



Underground Flow Equalization System Project

Planning Commission Study Session

August 27, 2019



Agenda

- Report back from Planning Commission Meeting of April 9th
 - Background
 - Outreach Activities
- Construction impacts and monitoring
- Q&A session



May 21, 2019 Community UFES Meeting





**Sanitary Sewer Overflow (SSO)
at Saratoga Dr & Delaware St**

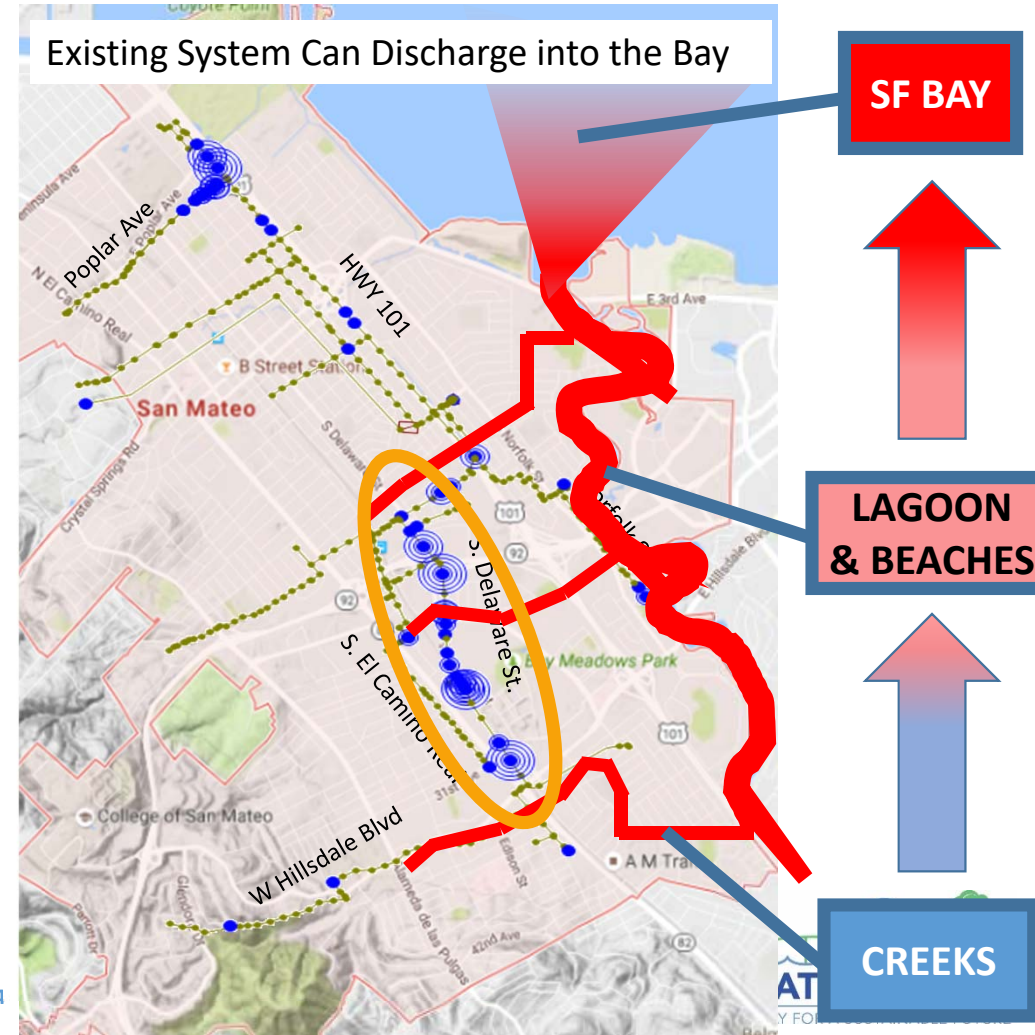
Why Is the UFES Project Needed?



- Meet Cease & Desist Order requiring prevention of sanitary sewer overflow (SSOs) and local beach closures
- Provide system capacity and optimize collection system performance during storms
- Improve safety and reliability of the system and reduce discharges of raw sewage in San Mateo and the Bay

Existing Storage System on Delaware St

- Temporary baker tanks



Summary - UFES Public Outreach Activities

- Over 50 Community engagements since 2016
- Planning Commission Meeting April 9, 2019 – DEIR, SUP & SPAR
- Recent Community Meeting on May 21, 2019 at Event Center (over 90 attendees)
- Key Commissioners & Community Concerns Areas:
 - Construction Approach & Visual Impacts
 - Piling & Shoring Method & Duration
 - Street Closures and Pedestrians and Bike Accessibility & Continued Usage
 - Noise, Dust, Vibrations, Settlement, and Traffic Management



