| Table 3.13A‑ Project Area B – Penetrations (Star Bend Road to Shanghai Bend Road) |
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| Feature | Approximate Location | Description | Invert Elevation | Hazard Rating and Comments |
| Starr Bend Relief Well Pump Station Discharge Pipes | Station 512+06Unit 144 LM 4.39 | Two 15 Inch Steel Discharge pipes with positive closure device on waterside hinge and landside toe. | Approximately 66.2 (200-Year Elevation 66.29) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2009 under CVFPB Permit 18191 BD. |
| Butterfly valve closure devices located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipes have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to obtain an individual CVFPB encroachment permit. The application was submitted on December 3, 2015 and the tracking number is T2016009. |
| Sierra Gold Nurseries Inc. Storm Drainage Discharge Pipe | Station 536+64Unit 144 LM 4.86 | 8-5/8” OD inch cement mortar Coated and lined welded steel discharge pipe with positive closure device on waterside hinge and landside toe. | Approximately 68.3 (200-Year Elevation 66.57) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material and meet the requirements, per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Section 123 requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 2161. The application was submitted on December 3, 2015 and the tracking number is T2016008. |
| Feather Water District Irrigation Pump Station Discharge Pipes | Station 647+68Unit 144 LM 6.96 | 4 - 25¾” inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge, waterside toe, and landside toe. | Approximately 71.0 (200-Year Elevation 67.84) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material and meets USACE EM-1110-2-2902, Chapter 7 requirements. |
| Pipe meets CVFPB Title 23 Section 123 requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 4232A. The application was submitted on April 24, 2015 and the tracking number is T2016007. |
| Feather Water District Irrigation Pump Station Electrical Conduit Crossing | Station 647+80Unit 144 LM 6.97 | 2 inch OD schedule 40 PVC pipe. | Approximately 71.0 (200-Year Elevation 67.84) | **Low Hazard** |
| Conduit installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Conduit has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Conduit material and meets USACE EM-1110-2-2902, Chapter 6 requirements. |
| Conduit meets CVFPB Title 23 Section 123 requirements |
| SBFCA is working with CVFPB to obtain an individual encroachment or amend CVFPB permit no. 4232A. |
| Sierra Gold Nurseries Inc. Storm Drainage Discharge Pipe | Station 664+07Unit 144 LM 7.27 | 8-5/8” OD inch cement mortar Coated and lined welded steel discharge pipe with positive closure device on waterside hinge and landside toe. | Approximately 71.60 (200-Year Elevation 68.13) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material and meet the requirements, per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Section 123 requirements |
| SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application was submitted on December 3, 2015 and the tracking number is T2016006. |
| Oswald Mutual Water Company Irrigation Pump Station Discharge Pipe | Station 689+09Unit 144 LM 7.75 | 16” OD inch cement mortar Coated and lined welded steel discharge pipe with positive closure device on waterside hinge and landside toe. | Approximately 72.00 (200-Year Elevation 68.76) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material and meet the requirements, per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Section 123 requirements |
| SBFCA has been working with CVFPB to amend individual CVFPB encroachment permit no. 18181. The application was submitted on April 24, 2015 and the tracking number is T2016017. |
| City of Yuba City Effluent Wastewater Discharge Pipe | Station 828+62Unit 144 LM 10.39 | 24.76” OD inch cement mortar Coated and lined welded steel discharge pipe with positive closure device on waterside hinge and landside toe. | Approximately 72.00 (200-Year Elevation 68.76) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-2 BD.  |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material and meet the requirements, per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Section 123 requirements |
| SBFCA has working with CVFPB to amend individual encroachment permit no. 7151. The application was submitted on December 3, 2015 and the tracking number is T2016016. |

| Table 3.13A‑2 Project Area C – Penetrations (Shanghai Bend Road to Campbell Road) |
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| **Feature** | **Approximate Location** | **Description** | **Invert Elevation** | **Hazard Rating and Comments** |
| City of Yuba City Storm Drainage Pump Station Discharge Pipe (Pump Station No. 3) | Station 856+08Unit 144 LM 10.91 | 25¾” inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 77.70 (200-Year Elevation 74.25) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2013 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016004. |
| City of Yuba City Seepage Pump Station Discharge Pipe | Station 856+23Unit 144 LM 10.91 | 25¾” inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 77.70 (200-Year Elevation 74.26) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2013 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016004. |
