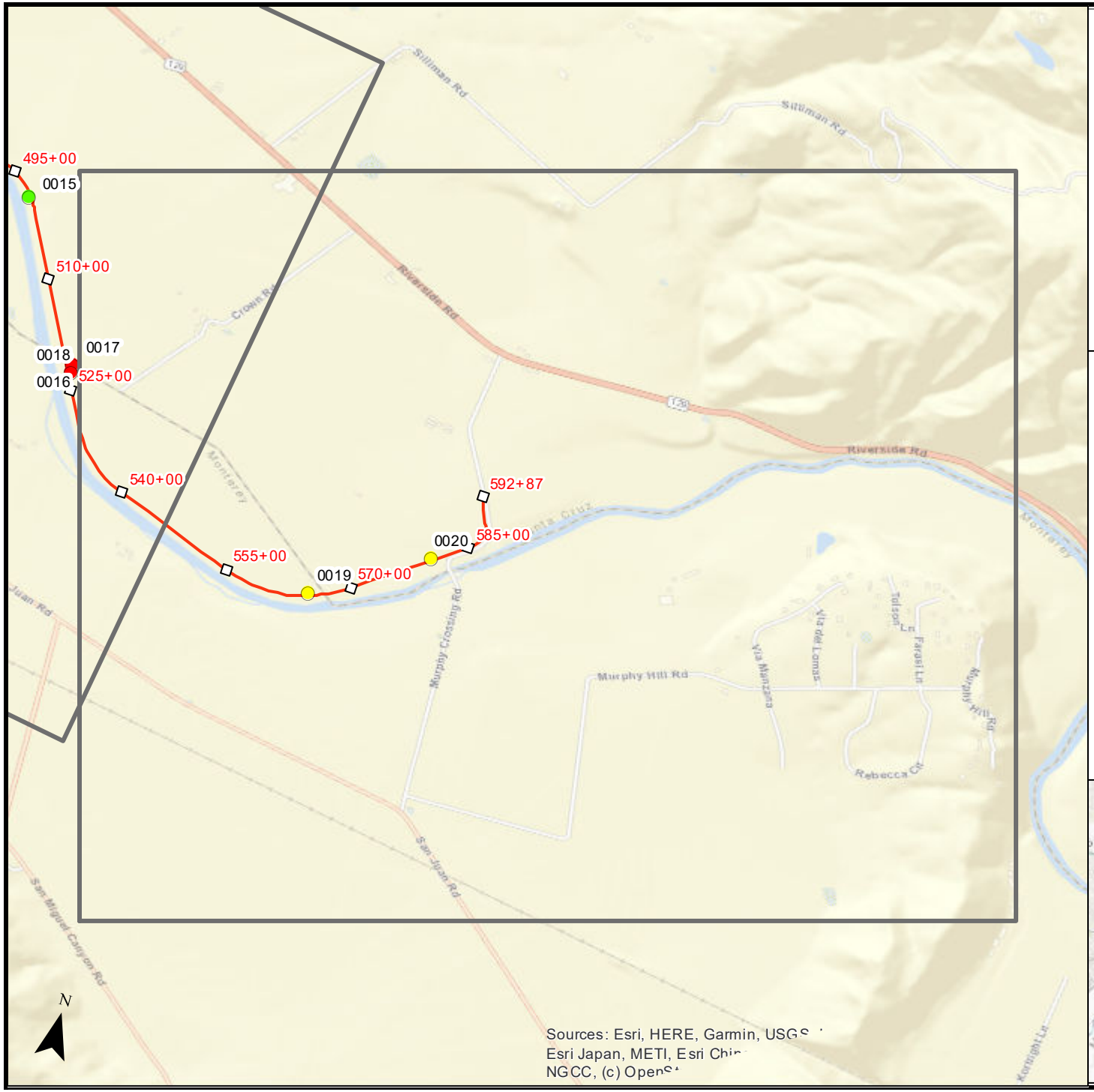
- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

