

Bay Bridge Pump Station and Force Mains Replacement Project

Presented by OC San Project Team

Bayside Village HOA Meeting
August 26, 2025

OC SAN
ORANGE COUNTY SANITATION DISTRICT

Agenda



About OC San – Belen Carrillo, Community Liaison



About the Project – Cindy Murra, Project Manager



What to Expect – Jenna Torres, Resident Engineer



Staying Informed – Tanya Chong, Community Liaison



Our Mission

“To protect public health and the environment by providing effective wastewater collection, treatment, and recycling.”

Our Service Area

479

square miles

~190

million gallons per day

2.6

million population

20

cities

4

special districts

388

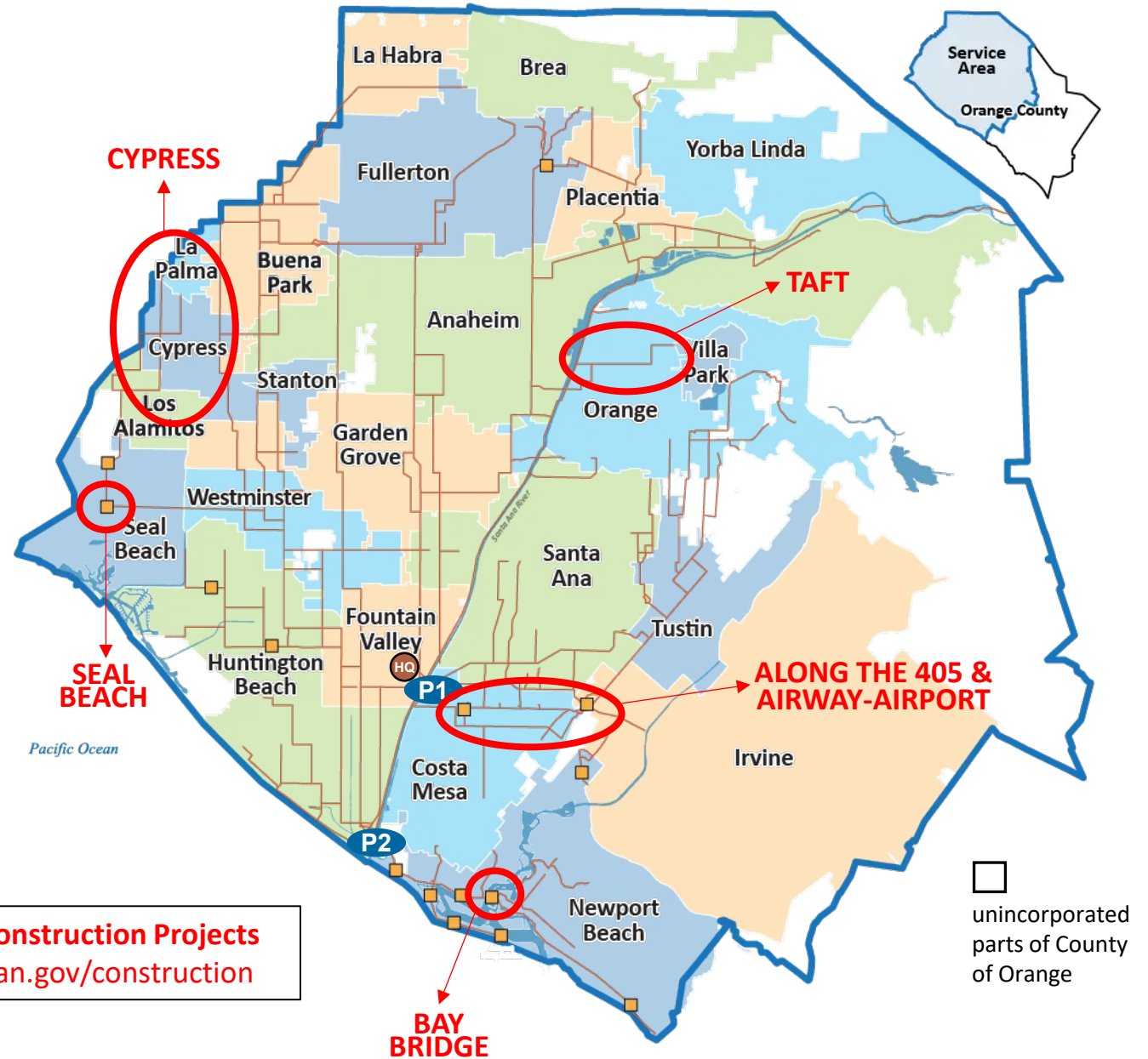
miles of sewers

2

reclamation plants

15

pump stations



Comparing Sewer Pipelines

Pipeline
Maintenance
Responsibilities:

- **Private Lateral**
Home/Business Owner
- **Local Sewer**
City or Local Agency
- **Regional Trunkline**
Wastewater Agency

4"

**Private
Lateral**

4 inch
diameter

12"