| City of Yuba City Storm Drainage Pump Station Discharge Pipe (Pump Station No. 1 – Burns Drive Pump Station) | Station 893+78Unit 144 LM 11.62 | 18.0” inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 78.50 (200-Year Elevation 75.01) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2013 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15863. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016002. |
| City of Yuba City Storm Drainage Pump Station Discharge Pipe (Pump Station No. 1 – Garden Highway Industrial Park) | Station 893+84Unit 144 LM 11.63 | 12.75” inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 78.50 (200-Year Elevation 75.01) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2013 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 12827. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016001. |
| Pacific Gas and Electric Natural Gas Pipeline | Station 913+19Unit 144 LM 11.99 | 2-12 inch OD steel pipe and 1-2 inch steel pipes. | Approximately 78.6 (200 -Year Elevation 75.40) | **Low Hazard** |
| Pipeline installation date is unknown. No problems have been identified at this location due to the pipeline. |
| SBFCA is working with PG&E to obtain a letter that attests to regular inspections with no problems detected. |
| Remaining life of pipeline exceeds five (5) years.  |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA will work with PG&E to install positive closure device at waterside hinge in accordance with ULDC requirements and replace pipeline or provide proof on pipeline integrity. A minimum, they will need to meet Title 23 requirements for a positive closure within ten (10) feet of landside toe.  |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| Utility does not have a CVFPB Encroachment Permit. SBFCA will work with PG&E to obtain an individual encroachment permit for this utility. |
| Levee District No. 1 of Sutter County RV Park Domestic Water Pipe Crossing | Station 972+29Unit 144 LM 13.11 | 3.5” OD inch cement mortar coated and lined welded steel discharge pipe with positive closure device on waterside hinge and landside toe. | Approximately 72.00 (200-Year Elevation 68.76) | **Moderate Hazard** |
| Pipeline scheduled to be replaced in 2016 as part of the West Feather River Levee Repair Project under CVFPB Permit 18793-4 BD. Portion of the original pipe were installed in 1998 as part of a USACE project but no as-built information was found. During the pothole inspection of the pipeline, it was determined by DWR and USACE that the repair performed by the USACE in 1988 does not meet current standards. |
| Remaining life of pipeline exceeds five (5) years. |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe will have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material will meet the requirements, per USACE EM-1110-2-2902, Chapter 7. |
| Pipe will CVFPB Title 23 Section 123 requirements |
| Pipeline does not have a CVFPB Encroachment Permit. SBFCA and LD 1 have been working with CVFPB to obtain an individual CVFPB encroachment permit for this pipeline. |
| City of Yuba City Storm Drainage Pump Station Discharge Pipe (Gilsizer Drainage District) | Station 1043+03Unit 144 LM 14.45 | 16.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 81.19 (200-Year Elevation 78.34) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD to provide positive closure device on waterside hinge. The pipe was originally installed in 1959. |
| Remaining life of pipeline exceed five (5) years. The City should program funds for pipe replacement within next five (5) to ten (10) years. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe materials meets CVFPB Title 23 Requirements |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016005. |
| Gilsizer Drainage District Storm Drainage Pump Station Discharge Pipe | Station 1043+22Unit 144 LM 14.45 | 24.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 81.01 (200-Year Elevation 78.35) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The pipe was originally installed in 1970. |
| Remaining life of pipeline exceeds five (5) years. The Gilsizer should program funds for pipe replacement within next five (5) to ten (10) years. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| Pipe material meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015. |
| Gilsizer Drainage District Storm Drainage Pump Station Discharge Pipe | Station 1043+27Unit 144 LM 14.46 | 24.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 81.24 (200-Year Elevation 78.34) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The pipe was originally installed in 1977. |
| Remaining life of pipeline exceeds five (5) years. The Gilsizer should program funds for pipe replacement within next five (5) to ten (10) years. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| Pipe material meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015. |
| Gilsizer Drainage District Storm Drainage Pump Station Discharge Pipe | Station 1043+45Unit 144LM 14.46 | 36.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 80.18 (200-Year Elevation 78.35) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The pipe was originally installed in 1970. |
