

**MAINTENANCE DEPARTMENT  
ACTIVITIES REPORT  
NOVEMBER 7, 2020 – JANUARY 15, 2021 (2 MONTHS)**

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**Emergency**

Maintenance responded to numerous emergency situations this reporting cycle. On November 10, 2020, there was a 10" mainline repair on Chaparral Drive (Lake Wildwood), as well as a blow off valve repair on Wildwood Drive (Lake Wildwood). On November 11, there was a service line repair on Lawrence Drive (Alta Sierra). On November 12, there was another mainline repair on Nevada Street in Nevada City, as well as another service line repair on Wildwood Loop (Lake Wildwood). On November 13, there was a transmission mainline repair on Dorsey Drive. On November 16, there was another service line repair on Sunset Avenue in Grass Valley. On December 7, there was an Air Release Valve (ARV) replaced within the Loma Rica System. On December 21, there was a meter repair, due to a vehicle accident/incident.

**General**

The Maintenance Department had employees attending continuing education classes on November 17, 18 and 19, December 15, 16 and 17, and January 5, 6 and 7 to maintain their Water Distribution Operation (WDO) certifications.

**Canal**

The Canal Maintenance Crew utilized the end of the 2020 irrigation season for "Fall Push" projects in the Nevada County area. The crew applied 700 feet of shotcrete and replaced a private culvert crossing to the Tarr Canal between the #9 spillway and Retrac Road. The crew replaced 200 feet of rotted 60-inch CMP pipe with HDPE pipe and applied shotcrete to the inlet and outlets on the Tarr Canal below the #8 spillway. The crew encased 500 feet of the Woodpecker Canal into 18-inch HDPE pipe and formed and poured a new inlet and Parshall measuring weir structure. The crew upgraded a cross pipe (to 18-inch) and formed and poured a new #5 spillway on the Rough & Ready Canal at Ponderosa Road. The crew created an access to the Smith Gordon Canal with a culvert crossing at Simple Justice Drive. The crew responded to and secured a compromised dam leak and erosion issue at the Sugar Loaf Reservoir. Since December 1, the crew dedicated most of its time to seasonal hand and machine cleaning of canals, as well as installing new raw water delivery boxes. As noted above, the "Canal Cleaning Season" starts in December and carries through to mid-March. The crew cleaned 125 miles of canal.

**Construction**

The Construction Crew continued with ongoing routine work, including work at various water treatment plants. At the E. George Treatment plant, the crew poured containment walls for the alum tank, applied 130 cubic yards of shotcrete along the elevated walls, and compacted rock along the top area around the backwash pond. The crew cleaned the floc sediment basin for the replacement of the floc paddles. At the Cascade Shores Treatment Plant, the crew upgraded the propane tank from 500 gallons to 1,000 gallons. At the Timber Ridge tank site, the crew formed and poured a 4 foot high x 40 foot long retaining wall. For Recreation, the crew installed a chlorine "sample station" at Scotts Flatt Campground #2. The crew some minor grading in front of the Pump Station at Rollins Peninsula Campground. The crew continues with asphalt replacement from prior maintenance repairs through the District. The crew also repaired a Pressure Reducing Valve (PRV) on Glenwood Drive in Grass Valley.

## **Facilities**

The Facilities Maintenance Crew continued with general maintenance at the Grass Valley main yard, as well as several District buildings and storage tank site locations. Work included debris removal, brushing, building maintenance, HVAC and landscape maintenance. The crew relocated the eye wash station at the Vegetation Building in the main yard for safer and easier access. The crew installed an eye wash station at the Green Tank Booster Station. The crew also assisted the Construction Crew with the Cascade Shores Treatment Plant propane tank upgrade and Timber Ride tank site retaining wall.

## **Fleet**

The Mechanic Shop continues to perform a variety of vehicle and equipment maintenance work for the District, including routine preventative maintenance (brakes, clutches, hydraulics, electrical, tires, etc.), retrofitting new vehicles, and other major and minor mechanical projects. Shop personnel have performed major mechanical work to larger heavy equipment, including line bore work and bushing replacements on an excavator and an axle replacement to an equipment trailer. They also worked on two mini excavators, replacing a front track idler and making swing motor repairs. They also performed required Biennial Inspection of Terminals (BIT) on several District vehicles.

## **Placer**

The Placer Crew utilized the timeframe from the end of the 2020 irrigation season to complete several “Fall Push” projects. The crew upsized the inlet structure at the Hayt Canal # 1 Siphon. The crew encased 400 feet of the Auburn Ravine II Canal with 36-inch HDPE pipe along Ashby Lane and under Fruitvale Road, continuing the encasement from 2019, as well as forming and pouring a new #1 spillway structure. The crew also cleaned out sedimentation from the Valley View Reservoir. Since December 1, the crew dedicated most of its time to seasonal hand and machine cleaning of canals, as well as installing new raw water delivery boxes. The “Canal Cleaning Season” starts in December and carries through to mid-March. The crew cleaned 86 miles of canal.

## **Service**

The Service Crew continued with service line repairs and replacements throughout the District. The crew also worked other emergency call outs with the Construction Crew based on prior work commitments. The crew completed the 2020 Meter Replacement Program, replacing 600+ meters throughout Nevada County and in the north Auburn area.

