

Burbank Water System

Metropolitan Water District of Southern California
Board Meeting

March 8, 2022

Richard Wilson,
Assistant General Manager – Water
Systems



WATER AND
POWER

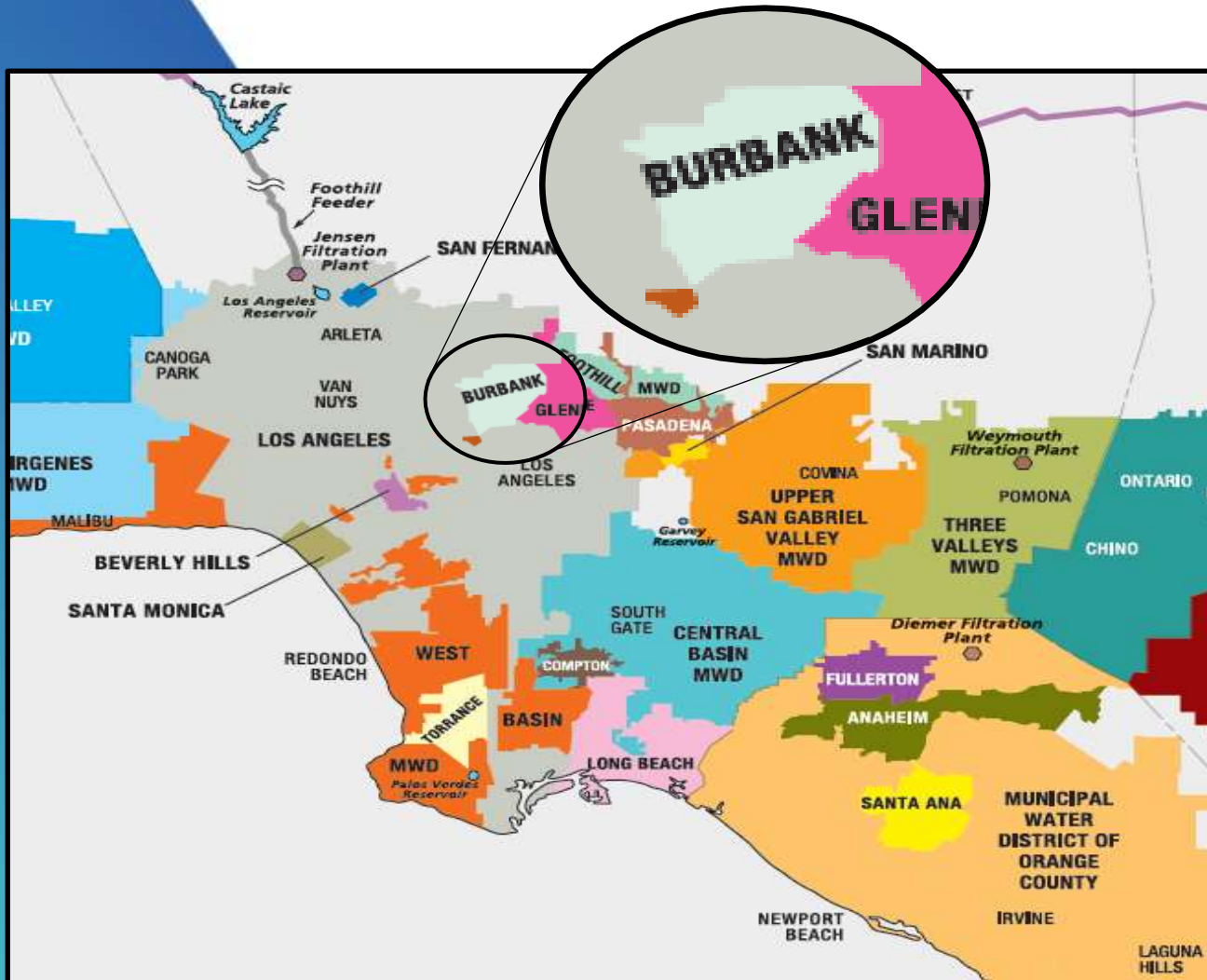


Presentation Outline

- **Burbank at a Glance**
- **Water & Power**
- **Water System**
 - Supply/Demand
 - Sources
- **Flowing into the Future**



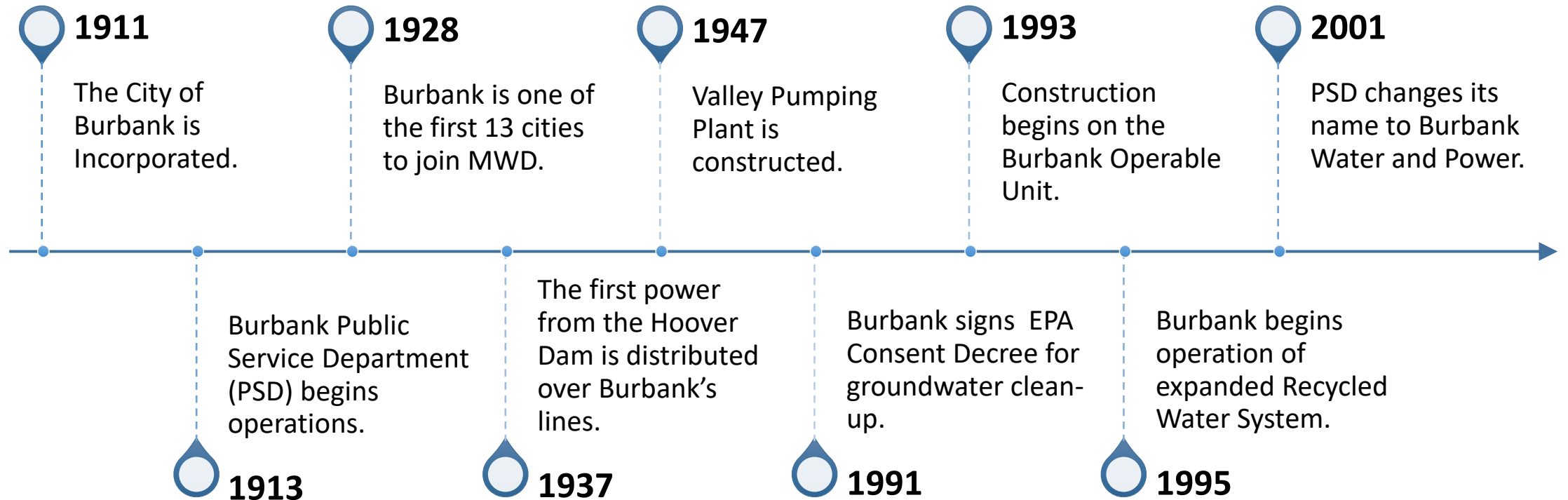
City of Burbank



- **Incorporated:** 1911
- **Service Area:** 17 square miles
 - Located in the San Fernando Valley
 - 12 Miles NW of DTLA
- **Population:** 103,969