| Remaining life of pipeline exceeds five (5) years. The Gilsizer should program funds for pipe replacement within next five (5) to ten (10) years. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| Pipe material meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015. |
| City of Yuba City Wastewater Pipe Crossing | Station 1043+52Unit 144LM 14.46 | 27.0 inch OD centrifugal spun concrete pipe. | Approximately 45.45 (200-Year Elevation 78.35) | **Low Hazard** |
| Pipe was abandoned as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The ends of the pipeline were sealed and a slurry wall constructed through pipeline as of the USACE slurry wall project in 1970. The pipelines was originally installed in 1949. |
| Pipe abandonment was performed in accordance with CVFPB Title 23 requirements. |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on December 3, 2015 and the CVFPB tracking number is T2016004. |
| Pacific Gas and Electric Natural Gas Pipeline | Station 1073+41Unit 144LM 15.03 | 16 inch steel pipe | Approximately 81.2 (200-Year Elevation 78.68) | **Moderate Hazard** |
| Pipeline installed in 1955. No problems have been identified at this location due to the pipeline. |
| SBFCA is working with PG&E to obtain a letter that attests to regular inspections with no problems detected. |
| Remaining life of pipeline exceeds five (5) years. PG&E shall program funds for pipe replacement within next five (5) to ten (10) years. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA will work with PG&E to install positive closure device at waterside hinge in accordance with ULDC requirements or obtain a variance. PG&E will develop program for pipe replacement or provide proof on pipeline integrity. At minimum a positive closure device needs to be installed within ten (10) feet of landside per Title 23. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| Utility does not have a CVFPB Encroachment Permit. SBFCA will work with PG&E to obtain an individual encroachment permit for this utility. |
| Pacific Gas and Electric Natural Gas Pipeline | Station 1079+91Unit 144 LM 15.15 | 8 inch steel pipe | Approximately 82.0 (200-Year Elevation 78.68) | **Low Hazard** |
| Pipeline installed in 2014 under CVFPB Permit No. 18912. |
| SBFCA is working with PG&E to obtain a letter that attests to regular inspections with no problems detected. |
| CVFPB granted PG&E a variance to Title 23, § 123(d)(7) to exclude requirement for positive closure device within ten (10) feet of levee toe. The USACE also reviewed the variance request and according to CVFPB concurred with request. There is a positive closure device within 80 feet of landside levee toe. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA will work with PG&E to install positive closure device at waterside hinge in accordance with ULDC requirements and included in the LD 1 endorsement conditions. |
| City of Yuba City Raw Water Discharge Pipe Crossing | Station 1096+62Unit 144 LM 15.47 | 43-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 81.9 (200-Year Elevation 78.78) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The pipeline was installed in 2005 under CVFPB Permit 17977 BD.  |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on January 7, 2016. |
| City of Yuba City High Pressure Air Pipe Crossing | Station 1096+67Unit 144 LM 15.47 | 3 inch OD paint coating wrapped in cold applied tape wrap  | Approximately 84.93 (200-Year Elevation 78.78) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. The pipeline was installed in 2005 under CVFPB Permit 17977 BD.  |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 15565. The application was submitted on January 7, 2016. |
| City of Yuba City Raw Water Discharge Pipe Crossing | Station 1096+71Unit 144 LM 15.47 | 24.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 82.60 (200-Year Elevation 78.78) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 6016 BD. The application was submitted on January 7, 2016. |
| City of Yuba City Raw Water Discharge Pipe Crossing | Station 1096+81Unit 144 LM 15.47 | 29-25/32 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 82.30 (200-Year Elevation 78.78) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 6016 BD. The application was submitted on January 7, 2016. |
| City of Yuba City Communication Crossing | Station 1096+90Unit 144 LM 15.47 | 24 inch by 23.3 inch reinforced concrete duct bank | Approximately 82.30 (200-Year Elevation 78.78) | **Low Hazard** |
| Duct bank installed in 2014 under CVFPB Permit 18570-2 BD. |
| The duck bank was designed and constructed in accordance with USACE EM-1110-2-1913, Chapter 8. |
| Duct bank has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Duck bank meets CVFPB Title 23 Requirements |
| City of Yuba City Storm Drainage Pump Station Discharge Pipe (Pump Station No. 2 – North Yuba City) | Station 1111+46Unit 144 LM 15.75 | 16.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 81.80 (200-Year Elevation 78.91) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 14420. The application was submitted on January 7, 2016. |