0 1,800 3,600 Feet

US Army Corps of Engineers








# Levee Inspection Map

## Pajaro R. Right bank US FFCP PJRU

Location: Pajaro River Upstream Right Bank (Includes Salsipuedas Creek)
Year/cycle: 2019 a
Inspection type: Routine
Inspected by: John Conway and Anthony Galvan
Inspection date(s): 09/04/2019
Observation ID prefix: USACE_CESPN_PJRU_2019_a
Map created: 05 August 2020

**Observation Points**

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

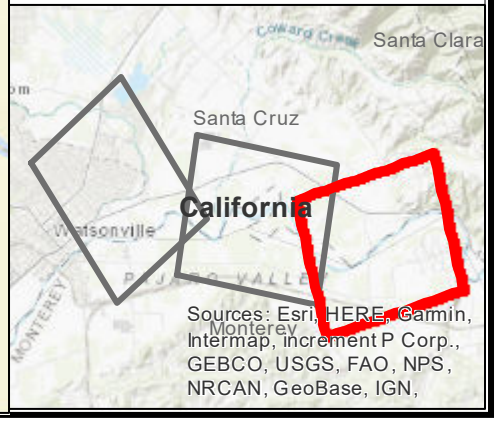
**Observation Lines**

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

0 1,800 3,600 Feet

US Army Corps of Engineers





# 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. | Sponsor has supplemented the original O&M with modifications to the as-built document for the Santa Cruz County portions of the Pajaro River and Salsipuedes Creek (Dated 08-27-2009). The as built documents:<br>1) Identify types and usage of structures along the river alignment.<br>2) Identify the status of the structures.<br>3) Identify the structures as being part of the original project or additions. |
| | | **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. | PJRU_2019_a_0001: Station_1 139+00: Supply materials and sandbags stored at depot near the project vicinity: NA (A) |
| | | **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) | **M** | **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. | A site specific EAP was not reviewed at the time of the inspection; however, The County of Santa Cruz and the City of Watsonville appears to be prepared for flood fighting in association with potential SD pump failures with Emergency Supplies and Equipment stored at a warehouse in the project vicinity. |
| | | **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] | **M** | **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. | PJRU_2019_a_0002: Station_1 83+00: Tree more than 10 feet tall and with a trunk diameter greater than 12 inches observed within the 15 ft vegetation-free zone.: The tree should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained. (U)<br>PJRU_2019_a_0014: Station_1 439+00: Trees more than 10 feet tall and with trunk diameters greater than 12 inches were observed within the 15 ft vegetation-free zone.: The trees should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained. (M)<br>PJRU_2019_a_0017: Station_1 522+00: Dense vegetation on the waterside slope and trees more than 10 ft tall and with trunk diameters greater than 12 inches were observed within the 15 ft vegetation-free zone.: Vegetation growth should be managed in accordance with USACE policy. (U) |
| | | **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 | **M** | **A** | There is good coverage of sod over the levee. | PJRU_2019_a_0018: Station_1 523+00: Levee waterside slope lacking adequate sod coverage, perennial grasses, or weedy growth.: The sponsor should consider manually mowing the levee slope to allow root masses to develop and new growth to be established before the winter season. (U) |
| | | **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 | **U** | **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. | PJRU_2019_a_0009: Station_1 24+00: Trash was present on the landside levee slope.: The trash should be removed. (A)<br>PJRU_2019_a_0003: Station_1 54+00: Construction materials and debris observed encroaching on the landside toe of the levee prism.: Encroachments should be permitted or otherwise removed. (M)<br>PJRU_2019_a_0004: Station_1 47+00: Unauthorized drainage pipes encroaching into the landside toe of the levee prism.: Encroachment should be permitted or otherwise removed. (U)<br>PJRU_2019_a_0010: Station_1 363+00: Unauthorized excavation observed at the toe of the landside slope.: Recommend a section 408 modification request be submitted, or the site be restored to as-built conditions and the slope be restored to the lines and grades in the O&M manual. (U) |
| | | **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. | |
| | | **U** | Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee. | |

