Wastewater Treatment Plant Upgrade and Expansion Project
Virtual Community Meeting
June 11, 2020
Purpose

- To share information on the construction activities for the second phase of the Wastewater Treatment Plant Upgrade and Expansion project and to describe what the community should expect.

- To answer any questions and stay connected.
Introductions

Azalea Mitch, P.E.
Deputy Public Works Director

Kellie Benz
Communications & Public Relations

Doug Lenz, P.E.
Senior Project Manager

Chris Bessa, CCM
Construction Manager Lead

Deryk Daquigan, P.E.
Engineering Manager

Deputy Public Works Director

Communications & Public Relations

Senior Project Manager

Construction Manager Lead

Engineering Manager
Zoom Webinar Information

Questions will be answered live after the presentation

How to ask a question:
- Attendees with questions, please click 'raise your hand.'
- For Phone-in participation, press #9 to raise your hand.
- Or email info@cleanwaterprogramsanmateo.org

Question order and length:
- Questions will be asked one at a time and in order.
- Please limit your question to 3 minutes maximum.
- Questioner will be muted while speaker responds.
- If you have a follow-up question, please click 'raise your hand' again.

Recording: This meeting is being recorded. By joining this meeting through Zoom you agree to be recorded.
Agenda

- Clean Water Program Overview
- Wastewater Treatment Plant Upgrade & Expansion Update
  - Ongoing Construction
    - Phase 1: Site Preparation
  - Upcoming Construction
    - Phase 2: Foundation Piles
- Question & Answer Session
Clean Water Program Overview
Existing Wastewater System

Existing Collection System

Collect Wastewater

Existing Wastewater Treatment Plant (WWTP)

Treat Wastewater

Discharge Treated Water to Bay
Sources of Infiltration and Inflow
Peak Wet Weather Conditions & Insufficient Capacity

What Causes Sewer Overflows?

*Sewage PLUS*

*Infiltration/Inflow of Rain*

*Water Entering the System*

Delaware St & Saratoga Dr
Sewer Overflow Impacts & Regulatory Violations

SF BAY

LAGOON

CREEKS

WARNING

THESE WATERS ARE CONTAMINATED AND ARE NOT SUITABLE FOR SWIMMING OR OTHER WATER CONTACT ACTIVITIES

SAN MATEO COUNTY ENVIRONMENTAL HEALTH
FOR FURTHER INFORMATION, CALL 363-4305

CLOSED / CERRADO

Based on recent water monitoring, this beach is closed due to sewage contamination / contaminación de aguas residuales.
Clean Water Program Goals

- **Replace** aging infrastructure and facilities
- **Build** wet weather sewer system capacity assurance to prevent overflows
- **Meet** current and future regulatory requirements
- **Align** with the City of San Mateo and Foster City’s sustainability goals

Protecting the Bay and our Community for a Sustainable Future
WWTP Upgrade & Expansion
Project Update
WWTP Site Location and Vicinity
WWTP Entry View From East 3rd Avenue

- Pedestrian & Bike Path with Interpretive Landscape
- Administration Building with Entry Plaza & Educational Area
- Metal Fabric Screen with Estuary Graphic
- Educational Signage

Detroit Dr.

East 3rd Ave.
Pedestrian & Bike Path with Landscape Features

- Treatment Process Facility
- Stormwater Treatment using Landscape
- Administration Building
- Educational Signage with Site History and Treatment Process
- Seating Along the Path Provide Areas to Rest
- Detroit Dr.
Public Interface at Administration Building

- Public Entry to the WWTP
- Existing WWTP
- Metal Fabric Screen with Estuary Graphic
- Bike/Pedestrian Path
- Indoor Education & Exhibit Space
- Educational Signage and Outdoor Interpretive Area
Continuous Outreach & Engagement
Construction Schedule Overlaps (Phases 1-3)

Construction duration for all three phases is approx. 5 years total.

Phase 1 - Site Preparation

- July 2019
- December 2020
Construction Schedule Overlaps (Phases 1-3)

Phase 1 - Site Preparation: July 2019 to December 2020

Phase 2 - Foundation: June 2020 to January 2022

Construction duration for all three phases is approx. 5 years total
Construction Schedule Overlaps (Phases 1-3)

Phase 1 - Site Preparation
- Start: July 2019
- End: December 2020

Phase 2 - Foundation
- Start: January 2022

Phase 3 - Facilities
- Start: September 2020
- End: September 2024

Construction duration for all three phases is approx. 5 years total
Ongoing Construction

Phase 1 - Site Preparation
Aerial View of Project Site Prior to Construction
Phase 1 – Site Preparation (Construction Began Fall 2019)

Conceptual Rendering of Phase 1 Construction Work

Live Web Camera Locations
Construction Site Live Video
www.CleanWaterProgramSanMateo.org/wwtp/

Wastewater Treatment Plant Nutrient Removal and Wet Weather
Flow Management Upgrade and Expansion Project

SOUTH CAMERA

EAST CAMERA
Upcoming Construction
Phase 2 – Foundation (Piles)
3D Model View of the Piles Design

- Administration Building
- Treatment Process Facility
- Ground Level
- Piles Supporting the Structures
  - Approx. 2,000 total
  - Ranging 80 – 105 ft long
What is a Foundation Pile & Why are They Needed?

