


**US Army Corps
of Engineers®**

Flood Damage Reduction Segment / System Inspection Report

Name of Segment/ System: Lion Creek, INCR (Zone 12, Line E)

Public Sponsor(s): Alameda County Flood Control & Water Conservation District

Public Sponsor Representative: Jesus Espinoza

Sponsor Phone: (510)670-6694

Sponsor Email: moses@acpwa.org

Corps of Engineers Inspector: George Fong, PE; Joshua Miller Inspection Start Date: 8/09/2020

Inspection End Date: 8/09/2020

Inspection Report Prepared By: George Fong, PE Date Report Prepared: 10/20/2020

Internal Technical Review (for Periodic Inspections) By: John Conway, PG, SPN Levee Safety Program Manager Date of ITR: _____

Final Approved By: Susan Kelly, PE, SPN Levee Safety Officer 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 type="checkbox"/> Levee Embankment <input type="checkbox"/> Concrete Floodwalls <input type="checkbox"/> Sheet Pile and Concrete I-walls <input type="checkbox"/> Interior Drainage System <input type="checkbox"/> Pump Stations <input checked="" 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> | |

SPN Levee Safety Program Manager
Approval Signature

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.

| |
|--|
| <p>1. Levee segment / system and district: (name of the segment / system and levee district) Lion Creek (Zone 12, Line J), Alameda County</p> |
| <p>2. Reporting period: (month/day/year to month/day/year) 06/18/2018 through 07/22/2020</p> |
| <p>3. Summary of maintenance required by last inspection report: Routine maintenance; remove debris and obstructions per as needed basis.</p> |
| <p>4. Summary of maintenance performed this reporting period: Routine maintenance</p> |
| <p>5. Summary of maintenance planned next reporting period: Routine maintenance</p> |
| <p>6. Summary of changes to segment / system since last inspection: None.</p> |
| <p>7. Problems/ issues requiring the assistance of the US Army Corps of Engineers: None.</p> |



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**Flood Damage Reduction Segment / System
Inspection Report
Lion Cr. (INCR)**

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

SPN Levee Safety Program Manager

SPN Levee Safety Officer

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 |
|--------------------|--|--|----------------|-------------------|
| Daniel Woldesenbet | Director of Public Works | 399 Elmhurst Street, Hayward, CA 94544 | (510) 670-5455 | danielw@acpwa.org |
| John Medlock | Deputy Director of Public Works, Maintenance and Operations | 951 Turner Court, Hayward, CA 94545 | (510) 670-5504 | Johnmjr@acpwa.org |
| Mike Dutra | Flood Control Superintendent; Maintenance and Operations | 951 Turner Court, Hayward, CA 94545 | (510) 670-5528 | miked@acpwa.org |
| Carl Speaker | Pump Station Supervisor, Maintenance and Operations | 951 Turner Court, Hayward, CA 94545 | (510) 670-5516 | Carl@acpwa.org |
| Arthur Valderrama | Supervising Civil Engineer, Development Services | 951 Turner Court, Hayward, CA 94545 | (510) 670-5260 | arthur@acpwa.org |
| David Lau | Construction Program Manager | 951 Turner Court, Hayward, CA 94545 | (510) 670-5513 | |
| | | | | |
| Hank Ackerman | Principal Civil Engineer, Flood Control Program Manager | 399 Elmhurst Street, Hayward, CA 94544 | (510) 670-5553 | hank@acpwa.org |
| | | | | |
| Moses Tsang | Supervising Civil Engineer, Flood Control Design, Corps Primary Contact | 399 Elmhurst Street, Hayward, CA 94544 | (510) 670-6549 | moses@acpwa.org |



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Flood Damage Reduction Segment / System
Inspection Report
Lion Cr. (INCR)

