



You Are Invited to a Public Meeting on the Bayside Acres Sewer Rehabilitation Project

Bayside Acres Project Summary

There is a half-century-old main sewer pipeline located in the Bay near Point San Pedro Rd., Beach Rd., Marine Dr., and Oak Dr. in the Bayside Acres Development that is aging and must be replaced.

Aging, corroded, main sewer pipeline and manholes in the Bay.

The District has been unable to properly inspect or maintain the underwater sewer pipeline due to high tides, corroded manhole lids, and general inaccessibility. The District is increasingly concerned about the manholes. The original four-to-six-inch-thick concrete structure protecting the manholes has been corroded down to about two inches. Wave action will eventually cause a break in the manholes, pollute the Bay, lead to regulatory fines, and require costly cleanup and repair.

In addition, the private lateral pipelines that run from homes to the main sewer pipeline in the Bay are also corroding, and some may be leaking. Leaking private laterals allow seawater to enter the sewer system and cause corrosion. These laterals must be replaced and, in most cases, redirected to new, secure sewer main pipelines in the streets.

The District is developing a plan to seal the old pipeline and manholes in the Bay, install new pipelines in the streets, and install new laterals and pumps from homes to the new pipelines.

Two Virtual Neighborhood Meetings Will Be Held on The Bayside Project

Both meetings will provide identical information. District staff will explain the project's purpose, present the improvement alternatives that were evaluated, and provide details. You will have an opportunity to ask questions and get answers from District staff. Attend the one that is most convenient for you.

Wednesday, March 23, 2022, at 1:00 PM OR

Thursday, March 24, 2022, at 6:00 PM

Meeting details on next page.





Information on the Bayside Acres Sewer Rehabilitation Project Public Meeting

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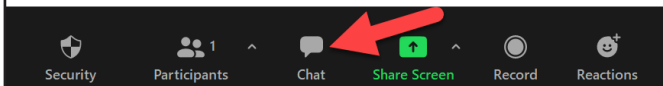
Thursday, March 24, 2022, at 6:00 PM

Questions?

Please get in touch with Senior Civil Engineer David Nicholson with any questions you have before the meeting: by phone at (415) 458-5369 (Office) or email at David.Nicholson@cityofsanrafael.org

If you would like to speak during the public comment portion of the meeting, you have two options:

ONLINE: Use the chat to ask to speak or submit your question. Chat is visible to all participants.



- PHONE:**
- Press *9 to raise your hand/lower your hand
 - Press *6 to mute/unmute your phone
 - Tap More in the lower right hand corner and then tap Chat

If you are having difficulty logging in, you may call Lynda for assistance at (818) 839-8419.

This link and other details work for both meetings.

Join Zoom Meeting by clicking the link or copy and paste it into your web browser <https://us02web.zoom.us/j/81513047400>

When Prompted, enter the meeting ID: 815 1304 7400

Or, If you do not have internet access, you can **join the meeting by phone**, dialing a nearby location:

- 1 408 638 0968 US (San Jose)
- +1 669 900 6833 US (San Jose)
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 301 715 8592 US (Washington DC)
- +1 312 626 6799 US (Chicago)
- +1 646 876 9923 US (New York)

When Prompted, enter the meeting ID: 815 1304 7400



Main Sewer Pipeline Options Considered

ALTERNATIVE-1 (*Infeasible*): Rehabilitate the Existing Main Sewer Pipeline in Place Underwater

Rehabilitating the existing pipeline is infeasible due to the difficulty of obtaining permits from local regulatory agencies, such as the Bay Area Conservation and Development Commission, the risk of a spill that could immediately contaminate the Bay, and the visual impact caused by new manholes that would rise about 10 feet above the waterline.

ALTERNATIVE-2 (*Infeasible*): Construct a New Above-Water Main Sewer Pipeline

The above-water (along the shoreline) main sewer pipeline is infeasible due to the difficulty of obtaining permits, the risk of a sewer spill that could lead to immediate contamination of the Bay, and the visual impact caused by an elevated structure needed to secure the pipeline that would rise 10 feet or more above the shoreline along the pipeline's entire length.

ALTERNATIVES-3 & 4 (*Feasible Options*): Install New, Secure Main Sewer Pipelines in the Streets

New sewer main pipelines will need to be installed in Oak Drive, Marine Drive, and Point San Pedro Road. This new sewer main pipeline project is being designed and the District plans to award a contract for construction in May.