Project Location & Features



Final UFES Site



UFES Site – Saratoga Drive – Before



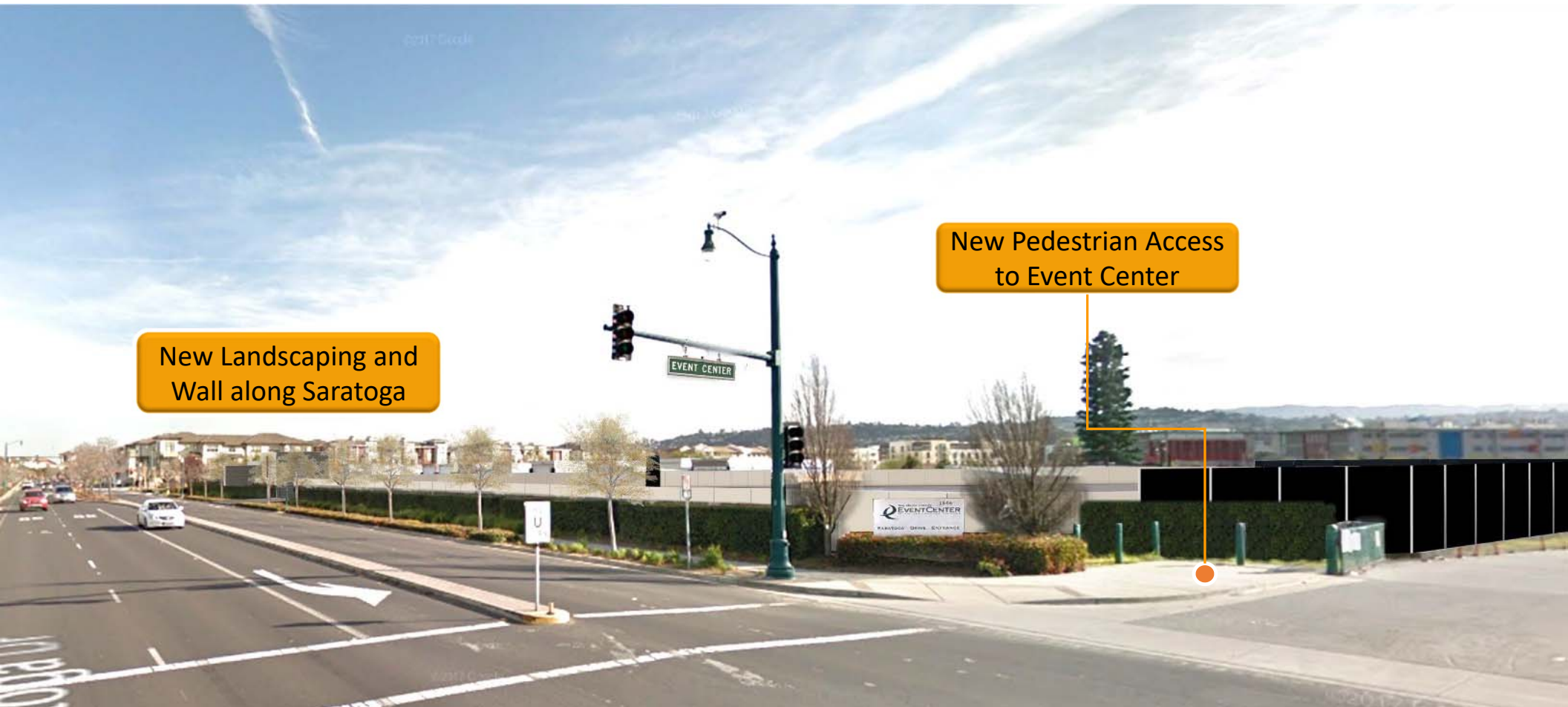
UFES Site – Saratoga Drive – After



UFES Site – Event Center Entrance – Before



UFES Site – Event Center Entrance – After




New Landscaping and
Wall along Saratoga

New Pedestrian Access
to Event Center

UFES Site – Sidewalk off Saratoga – Before



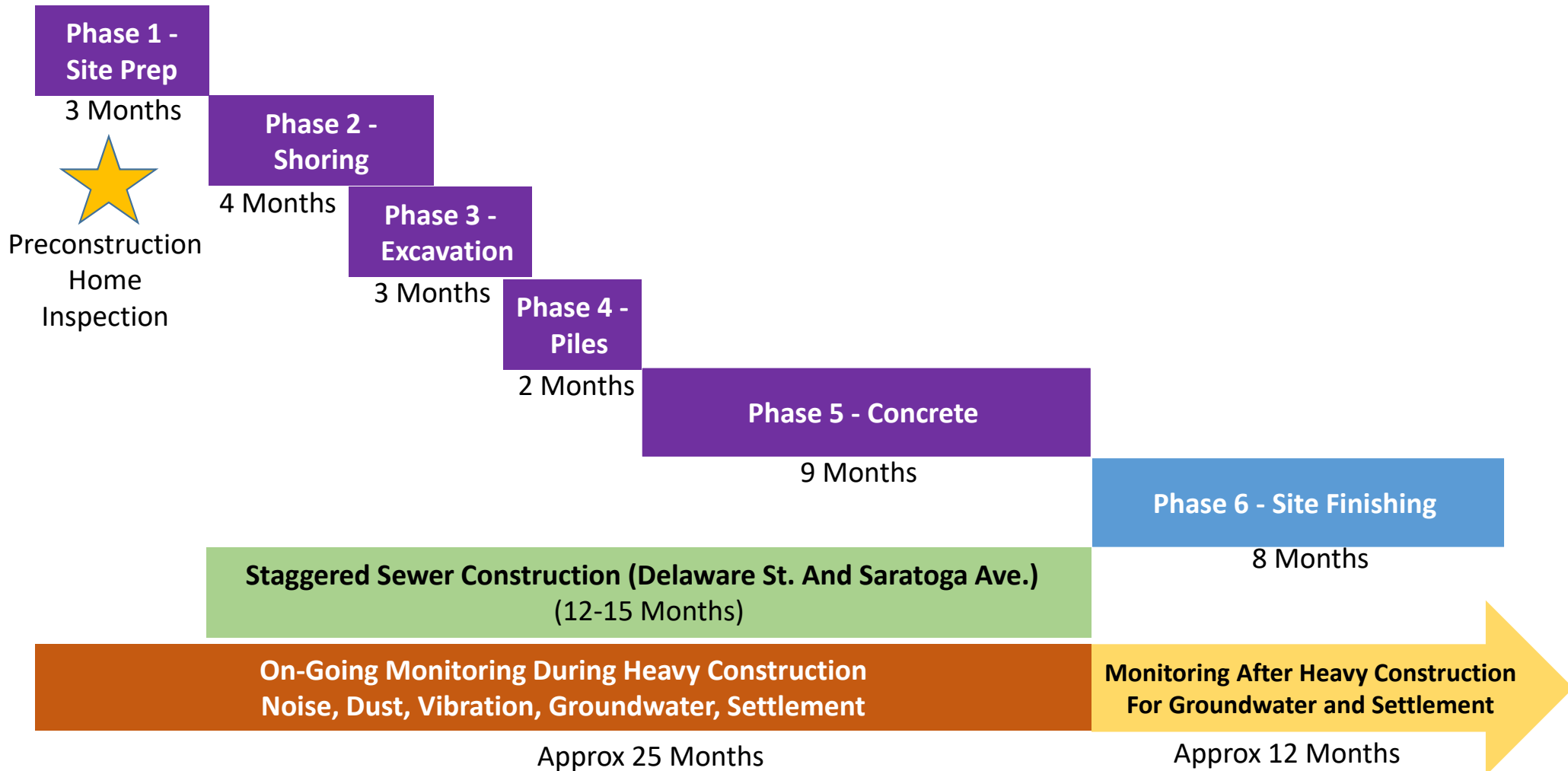
UFES Site – Sidewalk off Saratoga – After



New Treated Air Vent
Away from Bay
Meadows Park –
4 feet above wall
16-in diameter

New Plantings and
Wall along Saratoga

UFES Project Phases & Construction Schedule



Construction Hours

- Allowable construction hours are Monday to Friday, 7 am – 7 pm
- Typical construction day is expected to be 8-10 hours
- Construction work is not planned for weekends or outside hours of 7 am – 7 pm
 - *Exceptions may be needed, but only with City approval (e.g. concrete pour)*



Minimizing UFES Construction Impacts

- Noise
- Dust
- Settlement
- Vibration
- Traffic
- Pipeline Construction



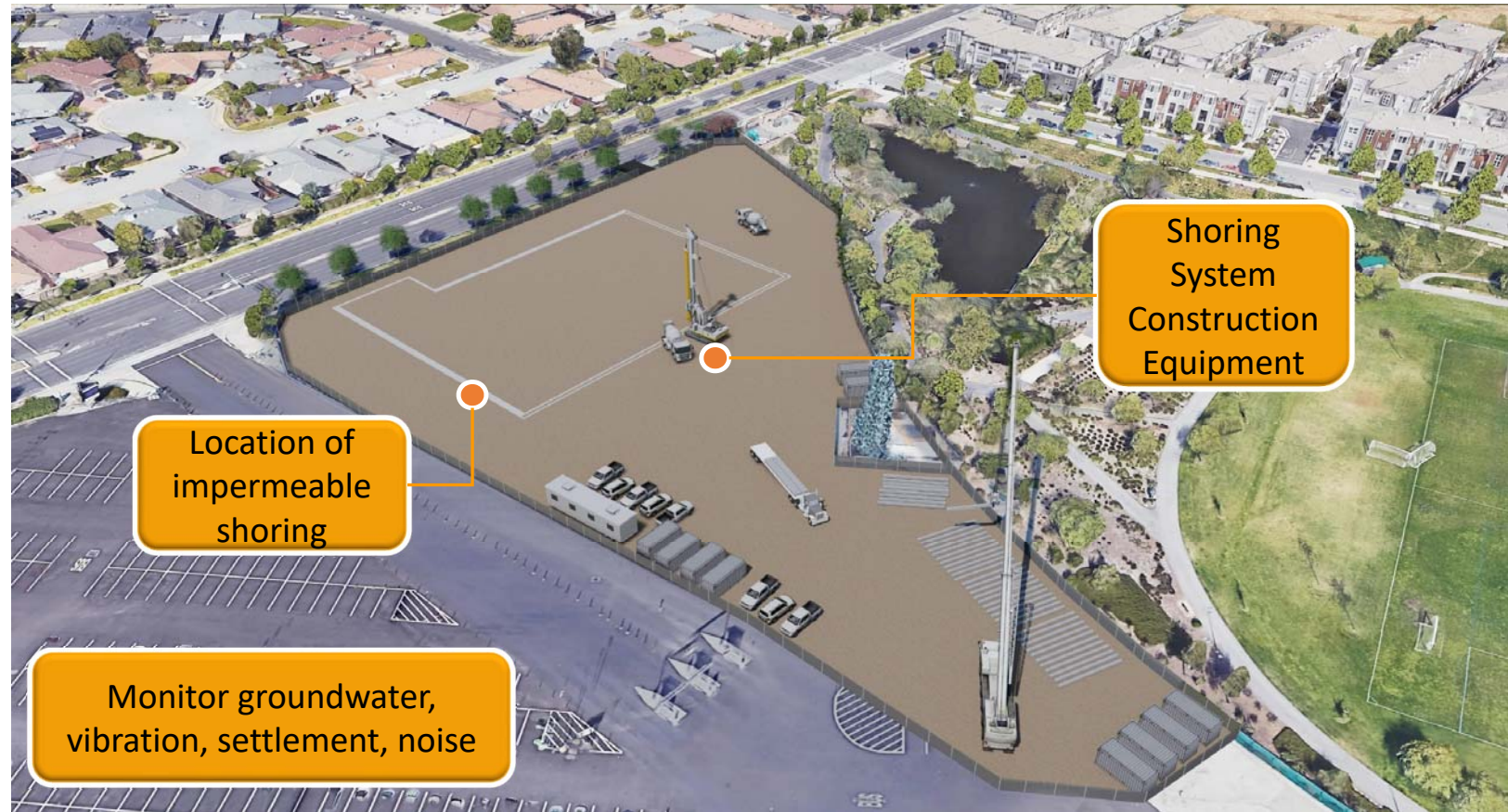
Addressing Noise Concerns

- *Eliminated Sheet Piling shoring* (not using method used at CalTrain project)
 - Evaluated and selected three shoring alternatives with lower noise levels*
- *Eliminated Driven Piles for foundations*
 - Evaluated and selected drilled micropiles for foundation*
- Providing noise monitoring during construction



Shoring Installation

Duration: 4 months



Shoring System Evaluation Process

- We evaluated 6 different typical shoring methods
- What factors did we use?
 - *Technical feasibility – does it work for this site?*
 - *Duration of installation*
 - *Dewatering requirements*
 - *Noise*
 - *Vibration*
 - *Cost*