## **South Yuba**

The South Yuba Canal Crew completed several pending jobs at the Bear Valley Yard, including burning brush piles generated from summer tree removal efforts and installing a “snow gate” at the main entrance. The crew also assisted the Canal Maintenance Crew with upgrading a blow off valve and service vault on the Maben Canal along State Highway 49 (Landsburg’s property). The crew also assisted with the 200 foot replacement of CMP pipe on the Tarr Canal, the installation of the culvert crossing on the Smith Gordon Canal at Simple Justice Drive, and supported the Canal Maintenance Crew with the erosion and protection of the Sugar Loaf Reservoir site. The crew also assisted Recreation with the replacement of a retaining wall at the Scotts Flat marina/boat launch.

## **Vegetation**

The Vegetation Control Crew continued its work with Canal Maintenance and the Placer Crews to meet “Canal Cleaning Season” goals for pre-emergent applications along canal berms. Weather permitting, the crew has applied product to 80 miles of canals. The crew is also in the process of inspecting and repairing 70 of the 200 copper application stations throughout the District. The Assistant Maintenance Superintendent-Vegetation Control is currently working on the renewal of the District’s National Pollution Discharge Elimination System (NPDES) permit, as well as upgrading the Spray Chart Data Base information for spray time calculations, spray areas, mileage and accesses. He is also working with the Maintenance Management Assistant for the distribution of the 2021 “No Spray” Agreements. The crew has performed annual winter maintenance of spray pumps, motors and spray heads. The crew has recalibrated spray equipment for proper application rates and patterns.

## **Welding**

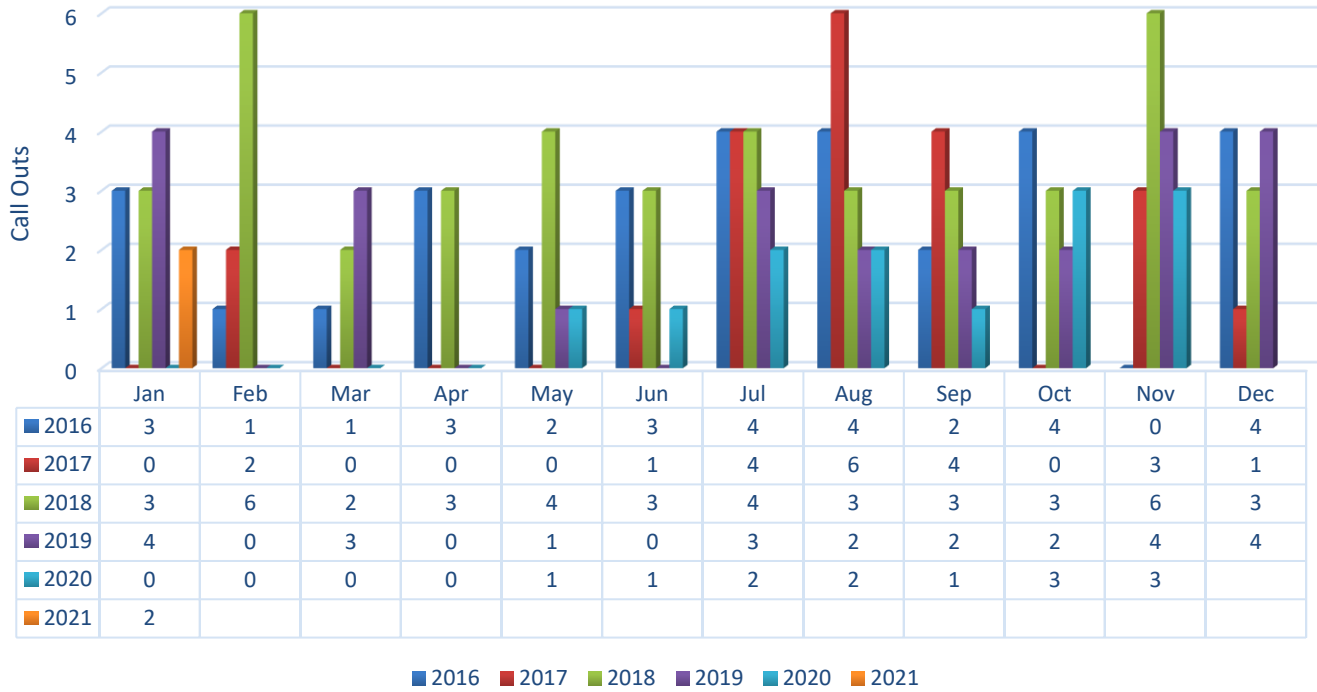
The Welders continue to fabricate raw water delivery boxes for installation during the winter “Canal Cleaning Season.” They fabricated a locking gate and no-climb cage at the Lake of the Pines Treatment Plant. They fabricated parts for “Fall Push” projects for both the Canal Maintenance and Placer Crews. This included vault lids for the Auburn Ravine II Canal project, grip struts for the Woodpecker Canal project, new trash racks for the Hayt Canal #1 Siphon inlet and Rattlesnake Canal, a new head gate for the Riffle Box Canal, and a winter paddle head gate for the Columbia West Canal. The crew also fabricated and assisted the South Yuba Canal Crew with the snow gate at the Bear Valley Yard site, and assisted the Construction Crew with fabricating new brackets for the upgraded floc basin paddles at the Loma Rica Treatment Plant. The Welders also assisted the Mechanic Shop in fabricating various “specialized” tools.

