

PFAS Briefing to Santa Ana City Council

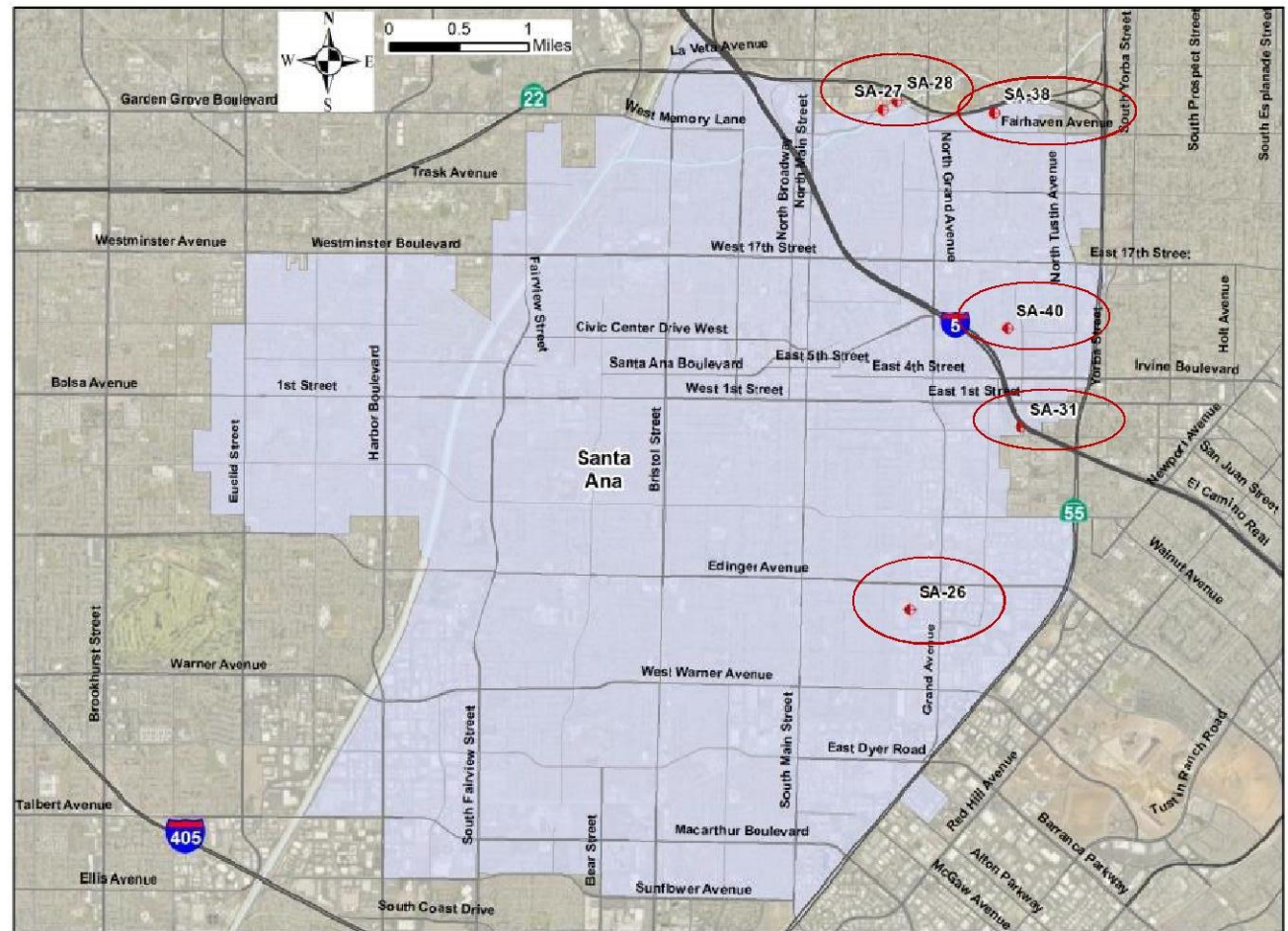
City Council Meeting
September 21, 2021
Item 2

Nabil Saba, P.E.
*Executive Director,
Public Works Agency
City of Santa Ana*

Michael R. Markus, P.E., D.WRE,
BCEE, F.ASCE
*General Manager,
Orange County Water District*



- 20 groundwater wells
- 6 impacted by PFAS
- Taking wells off-line in abundance of caution
- Working with OCWD to promptly address the issue



 Standby Large-System Production Well

Orange County Water District (OCWD)

- 10-member board of directors
- Manages the groundwater basin
- 19 retail water agencies
- 2.5 million population