Technically Feasible / Selected Shoring Systems



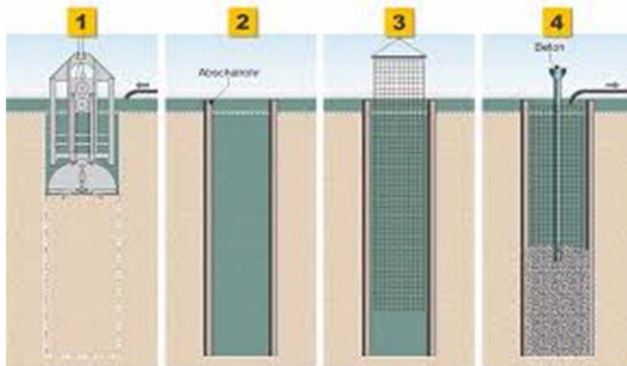
Slurry Walls



Deep Cement Soil Mixing



Secant Pile Walls



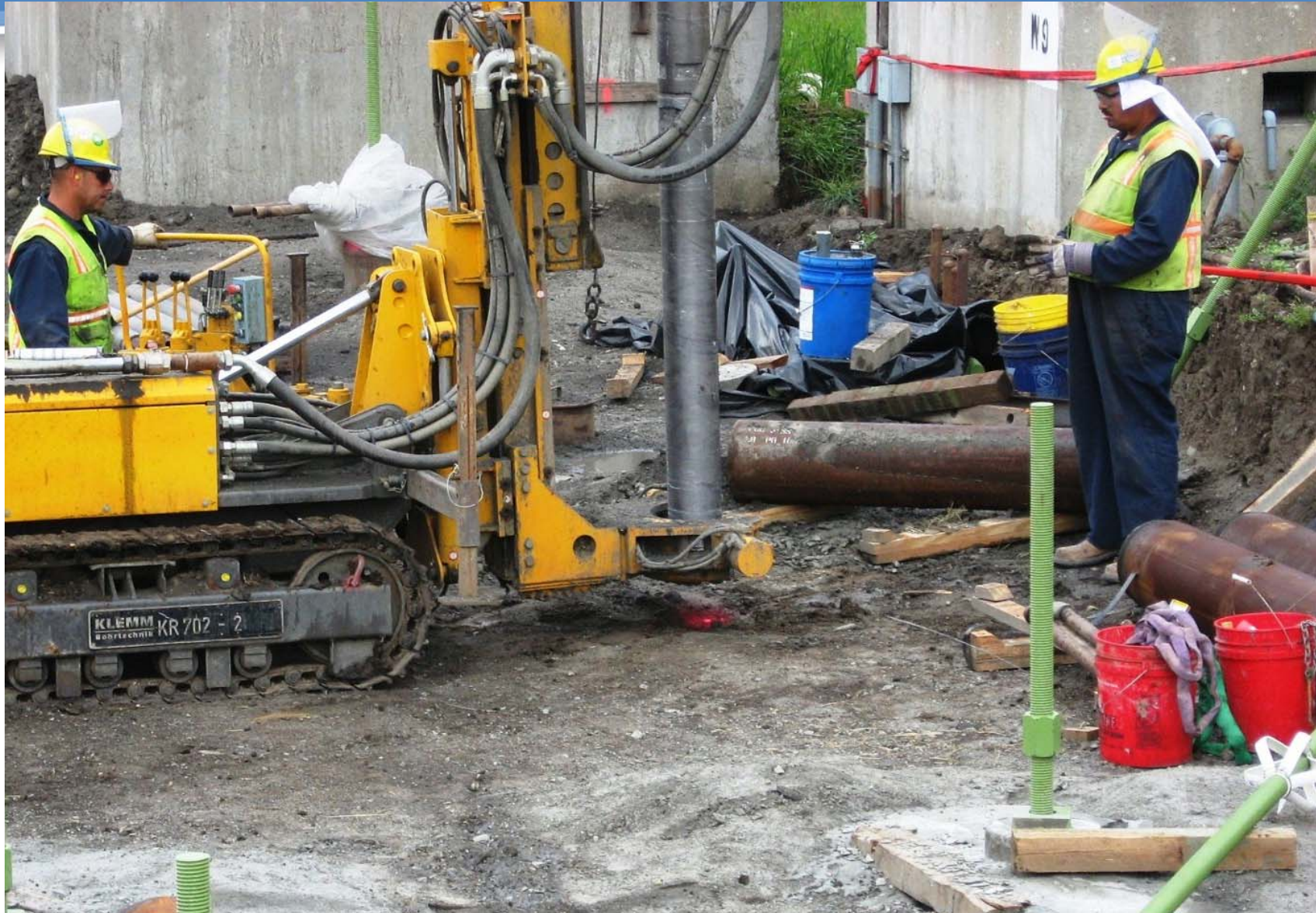
Foundation Pile Installation

Duration: 2 months



Drilled Micropiles

Selected
Foundation Pile
Method



UFES Facility

Top of
Structure

Bottom of
Excavation

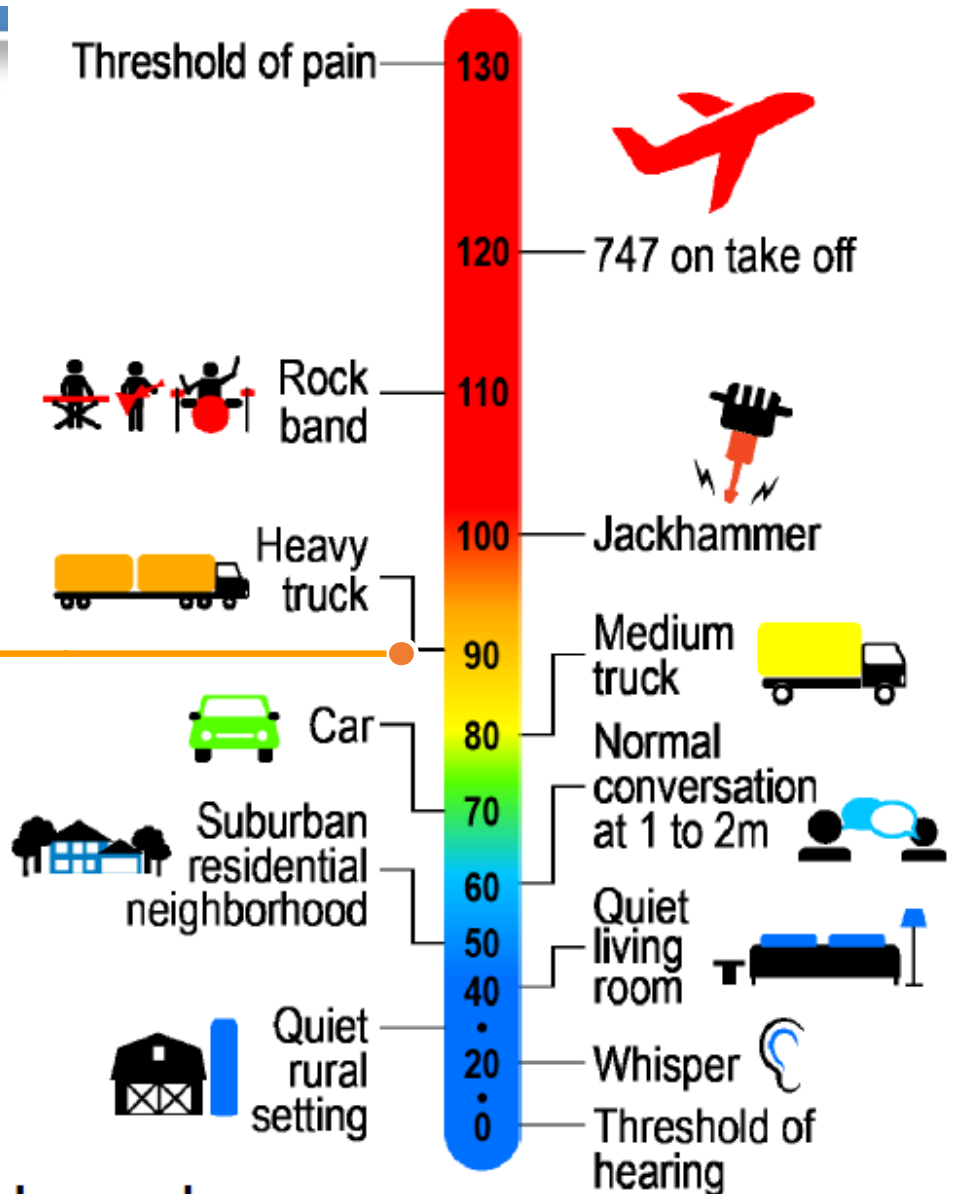
~270 Micropiles
under structure
extend 40 feet
below bottom