Pump and Lateral Alternatives

Shared Pumps and Laterals (Alternative 3)

New laterals from groups of two to four homes would be installed and sent to shared pumps that would send sewage to the new sewer main pipelines in the streets above.

- **Locations.** The final identified shared pump locations will allow the laterals from each home to flow by gravity to the central pump serving that home. These pump locations will, in most cases, not be practical to install in alternative locations.
- **Construction costs.** The District would pay all construction and maintenance costs estimated at \$2.0 million for construction and approximately \$185,000/year for ongoing maintenance.
- **Landscaping.** The District would take care with construction to minimize the impact on landscaping and clean up thoroughly. The District would not be responsible for replacing all landscaping to 100% original condition. The District will consider working with property owners on any aesthetic actions to hide the pumps and control panels.
- **Private easements.** Some property owners would need to obtain easements for their laterals to cross their neighbors' properties and reach the shared pump /sump stations. The District has no authority here but could provide some help.
 - a. **Public easements.** The District would need to obtain easements for the pumps and control panels and the pressurized laterals that would go to the main sewer pipelines in Point San Pedro Road, Marine Drive, and Oak Drive. Obtaining easements could extend the project timeline, increasing the risk of a spill from the existing main sewer pipe. Obtaining public easements also add cost to the project.



Pump and Lateral Alternatives cont.

- **Ownership and maintenance**

- a. **Property Owner.** The portion of the lateral from the home to the shared pump stations would become the responsibility of the property owners after construction.
- b. **District.** The shared pump and pipeline from the pump to the main sewer pipeline in the street would be owned and maintained by the District. The District would conduct on-site inspections up to three times per week as it does for all its pump stations. Additionally, District staff would need 24/7 access to the pump stations to address maintenance issues.

- **Timing.** Design of the lateral replacement project is expected to begin mid-summer 2022. Construction is anticipated to start mid- to late-fall 2022 and take about 8 to 12 months to complete.

Following careful review, the shared pump option is considered less desirable by the District due to potential delays caused by the need to obtain public and private easements, the long-term maintenance cost for the District about (\$185,000 per year), the higher initial construction cost, and because it is unfair to other customers for the District to take responsibility for these laterals when all others are the responsibility of the property owner.

Individual Pumps and Laterals (Alternative 4)

New private laterals and individual private pumps would be installed for each home and send sewage to the new main sewer pipelines in the streets.

- **Locations.** The final identified locations for pumps and laterals will, in most cases, not be practical to move.
- **Construction costs.** The District would pay all construction costs for the laterals, pump/ sumps, electrical equipment, and controls estimated at \$1.64 million.
- **Landscaping.** The District would take care with construction to minimize the impact on landscaping and clean up thoroughly. The District would not be responsible for replacing all landscaping to 100% original condition. The District will consider working with property owners on any aesthetic actions to hide the pumps and control panels.
- **Easements will not be needed.**
- **Ownership and maintenance.** Once constructed, the laterals, pumps, controls, and related equipment would become the landowner's responsibility. Note that it is District policy and the overall industry standard is for property owners to own and maintain their laterals. Following an inquiry with a local sewer pump maintenance firm, the cost for landowners to maintain a private pump system is estimated to be about \$300 annually to inspect and maintain and about \$60 for electricity at current rates. The lifespan of the pumps is dependent on the usage. For example, pumps with more dwelling occupants will increase usage and decrease lifespan. Likewise, certain items flushed down the toilet can reduce lifespan and increase maintenance such as feminine products, condoms, dental floss, wipes, and rags.
- **Timing.** Design of the lateral replacement project is expected to begin mid-summer 2022. Construction is anticipated to start mid- to late-fall 2022 and take about 8 to 12 months to complete.



A corroded manhole in the Bay.



A non-corroded manhole on land.



Pump and Lateral Alternatives cont.

What Happens Next

After staff create the engineering design and develop individual Agreements for each property, they will walk through the Agreement and all the project details with each property owner. The Agreement will be signed by both the property owner and the District. The agreement, among other details, will recognize that any individual laterals, pumps, controls, etc., that are replaced or upgraded by the District will be owned by and maintained by the property owner once installed.

The contractor will walk through the final construction details with each property owner both before and after construction.

