



Engineering, Operations, & Technology Committee

# Treatment Plant Utilization and CIP Strategy

Item 6b

October 13, 2025

# Item 6b

## Treatment Plant Utilization & CIP Strategy

### Subject

Treatment Plant Utilization and CIP Strategy

### Purpose

To summarize prior evaluations of water treatment plant capacities and review historical flows, and describe how current and planned CIP expenditures support treatment operations

# Treatment Plant Utilization & CIP Strategy



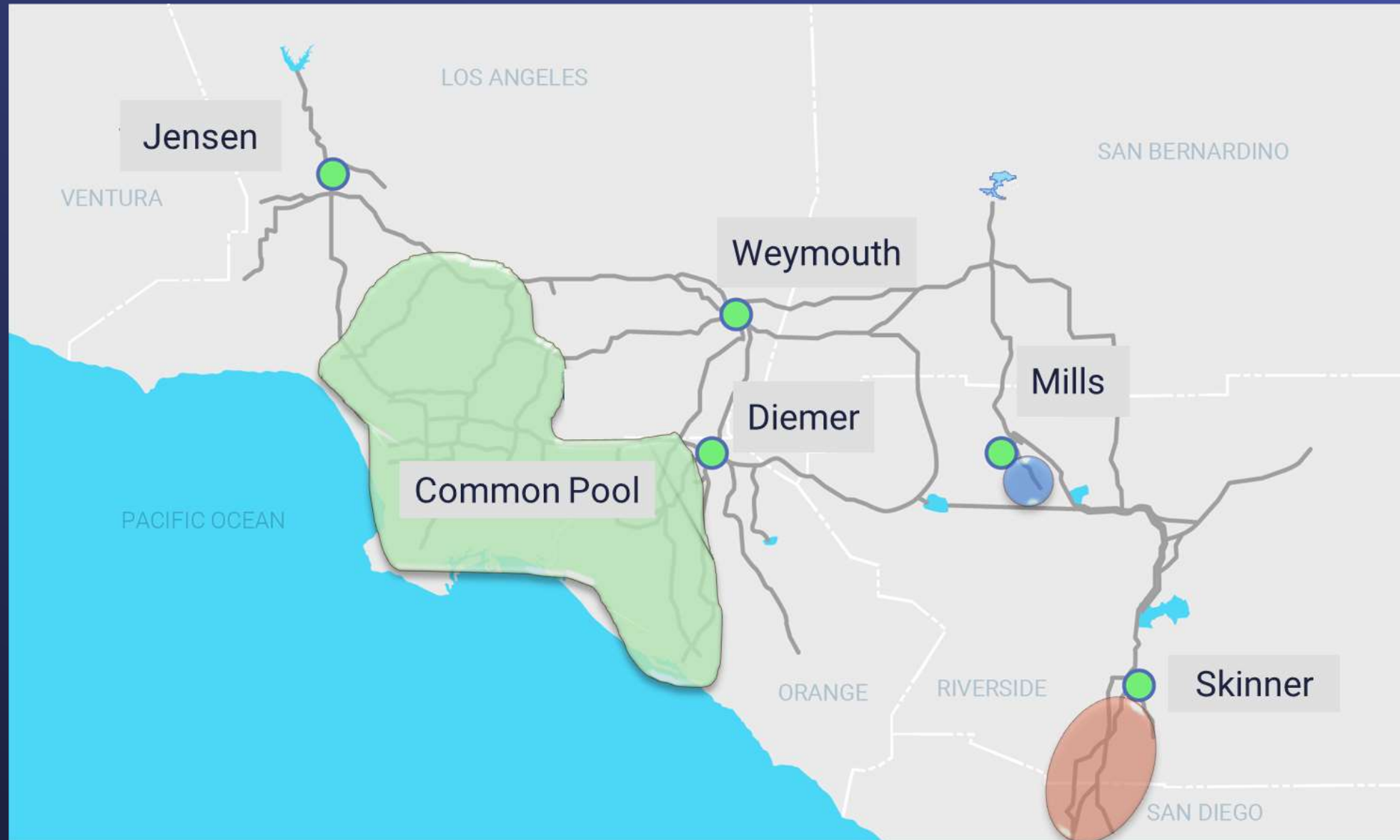
## Outline

- Background
- Water Treatment Capacities and Historical Flows
- Regional Reliability Benefit
- Treatment Plant CIP Strategy