**Local
Sewer**

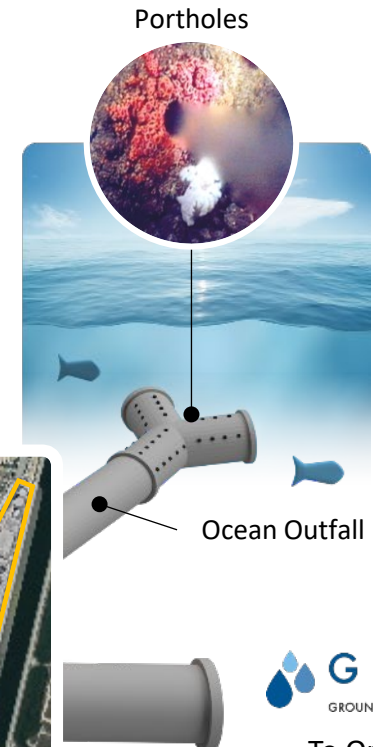
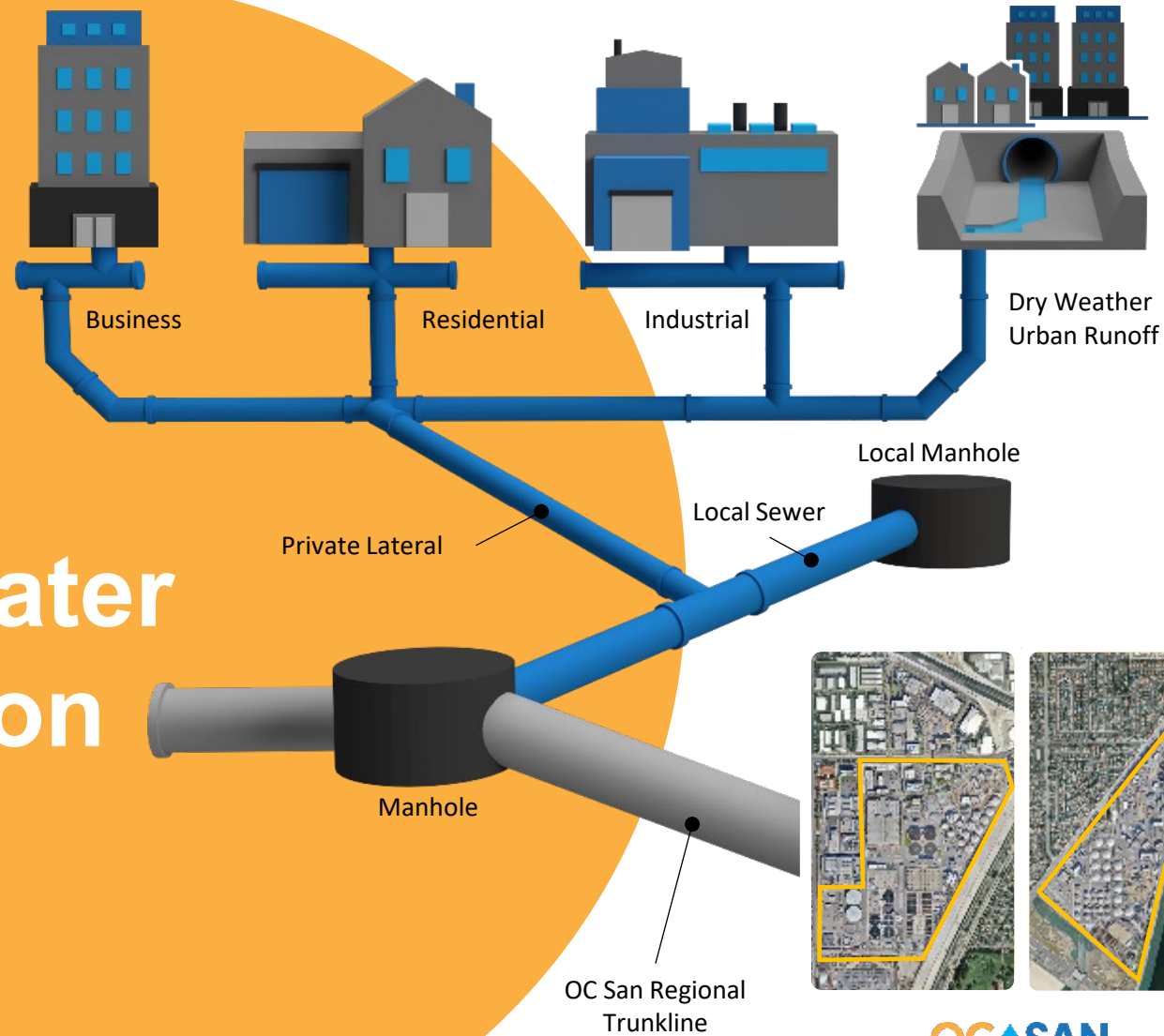
4-12 inch
diameter