| Village Green Storm Drainage Pump Station Discharge Pipe | Station 1127+48Unit 144 LM 16.05 | 10.0 inch OD asphalt coated and wrapped with asphalt saturated felt outside and asphalt coated inside with positive closure device on waterside hinge. | Approximately 81.80 (200-Year Elevation 78.91) | **Low Hazard** |
| Pipe will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-4 BD. The pipeline was installed in 1984 under CVFPB Permit 13754 BD.  |
| A gate valve closure device will be located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old. |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 13754 BD. The application will be submitted in Fall of 2016. |
| Century Link Fiber Optic Cable | Station 1131+82Unit 144 LM 16.13 | Unknown size communication cable installed in UPRR embankment | Approximately 79.9 (200-Year Elevation 79.25) | **Low Hazard** |
| Fiber Optic Cable will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-4 BD.  |
| No problems have been identified at this location due to the cable. |
| Cable does not have a CVFPB Encroachment Permit. SBFCA will be working with CVFPB to obtain an individual encroachment permit for the utility. The application will be submitted in Fall of 2016. |
| Kinder Morgan Petroleum Products Pipeline | Station 1132+09Unit 144 LM 16.14 | 8-5/8 inch steel pipeline | Approximately 78 (200-Year Elevation 79.26) | **Moderate Hazard** |
| Kinder Morgan Petroleum Products Pipeline will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-4 BD. Pipeline was installed in 1960. |
| SBFCA is working with Kinder Morgan to obtain a letter that attests to regular inspections with no problems detected. |
| No problems have been identified at this location due to the pipeline. |
| SBFCA will work with Kinder Morgan to install positive closure device at waterside hinge in accordance with ULDC requirements and replace pipeline or obtain proof on pipeline integrity. ULDC criteria for positive closure device does not apply to existing pipes but Title 23 requires positive closure within 10 feet of landside toe. Because of situation, recommend meeting ULDC and variance to install at waterside hinge from CVFPB. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 3823 BD. The application will be submitted in Fall of 2016. |
| Pacific Gas and Electric Natural Gas Pipeline | Station 1135+31Unit 148 LM 0.05 (LD 9) | 16 inch steel pipe | Approximately 81.5 (200-Year Elevation 79.31) | **Moderate Hazard** |
| Pipeline installation date is unknown. |
| No problems have been identified at this location due to the pipeline. |
| SBFCA is working with PG&E to obtain a letter that attests to regular inspections with no problems detected. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| SBFCA is working with the encroachment owner to obtain pressure test results or video test results since pipeline is over five (5) years old and no testing data could be provided by utility owner. |
| SBFCA will work with PG&E to install positive closure device at waterside hinge in accordance with ULDC requirements and replace pipeline or obtain proof on pipeline integrity. ULDC criteria for positive closure device does not apply to existing pipes but Title 23 requires positive closure within 10 feet of landside toe. Because of situation, recommend meeting ULDC and variance to install at waterside hinge from CVFPB. |
| Utility does not have a CVFPB Encroachment Permit. SBFCA will work with CVFPB to obtain an individual encroachment permit. The application will be submitted in Fall of 2016. |
| Kewal Singh Irrigation Pipe Crossing | Station 1229+41Unit 148 LM 1.83 (LD 9) | 16.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 83.70 (200-Year Elevation 80.69) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application was submitted on January 7, 2016. |
| Micheli Storm Drainage Pump Station Discharge Pipe Crossing | Station 1314+80Unit 148 LM 3.45 (LD 9) | 20.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 84.70 (200-Year Elevation 81.47) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 13657 BD. The application was submitted on January 7, 2016. |
| Sutter Extension Water District Irrigation Pump Station Pipe Crossings | Station 1430+47Unit 148 LM 5.64 (LD 9) | 1-36.0 inch and 2-60.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 36” = 76.0 and 60” (S) = 71.3, and 60” (N) = 70.9 (200-Year Elevation 83.57) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Butterfly valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipes has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipes meet CVFPB Title 23 Requirements |
| Pipelines do not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application was submitted on January 7, 2016. |
| Sutter Extension Water District Electrical Conduit Crossing | Station 1431+10Unit 148 LM 5.65 (LD 9) | 2 inch OD schedule 40 PVC pipe. | Approximately 88.6 (200-Year Elevation 83.57) | **Low Hazard** |
| Conduit installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD.  |
| Conduit has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Conduit material meets USACE EM-1110-2-2902, Chapter 6 requirements. |
| Conduit meets CVFPB Title 23 Section 123 requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application was submitted on January 7, 2016. |
