Montara Water and Sanitary District

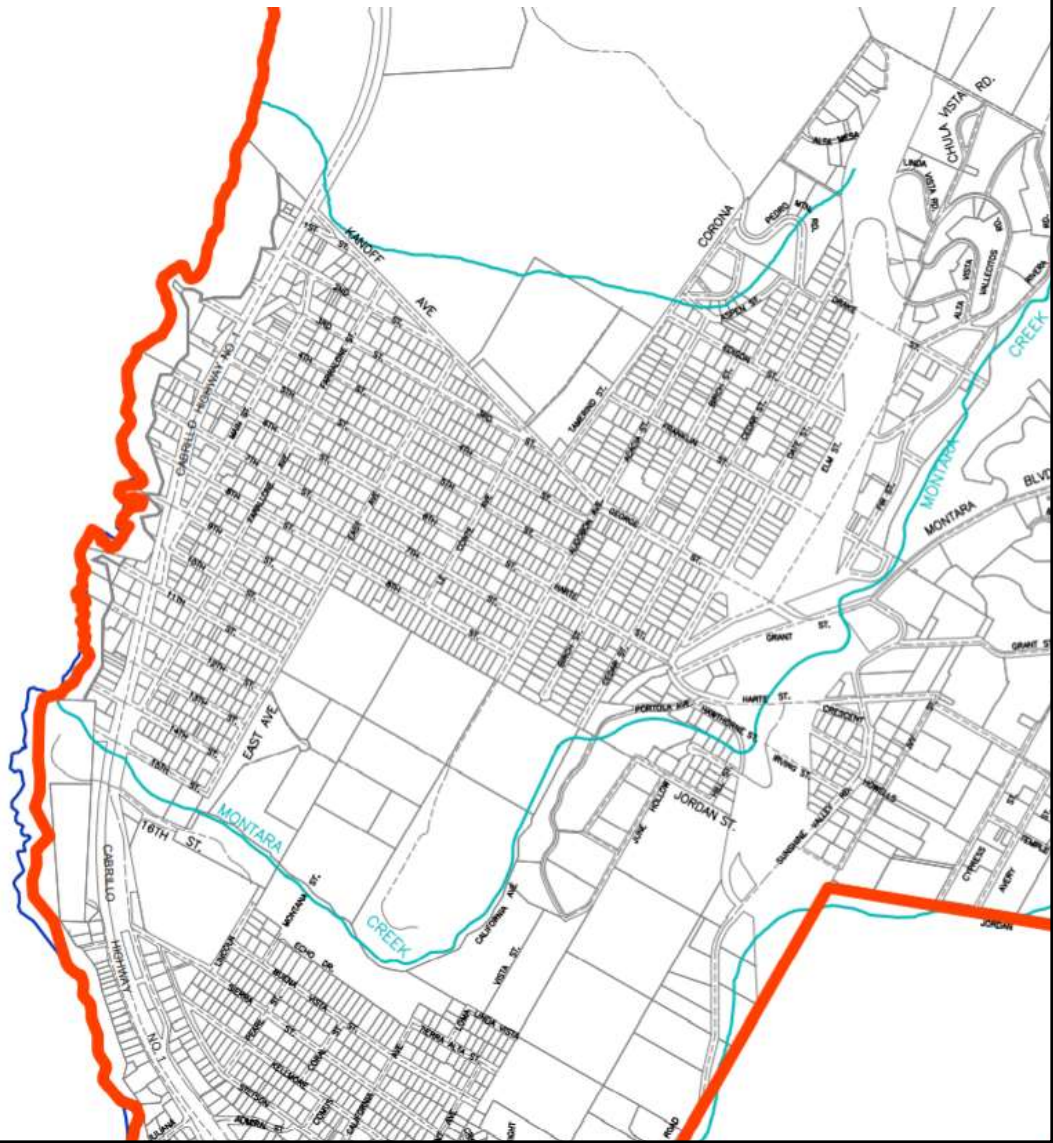
Serving the Community of Montara and Moss Beach

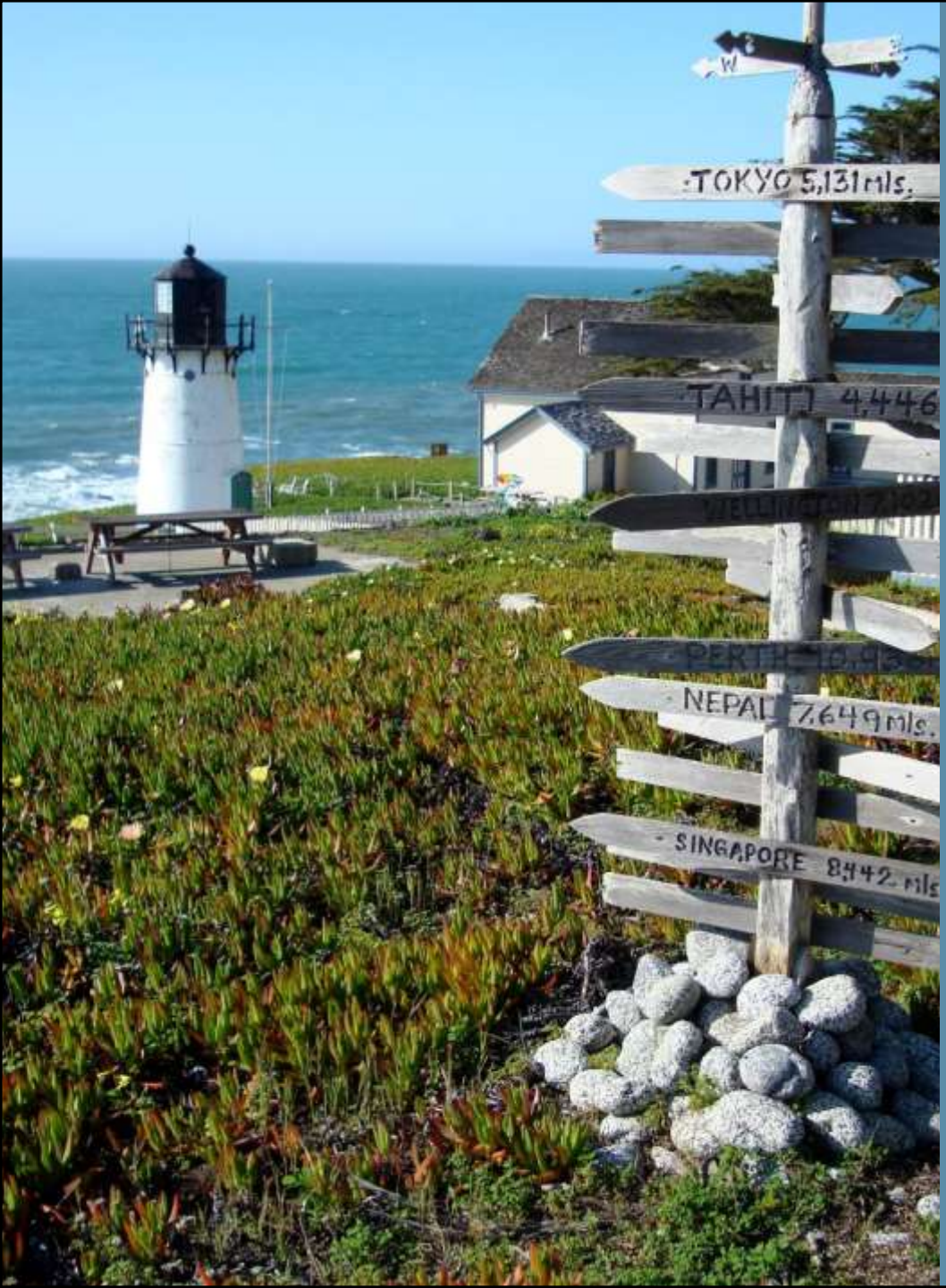
Mission

To sensitively manage the natural resources entrusted to our care,

to provide the people of Montara and Moss Beach with reliable, high-quality water, wastewater, and trash disposal services at an equitable price,

and to ensure the fiscal and environmental vitality of the district for future generations.





