

# STAFF REPORT

## *City Council Consent Item*

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**DATE:** January 17, 2023

**TO:** Honorable Mayor and Council Members

**FROM:** Brendan Byrd, Public Works Director/City Engineer

**SUBJECT:** **Public Works/Engineering Department Monthly Report**

**STAFF RECOMMENDATION:**

Receive report as an informational item.

**EXECUTIVE SUMMARY:**

**Public Works Director/City Engineer**

Earthquake Response

Like most departments within the City, the earthquake that occurred on December 20<sup>th</sup> largely set the tone for overall Public Works operations over the past month. As discussed in further detail below in the divisional reports, each crew was affected by the results of the earthquake and subsequent power outages, and most staff across the entire department had to put in extra hours in order to fully complete the responsibilities we have to the City of Fortuna and our citizens. I would like to take a moment here in this report to note that to the last person, every member of this department stepped-up and provided exemplary service.

By the end of the first week, public works crews were able to address most of the infrastructure damaged by the earthquake with either permanent or temporary repairs. Now that the immediate damage has been addressed, staff are working across the department to plan for long term repair and restoration solutions for each of the affected areas. In addition to damage that is easily noticeable from the earthquake (such as a water line break), staff are also conducting inspections and monitoring for signs of other damage, including monitoring/inspecting sewer facilities for signs of broken pipes, which could allow increased groundwater/stormwater flow into the collection system and ultimately the treatment plant. Quantifying the impact that the earthquake had to the City's sewer collection system will be an ongoing and difficult effort.

In addition to addressing the immediate damage from the earthquake, staff have engaged with the California Office of Emergency Services (OES) and Caltrans to complete Initial Damage Estimates (cost estimates), which can be used in order for the City to potentially receive funding in the event the State or Federal government declare a state of emergency and provide funding for disaster relief. Staff participated in a field verification meeting on Friday January 6<sup>th</sup>, and are awaiting a response from OES and Caltrans staff on next steps. Working through the aftermath of the earthquakes will be an ongoing effort, and the department will continue to provide updates to the council as information is available.

Police Facility Remodel Project

The project bid period officially closed on January 5<sup>th</sup> at 3 pm, at which time the City received and opened three bids. The low bidder was identified as Sequoia Construction, with a total base bid price of approximately \$2.53 Million. Prior to the end of the bid protest period, the City did receive a bid protest from the second lowest bidder. Currently staff is working with the City’s legal counsel, and they will be providing a recommendation to staff on the appropriate path forward to award the project. Staff anticipate bringing the contract award recommendation and a project funding plan to the Council at the February 6<sup>th</sup> meeting.

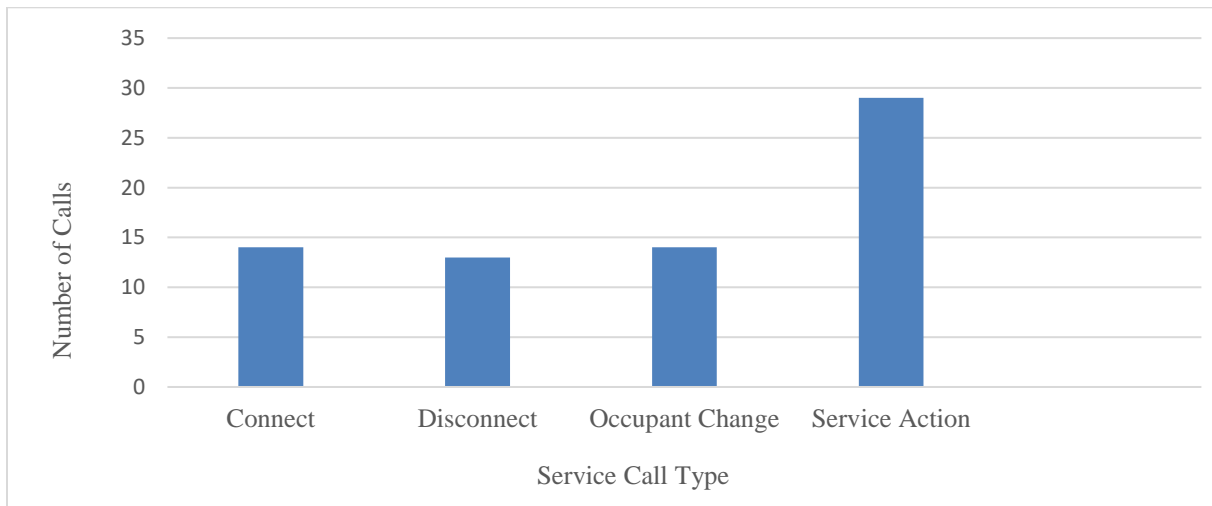
Corporation Yard Stationary Generator Project