**MAINTENANCE DEPARTMENT  
ACTIVITIES SUMMARY OF SELECT “ROUTINE” WORK  
11/07/20 – 01/15/21 (2 MONTHS)**

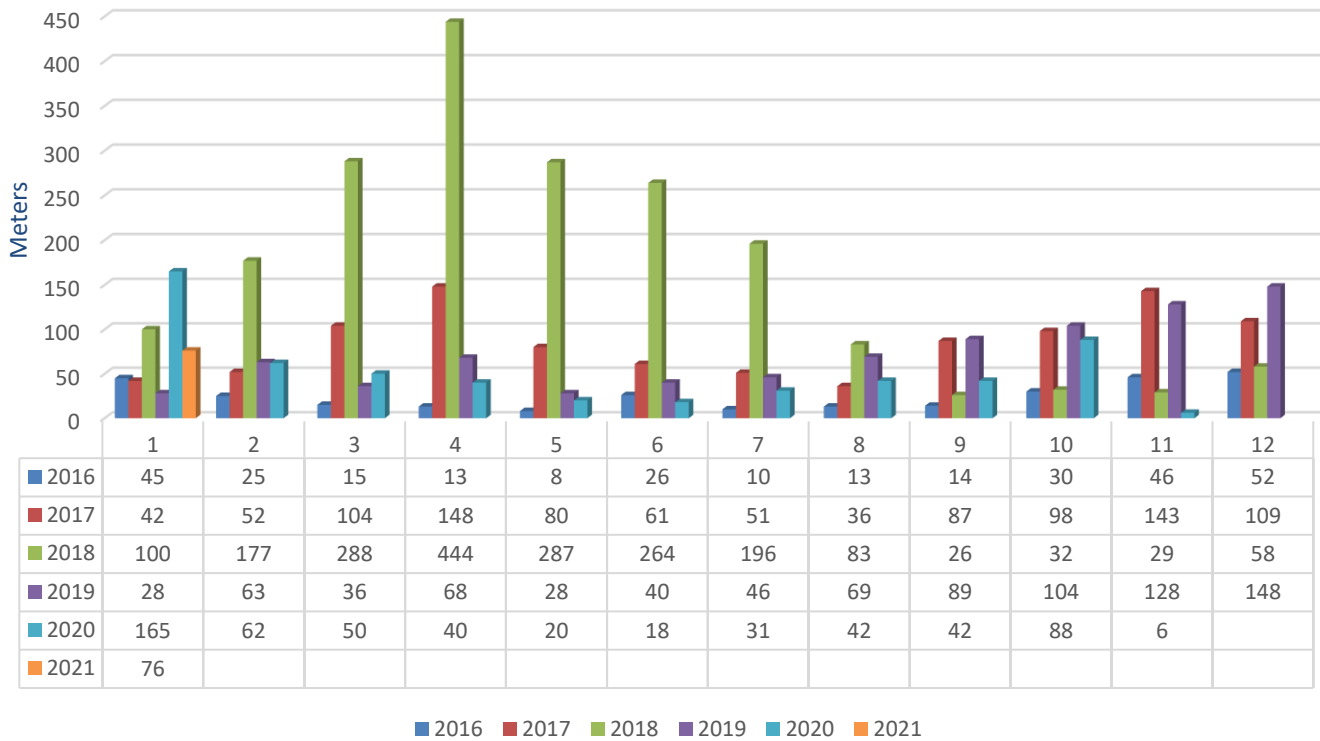
CATEGORY / TASK DESCRIPTION	TOTAL #
<b>TREATED WATER</b>	
“EMERGENCY <u>CALL OUTS</u> ” – HYDRANTS / SERVICE LINES / WATER MAINS	2
HYDRANTS – NEW / REPAIRED / REPLACED	4
METERS – NEW / REMOVED / REPLACED <i>(does not include Meter Replacement Program counts)</i>	76
METERS / GATE VALVES – REPAIRED	5
SERVICE LINES – NEW / REPAIRED / REPLACED	23
VALVES / DEVICES – ARV, BOV, DCV, PRV, RP, ETC.	23
WATER MAINS – REPAIRED / REPLACED	1
<b>RAW WATER</b>	
CANALS / BERMS – LEAKS AND REPAIRS	10
CANALS – CLEANED	Ongoing
CULVERTS – NEW / REPLACED / REMOVED	2
RAW WATER BOXES – NEW / MOVED / REMOVED / REPLACED	38
TREES – REMOVED	7
ACCESS ROADS – MAINTAINED	3
<b>FLEET</b>	
TRUCKS / VEHICLES – SERVICE / PREVENTATIVE MAINTENANCE	30
TRUCKS / VEHICLES – DAMAGE REPAIRS	0
TRUCKS / VEHICLES – RETROFITS	0
EQUIPMENT – SERVICE / PREVENTATIVE MAINTENANCE	7
EQUIPMENT – DAMAGE REPAIRS	0
EQUIPMENT – RETROFITS	0