An Original Founding
Member City of MWD since
1928

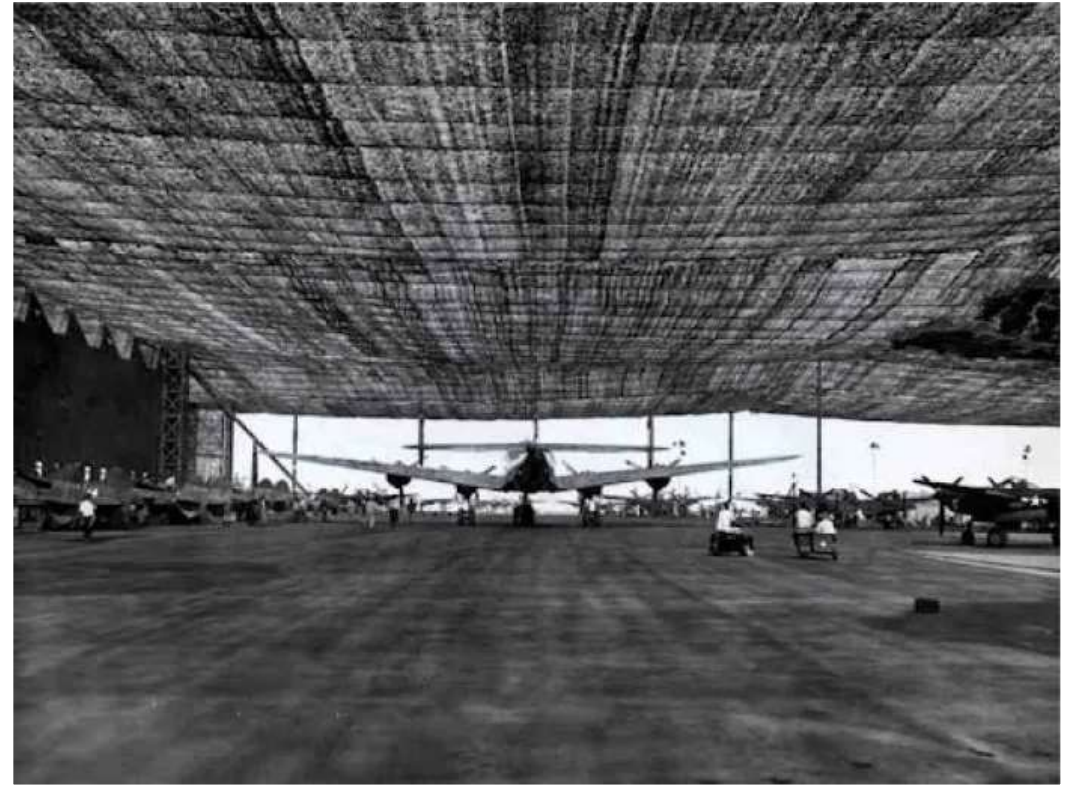




Burbank Then



During WW2, movie set designers helped in the effort to camouflage the Lockheed plant under a very large burlap tarp. An intricate scene of suburban life, complete with painted homes, false trees, and even fire hydrants created the ultimate masquerade



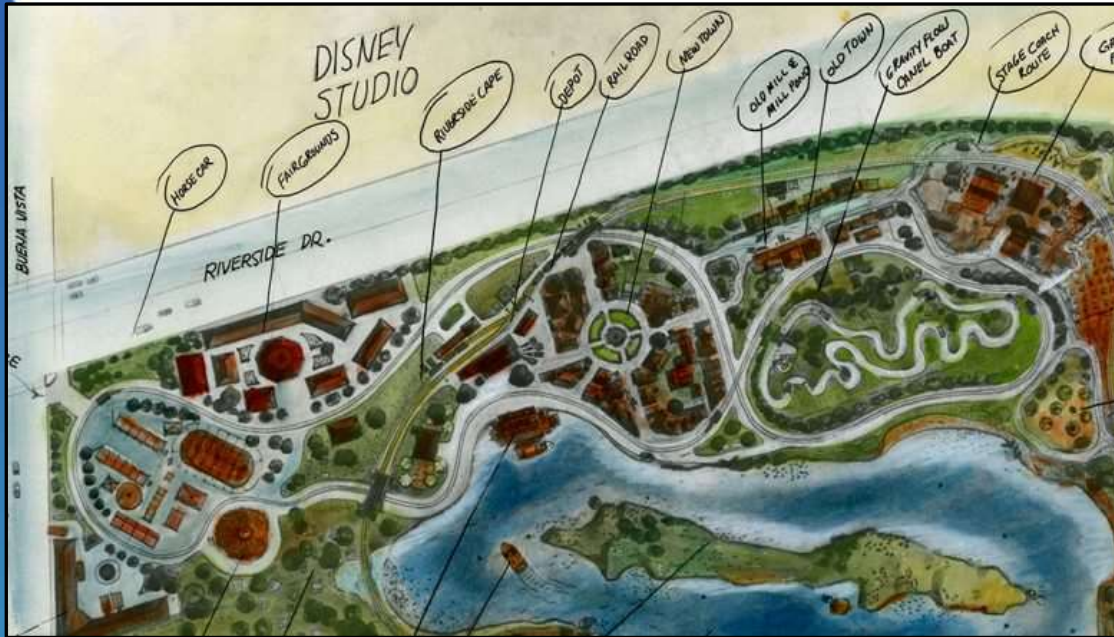
...Now

nickelodeon



- Billed as the "Media Capital of the World," Burbank boasts more than 1,000 media and entertainment companies such as Walt Disney Studios, Warner Bros., Cartoon Network, Netflix and Nickelodeon.
- Six name changes later, Hollywood Burbank Airport serves as a regional hub and preferred alternative for the LA region to 3.9 million passengers a year.
- Former Lockheed site is now Empire Center retail site generating over 10% of Burbank's sales tax revenue.
- Home to largest Ikea in North America. (470,000 ft²)

...and Almost



- In the early 1950's Walt Disney presented his plan to build an amusement park in Burbank to City Council and was rejected as local politicians didn't want to bring a "carny" atmosphere to Burbank.