Strategic Discussion:

Sewer and Environmental Protection

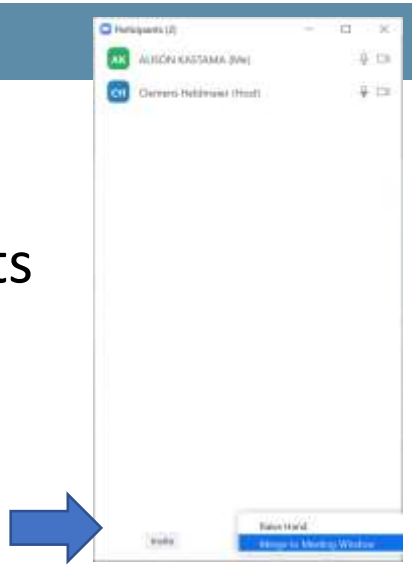
Montara Water and Sanitary District

Serving the Community of Montara and Moss Beach

How to ask a question:

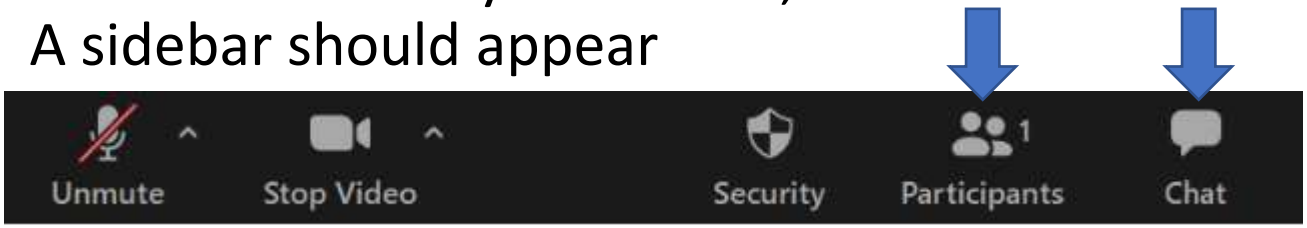
- **Raise a hand**

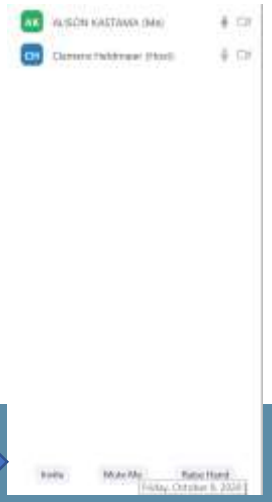
  At the bottom of your screen, click on Participants
  A sidebar should appear
  - **ON PHONE: Raise Hand - Press *9 (Unmute *6)**



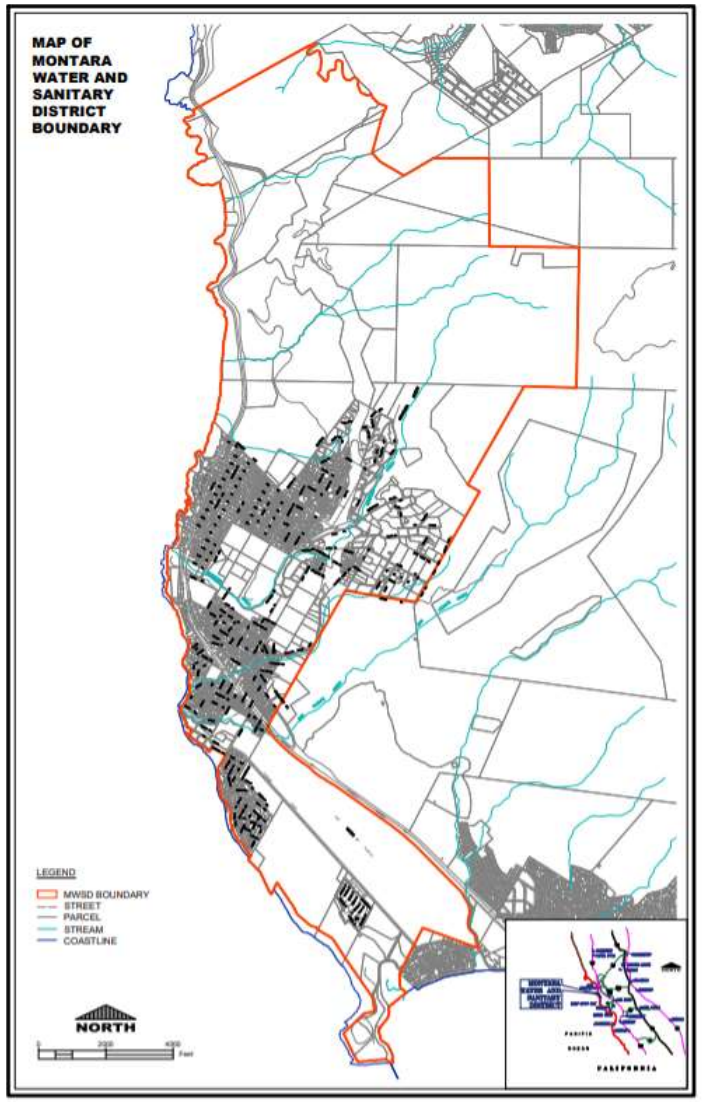
- **Chat a question to Host - Alison**

  At the bottom of your screen, click on Chat
  A sidebar should appear





Montara Water and Sanitary District



- Formed in 1958 to manage Montara **and Moss Beach's local** sewage.
- Water service added in 2003 following purchase of privately-owned, poorly managed local water system.
- Garbage collection thru contract with Recology.

MWSD Board and Staff

Board

- **Scott Boyd**
  President
- **Jim Harvey**
  President Pro Tem
- **Ric Lohman**
  Secretary
- **Peter Dekker**
  Treasurer
- **Kathryn Slater-Carter**
  Director

Administration Staff

- **Clemens Heldmaier**
  General Manager

- **Tracy Beardsley**
  District Clerk
- **Sonya Flores**
  Accounts Specialist

District Engineers

- **Water:** SRT Consulting, Tanya Yurovsky
- **Sewer:** Nute Engineering, Pippin Cavagnaro