**NOTE: "ROUTINE" WORK COUNTS AND RESULTING GRAPHS (BELOW) REFLECT TOTALS FROM 11/07/20 – 01/15/21 (2 MONTHS).**

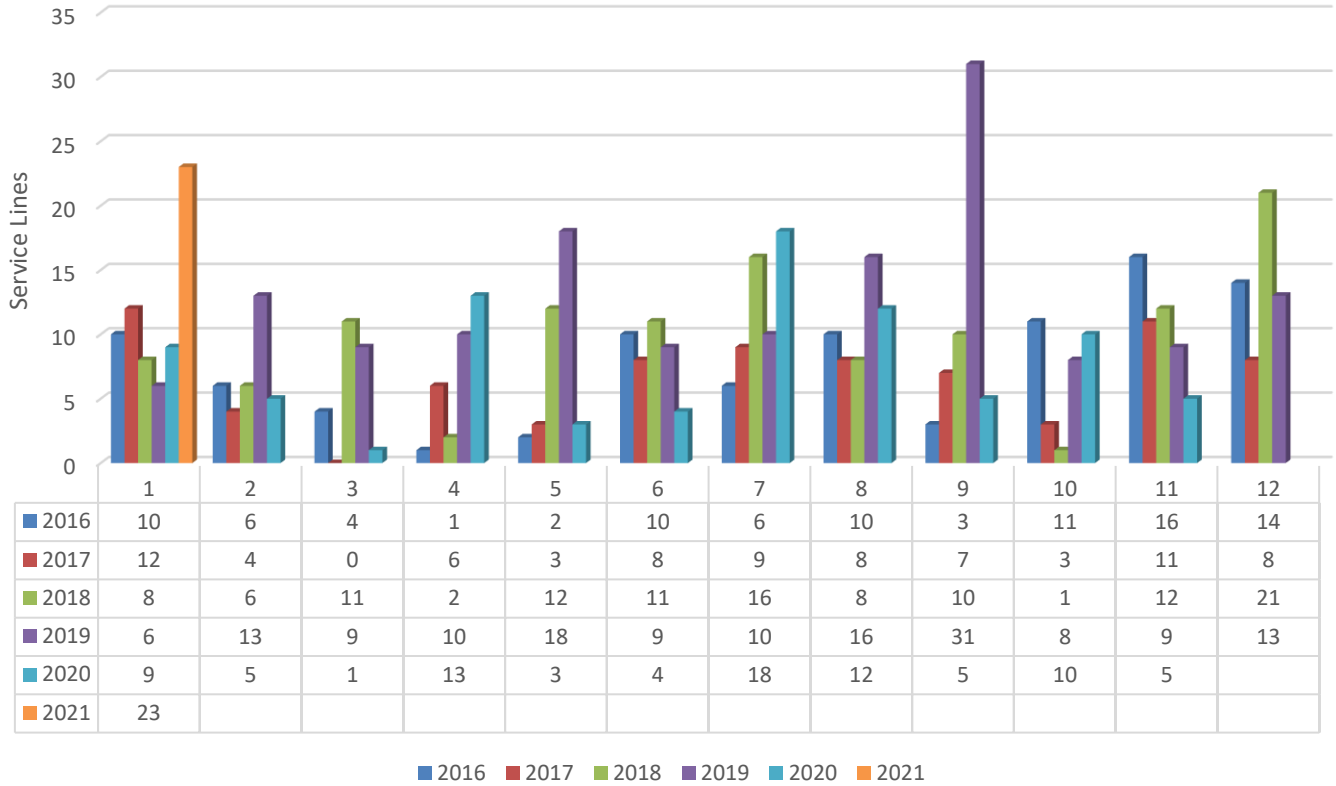
### Emergency Call Outs



### Meter Replacements

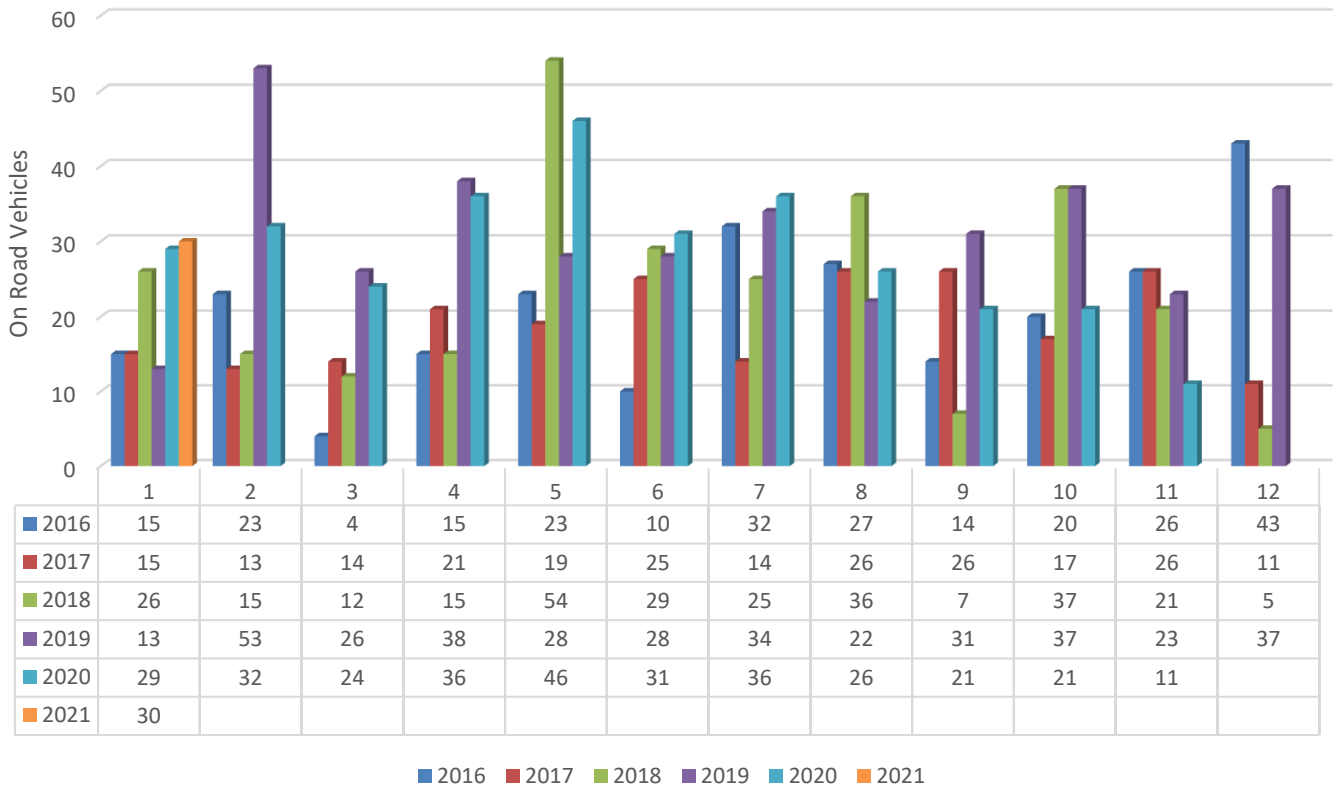


### Service Line Replacements



■ 2016 ■ 2017 ■ 2018 ■ 2019 ■ 2020 ■ 2021

### On-Road Vehicle Service/Repairs



■ 2016 ■ 2017 ■ 2018 ■ 2019 ■ 2020 ■ 2021

# MAINTENANCE DEPARTMENT ACTIVITIES REPORT OCTOBER 10, 2020 – NOVEMBER 6, 2020

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## **Emergency**

The Service Crew responded to two (2) emergency service line repairs at 16497 Sandra Court in Grass Valley (Alta Sierra) and 10656 Jasper Agate Road in Nevada City.

## **General**

The Maintenance Department enrolled all construction maintenance employees in a refresher course on “Competent Person – Trenching and Excavation,” which was conducted by Safety Center, Inc. on-campus in Grass Valley. There were four (4) sessions with 15 employees in each class to address/accommodate COVID-19 requirements. Department personnel also helped to facilitate and accompanied Mead & Hunt, Inc., the subcontractor to GHD, for the October 27 and 28, 2020 tour of the South Yuba/Chalk Bluff Canal tour, as well as the November 4 inspection of the “Big” and “Little” tunnels on the system. Maintenance’s South Yuba Canal Crew and the Hydroelectric Department together worked prior to the tour to plan and project the “drop-off and pick-up” locations for the subcontractor to cover the whole system safely and thoroughly.

## **Canal**

The Canal Maintenance Crew uses the end of the irrigation season to commit to “Fall Push” projects slatted from earlier in the year. The goals set were to encase 500 feet of the Woodpecker Canal into 18-inch HDPE pipe, as well as form and pour a new Parshall measuring weir encased in a concrete structure. All of the pipe is installed and the measuring structure is poured, putting this project at 80% complete. The crew has applied 250 feet of shotcrete on the Combie Phase II/III Canal at Sweet Road. The crew was monitoring and has now eliminated a concern about a “potential” siphon leak on the Combie Phase II/III Canal at Garden Bar Road by exposing various locations to view the pipe and solidify that any water on-site is deemed “ground water,” as well as visualizing the status of the pipe’s