**OC San
Regional Trunkline**

up to 10 ft diameter

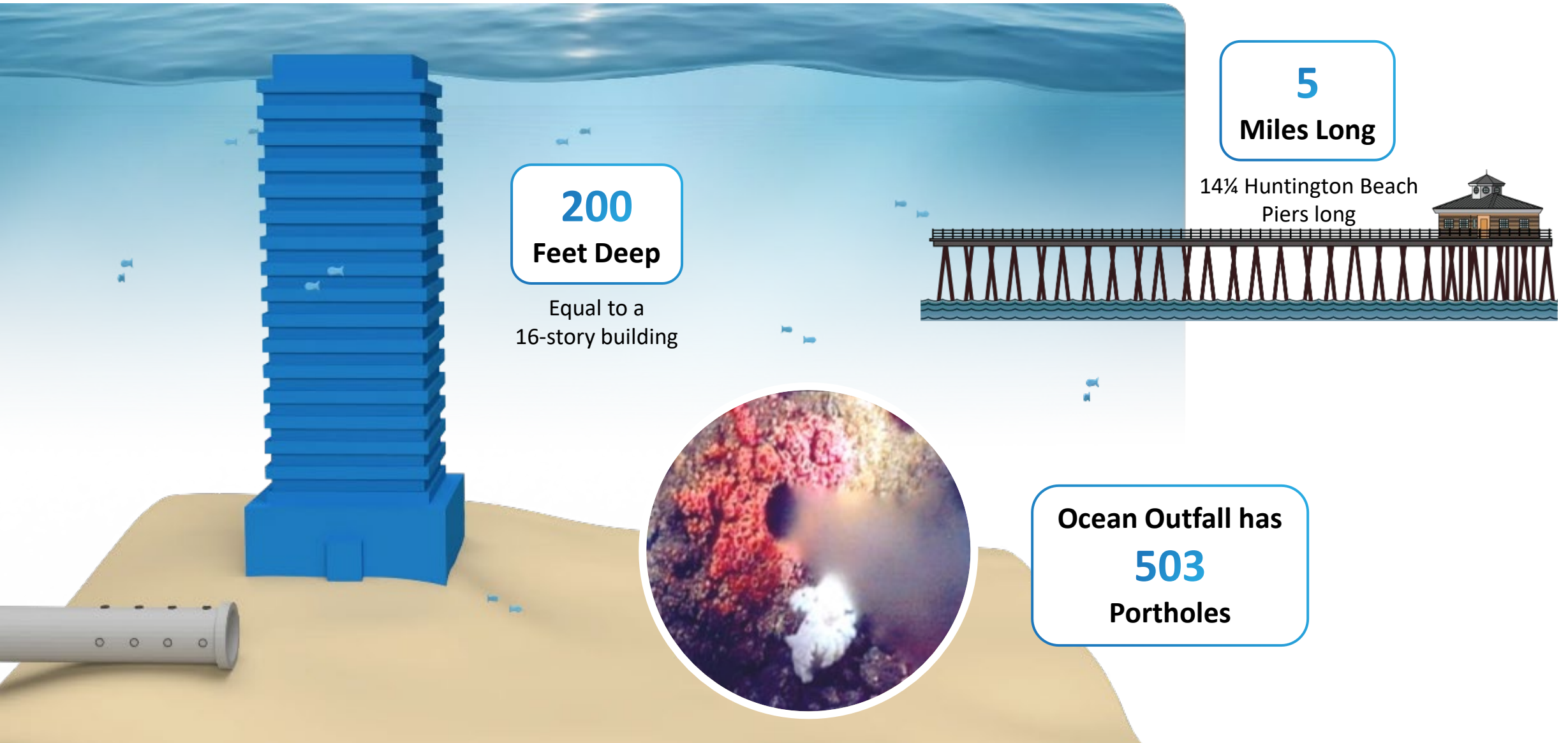
Wastewater Collection System



OC SAN
ORANGE COUNTY SANITATION DISTRICT
Reclamation Plants

G | W | R | S
GROUNDWATER REPLENISHMENT SYSTEM
To Orange County
Water District

Ocean Outfall Pipeline



200
Feet Deep

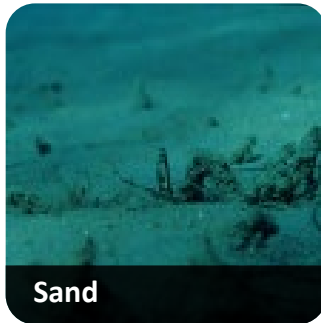
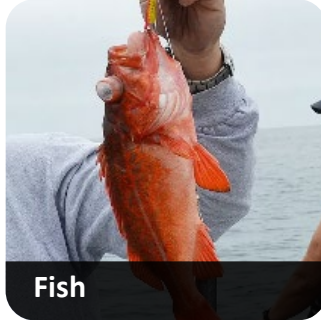
Equal to a
16-story building

5
Miles Long

14 $\frac{1}{4}$ Huntington Beach
Piers long

Ocean Outfall has
503
Portholes

Ocean Monitoring Program



● Core Water Quality Monitoring Sample Locations



Bay Bridge Pump Station and Force Mains Replacement Project



Why We Need This Project



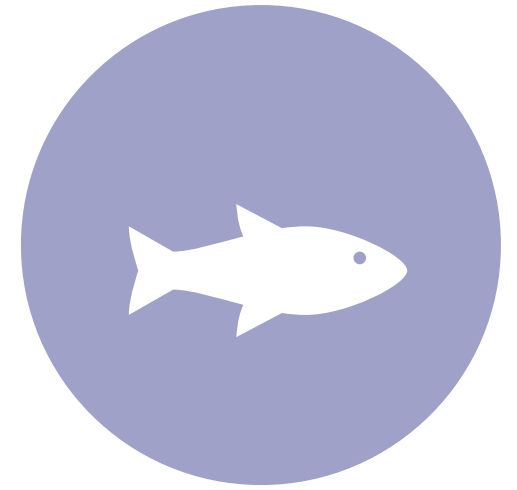
UPDATE AGING INFRASTRUCTURE

These critical assets are at the end of their useful life and must be replaced to ensure reliable service for the next 50 years.



SAFEGUARD PUBLIC HEALTH

This project will ensure we continue to collect, transport and recycle Newport Beach's wastewater safely.



PROTECT MARINE LIFE

Properly collecting and treating wastewater keeps our waters clean so we can continue to live, work and play in the Newport Bay.

Without this project, there's a risk for infrastructure failure, sewer backups, and spills into the ocean.

Project Location: City of Newport Beach



Bay Bridge Pump Station

The Bay Bridge Pump Station and force mains are critical to ensure the continuous collection, treatment, and recycling of the wastewater flow from the City of Newport Beach.