Field Staff

- **Julian Martinez**
  Superintendent

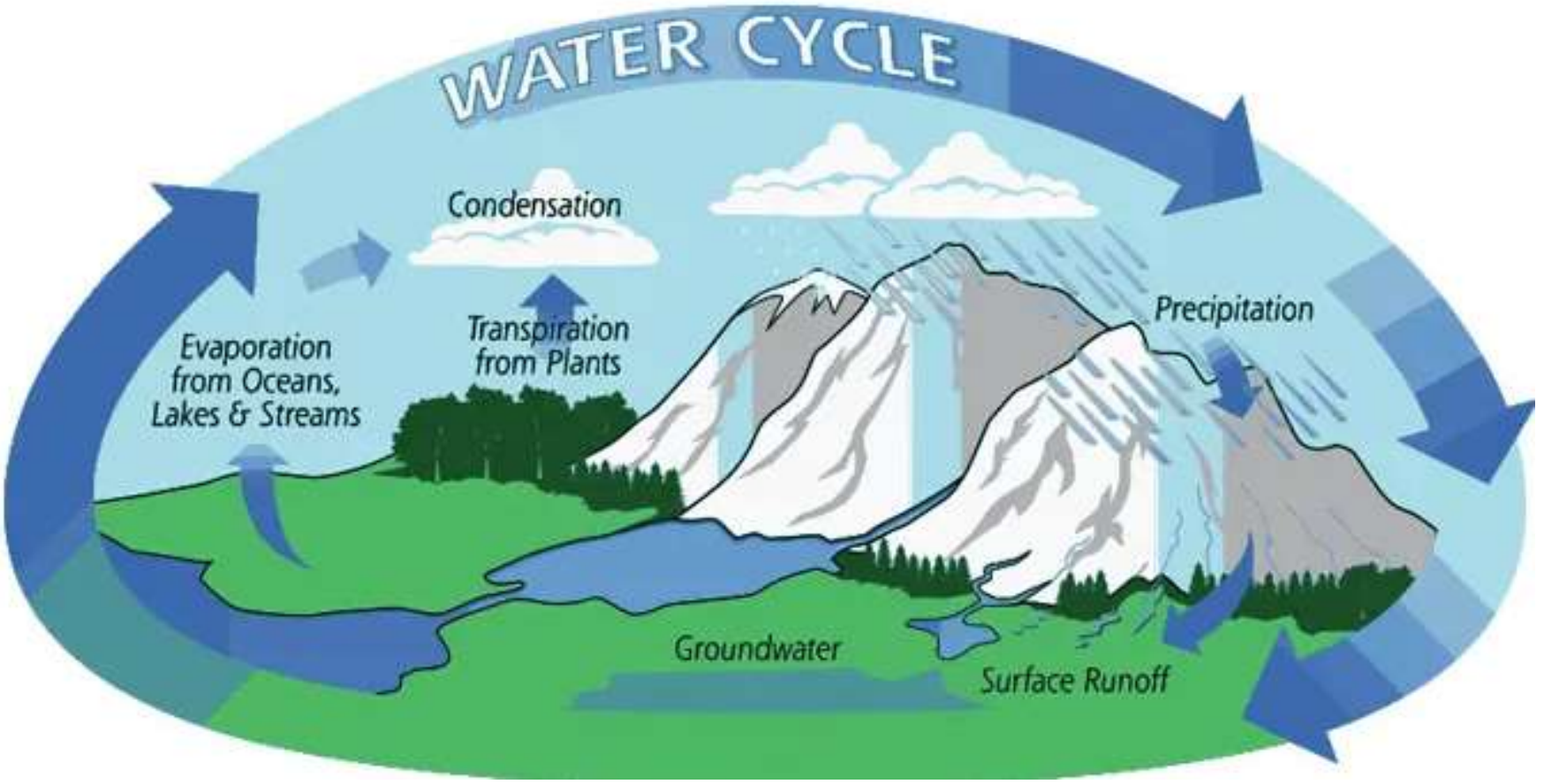
- **Nick Carrington**
  Water System Plant Operator

- **Reeson Blevins**
  Water System Plant Operator

- **Derek Dye**
  Water System Plant Operator

- **Clinton Miles**
  Water System Plant Operator

We Locally Manage Our Water Cycle

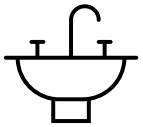


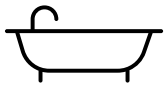
Tonight's Agenda

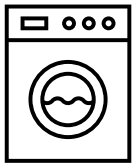
- System Overview
  - Sewer Basics
  - History
  - Regulatory Oversight
- Discussion
  - 10 to 50 Years from Now:
    - Regulatory Changes
    - Climate Change
    - Treatment & Discharge Options
    - Recycled Water

Sink to Sea…

All waste water that leaves homes from
toilets, showers, sinks,
dishwashers, clotheswashers



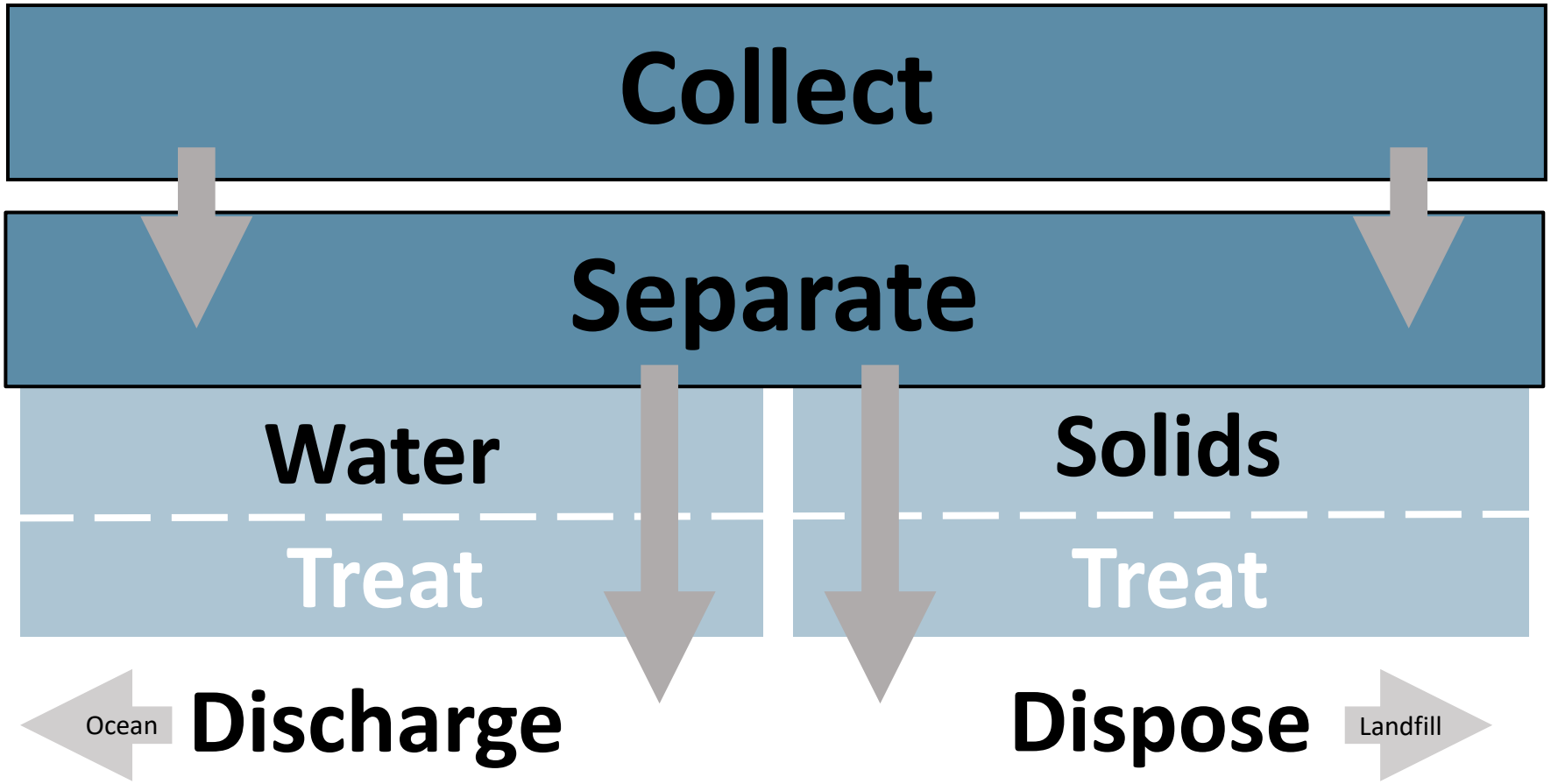




must receive some type of treatment
to protect public health and
the environment.