condition. There will also be 700 feet of shotcrete applied to the Tarr Canal at the #9 spillway at Retrac Road on November 5 and 6, completing this project to eliminate a series of canal leaks. Please note that the crew has also performed some general maintenance, including brushing the Lower Grass Valley Canal from Hughes Road to the Alta Hill Reservoir, replacing valves on raw water delivery boxes, and grading the access road along the Newtown Reservoir, as a result of heavy equipment use during the Jones Fire.

## **Construction**

The Construction Crew is 90% complete with Phase 2 of the Lidster Avenue and Cypress Hill Drive Unit 1 Waterline Replacement Project. The mainline was pressure tested and disinfected, and the “tie in” occurred on November 4. The crew (with help from the Facilities Maintenance Crew) replaced 13 sidewalks and gutter pans between Lidster, Huntington, Arden and Barby. The pre-bid site tour for final asphalt trench paving took place on November 5.

## **Facilities**

The Facilities Maintenance Crew continued their general maintenance activities (brushing, weed eating, blowing of grounds, clean up, etc.) at District sites (Lake of the Pines Treatment Plant,

Lake Wildwood Treatment Plant, Smartsville Treatment Plant, E. George Treatment Plant, Loma Rica Treatment Plant, North Auburn Treatment Plant, as well as the Banner-Taylor tank site). The crew also brushed and chipped the fence line along Boreham and Crescent Drives at the Banner-Taylor tank site. To help the Recreation Department, the crew is also remodeling the Rollins Lake Long Ravine pump building with new framing, siding, rafters and roofing. Facilities Maintenance has also assisted the Construction Crew with pouring sidewalks and gutter pans on the Lidster/Cypress Hill project.

## **Fleet**

The Mechanic Shop continues to perform a variety of vehicle and equipment maintenance work for the District, including routine preventative maintenance (brakes, clutches, hydraulics, electrical, tires, etc.), retrofitting new vehicles, and other major and minor mechanical projects. The Shop continues to work directly with the Welders for welding and/or fabrication needs. At the request of the Operations Department, the Shop also continues to support maintenance and refueling efforts of the District's generators at treatment plants and pump stations, prior to and during PSPS events.