The City opened bids for this project on January 5<sup>th</sup>. The City received two responsive bids, and the apparent low bidder was Hooven and Reese Inc. with a total bid price of \$80,000. The City plans to bring an award recommendation to the Council at the February 6<sup>th</sup> meeting. The staff report will also include a supplemental budget request to add the necessary funding to this year’s budget, as the USDA grant the City received (for approximately \$44,000) came after the adoption of the 2022/23 FYI budget.

**Utilities Division- Utility Lead**

Service Call Summary

- In the month of December the utilities division completed 70 service calls by operators. Figure 1 below shows the distribution of service calls by type.
- The division completed 38 Underground Service Alert (USA) mark and locates with zero miss-marks, resulting in zero broken utilities.



**Figure 1.** Utility division service calls by type in December.

Water Distribution System

- Read water meters and completed meter worksheet.
- Installed one new services to the system in the month of December.
- In December the utilities team changed out eight dead water meters.
- Continued to check service lines for lead and performed backflow testing.
- Installed a new 6-inch gate valve on the water line near Rohnerville Road and David Way.

- In December there were 12 water leaks, all caused by the 12/20/2022 earthquake. The leaks resulted in an estimate water loss of 546,600 gallons. The full list of water leaks identified to date are shown in the table below. There were also a number of water leaks on the customer sides of the water meter, these are not shown in the table below.

**Table 1.** Water leak rate and water loss estimates for 2022.

| <b>Date</b> | <b>Location</b>              | <b>Pipe Information</b>                     | <b>Estimated Leak Rate (Gallons per Minute)</b> | <b>Leak Duration</b> | <b>Total Estimate Leak Volume (Gallons)</b> |
|-------------|------------------------------|---|---|----------------------|---|
| 12/20/2022  | Dunaway Ct                   | 2'' PVC (Plastic) (blow off)                | 80  | 2 Hours              | 9,600                                       |
| 12/20/2022  | 16 <sup>th</sup> St & L St   | 2'' Cast Iron (CI)                          | 20  | 8.5 Hours            | 10,200                                      |
| 12/20/2022  | 180 S Fortuna Blvd           | 2'' PVC                                     | 90  | 6 Hours              | 32,400                                      |
| 12/20/2022  | Ally behind 1100 Main St     | 2'' CI                                      | 25  | 10 Hours             | 15,000                                      |
| 12/20/2022  | 237 Newell Dr                | 1.5'' PVC                                   | 40  | 5 hours              | 12,000                                      |
| 12/20/2022  | 241 Newell Dr                | 2'' CI                                      | 10  | 16 Hours             | 9,600                                       |
| 12/21/2022  | 1985 Newell Dr               | 2'' CI                                      | 10  | 30 Hours             | 18,000                                      |
| 12/21/2022  | 243 Newell Dr                | 2'' CI                                      | 10  | 35 Hours             | 21,000                                      |
| 12/21/2022  | Valley View @ Rohnerville Rd | 6'' A.C.                                    | 20  | 20 Hours             | 24,000                                      |
|             | Valley View @ Rohnerville Rd | 6'' Asbestos Cement (AC) Blew up over night | 1,100   | 5 Hours              | 330,000                                     |
| 12/21/2022  | Rohnerville Rd @ David Way   | 6'' AC                                      | 5   | 3 Days               | 21,600                                      |
| 12/22/2022  | 2006 Carson Woods Rd         | 1'' Iron Pipe (IP)                          | 10  | 2 Days               | 28,800                                      |
| 12/22/2022  | Ally behind 820 Main St      | 2'' CI                                      | 10  | 1 Day                | 14,400                                      |