Regulated by the Federal Clean Water Act, US EPA,
CA Water Code (CA Water Board, Regional Water Quality Control Board)

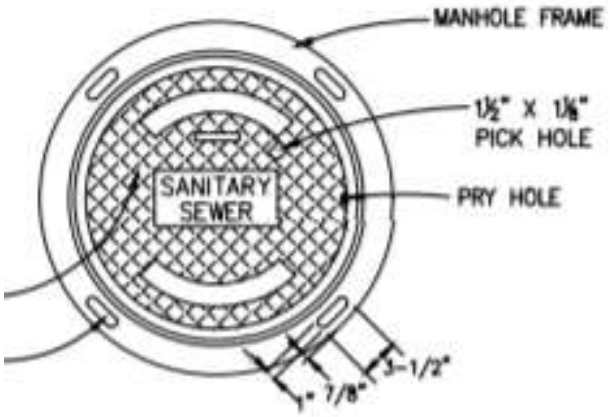
Sewage Management



Our Wastewater System:

Complex topography

- 24 miles gravity-flow sewers
- 3 miles pressurized sewers
- 13 major pumpstations
- 21 grinder pumps
- **~200,000 gallons per day**



Collects and transports…

Sewer-Authority Mid-Coastside

- The Treatment Plant (1.65 MGD):
  - Feeds, Keeps Warm, Provides Oxygen to aerobic BUGS!
  - Separates H_2O out from solids
  - Disinfects H_2O then returns to ocean (via 1900' discharge pipe)
  - Solids then 'digested' by anaerobic BUGS
    - Solids trucked offsite to landfill

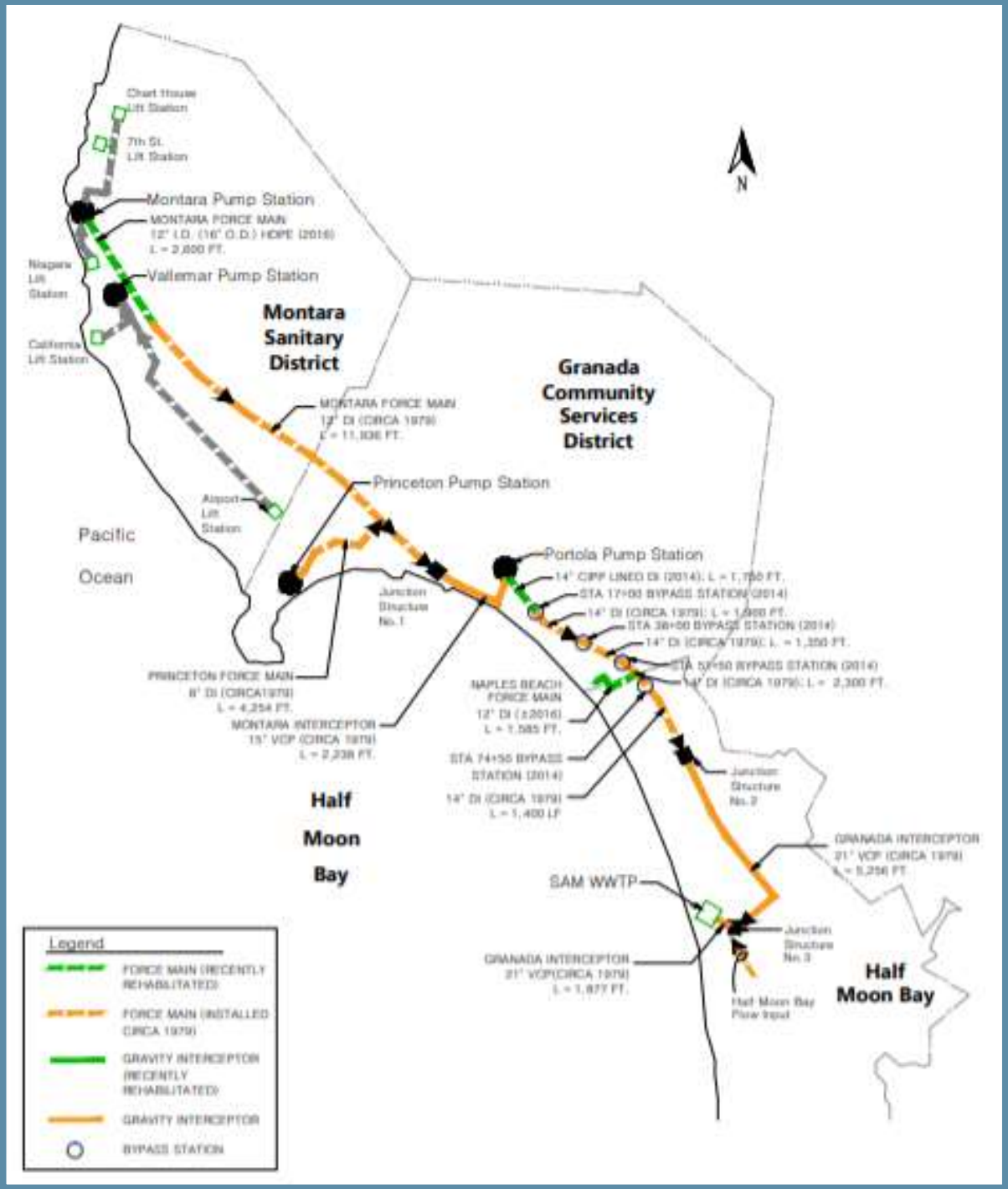
Clarifier: separating out water for treatment

…treats and manages

SAM

Sewer Authority Mid-Coastside (SAM) treats sewage from

- MWSD
- GCSD
- Half Moon Bay



MWSD Sewer System Timeline:

1960's

MWSD builds and operates new, state of the art independent wastewater system.

Meets state and federal water quality standards.

Safe ocean discharge near our office.

1970's

The Fitzgerald Marine Reserve was extended and encompassed MWSD's ocean outfall.

This action put MWSD's discharge location in violation of CA state law.

1974

State issues a series of violations to Half Moon Bay and Granada, and Montara, and ordered that each comply with state standards.

GCSD and HMB operate separate sewage systems with aging treatment plants that did not meet evolving standards.

1979

State Attorney General action forces MWSD to abandon treatment plant and created a regional need.

Sewer Authority Mid-Coastside (SAM), a Joint Powers Authority created under contract between MWSD, GCSD, and HMB was formed to address this regional need.

1979-83

SAM construction, operation and maintenance, of a consolidated regional wastewater system – **MWSD share 20%**:

- new ocean discharge pipe, located in HMB;
- new conveyance, tie-in and pumping facilities;
- new treatment facilities adequate to meet all water quality standards.

2017

In 2017, HMB filed a lawsuit against MWSD, GCSD, and SAM claiming continuing work on the Intertie Pipeline System should not be paid by HMB.