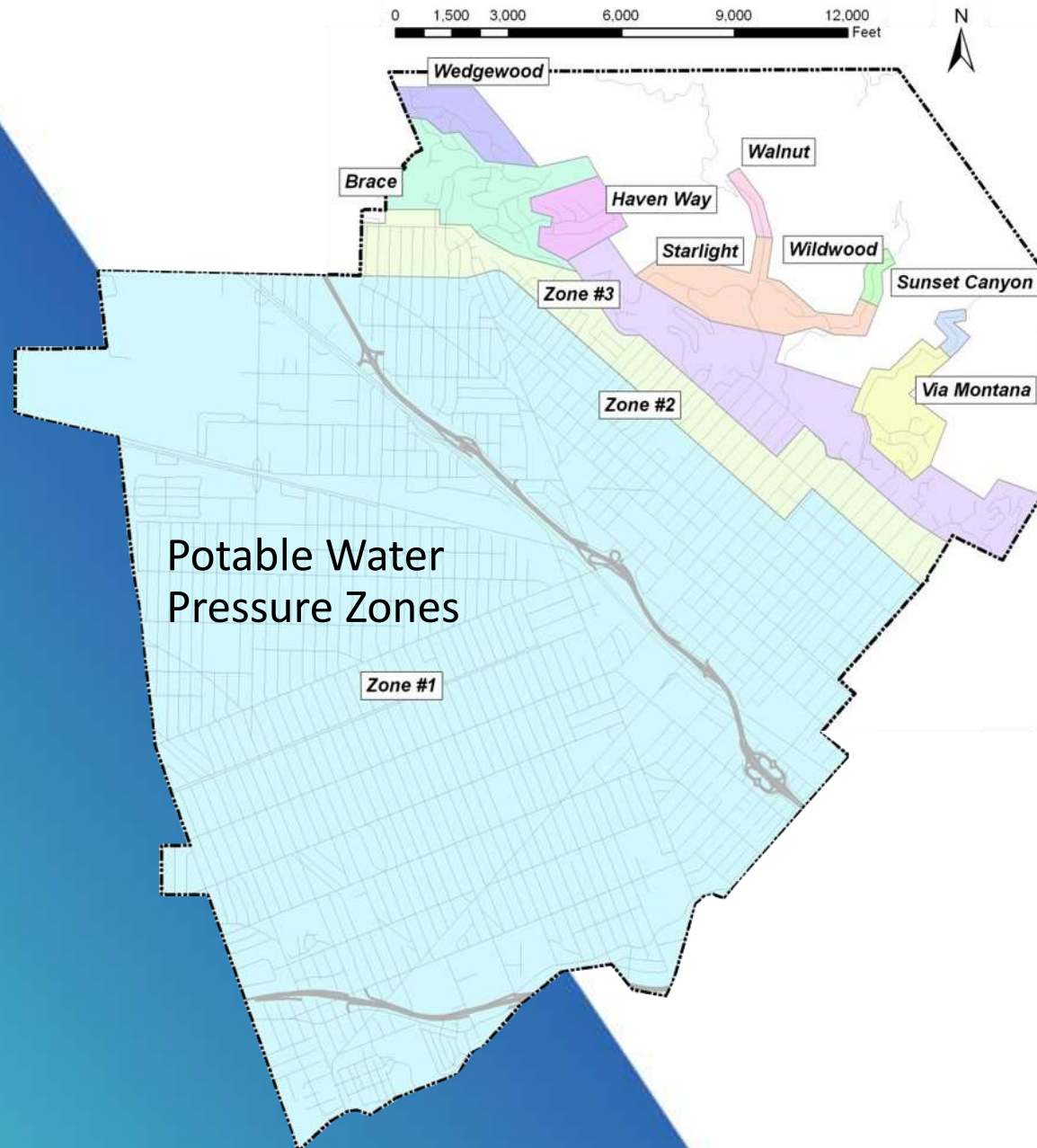
- In the 1920's Burbank was the favored location for UCLA prior to a donation of land in Westwood, Los Angeles.

BWP Divisions



- **Water**
 - Engineering, Operations, & Construction
- **Electric**
 - 46,000+ Residential, ~7,000 Commercial services
 - Diamond Level Service Provider
- **Power**
 - Magnolia Power Plant can reach 310MW operating exclusively on recycled water
- **Operational Technology**
 - ONE Burbank offers business reliable fiber networking service.
- **Customer Service**
 - Conservation & Marketing
- **Finance**
 - BWP has its own dedicated finance division