Wastewater Collections System

- The utilities division performed maintenance on the sewer camera trailer to get it cleaned up and the batteries charged so the team can get back to televising sewer mains now that

the division is sufficiently staffed. In December the crew televised approximately 1,500 feet of sewer line.

- The utilities team had one sewer plug in the month of December with no overflows. The cause of the plug was a combination of Covid masks, baby wipes, disinfected wipes and grease. A letter was sent to the apartment complex stating what is acceptable and what is not acceptable to be put down drains and toilets.
- Utilities cleaned 8,000 feet of sewer main.

**Miscellaneous Tasks**

- The utilities division performed monthly maintenance on the division’s heavy equipment, including greasing and checking all fluids.
- Various concrete repair jobs near sewer and water lateral installations.
- Andy White began his career with the City of Fortuna on the utilities crew.
- Utility worker Tim Crenshaw passed his Water Distribution II test.

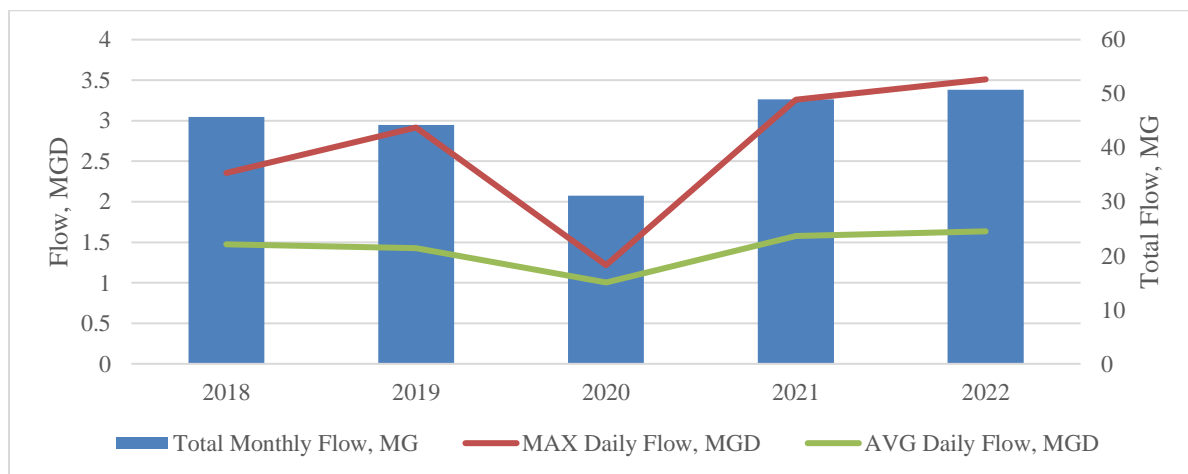
**Water Treatment/Wastewater Division- Chief Plant Operator**

**6.4 Earthquake Response:** Staff worked round the clock immediately following the massive earthquake that struck the City early on December 20<sup>th</sup>. Power went out for 33.5 hours, which required staff to haul portable generators to sewer lift stations and water booster pump stations. Several areas of the City lost water pressure, necessitating boil water notices and coordination with state regulators. Thankfully, most of the City’s infrastructure fared well. Staff learned many lessons and proved themselves to their City in its time of need.