The lawsuit remains active and court hearings will continue in 2021.

The 2017 SAM Lawsuit:

SAM Owns, Operates and Maintains This Regional System.

Per the contract, this system includes the ocean outfall, conveyance and the treatment plant. The largest SAM conveyance asset, the Intertie Pipeline System (IPS), is a 7.3-mile-long series of pump stations and pipelines, force mains and gravity interceptors that delivers raw sewage from the agencies to the SAM plant for treatment and discharge.

In 2017, the City of Half Moon Bay filed a lawsuit against MWSD, GCSD, and SAM claiming continuing work on the Intertie Pipeline System should not be paid by HMB.

Under the contract, HMB's obligation to fund the operation and maintenance of the consolidated regional system, including this critical shared pipeline, is clear. Each of our communities need reliable wastewater treatment. We need all agencies to work together to address our current and future needs for the region. The Intertie Pipeline System is the tie that binds our agencies together.

Regulatory Oversight:

Whatever action/direction we take – we must conform to federal and state regulations and obtain permits to operate.

Federal Clean Water Act prevents direct discharges of pollutants into the waters of the United States through a program known as the National Pollutant Discharge Elimination System ("NPDES").

State Water Resources Control Board (SWRCB)
Authorized to implement the federal Clean Water Act in California. Sets statewide policy, coordinating and supporting the Regional Board efforts, and reviewing petitions that contest Regional Board actions.

Regional Water Quality Control Board (RWQCB)
Regional Board makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions.

Local Oversight: San Mateo County, Coastal Commission, Montara Water and Sanitary District Code

Discussion: 10 to 50 Years From Now

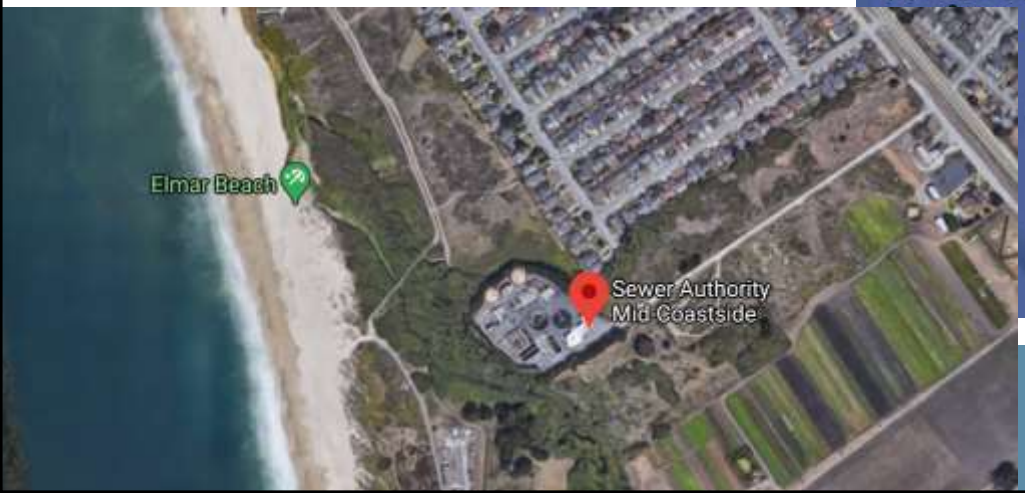
- Climate Change
  - Greater storms
  - Sea level rise
- Infrastructure Aging
  - Corrosion
  - Earth movement
  - Aging technology
- Regulatory Changes
  - Recycled water
  - Water supply needs
  - Environmental protection

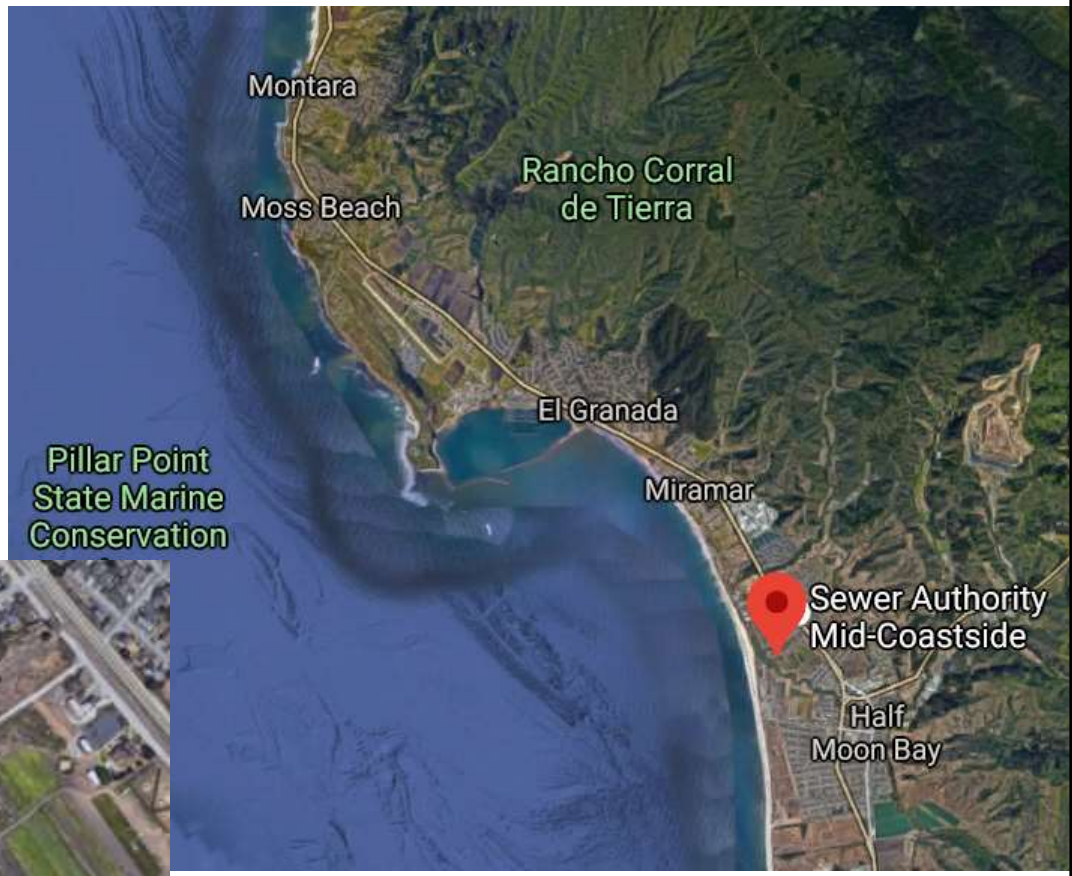
We must consider:

- Cost & impact to rates
- Regulation/Permitting

Climate Change Considerations

- Sea Level Rise
  - SAM Plant near coast – may require relocation
- Impacts to water supply
  - Greater need for effluent/recycled water





Potential CA Regulatory Changes

- Recent proposed CA legislation for sewage:
  - Require 0 discharges
  - Require 100% recycling? Abandon ocean outfall?
  - Require 50% recycling?

