

# CSA 47 – QUAIL LAKE PUBLIC MEETING WASTEWATER SYSTEM ISSUES

Wastewater Flow Presentation  
May 12, 2021

# Agenda

- ▶ History of CSA 47
- ▶ Role of the Citizens Advisory Committee
- ▶ Description of Wastewater System
- ▶ Description of Capacity Issues
- ▶ Timeline and Causes
- ▶ Next Step
- ▶ Question & Answers

# History of CSA 47

- ▶ Formed in 1995.
- ▶ County financed construction of water/wastewater system with bond financing.
- ▶ County has managed system from 1995 to present.
- ▶ CSA 47 had 3 rate increases\*:
  - Staged increase July 2000, Jan 2001, July 2001
  - Rate increase in September 2010
  - Incremental rate increase in September 2016

\* All CSA 47 rate increases have followed the Prop. 218 process

# Citizens Advisory Committee (CAC)

## ▶ CAC Purpose:

- To represent all property owners within the District.
- To provide advice and recommend to the Department of Public Works and Planning staff regarding service needs, cost considerations, and other service related matters.
- To keep the community informed and actively participating in potential district issues.

## ▶ The CAC was first formed in December 2000

## ▶ Current CAC Bylaws (amended and ratified in March 2015)

- Must be a CSA 47 Quail Lake property owner and an Quail Lake Association member
- Formerly adopted Section 4.6 of the Association Bylaws for member selection – 3 Member Board/Committee
- 2-Year Term

# Description of Wastewater System

- ▶ Wastewater Plants and Water Recovery System includes:
  - Two Plants
  - Trickle filter system with various media for settling, breaking down and filtering out solids
  - 3 lift stations (2 in community, 1 at plant) to raise wastewater (20 HP motors & pumps)
  - Reclaim water tank
    - Recycled water to feed irrigation system and lake (QL common areas, school yard).



# Description of Capacity Issues

- ▶ The combined plants are rated for 160,000 gpd (Max Daily Flow). The max flows received over the last two years is approximately 199,500+ gpd.
- ▶ Both wastewater plants flood consistently and are not able to keep up with daily incoming flows.
- ▶ Due to the excessive flows, operators are forced to discharge to the emergency overflow pond and are not able to return the discharge within the 72-hour timeframe limitation placed on CSA 47 by the State.
  - This action violates the plant's waste discharge requirements/permit.

# Timeline and Causes

## ▶ Sewer Plant Issues – Key Contributing Factors:

### 1. High Influent Flows:

- The sewer lift stations can process up to 375 gallon per minute (GPM) for each pump, but the sewer system can only process 100 GPM.
- The high peak flows hydraulically overload the system.

### 2. Design of the plant may have some challenges.

- The size of the tanks, sand filters and related piping is insufficient in relation to actual influent flows.

### 3. Tanks and the piping, are not sufficiently sized to handle the actual average flows:

- This is referred to as hydraulic overloading, causing higher flow rate through the plant which reduces detention time and adversely affects effluent quality.

### 4. Capacity and Function.

- The two plants were designed to run most efficiently at 75% of its design capacity (160,000 gal per day), as designed by the engineer of record.
- The continuous incoming flows have breached the suggested design capacity and during high flow events the plants have exceeded their rated capacity.

### 5. Age of Sewer Plants.

- Overall efficiency to treat the influent flows is reduced by normal wear and tear. Sewer plants are 25 years old.

# Timeline and Causes (Cont.)

6. CSA 47 has experienced high wastewater flows for several years, with the issue becoming more critical in the last 2 years.
  - In response the County has sent out informational letters including indoor water conservation requests to residents and has worked with the HOA to include related information in their newsletter.
7. High flow peaks occur daily in the morning and evening.
  - Additionally, flows are even higher over weekends, on holidays, and during rain events.
8. Although COVID may be exacerbating the issue, it is not the primary driver of the high flows.
  - The Quail Lake Wastewater System has been experiencing high flows for over two years.



# Next Step:

## ▶ Feasibility Study:

- The County will retain a consulting engineering firm to thoroughly assess the problem and options and develop recommendations.
- Options to be assessed include, but are not limited to:
  1. Plant expansion through the addition of another plant using same type of system (trickling filter) and retrofit the existing plants.
  2. Plant expansion through the addition of an alternative type of treatment system plant and retrofitting the existing plants.
  3. Complete switch to an alternative type of system plant and decommissioning the existing plants.
  4. City of Clovis wastewater connection.

# Questions