Overall Dimensions of Facility:
200 ft L x 150 ft W x 50 ft D

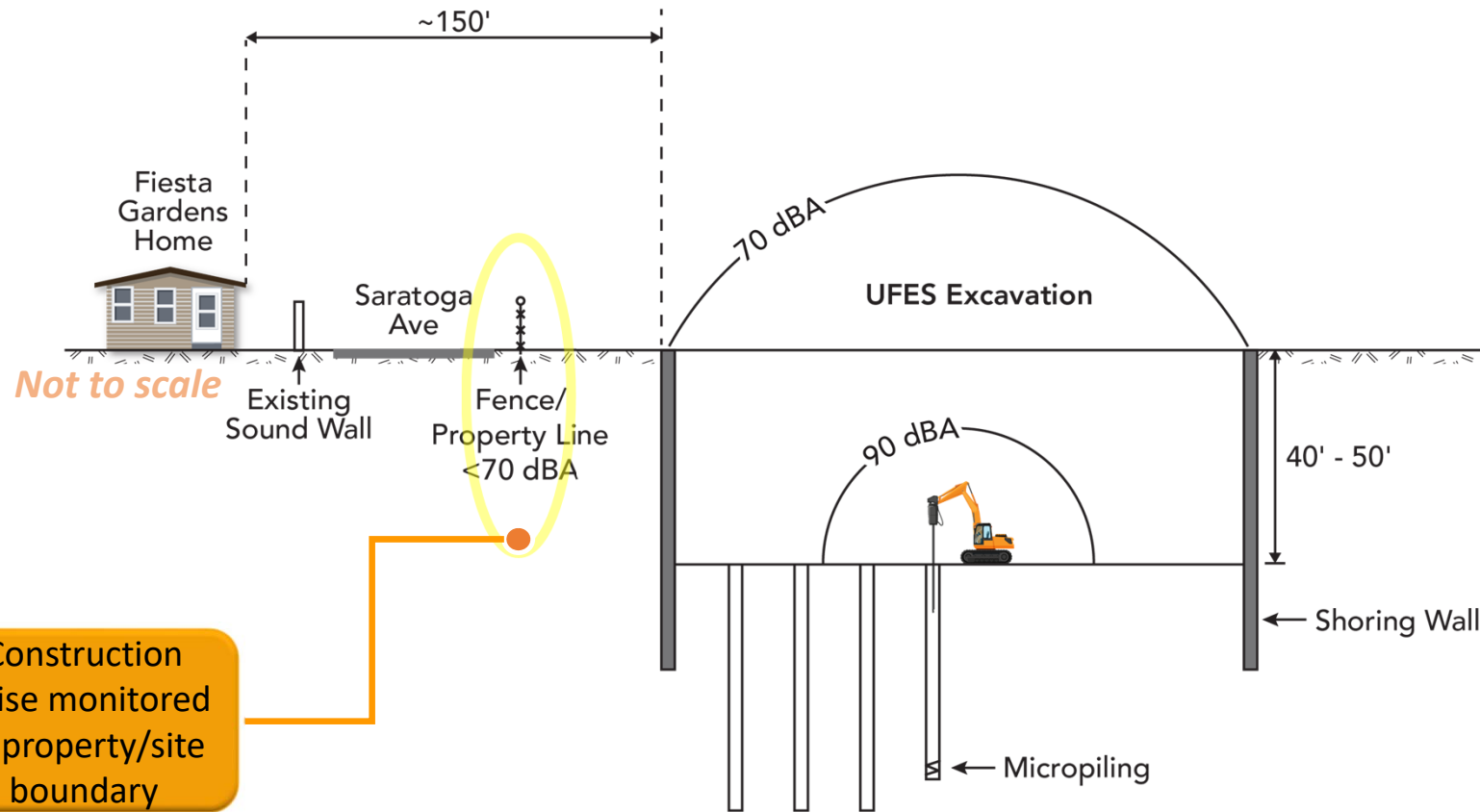


Sound Thermometer

City Ordinance requires <90 decibels at site/property boundary



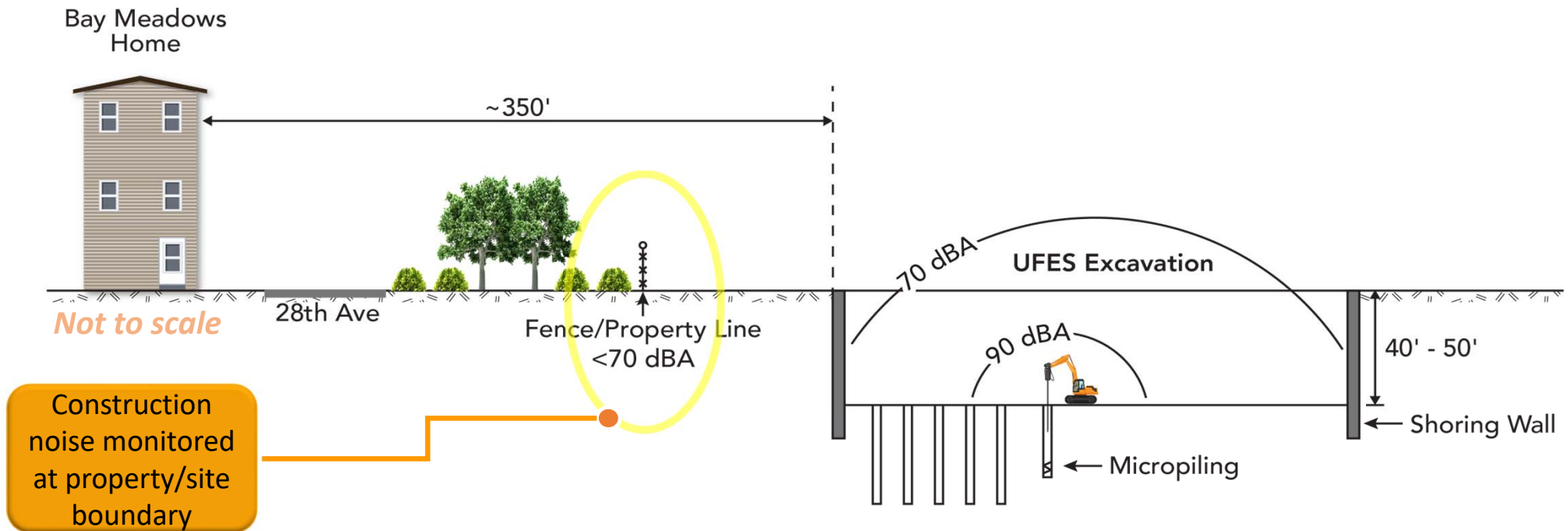
Drilled Micropile Installation



Section Showing Anticipated Sound Levels From Micropiling Activities – Fiesta Gardens



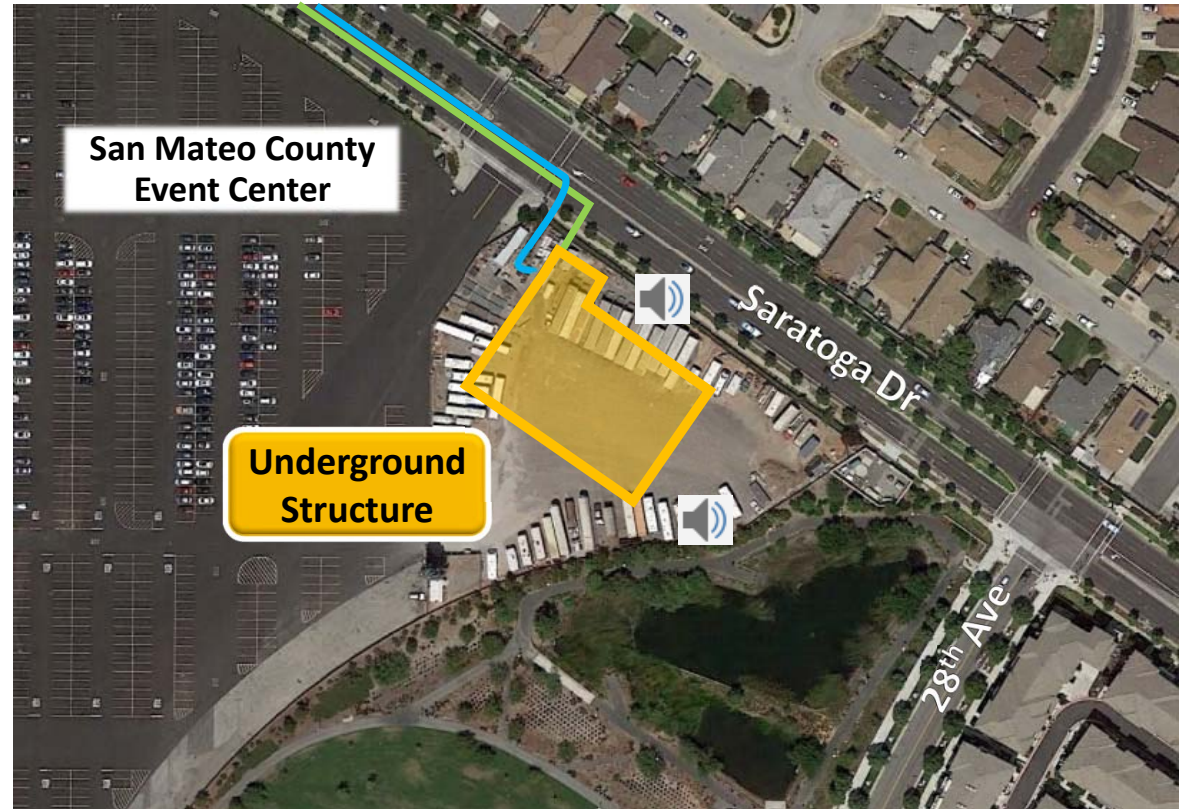
Drilled Micropile Installation



Section Showing Anticipated Sound Levels From Micropiling Activities – Bay Meadows