Decision-Making Process and Timeline for Main Pipeline and Pump Systems Design

Staff will consider the public input with all the engineering, financial, regulatory, and other parameters and make a recommendation to the District Board. We expect the District Board to select an alternative in April and direct staff to implement it.

What is driving the project timing? We know that private laterals are deteriorating and believe the 50-year-old main sewer in the Bay is also deteriorating and must be replaced before a break or clog spills sewage into the Bay. In addition, the County is resurfacing Point San Pedro Road this summer, which will start a 10-year moratorium on any construction in that street. Any sewer work in the road must be done before then, wait another decade, or pay to fully repave the street, which would be a waste of taxpayer dollars.

New main sewer pipeline installation and pump systems design timeline.

March	April	May	June	July	August
Hold Public Meetings.	Board selects an alternative.	Select contractor for main sewer pipeline construction in the roads. Begin working with property owners on lateral details.	Sewer main pipeline construction in the roads. Begin design of new pump systems.		Pt. San Pedro Road pavement construction by the County of Marin. Continue design of new pump systems (for 3 to 6 months estimated).

Post Construction Assistance

District staff will provide post-construction assistance on the private pump systems for six months. This involves answering basic questions and helping identify resources if more complex inspection or maintenance is needed.



What Shared Pumps Look Like

The pumps are housed in a sump, which is like a barrel to hold sewage and provide backup storage.



The picture below shows a pump under the blue lid. The control panel is the gray box on the wall. The pump is buried underground and can be hidden behind fences, landscaping, painted, etc. Note that pumps at sites near sea level will need to be above ground.





Individual Pump System Questions and Answers

from a Neighbor with 30 Years' Experience Having a Pump in Their Home

One of the properties within the affected neighborhood installed a pump system 30 years ago and has been running it without incident since then. We asked the property owner about their pump; their answers are below. *Minor edits and additions for clarity from District staff are shown with underlined text.*

1. **Q: How long has the pump been in place and functioning?**
A: Over 30 years
2. **Q: Have you experienced any issues since installing the pump (needs to rebuild or replace a pump)?**
A: Once over 20 years ago, the pump was upgraded to a larger one because the first pump was too small.
3. **Q: How often and how much maintenance has it required since installed? Do you do have any yearly preventative maintenance?**
A: Yes, we check it out under the house to make sure it's not clogged. We are very diligent about NOT throwing anything other than biodegradable toilet paper down the toilet.
4. **Q: What kind of maintenance is typically needed/encountered?**
A: Not much maintenance is needed. All we do to ensure it's working, we set a certain time for it to go off every day and listen for the faint humming sound when it turns back on. There have been no problems with it.
5. **Q: How have power outages affected its operation? And, how long can you use water during an outage before the holding tank fills up?**
A: There has been no problem with a power outage. When electricity comes back on, it resets itself. The sump is designed to hold about 3-days of light sewage use as a backup, and the pump has battery backup.
6. **Q: Do you have a backup generator to power the pump during an outage?**
A: We have found no need for a backup generator. However, we have one but haven't needed to use it.
7. **Q: How has having the pump affected your monthly electric bill?**
A: Don't realize any additional cost. However, I'm sure there has to be, but it's minimal.
8. **Q: When you installed the pump, did you need to make any upgrades to your electric panel and/or add any circuits?**
A: We didn't, but that would be whatever additions your system would need.
9. **Q: Are there any odors associated with the system?**
A: A little smell inside the pump room under the house when the system is churning the waste disposal, but not within the house.
10. **Q: How and where do you vent the sump?**
A: For ventilation within the pump room itself, we have a large cement cellar with a door, of course, and windows. For venting the pump and sump, a pipe vents outside.
11. **Q: Have you had any issues with the lateral (pressurized pipe between pump and sewer main pipeline)?**
A: No, never.
12. **Q: Can you hear the pump while inside your home? Does its operation interrupt your daily lives?**
A: No daily interruption
13. **Q: Do you have any alarms on the pump system, and if so, how often do they go off? (examples: pump fail, high water alarm, power outage, etc.)**
A: Yes, we have an alarm on all of the system. Only has gone off a couple of times in 25 years when the power went out.
14. **Q: Are you more mindful about what gets flushed down the toilet, such as wipes, dental floss, or feminine products, etc.?**
A: Yes, you have to be prudent in maintaining your system. None of the above except biodegradable toilet paper.
15. **Q: Overall, are you glad you installed the pump? Were there any options to avoid installing the pump?**
A: We didn't see any other option. Very happy with the system that was installed.
16. **Q: What does it cost to maintain and operate the pump.**
A: The cost for electricity at PG&E's average peak rate of \$0.34/kwh would be about \$60 per year or about \$5 per month. Manufacturers recommend an annual inspection by a plumber and claim that typical pumps last 20 to 30 years before requiring replacement. Local plumbers tell us that a yearly inspection and maintenance would cost about \$300.