# Water Treatment Plants



# Distribution System Overview





# Treatment Plant Utilization & CIP Strategy



## Background

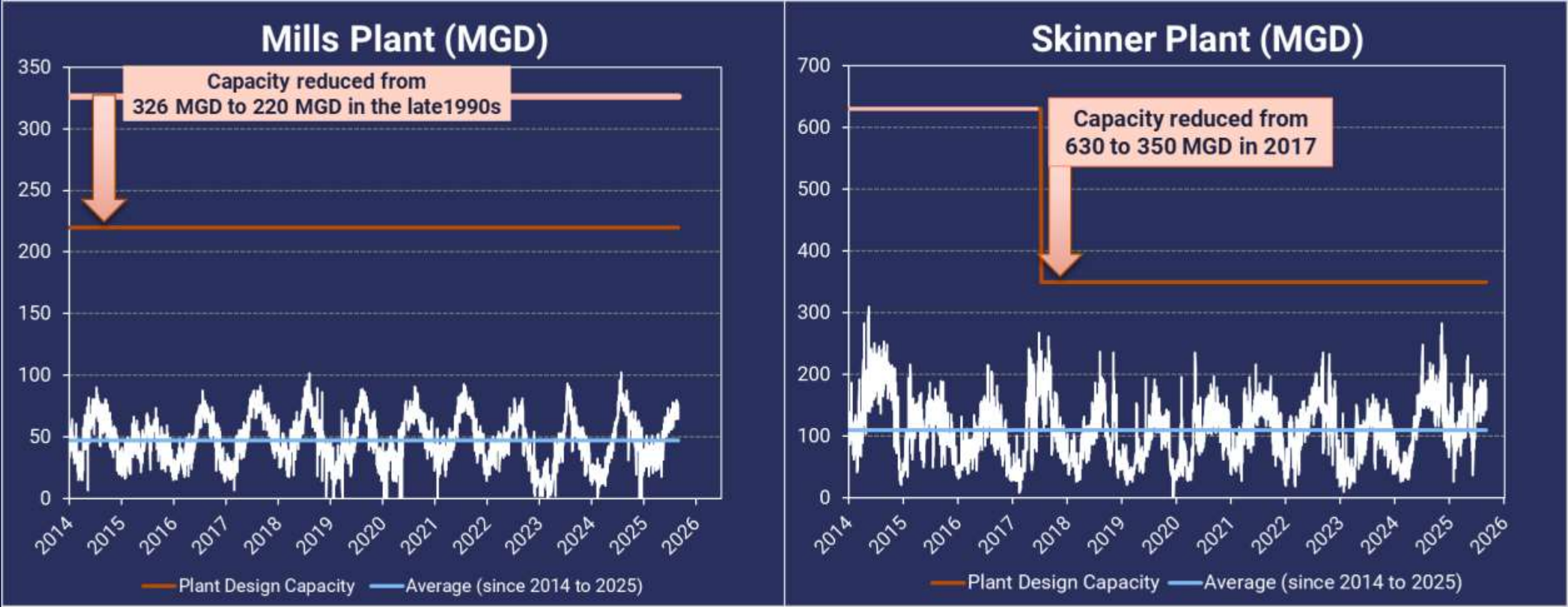
- Board policy to decommission unneeded treatment infrastructure and minimize future O&M and capital expenditures (April 2017)
- Evaluation of all 5 water treatment plants have been completed
- Capacity reduced at Mills Plant (late 1990s) and Skinner Plant (2017) due to reduced flows
- Diemer and Weymouth Plants “right sized”
- Jensen capacity analysis presented at April 2023 EOT (opportunity to reduce Jensen capacity)

# Water Treatment Plant Capacity Analysis

Plant	Area Served	Source Water	Current Capacity	Actions Taken
Mills	Local Mills Area	SWP	220 MGD	Reduced from 326 MGD in 1997
Skinner	Local Skinner Area	SWP/CRW	350 MGD	Reduced from 630 MGD in 2017
Diemer	Common Pool & Local Diemer Area	SWP/CRW	520 MGD	Maintain current capacity
Weymouth	Common Pool & Local Weymouth Area	SWP/CRW	520 MGD	Maintain current capacity
Jensen	Common Pool & Local Jensen Area	SWP	750 MGD	CIP projects to maintain 500 MGD capacity*

\*Jensen capacity analysis study complete & presented to Board in April 2023. Prioritize capital projects for plant capacity of 500 MGD (short-term max up to 667 MGD).