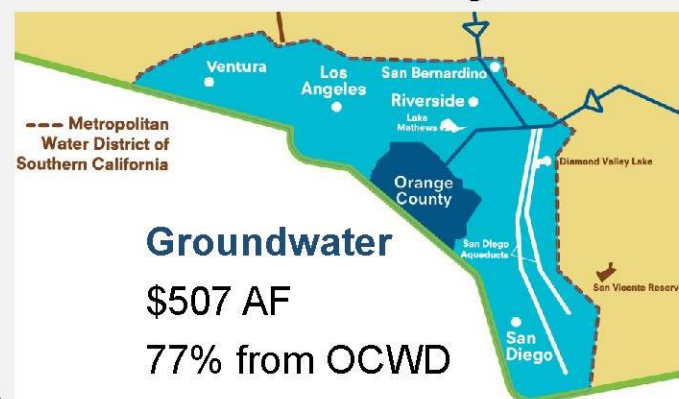
Where Our Water Comes From



Imported Water

\$1,104 AF

23% from MET through MWD OC

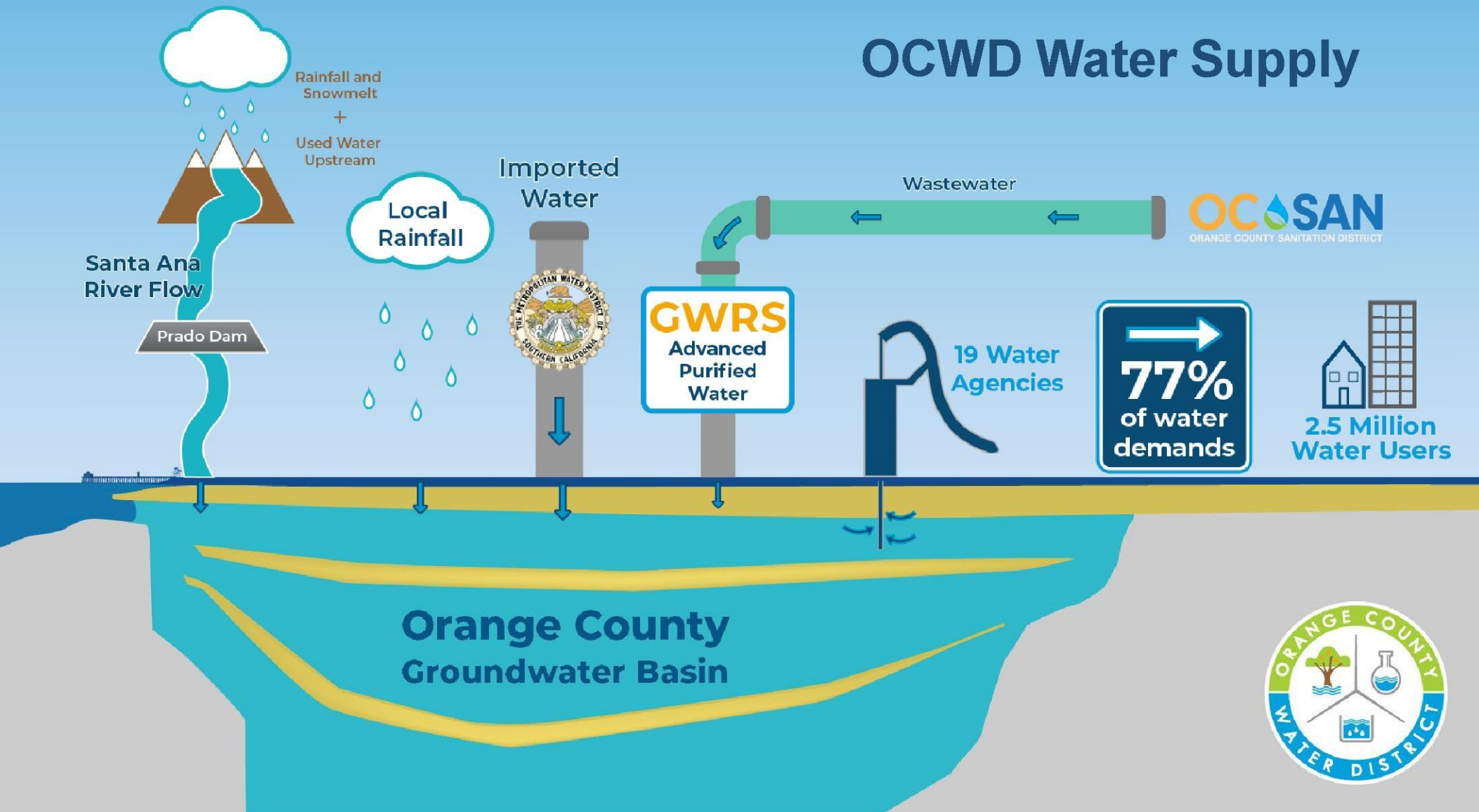


Groundwater

\$507 AF

77% from OCWD

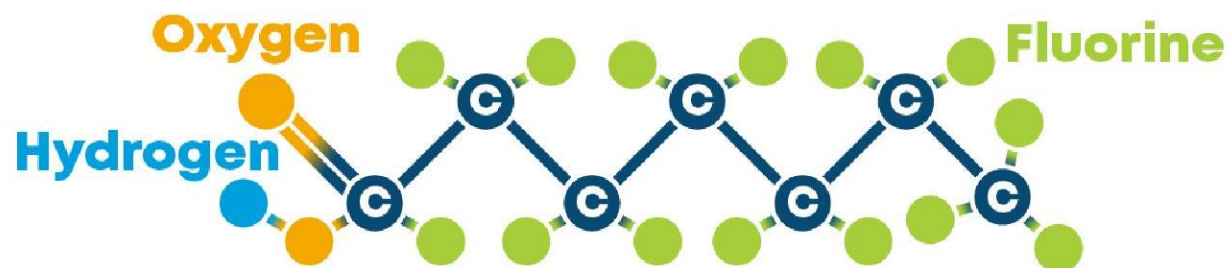
OCWD Water Supply



What are PFAS?



PFAS



PFAS = Per- and Polyfluoroalkyl Substances (family of 1,000s of chemicals)

Wide Range of Historical PFAS Uses



- Outdoor textiles & sporting equipment
- Ski & snowboard waxes
- Hydraulic fluids

- Firefighting equipment
- Paper & packaging
- Clothing & carpets
- Non-stick cookware



- Cleaning agents & fabric softeners
- Paints, varnishes, dyes & inks
- Pesticides & herbicides

- Personal care products
- Medical products
- Adhesives



California: PFAS Drinking Water Advisories



Response Level:

Threshold at which state recommends water not served to the public without treatment or blending



Current Response Levels for PFAS (Feb. 2020):

PFOA = 10 parts per trillion (ppt)

PFOS = 40 ppt



State and Federal EPA have separately begun process to establish enforceable Maximum Contaminant Levels (MCLs)

PFAS Impact in OCWD Service Area



Eleven water suppliers in the OCWD service area are currently impacted by Response Levels

Up to ~ 1/3 of normal groundwater basin production unable to be served by following state recommendations

Temporary increase in the use of treated imported surface water

OCWD's PFAS Treatment Policy



- OCWD's board of directors implemented a PFAS treatment policy in November 2019