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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 |
|---|---|---|---|---|
| | | | | PJRU_2019_a_0013: Station_1 410+00: Gravel deposited at the toe of the landside slope.: Recommend a section 408 modification request be submitted, or the area should be restored to as-built conditions. (M) |
| 4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures) (A or U only) | **NA** | **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. | No closure structures along the levee system. |
| | | **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. | |
| | | **N/A** | There are no closure structures along this component of the FDR segment / system. | |
| 5. Slope Stability | **A** | **A** | No slides, sloughs, tension cracking, slope depressions, or bulges are present. | Generally, all levee slopes were in good condition. There were some waterside slope irregularities documented in the rating item below. |
| | | **M** | Minor slope stability problems that do not pose an immediate threat to the levee embankment. | |
| | | **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 | **U** | **A** | No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability. | PJRU_2019_a_0008: Station_1 25+00: Erosion occurring on waterside slope of the levee prism along the Salsipuedes Creek segment. Covered with geomembrane for temporary protection: Recommend the levee prism slope be regraded back to the as-built slope to prevent additional erosion from storm runoff. This area should also be monitored during high water events to see if any soil loss is occurring due to seepage. (U) |
| | | **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. | No depressions observed in the levee crest during the inspection. |
| | | **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. | No rutting or depressions observed in the levee crest during the inspection. |

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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 |
|---|---|---|---|---|
| | | **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 | **M** | **A** | Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest. | PJRU_2019_a_0006: Station_1 30+00: Longitudinal cracking observed along the crest of the levee prism. Cracks should be sealed : NA (M) |
| | | **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. | PJRU_2019_a_0011: Station_1 380+00: Animal burrows observed on the levee slope: The sponsor should monitor this area and continue to work on their animal abatement program. (M)<br>PJRU_2019_a_0020: Station_1 580+00: Animal burrows observed on the levee slope.: The sponsor should monitor this area and continue to work on their animal abatement program. (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 this maintenance is complete. | |
| 11. Culverts/ Discharge Pipes[3] (This item includes both concrete and corrugated metal pipes.) | **NA** | **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. | See item 9 in the Interior Drainage System inspection checklist. |
| | | **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. | |

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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** | 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 | **M** | **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. | PJRU_2019_a_0019: Station_1 565+00: Vegetation growing through the riprap on the waterside slope of the levee prism.: Remove vegetation growth and restore any displaced riprap. (M) |
| | | **M** | Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide. | |
| | | **U** | Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses. | |
| | | **N/A** | There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section. | |
| 13. Revetments other than Riprap | **NA** | **A** | Existing revetment protection is properly maintained, undamaged, and clearly visible. | No revetments other than riprap present on the levee system. |
| | | **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. | There are no relief wells/toe drainage systems along the levee system. |
| | | **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. | |

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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** | Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing. | |
| | | **N/A** | There are no relief wells/ toe drainage systems along this component of the FDR segment / system. | |
| 15. Seepage | **A** | **A** | No evidence or history of unrepaired seepage, saturated areas, or boils. | No evidence of seepage was observed during the inspection. The levee waterside slope near Station 25+00 should be monitored during high water events for any seepage occurring at the toe of the levee slope. |
| | | **M** | Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport. | |
| | | **U** | Evidence or history of active seepage, extensive saturated areas, or boils. | |

[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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# 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. | Culverts were generally clear of unwanted vegetation and obstructions. Some flap gates obstructed near unwanted vegetation growth. See item 11 in the Interior Drainage System checklist. |
| | | **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. | No encroachments were observed for the Interior Drainage System during the time of the inspection. |
| | | **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. | There are no ponding areas associated with the Interior Drainage System. |
| | | **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. | No features present along the levee system that requires safety fencing. |
| | | **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. | Concrete around culvert inlets in good condition. |

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# Interior Drainage System

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

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|---|---|---|---|---|
| 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. | |
| | | **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. | No significant tilting, sliding, or settlement observed along the levee system. |
| | | **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. | No erosion or scouring that would endanger concrete structures were observed. |
| | | **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 stabile 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. | There are no monolith joints in the Interior Drainage System. |
| | | **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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|---|---|---|---|---|
| | | **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. | |
| | | **N/A** | There are no monolith joints in the interior drainage system. | |
| 9. Culverts/ Discharge Pipes[4] | **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. | PJRU_2019_a_0015: Station_1 499+00: Modifications made to culvert and headwall.: NA (A)<br>PJRU_2019_a_0016: Station_1 520+00: Modification made to culvert and headwall. Flap gate partially obstructed by sediment.: Clear sediment from flap gate opening. (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. | |
| 10. Sluice / Slide Gates[5] | **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. | No sluice/slide gates present in the Interior Drainage System. |
| | | **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. | |