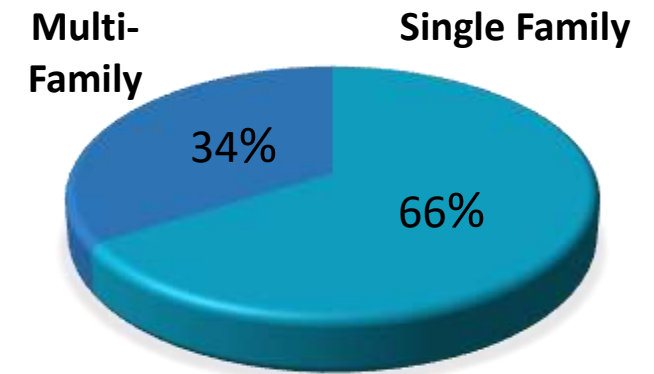
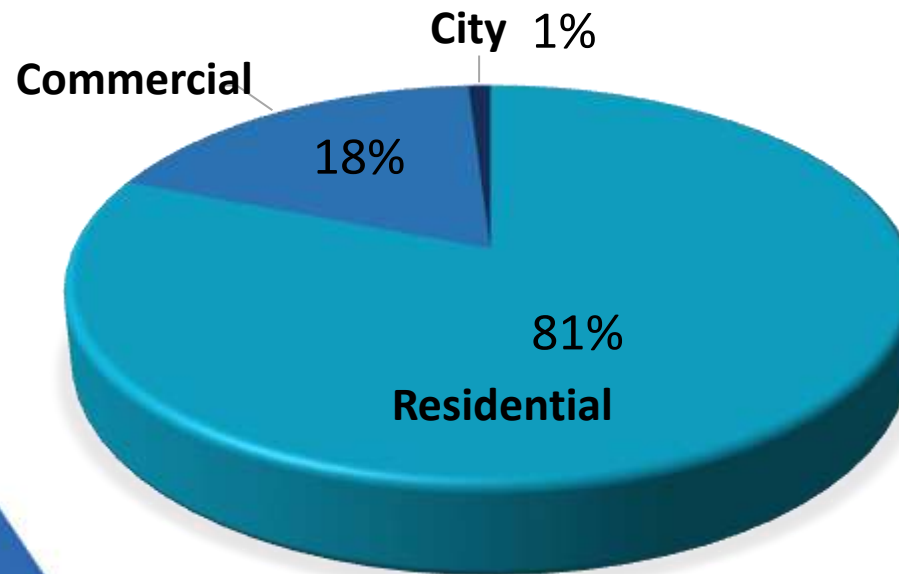
Potable System



- 286 Miles of pipe
- 6,217 Valves
- 1,844 Hydrants
- 35 Boosters
- 5 MWD Connections
- 11 Pressure zones

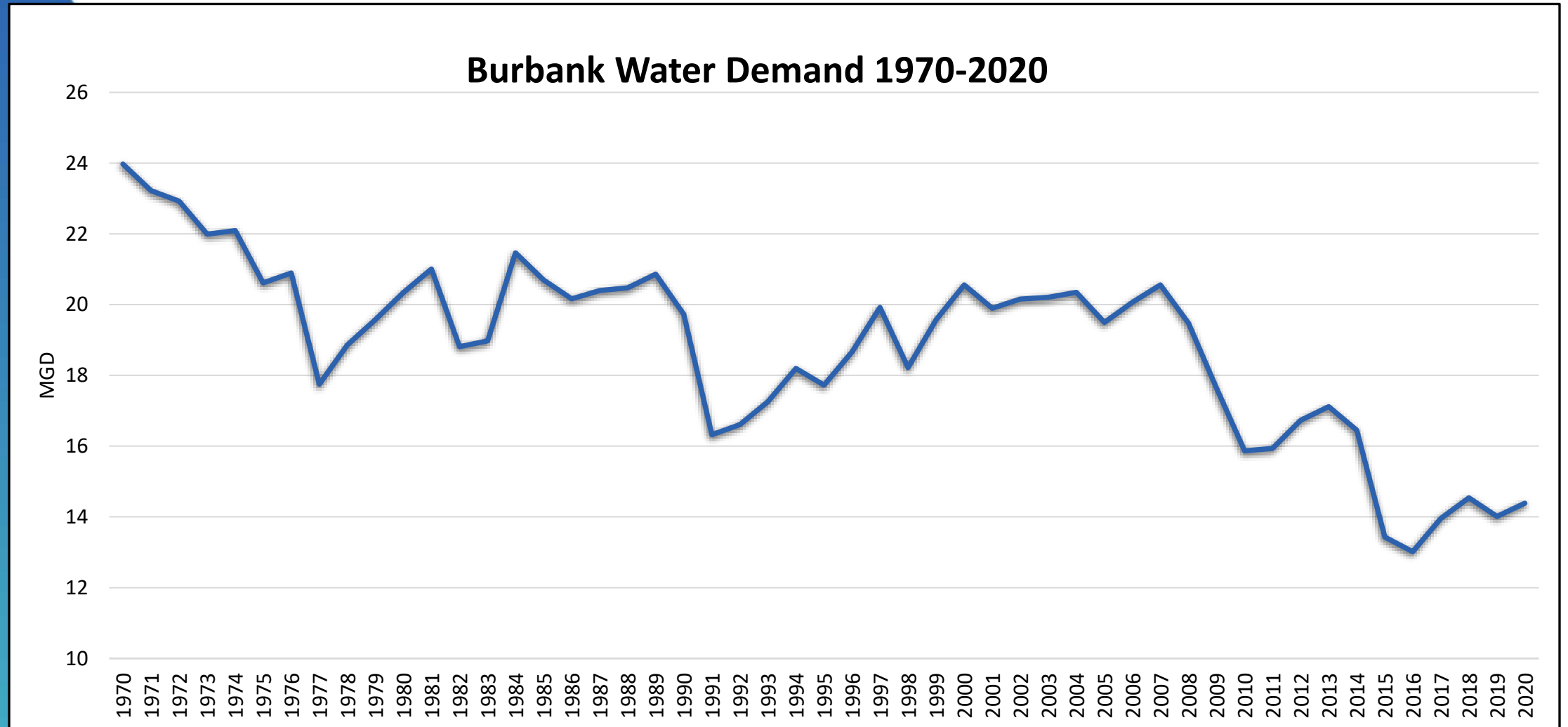
Burbank Water Demand

- 26,800 Service Connections
- Average Demand: 14.5 MGD
- Max Day: Approx. 21 MG



Residential Breakdown

Historical Water Demand



Water Sources



- No Native Water Rights
 - Los Angeles Pueblo Right
- Local treated groundwater
 - 20% Import Return Credit
 - Spreading – GW replenishment
 - Untreated purchases via B6
 - Cyclic storage
 - Physical Solution
 - May purchase up to 4,200 AF per year from LADWP
 - Recycled water exchange w/ LADWP
- MWD Treated Deliveries
 - 5 treated MWD connections
 - SWP and CRA

Burbank Operable Unit (BOU)



- Commissioned in 1995
- 9,000 GPM Capacity
- Funded by Lockheed Martin
- Treats to remove VOC's present in local groundwater as a result from Lockheed's manufacturing operations since 1940's.
- Primary treatment process is air stripping, followed by granular activated carbon
- Upcoming Capital Improvement Projects
 - Treatment plant upgrade
 - LA extraction wells pipeline to BOU