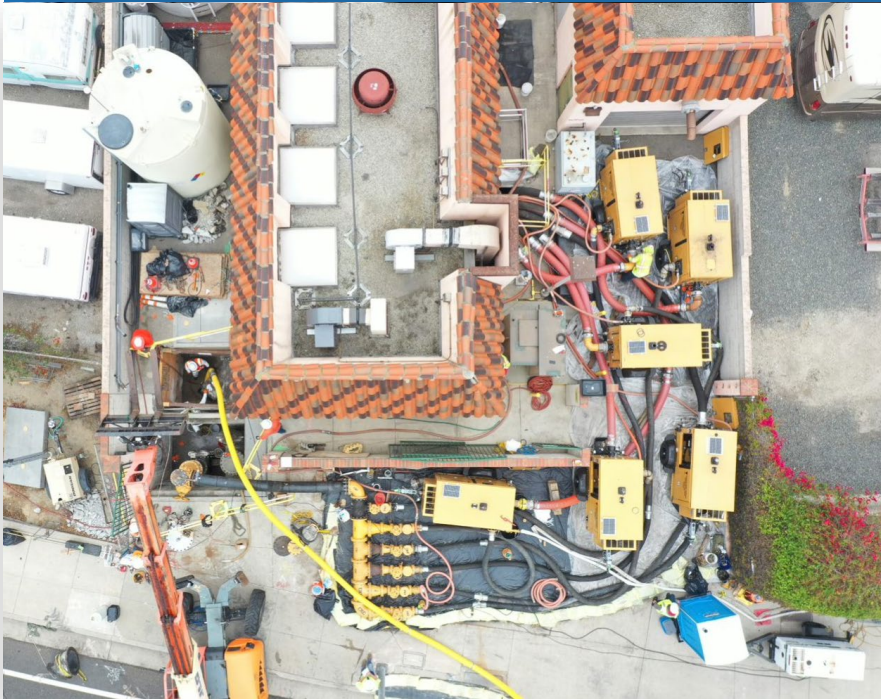
Constructed in 1966

Average Flow: 4 million gallons per day

Peak Flow: 18 million gallons per day

Handles 50% of the City's flow

4 mgd =
~ 6 Olympic-
sized swimming
pools



Standby
Generator

Odor Control

Pump Station

Access



Project Overview

Construction staging area
(Lower Castaways Park)

New location

Replace existing
Bay Bridge
Pump Station

Replace dual
force mains

East Coast Hwy

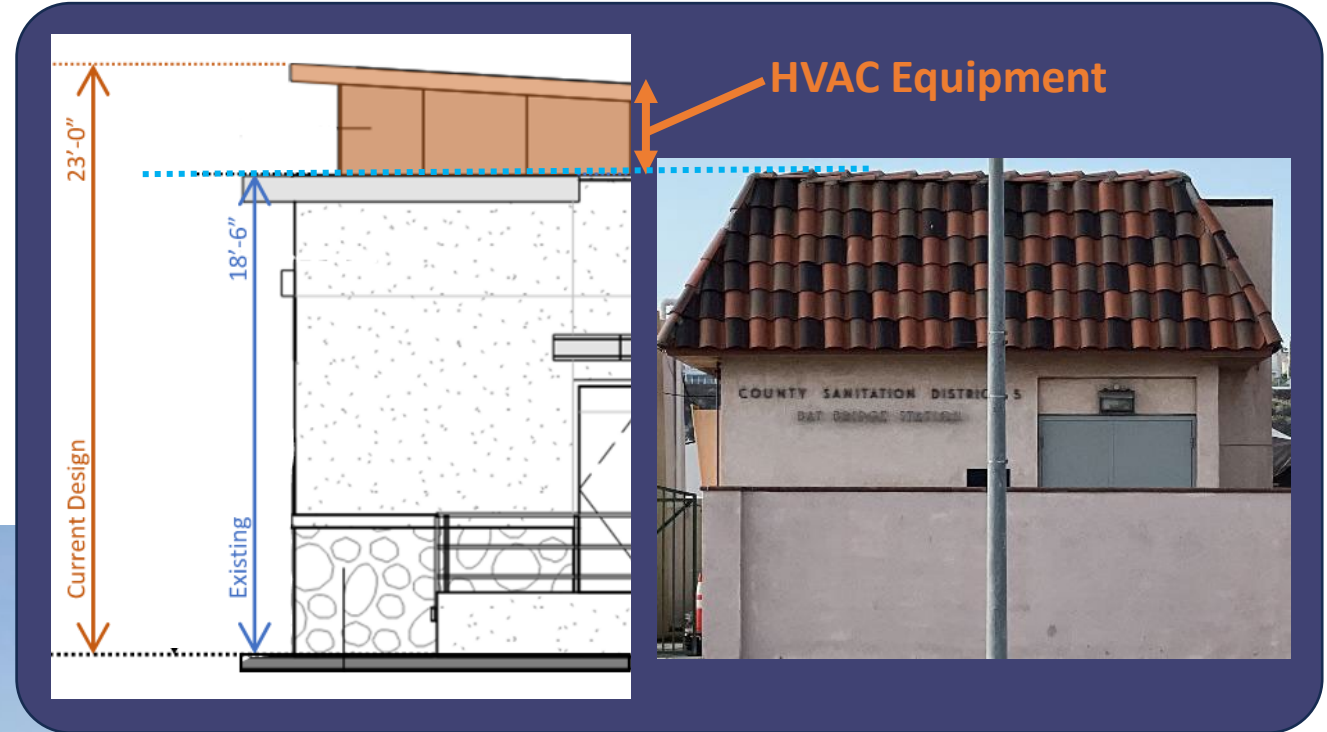
Bayside Dr

Dover Dr



New Pump Station Design

- Most of the pump station will be underground
- Above-ground building will house instrumentation and electrical equipment, and second structure will house a back-up power generator and odor control facility
- Architecture complies with design guidelines from the City of Newport Beach