Pre-Inspection Form
Page 2 of 2

SPN Levee Safety Program Manager

SPN Levee Safety Officer

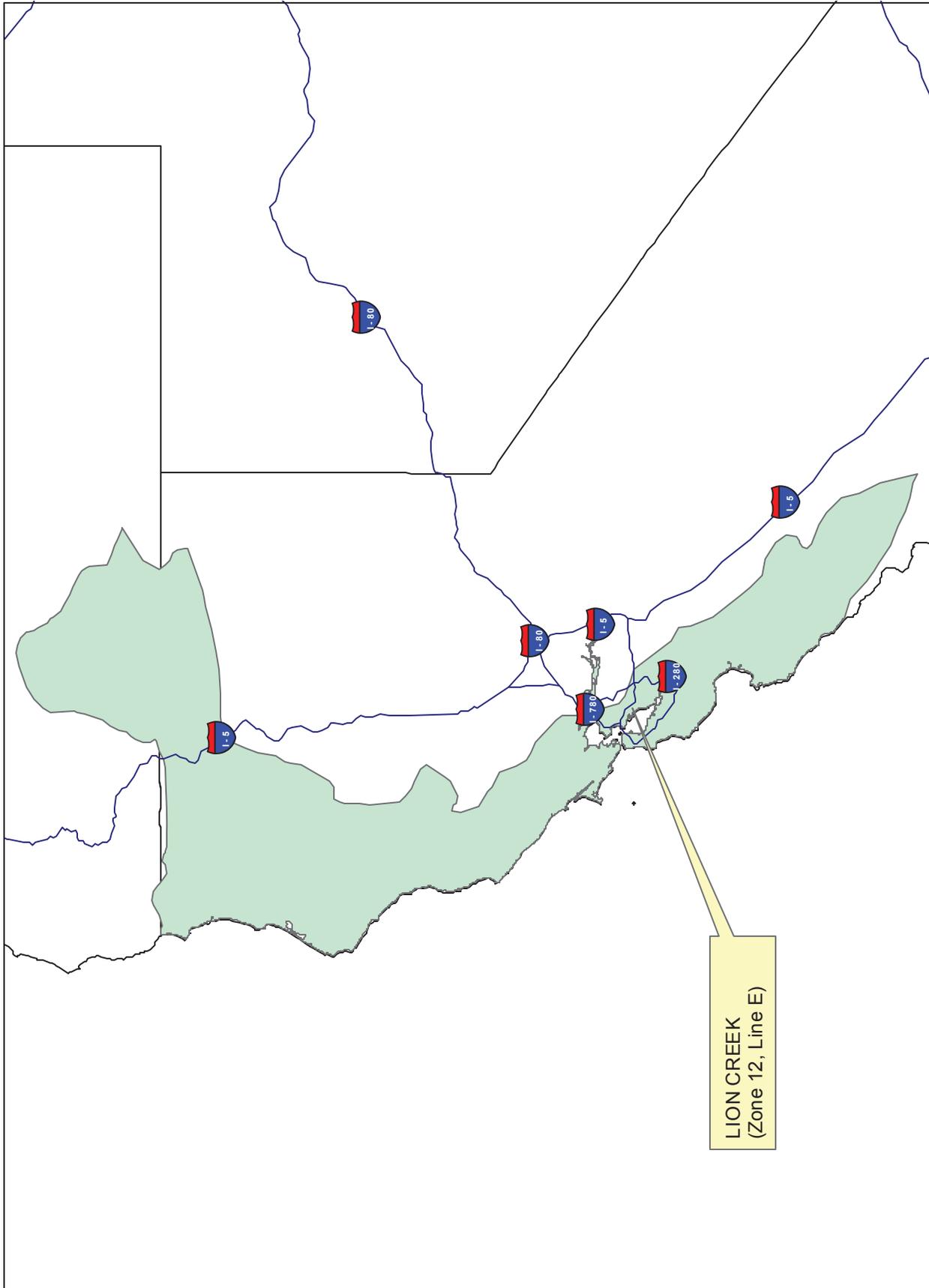


FIGURE 1

Project Location Map

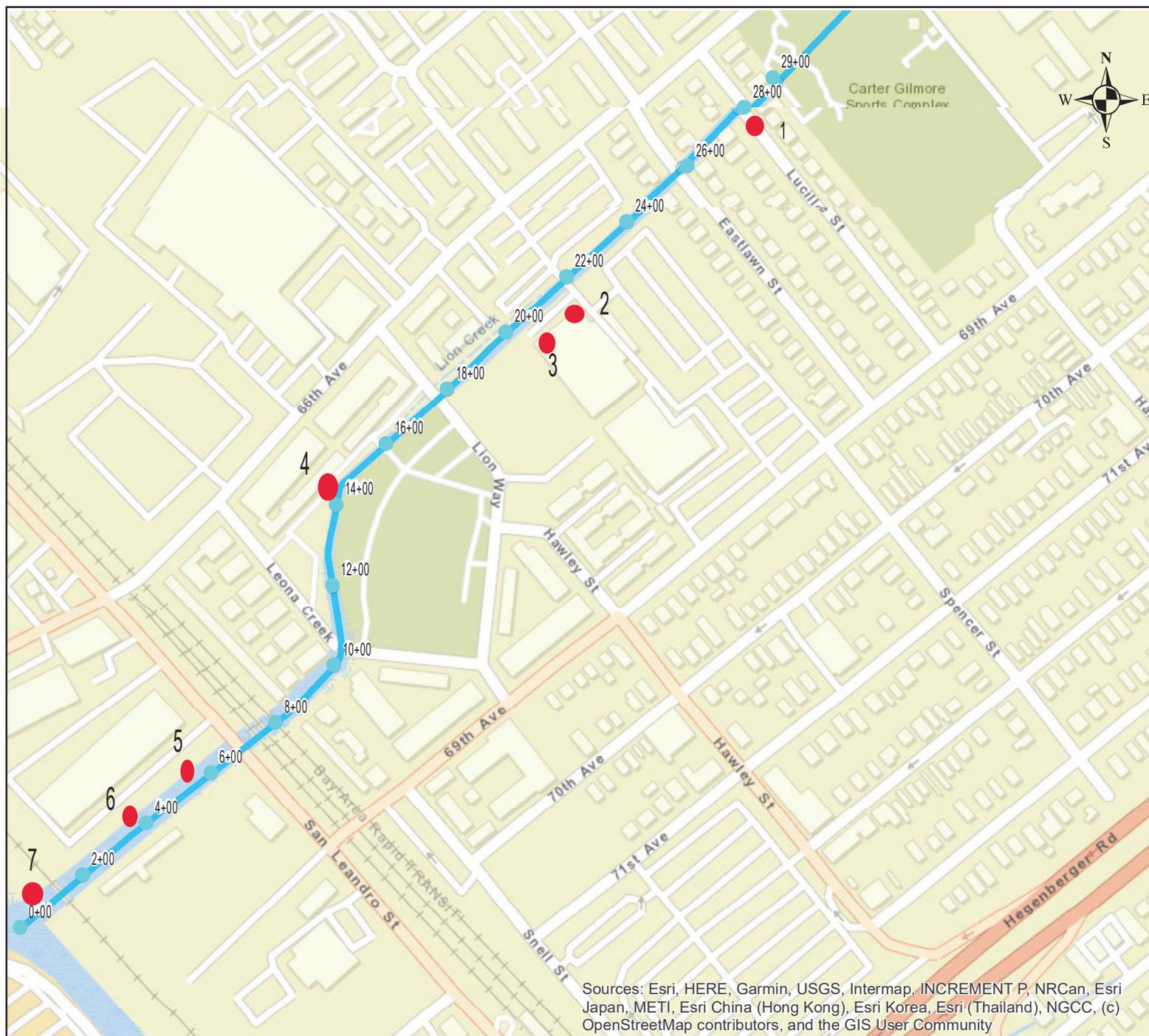
Inspection Map

Lion Creek (INCR)

Inspection and photos are referred to as "X-Y" in the checklists and photo description. "X" is the inspection point number. "Y" is the number of the photo taken at the inspection point.

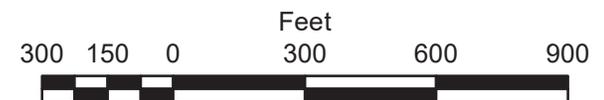
Legend

- Station
- Center Lines
- Inspection Point



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

FIGURE 2



| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|----------|-------------------|--|---|
| 1. Operations and Maintenance Manuals | M | A | Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present. | The sponsor update the project O&M Manual on 2016 to a site specific. The site specific O&M manual covers project specific items and requirements that are needed for operation and maintenance, such as maintenance schedules, inspection schedules, emergency operating procedures and protocols, names and telephone numbers of key personnel, project plan and sections, etc. and an Emergency Action Plan. |
| | | 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. | Another Corps inspection team visited the County earlier in August 2020 for work on other inspections. The team verified the availability of several types of emergency supplies located at the sponsor's maintenance facility at 951 Turner Ct., Hayward, CA 94545. These supplies include sandbags, hand/power tools, stockpile borrow material, wheel loaders, and several dump trucks. |
| | | 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. | The Local Sponsor regularly provides flood fighting training to the Public Works staff on their roles and responsibilities during a flood emergency. The local sponsor has a county-wide and project specific emergency action plan for the project in conjunction with the O&M Manual. |
| | | 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. | |