Monitoring – Noise



Proposed Stationary Noise Monitor



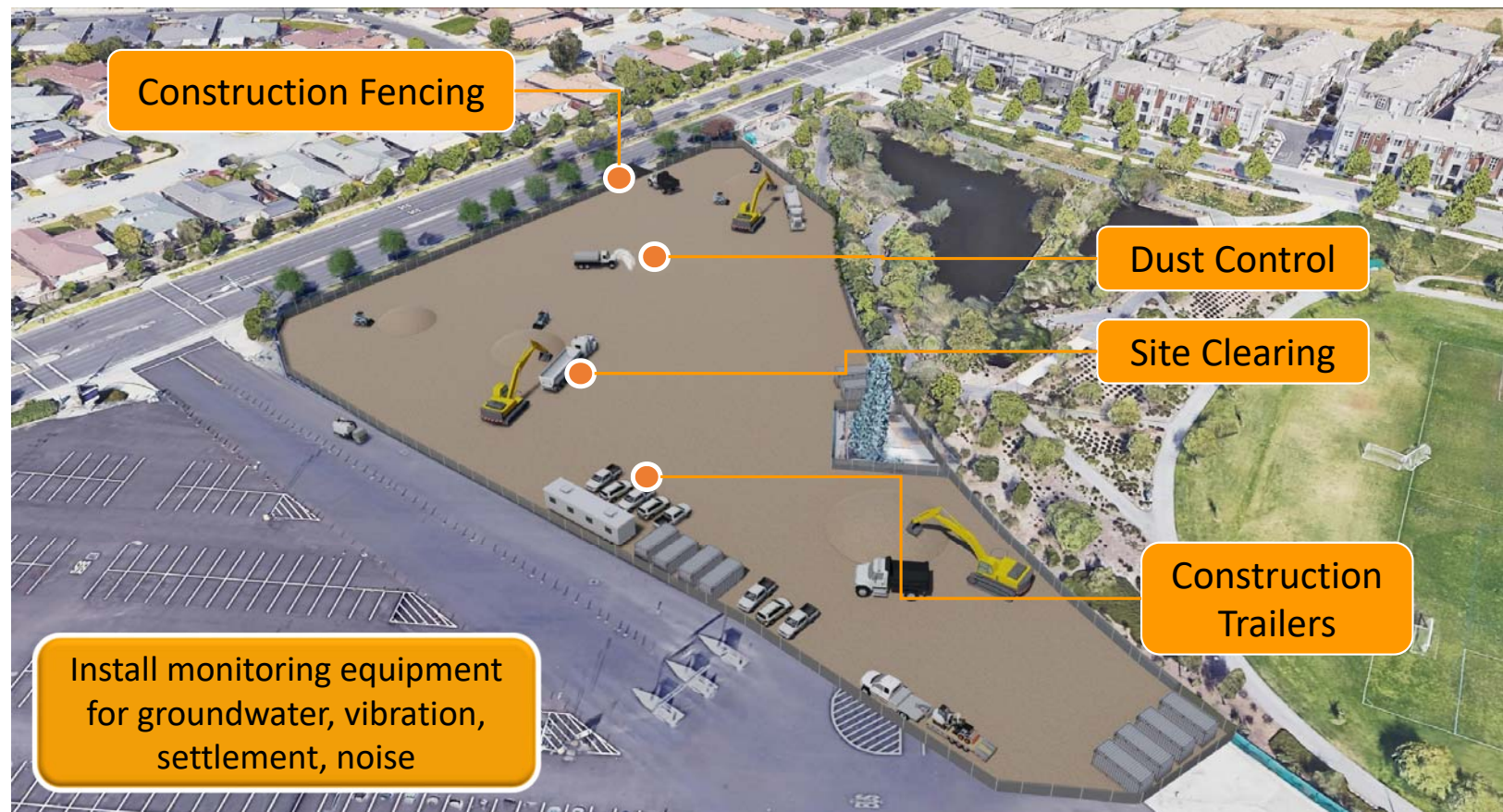
Addressing Dust Concerns

- *Specifying compliance with Bay Area Air Quality Management District*
- Using Best Management Practices is required during earth moving
- Visual observations and hand-held dust monitoring during construction



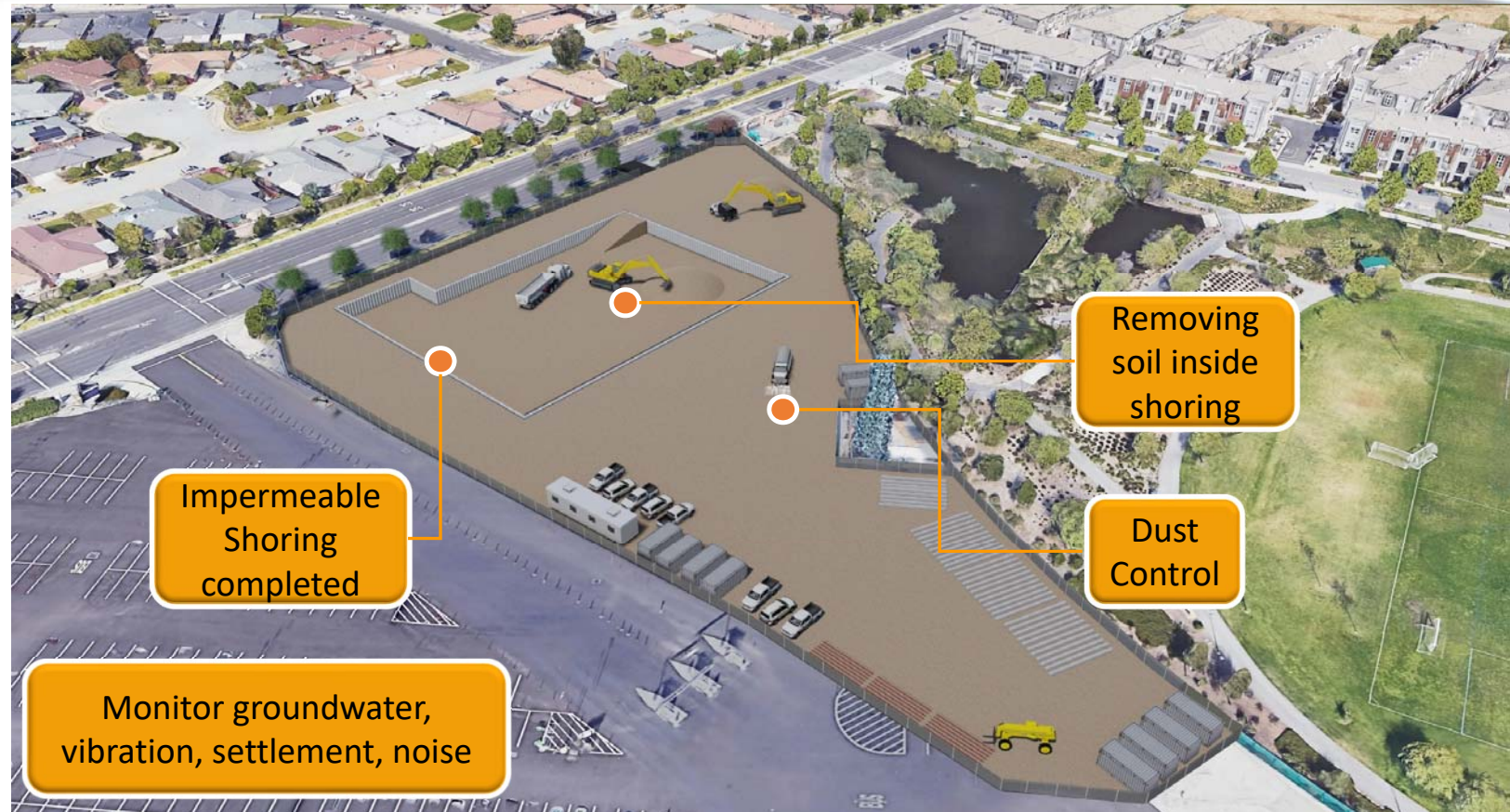
Site Preparation

Duration: 3 months



Excavation

Duration: 3 months



Typical Dust Control

Streets



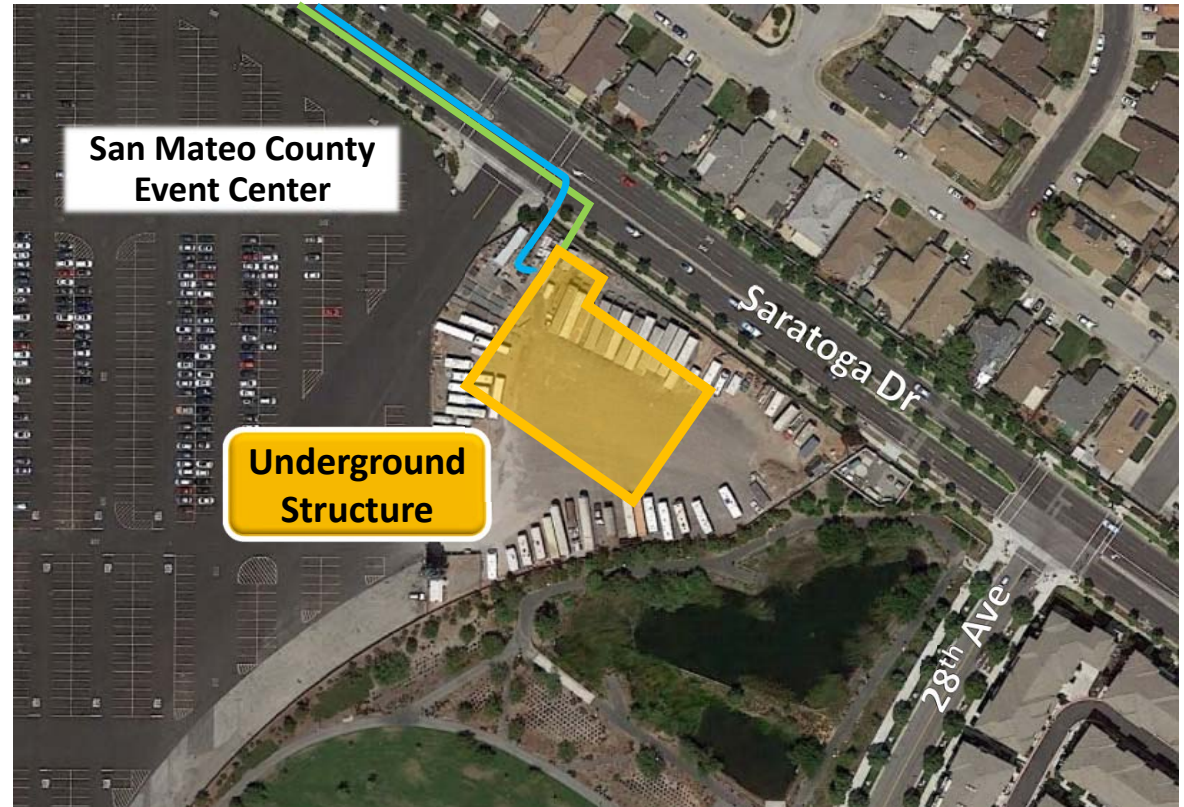
Construction Areas



- Wet Sweeping on surrounding streets
- Covered trucks
- Site watering
- Fence screening
- Tire cleaning/rumble pads
- Speed limits on unpaved surfaces
- Reduced idling times
- Properly maintained equipment