- Prevent the structures from uplift (floating) due to high groundwater
- Prevent settlement (sinking)
- Keep the structures in place during seismic events

**Representation of Project Site Soil Conditions**

**Elevation in Feet (City of San Mateo Datum)**

- NEW WWTP STRUCTURES
- PILE CAP
- YOUNG BAY MUD (SOFT, WEAK SOIL)
- OLD BAY MUD (STIFF, STRONG SOIL)

**Pile**

**Long Load**

** nepenthes**
Stage 1 Pile Driving

Duration: ~ 6 months
Late-June 2020 – December 2020

Install ~1500 Piles in the Excavated Area

Temporary Sound Wall to Reduce Noise
Stage 2 Pile Driving

Duration: ~2.5 months
July 2021 – Mid-September 2021

Install ~500 Piles at Ground Level
Temporary Sound Wall to Reduce Noise

Existing WWTP
Detroit Dr
East 3rd Ave
Pile Type and Driving Method

- Conducted extensive data gathering and analysis to select the optimum pile system

- **Pre-cast Concrete Piles**
  - *Optimum for the site soil conditions and structural design*
  - *Pre-cast, i.e. manufactured off-site in a controlled environment*
  - *Cost effective*

- **Hydraulic Hammer**
  - *Lower noise levels*
  - *No smoke emissions*

Image Source: https://www.keller.co.uk/expertise/techniques/driven-precast-piles
Expected Noise Levels from Pile Driving

- Pile driving noise is expected as follows:
  - Stage 1 starting late-June 2020 for approx. 6 months
  - Stage 2 starting July 2021 for approx. 2.5 months

- Noise levels will vary depending on pile location and distance from receptor

- Modeling indicates anticipated peak noise levels between 90 and 100 dBA at the property line for majority of the time
  - Stage 2: Some days are anticipated to exceed 110 dBA

Typical Noise Levels Comparison
Expected Noise Levels During Pile Driving and Noise Control Measures

### Shoreview Neighborhood

- **Local Business**

### Construction Site Boundary

- **Excavation Boundary**

### Temporary Sound Walls

<table>
<thead>
<tr>
<th>Distance of Receptor from Pile (ft)</th>
<th>Noise Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 50</td>
<td>90 – 110</td>
</tr>
<tr>
<td>50 – 100</td>
<td>85 – 100</td>
</tr>
<tr>
<td>100 – 200</td>
<td>78 – 95</td>
</tr>
<tr>
<td>&gt; 200</td>
<td>&lt; 90</td>
</tr>
</tbody>
</table>

![Noise Map with Distance and Noise Levels](image-url)
Construction Hours

- Construction site open from Monday to Friday, 7 am – 7 pm
- **Pile driving activities are restricted to weekdays only, 8 am – 5 pm**
- Typical construction day is expected to be 8-10 hours
- Construction work is not planned for weekends
  - *Exceptions may be needed, but only with City approval*
  - *Public notification would be provided*
Phase 2 – Noise Exception Permit

- Project team conducted a thorough evaluation of pile types, installation methods, noise abatement techniques, and construction scheduling.

  — Concluded that the work will generate noise levels exceeding 90 dB outside the site

- Municipal Code: “the noise level at any point outside of the property plane of the project shall not exceed 90 dB.”

- City Manager can issue an exception permit “if a diligent investigation of available noise abatement techniques indicates that meeting the noise level requirement would be impractical.”
Phase 2 Construction Monitoring

- **Vibration Monitors**
  - Monitoring during on-site test pile driving indicated low risk
  - Continuous monitoring at four locations

- **Groundwater Monitors**
  - Continuous groundwater levels monitoring at four observation wells
  - Periodic surveying to monitor potential ground settlement

- **Noise Monitors**
  - Continuous noise monitoring at two locations
Phase 2 – Construction Traffic Control (General)

- Use of City approved haul routes only
- Enforce Traffic Management Plan
  - No trucks waiting on J. Hart Clinton Dr./East 3rd Ave
  - Right turn into site from J. Hart Clinton Dr.
  - Left turn from Detroit Dr.
  - Minimize construction traffic during commute hours
Phase 2 – Construction Traffic Control

Anticipated Truck Traffic:

- Estimated 20 - 25 trucks per day
- “Just-in-time” delivery
- No truck parking on J. Hart Clinton Dr./ East 3rd Avenue

Delivery Time:

- Piles unloading only between 7 am and 7 pm on weekdays
- No deliveries between 4 pm and 5:30 pm to minimize impact during peak commute hours

Truck Delivering Piles During On-Site Test Pile Driving (2017)
How to Reach Us & Stay Informed

Contact Us
✉️ info@CleanWaterProgramSanMateo.org

Communication Hotline: 650-727-6870

Sign Up for WWTP-Project-Specific Email Updates
www.CleanWaterProgramSanMateo.org

City Social Media:
Follow City of San Mateo on Facebook, Twitter, and NextDoor for public updates
Question & Answer Session
Zoom Webinar Q&A Info and Panelists

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