

ROCKAWAY BOARDWALK



PROJECT INFORMATIONAL SESSION

Phase 4A Construction Logistics

November 24, 2014

Construction Phases



Phase:
Phase 4A

Start:
Fall 2014

Completion:
Memorial Day 2016

Phase 4A Coordination Items

- All work contained within fully enclosed work areas.
- All work areas surrounded by a movable fence.
- Work will be performed primarily from the beach side.
- Existing beach access locations at B77, B81, and B84 Island will be maintained
- Construction staging area will be between B73rd St and B74th St
- When required to safeguard the public, a single beach access point will be closed to allow the work to progress.

Phase 4A Coordination Items

- All construction materials, equipment, worker parking, and delivery trucks will be contained within the fenced work areas.
- Flagmen to be utilized when construction equipment and deliveries are crossing the pedestrian path adjacent to Shore Front Parkway.
- Work Hours will be Monday – Friday, 7:00 AM – 4:00 PM
Extended work hours are between 4:00 PM – 6:00 PM.
Saturday are reserved as makeup days in case of inclement weather.

Phase 4A Coordination Items

- Vibration Monitoring:
Ocean and Coastal Consultants (OCC): Matt Kehoe, P.E.
 - Conducting standard vibration monitoring and analysis of the site prior to and during all pile driving phases of the boardwalk construction
- Watchmen Service for Work Areas:
 - Subcontractors providing site monitoring of construction areas during off work hours.

Phase 4A Coordination Items

- Skanska Offices:
 - Storefront
 - Site Trailer
- NYCEDC Primary Contact:
 - Keith Dumanski
 - Email: kdumanski@nycedc.com
 - Phone: 212-312-3819

Pre-Construction Visual Surveys Information Gathering

Surveys conducted are for homes and buildings only within 200 feet of construction pile driving operations

- Step 1 Cursory Visual Survey to Quantify and Categorize Structures
 - Residential Homes and Building Complexes
 - General external condition documentation
- Step 2 Individual Visual Surveys of Residential and Building Complexes within 200' of pile driving operations.

Phase 4A does not have building structures within either zone.





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Pre-Construction Visual Surveys Visual Condition Documentation

Structures within 200 feet  Yellow Zone

External visual survey to document pre-existing conditions.

- Special focus on:
 - Foundation
 - Perimeter Walls
 - Penetrations (e.g., Windows)
 - Chimneys
 - Roofs

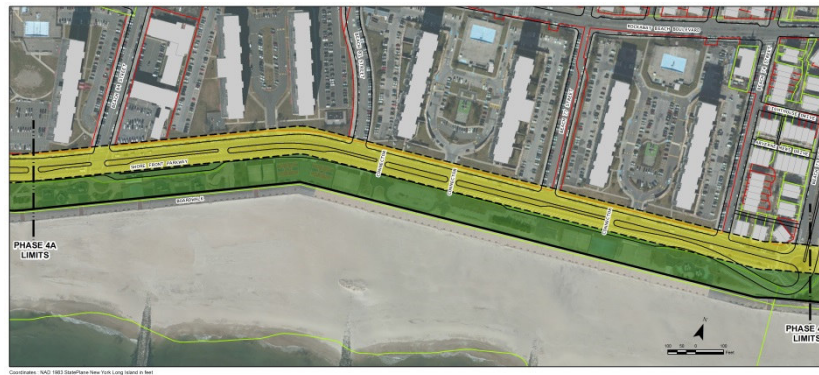


Pre-Construction Visual Surveys Visual Condition Documentation

Structures within 100 feet  Green Zone

External and Internal visual survey to document pre-existing conditions.

- Everything included for structures with 200' plus:
 - Basement Walls
 - Stairways
 - Attics
 - Penetrations (e.g. Doorways)



Pre-Construction Visual Surveys Coordination & Scheduling

Effort Will Be Made to Contact Property Owners and
Schedule Surveys at the Owner's Convenience

- Skanska to hand deliver and send letters by US Mail to residents.
- Owners reserve the right to refuse survey.
- Visual surveys intended to document existing conditions, only. They are not structural assessments.