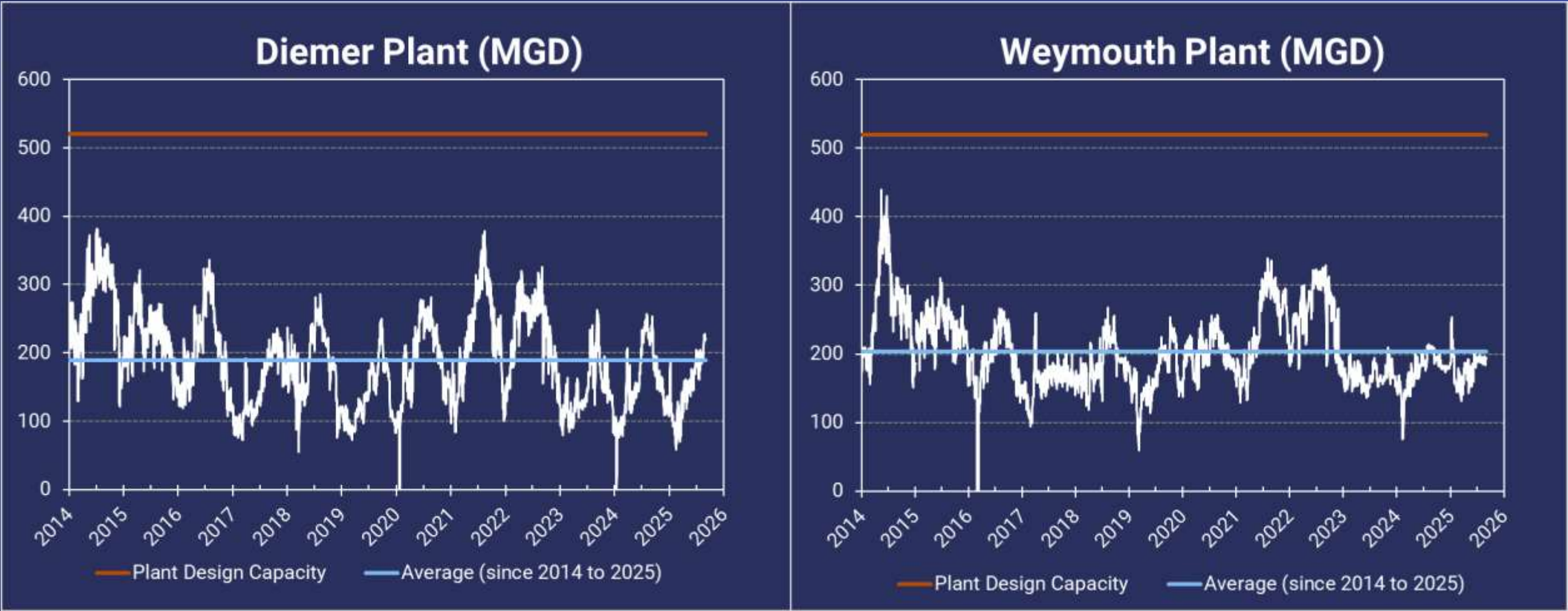
# Mills and Skinner Daily Effluent (MGD)