Monitoring – Dust



Addressing Settlement Concerns

- *Existing Groundwater Monitoring Sites since 2017 – groundwater fluctuates*
- *Specifying shoring and dewatering to limit settlement*
- Different approach from the Concar project's dewatering methods
- Additional groundwater monitoring during construction
- Home inspections before, during and after construction

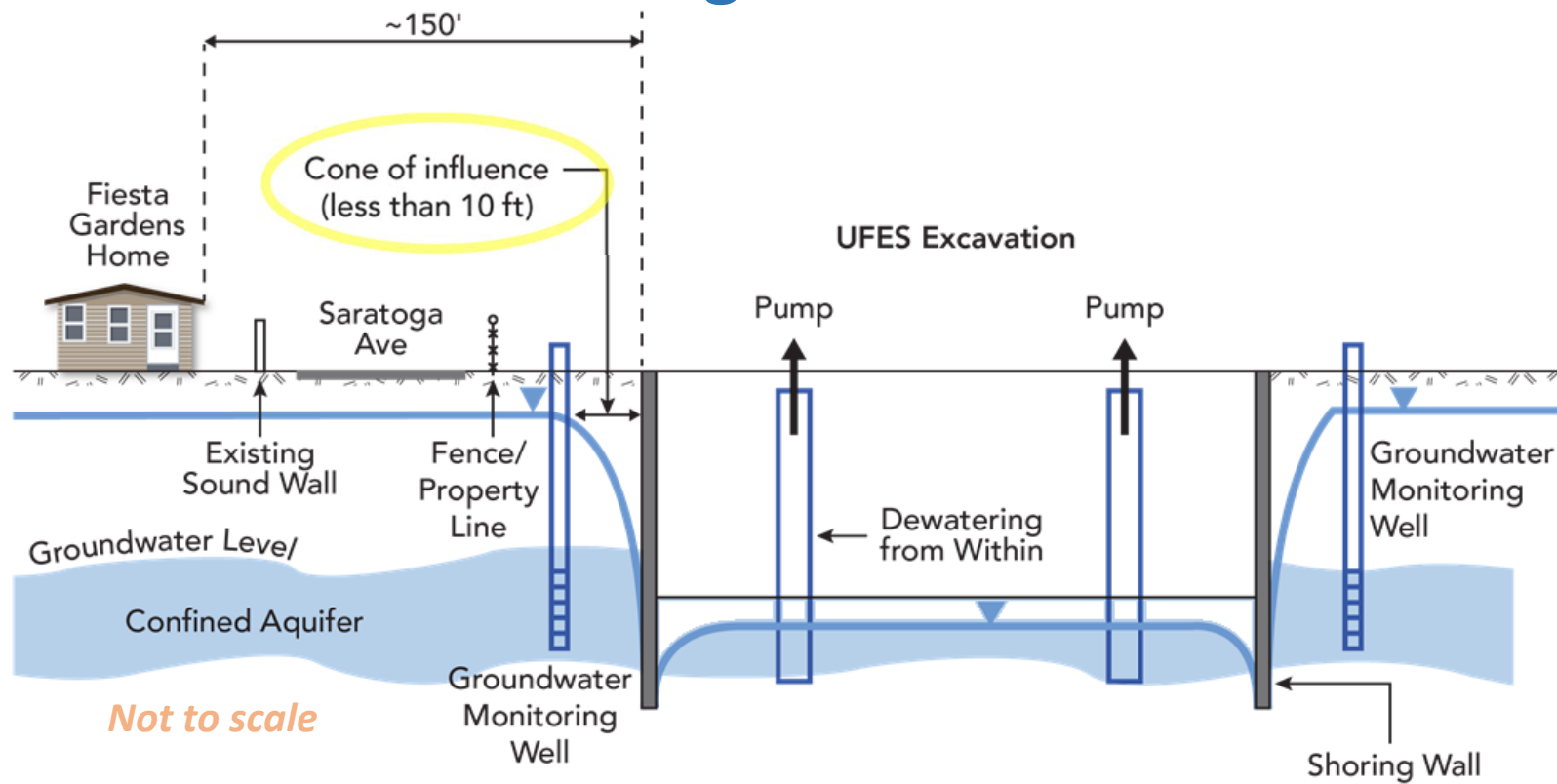


★ Existing Ground Water Wells since 2017

Additional Groundwater Monitoring - UFES Site



UFES Dewatering – Fiesta Gardens Proximity



Controlling Groundwater – Fiesta Gardens

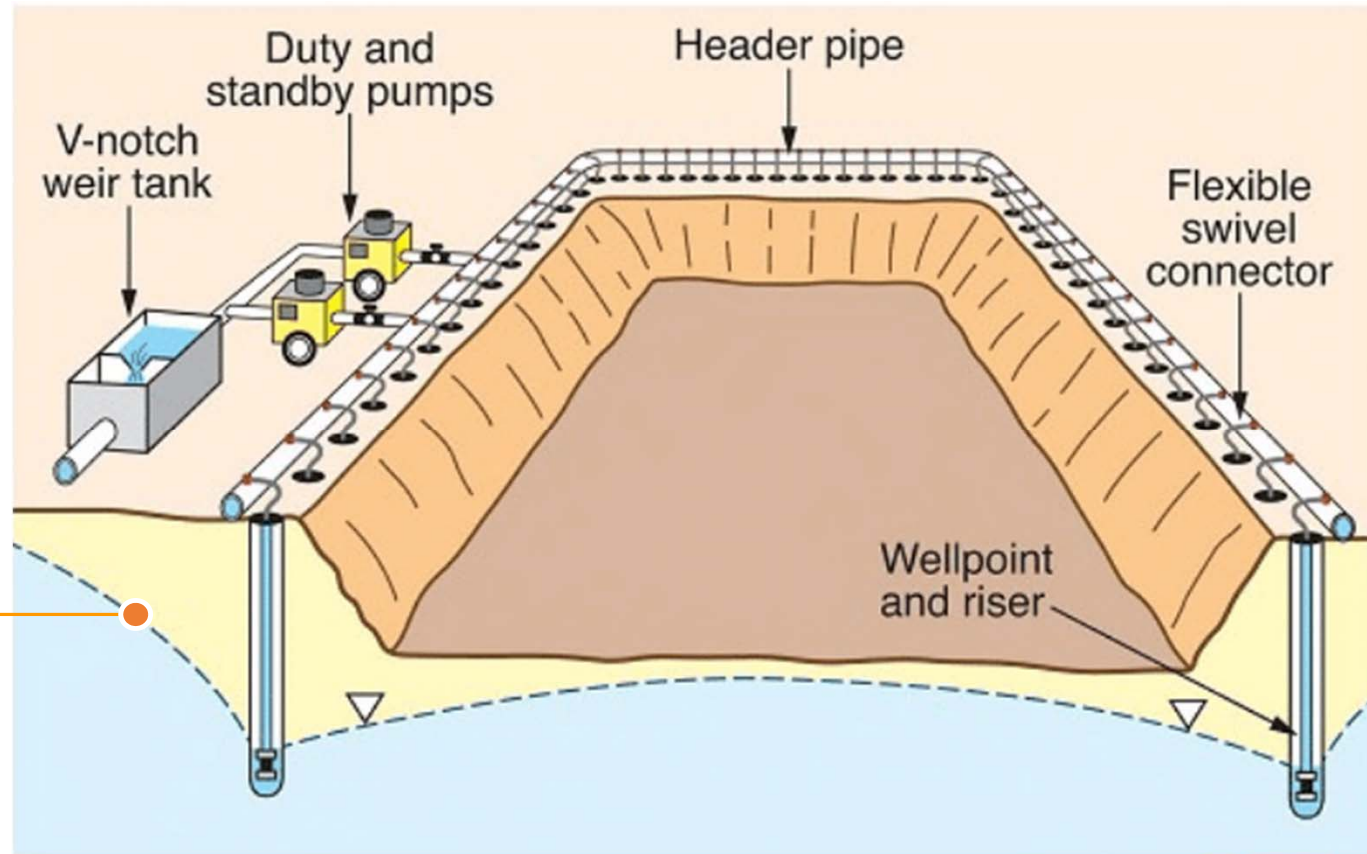


Other Dewatering Method – Not Feasible

*NOT THE METHOD FOR
THIS PROJECT*

-Not technically feasible

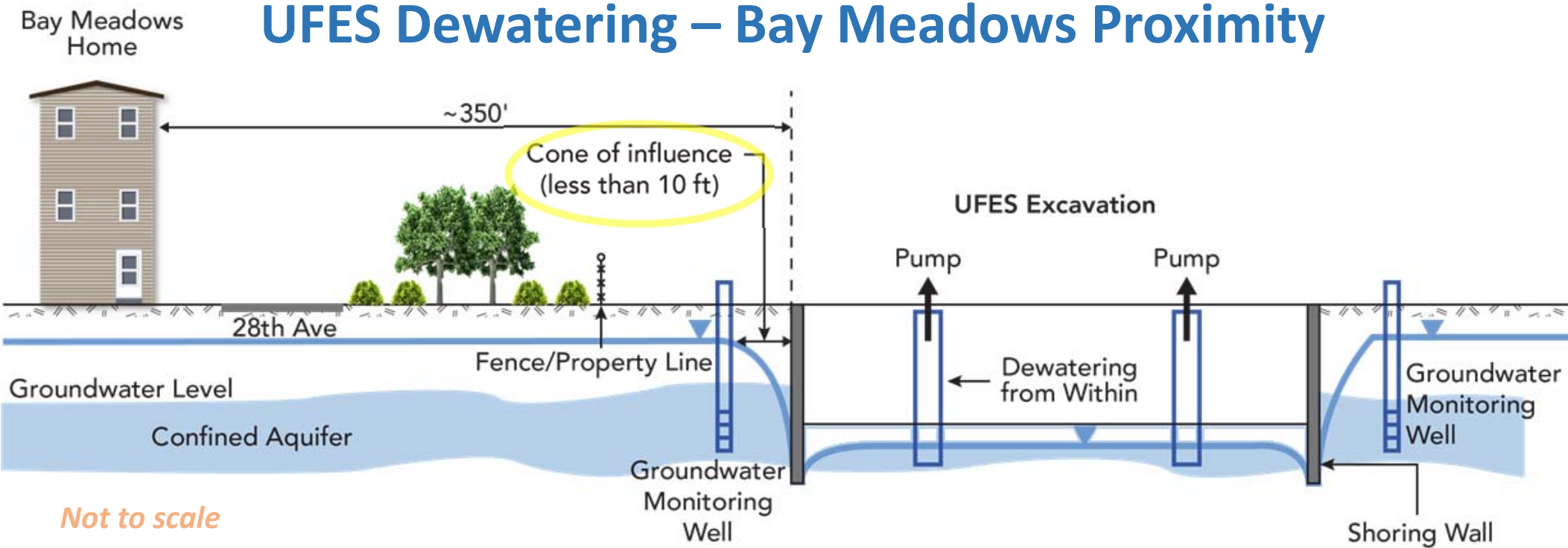
Cone of Influence
can extend beyond
site limits



Images: Australian Department of Agriculture and Water Resources



UFES Dewatering – Bay Meadows Proximity



Controlling Groundwater – Bay Meadows