Pre-Construction Visual Surveys Coordination & Scheduling

Contact Info:

- Point of Contact: Matthew Kehoe, PE (OCC)
- Phone Number for Inspection Requests Inquires will go to the Construction Vibration Monitoring Team (CVMT):
646-844-5007
- Construction Vibration Monitoring Team (CVMT)
Email address: RockawayBoardwalks@gmail.com

Pre-Construction Visual Surveys Coordination & Scheduling

- Surveys of existing structures within 200 feet of pile driving operations will be conducted prior to commencement of pile driving and schedule on a rolling basis that coincides with the anticipated location and movements of the pile driving operations.

Pre-Construction Visual Surveys Coordination & Scheduling

- Surveys to be offered daily, Monday through Friday, between the hours of 8:00 AM to 3:30 PM
- Surveys will be scheduled to occur within a 3 hours time frame, and typically take between 15 to 30 minutes
- CVMT representative will be discreet and respectful of owner privacy

Pre-Construction Visual Surveys Coordination & Scheduling

- Surveys will NOT require movement of the furniture or other special preparations by the owner
- CVMT representative will coordinate directly with the homeowners and tenants. For vacant units, the CVMT representative will coordinate with the building's management.

Construction Vibration Monitoring Approach

Prudent Approach to Pile Driving Sequencing:

-Pile Driving Operations will systematically move longitudinally along the site to minimize vibration durations.

Anticipated Vibration based on the Analysis of :

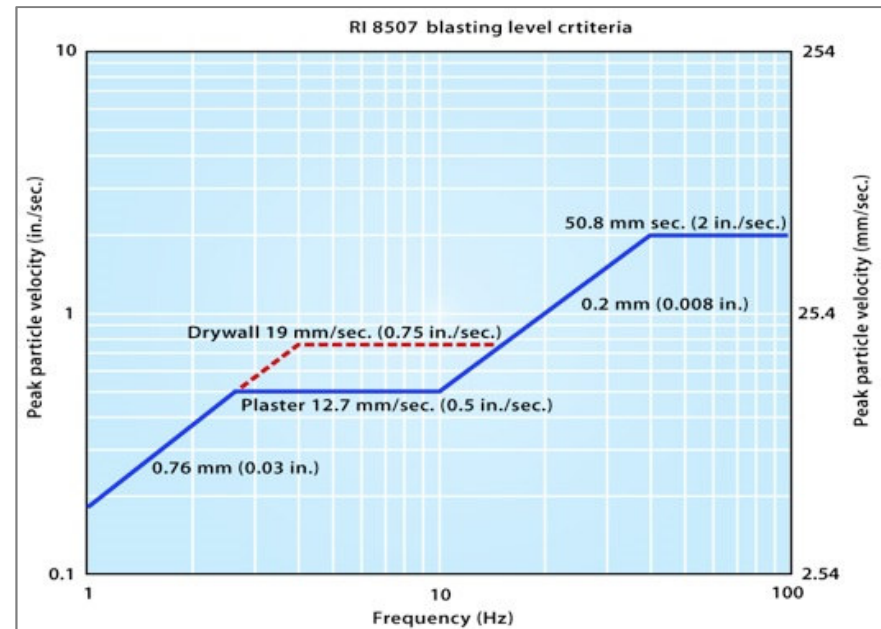
- Test Pile Program performed during Summer 2014 in Phase 3 (B126th - B 108th St)
- Vibration data acquired during Phase 1 and Phase 2 Construction

Construction Vibration Monitoring Approach

Anticipated Vibration Based Upon Analysis

Effect of construction vibrations are based upon vibration velocity (in/s) and frequency (Hz)