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| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|---|---|---|---|
| 11. Flap Gates/ Flap Valves/ Pinch Valves[1] | **M** | **A** | Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required. | PJRU_2019_a_0005: Station_1 34+00: Interior drainage flap gate blocked by sediment and vegetation.: Remove obstruction from flap gate outflow path and confirm the flap gate is functional. (M)<br>PJRU_2019_a_0012: Station_1 392+00: Flap gate blocked by debris and vegetation growth.: Debris should be removed, and flap gate operational status should be confirmed. (M) |
| | | **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. | There are no trash racks present along the levee system. |
| | | **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. | There are no other significant metallic items. |
| | | **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 | **M** | **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. | Riprap discussed in the Levee Embankments section of this report. |
| | | **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. | There are no such revetments protecting this feature of the system. |

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 |
|---|---|---|---|---|
| | | **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.

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

# Flood Damage Reduction Channels

**For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels**

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|---|---|---|---|
| 1. Vegetation and Obstructions | **U** | **A** | No obstructions, vegetation, debris, or sediment accumulation within the channel. Concrete channel joints and weep holes are free of grass and weeds. | Significant vegetation observed in the channel at Station 27+00. See item rating below. |
| | | **M** | Obstructions (including log jams), vegetation, debris, or sediment are minor and have not impaired channel flow capacity, but should be removed. Sediment shoals have not developed to the extent that they can support vegetation other than non-aquatic grasses. A limited volume of grass and weeds may be present in concrete channel joints and weep holes. | |
| | | **U** | Obstructions (including log jams), vegetation, debris or sediment have impaired the channel flow capacity. Sediment shoals are well established and support woody and/or brushy vegetation. Sediment and debris removal required to re-establish flow capacity. | |
| 2. Shoaling[1] (sediment deposition) | **U** | **A** | No shoaling or minor, non-vegetated shoaling is present. | PJRU_2019_a_0007: Station_1 27+00: Dense vegetation and shoaling approximately 1000 ft long observed in the channel.: A Hydrologic and Hydraulic analysis should be performed to confirm the capacity of the channel. The shoal should be removed absent analysis demonstrating the hydraulic capacity is otherwise maintained. (U) |
| | | **M** | More widespread vegetated and non-vegetated shoaling is present. Non-aquatic grasses are present on shoal. No trees or brush is present on shoal, and channel flow is not significantly reduced. Sediment and debris removal recommended. | |
| | | **U** | Shoaling is well established, stabilized by saplings, brush, or other vegetation. Shoals are diverting flow to channel walls. Channel flow capacity is reduced and maintenance is required. | |
| 3. 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 channel. | No encroachments were observed in the channel during the inspection. |
| | | **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 the channel. | |
| 4. Erosion | **M** | **A** | No head cutting or horizontal deviation observed. | Erosion occurring on the waterside levee slope along the Salsipuedes Creek segment of the system near Station 25+00. See item 6 in the Levee Embankments section of this report. |
| | | **M** | Head cutting and horizontal deviation evident, but is less than 1 foot from the designed grade or cross section. | |
| | | **U** | Head cutting and horizontal deviation of more than 1 foot from the designed grade or cross section. Corrective actions required to stop or slow erosion. | |
| 5. Concrete Surfaces | **NA** | **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. | There are no concrete items in the channel. |
| | | **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. | |

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

# Flood Damage Reduction Channels

**For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels**

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|---|---|---|---|
| | | **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 channel. | |
| 6. Tilting, Sliding or Settlement of Concrete Structures[2] | **A** | **A** | There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure. | There are no concrete items in the channel. |
| | | **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 channel. | |
| 7. Foundation of Concrete Structures[3] | **NA** | **A** | No active erosion, scouring, or bank caving that might endanger the structure's stability. | There are no concrete items in the channel. |
| | | **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. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stabile until the next inspection. | |
| | | **U** | Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event. | |
| | | **N/A** | There are no concrete items in the channel. | |
| 8. Slab and 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. | There are no concrete items in the channel. |