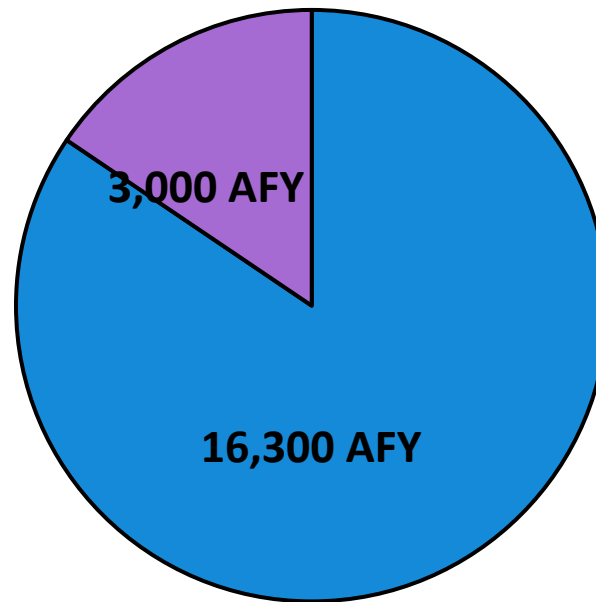
B-06 Untreated Connection



- Located in Sylmar at the terminus of MWD's San Fernando Tunnel
- 50 cfs max meter capacity
- Deliveries are spread at Pacoima and/or Lopez spreading grounds
- Relied on for approx. 6,800 AFY
 - Necessary for balancing groundwater inventory
 - Extract bucket-for-bucket from San Fernando Basin locally in Burbank