**Wastewater Treatment**

**Table 2.** December wastewater plant effluent flows for the past five years in Million Gallons (MG) and Million Gallons per Day (MGD).

| Year                             | 2018   | 2019   | 2020   | 2021   | 2022   |
|----------------------------------|--------|--------|--------|--------|--------|
| <b>Total Monthly Flow, MG</b>    | 45.717 | 44.198 | 31.116 | 48.950 | 50.700 |
| <b>Maximum Daily Flow, MGD</b>   | 2.354  | 2.916  | 1.218  | 3.260  | 3.510  |
| <b>Average Monthly Flow, MGD</b> | 1.475  | 1.426  | 1.004  | 1.579  | 1.635  |



**Figure 2.** December wastewater plant effluent flows for the past five years in Million Gallons (MG) and Million Gallons per Day (MGD).

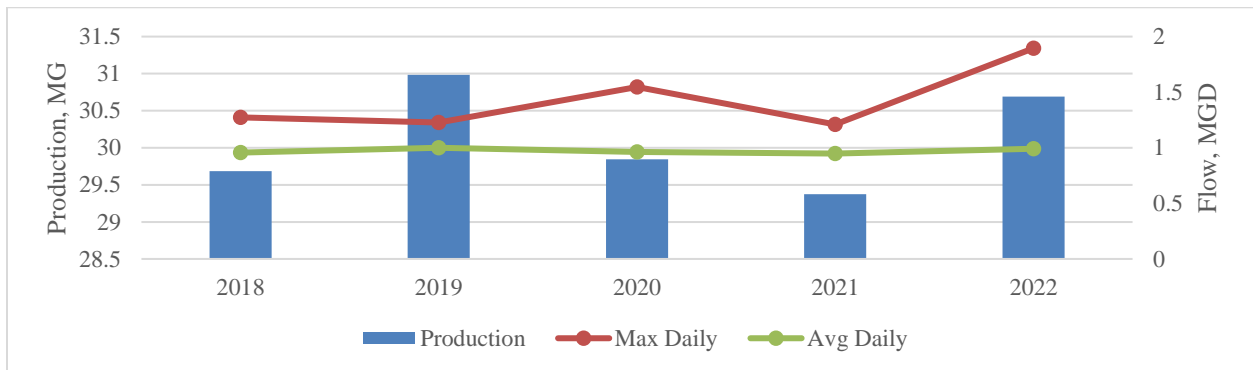
Wastewater Events & Maintenance Tasks Completed:

- Staff rebuilt multiple wastewater treatment plant pumps, including: one of the three primary sludge pumps, replacing the stator and the rotor; the hose pump in the primary sludge pump building, replacing the peristaltic tubing; one of the four return activated sludge pumps; and one of the two heat exchanger recirculation pumps.
- Staff placed all plant infrastructure online this month as rains brought increased flow into the plant. The last of the two secondary clarifiers and the last of the three aeration basins were placed in service.

Water Treatment

**Table 3.** December potable water production for the past five years in Million Gallons (MG).

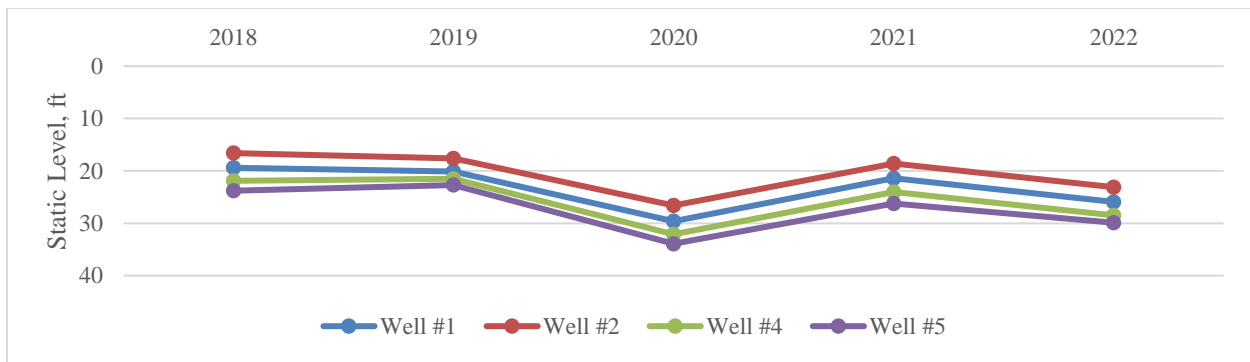
| Year                        | 2018   | 2019   | 2020   | 2021   | 2022   |
|-----------------------------|--------|--------|--------|--------|--------|
| <b>Total Production, MG</b> | 29.685 | 30.986 | 29.846 | 29.373 | 30.689 |
| <b>Maximum Daily, MG</b>    | 1.272  | 1.226  | 1.547  | 1.210  | 1.895  |
| <b>Average Daily, MG</b>    | 0.958  | 1.000  | 0.963  | 0.948  | 0.990  |