What Individual Home Pumps May Look Like

The picture below shows a duplex dwelling with one pump in the ground and a control panel on each home's wall.

A single-family home would have only a single pump and controls.

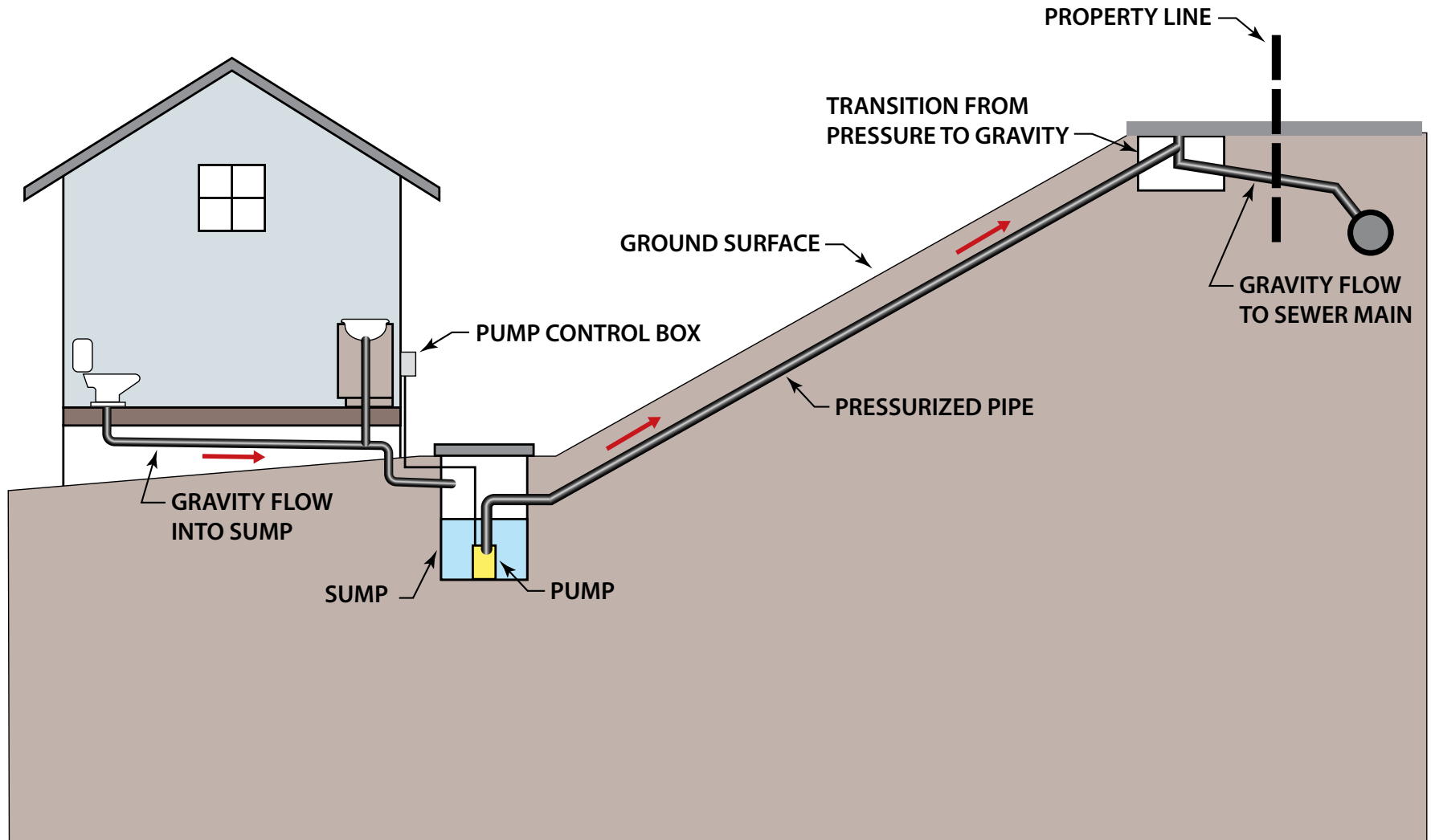


Pump and sump combinations can often be hidden or masked. Here is an example of a pump under a house. The pumps can be outside, under homes, under decks, etc.