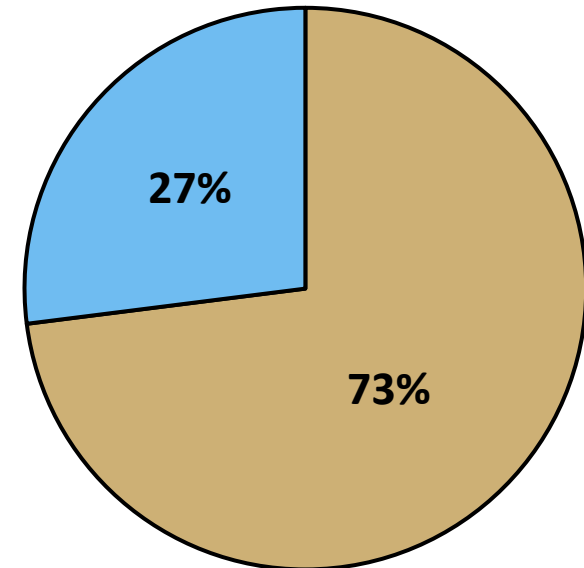
Supply Breakdown

Total Water Consumption



■ Potable
■ Recycled

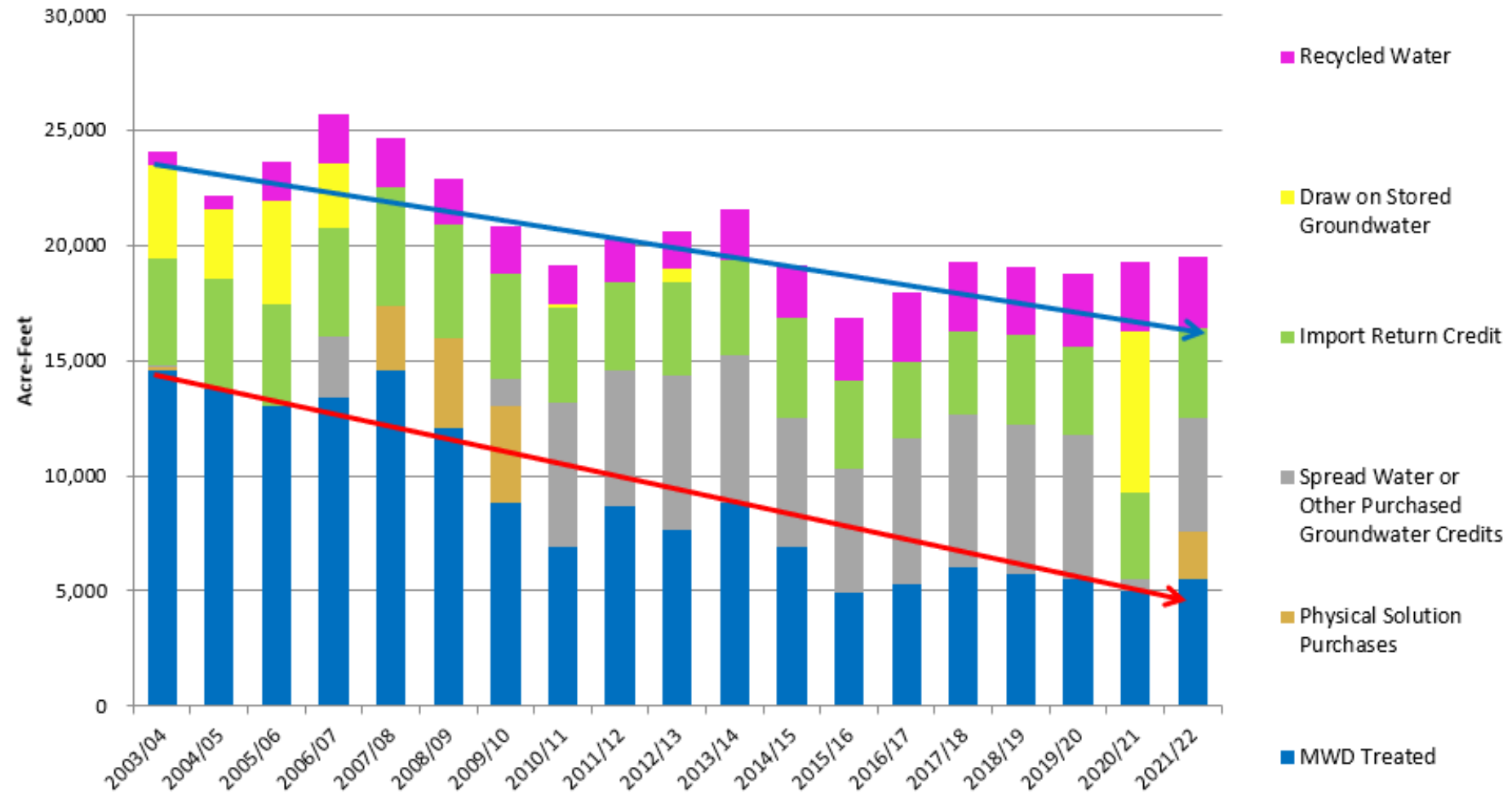
Potable Supply



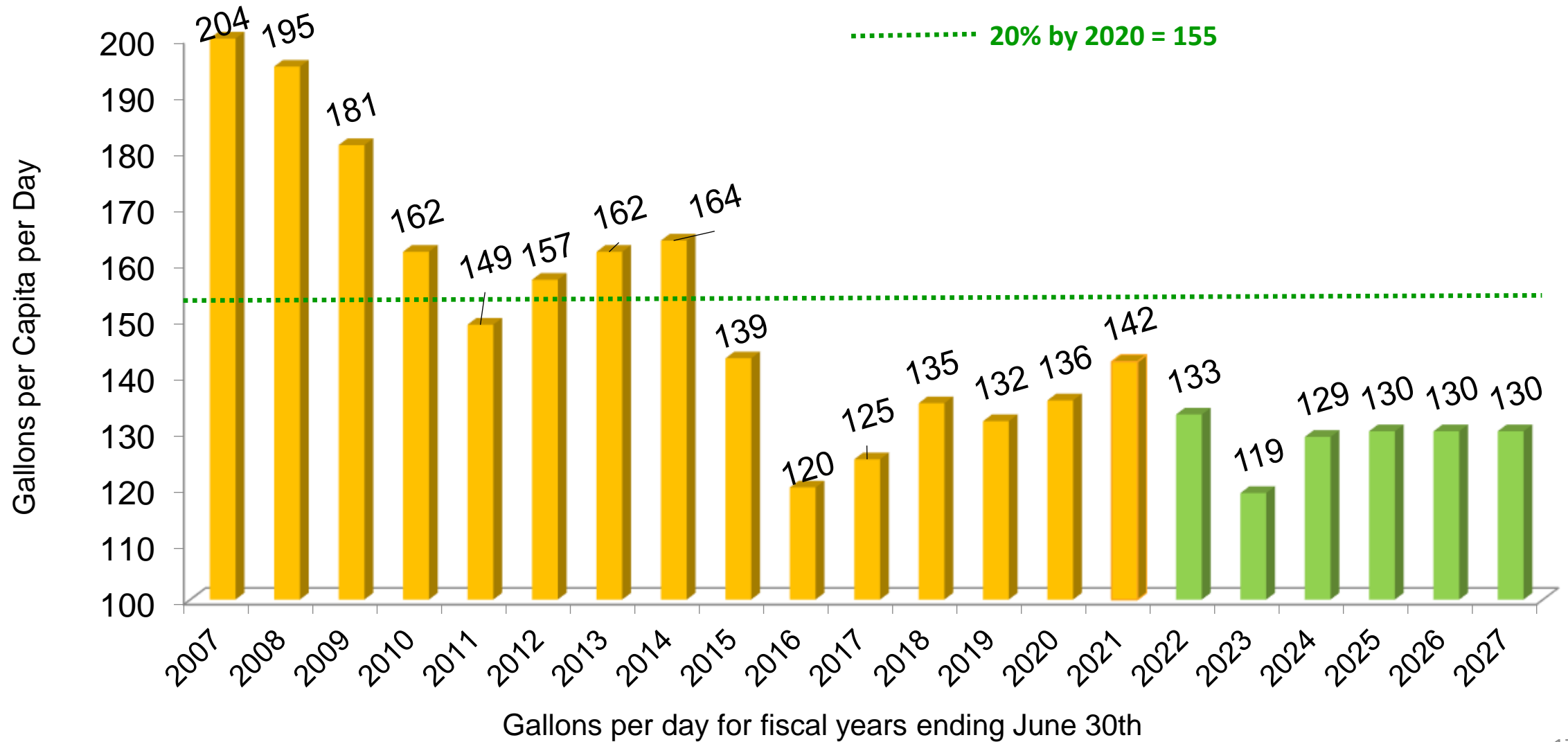
■ Local Treated Groundwater
■ MWD Treated