Additional Groundwater Monitoring - UFES Site



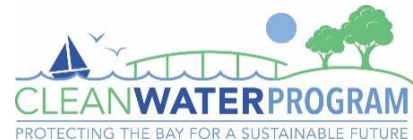
Construction Monitoring – Property Inspections

 Preconstruction Inspection



Addressing Vibration Concerns

- Collect background vibration data (traffic, nearby construction, etc.) prior to construction
- Fence line monitoring between the site and Fiesta Gardens and Bay Meadows
- Establish maximum vibration limits



Vibration Monitors at UFES Site

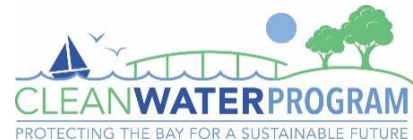


Vibration Monitoring
Location







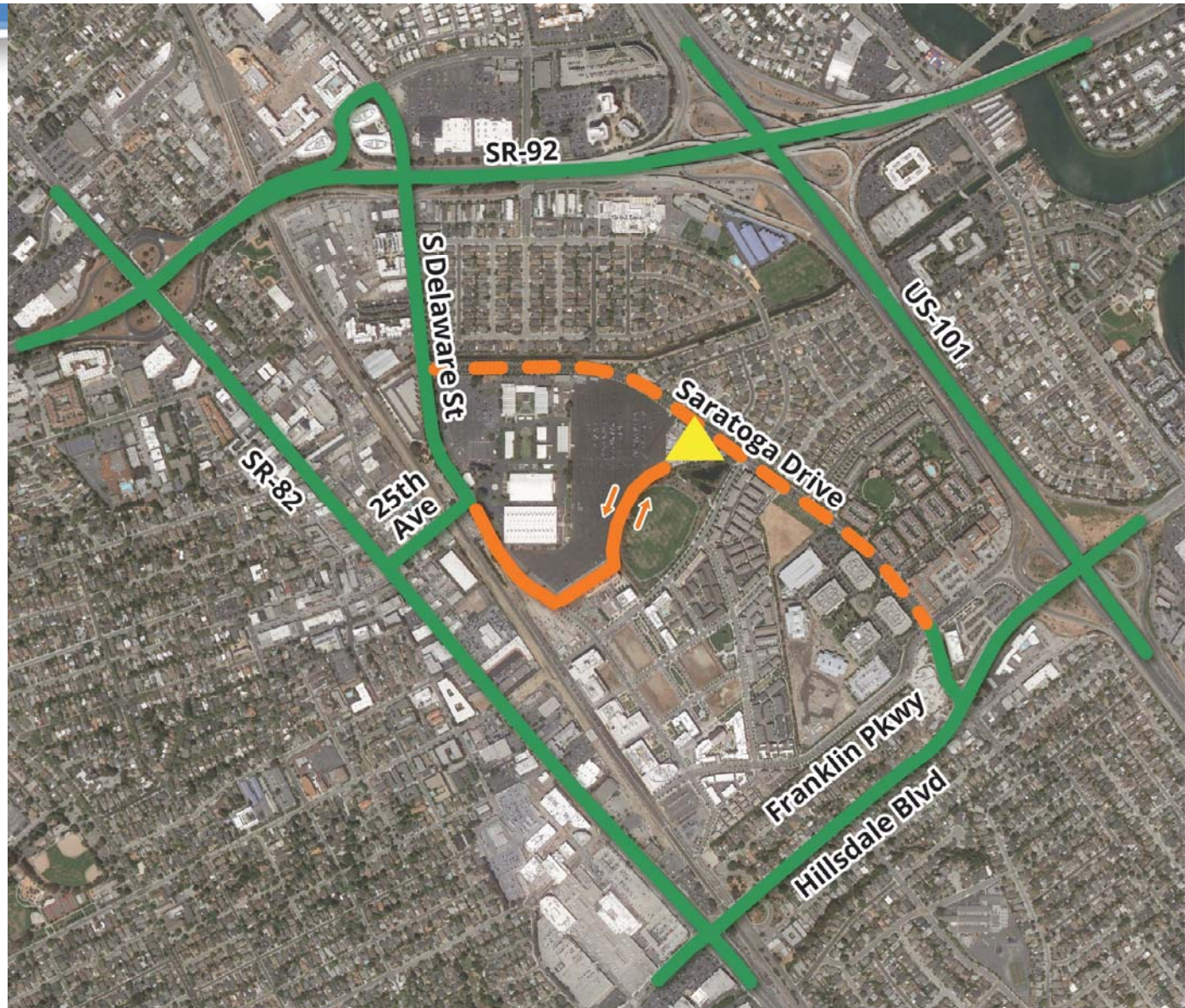
Addressing Traffic Concerns

- *Coordinate traffic review with other projects*
- Updated EIR with new traffic counts
- New Event Center easement in progress – significantly reduce Saratoga impacts
- Staggered conveyance construction to limit street closures
- Provide continuous safe pedestrian and bicycle routing



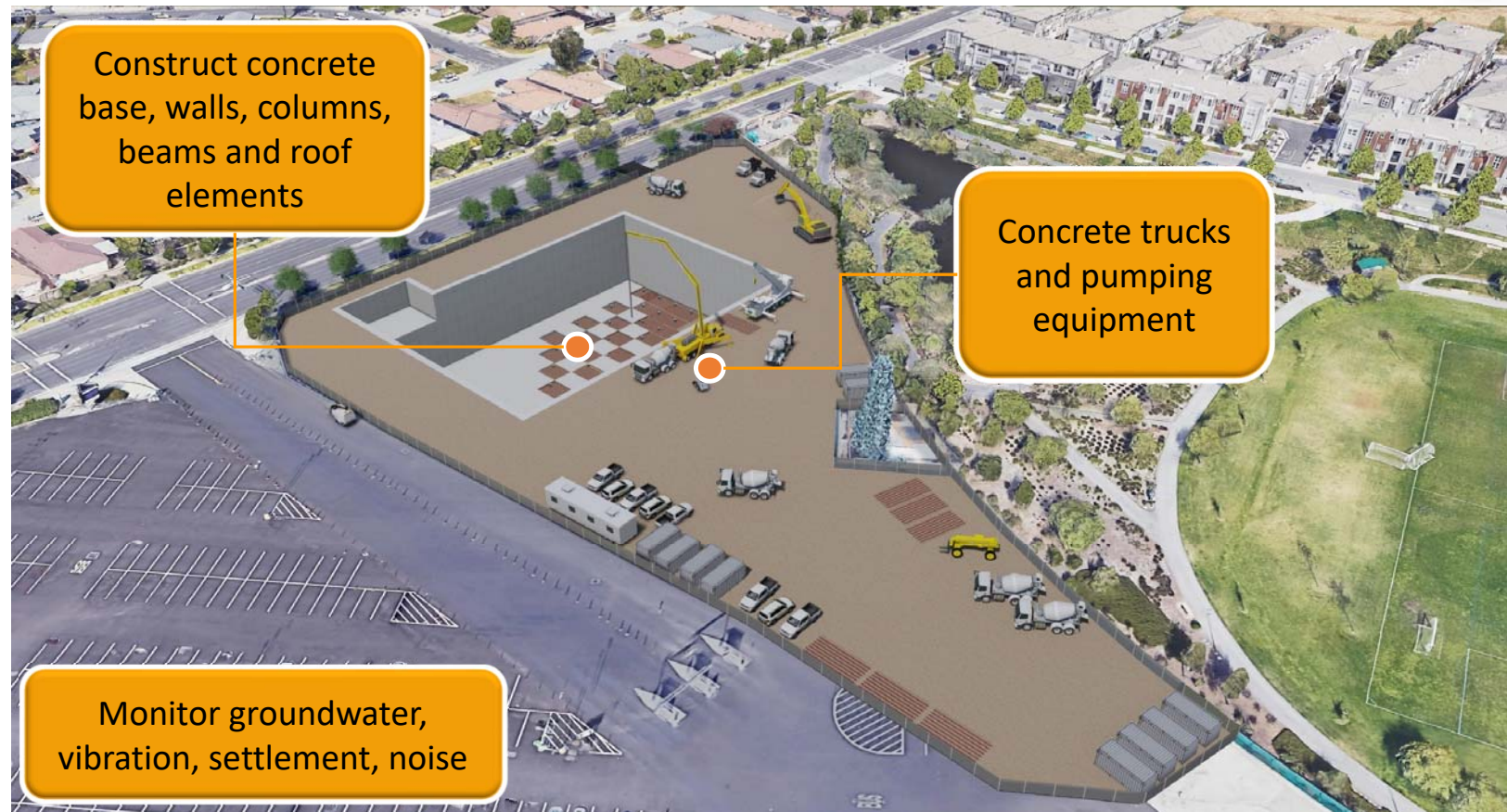
Construction Traffic Routes Normal Conditions