| Maintenance Area 16 Gravity Storm Drain Pipe Crossing (Historic RD 777 Lateral 7) | Station 1536+12Unit 148 LM 1.44 (MA16) | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 73.0 (200-Year Elevation 86.42) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Pipeline do not have CVFPB Encroachment Permit. Pipeline is considered part of the flood control system so no encroachment shall be obtained. The facility will become part of the Supplemental O&M Manual for Unit 148. |
| Maintenance Area 16 Gravity Storm Drain Pipe Crossing (Historic RD 777 Lateral 12) | Station 1610+92Unit 148LM 2.86 (MA16) | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 76.25 (200-Year Elevation 88.28) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2014 under CVFPB Permit 18793-1 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Pipeline do not have CVFPB Encroachment Permit. Pipeline is considered part of the flood control system so no encroachment shall be obtained. The facility will become part of the Supplemental O&M Manual for Unit 148. |
| Maintenance Area 16 Gravity Storm Drain Pipe Crossing (Historic RD 777 Lateral 11) | Station 1639+00Unit 148LM 3.39 (MA16) | 2-24 inch corrugated metal steel pipes with automatic drainage gates on the waterside end of pipe. | Approximately 78.4 (200-Year Elevation 88.46) | **Low Hazard** |
| Pipe was identified on the USACE Periodic Inspection. The pipe is scheduled to be removed and replaced with pipeline that meets ULDC, DWR, CVFPB, and USACE standards. |
| The pipe does not have a positive closure structure at the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe does not meet CVFPB Title 23 Requirements |
| SBFCA has scheduled this pipeline for replacement for 2017 |
| Pipeline do not have CVFPB Encroachment Permit. Pipeline is considered part of the flood control system so no encroachment shall be obtained. The facility will become part of the Supplemental O&M Manual for Unit 148. |

| Table 3.13A‑3 Project Area D – Penetrations (Campbell Road to Afterbay) |
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| **Feature** | **Approximate Location** | **Description** | **Invert Elevation** | **Hazard Rating and Comments** |
| Waller Family Gravity Storm Drain Pipe Crossing | Station 1777+00Unit 152 LM 1.92 | 25-1/2 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 93.4 (200-Year Elevation 92.72) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Waller Family Gravity Storm Drain Pipe Crossing | Station 1785+24Unit 152 LM 2.08 | 25-1/2 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 93.2 (200-Year Elevation 93.04) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016.  |
| Waller Family Gravity Storm Drain Pipe Crossing | Station 1785+24Unit 152 LM 2.08 | 25-1/2 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 93.2 (200-Year Elevation 93.04) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Waller Family Gravity Storm Drain Pipe Crossing | Station 1792+96Unit 152 LM 2.22 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 87.0 (200-Year Elevation 93.49) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Waller Family Irrigation Pipe Crossing | Station 1799+44Unit 152 LM 2.35 | 8.0 inch OD corrosion proof welded steel pipes with positive closure device on waterside hinge. | Approximately 84.70 (200-Year Elevation 81.47) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 17213 BD. The application will be submitted in fall of 2016. |
| Peekema Ranch Gravity Storm Drain Pipe Crossing | Station 1809+65Unit 152 LM 2.54 | 25-1/2 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 94.50 (200-Year Elevation 94.15) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| City of Gridley Storm Drain Pipe Crossing | Station 1818+72Unit 152 LM 2.71 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 74.10 (200-Year Elevation 94.36) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Farmland Reserve Irrigation Pipe Crossing | Station 1834+42Unit 152 LM 3.01 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 85.20 (200-Year Elevation 94.70) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| City of Gridley Effluent Wastewater Discharge Pipe Crossing | Station 1849+74Unit 152 LM 3.30 | 18.0 inch OD corrosion proof welded steel pipes with positive closure device on waterside hinge. | Approximately 99.90 (200-Year Elevation 95.96) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 5722 BD. The application will be submitted in fall of 2016. |
| AT&T Communication Cables | Station 1901+79Unit 152LM 4.29 | Underground Communication Cables | Approximately 99.90 (200-Year Elevation 95.96) | **Low Hazard** |
| Line crossing meet Title 23 clearance standards.  |
| Communication cable is maintained by AT&T and is in operable condition. No performance issues with this communication cable crossing have been identified |
| This utility does not have a CVFPB Encroachment Permit. SBFCA will work with AT&T to obtain a CVFPB encroachment permit. |
