India Basin Sediment Remediation and Restoration

ANCHOR QEA

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India Basin Site Location

India Basin Site Elements

India Basin Future Development

India Basin Future Development

Project/Site Objectives

- Remediation
- Restoration
- Redevelopment
- Preservation of Historical Buildings
- Recreation
- Education
- Community Revitalization

Project Sponsors

- City of San Francisco Recreation & Parks Department
- San Francisco Water Quality Control Board
- U.S. Environmental Protection Agency
- Private Development firm Build Inc.

Concept Design for 900 Innes

Historical Site Uses

Historical Site Uses

Legend

Site Boundary

Historical Boat Location

Building and Historical Structures Description:

1 Shipwright's Cottage
2 Office
3 Tool Shed & Water Tank Building
4 Paint Shop & Compressor House
5 Blacksmith & Machine Shop
6 Storage Building
7 West Marine Way Track
8 Central Construction Way Ramp
9 East Marine Way Track
10 Water Fence Posts
11 Modern Dock
12 East Outfitting Dock

N

0 30 60 Feet

FIGURE 6
Existing Historical Features

900 Innes RAP
India Basin Redevelopment Project
San Francisco, California

northgate environmental management, inc.

Project No. 1370.01

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Current Site Conditions

Current Site Conditions

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Current Site Conditions

900 Innes Past Investigations

- Phase I/II Targeted Brownfields Assessment conducted for USEPA Region 9 (2013)
- Analysis of Brownfield Cleanup Alternatives by Weston Environmental (2013)
- Sediment sampling technical memorandum prepared by AECOM for SF Dept of the Environment (2015)
- Data gap analysis by AECOM for SF Dept of Environment and COSF Recreation and Parks Dept. (2016)
- Site Characterization Report prepared by Northgate Environmental Management Inc. (2017)

Site Contamination

- Metals (copper, lead, mercury and nickel)
- PCBs
- PAHs
- Upland soils and offshore sediments
- Some areas above hazardous waste concentrations
- Human health and ecological risks not fully analyzed but exceed national and regional screening values
- Groundwater not an issue

Legend

- Soil Boring with Groundwater, Northgate (2016-2017)
- Deeper Soil Boring at Previous Location, Northgate (2016-217)
- Soil Boring, Northgate (2016-2017)
- Risk Soil Boring, Northgate (2016-2017)
- Sediment Sample, Northgate (2016-2017)
- Surface Water and Sediment Sample, Northgate (2016-2017)
- Surface Water Sample, Northgate (2016-2017)
- Previous Sediment Sample, Weston (2015)
- Previous Sediment Sample, Weston (2013)
- Previous Subsurface Soil Sample, Weston (2013)
- Previous Surface Soil Sample, Weston (2013)
- Exceeds EHSL Not to Exceed Single Value Remedial Action Goal
- Exceeds HHSL Not to Exceed Single Value Remedial Action Goal
- Mean High Water Line (Approximate)
- Cross Section A-A' and A-A"
- Site Boundary

- Analytes: Heavy Metals, PCBs, PAHs, TPH

N

0 30 60 Feet

FIGURE 7
Summary of Soil and Sediment Locations Exceeding Remediation Goals

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FIGURE 8
Targeted Remediation Areas