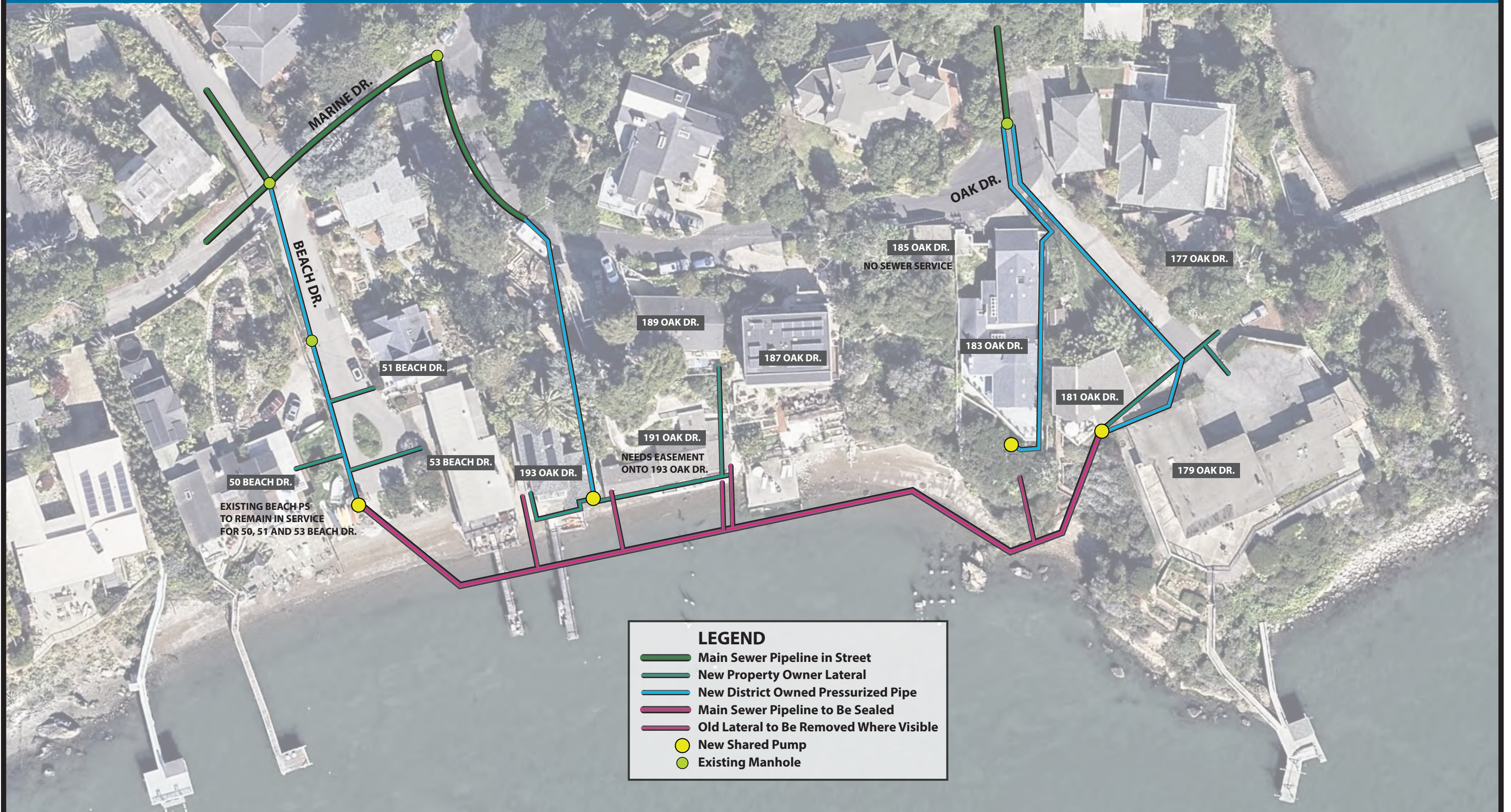





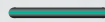


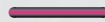