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|--|----------|-------------------|---|---|
| 1. Vegetation and Obstructions | M | A | No obstructions, vegetation, debris, or sediment accumulation within the channel. Concrete channel joints and weep holes are free of grass and weeds. | INCR_2020_a_0001, _STA 27+00 Looking downstream at channel along the section. Large tree branches overhanging was observed on south side of the channel section. (M) The overhanging vegetation should be trimmed back to the fence lines.; Station_1: 27+00 INCR_2020_a_0002, _STA 21+80. Photo shows the upstream of project, looking downstream approximately 0.5' to 1' thick vegetated shoal spans 15% of the width of the concrete channel. (M) The shoal should be removed if it reduces capacity in a high flow event. INCR_2020_a_0005, STA 6+00 Photo is looking upstream at bridge of San Leandro Street, trash, debris, and other obstructions present within the channel and easement area were observed. The unwanted items in the channel should be removed. |
| | | 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) | M | A | No shoaling or minor, non-vegetated shoaling is present. | INCR_2020_a_0002, STA 21+80. Photo shows the upstream of project, looking downstream approximately 0.5' to 1' thick vegetated shoal spans 15% of the width of the concrete channel. The shoal should be removed if it reduces capacity in a high flow event. Shoaling may not significantly affect channel capacity at this time but should be monitored. |
| | | 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 | U | 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. | INCR_2020_a_0003, STA 20+50_Chain-link fence built across the top of channel was observed (U). A Section 408 Modification request should be submitted to the Corps for approval. INCR_2020_a_0005, STA 6+00_Photo is looking upstream at bridge of San Leandro Street, trash, debris, and other obstructions present within the channel and easement area were observed. (M) The unwanted items in the channel should be removed. |
| | | 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. | |

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|----------|-------------------|--|--|
| 4. Erosion | A | A | No head cutting or horizontal deviation observed. | INCR_2020_a_0006, STA 4+00. No erosion was observed. (A) |
| | | 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. | INCR_2020_a_0007, STA 1+00_ No erosion was observed. (A) |
| 5. Concrete Surfaces | 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. | INCR_2020_a_0004_STA 14+00. Photo is looking upstream at U-shape concrete channel, there was no sign of spalling, scaling or cracking. within the channel cross-section. (A) |
| | | 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 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. | No signs of significant movement of the concrete structures in the channel were observed. |
| | | 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 | A | A | No active erosion, scouring, or bank caving that might endanger the structure's stability. | No erosion, bank caving or scour in the vicinity of |

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|---|-----------|-------------------|---|--|
| Concrete Structures ³ | | 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 stable until the next inspection. | foundation issues was observed in the channel. |
| | | 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 | A | 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. | Channel joint material is in good condition. |
| | | 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 | 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 flap gates. | |
| 10. Riprap Revetments & Banks | A | 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. | No riprap displacement was observed. |
| | | 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. | |

| Rated Item | Rating | Rating Guidelines | | Location/Remarks/Recommendations |
|----------------------------------|--------|-------------------|--|----------------------------------|
| | | 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. | |
| | | 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. | |

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.

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: Lion Creek (INCR) | |
| Sponsor: Alameda County Flood Control and Water Conservation District | |
| Location: Oakland, CA | |
| River Basin: Lion Creek | |
| Project Description: A 10,900 ft channel that conveys drainage from an urban watershed in the city of Oakland, along natural or realigned streambeds into the San Francisco Bay. The channel section is trapezoidal | |
| Authority that Project was Constructed Under: District Act (Act 205), and subsequent approval of project by the Board of Supervisors. | |
| Date of Construction: 5/1/1965 | |
| Approximate Annual Maintenance Costs: Unknown | |
| Construction: | <input type="checkbox"/> Federally Constructed <input checked="" type="checkbox"/> Non-Federally Constructed |
| Maintenance: | <input type="checkbox"/> Federally Maintained <input checked="" type="checkbox"/> Non-Federally Maintained |
| National Flood Insurance Program: | |
| a. Is the project currently NFIP? <input type="checkbox"/> Yes <input type="checkbox"/> 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: To be determined | |
| b. Current recommended datum for this project is: To be determined | |
| c. Has the Project been converted to the current recommended datum? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Levee Embankment Data: | Protected Features (For use in preparing estimates and PIRs): |
| a. Levee Designed Gage Function Reading/Station: | a. Total acres protected: |
| b. Level of Protection Provided: | b. Total agriculture production acres protected: |
| c. Average Height of Levee: | c. Towns: |
| d. Average Crown Width: | d. Businesses: |
| e. Average Side Slope: | e. Residences: |
| | f. Roads: |
| | g. Utilities: |
| | h. Barns: |
| | i. Machine Sheds: |
| | j. Outbuildings: |
| | k. Irrigation Systems: |
| | l. Grain Bins: |
| | m. Other Facilities: |