## **Placer**

As with the Canal Maintenance Crew, the Placer Crew also uses the end of the irrigation season to commit to "Fall Push" projects slatted from earlier in the year. The crew has installed 400 feet of 36-inch HDPE pipe from the #1 spillway on the Auburn Ravine II Canal (at Fruitvale Road) continuing sections of encasement on the Auburn Ravine II Canal at the intersection of Ashby Lane and Fruitvale Road. The crew also removed, formed and poured concrete to install a new inlet structure on the Hayt Canal #1 siphon to address an ongoing moratorium status for that system. At the same location, the crew removed an undersized private culvert for the Engineering Department, Encroachments Section. The Placer Crew responded to an October 22 emergency to install 100 feet of 30 C-900 pipe on the Lincoln Canal at Quail Lane, due to a canal berm failure. The crew removed the irrigation seasonal dams at the head of the Hemphill Canal (Auburn Ravine Natural) and the head of the Doty South Canal (Doty Ravine). While the crew has cut back on seasonal treated water work, it continues to make emergency repairs on the North Auburn and Lake of the Pines systems.

## **Service**

The Service Crew continues with service line, main line, DCV, fire hydrants and other infrastructure repairs throughout the District's entire treated water distribution system, as well as recently patch paving in the Alta Sierra and Banner Mountain areas from prior emergency and scheduled work. The crew also repaired the A/C blacktop in front of the District's Business Center (lawn area). The Meter Replacement Program has continued with 177 meters replaced in the North Auburn System and 59 meters in the Lake Wildwood System, for a total of 236 meters during this reporting period. As part of the Meter Replacement Program, the crew's goals is to replace a total of 672 meters by the end of the 2020 calendar year.

## **South Yuba**

The South Yuba Canal Crew has assisted Canal Maintenance with raw water repairs on the Maben Canal Encasement Project (at box #4645) to upgrade operational access to the service and blow off of the encasement. They also helped the Welders install screens at the Sugar Loaf Reservoir. As previous noted in the General section above, the crew also planned, supported and attended along with the Hydroelectric Department the Mead & Hunt, Inc. inspection of the South Yuba/Chalk Bluff Canal for GHD. The crew also continues to gain hands-on experience and training with the Alta PG&E Hydro Crew. On October 29 the South Yuba Canal Crew



helped build loads for the Lennon Flume repairs to be helicopter flown from Zeibright Field to the Forest Service Bridge area on East Excelsior Road. On November 2, the crew was involved with PG&E's lock-out/tag-out training and procedures for pending work. On November 3, the crew met with PG&E to go over and assess the job site and work to be performed/goals. Scheduled work on the metal sheets, wood girders and leg replacement was completed on November 4. The crew also worked on the Fiddler Green Lennon Flume located on New Airport Road in Auburn, assisting PG&E with girder replacements. This hands-on training and exposure is an invaluable experience, given the unique work type.

### **Vegetation**

The Vegetation Control Crew continues the terrestrial spraying throughout the District's multi-county canal system. With the end of aquatic copper treatments, the crew has concentrated its efforts in applying terrestrial applications along 109.5 miles of canal. The crew has also completed the required biannual herbicide treatment training in preparation for pre-emergent applications, which work in conjunction with the Canal Maintenance Crew's canal cleaning schedule (December-March).

