

## 2016-17 Projects

### ***CANAL LINING***

FID hired a contractor to concrete line sections of the Enterprise Canal. Approximately 76,000 square-feet of concrete liner was installed; 60,000 square-feet south of Shepherd Avenue and east and west of Fowler Avenue; and 16,000 square-feet northeast of Bullard and DeWolf avenues. The new lining will protect the canal from further breaching due to rodent activity and it will also reduce the amount of maintenance required for open canals. In addition, FID crews concrete lined approximately 8,000 square-feet of the Dry Creek Canal through town (southwest of Franklin Avenue and Broadway Street). This section of canal floor was lined to increase the structural integrity by providing support for the sides and footings as well as to prevent seepage. It also keeps debris from collecting at the bottom allowing the water to flow smoother which in turn increases the capacity of the canal.



### ***PIPELINE REPLACEMENT PROJECTS***

FID crews replaced approximately 1,450 feet of failing infrastructure ending the need of frequent repairs and avoiding disruptions to grower service. There were two facilities that had sections of pipe replaced: 1) Victoria Colony where 650 feet of 20-inch non-reinforced concrete pipe was replaced with 21-inch rubber-gasketed PVC 100 PSI pipe southwest of Clinton and Valentine avenues; 2) Benzler Pond where 800 feet of 15-inch mortar joint pipe was replaced with 15-inch rubber-gasketed PVC 80 PIP northwest of South and Brawley avenues.



### ***OPEN CHANNEL SUBSTITUTION PROJECT***

FID crews substituted approximately 1,100 feet of the Oleander North Branch with approximately 900 feet of 30-inch rubber-gasketed PVC 100 PSI pipe northeast of Sumner and Cherry avenues. This was a landowner initiated project where the landowner wanted to eliminate the division of his property by the open canal and allow him to better utilize as much acreage as possible as well as to facilitate more efficient farming practices. FID participated in the piping of this section of open canal due to the canal bank's poor condition, raised banks, sandy soil type,



tendency to breach, and the cost of open canal maintenance. Also, by piping this section of canal, FID is able to provide better service to the water users as it eliminates service disruptions caused by canal breaches.

### ***CANAL DREDGING***

FID hired a contractor to dredge sections of the Gould Canal between Trimmer Springs Road and Leonard Avenue. Approximately 80% (4 ½ miles) of the areas to be dredged were completed before rain and other waters became an issue. Roughly 9,100 cubic yards of sediment was removed. FID also hired a contractor to dredge approximately 400 feet of the Herndon Canal northeast of McKinley Avenue and First Street. Dredging the canals allows the water to flow smoother and increases capacity.



### ***REGULATION BASINS***

FID hired contractors to install approximately 3,900 feet of fencing around Axt Pond and Herndon West Basin. Approximately 2,500 feet was installed at Axt Pond and approximately 1,400 feet was installed at Herndon West Basin. The fencing was installed for security reasons.

### ***IMPROVED CANAL REGULATION***

FID crews installed a flap gate at an existing check structure (northwest of Ashlan and Shasta avenues) in the Herndon West Canal to better control upstream water levels for better service to the water user. FID also hired a contractor to replace and relocate the broken Ubich private pipeline headgate for easier maintenance and operation access. The original headgate was inaccessible on the Enterprise Canal, which operates 11 months of the year, so it was relocated to a nearby regulation box and reconnected to an existing pipeline and rerouted to the Ubich private line.

### ***IMPROVEMENTS BY DEVELOPERS/AGENCIES***

Developers installed approximately 2,250 feet of rubber-gasketed reinforced concrete pipeline (RGRCP) valued at \$475k to bring existing systems up to current urban standards. There was approximately 1,600 feet (Maupin (1,300') and Enterprise-Holland (300')) of old monolithic concrete pipeline (cast-in-place) and approximately 650 feet (Redbanks) of non-reinforced concrete pipe replaced over the maintenance season. Caltrans



installed approximately 1,040 feet of RGRCP valued at approximately \$500k to relocate existing facilities (Victoria Colony (340'), Victoria (290') and Tracy (410')) for the California High Speed Rail project.

### ***FUTURE PROJECTS***

Due to significant rainfall, many Capital Improvement Plan projects were rescheduled to future maintenance seasons. During this upcoming maintenance season, FID will be completing deferred projects and planning another set of Capital Improvement Plan projects focusing on canal lining, retrofitting regulating structures with long-crested weirs, replacement of deteriorated pipelines, and lining or piping problem canals.