Cross section Showing Pump & Laterals Connection to Sewer Main Pipeline



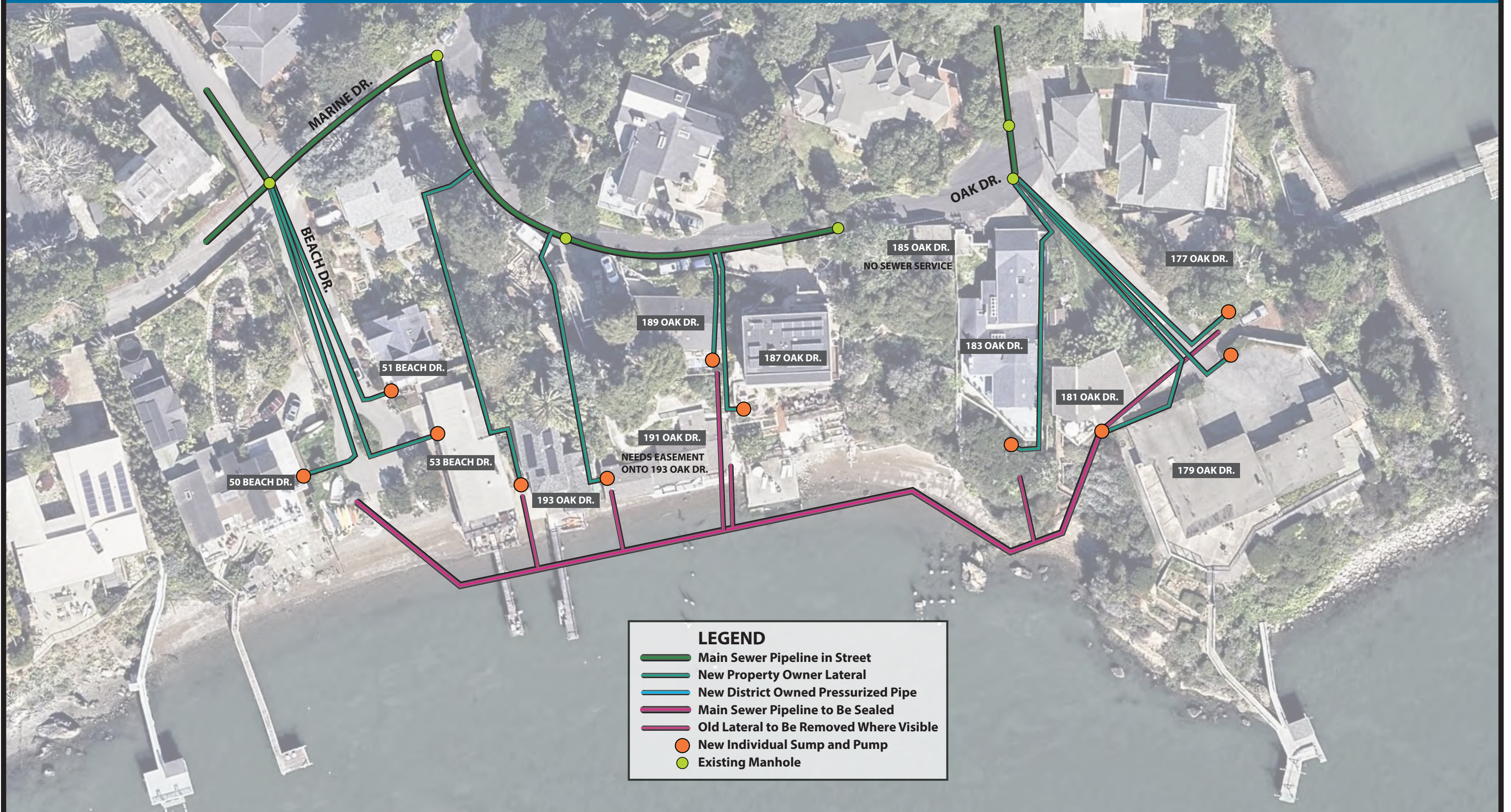
Shared Pumps & Laterals South Line (Alternative 3)