Inspect ID: INCR_2020_a_0017 **Title:** USACE_CESPN_INCR_2020_a_0008_1.jpg
Rated Item: 2. Emergency Supplies and Equipment (A or M only) **Caption:** Rating: Acceptable; Remarks: Emergency supplies and equipment are stored at the Sponsor's maintenance yard at 951 Turner Ct., Hayward, CA 94545. Equipment includes, but not limited to dozers, water tank, and trucks.



Inspect ID: INCR_2020_a_0017 **Title:** USACE_CESPN_INCR_2020_a_0008_2.jpg
Rated Item: 2. Emergency Supplies and Equipment (A or M only) **Caption:** Rating: Acceptable; Remarks: Emergency supplies and equipment are stored at the Sponsor's maintenance yard at 951 Turner Ct., Hayward, CA 94545. Supplies includes, but not limited to sand, base rock, and riprap.



Inspect ID: INCR_2020_a_0017 **Title:** USACE_CESPN_INCR_2020_a_0017_3.jpg
Rated Item: 2. Emergency Supplies and Equipment (A or M only) **Caption:** Rating: Acceptable; Remarks: Emergency supplies and equipment are stored at the Sponsor's maintenance yard at 951 Turner Ct., Hayward, CA 94545 . Supplies includes, but not limited to wood stacks, polyethylene sheeting, and haybales.



Inspect ID: INCR_2020_a_0017 **Title:** USACE_CESPN_INCR_2020_a_0017_4.jpg
Rated Item: 2. Emergency Supplies and Equipment (A or M only) **Caption:** Rating: Acceptable; Remarks: Emergency supplies and equipment are stored at the Sponsor's maintenance yard at 951 Turner Ct., Hayward, CA 94545. Equipment includes, but not limited to ladders, wheelbarrows, and construction signs.



Inspect ID: INCR_2020_a_0001 **Title:** USACE_CESPN_INCR_2020_a_0001_1.jpg
Rated Item: 1. Vegetation and Obstructions **Caption:** Rating: Minimally Acceptable;
Remarks: Looking downstream at channel along the section. Large tree branches overhanging was observed on south side of the channel section.; **Action:** The overhanging vegetation should be trimmed back to the fence lines.; **Station_1:** 27+00



Inspect ID: INCR_2020_a_0002 **Title:** USACE_CESPN_INCR_2020_a_0002_1.jpg
Rated Item: 1. Vegetation and Obstructions **Caption:** Rating: Minimally Acceptable;
Remarks: Photo shows the upstream of project, looking downstream approximately 0.5' to 1' thick vegetated shoal spans 15% of the width of the concrete channel. ; **Action:** The shoal should be removed if it reduces capacity in a high flow event; **Station_1:** 21+80



Inspect ID: INCR_2020_a_0003 **Title:** USACE_CESPN_INCR_2020_a_0003_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Unacceptable; Remarks: Chain-link fence built across the top of channel was observed ; Action: A Section 408 Modification request should be submitted to the Corps for approval.; Station_1: 20+50



Inspect ID: INCR_2020_a_0004 **Title:** USACE_CESPN_INCR_2020_a_0004_1.jpg
Rated Item: 5. Concrete Surfaces **Caption:** Rating: Acceptable; Remarks: Photo is looking upstream at U-shape concrete channel, there was no sign of spalling, scaling or cracking. within the channel cross-section.; Station_1: 14+00



Inspect ID: INCR_2020_a_0005 **Title:** USACE_CESPN_INCR_2020_a_0005_1.jpg
Rated Item: 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Photo is looking upstream at bridge of San Leandro Street, trash, debris, and other obstructions present within the channel and easement area were observed; Action: the unwanted items should be removed.; Station_1: 6+00



Inspect ID: INCR_2020_a_0006 **Title:** USACE_CESPN_INCR_2020_a_0006_1.jpg
Rated Item: 4. Erosion **Caption:** Rating: Acceptable; Remarks: No erosion was observed; Station_1: 4+00



Inspect ID: INCR_2020_a_0007 **Title:** USACE_CESPN_INCR_2020_a_0007_1.jpg
Rated Item: 4. Erosion **Caption:** Rating: Acceptable; Remarks: No erosion was observed; Station_1: 1+00