Plot of average daily demands

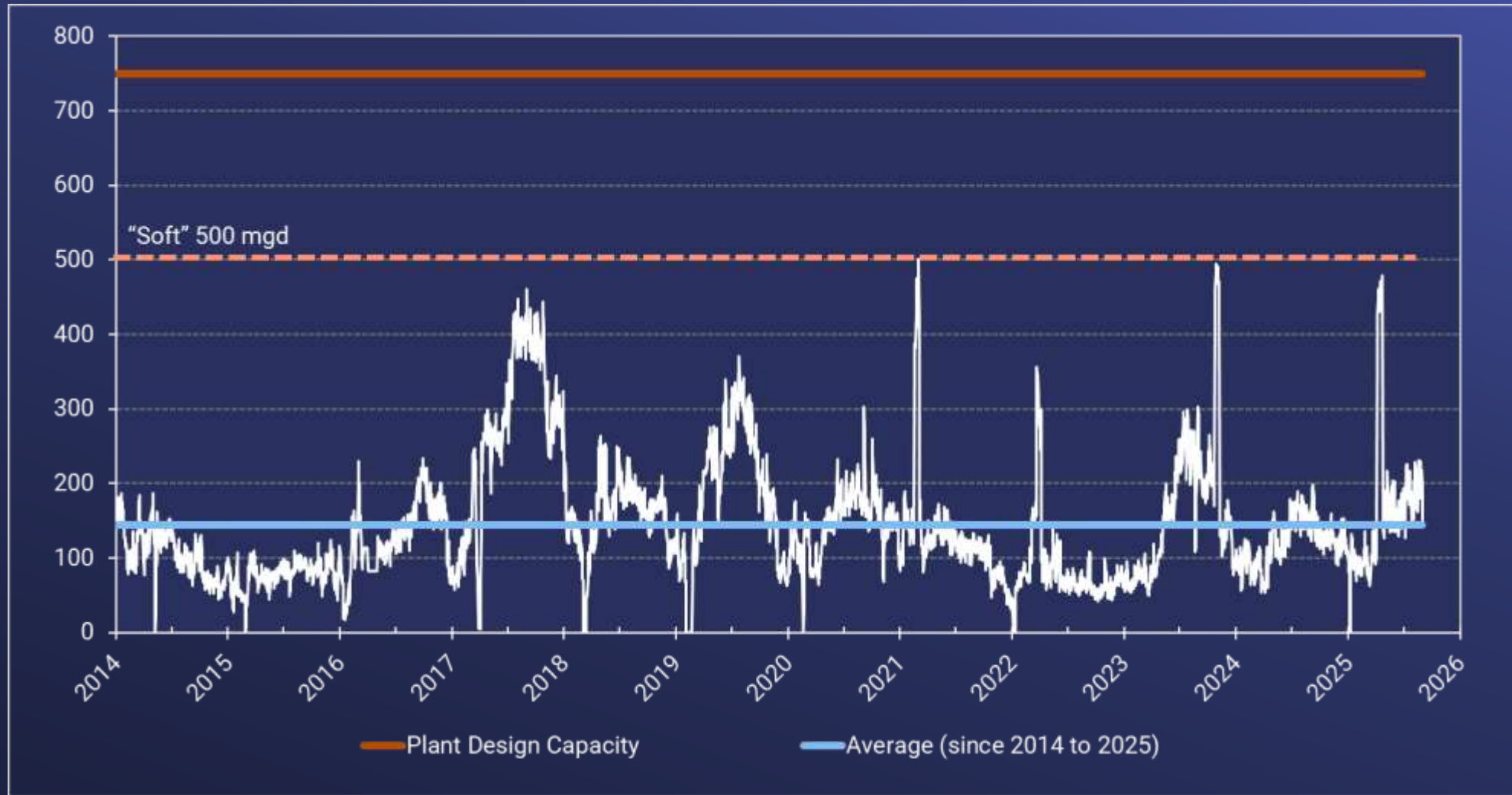


# Diemer and Weymouth Daily Effluent (MGD)



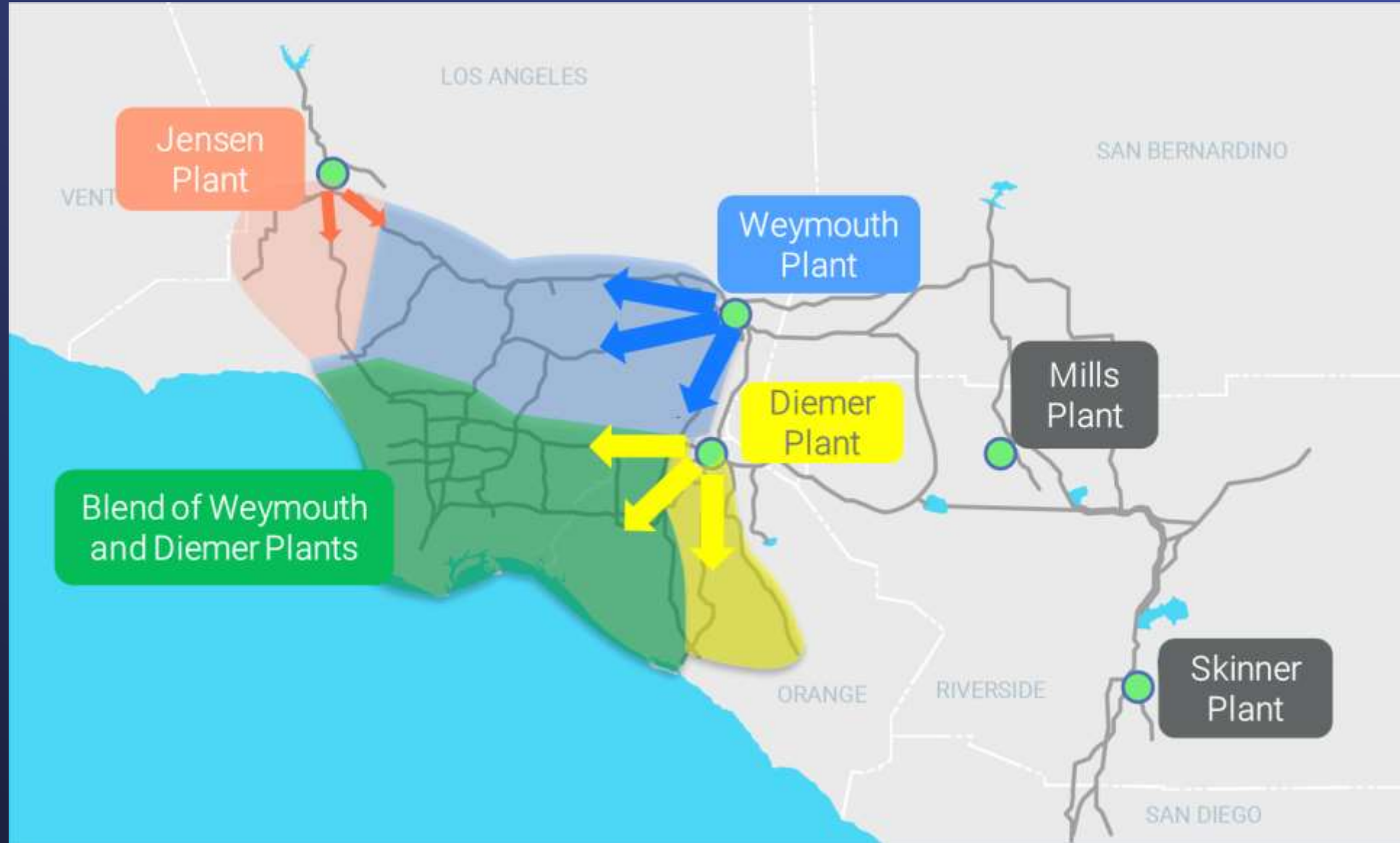
*Plot of average daily demands*

# Jensen Daily Effluent (MGD)

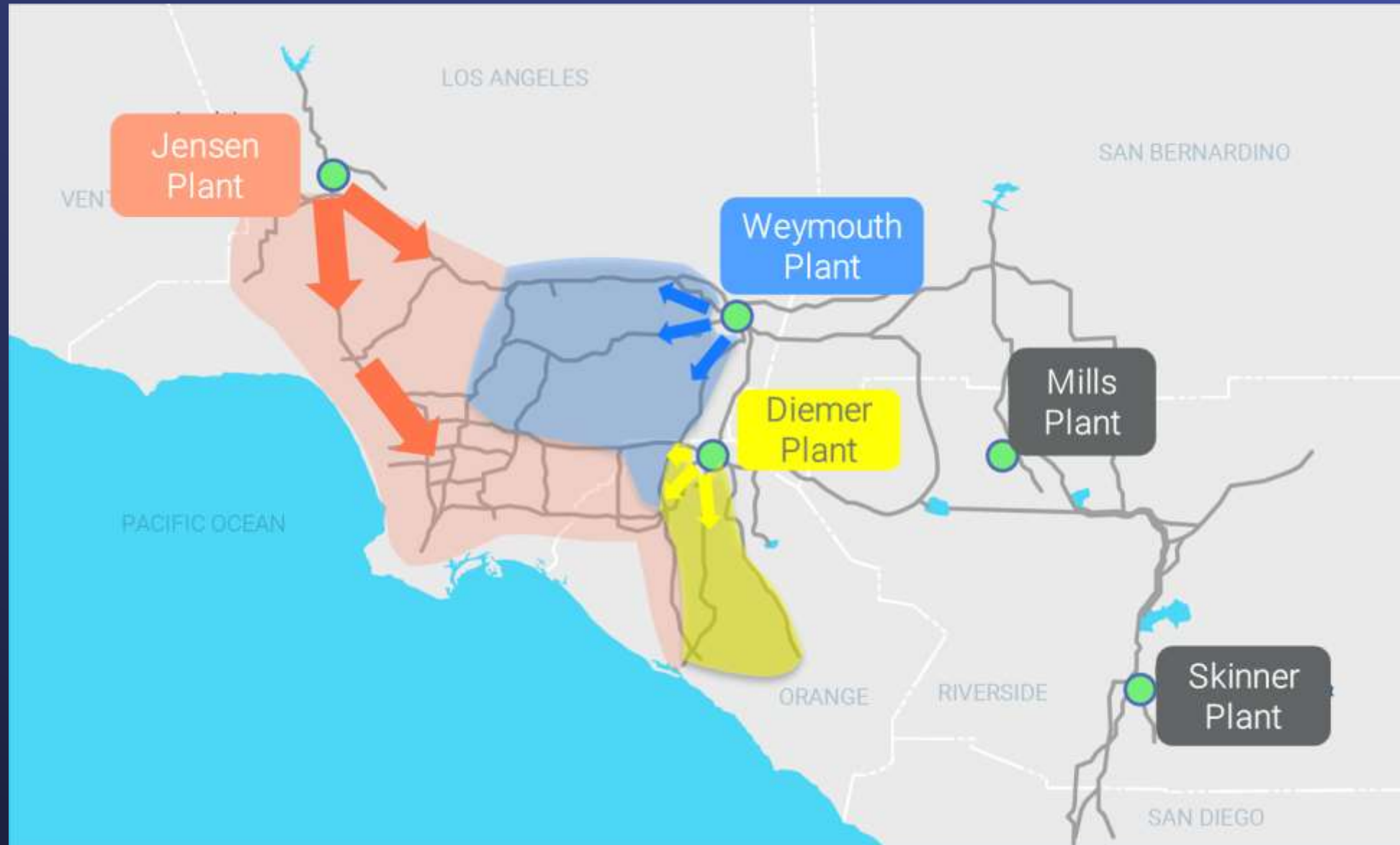


*Plot of average daily demands*

# Typical System Operation under Low SWP Allocation

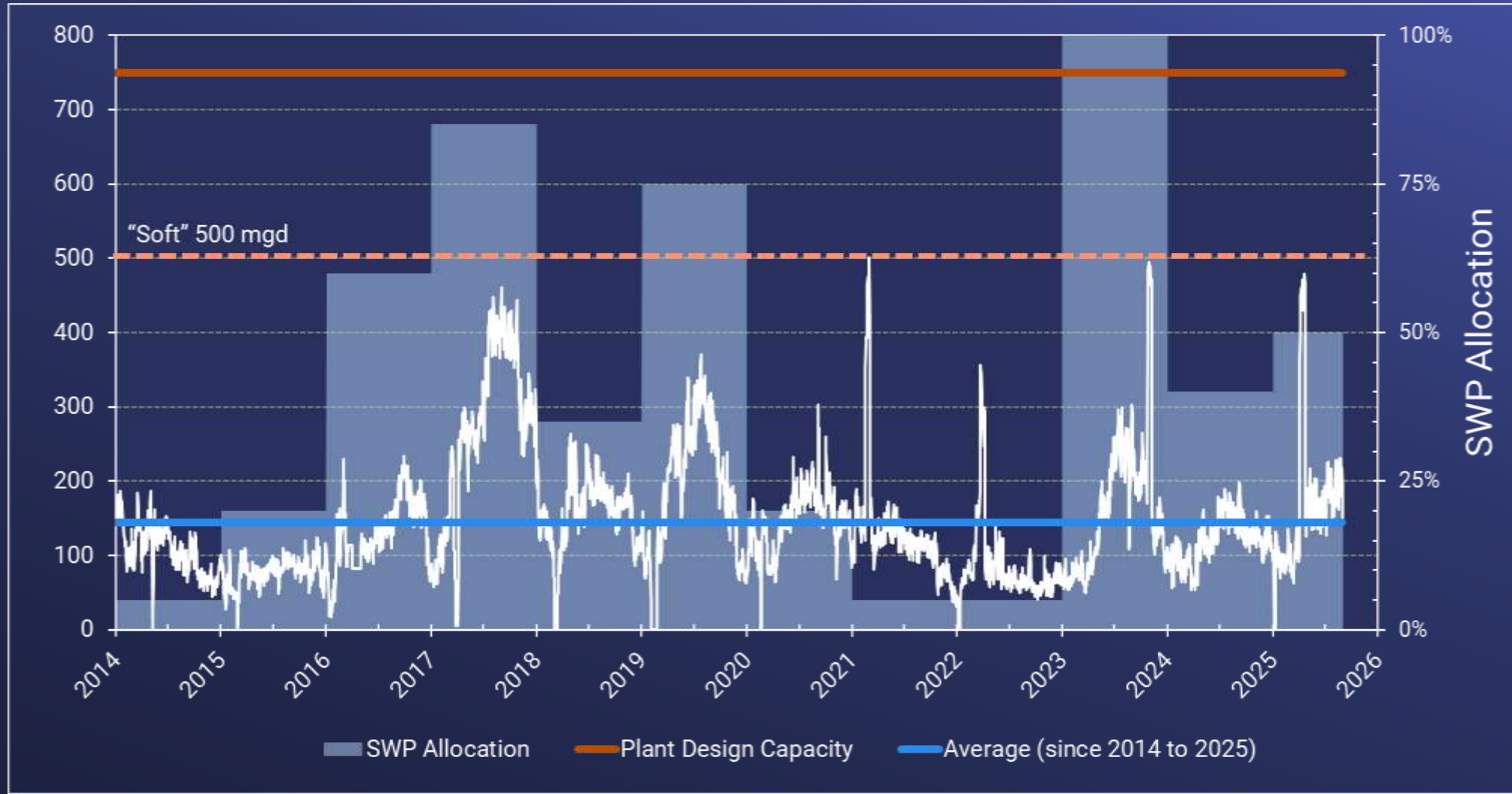


# Typical System Operation under High SWP Allocation





# Jensen Daily Effluent (MGD)



*Plot of average daily demands*