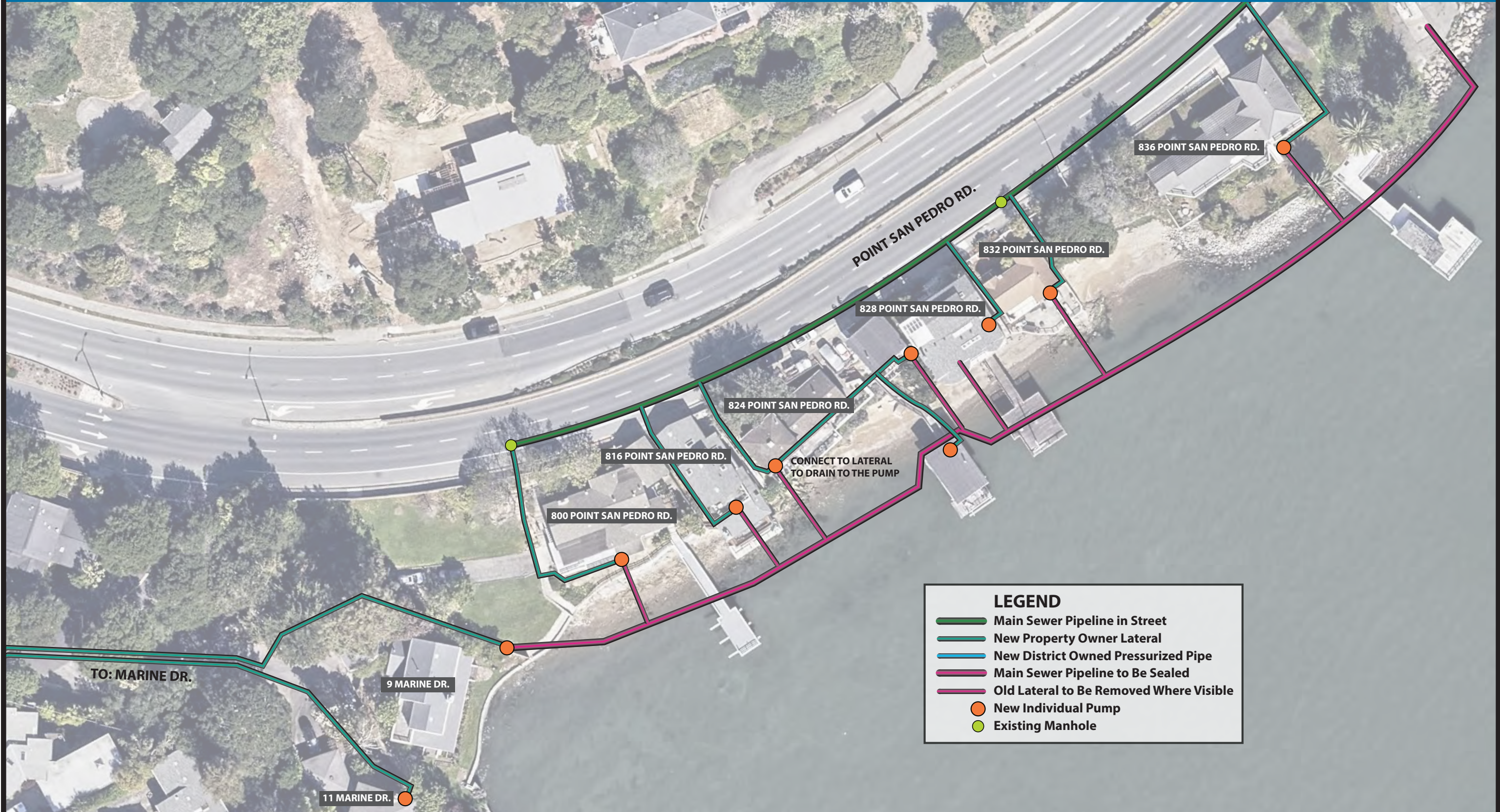
LEGEND

-  Main Sewer Pipeline in Street
-  New Property Owner Lateral
-  New District Owned Pressurized Pipe
-  Main Sewer Pipeline to Be Sealed
-  Old Lateral to Be Removed Where Visible
-  New Shared Pump
-  Existing Manhole








Individual Pumps & Laterals South Line (Alternative 4)