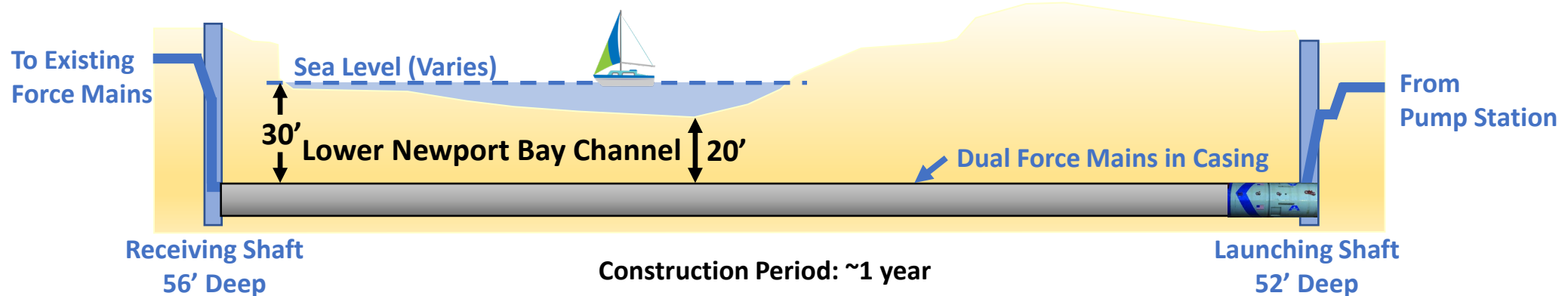
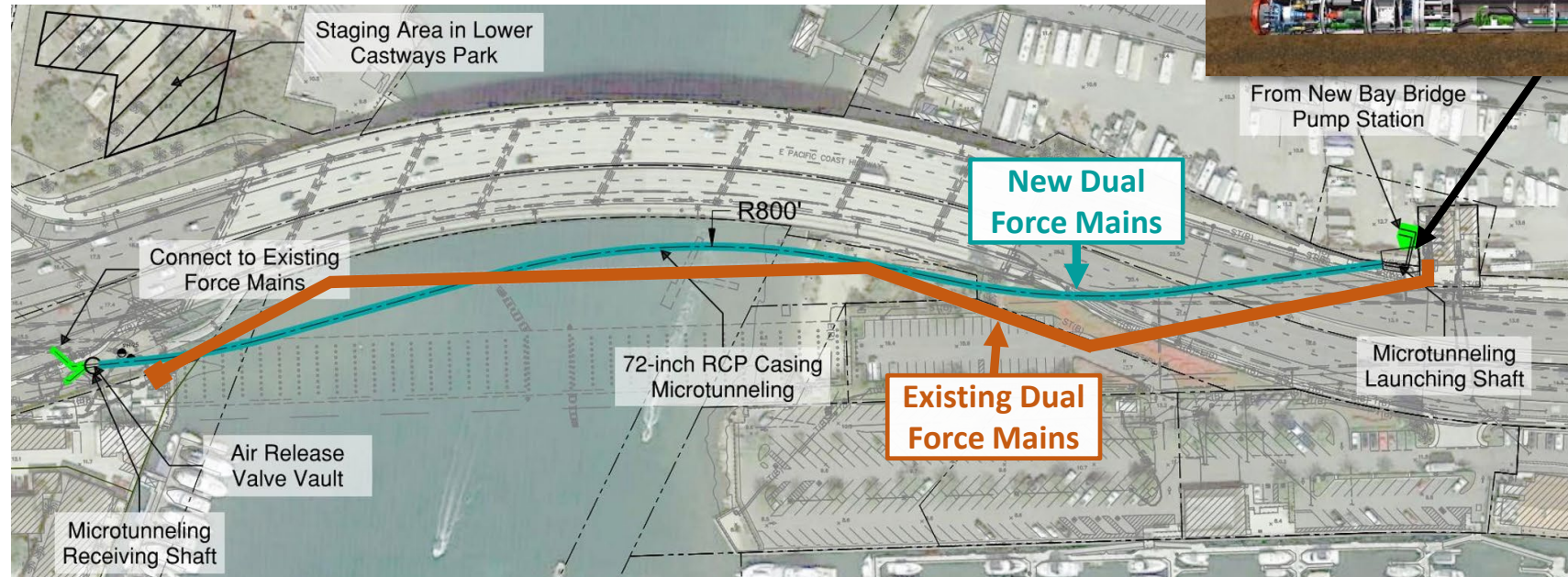