-  City Designated Truck/Haul Routes
-  Proposed Primary Project Haul Route
-  Proposed Secondary Project Haul Route
-  UFES Holding Tank Site



Concrete

Duration: 9 months



Diversion System Alignments & Locations

● Diversion Structure

—South of Saratoga and Delaware Intersection

● Diversion Sewer

—New 36-inch diameter, 15 to 22 feet deep

● Force Main

—18-inch sewer pipe (lining existing pipe)



Addressing Pipeline Construction Concerns Along Streets

- Trenchless methods to reduce traffic impacts
 - Borel Creek force main crossing
 - Lining of existing sewer for force main
- Staggered pipeline construction limits traffic impacts in the area
 - Delaware and Saratoga
- Provide safe pedestrian and cyclist access throughout construction period

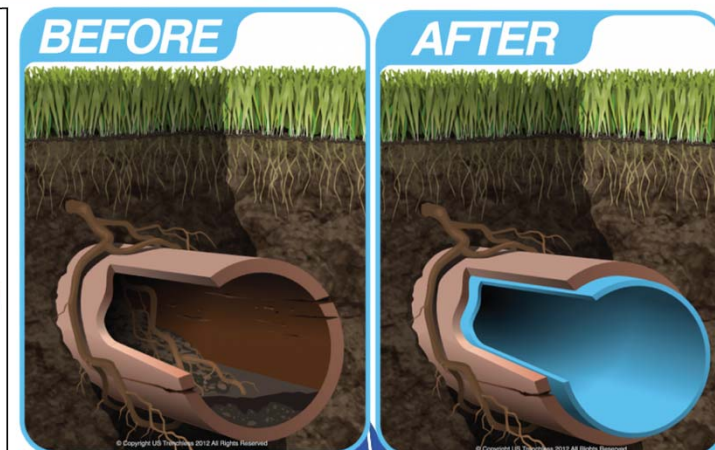
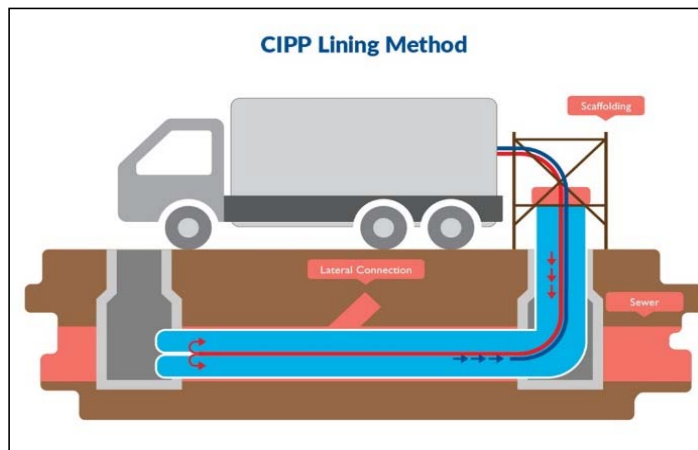


Diversion Sewer Open Trench Construction



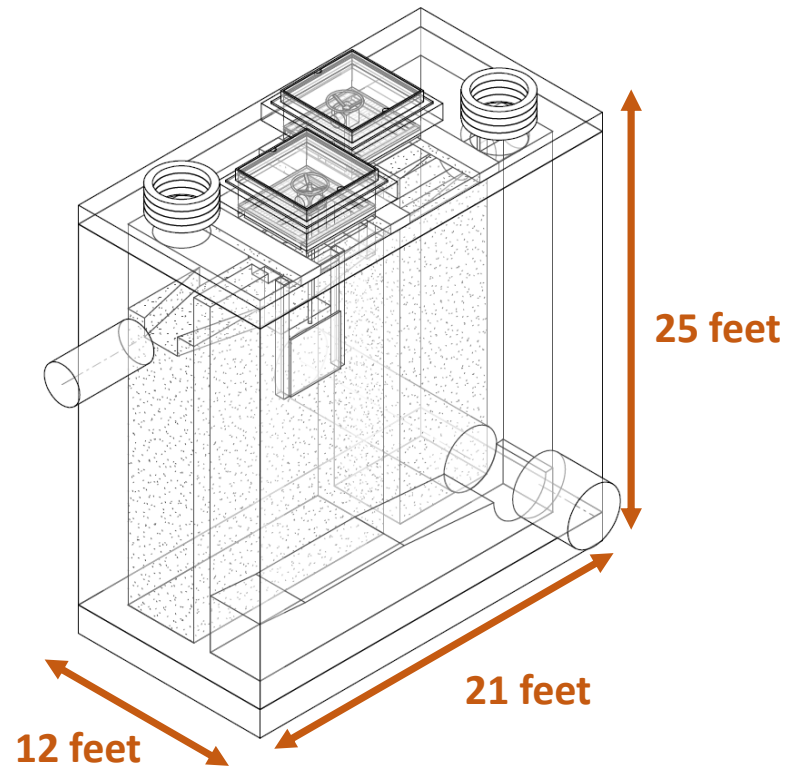
Force Main Trenchless Construction

- Borel Creek Culvert Undercrossing at Delaware
Horizontal directional drilling of New 18" Force Main
- Saratoga Force Main
Cured in Place Pipe Lining of Existing 18" Pipe



Diversion Structure Construction

- Excavation in intersection of Delaware and Saratoga
- Temporary shoring
- Traffic control around excavation
- Duration: 3 months



Communicating with the Public

- Construction hotline - live access to contractor 24/7
- City's existing program website
 - Construction updates will be provided on a regular basis
- Updates posted at the site
- Email newsletter
- Other forms of communication (e.g., social media)



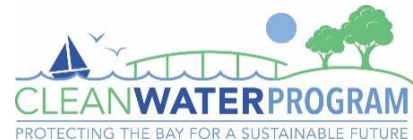
Site Finishing: Last Step

Duration: 8 months



UFES Operations and Maintenance

- Facility used during storms up to 20 times per year on average
- Routine maintenance quarterly
- Odor control system operates continuously
- Holding structure cleaned with the tipping buckets and emptied after each use
- Inspected by City after each event



Odor Control



Air Tight Vaults

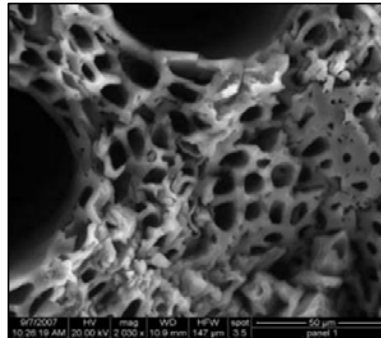


Self Cleaning
Tipping Buckets



Carbon Odor
Scrubber

- Highly efficient technology: carbon odor scrubbers
- Large pore surface area adsorbs large mass of odors
- 1 teaspoon has surface area of a football field!



CEQA/EIR Updates

- Extended Public Comment Period to May 31, 2019
—87 day comment period (45 days required by CEQA)
- Currently responding to over 470 comments
- Final EIR will be released September 6, 2019 for public comment prior to Planning Commission Meeting



Next Steps

- Planning Commission Recommendation (Final EIR/Special Use Permit) Meeting: September 24, 2019
- City Council Final EIR/Special Use Permit Hearing on October 21, 2019
- Anticipated Construction Start: Spring 2020



Summary

- Addressed key community concerns for construction impacts & monitoring
- Selected low-impact construction methods for piles and shoring
- Developed monitoring approach for pre, during, and post-construction activities
- Active construction mitigation (noise, vibration, dust)
- Coordinated approach to traffic management to reduce impacts





Q & A

Please share methods to effectively communicate

Sign Up for Email Updates

info@cleanwaterprogramsanmateo.org

Visit the UFES Project Website

www.CleanWaterProgramSanMateo.org/UFES

Call the Clean Water Program

650-727-6870

Follow the City's Social Media