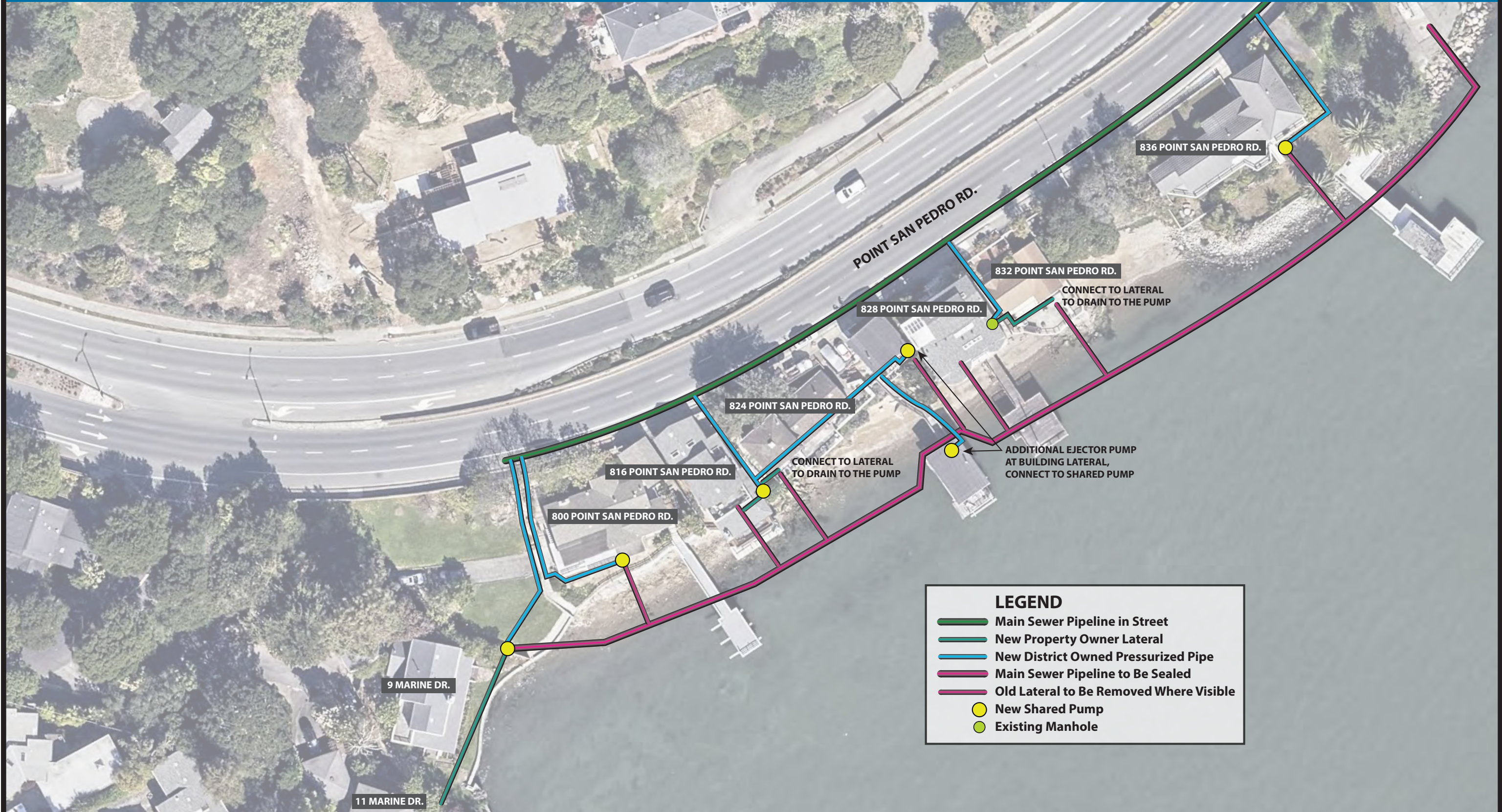
Individual Pumps & Laterals North Line (Alternative 4)










LEGEND

-  Main Sewer Pipeline in Street
-  New Property Owner Lateral
-  New District Owned Pressurized Pipe
-  Main Sewer Pipeline to Be Sealed
-  Old Lateral to Be Removed Where Visible
-  New Individual Pump
-  Existing Manhole

Shared Pumps & Laterals North Line (Alternative 3)



LEGEND

-  Main Sewer Pipeline in Street
-  New Property Owner Lateral
-  New District Owned Pressurized Pipe
-  Main Sewer Pipeline to Be Sealed
-  Old Lateral to Be Removed Where Visible
-  New Shared Pump
-  Existing Manhole