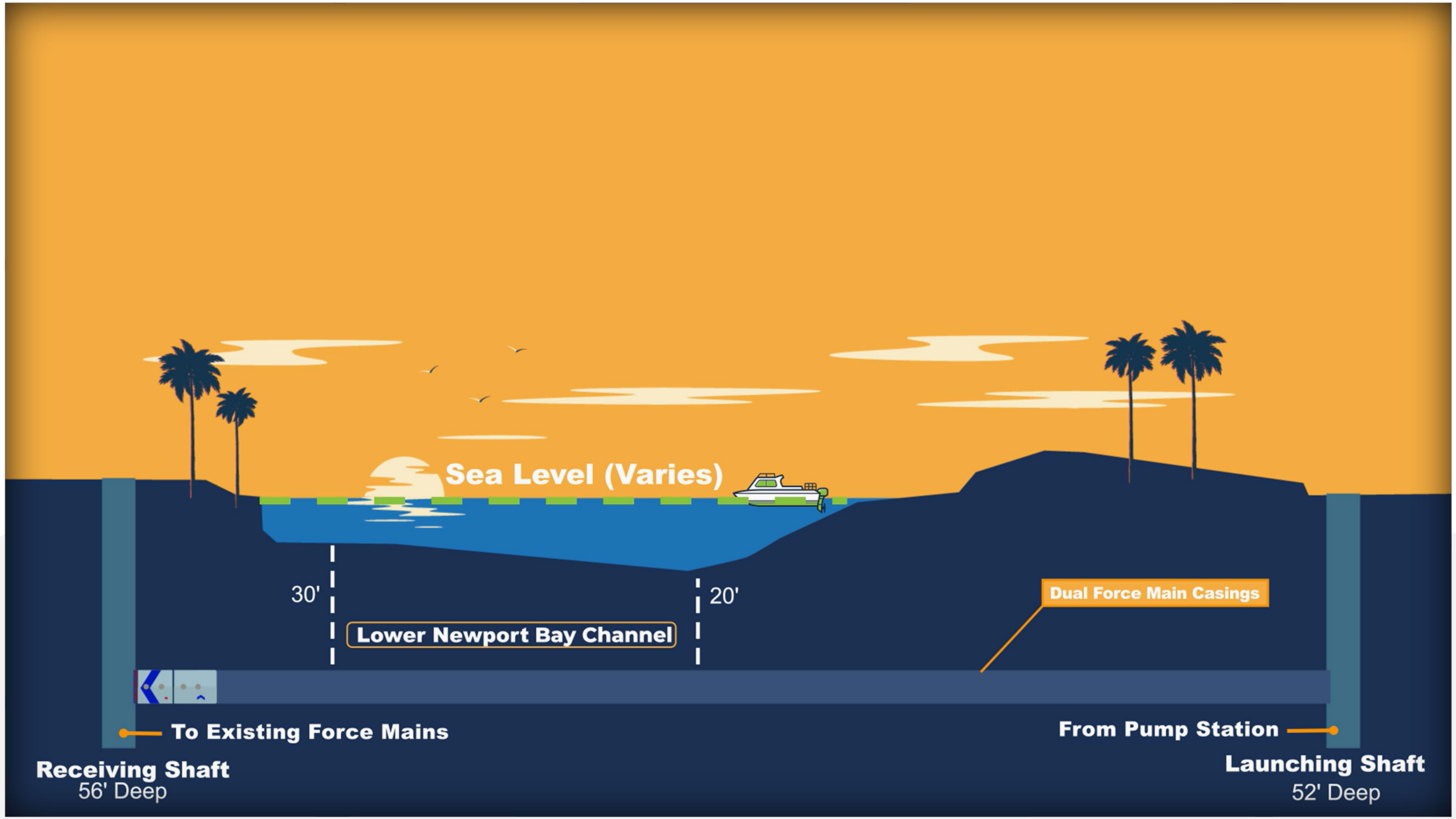
Constructing the Project



Microtunneling Section

Microtunneling is a trenchless construction method used to install pipelines beneath waterways.





Sea Level (Varies)

30'

Lower Newport Bay Channel

20'

Dual Force Main Casings

To Existing Force Mains

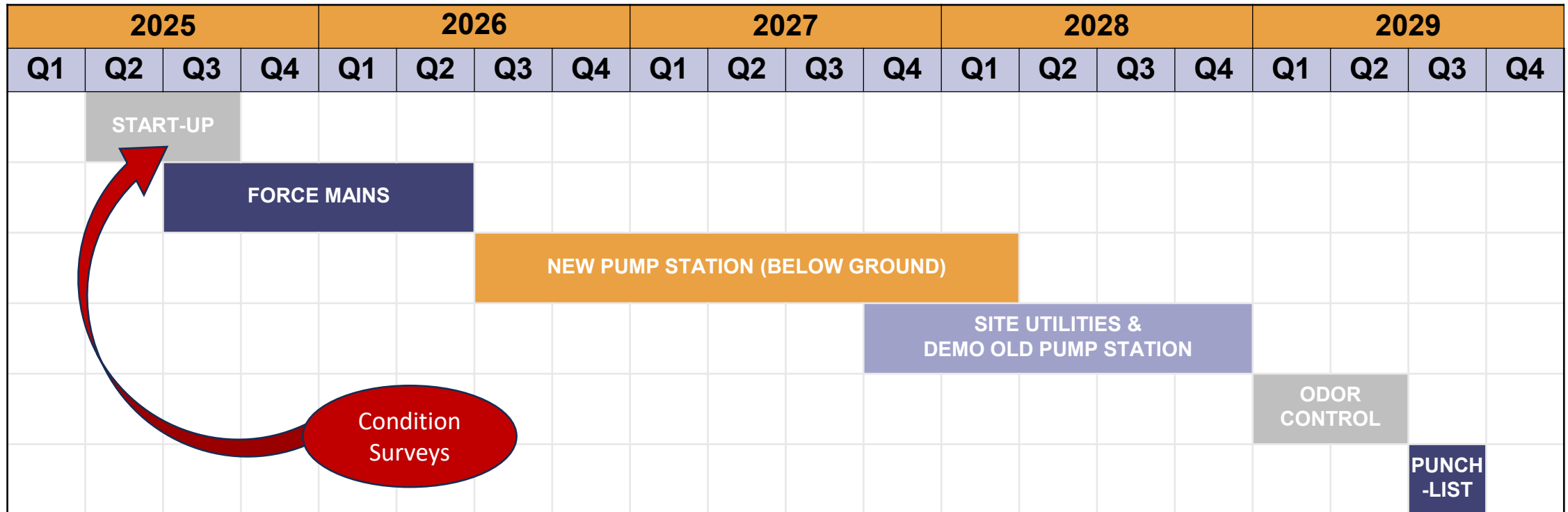
From Pump Station

Receiving Shaft
56' Deep

Launching Shaft
52' Deep

Construction Schedule

Beginning Summer 2025 and completing in 2029



Schedule subject to change due to operational factors or inclement weather.