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

# Flood Damage Reduction Channels

**For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels**

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|---|---|---|---|
| | | **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. | |
| | | **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. | |
| | | **N/A** | There are no concrete items in the channel. | |
| 9. Flap Gates/ Flap Valves/ Pinch Valves[4] | **M** | **A** | Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required. | See item 11 in the Interior Drainage System section of this report. |
| | | **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. | |
| 10. Riprap Revetments & Banks | **M** | **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. | See item 12 in the Levee Embankments section of this report. |
| | | **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. | |
| 11. Revetments other than Riprap | **NA** | **A** | Existing revetment protection is properly maintained, undamaged, and clearly visible. | No revetments other than riprap present on the levee system. |
| | | **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. | |

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

# Flood Damage Reduction Channels

**For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels**

[1] If weather and flow conditions allow, inspectors should walk in the channel and probe shoal areas in order to estimate extent of blockage of the cross-sectional area where shoaling is present.
[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] Proper operation of this item must be demonstrated during the inspection.

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# Flood Damage Reduction Segment / System
# Supplemental Data Sheet

**This form is intended for the Corps' internal use and may not need to be updated with every inspection.**

Name of Segment / System: Pajaro R. Right bank US FFCP PJRU
Sponsor: County of Santa Cruz, Department of Public Works
Location:
River Basin:
Project Description:
Authority that Project was Constructed Under:
Date of Construction:
Approximate Annual Maintenance Costs:

Construction: ☐ Federally Constructed ☒ Non-Federally Constructed

Maintenance: ☐ Federally Maintained ☒ Non-Federally Maintained

National Flood Insurance Program:

a. Is the project currently NFIP? ☐ Yes ☐ No

b. If in the NFIP, Date of Certification (per 44 CFR 65.10):

Datum Information:

a. Datum used for the design and construction of this project is:

b. Current recommended datum for this project is:

c. Has the Project been converted to the current recommended datum? ☐ Yes ☐ No

Levee Embankment Data:

a. Levee Designed Gage Function Reading/Station:

b. Level of Protection Provided:

c. Average Height of Levee:

d. Average Crown Width:

e. Average Side Slope:

Protected Features (For use in preparing estimates and PIRs):

a. Total acres protected:

b. Total agriculture production acres protected:

c. Towns:

d. Businesses:

e. Residences:

f. Roads:

g. Utilities:

h. Barns:

i. Machine Sheds:

j. Outbuildings:

k. Irrigation Systems:

l. Grain Bins:

m. Other Facilities:

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0001 **Title:** USACE_CESPN_PJRU_2019_a_0001_1.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Rating: Acceptable; Remarks: Supply materials and sandbags stored at depot near the project vicinity; Action: NA; Station_1: 139+00 |
|  | **Inspect ID:** PJRU_2019_a_0002 **Title:** USACE_CESPN_PJRU_2019_a_0002_1.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Tree more than 10 feet tall and with a trunk diameter greater than 12 inches observed within the 15 ft vegetation-free zone.; Action: The tree should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained.; Station_1: 83+00 |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0002 **Title:** USACE_CESPN_PJRU_2019_a_0002_2.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Tree more than 10 feet tall and with a trunk diameter greater than 12 inches observed within the 15 ft vegetation-free zone.; Action: The tree should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained.; Station_1: 83+00 |
|  | **Inspect ID:** PJRU_2019_a_0009 **Title:** USACE_CESPN_PJRU_2019_a_0009_1.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Acceptable; Remarks: Trash was present on the landside levee slope.; Action: The trash should be removed.; Station_1: 24+00 |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0014 **Title:** USACE_CESPN_PJRU_2019_a_0014_1.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable; Remarks: Trees more than 10 feet tall and with trunk diameters greater than 12 inches were observed within the 15 ft vegetation-free zone. ; Action: The trees should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained.; Station_1: 439+00; ; ; |
|  | **Inspect ID:** PJRU_2019_a_0014 **Title:** USACE_CESPN_PJRU_2019_a_0014_2.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable; Remarks: Trees more than 10 feet tall and with trunk diameters greater than 12 inches were observed within the 15 ft vegetation-free zone. ; Action: The trees should be managed in accordance with ETL 1110-2-583 or a vegetation variance should be obtained.; Station_1: 439+00; ; ; |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0017 **Title:** USACE_CESPN_PJRU_2019_a_0017_1.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Unacceptable; Remarks: Dense vegetation on the waterside slope and trees more than 10 ft tall and with trunk diameters greater than 12 inches were observed within the 15 ft vegetation-free zone.; Action: Vegetation growth should be managed in accordance with USACE policy.; Station_1: 522+00 |
| | |
|  | **Inspect ID:** PJRU_2019_a_0018 **Title:** USACE_CESPN_PJRU_2019_a_0018_1.jpg **Rated Item:** 2. Sod Cover **Caption:** Rating: Unacceptable; Remarks: Levee waterside slope lacking adequate sod coverage, perennial grasses, or weedy growth.; Action: The sponsor should consider manually mowing the levee slope to allow root masses to develop and new growth to be established before the winter season.; Station_1: 523+00 |