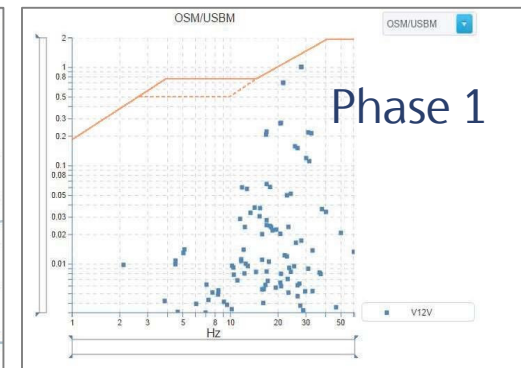
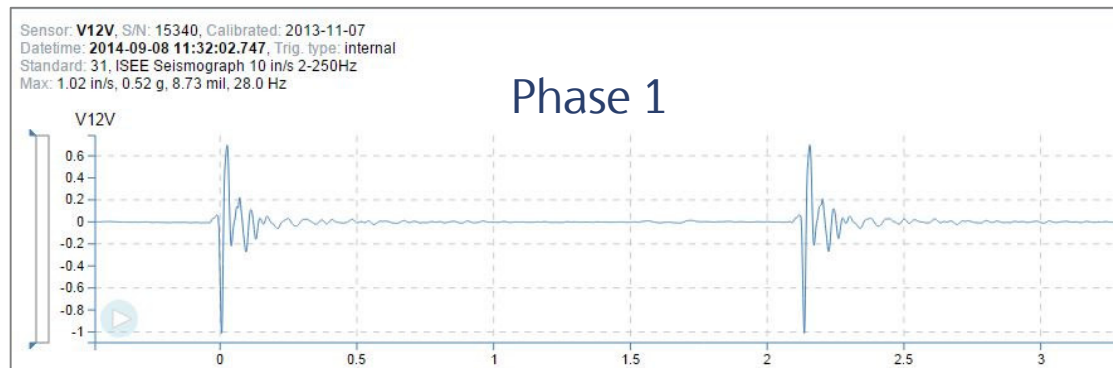
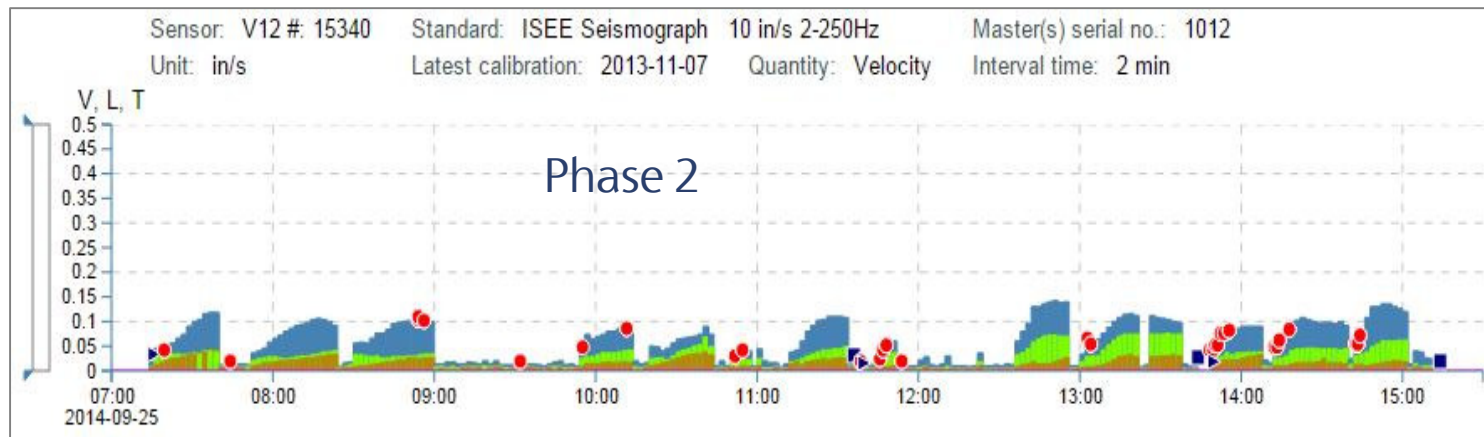
- Acceptable vibration levels are based up USBM Criteria (RI 8057)
 - Minimum threshold: 0.5 in/s
 - Maximum threshold: 2.0 in/s
- Anticipated vibration levels in building foundations were analyzed during a test pile program conducted in July 2014.
 - 20 ft from pile driving: 0.38 in/s
 - 33 ft from pile driving: 0.19 in/s



Construction Vibration Monitoring Approach

Live Data is Continuously Transmitted for Remote Monitoring in Comprehensive Data Plots

Excessive Vibrations and Potentially Aberrant Data is Available for Immediate Analysis



Construction Vibration Monitoring Approach

Continuous Monitoring During Pile Driving Operations

- OCC CVMT on-site during construction
- Remote monitoring capabilities with programmed alert system
- Specialized monitoring equipment mounted to the exterior of select complexes within the 100 foot zone

Construction Vibration Monitoring Equipment


Specialized Monitoring Equipment & Software.