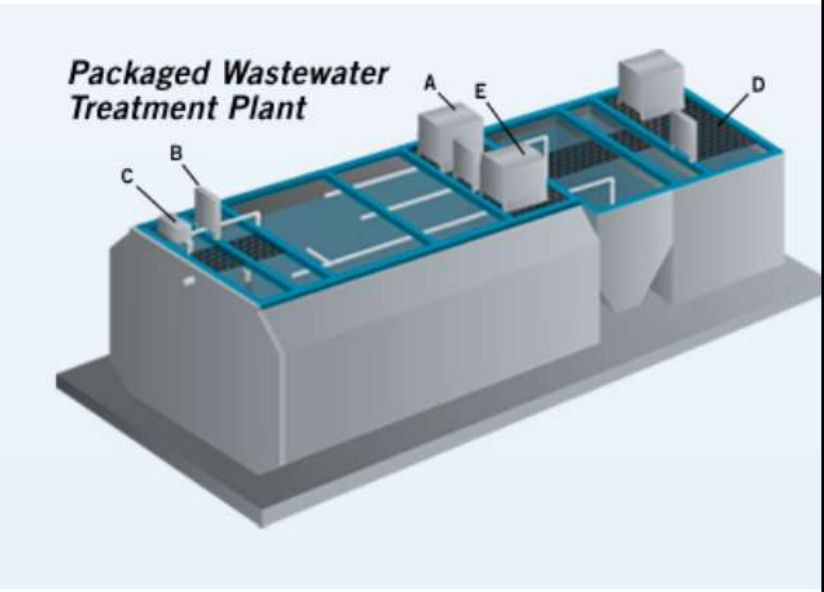
- If no ocean discharge, what do we do with treated water, sludge, solids?

Ocean Outfall Alternative:
Effluent Polishing Retention Ponds

- If less ocean discharge is required, we could look at natural effluent polishing with retention ponds
  - Uses natural processes with environmental benefits
  - Requires a large amount of space AND adjacency to sewage
  - Allows for groundwater, marsh or creek recharge AND possible education and engagement options

Sewer Treatment Examples:
Package Plant Options

- **Designed to convert flows of 3,000 to 250,000 gallons per day into clear and odor-free effluent.**
  - Custom-built self-contained units that requires minimal assembly.
  - Secondary and tertiary treatment systems.
  - Allows for groundwater, marsh or creek recharge.
  - Does not necessarily produce recycled water treatment.



Recycled Water Considerations

- CA Regulations currently limit recycled water use:
  - Indirect potable reuse for irrigation, cooling and toilet flushing
  - Groundwater augmentation with retention time

- New CA Regulations are being discussed:
  - Additional Indirect Potable Uses:
    - Surface water augmentation
  - Direct Potable Reuse (reverse osmosis; distillation)
    - Reintroduction into drinking water distribution system
    - *Requires overcoming technical and cost challenges*

Recycled Water Considerations

- Centralized or Decentralized
  - At SAM or individual communities (scalping plants)?
- Who is the customer?:
  - Paying: Consumers with year-round need
    - Ag use, large parks, play fields, golf courses
  - Non-paying: Environmental
    - Groundwater, creek, marsh recharge/replenishment

Local Considerations

MWSD produces ~200,000 dry weather sewage flow (wet weather flow could be significantly more):

At the best recycling rate (Israel achieves 85%), we would have 30,000 gallons of brine/byproduct. This is ~6 trucks a day removing byproduct.

MSWD currently has zero discharge – SAM outfall likely needed for next 10 years

Needs

How much we need to treat

Discharge location

Manage our local resources wisely

Potential Benefits

Environmental benefit – restore lost local habitat – marsh restoration, improve creek and harbor; bird habitat

Educational, engagement opportunities

Youth science programs with local schools

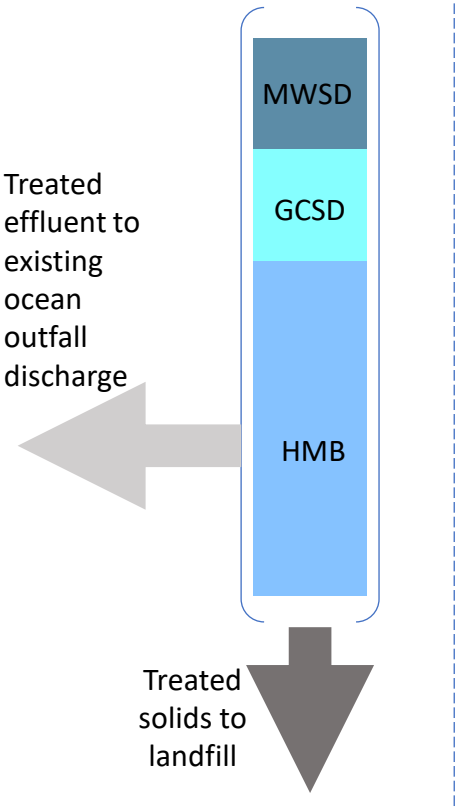
Reuse of water

Planning Considerations

Must have effluent discharge solution	Existing, permitted ocean outfall New permitted ocean outfall Rehab of old MWSD outfall Ponds
Must have solids solution	Trucked to landfill: Several truckloads a week
Cannot recycle 100%; Must have brine solution	Best recycling achieves 85% Always produces brine – needs disposal also Large energy demand Significant carbon footprint