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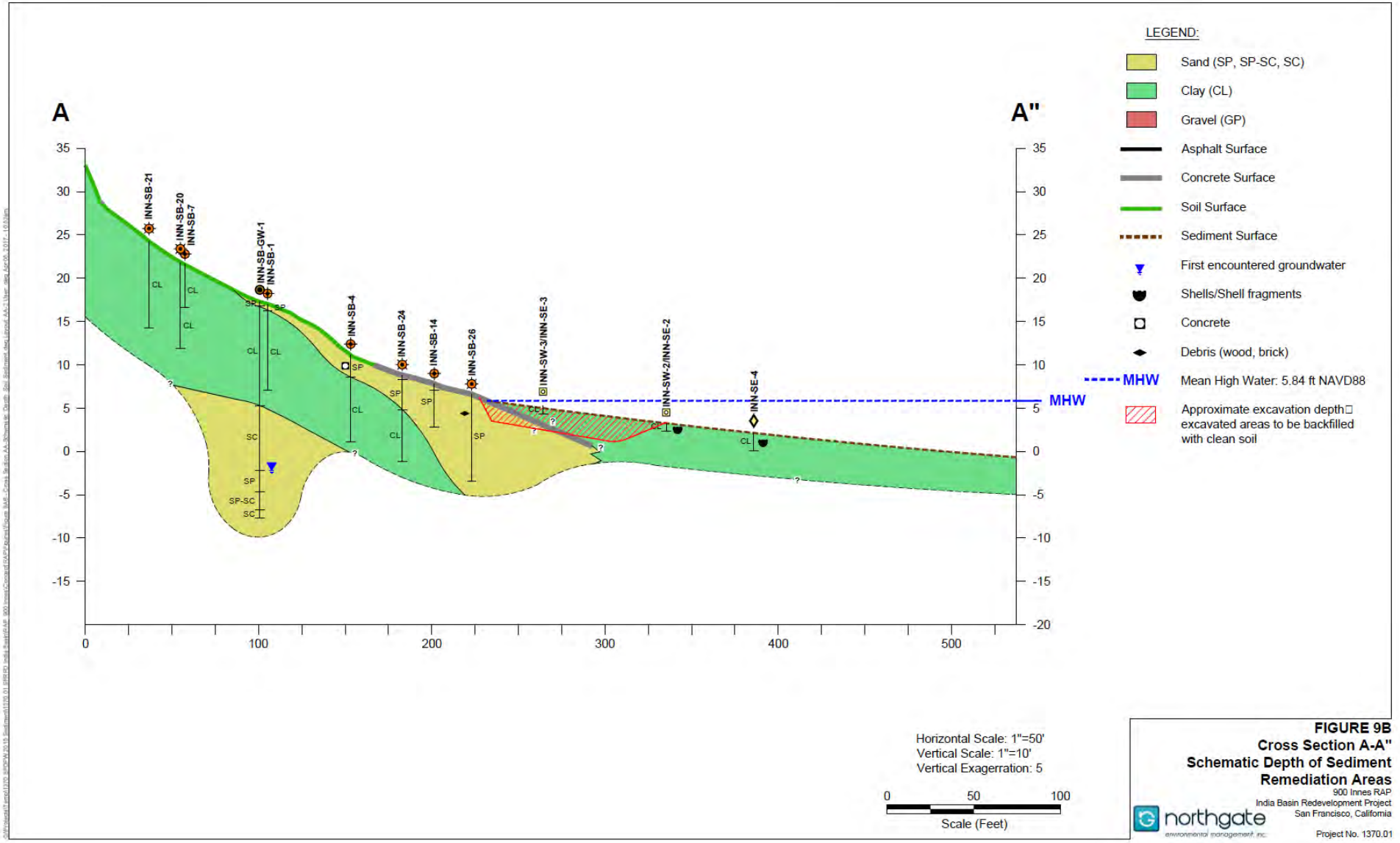

FIGURE 9B
Cross Section A-A"
Schematic Depth of Sediment Remediation Areas
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India Basin Redevelopment Project
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Project No. 1370.01

Remedy Selection Process

- First priority is to manage current and future risks
- "Prep" site for potentially uncertain future development
- Restore shoreline habitats
- Preserve historical features to the extent possible
- Work within local and regional remediation guidelines
- Balanced approach that meets the City's expected allocated budget

Engineering Design Challenges

- Uncertain future design details for upland areas
  - Excavation depths
  - Future utilities
- Setting remediation targets due to ambient elevated chemical concentrations in SF Bay/Proximity to Hunters Point
- Dredge and cap or dredge to clean with residuals management?
- Site location – haul routes for upland disposal/reuse
- Preservation of existing historical structures
- Future recreational uses require ensuring human health protection

Construction Challenges

- Site access/shallow water depths will make dredging difficult
  - Coffer dam
  - Mud Cat
  - Drag arm
- Limited staging and upland access will require relying heavily on water access
- Residential neighborhoods will limit truck access and offsite hauling for disposal

India Basin Site Elements

Pre-Design Sampling

SOURCE: Aerial from Bing Maps, Mean High Water, previous samples, project boundaries provided by Northgate Environmental Management, Inc.
HORIZONTAL DATUM: California State Plane, Zone 3, NAD83, U.S. Feet.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

LEGEND:

- Property Boundary
- Mean High Water Line
- IB-# Proposed Sediment Sampling Location (Initial Phase of Testing)
- IB-# Proposed Sediment Sampling Location (Archive)
- IB-# Proposed Sediment Sampling Location (Nearfield Background; Archive)
- IB-# Proposed Sediment Sampling Location (Farfield Background; Archive)

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Figure 5
Proposed Sediment Sampling Locations
India Basin - 900 Innes Avenue
San Francisco Recreation and Parks Department

Project Schedule

- Additional sediment sampling and testing in progress
- Permit applications (Winter 2019)
- Remediation Alternative Selection (Winter 2019)
- Engineering Design (Spring 2019) and Contractor Selection (Fall 2019)
- Construction (targeted for Winter 2020)

Questions/Discussion