# Capacity Analysis Summary

- Four of five water treatment plants are currently “right-sized”
- For Jensen plant, staff are prioritizing capital projects needed for capacity of 500 mgd
- Regional drought reliability benefits from Jensen, Weymouth and Diemer capacity and the ability to flex the plants during wet and dry years

## Treatment Plant Utilization & CIP Strategy

### Treatment Plant CIP Strategy

- Target long-term resiliency and reliability for aging infrastructure and address new and evolving requirements
- Optimize low flow and highly variable flow conditions through CIP improvements where operational modifications are insufficient
- Jensen only – prioritize improvements for up to 500 mgd

# Skinner and Mills CIP Strategy

- Focus on long-term reliability and resiliency for aging infrastructure to meet evolving requirements
- Target improvements to address seasonal low flow optimization
- Improve plants' ability to meet large swings in demand



Skinner Sodium Hypochlorite  
Tank Farm Improvements



Skinner Ozone  
Improvements



Mills Stage 2 Electrical  
Upgrades



Mills Finished Water  
Reservoir Improvements

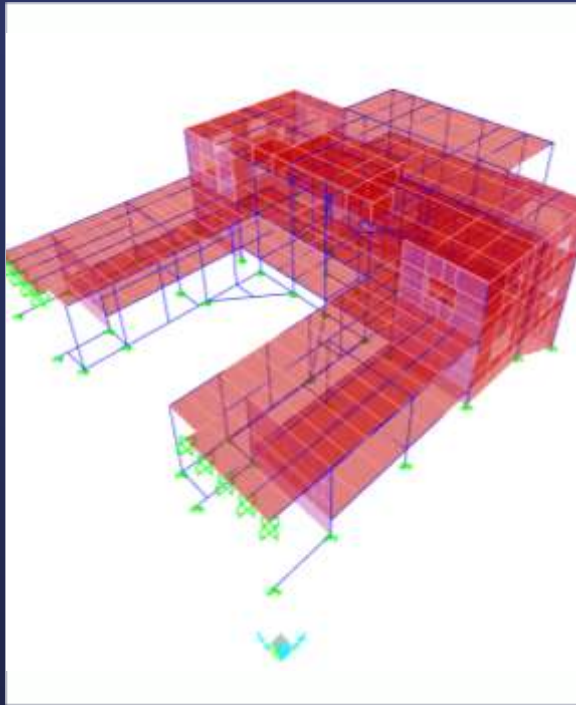


# Weymouth and Diemer CIP Strategy

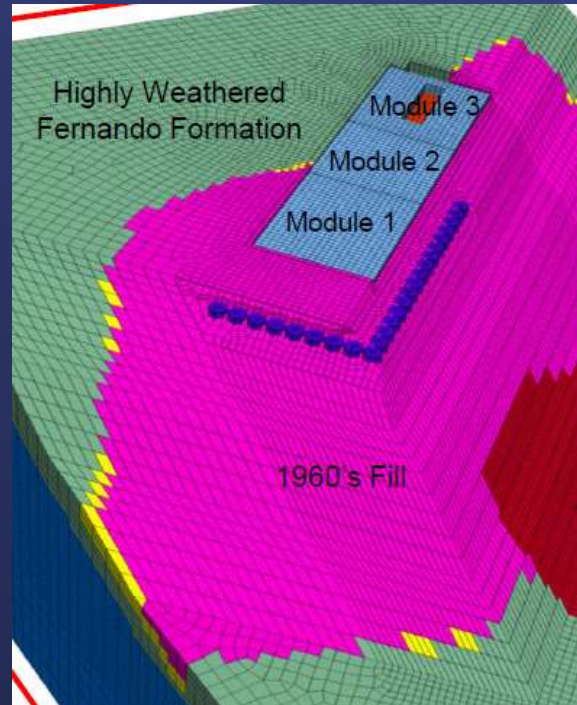
- Focus on long-term reliability and hazards for aging infrastructure to meet evolving requirements