| Cilker Ranch Irrigation Pipe Crossing | Station 1956+20Unit 152 LM 5.32 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 85.20 (200-Year Elevation 94.70) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Maintenance Area 7 Gravity Storm Drain Pipe Crossing | Station 1961+08Unit 152 LM 5.41 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 76.25 (200-Year Elevation 88.28) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| Pipeline do not have CVFPB Encroachment Permit. Pipeline is considered part of the flood control system so no encroachment shall be obtained. The facility will become part of the Supplemental O&M Manual for Unit 152. |
| Mariani Ranch Irrigation Pipe Crossing | Station 2004+86Unit 152 LM 6.24 | 8-5/8 inch OD epoxy coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 109.60 (200-Year Elevation 104.21) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 4591 BD. The application will be submitted in fall of 2016. |
| Mariani Ranch Irrigation Pipe Crossing | Station 2017+70Unit 152 LM 6.48 | 12.75 inch OD epoxy coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 109.80 (200-Year Elevation 104.97) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| John Kucek Ranch Irrigation Pipe Crossing | Station 2084+03Unit 152 LM 7.74 | 5-9/16 inch OD epoxy coated and lined welded steel pipes with positive closure device on waterside hinge. | Approximately 114.80 (200-Year Elevation 110.05) | **Low Hazard** |
| Pipe modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meets CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 17895 BD. The application will be submitted in fall of 2016. |
| Blain Moffitt Ranch Irrigation Pipe Crossing | Station 2109+57Unit 152 LM 8.22 | 2 inch ID DR-11 fusion bonded welded HDPE pipe with positive closure device on waterside hinge. | Approximately 117.0 (200-Year Elevation 111.40) | **Low Hazard** |
| Pipe will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device will be located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe will have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material will meet the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe will meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Clinton Moffitt Ranch Irrigation Pipe Crossing | Station 2127+33 Unit 152 LM 8.56 | 2 inch ID DR-11 fusion bonded welded HDPE pipe with positive closure device on waterside hinge. | Approximately 117.5 (200-Year Elevation 111.87) | **Low Hazard** |
| Pipe will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Gate valve closure device will be located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe will have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material will meet the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe will meet CVFPB Title 23 Requirements |
| SBFCA has been working with CVFPB to amend individual encroachment permit no. 14200 BD. The application will be submitted in fall of 2016. |
| Banes Ranch Irrigation Pipe Crossing | Station 2179+39Unit 152 LM 9.52 | 18.0 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 120.5 (200-Year Elevation 115.84) | **Low Hazard** |
| Pipe will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Butterfly valve closure device will be located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe will have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material will meet the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe will meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Banes Ranch Irrigation Pipe Crossing | Station 2201+87Unit 152 LM 9.97 | 10.75 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 122.7 (200-Year Elevation 119.20) | **Low Hazard** |
| Pipe will be modified as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD.  |
| Butterfly valve closure device will be located on the waterside levee crest to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe will have sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material will meet the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe will meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Williams Ranch Storm Drain Pipe Crossing | Station 2262+69Unit 152 LM 11.12 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 110.6 (200-Year Elevation 123.11) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Williams Ranch Storm Drain Pipe Crossing | Station 2274+95Unit 152 LM 11.35 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 114.4 (200-Year Elevation 123.67) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |
| Fredericks Ranch Storm Drain Pipe Crossing | Station 2283+95Unit 152 LM 11.52 | 37-7/8 inch OD cement mortar coated and lined welded steel pipes with positive closure device at waterside hinge. | Approximately 114.9 (200-Year Elevation 124.07) | **Low Hazard** |
| Pipe installed as part of the West Feather River Levee Repair Project in 2016 under CVFPB Permit 18793-3 BD. |
| Sluice gate valve closure device located on the waterside levee hinge to provide a rapid means of closure per USACE EM-1110-2-1913, Chapter 8 and DWR ULDC Section 7.13.7. |
| Pipe has sufficient cover to withstand vehicular traffic on the levee crown and has adequate strength to withstand levee loading, per USACE EM-1110-2-1913, Chapter 8. |
| Pipe material meets the requirements per USACE EM-1110-2-2902, Chapter 7. |
| Pipe meet CVFPB Title 23 Requirements |
| Utility does not have CVFPB Encroachment Permit. SBFCA has been working with CVFPB to obtain an individual encroachment permit. The application will be submitted in fall of 2016. |