Water Planning

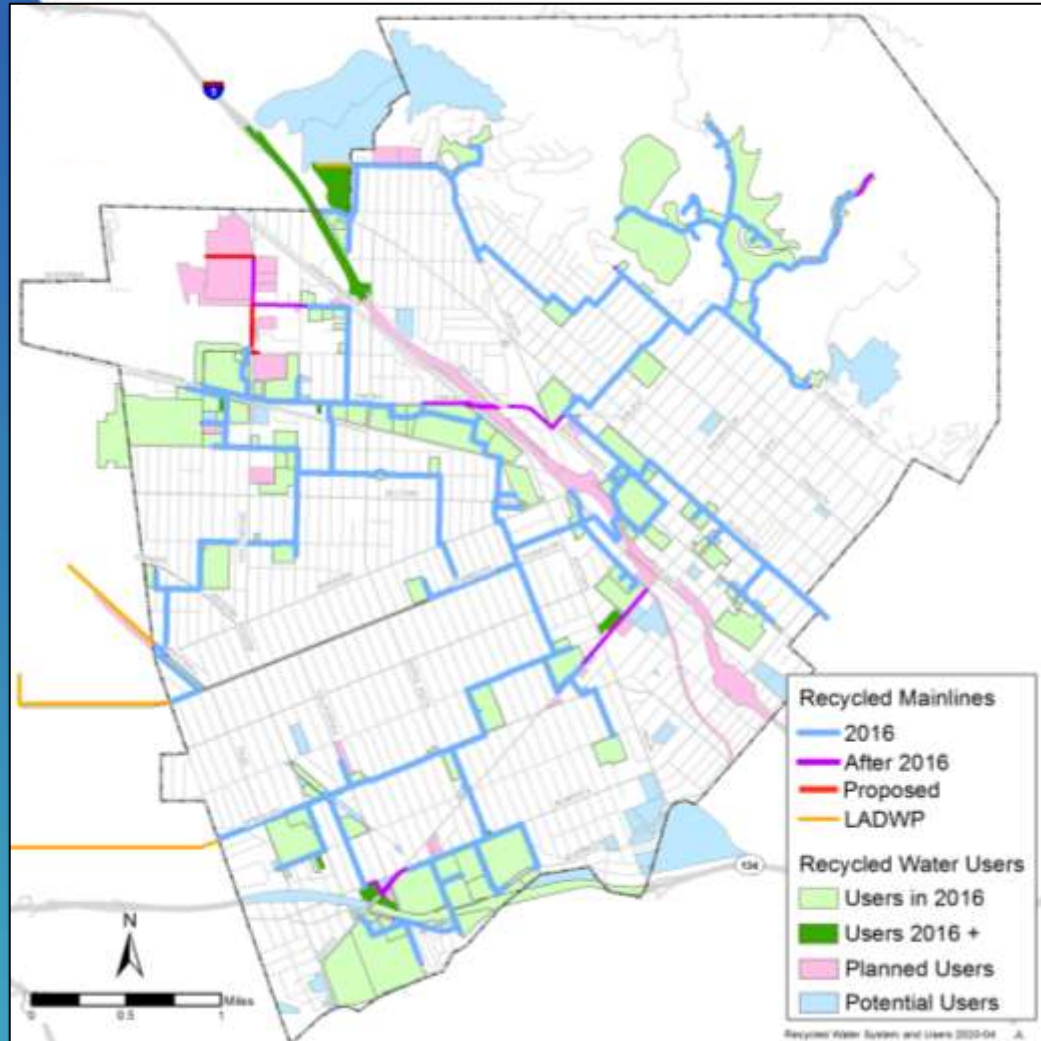
BWP Water Sources



Water Use per Capita



Recycled Water



- BWP delivers recycled water for landscape irrigation, power plant use, commercial uses, golf course irrigation, and water truck filling
- 35 miles of pipe serving 170+ sites
 - 5% Repurposed potable mains
- 2.7 MGD
- 3,000 AF of annual deliveries (approx. 1 billion gallons) offsetting potable demand.

Major Recycled Water Users



- **DeBell Golf Club – 250 AFY**

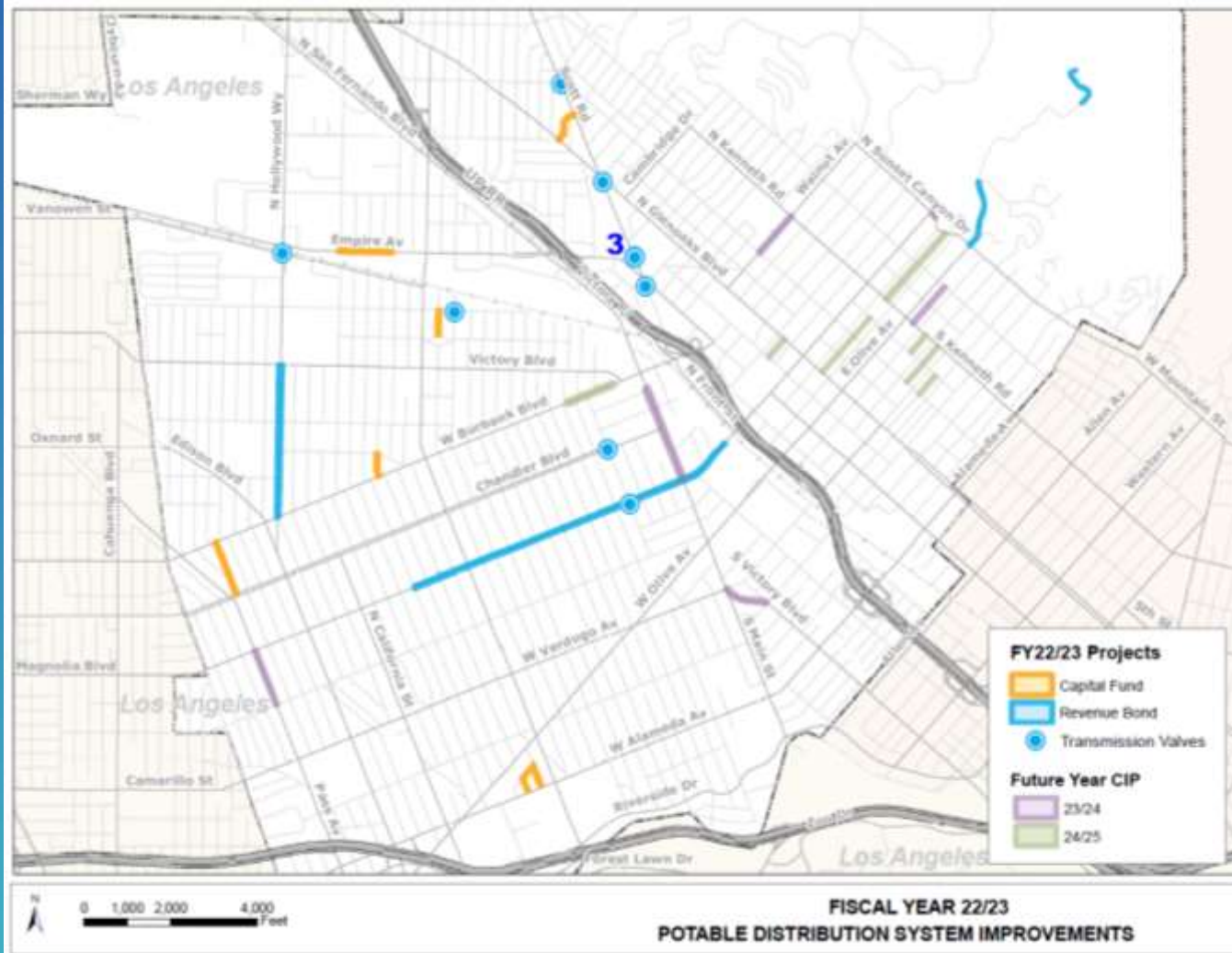
- 100 Acre 18-Hole Golf Course
- Consumes approx. 500,000 gallons of water on an average summer day.