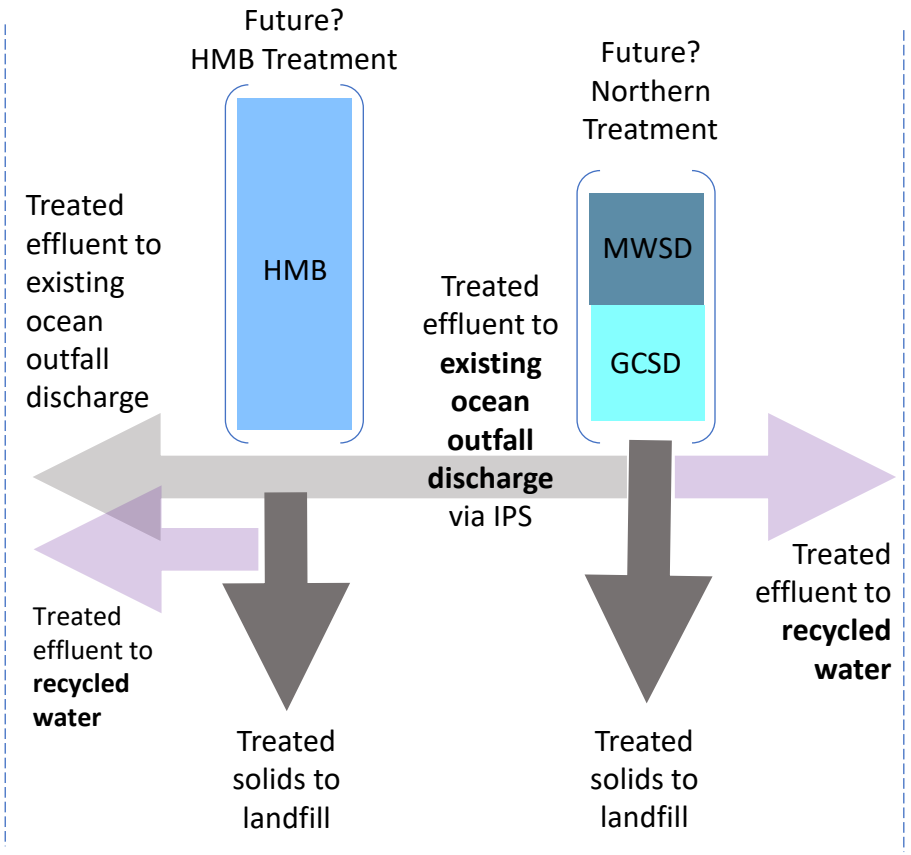
Current Treatment

Current



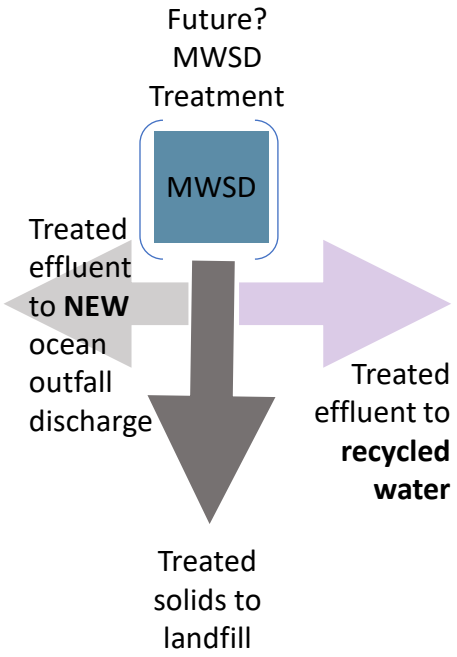
Future Treatment Considerations

Future separated, same outfall

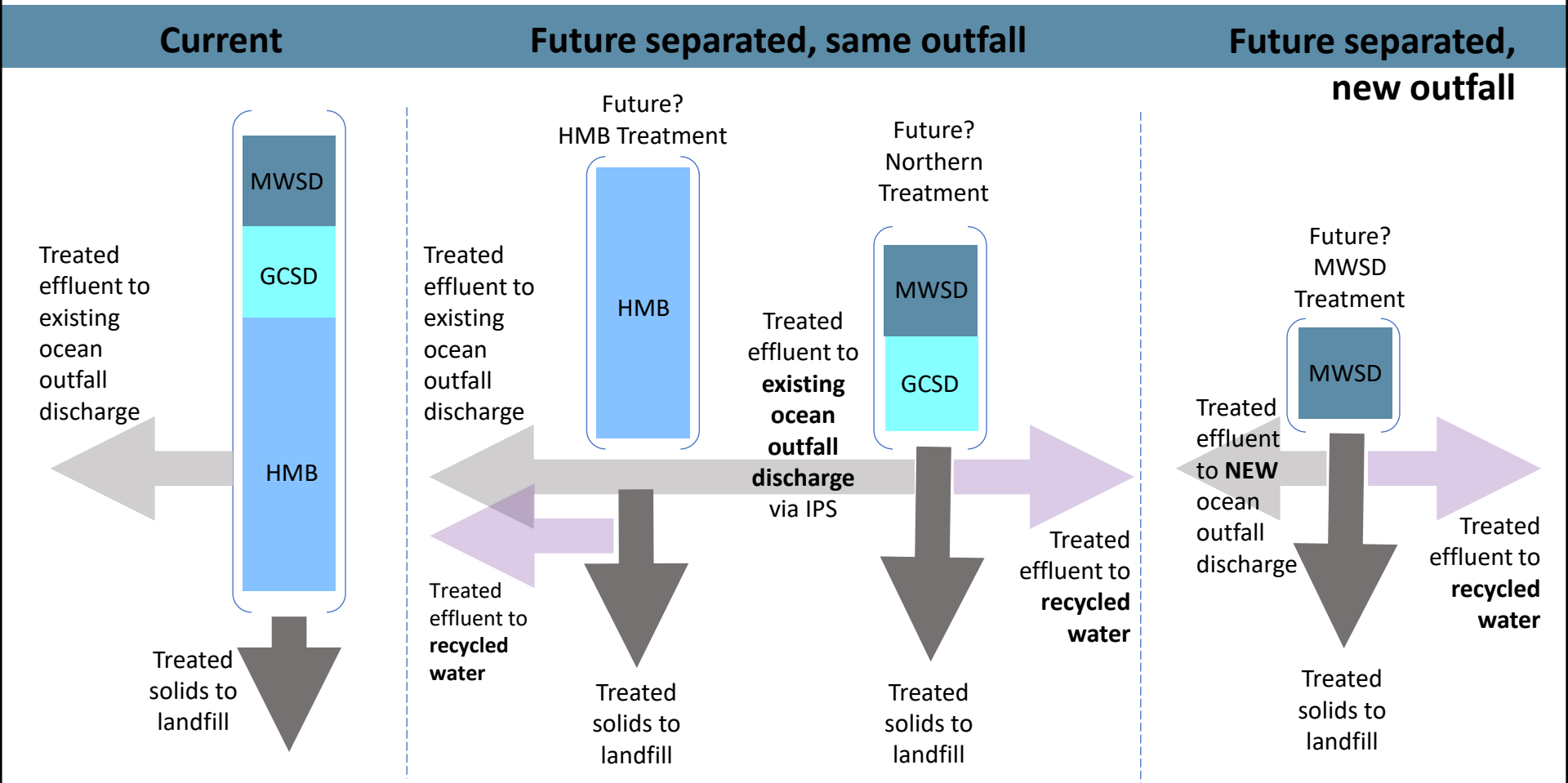


Future Treatment Considerations

Future separated, new outfall



Future Treatment Considerations

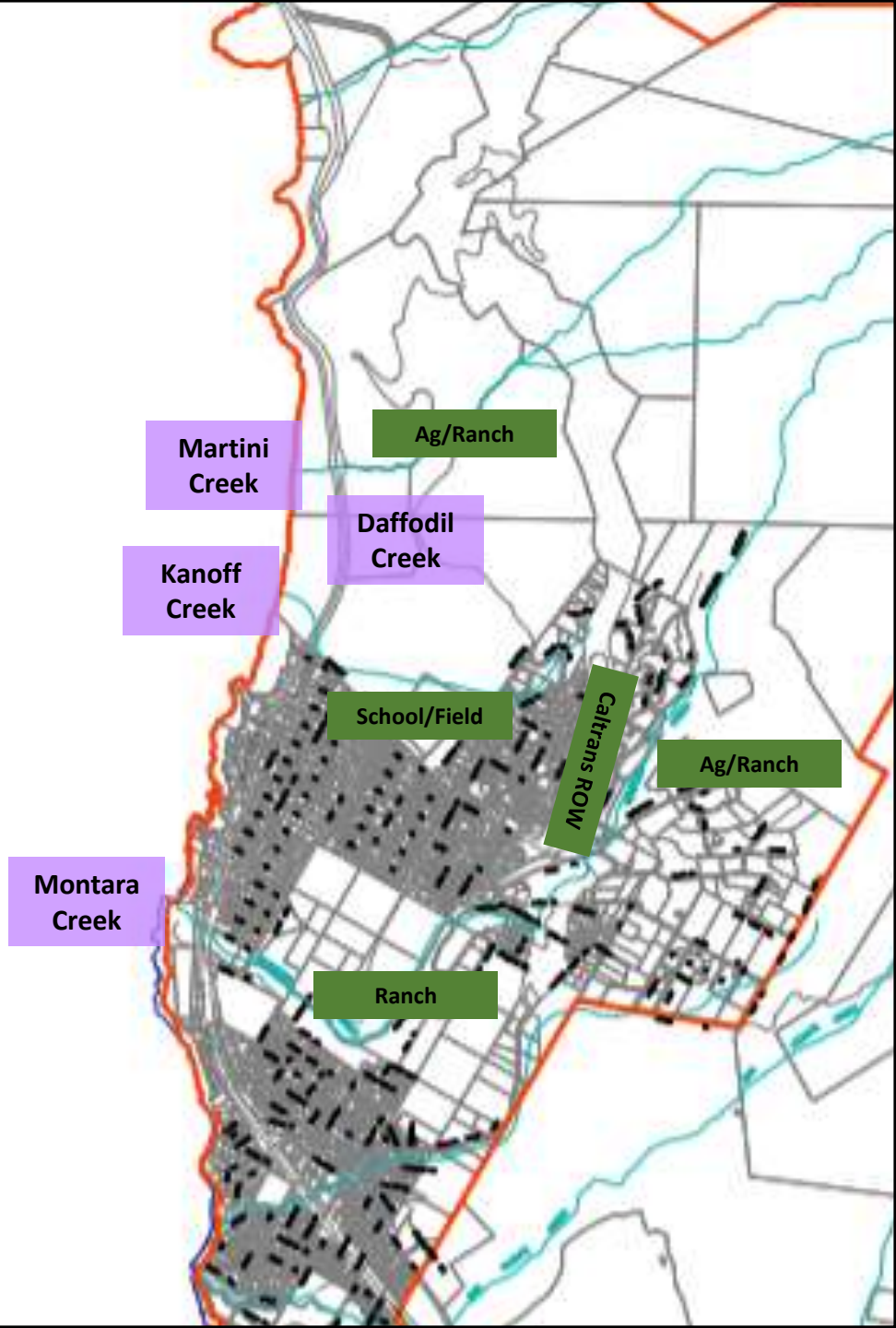


MWSD Creeks

- There are numerous creek and march watersheds within or adjacent to our service area.

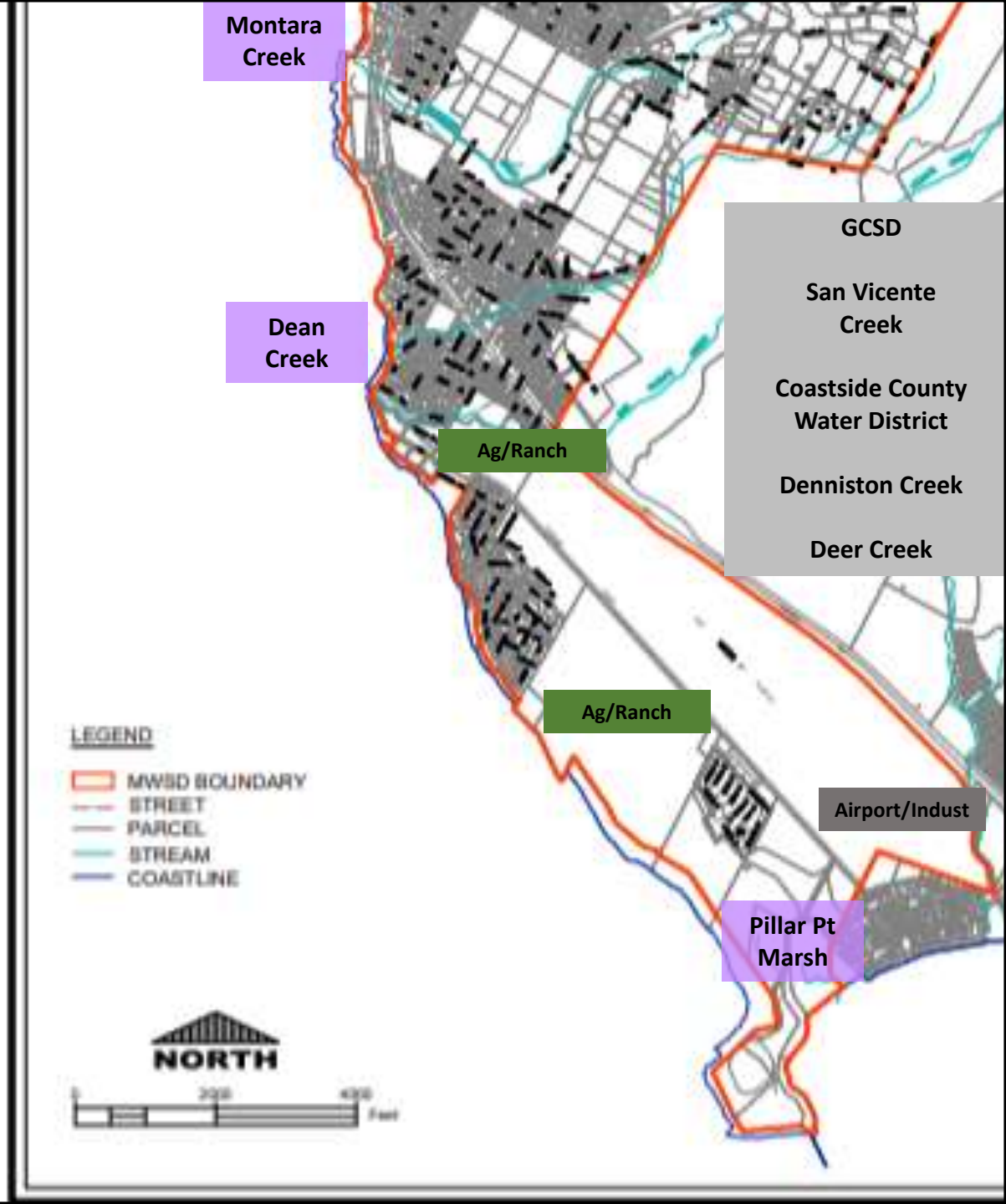
MWSD North

- There is the potential for beneficial reuse of recycled water or highly treated effluent in our community.
- Creeks, marshes, and open spaces could benefit.



MWSD South

- There will be costs whether for local treatment and reuse, or centralized coastside treatment, reuse and discharge.
- Whether we maintain our existing infrastructure or build an alternative, many millions will need to be spent.