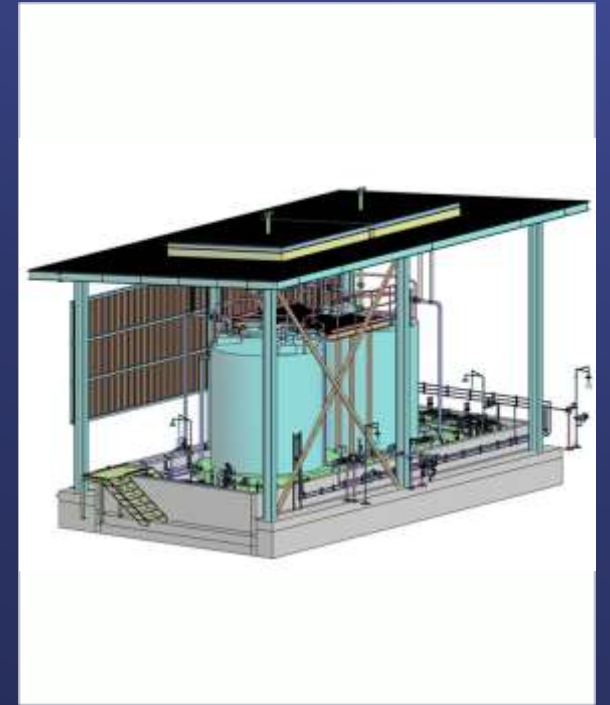
Weymouth Basins 5  
through 8 Rehabilitation



Weymouth Admin & Control  
Building Seismic Upgrades



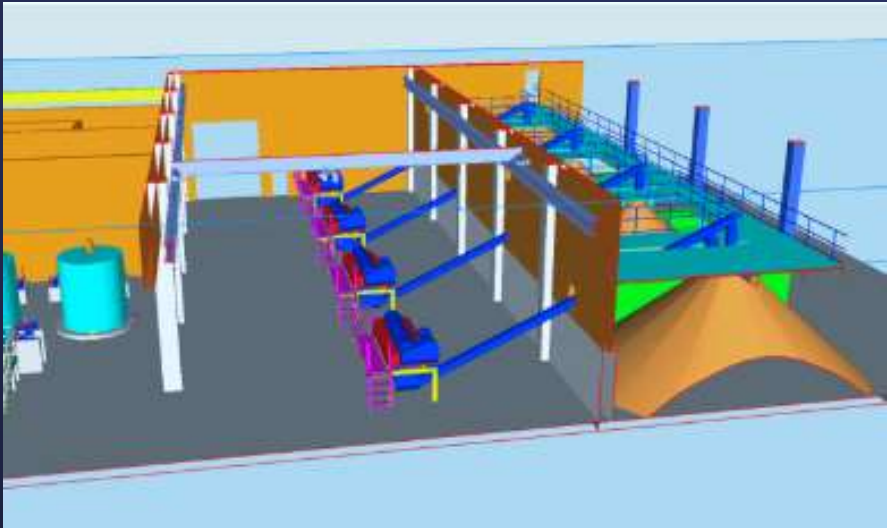
Diemer Slope  
Improvements



Diemer Tank Farm  
Improvements

# Jensen CIP Strategy

- Focus on long term reliability and resiliency for aging infrastructure to meet evolving requirements
- Prioritize CIP projects for processes required to maintain a capacity of 500 mgd
- Target improvements to address seasonal low flow optimization



Jensen Solids Mechanical Dewatering



Jensen Ozone Improvements



Jensen Mods 2 & 3 Flocculator Upgrades

# Jensen Projects Focused on Reliably Delivering up to 500 MGD

- Projects already reduced or modified: \$55 million savings
  - Mod 1 Flocculators
  - Ozone Power Supply Units
  - Washwater Reclamation Plant 1
  - Stage 2 Electrical Upgrades
  - Mod 1 Sedimentation Basins
- Active projects with scope reduction: \$80 million savings
  - Jensen Chemical Feed Improvements
  - Stage 3 Electrical Upgrades
  - Solids Mechanical Dewatering
- Total estimated CIP savings: \$135 million



# Conclusion



Diemer 1963



Jensen 1972



Skinner 1976



Mills 1978



Weymouth 1941