What to Expect

- Anticipated Work Schedule

- Normal
 - Monday – Friday, 7 AM – 5PM
- Microtunneling
 - Monday – Saturday, 7 AM – 7 PM
- Occasional Nightwork
 - Sunday – Thursday, 8 PM – 6 AM

(Force main connection, underground utility work, pump station demolition, site utilities)

- Expected Impacts

- OCTA bus stop relocation
- Sidewalk closure - One sidewalk may be closed at a time during working hours
- Bike and pedestrian path under PCH restored on weekends
- Flaggers to assist with pedestrian traffic
- Flaggers to assist with traffic entry/exit on Bayside Drive *(see graphic)*
- Coast Highway lane closures may occur at certain times



What You Might See

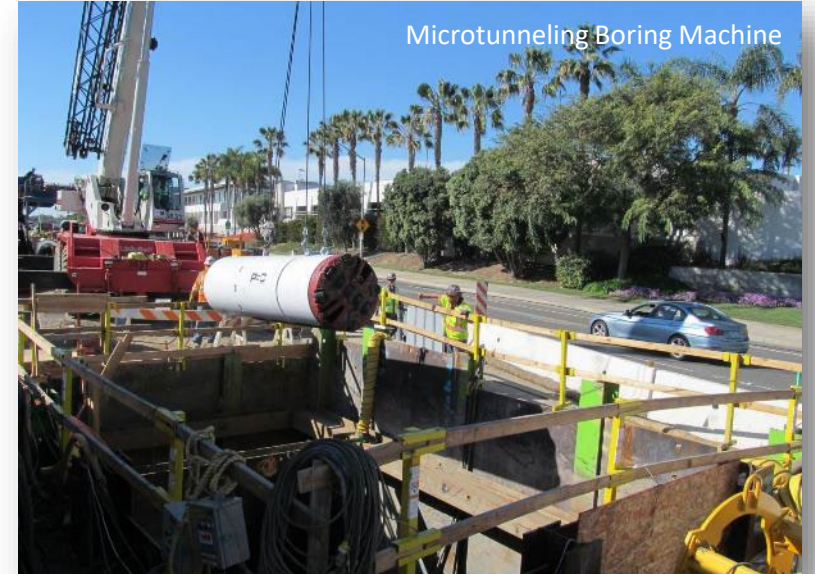
Deep Soil Mixing Rig



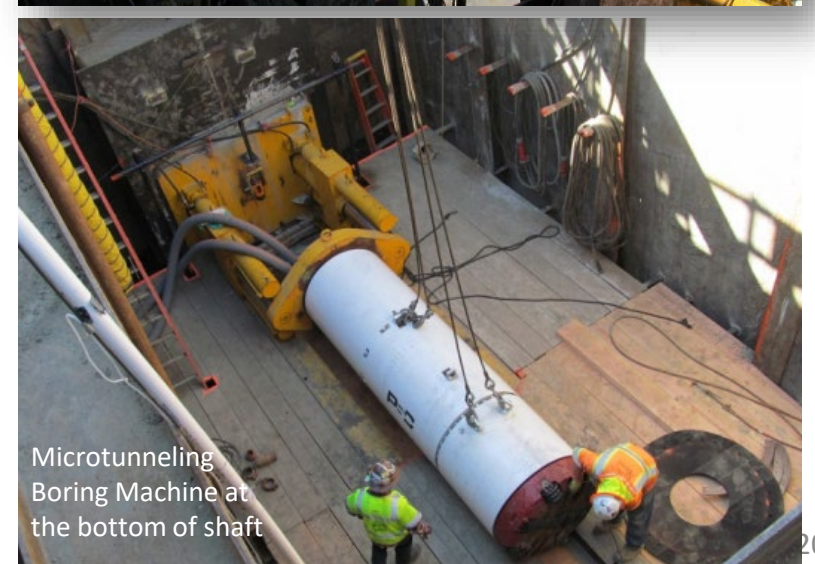
Tri-Axis Auger Mixing Rig



Microtunneling Boring Machine

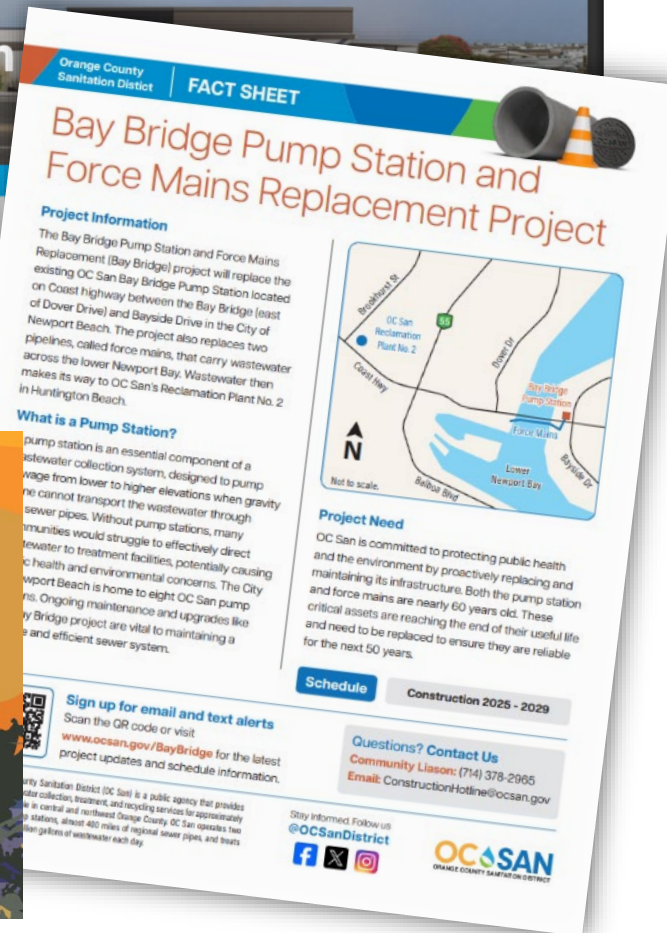


Cement Batch Plant



Microtunneling Boring Machine at the bottom of shaft

Community Outreach



Stay informed of the latest construction news by signing up for text alerts and email notifications.