Next Steps

- Updates to Board
- Studies…Alternatives Analysis:
  - Decentralized treatment
  - Decentralized discharge
  - Environmental benefits
  - Economic and cost benefits
  - Follow regulatory discussions/changes
  - Long-term fire protection and drought considerations
- Actions… TBD/Timeframe

Fulfilling Our Mission

Managing water distribution, collection, treatment, disposal and reuse to:

- manage natural resources and full water cycle
- reliable, high-quality services at an equitable price
- ensure vitality for future generations

Questions? Thoughts?

- **Raise a hand**
  At the bottom of your screen, click on Participants
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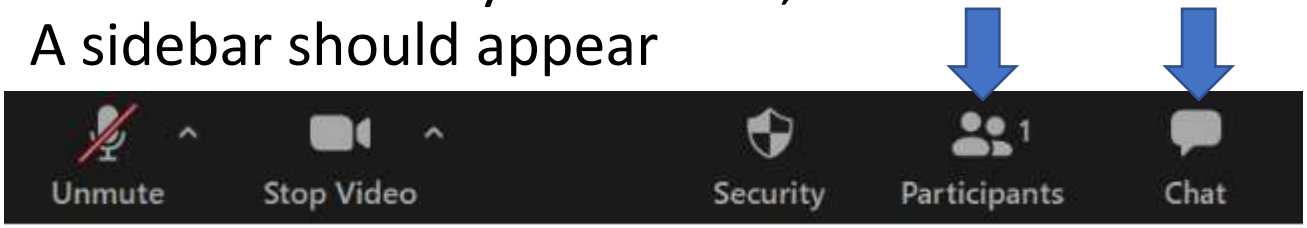

Questions:
info@mwsd.net
http://mwsd.montara.org/

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