# Photos

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

**Inspect ID:** PJRU_2019_a_0003 **Title:** USACE_CESPN_PJRU_2019_a_0003_1.jpg
**Rated Item:** 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Construction materials and debris observed encroaching on the landside toe of the levee prism.; Action: Encroachments should be permitted or otherwise removed.; Station_1: 54+00

**Inspect ID:** PJRU_2019_a_0004 **Title:** USACE_CESPN_PJRU_2019_a_0004_1.jpg
**Rated Item:** 3. Encroachments **Caption:** Rating: Unacceptable; Remarks: Unauthorized drainage pipes encroaching into the landside toe of the levee prism.; Action: Encroachment should be permitted or otherwise removed.; Station_1: 47+00

# Photos

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

**Inspect ID:** PJRU_2019_a_0010 **Title:** USACE_CESPN_PJRU_2019_a_0010_1.jpg
**Rated Item:** 3. Encroachments **Caption:** Rating: Unacceptable; Remarks: Unauthorized excavation observed at the toe of the landside slope.; Action: Recommend a section 408 modification request be submitted, or the site be restored to as-built conditions and the slope be restored to the lines and grades in the O&M manual.; Station_1: 363+00

**Inspect ID:** PJRU_2019_a_0013 **Title:** USACE_CESPN_PJRU_2019_a_0013_1.jpg
**Rated Item:** 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Gravel deposited at the toe of the landside slope.; Action: Recommend a section 408 modification request be submitted, or the area should be restored to as-built conditions.; Station_1: 410+00

# Photos

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

**Inspect ID:** PJRU_2019_a_0008 **Title:** USACE_CESPN_PJRU_2019_a_0008_1.jpg
**Rated Item:** 6. Erosion/ Bank Caving **Caption:** Rating: Unacceptable; Remarks: Erosion occurring on waterside slope of the levee prism along the Salsipuedes Creek segment. Covered with geomembrane for temporary protection ; Action: Recommend the levee prism slope be regraded back to the as-built slope to prevent additional erosion from storm runoff. This area should also be monitored during high water events to see if any soil loss is occurring due to seepage.; Station_1: 25+00; ; ;

**Inspect ID:** PJRU_2019_a_0008 **Title:** USACE_CESPN_PJRU_2019_a_0008_2.jpg
**Rated Item:** 6. Erosion/ Bank Caving **Caption:** Rating: Unacceptable; Remarks: Erosion occurring on waterside slope of the levee prism along the Salsipuedes Creek segment. Covered with geomembrane for temporary protection ; Action: Recommend the levee prism slope be regraded back to the as-built slope to prevent additional erosion from storm runoff. This area should also be monitored during high water events to see if any soil loss is occurring due to seepage.; Station_1: 25+00; ; ;