Equipment is calibrated annually, and can be mounted in a variety of ways to structure foundations



Construction Noise Mitigation Approach

Noise Mitigation Plan to be developed by Contractors to reduce noise emissions during construction

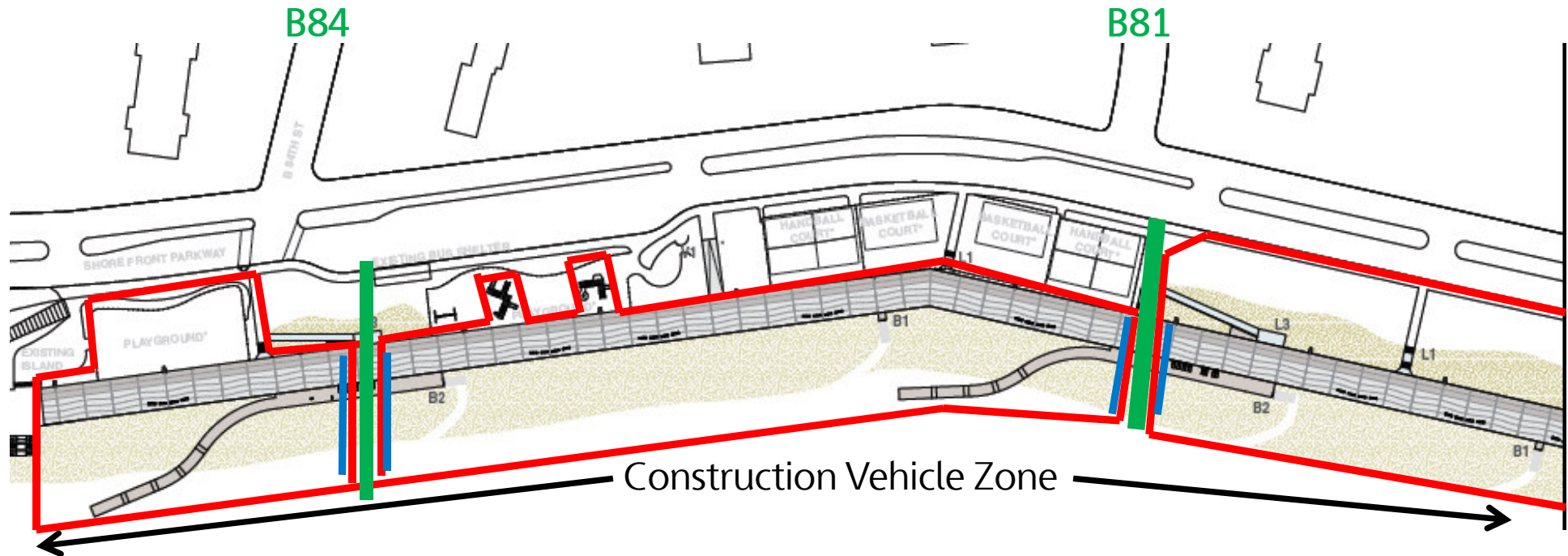
- Typical ambient (non-construction) daytime noise levels peak between 75 dB and 85 dB.
 - DEP permits up to a 15 dB increase in ambient noise levels during construction.
 - DEP specifies 95 db as an acceptable Lmax (noise level) value for impact pile drivers measured 50 ft from the source.
 - Noise mitigation measures are used to maintain noise levels within permissible thresholds.
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Post-Construction Visual Surveys Coordination, Scheduling and Documentation

Surveys to be conducted within three months of conclusion of construction pile driving