**Figure 3.** December potable water production for the past five years in Million Gallons (MG).

**Table 4.** Average December depth-to-groundwater static levels in the City’s active wells for the past five years in feet.

| Year           | 2018 | 2019 | 2020 | 2021 | 2022 |
|----------------|------|------|------|------|------|
| <b>Well #1</b> | 19.4 | 20.1 | 29.6 | 21.4 | 25.9 |
| <b>Well #2</b> | 16.6 | 17.6 | 26.6 | 18.6 | 23.1 |
| <b>Well #4</b> | 21.9 | 21.5 | 32.1 | 24   | 28.5 |
| <b>Well #5</b> | 23.8 | 22.7 | 33.9 | 26.2 | 29.9 |



**Figure 4.** Average December depth-to-groundwater static levels in the City’s active wells for the past five years in feet.

**Water Events & Maintenance Tasks Completed:**

- Staff completed the rehabilitation work on the shower and eyewash station at the water wells site. It is now fully functional and in service.
- Staff tested dissolved oxygen levels in all of the City’s source wells to help determine future treatment needs for the newest well: 5B. High manganese levels in Well 5B will require a yet-to-be determined treatment technology.
- Staff conducted extensive sampling of Well #3, which is reserved for emergency use only. This testing will ensure that it is ready to go when (and if) needed.
- Staff rebuilt the water pump in the emergency generator at the Forest Hills booster pump station. This part had failed 3.5 hours into the 33.5-hour power outage that followed the 6.4 earthquake.

**General Services and Streets - General Services Superintendent**

The following is a list of scheduled assignments completed by the General Services staff in December:

- Staff assisted in clean up and debris removal from a 6.4M earthquake that occurred at approximately 2:30 AM. Staff assisted the Utility Department in locating water main leaks, and participated in repairs from the earthquake damage. Staff located asphalt or concrete damage in the City’s easements, and made temporary repairs when required to maintain function. (See photo inset right).
- Staff removed debris material in the drainage ditches. Vegetation was cut and mulched in place for water to flow in ditches.
- Staff ran the rodding trailer in storm drain culverts in preparation for winter storms.
- Staff prepared traffic control measures for the Al Gray Lighted Parade and the closure of Main Street. The closure on Main Street was for the Downtown Merchants Christmas Open House. Staff was on duty to perform traffic control on Main Street.
- Staff removed temporary cold mix from water service line repair patches and replaced with hot mix asphalt. Staff also paved survey potholes for utility locations on 12<sup>th</sup> Street.



- Staff replaced photo cells on street lights. Staff notified Pacific Gas and Electric when a street light had lost service.

In addition to the special tasks noted above, staff also engaged in the following regular routine maintenance activities including USA's, street sweeping, recycling and trash management, road maintenance, vegetation management, and safety training and inspections. Staff is available for questions, requests, and emergency responses to the community.

**RECOMMENDED COUNCIL ACTION:**

Receive Public Works Department Monthly Report. Consent agenda vote.