- Enables construction of treatment facilities for impacted water agencies
- Funding 100% of design and construction costs
- Operation and maintenance costs shared 50/50 with the retail water agency.

OCWD's Swift Response



- OCWD supporting design/construction of 35 PFAS treatment systems for impacted water retailers, including City of Santa Ana
- OCWD launched nation's largest PFAS pilot program
- OCWD + 10 impacted retail agencies filed suit against 3M, DuPont, and others (Dec. 2020)

Impacts to City of Santa Ana



- Six Santa Ana wells shut down
- Water supply switched to treated imported water
- Working with OCWD to plan/design/construct PFAS Treatment Systems featuring Ion Exchange (IX) for its wells
- IX is a well-established water treatment technology and pilot testing by OCWD established its effectiveness for PFAS removal

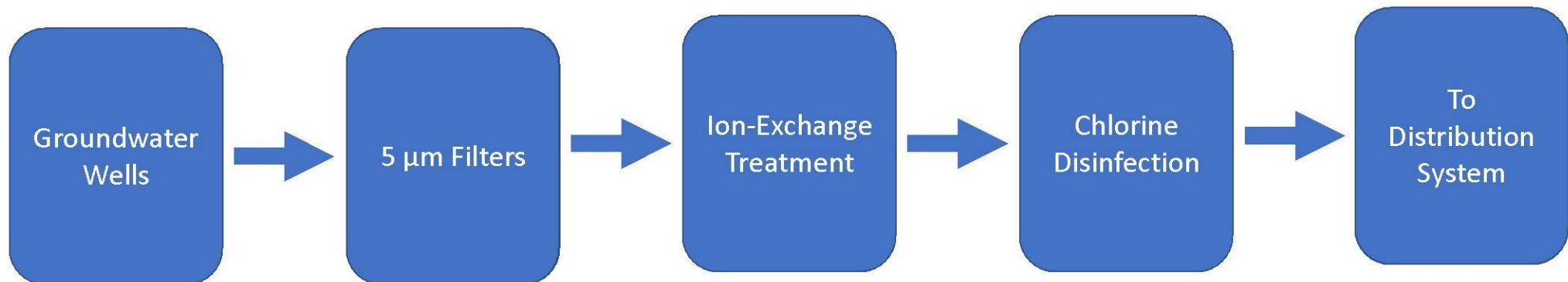
Treatment



Existing Treatment Process



New Treatment Process



Treatment Facility Rendering



The background of the slide is a photograph of a water tower. On the tower, there is a large circular logo for the Orange County Water District. The logo is divided into four quadrants: top-left shows a tree, top-right shows a water drop, bottom-left shows a water drop, and bottom-right shows a water drop. The text 'ORANGE COUNTY' is arched across the top, and 'WATER DISTRICT' is arched across the bottom. Below the logo, the text 'SINCE 1933' is visible. The entire image has a blue tint.

Questions?

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