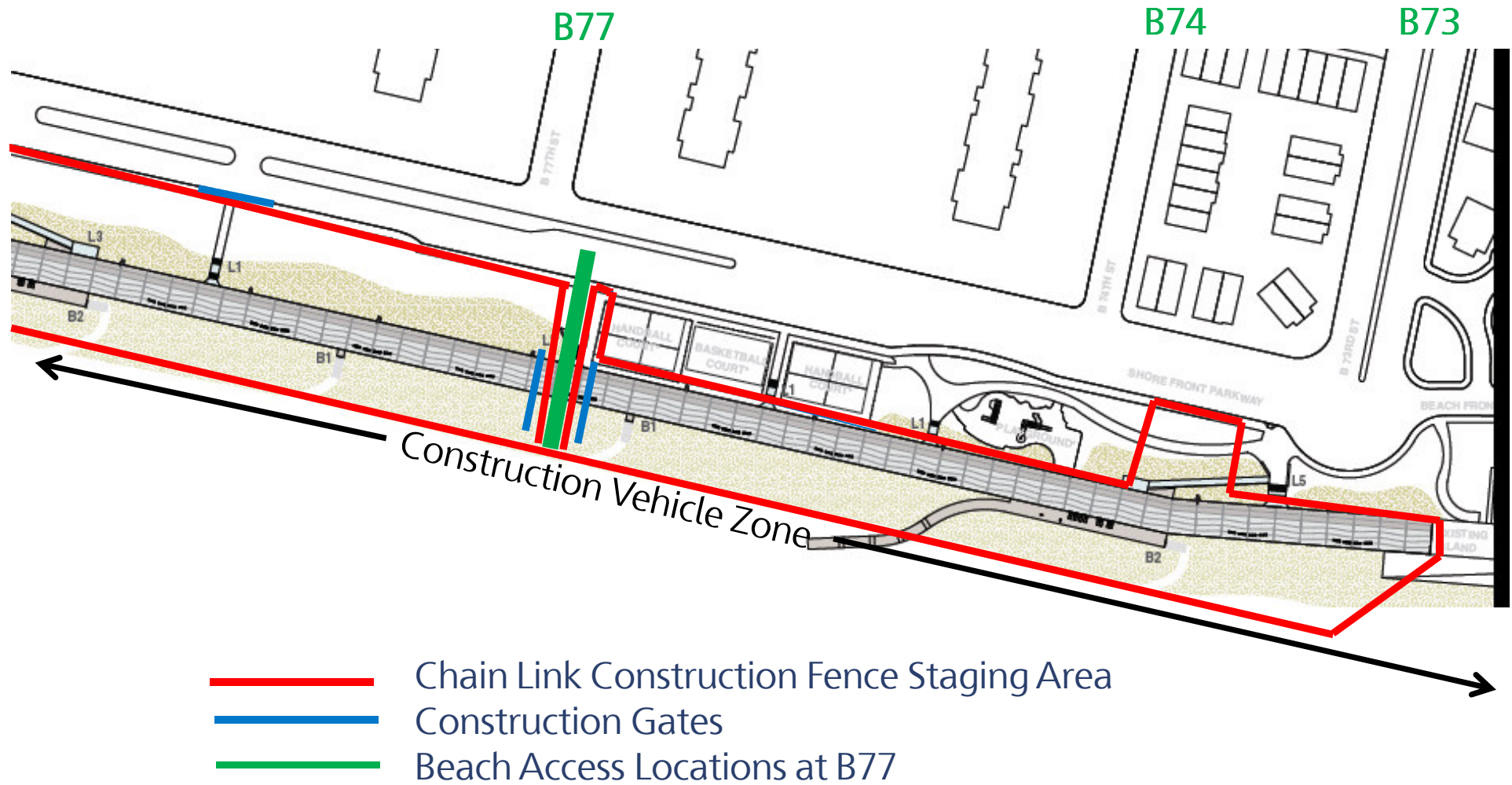
- OCC CVMT to coordinate scheduling and survey
- Survey coordination effort and level of detail comparable to Pre-Construction Surveys
- Survey to update status of existing conditions.

Phase 4A: B86-B77



- Chain Link Construction Fence Staging Area
- Construction Gates
- Beach Access Locations at B84 Island and B81 St

Phase 4A: B77-B72



Existing Conditions



REMOVALS:

1. Remove Concrete Pile Caps
2. Remove Concrete Piles
3. Salvage Wood Planks and Other Materials on Boardwalk

Removals Work



Excavator



Excavator with Hammer



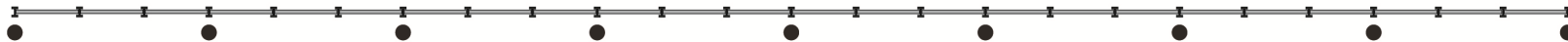
Excavator with Shear

Pile Driving



1. Steel Pipe Piles for Boardwalk
2. Steel H Piles for Sand Retaining Wall

Sand Retaining Wall



1. Precast Concrete Sand Retaining Wall



Pile Driving Work



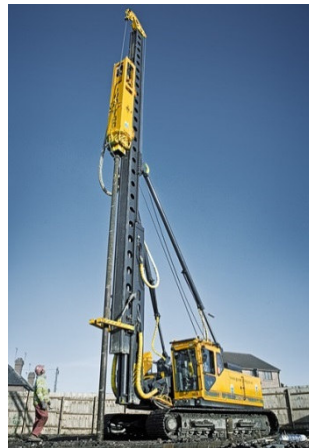
Vibratory Hammer



Impact Hammer

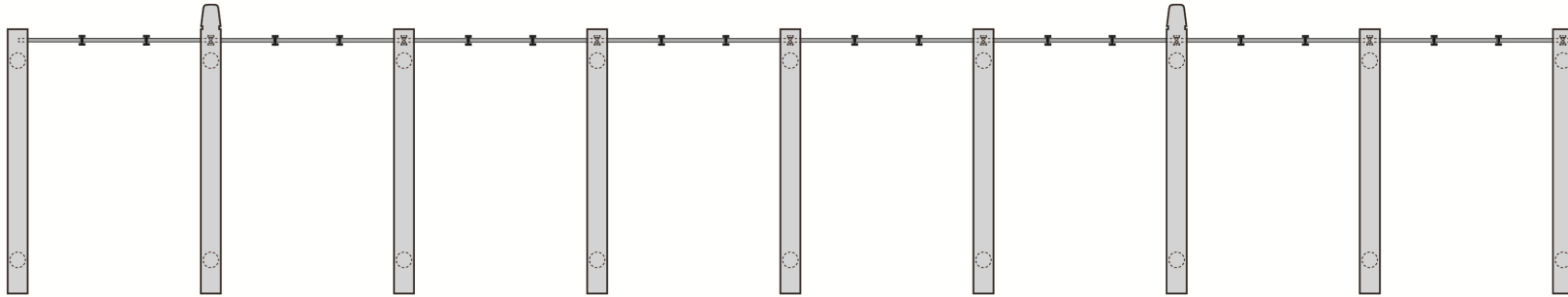


Impact Hammer



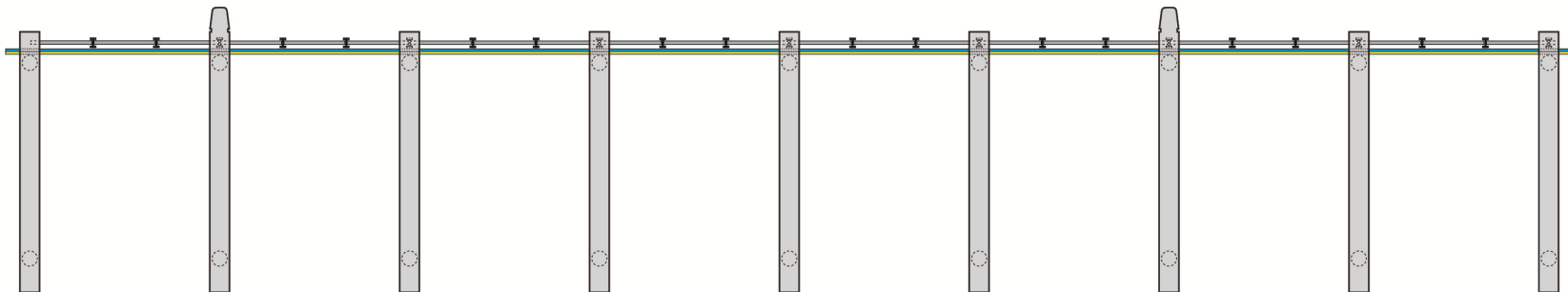
Impact Hammer

Precast Concrete Pile Caps



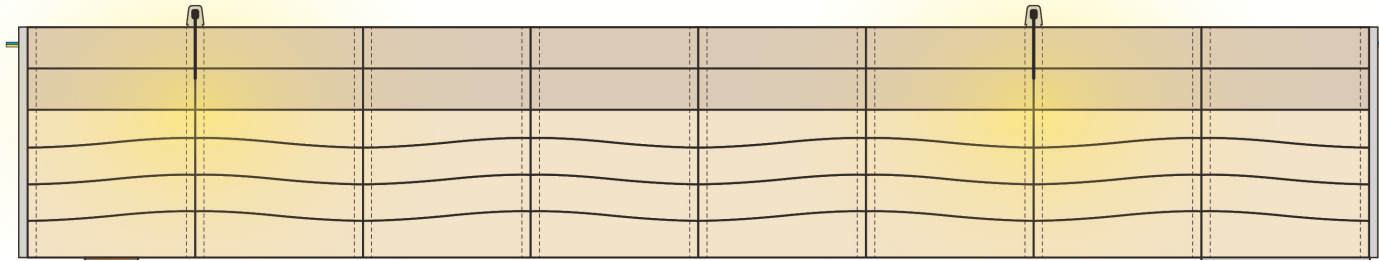
1. Precast Concrete Pile Caps

Utilities



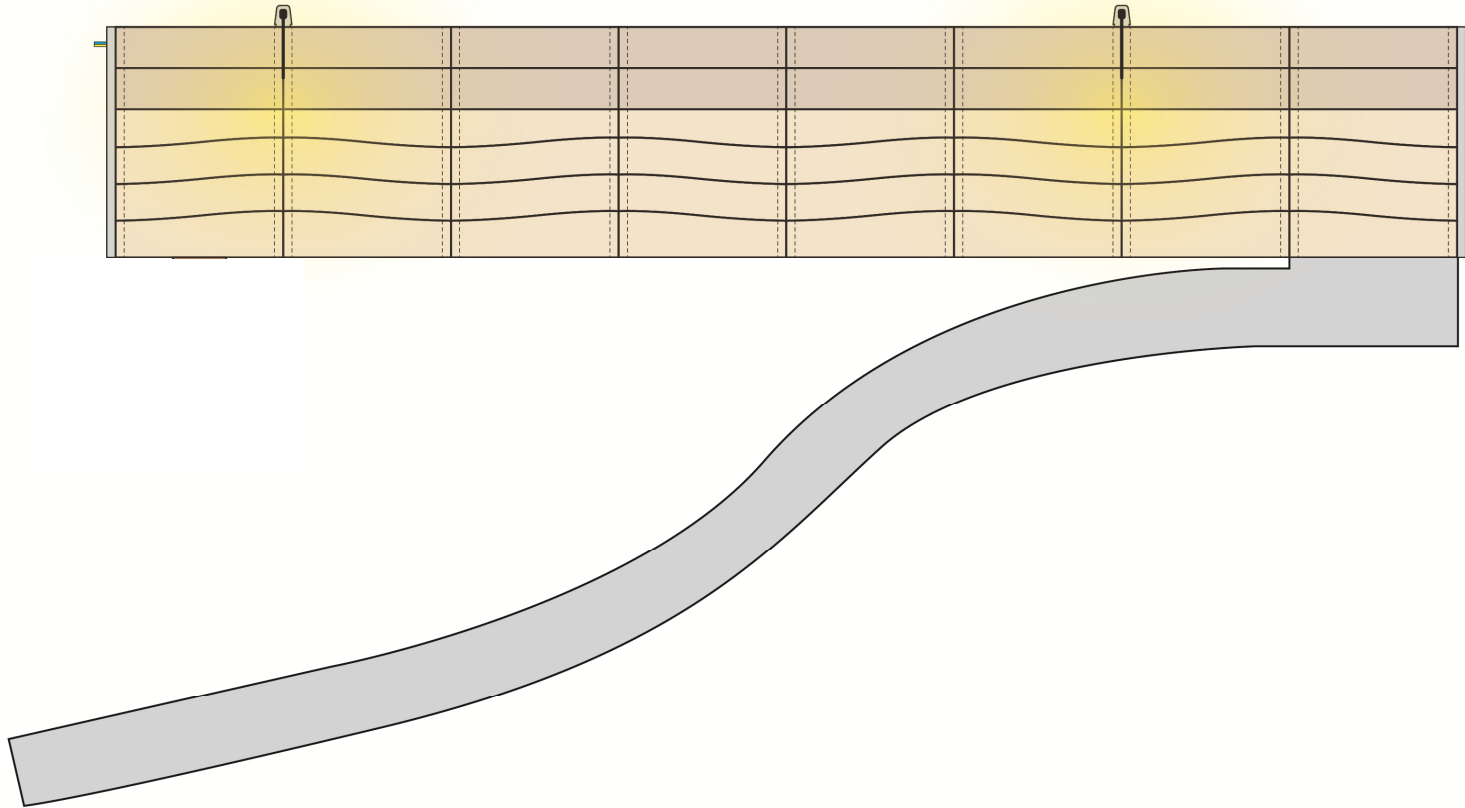
1. Sand Fill
2. Plumbing Pipe and Electrical Conduits

Precast Concrete Planks



1. Precast Concrete Planks
2. Light Poles
3. Railings
4. Site Furnishings

Boardwalk Access



1. Access Ramps
2. Site Work

Questions?