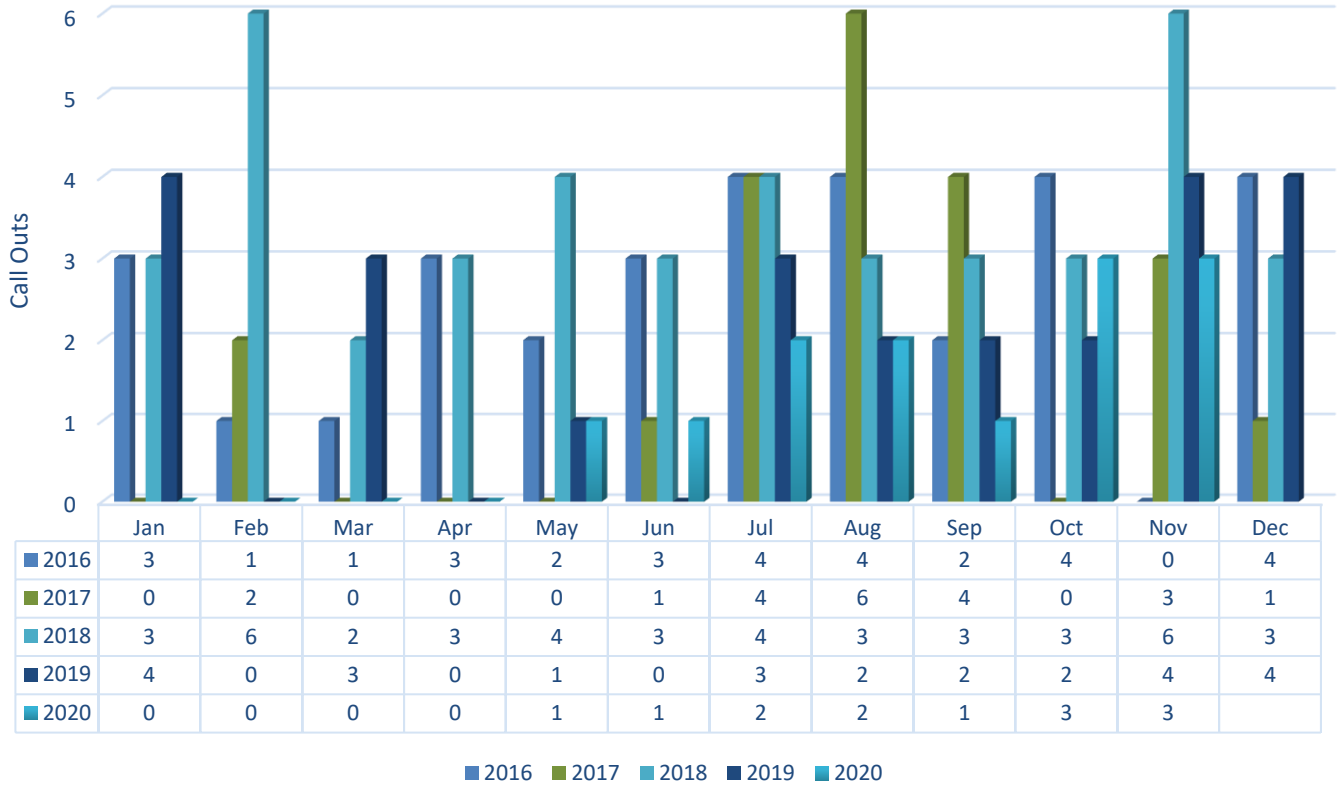
### **Welders**

The Welders continue their fabricating/welding efforts in retrofitting and repairing District vehicles/equipment. They also fabricated/installed new safety handrails at the E. George Treatment Plant and a "sample station" support bracket at the Jackson Meadows campground. The Welders also fabricated parts for the previously-referenced "Fall Push" projects, including concrete structure metal channels for the Hayt Canal #1 Siphon inlet structure and the Parshall measuring weir for the Woodpecker Canal encasement project.

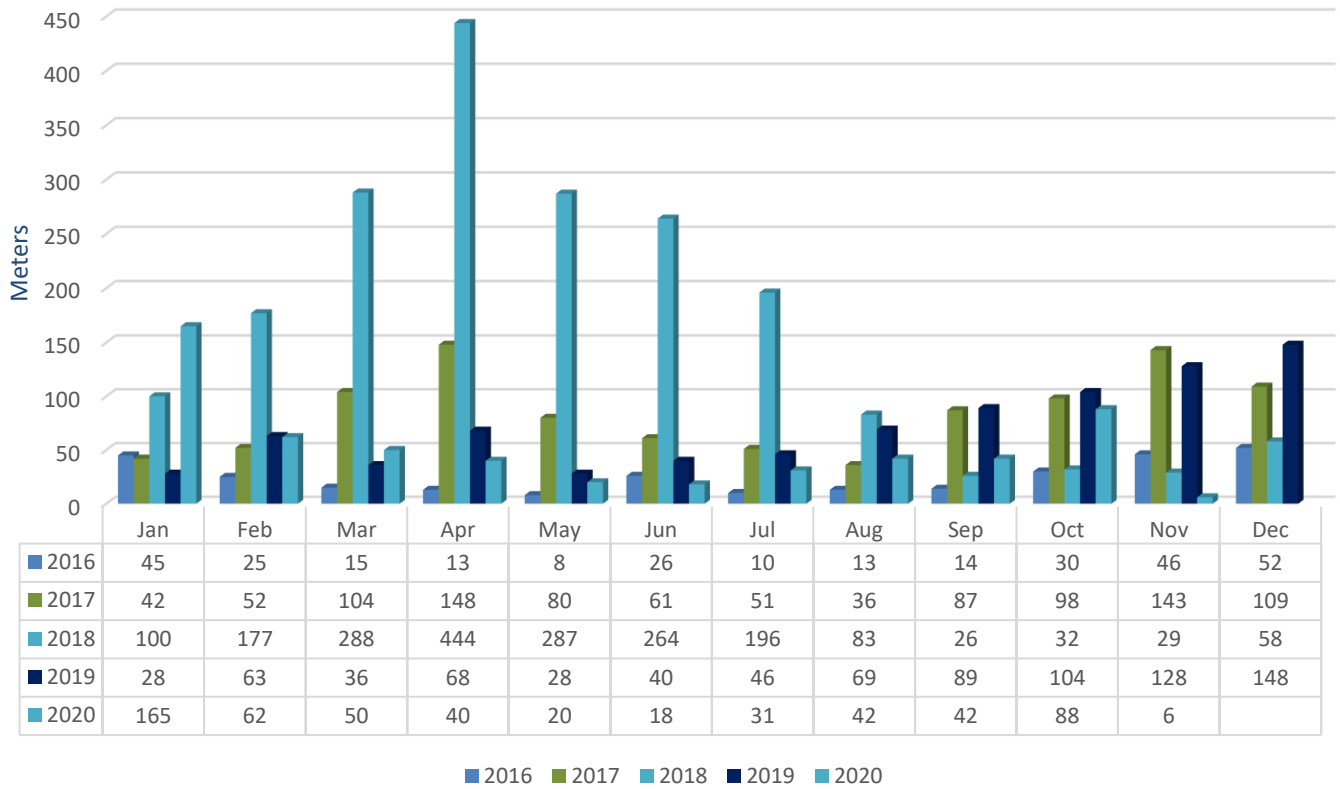
**MAINTENANCE DEPARTMENT  
ACTIVITIES SUMMARY OF SELECT “ROUTINE” WORK  
10/10/20 – 11/06/20**