- **Magnolia Power Project – 900 AFY**

- 310MW Natural gas-fired combined cycle generating plant
- Participants: Anaheim (38%), Burbank (31%), Cerritos (4%), Colton (4%), Glendale (17%), Pasadena (6%)



Mitigating Aging Infrastructure



- Secured bond financing to fund critical infrastructure investments
- Actively seeking grant funding to lessen the City's financial burden
- Lining transmission mains instead of replacing them

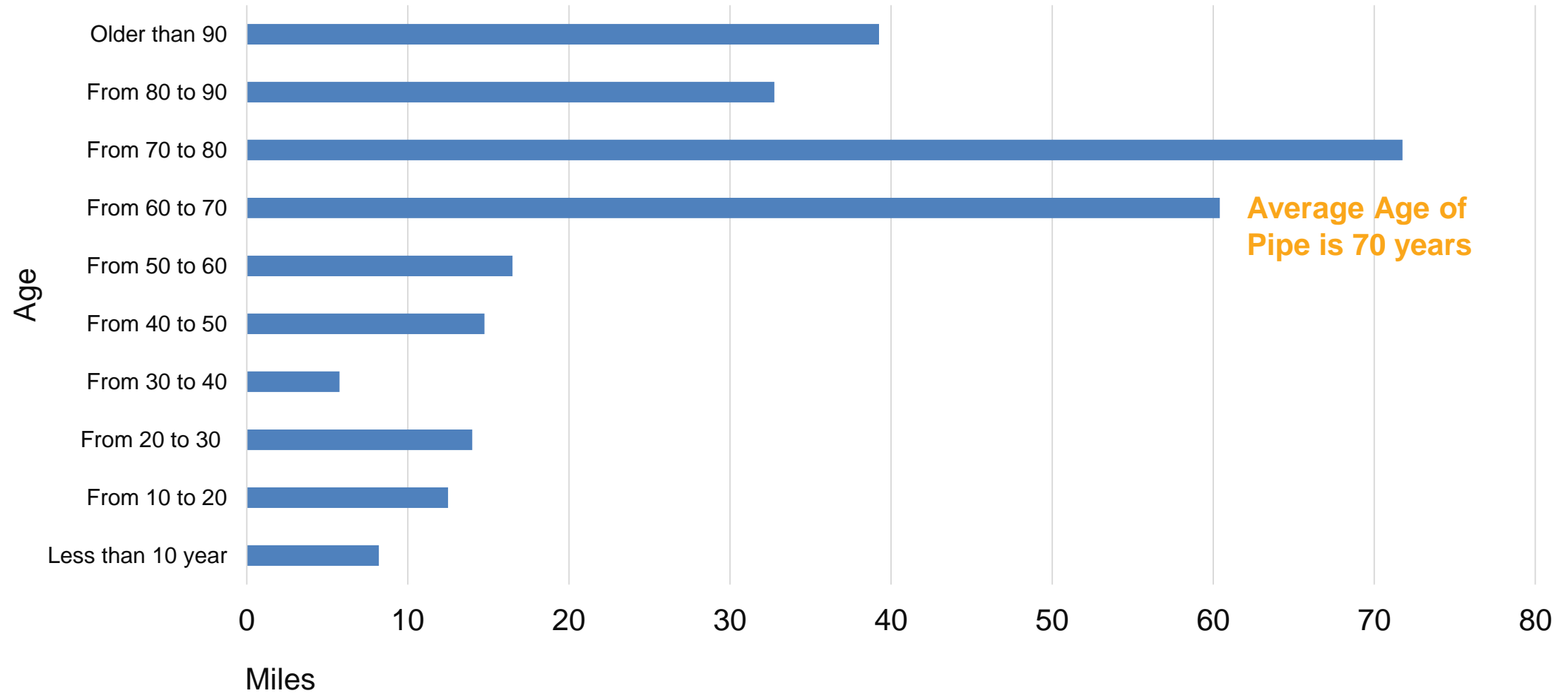


Pipe Age and Break History

Year	Break/ Leak
2011	6
2012	23
2013	27
2014	27
2015	13
2016	16
2017	23
2018	25
2019	16
2020	17
2021	17

- There are 278 miles of pipe in Burbank
- There are 30 miles of pipe that are approximately 100 years old (or more)
- All of the aged pipe is cast iron
- Break/Leak History (by Calendar Year)

Pipe Age Profile





Pipe Age Profile

- With a replacement rate of 1 mile per year, there will be a “wave” of aging pipes, most of it cast iron:
- In 2031, there will be 71 miles of pipe over 90 years old
- In 2041, there will be 143 miles of pipe over 90 years old
- In 2051, there will be 203 miles of pipe over 90 years old
- However, cast iron pipe can last well over 100 years, even 140 years
- But the rate of aging pipes underscores the need to use a toolbox consisting of physical strength tests, non-invasive condition assessments, and risk consequence analysis. Due to the quantity of pipes getting older, we need to step up our focus on planning for the future.



Water Main Condition Assessment Technology

- **Statistical Study/Machine Learning:** Uses proprietary computer algorithm to calculate: Likelihood of Failure (LoF) and Consequence of Failure (CoF)
- **Satellite Leak Detection:** Ground penetrating satellite imagery to detect water leak around pipelines on the entire system
- **Automated Leak Detection:** Devices installed on fire hydrants on critical pipelines to provide early warning leak detection
- **Acoustic Velocity Signal Processing:** Determine remaining pipe thickness/remaining pipe useful life by measuring velocity of acoustic wave along the pipe

Rehabilitation of Facilities

- The Valley Pumping Plant Booster Station project will replace WW2 era pumps with new equipment that meets today and future demands
- Water Facility Master Plan will catalog assets, identify failure modes, and prioritize mitigation measures which will improve overall system resiliency.
- Full replacement of Reservoir



Drought Response



TURF REPLACEMENT

Replace Your Turf Grass with Drought-Resistant Landscape and Get a \$2/sq foot Rebate



WATER SMART

Sign Up for WaterSmart to see your water Use and Get Personalized Water Saving Tips



WATER - WISE GARDENING

Visit the Burbank Water-Wise Gardening Website for Landscaping Ideas and Resources

- Voluntary 15% reduction in water use
- Sustainable Water Use Ordinance provides defined response levels
- Conservation programs
- Indoor/outdoor water use study will help target further reductions in use



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