**SCAN TO SIGN UP
FOR PROJECT ALERTS**
Visit ocsan.gov/baybridge
for additional details.

CONTACT US

Community Liaison: (714) 378-2965

Email: constructionhotline@ocsan.gov

Stay Informed.

Follow us @OCSanDistrict



Community Newsletter

OC San Connection community newsletter

published by the orange county sanitation district

Spring 2025



BRIDGING COMMUNITIES

A Closer Look at the Bay Bridge Pump
Station and Force Mains Replacement Project

P. 4

CONSTRUCTION ALERTS

BRIDGING COMMUNITIES

A Closer Look at the Bay Bridge Pump
Station and Force Mains Replacement Project

NEWPORT BEACH – OC San infrastructure improvements are coming to Newport Beach this summer. Over the next four years the Bay Bridge Pump Station and Force Mains Rehabilitation Project will be in construction. This important project will take place to ensure the continuous collection, treatment, and recycling of wastewater flow from the city. Let's take a closer look at this complex project and why it is so important.

The wastewater system is set up to flow by gravity. That means the wastewater flow travels from high points in a downward slope through pipelines making its way to one of our two facilities for treatment and recycling. A pump station uses pumps to pressurize wastewater, pushing it through a pipe system called a "force main" which then carries the wastewater flows from a low point to a higher elevation so flows can continue by gravity. Force mains operate under pressure created by the pump station, allowing wastewater to move against gravity.

OC San owns and maintains 15 pump stations throughout the 479-square-foot service area. Eight of those pump stations are in Newport Beach. As pump stations are replaced, we work closely with the city to design the exterior architecture of the pump station to aesthetically fit in and blend with the neighborhood.

The Bay Bridge Pump Station, located on Coast Highway west of N. Bayside Drive was originally constructed in 1966 and is one of our oldest pump stations. It carries approximately half the wastewater flow generated within the city to our Plant No. 2 located in Huntington Beach for treatment and recycling. It was upgraded in 1995 with new pumps and piping. An additional pump was added in 2014 for a total of five pumps for increased capacity and reliability.



The Bay Bridge Force Mains were also constructed in 1966. There are two pipes that extend from the pump station to the west under Coast Highway and across the Bay Bridge, ending on the other side of the Lower Newport Beach Channel near Dover Drive. The portions underneath the Lower Newport Beach Channel were rehabilitated in 1981, by inserting a new pipe into the existing pipe, a technique called slip-lining which extended their service life.

Wastewater flows are not always constant. There is a peak in the morning and in the evening, and minimum flow in the middle of the night. The daily average flow through the Bay Bridge Pump Station is 4 million gallons per day. This is roughly the volume of around six Olympic-sized swimming pools. The peak flow measures 18 million gallons per day, which can happen during heavy rain events.

The pump station needs to be sized appropriately to handle the average and peak flows.

The pump station and force mains are nearly 60 years old with moderate to severe concrete corrosion and mechanical and electrical equipment at the end of life. The pump station underwent emergency repairs in 2021, a short-term band-aid as the pump station continues to age. Reliability of our infrastructure is critical to ensure the safety of the public health and environment, and the time has come to replace the Bay Bridge Pump Station and force mains.

The new pump station and force mains will need to be constructed while the existing facilities remain in service. This is to maintain continuous sewer service to the community. Construction will first start with the force mains, followed by construction of the new pump station. It will be constructed directly next to the current pump station. After the new pump station is completed and in service, the old pump station will be taken out of service and demolished. A new odor control building will be built at the location of the old pump station.

A construction contract of \$87.3 million was awarded to J. F. Shea Construction, Inc.



Sign up for email and text alerts

Scan the QR code or visit www.ocsan.gov/BayBridge for the latest project updates and schedule information.

CONSTRUCTION FUN FACT

Cone Placement and Speed Limits

Did you know that the placement of safety cones in construction zones depends on the speed limit? In areas with lower speed limits, like residential neighborhoods, cones are placed closer together to ensure drivers are aware of the construction ahead. In higher-speed zones, cones are spaced farther apart to give drivers more time to react. **It's all about keeping both workers and drivers safe!**



How You Can Help OC San

FOG

Fat, Oils, and Grease (FOG) should never be poured down the sink or garbage disposal. FOG sticks to the interior of the sewer pipes, hardens over time, and can eventually cause a backup leading to a sewage spill in your home or on our streets.



The best way to get rid of FOG is to let it cool/harden, mix with other absorbent materials, such as coffee grounds, place it in a bag or container and then throw it in the trash.



Clog from
wipes!

Help OC San by only Flushing the 3 Ps:

1

Pee

2

Poop

3

Toilet Paper

For More Information

Visit us at: [OCSan.gov](https://ocsan.gov)
Follow us: @OCSanDistrict



Also on...



www.ocsan.gov/baybridge

Construction Hotline
714.378.2965
ConstructionHotline@ocsan.gov