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0006 **Title:** USACE_CESPN_PJRU_2019_a_0006_1.jpg<br>**Rated Item:** 9. Cracking **Caption:** Rating: Minimally Acceptable; Remarks: Longitudinal cracking observed along the crest of the levee prism.; Action: Cracks should be sealed; Station_1: 30+00 |
|  | **Inspect ID:** PJRU_2019_a_0006 **Title:** USACE_CESPN_PJRU_2019_a_0006_2.jpg<br>**Rated Item:** 9. Cracking **Caption:** Rating: Minimally Acceptable; Remarks: Longitudinal cracking observed along the crest of the levee prism.; Action: Cracks should be sealed; Station_1: 30+00 |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0011 **Title:** USACE_CESPN_PJRU_2019_a_0011_1.jpg **Rated Item:** 10. Animal Control **Caption:** Rating: Minimally Acceptable; Remarks: Animal burrows observed on the levee slope; Action: The sponsor should monitor this area and continue to work on their animal abatement program.; Station_1: 380+00 |
| | |
|  | **Inspect ID:** PJRU_2019_a_0020 **Title:** USACE_CESPN_PJRU_2019_a_0020_1.jpg **Rated Item:** 10. Animal Control **Caption:** Rating: Minimally Acceptable; Remarks: Animal burrows observed on the levee slope.; Action: The sponsor should monitor this area and continue to work on their animal abatement program.; Station_1: 580+00 |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0019 **Title:** USACE_CESPN_PJRU_2019_a_0019_1.jpg **Rated Item:** 12. Riprap Revetments & Bank Protection **Caption:** Rating: Minimally Acceptable; Remarks: Vegetation growing through the riprap on the waterside slope of the levee prism.; Action: Remove vegetation growth and restore any displaced riprap.; Station_1: 565+00 |
| | |
|  | **Inspect ID:** PJRU_2019_a_0015 **Title:** USACE_CESPN_PJRU_2019_a_0015_1.jpg **Rated Item:** 9. Culverts/ Discharge Pipes **Caption:** Rating: Acceptable; Remarks: Modifications made to culvert and headwall. ; Action: NA; Station_1: 499+00; ; ; |

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0005 **Title:** USACE_CESPN_PJRU_2019_a_0005_1.jpg **Rated Item:** 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Rating: Minimally Acceptable; Remarks: Interior drainage flap gate blocked by sediment and vegetation.; Action: Remove obstruction from flap gate outflow path and confirm the flap gate is functional.; Station_1: 34+00 |
| | |
|  | **Inspect ID:** PJRU_2019_a_0005 **Title:** USACE_CESPN_PJRU_2019_a_0005_2.jpg **Rated Item:** 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Rating: Minimally Acceptable; Remarks: Interior drainage flap gate blocked by sediment and vegetation.; Action: Remove obstruction from flap gate outflow path and confirm the flap gate is functional.; Station_1: 34+00 |

# Photos

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

**Inspect ID:** PJRU_2019_a_0012 **Title:** USACE_CESPN_PJRU_2019_a_0012_1.jpg
**Rated Item:** 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Rating: Minimally Acceptable; Remarks: Flap gate blocked by debris and vegetation growth.; Action: Debris should be removed, and flap gate operational status should be confirmed.; Station_1: 392+00

**Inspect ID:** PJRU_2019_a_0007 **Title:** USACE_CESPN_PJRU_2019_a_0007_1.jpg
**Rated Item:** 2. Shoaling (sediment deposition) **Caption:** Rating: Unacceptable; Remarks: Dense vegetation and shoaling approximately 1000 ft long observed in the channel.; Action: A Hydrologic and Hydraulic analysis should be performed to confirm the capacity of the channel. The shoal should be removed absent analysis demonstrating the hydraulic capacity is otherwise maintained.; Station_1: 27+00

# Photos

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

| | |
|---|---|
|  | **Inspect ID:** PJRU_2019_a_0007 **Title:** USACE_CESPN_PJRU_2019_a_0007_2.jpg **Rated Item:** 2. Shoaling (sediment deposition) **Caption:** Rating: Unacceptable; Remarks: Dense vegetation and shoaling approximately 1000 ft long observed in the channel.; Action: A Hydrologic and Hydraulic analysis should be performed to confirm the capacity of the channel. The shoal should be removed absent analysis demonstrating the hydraulic capacity is otherwise maintained.; Station_1: 27+00 |
| | |
| | |