CATEGORY / TASK DESCRIPTION	TOTAL #
<b>TREATED WATER</b>	
“EMERGENCY <u>CALL OUTS</u> ” – HYDRANTS / SERVICE LINES / WATER MAINS	3
HYDRANTS – NEW / REPAIRED / REPLACED	1
METERS – NEW / REMOVED / REPLACED <i>(does not include Meter Replacement Program counts)</i>	6
METERS / GATE VALVES – REPAIRED	3
SERVICE LINES – NEW / REPAIRED / REPLACED	5
VALVES / DEVICES – ARV, BOV, DCV, PRV, RP, ETC.	6
WATER MAINS – REPAIRED / REPLACED	0
<b>RAW WATER</b>	
CANALS / BERMS – LEAKS AND REPAIRS	4
CANALS – CLEANED	1
CULVERTS – NEW / REPLACED / REMOVED	0
RAW WATER BOXES – NEW / MOVED / REMOVED / REPLACED	0
TREES – REMOVED	0
ACCESS ROADS – MAINTAINED	1
<b>FLEET</b>	
TRUCKS / VEHICLES – SERVICE / PREVENTATIVE MAINTENANCE	11
TRUCKS / VEHICLES – DAMAGE REPAIRS	0
TRUCKS / VEHICLES – RETROFITS	2
EQUIPMENT – SERVICE / PREVENTATIVE MAINTENANCE	1
EQUIPMENT – DAMAGE REPAIRS	0
EQUIPMENT – RETROFITS	0

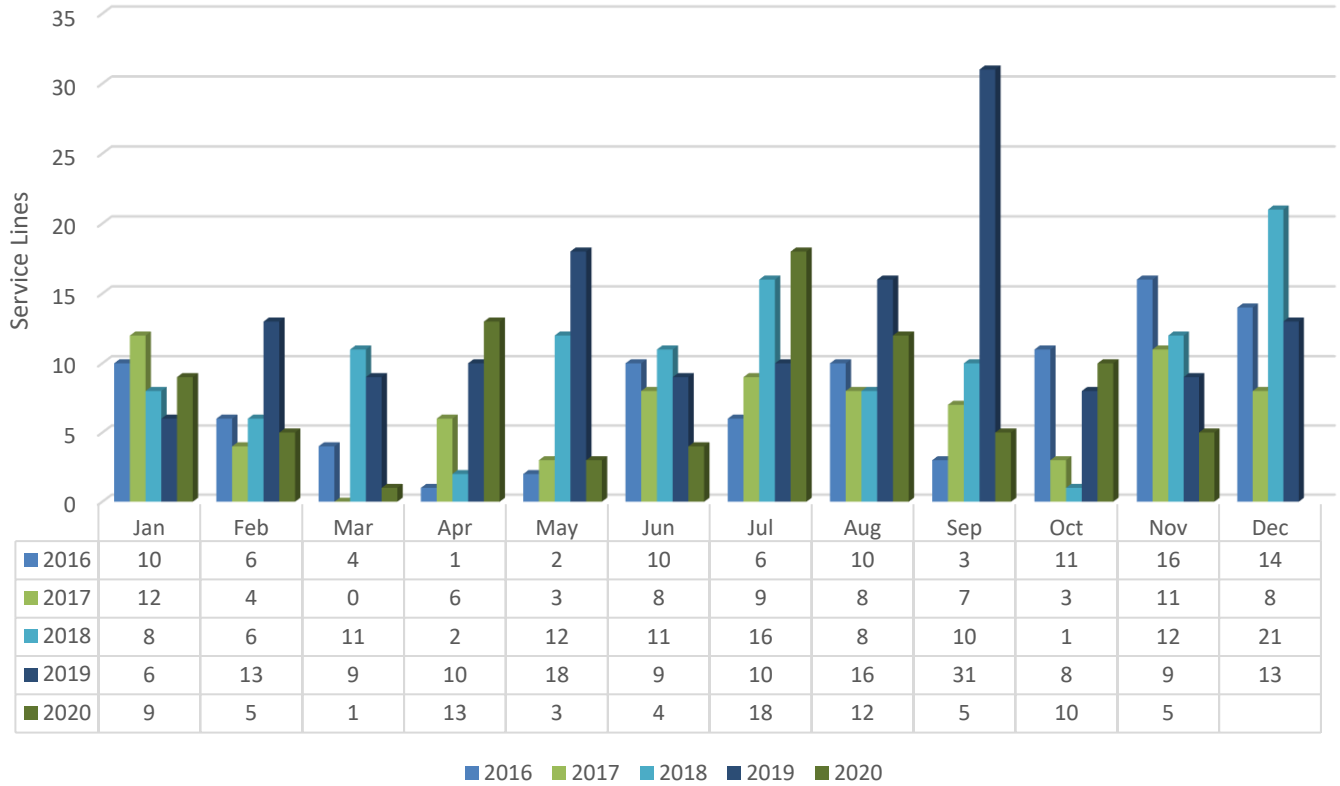
### Emergency Call Outs



### Meter Replacements



### Service Line Replacements



### On-Road Vehicle Service/Repairs

